



# **National Training Center Exercise Operating Procedures (EXOP)**

This document is the "SOLE SOURCE" for rotational units addressing battlefield simulation.  
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**JUNE 2025 (FY25)**

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10 June 2025

AFXV

MEMORANDUM FOR RECORD

SUBJECT: Operations Group Exercise Operating Procedures (EXOP)

1. The purpose of this EXOP is to standardize all rotational procedures within Operations Group. This document is based on current National Training Center (NTC) and Operations Group policies and procedures. The reader is assumed to have adequate working knowledge of the documents.
2. This EXOP applies to all personnel assigned or attached to the NTC team, including temporary Guest Observer, Coach/Trainer (OC/T) and Special Operations Team-Delta personnel, and is required reading prior to the execution of the first rotation as an OC/T.
3. Submit all recommended changes to Lizard 03 for collection, review, and application as approved by the team.
4. The point of contact for this memorandum is Leticia D. Lee, Lizard 03A, Operations Group Deputy S3, at [leticia.d.lee.civ@army.mil](mailto:leticia.d.lee.civ@army.mil) or 760-380-0998.

  
ETHAN J. DIVEN  
COL, AR  
Commanding

## Chapter 1 Administrative

- 1-1 NTC Visitation Policy
- 1-2 OC/T Certification Requirements Overview
- 1-3 Observer Coach / Trainers (OC/T) Duties and Responsibilities
- 1-4 TESS Requirements
- 1-5 Restricted TESS Equipment/Procedures
- 1-6 Higher Headquarters
- 1-7 Off-Limits and Restricted Areas

### 1-1 NTC Visitation Policy

1. NTC enforces strict rules limiting access to the training area during rotational exercises to achieve a high degree of realism and prevent disruption of scheduled training. Visitors to NTC must be IAW FORSCOM REG 350-50-1.
2. Rotational Unit Visitors (RUV). To enter the training area, all visitors must be coordinated through the NTC G-3 and Protocol Office and abide by the following restrictions outlined in FORSCOM REG 350-50- 1, Pg. 14-17, and Para 1-10.
  - a. Uniform. Ballistic helmets, eye, and hand protection will be worn when traveling in tactical vehicles. Visitors are authorized to wear duty uniform (military members) or appropriate civilian attire when escorted within the training area.
  - b. Live-Fire. The uniform for Live-Fire Exercise (LFX) visits is field uniform with FLC, individual body armor (IBA) with small arms protective insert plates, and ballistic (ACH/MCH) helmet. Additional protection such as ballistic eye protection, hearing protection, and gloves may also be required. The NTC Commander must approve all LFX visits. NO TRAINING PLATES ALLOWED.
  - c. Contact with RTU. Visitors who intend to interact with the rotational unit must be escorted by a protocol escort and/or a member from Operations Group.
3. Points of Contact. For further questions on O6 and above RUVs please contact Coyote 06, Chief, Protocol, NTC, Fort Irwin, CA 92310, DSN 470-4223/3000, commercial (760-380-4223/3000). For O5 and Below RUVs please contact Lizard 03A, Operations Group Deputy Chief of Plans and Operations, NTC, Fort Irwin, CA 92310, DSN 470-0998, commercial (760) 380-0998. Contractors, please contact G3, Chief of Plans and Ops at DSN 470-4423/4424, Fax 470-4424, or commercial (760-380-4423/4424/4422).

### 1-2 OC/T Certification Requirements Overview

1. NTC's Observer Coach/Trainer Academy (OC/T-A) is a two-phased certification training program designed to certify all assigned or attached OC/Ts on their duties as observers, coaches, and trainers.
  - a. Phase 1 consists of a four (4) day classroom training model, typically conducted during a white week when no RTU commitment competes. Guest OC/Ts will attend a two (2) day classroom training typically held Reception, Staging, Onward Movement, and Integration (RSOI) 1 and RSOI 2.
  - b. All OC/Ts, Permanent and Guests, will complete Phase 1 prior to assuming duties as an OC/T and interacting with the RTU.
  - c. Visiting OC/Ts from the Joint Readiness Training Center (JRTC), the Joint Maneuver Readiness Center (JMRC), and SOT-D are required to take a 1-day NTC familiarization course, with instruction on Safety, MEDEVAC/CASEVAC, NTC Exercise Operating Procedures, and Ops Group Policies.
2. Phase 2. Team 07s and 40s will certify all permanently assigned OC/Ts within 2 rotations of assignment and maintain records at the team level.
3. Dragons/Warrior 27 Certification Checklist. Live-Fire OC/Ts (Dragons & W27) require additional training. Additional requirements include:
  - a. Graduate from US Army Range Safety Course Level II (mandatory).

- b. Show a clear understanding of: Use of surface danger zones (SDZs), Fire mission clearance procedures (D27/37/47 only), and Fire mission processing procedures (D27/37/47 only).
  - c. Attend briefings on NTC Annual Deviations and demonstrate knowledge of the waivers, Live-Fire safety planning practical exercise and targetry orientation.
  - d. Dragon 07/02/03/40/03A/03B/03C/11/12/13/14 MUST be a graduate of Joint Fire Power Course
4. **Targetry and Graphics.** Dragons are responsible for positioning targetry and developing (with the 52ID Planners) graphics IAW the approved scenario, which can be executed safely by the rotational unit. Further discussion can be found in Annex B, Live-Fire.

### **1-3 Observer Coach / Trainers (OC/T) Duties and Responsibilities**

- 1. At a minimum, every company sized element in the maneuver area will have one OC/T who has completed the Phase I and II of OC/T certification. There are no other exceptions to this rule.
- 2. OC/T duties and responsibilities include, but are not limited to, the following:
  - a. Present an EXOP/Safety brief to the RTU prior to TD1. Every member of the RTU will receive this briefing.
  - b. Assist RTU with validating and maintaining TESS equipment.
  - c. Adjudicate engagements IAW with Chapter 3.
  - d. Observe key mission planning, rehearsals, and other events prior to execution.
  - e. Provide timely and accurate reporting to their organic or attached team's Tactical Analysis Feedback Facility (TAFF)
  - f. Permanent party OC/Ts are responsible for ensuring the safety and adherence to the EXOP for their team's assigned guest OC/Ts.
  - g. Ensure that all risk assessments are completed to standard IAW ATP 5-19, Risk Management, and FORSCOM Regulation 350-50-1, Training at the National Training Center. Any training activity with a residual risk of high or extremely high requires the RTU brigade commander's approval and a residual risk of extremely high requires the NTC Commander's approval prior to execution. IMMEDIATELY pass any information pertaining to the CG or COG's CCIR to the TAFF.

### **1-4 TESS Requirements**

- 1. Tactical Engagement Simulation System is a brand name attached to the laser systems used to adjudicate battlefield direct fire effects. TESS has replaced MILES at the National Training Center. Exceptions are some Stryker based systems still using MILES XXI
- 2. All Personnel and vehicles/systems must have operable TESS at all times on the NTC battlefield. Personnel and vehicle systems with inoperable TESS will not participate in training, unless authorized by the COG. The only exemptions are as follows:
  - a. When the equipment presents a clear safety hazard; for example, maintenance personnel operating in restricted areas.
  - b. Aerial platforms which the installation of TESS has not received air-worthiness certification.
- 3. Maintenance. OC/Ts will assist rotational units in correcting TESS failures, replace batteries on a one- for-one basis, and provide the unit with their TESS contact team location.
- 4. Individual. All BLUEFOR and OPFOR personnel forward of the DSA/RSA will be equipped with and wear either an Individual Weapon System (IWS) or Man Instrumented Kit (MIK).

5. **Man-worn Instrumented Kit (MIK).** All squad sized elements and any smaller sized separate element will draw and carry a MIK. The MIK has the capability of the IWS plus a (DCIU) position locating and AWES sensing capability.
6. **Tactical Vehicle System (TVS).** All wheeled combat, reconnaissance HMMWVs, civilian, or non-standard military vehicles going forward of the LD, or Company/Team areas will be equipped with the TVS and be instrumented or have an OC/T escort. TESS gear for vehicles and weapons consists of vehicle detector modules, Crew Control Module (CCM), Vehicle Kill Controller (VKC), Vehicle Kill Indicator (VKI), cables and adapters.
  - a. Master switches will be kept on at all times. Vehicles with separate electrical turret power systems (e.g., M2/3, M1A2) must keep turret power on also.
  - b. Camouflage nets, personal gear, or anything else must not cover vehicle detector sensors.
7. **Aircraft.** OPFOR and RTU aircraft will be equipped with operational TESS or MIK at all times for Airspace control de-confliction.

#### 1-5 Restricted TESS Equipment/Procedures

1. **Restricted Equipment.** Rotational units will not bring UCD to the NTC. An exception is available for aviation FARPs to affect the re-arming of attack aircraft.
2. **Restricted Procedures.** Draw boresight kit from MILES warehouse. Units may dry fire when bore-sighting only.
3. Units will not remove TESS equipment from their vehicles at any point during or after the rotation. TESS equipment will only be removed by the WRTS contracting personnel. Do not enter the wash rack with TESS equipment installed, as this will cause serious damage to the equipment.

#### 1-6 Higher Headquarters

1. The 52ID (Warrior) operates as the RTU higher headquarters (HICON) for all tactical orders and briefings from RSOI 1 to Training Day 14, and functions as the exercise control (EXCON) for the training environment. 52ID TACSOP contains specific instruction for requesting support and contact information in addition to this document.
2. **Simulated Intelligence Assets.** NTC replicates some ISR assets with simulations. Simulated aerial assets will be listed in the 52ID collection plan. Live and simulated aerial assets are requested IAW 52ID TACSOP. Simulated full motion video assets are not typically approved for RTU use inside the Fort Irwin training area. Unless otherwise directed by 52ID order, all information collected by echelon above brigade assets will be routed through 52ID to the RTU and other subordinate units.
3. **Support Units**
  - a. **NTC Contracted Echelon Above Brigade (EAB) Battalion.** Convoys crossing the light line require OC/T escort and are subject to battlefield effects. If OC/T coverage is unavailable, the contracted EAB contacts the Goldminer TAFF for authorization to cross the light line. The contracted EAB Battalion supports up to two convoys per day during convoy windows of 0800-1100 and 1300-1600 and is prepared to support emergency/high priority convoys as required. The rotational unit should provide a six-hour notification for emergency resupply.
  - b. **EAB Contractors** supporting the rotation replicate a contractor organization by wearing a common uniform, wearing a Ballistic Helmet, and carrying an EAB issued photo identification identifying them as EAB employees. EAB contractors are not subject to capture by the OPFOR. Contracted EAB resupply convoy will allow two hours for the receiving unit to download supplies. After the two-hour period they may, at the convoy commander's option, return to LSA Warrior in order to replicate the need to maintain delivery schedule to other brigades. The rotational unit is responsible to offload cargo from the contracted EAB Battalion. The rotational unit may add vehicles to the contracted EAB convoy with convoy commander approval. The contracted EAB Battalion requires the rotational unit to sign for received supplies.

- c. The Echelon Above Brigade (EAB) support units are required to follow the EXOP and Rules of Engagement with the following exceptions:
  - i. EAB convoys can use the hard surface road and approved MSR/ASRs for resupply convoys moving to the BSA or Live-Fire area except for MSR Bull Run (Barstow Road). EAB Convoys use the tank trails adjacent to MSR Bull Run.
  - ii. Refrigerated trucks and Non-RTU, 916 SB HETs are not required to have TESS due to limited availability. CSSB RTU HETs are required to have TESS.

#### **1-7 Off-Limits and Restricted Areas**

1. General. NTC has several environmentally sensitive areas within the training area. These areas are either off-limits to all personnel or restrict the types of vehicles and operations that may occur in the area. These areas are marked with off-limits signs or marked as “off-limits” on the overprinted NTC map. All dry lakebeds are off-limits.
2. Depictions. Restricted Areas are marked as ‘Restricted Maneuver’ on the overprinted NTC map. Wheeled vehicles and dismounted operations are authorized in all restricted maneuver areas; however, tracked vehicles are not authorized in restricted areas without clearance from range control and the environmental section of NTC’s DPW.
3. All personnel will remain 200 meters from all fixed site antennae and fixed site maintenance buildings supporting the antennae. No persons shall establish an observation post, mission command structure, collection point, field site operations area, bivouac site, or any other tactical or non-tactical assembly area within the 200-meter restricted area around these sites. No persons will attach camouflage netting, tentage, shade, guide wires or any other items to these fixed antennae.

## **Chapter 2 Intelligence**

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- 2-2 Intelligence Architecture**
- 2-3 Signals Intelligence (SIGINT)**
- 2-4 Human Intelligence (HUMINT)**
- 2-5 Counterintelligence (CI)**
- 2-6 Geospatial Intelligence (GEOINT)**
- 2-7 Simulated National Collection Systems**

### **2-1 Overview.**

1. G2, 52ID provides Higher Command (HICON) intelligence and Exercise Control (EXCON), synchronizes efforts of intelligence plans personnel and external enablers to present a realistic and challenging intelligence scenario.
2. The G2 manages the NTC's echelon above brigade (EAB) live, virtual, and constructive intelligence collection (IC) efforts. It manages maintenance support for all intelligence systems including DCGS- A, Trojan, TGS, and CIDNE. This chapter outlines the exercise procedures for intelligence.

### **2-2 Intelligence Architecture.**

1. Intelligence operations in a LSCO fight is complex and requires a robust and capable intelligence architecture. G2 Intel Systems Architecture is a multi-layered and cohesive system of systems and incorporates data flow through the Department of Defense Information Network (DODIN), the TROJAN Network Operations Center (T-NOC), and through the Integrated Broadcast Service (IBS) to support training objectives.
2. Rotational units must bring, use, and maintain their organic DCGS-A systems, functioning SIPR tokens, and associated accounts to access web-based tools (FADE-MIST, ICI, BOHDI, etc.) required to process NTC-generated intelligence reporting. Intelligence Systems FSRs (CECOM) and 353T/35T Intelligence Systems Maintainers are in G2, 52ID, and are available to assist rotational unit Brigade S2 section with intelligence data integration and Tactical Entity Database (TED) replication with the G2 intelligence enterprise.

### **2-3 Signals Intelligence (SIGINT)**

1. NTC provides a robust signals environment for rotational units to employ SIGINT capabilities. While scenario information is generally unclassified, all personnel are responsible for protecting capabilities, sources, and methods of SIGINT operations at the appropriate classification level. (SECRET or TOP SECRET).
2. NTC Project Foundry Office. Foundry will have intelligence oversight over SIGINT operations in the training area. Foundry will act as the 52ID SIGINT section to exercise HICON of RTU SIGINT personnel when necessary IAW 52ID orders. NTC SIGINT OC/Ts will maintain oversight of SIGINT operations to facilitate protection of capabilities and methods and coach and mentor units on current TTPs.
3. Equipment operators are responsible for accountability, basic maintenance, and conducting PMCS of all SIGINT equipment IAW the systems operator's manual. Pre-combat inspections of personnel and equipment are the responsibility of the senior member of the team and will be conducted prior to every mission. Post mission maintenance, accountability, and security inspections will be conducted immediately following each mission and prior to storing the system in the assigned secure area or Sensitive Compartmented Information Facility (SCIF).
4. OPFOR Interdiction and SIGINT Casualties. OPFOR Soldiers may not capture, shut down, enter, search, or tamper with SIGINT systems or vehicles, including dismounted SIGINT equipment or entering areas cordoned off by triple-strand concertina wire. The SIGINT OC/T will assess the system BDA card to the operator.
5. Search Restrictions. Only SIGINT OC/Ts may inspect SIGINT vehicles and equipment nominated by OPFOR for search. No personnel without a security clearance are permitted in or around the SIGINT

vehicle or equipment at any time.

## 2-4 Human Intelligence (HUMINT)

1. HUMINT Collection priority of focus and tasks are determined by the RTU command. Tasks for RTU HUMINT collection assets during Decisive Action rotations include detainee/EPW screening, detainee/EPW interrogations, Military Source Operations (MSO), and Internally Displaced Persons (IDP)/Defector debriefings. The primary tasks are interrogations and MSO. RTU prioritization of HUMINT collection activities may change based on operational phases during Decisive Action scenarios.
2. Military Source Operations. Military Source Operations will be conducted IAW unit SOP, 52ID Orders, FM 2-22.3, AR 381-10, and AR 381-100 (S//NF). Designated HUMINT collectors will conduct MSO IAW with scenario when directed to do so by the RTU. All MSOs are conducted IAW Army policy and 52ID orders during DATE rotations. Intelligence Contingency Funds (ICF) is available for issue from 52ID G2X and will be employed IAW AR-381-141 (C//NF).
3. Interrogations. Interrogation operations will be conducted IAW unit SOP, 52ID Orders, FM 2-22.3, and AR 381-100 (S//NF). The only approaches authorized for use are outlined in FM 2-22.3. The interrogation techniques Separation, "Mutt and Jeff," and "False Flag" need approval by the first O-6 or above in the chain of command. Designated HUMINT personnel will conduct interrogations IAW the scenario when directed to do so by the RTU. Per 52ID order, all EPW/detainees will be transferred to division within 4 hours of detention. The only exception to this is an extension approved by 52ID G3 for continued RTU HUMINT exploitation, not to exceed 12 hours from time of detention (this timeline supports OPFOR reconstitution efforts). Interrogations will not take place without HUMINT certified OC/T presence. NOTE: Interrogations will only be conducted by certified HUMINT collectors in the 35M/351M MOS fields.
  - a. Any EPW/detainee interrogated without an OC/T present will be assessed as a non-battle casualty and evacuated, thus causing the RTU to lose any potential intelligence.
  - b. Civilians on the Battlefield (COB) attempting to turn in weapons or provide intelligence to the unit can be held for interrogation IAW 52ID policy, unit SOP, and ROE, but should immediately be reported to the 52ID DTOC. An OC/T will monitor the status of the individual for accountability purposes.
4. Tactical Questioning (TQ) will be performed IAW ATP 3-55.4, unit orders, and unit SOP, and must occur at or near the objective. An OC/T (MOS immaterial) will be present at all unit actions involving TQ. Once an individual is processed as a detainee/Enemy Prisoner of War (EPW), TQ ceases, and any follow on questioning, i.e. screening and interrogations, will only be conducted by certified HUMINT collectors (35M or 351M). NOTE: All detained persons must have an OC/T present to be questioned.
5. Exploitation activities will be conducted IAW ROE/security agreement and ATP 3-90.15. An OC/T is required to cover down on TSE/SSE operations.
6. NTC HUMINT OC/T Responsibilities. An NTC HUMINT qualified OC/T will maintain oversight of HUMINT operations at Fort Irwin to facilitate protection of HUMINT tradecraft and legal execution of RTU interrogation/MSO activities while coaching and mentoring RTUs on current HUMINT TTPs as needed. While at NTC, the Bronco Team (Brigade Staff Trainers) will issue ICF to the RTU. An OC/T will only exercise command and control over training elements for safety reasons if witnessing an unsafe act or to prevent injury or death.
7. RTU Responsibilities. The RTU is responsible for maintaining OPSEC and INFOSEC of HUMINT operations as well as accountability of all associated personnel and equipment. The RTU must maintain overall security of classified equipment and information. The RTU will exercise command and control of attached and organic HCT teams and will determine allocations, command, and support relationships of their teams. The RTU will submit all Concept of Operations (CONOP) for the employment of CATR/TTL equipment ISO HUMINT operations to 52ID G2 for technical approval. The RTU will submit a memorandum signed by the first O-6 in the chain of command certifying that personnel expected to employ, supervise, or manage ICF have conducted ICF training online. Additionally, the RTU ICF Class- A Agent, Approving Officer, and Custodian will be identified in additional duty memoranda signed by the first O-6 in the chain of command. The RTU will identify at least one Soldier in MOS 35M or 351M to serve as Sub-Technical Control Authority (TCA) in a memorandum signed by RTU command for the purpose of Interrogation Plan (IP) approvals. Submit all signed memoranda to 52ID G2X.

**2-5 Counterintelligence (CI)** The Senior Intelligence Officer (SIO) for the National Training Center has overall responsibility for Counterintelligence activities on installation. All CI concerns and activities must be vetted through the SIO for oversight and coordination purposes.

## **2-6 Geospatial Intelligence (GEOINT)**

1. GEOINT collection encompasses all aspects of literal geospatial information and services (GI&S), electro-optical (EO), spectral, full motion video (FMV), infrared (IR), synthetic aperture radar (SAR), mobile target indicator (MTI), light detection and ranging (LiDAR), and overhead persistent infrared (OPIR) imagery and capabilities. GEOINT includes the exploitation and analysis of EO, FMV, spectral, IR, SAR, MTI, LiDAR, OPIR and geospatial data. It employs non-literal analysis of ancillary data and signature information, and produces fused data products as necessary.
2. The Army GEOINT Battalion (AGB) and the National Geospatial Intelligence Agency (NGA) provide the primary instructors and technical and tactical advisors on Geospatial Intelligence (GEOINT).
3. Requesting GEOINT Support:
  - a. (U) AGI/MASINT Reporting and Dissemination Service (AMRDS). AMRDS is a website used to request and obtain MASINT/AGI products. The site is employed by AGB, NASIC, 743d MI BN, 513th MI BDE, and many others to disseminate regular imagery products and AGI products via JWICs and SIPRNET. Prior to requesting products, BCTs must obtain a customer account.
  - b. (U) Rotational units are responsible for submitting collection plans for GEOINT/IMINT platforms 24 hours prior to arrival of assets in theater and 72 hours in advance thereafter.
  - c. (U) Rotational units can request an UAS ad hoc. Dynamic re-tasking of an UAS asset or immediate requests for all other GEOINT assets is at the discretion of 52ID G2.
  - d. (U) Requests for Information. The 52ID Portal – via 52ID G2 RFI process - is the primary means of requesting standard and Full Spectrum GEOINT (FSG). A secondary reachback means – if established – is the GEOINT Enterprise TCPED Service (GETS).
4. GEOINT Dissemination Guidance:
  - a. (U) Simulated MTI will be pushed to the rotational units' MTI exploitation tools (MOVINT Client) at the "SECRET//REL TO USA, FVEY" level. Live Joint Surveillance, Target Attack Radar System (JSTARS) or equivalent MTI data will be pushed to the TGS at the "SECRET//REL TO USA, FVEY" level.
  - b. (U) National imagery derived products will be published and classified at the "SECRET NOFORN" level.

## **2-7 Simulated National Collection Systems**

1. 52ID may replicate GEOINT and SIGINT products within the 52nd ID AO. SIGINT Systems will provide ELINT and COMINT coverage in the Division area of operations in the form of an TACREP or SENSOREP.
2. SIGINT information is routed through INSCOM Foundry at NTC. The G2 will evaluate this information, and based on the scenario, hold, modify, or disseminate the information to the brigade S2 and other divisional GS assets, e.g. Fires Brigade S2. In some cases, information within the rotational brigades Area of Operations (AO) may be carbon copied to the brigade or other RTU when forwarded to 52ID.
3. Reports may also be generated based on CTC-IS, OneSAF, JLCCTC and ASSET simulations software and disseminated via IBS-EC.

## Chapter 3 Maneuver

- 3-1 Direct Fire Engagements
- 3-2 Penalty and Safety Kills
- 3-3 Fighting Positions and Bunker Positions
- 3-4 Dismounted Operations
- 3-5 Sniper Weapons Systems and Non-standard systems
- 3-6 Special Operations Forces
- 3-7 Urban Operations
- 3-8 Pyrotechnics and Munitions Replication
- 3-9 Searches/Destruction of Caches, Bunkers, and Buildings
- 3-10 Non-Standard Tactical Vehicles
- 3-11 Road Culverts
- 3-12 Remotely operated weapons systems
- 3-13 Trench Operations (FoF)

### 3-1 Direct Fire Engagements.

1. TESS outcomes have precedence when determining the results of actions on the NTC battlefield. The following assessments apply:
  - a. TESS rules the battlefield!
  - b. Vehicles without TESS require a waiver signed by Commander, Ops Grp, NLT than RSOI 3.
  - c. If TESS become non-operational during a battle, OC/Ts will adjudicate as necessary.
  - d. If TESS become non-operational between operations, the vehicle or Soldier cannot participate in any future operations until the TESS is fixed/replaced.
  - e. OC/Ts will overrule TESS outcomes when TESS sensors are obscured, when TESS does not adequately replicate fragmentation or ricochet behavior, and TESS clearly does not replicate all battlefield conditions (such as burning hulks, etc).
  - f. No vehicle may be exempted from TESS engagement outcomes unless overruled by an OC/T.
  - g. Camouflage nets will not obscure the TESS equipment. All sensors must remain uncovered while stationary. Reconnaissance elements may remain in hide under camouflage nets and continue to observe and report. Once engaged, OC/Ts manually adjudicate engagement outcome.
  - h. The use of inadequate cover to defeat the TESS laser is not authorized: such as, brush, smoke, and dirt berms of insufficient dimensions.
  - i. An OC/T's assessment will be made when direct fire weapons are shooting at concealed, but either uncovered or partially covered personnel and vehicles concerning ricochet and fragmentation effects.
2. BDA Assessment: Table 3-1a provides the categories of vehicle BDA.

| Table 3-1a<br>AWES-RF/TESS II BDA Assessment /Combat Vehicle Kill Indicator |                                                                                                                                                                                                |                                                   |
|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| BDA Category                                                                | Battle Damage Assessment                                                                                                                                                                       | Notification                                      |
| Near Miss                                                                   | Vehicle received ineffective fire                                                                                                                                                              | CVKI flashes 2 times                              |
| Mobility                                                                    | Vehicle may not move further. If moving at the time, the driver will bring the vehicle to a safe halt immediately. The vehicle may continue to fire and communicate.                           | CVKI flashes 4 times.                             |
| Firepower                                                                   | Vehicle may not continue to fire. The TESS transmitter will be disabled. Vehicle may continue to move and communicate.                                                                         | CVKI flashes 4 times                              |
| Catastrophic                                                                | Vehicle is unsalvageable. All functions cease immediately. Note; Vehicles which are mobility kills and subsequently receive a firepower kill (or vice-versa) automatically become catastrophic | CVKI Flash continuously and intercom announcement |

|              |                                                                                                                                                                                                                     |                                                                                     |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|              | kills.                                                                                                                                                                                                              |                                                                                     |
| Penalty Kill | Failure to take the directed action for mobility kills will be detected by the NTC-IS and the vehicle will automatically receive a catastrophic kill as a penalty. This action will be recorded on the vehicle VDD. | CVKI flash continuously; requires OC/T to explain to the crew and chain of command. |

3. **Vehicle Direct Fire BDA.** OC/T on the ground must move to the vehicle and inspect the VDD to ensure proper adjudication of each vehicle. The codes for each weapon system can be found in Table 3-1b (TESS VDD Codes).

| Table 3-1b, TESS VDD Codes |                         |    |                       |                                             |                             |
|----------------------------|-------------------------|----|-----------------------|---------------------------------------------|-----------------------------|
| Code                       | Weapon                  |    |                       |                                             |                             |
| 00                         | Controller Gun          | 13 | 155mm Howitzer        | 22                                          | 25mm M2/3 Bradley           |
| 01                         | Maverick Missile        | 13 | 122mm Howitzer        | 22                                          | ZSU 23-4                    |
| 02                         | Hellfire Missile        | 13 | 122mm Rocket BM21     | 23                                          | 20mm Vulcan                 |
| 03                         | AT-3 (Sagger) Missile   | 13 | 152mm Howitzer        | 23                                          | 30mm BMP3                   |
| 04                         | 60mm, 81mm              | 14 | 2.75in Rocket         | 24                                          | M2, M85 .50 cal Machine Gun |
| 05                         | M15 AT Mine             | 14 | 57mm Rocket           | 24                                          | 12.7mm Machine Gun          |
| 07                         | TOW Missile             | 14 | 73mm Cannon BMP3      | 25                                          | SA-9                        |
| 07                         | AT-5 (Spandrel) Missile | 15 | VIPER LAW             | 25                                          | SA-13                       |
| 07                         | AT-8 (Songster) Missile | 16 | 120mm M1A1/2 Tank     | 25                                          | Chaparral                   |
| 08                         | Dragon / Missile        | 17 | 90mm Recoilless       | 25                                          | ASET SA-8                   |
| 09                         | Javelin Missile         | 18 | 105mm, 152mm Howitzer | 25                                          | ASET SA-9                   |
| 10                         | M21 AT Mine             | 18 | 203mm Howitzer        | 26                                          | Stinger                     |
| 10                         | 125mm T72, T90 Tank     | 19 | 40mm Grenade          | 27                                          | M16A1, M60MG, M240MG        |
| 11                         | M18 Claymore Mine       | 20 | Rockeye CBU           | 33                                          | SA-14                       |
| 11                         | M16A1-AP                | 21 | 30mm A10 GAU-8        | 34                                          | ZSU 23-4 Radar Mode         |
| 12                         | 105mm M1, M60 Tank      | 21 | 30mm AH-64            | Codes subject to change due to TESS updates |                             |

4. **Special Instructions.**

- a. **Second Lives.** Key Leadership (officers and NCOs) CAN BE authorized a second life to meet training objectives at the discretion of the OC/T. The leader must transfer to another vehicle if their assigned vehicle is assessed as damaged or destroyed. Additional key personnel can be approved for second lives by OC/Ts. TF 07 can give exception to CDR's vehicle.
- b. **Dismounts in a CATKILL vehicle** are assessed as casualties. MOB/FP/COMM KILLS are not assessed as casualties unless IWS is activated.
- c. **The dismounted portion of infantry/ engineer squads and other vehicle occupants** will be allowed to continue the battle if their IWS/MIK were not activated; adjudicate 100% casualties to dismounts from a catastrophically destroyed vehicle IAW casualty card.
- d. **Assessing OPFOR.** OC/T will explain to the OPFOR crew or Palehorse OC/T the adjudication and notify the Line Team TAF, who will inform the DTOC and Blackhorse TAF.
- e. **Vehicle TESS Exceptions.** Not all vehicles associated with role-players, particularly some media vehicles, have TESS. Role-player vehicles without instrumentation remain subject to battlefield effects (as determined by the OC/T). The occupants within the vehicle will wear, at a minimum, the TESS torso harness. Any effects on the personal TESS will occur against the vehicle as well.
- f. **Contractor Vehicles.** All Contractor vehicles that are not part of role-play will obtain a decal at the IP checkpoint prior to entering the training area. All contractors whether a role player or not must pass through RTU Traffic Control Points. OC/Ts who witness a contractor attempting to bypass a TCP will stop the contractor vehicle and re-direct them through the TCP.

5. **Assessing Casualties.** OC/T issues the casualty cards based on events or attacks. Driver and TC will be assessed as RTD and will remain with the vehicle. At a minimum OC/Ts must annotate OC/Ts call sign, injury by type and point of injury time, detailed instructions are found in Chapter 8.
6. **Physical Capture.** When a RTU Soldier intends to detain a role-player, that Soldier must inform an OC/T of the intent to detain and the planned method; provide the necessary force (number of Soldiers) required, and provide the necessary equipment (flex-cuffs, rope, zip-strips, etc.). Once the RTU Soldier demonstrates the ability to detain, an OC/T will facilitate the detention by placing his hand on the shoulder of the detainee and stating, "You are now detained". The role-player will replicate the restrictions and not attempt to escape, unless directed to do so by an OC/T. Further discussion in Chapter 2-5.
7. **Recovery and Reconstitution.** The Team 07, in conjunction with the COG, of the affected team will use their discretion to authorize immediate resurrection. Further discussion of Reconstitution is in Chapter 7.
  - a. **RTU.** OC/Ts will control resurrection of RTU systems. The 07 of the effected OC/T team on the ground will make final determination.
  - b. **OPFOR.** OPFOR/COB OC/Ts and/or their TAFF will coordinate resurrections prior to entering the close fight, by exception. OPFOR TAFF will coordinate with DTOC.
  - c. **TF SRs** are authorized resurrection of the personnel to best replicate battlefield effects (i.e., if vehicles drive into a minefield column and multiple vehicles are destroyed, the TF 07 is authorized to kill lead vehicles and resurrect those in trail.
  - d. The COG authorizes reconstitution of entire units to achieve training objectives.

### **3-2 Penalty and Safety Kills.**

1. **Penalty kills** are assessed by the OC/T on the ground. There are four categories:
  - a. **TESS Not-To-Standard, Charging and Safety Infractions** are assessed by the OC/T on the ground. Cases of suspected cheating will be reported through both the unit chain of command and OC/T channels.
  - b. A **BDA limitation violation** occurs when a vehicle continues to shoot, move or communicate after being assessed **FIREPOWER, MOBILITY, or COMMO Kill**, respectively. CTC-IS assesses this penalty automatically when properly functioning.
  - c. A **boundary violation** may be assessed as a penalty kill. Additional guidance is in Annex C, Implementing Directives, Chapter C-2 Maneuver.
  - d. **Berm Rule** prevents firing from a position that allows the laser to fire but does not replicate the tracking of the missile or space necessary for ordnance to clear. Not replicating the tracking of the missile is cheating and will result in a penalty kill of the vehicle with loss of all ammunition on the vehicle.
2. **3/5/10/50M "Safety Kill" Rule and Accidental Charging.** OC/Ts may assess casualties for safety violations or unsafe acts. OC/T assess casualties based upon the severity of the safety violation. Due to safety considerations, close combat is not permitted. Accidental situations will occur when forces come into close proximity. These point blank engagements will be assessed by OC/Ts. Rules follow:
  - a. **Immediate action while mounted.** When a target appears at less than the prescribed separation distance, vehicle drivers will stop immediately and their TCs will cross their arms over their face to signify that they are engaging. The vehicle gunner will traverse the turret and/or weapon system at least 90 degrees away from the target being engaged and fire to emit a signature. Crew must clear personnel within 50 meters of the MGSS and/or ATWESS blast area before firing.
  - b. **Immediate action while dismounted.** Soldiers engaging an enemy within safety kill distance will conduct safety kills by aiming their weapon at the ground, firing a round, and verbal stating "safety kill."

- c. **Assessment.** OC/Ts will make an evaluation based on the weapon systems involved and assess vehicles and/or personnel on either side as appropriate. The killing vehicle(s) or personnel will be directed to expend rounds in a safe direction to account for the kill(s).

| <b>Table 3-2<br/>3/5/10/50M Safety Kill Rule</b> |                                                                                                       |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| <b>Range</b>                                     | <b>Who</b>                                                                                            |
| <b>Within 3m</b>                                 | <b>No firing blanks inside buildings or caves</b>                                                     |
| <b>Within 5m</b>                                 | <b>No dismounts firing blanks in the open</b>                                                         |
| <b>Within 10m</b>                                | <b>No vehicle with 10m of subterranean entrances/exits to prevent exhaust from entering the cave.</b> |
| <b>Within 50m</b>                                | <b>Vehicles will not maneuver within 50m of enemy dismounts.</b>                                      |

3. **Stealth Kills.** RTU and OPFOR Soldiers under OC/T supervision can make kills of vehicle crews or sleeping dismounted Soldiers. Rules follow:
  - a. **Preparation.** An OC/T must be present before the unit (OPFOR or RTU) executes the silent kill. The Soldier informs the OC/T that he intends to make a silent kill and identifies the vehicle crew or personnel. The OC/T confirms that the Soldier has the appropriate weapon(s), such as a bayonet, and method.
  - b. **Execution.** The Soldier, under the control of the OC/T, will then move to the vehicle/ personnel until he is within five meters. At no time will the Soldier make physical contact with any Soldier or vehicle during an attempted silent kill.
  - c. **Assessment.** If successful, the OC/T will awaken the victim, and assess him as a KIA. Soldiers killed in this way may not use any of the vehicle or other radios to communicate their situation. If the Soldier attempting the silent kill is compromised during his attempt, the OC/T will assess casualties as necessary.

### **3-3 Fighting Positions and Bunker Positions**

1. **Fighting Positions.** If in a fighting position when destroyed, crews will pull out of vehicle fighting positions, max elevate main gun and traverse over back deck.
2. **Bunker Engagements.** Bunkers must be built to standard in accordance with applicable TMs. Direct fire against bunkers will be assessed in one of two ways:
  - a. **Tactical Vehicle Systems (TVS) available:** TVS kits will be mounted on the bunker. OC/T will check TVS TESS prior to LD time to confirm it is operational. The TESS will assess kills.
  - b. **If TVS is unavailable,** the results will be determined using Table 3-3.
  - c. **Bunkers not equipped with MITs or IPPD** are assessed on the first shot, provided the bunker is within range and can be engaged with a weapon system; ex. Javelin within line of sight and verified by OC/T.

| <b>Table 3-3<br/>Bunker Engagement Results</b> |                       |
|------------------------------------------------|-----------------------|
| <b>Elevation</b>                               | <b>Rds to Destroy</b> |
| <b>Bunker level w/tank</b>                     | <b>1</b>              |
| <b>Bunker level w/tank</b>                     | <b>2</b>              |
| <b>Bunker higher than tank</b>                 | <b>2</b>              |
| <b>Bunker higher than tank</b>                 | <b>3</b>              |

### **3-4 Dismounted Operations.**

1. **All personnel** will wear a fully mission capable Individual Weapon System (IWS) with associated harness, halo, and Small Arms Transmitter (SAT). When a Soldier is assessed as a fatality, the weapon will not function until the soldier re-associates the weapon with a harness.

2. Every squad and each separate dismounted element will have a minimum of one operational Man Instrumented Kit (MIK). Personnel without a MIK must remain within 100 meters of a vehicle DCI, MIK, or an OC/T.
3. Initial Position Locator (PL) Lost Condition. When the PL is lost on any dismounted patrol element, accompanying OC/Ts or OPFOR /COB OC/Ts will report locations every 15 minutes or 400 meters of movement. This will allow the symbol to be player positioned for AAR purposes.
4. Uniform.
  - a. The RTU chain of command determines the uniform for their Soldiers. Soldiers will always wear their TESS harness and halo, except when sleeping, conducting personal hygiene, or inside tentage/command post vehicles. Soldiers will adhere to the Live Fire uniform outlined in Annex B when conducting Live Fire operations.
  - b. OPFOR, Host Nation and SPF forces will wear uniforms IAW the 52ID OPORD. OPFOR Soldiers will wear appropriate PPE, harness and halo while engaging in combat.
  - c. Civilians on the Battlefield will wear a variety of clothing consistent with the scenario. Civilians will wear TESS torso harnesses without a halo. Civilians will not carry weapons.
  - d. Irregular forces may remove their halo when blending in with population and out of contact with RTU. If carrying a weapon, the irregular forces will don their halo to allow for accurate and fair TESS play.
5. Soldiers issued MIK harnesses that become casualties, will exchange them for IWS harnesses with Soldiers who have not been hit. All dismounted infantry elements must keep their MIK with them at all times, regardless of the casualties they suffer.
6. Exceptions to MIK requirement for OPFOR units will be made by DTOC. The team senior trainer will make exceptions for RTU units.
7. Minimum manning of dismounted OPs is two Soldiers.
8. OC/T will adjudicate all non-standard weapons to 50% of their maximum effective range.
9. Medical and Safety Minimum Requirements.
  - a. Adequate means of life support, consisting of either available Air MEDEVAC, or a minimum of one wheeled and/or tracked vehicle will accompany dismounted elements operating more than five kilometers from friendly mounted units.
  - b. If operating within five kilometers of friendly mounted elements, a dismounted element will ensure it has radio communications with the mounted element. If communication is lost between the dismounted and mounted elements, the dismounted element must return to their assembly area.
  - c. OC/Ts can stop a dismounted operation if the unit preparation and lack of logistical support places undo risk to life, limb, or eyesight to the RTU Soldiers.
  - d. The OC/Ts can direct a stop-move if dismounted RTU does not have the minimum requirement for class 1 on hand (i.e., 1 quart of water).

### **3-5 Sniper Weapons Systems (SWS) and Non-standard weapons systems.**

1. RTU elements may have a wide variety of SWS at their disposal that are organic to their unit. Due to the limitations of the TESS system, weapon transmitters are not available for all SWS.
2. If the RTU wishes to use the M107, M2010, or any other organic SWS without a TESS transmitter, the RTU and OC/T will take the following actions:
  - a. The SWS operator will designate his target to the OC/T.

- b. The OC/T will identify and confirm the target.
  - c. The spotter or another member of the Sniper Observer (SO) position will remove the BFA from their M4 and fire one blank round.
  - d. The Palehorse OC/T will then adjudicate the shot. This process will be repeated until the engagement is complete. The spotter or another SO position member will not engage targets with his weapon until he has replaced his BFA.
  - e. Replicating the shot in the target area is an essential step to the adjudication. The OC/T in the SO position will relay target description to the OC/T in the target area who will then complete the adjudication once a report is heard from the spotter's or another SO position member's weapon. At no time will the SWS operator fire blank .50 cal from the M107 or any other .50 cal SWS.
- 3. OC/Ts will adjudicate at a range of 80% of the weapons maximum effective range. This replicates the environmental impacts.
  - 4. Recoilless Rifles, such as Carl Gustav, are replicated like an AT-4 (employing HG signature). The OC/T drops one grenade simulator for first round fired and then every third round for signature. OC/T will be present in order to ensure the firing Soldier was properly aiming and available ammunition is on-hand.

### 3-6 Special Operations Forces (SOF).

- 1. The integration and interoperability of SOF and Conventional Forces is of paramount importance within the contemporary operating environment. Each force has its own unique capabilities which, when combined, can achieve objectives not otherwise attainable. SOF OC/Ts should coach their elements towards working with conventional forces on a daily basis whether it is operationally or in the sharing of information. USSOCOM Publication 3-33 v. 3, *Multi-Service Tactics, Techniques, and Procedures for Conventional Forces and Special Operations Forces Integration and Interoperability*, is a great tool to help point the SOF RTU in the right direction.
- 2. The Commander Operations Group (COG) is the approving authority for all SOF operations at the NTC and the only authority who may grant exceptions to the standards outlined in this chapter.
- 3. Foreign SOF may participate in training at the NTC; a sponsoring U.S. SOF unit must accompany them. Any foreign unit training at the NTC requires HQDA, G-3/5/7, approval. AR 350-50, Combat Training Center Program provides guidance for foreign unit participation.
- 4. Special Operation Forces (SOF) will operate under the OPCON of the SOJTF. In scenario, SOJTF is OPCON to the GCC and maintains a supporting/supported relationship with 52ID. The SOJTF will maintain transparency and coordinate with 52ID on all SOF operations. SOTD will replicate the SOJTF and provide the SOF TF HICOM. The BCT and SOF TF will exchange liaison teams.
- 5. Uniforms: At no time will members of the SOF RTU wear MODs or flight suits anywhere within the Fort Irwin Cantonment Area (Main Post) prior to, during or after rotation. The SOTD Commander, or designated representative at NTC, reserves authority to grant relaxed grooming standards, during or rotations. The first O6 in the RTU COC retains the authority to grant relaxed grooming standards before, during or after rotations and supersedes the SOTD Commander determination. If the RTU has a preexisting policy of relaxed grooming standards signed by the first O6 in their COC, a copy of the policy must be provided.
- 6. Rotational SOF elements are authorized to operate Indigenous Operating Vehicles (IOV) in civilian attire while in the box in support of the SOF Commander's training objectives. If the IOV is a contracted vehicle and therefore unable to be instrumented with TESS, the occupants of the vehicle will operate it with the windows down and will wear the TESS torso harness. A SOF OC/T must ride in the back seat of the vehicle, or a trailing OC/T designated vehicle, to adjudicate additional battlefield effects as they arise.
- 7. SOF may capture enemy equipment but may only exploit and operationally use the items at the location of seizure. SOF may utilize enemy crew served weapons on vehicles, but the vehicle must remain stationary. SOF will remain stationary with the crew in the immediate area as part of exploitation. OC/Ts will ensure the losing unit has a way to recover the items and accountability is maintained with communication to

Pale Horse OC/Ts. Burro OC/Ts are authorized to provide replacement equipment to the SOF RTU for equipment that was captured but returned.

8. SOF KIAs will be out of play for a period of time determined not detrimental to training objectives or the scenario not to exceed 12 hrs or until the next phase whichever comes first. The KIA will reconstitute at a geographic location determined by the OC/T that will not cause excessive detriment to the training objective or the scenario. SOF WIAs will be treated and moved back to Role 2 then reconstitute. If an entire ODA is assessed as KIA it will move to a location determined by the OC/T that will not cause excessive detriment to training objectives or the scenario for reconstitution. The SOTD Commander, or his designated representative at NTC, is the approval authority to remove an RTU member or retrograde an entire SOF RTU element to the SOF RUBA.

### 3-7 Urban Operations (UO)

1. OC/Ts Team from Ops Grp and Palehorse will conduct initial coordination NLT 24 hours in advance of Urban Operations. OC/Ts will discuss OPFOR scheme of maneuver, location of key weapons systems, avenue of approach for follow-on/reserve forces, location of IEDs, booby traps, and obstacles. OC/Ts will also discuss adjudication procedures and OPFOR training objectives to ensure a safe and effective training environment for OPFOR and RTU.
2. Rooftop Operations. Personnel are allowed onto the roofs of buildings for sniper employment and OPs under at the discretion of the OC/T team on the ground. Air insertions onto buildings are discussed in Chapter 9, Aviation.
3. There are no open fires (to include cooking fires, warming fires, and candles) allowed within 25 meters of a building or in the buildings themselves.
4. Flame Producing Pyrotechnics. No flame producing booby traps of any type will be installed in buildings by the RTU. All other booby traps will be dismantled when the element vacates the building. Anytime a booby trap is utilized in a building, a means to extinguish any possible fire will be present.
5. Effects. Weapons effects will be assessed against structures IAW a realistic outcome based on the weapon system and construction of the structure as follows:

| <b>Table 3-7a<br/>Weapons Effect Adjudication</b> |                                                                                                                        |                                                                              |                                                                                                                  |                                                                            |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <b>Distance</b>                                   | <b>5.56mm</b>                                                                                                          | <b>7.62mm</b>                                                                | <b>.50cal</b>                                                                                                    | <b>M203/M320/MK-19</b>                                                     |
| <b>Less than 25m</b>                              | Will penetrate wood paneling, sheetrock, plaster                                                                       | Will penetrate 13in of wood; 2in of concrete; 5in of dry/loose sand          | Will penetrate double sandbag, triple bricks; 18in of reinforced concrete; vehicle bodies; all wooden structures | 2in of hardened steel; double sandbags; double cinder blocks; 12in of wood |
| <b>Less than 50m</b>                              | Will NOT penetrate one thickness of sandbags, ammo cans, or cinder blocks filled with sand, or one thickness of bricks | Will NOT penetrate one thickness of sandbags; 55gallon drum filled with sand |                                                                                                                  |                                                                            |

6. Building Damage.
  - a. Assessment of building damage and casualties according to the following:
    - i. VBIED: Building loss within 25m and Casualties within 35m
    - ii. Military Ordnance: Building loss within 15m and Casualties with 20m
    - iii. HME: Building loss within 15m and Casualties within 20m
    - iv. Improvised Mines: Building loss within 20m and Casualties within 15m
  - b. Building Repair. Destroyed buildings will be marked with orange tape across all apertures (doors/windows).

- c. **Clearing Operations.** If dismounted personnel are utilized to clear buildings, an OC/T must be present for the mission. Eye protection is required at all times during UO. Soldiers not wearing eye protection in a UO environment will be immediately safety killed. The minimum distance for combatants engaging one another within the same structure is 3m.
7. **Demolitions and Dynamic Entry.** All units are required to conduct reconnaissance of the proposed target and gather the critical information to calculate the amount of explosives needed to destroy the target. Units must use the appropriate formulas IAW FM 3-34.19, to include Minimum Safe Distance (MSD) calculations. OC/T's verify demolition calculations and placement of charges. Demolitions Effects Simulators (DES) are the preferred training aid at the NTC because of they produce sufficient visual and sound effects to enhance battlefield realism.
8. Each town is allowed one "off-limits" structure that is exempt from RTU searches. This area will be one building or structure; it must be a stand-alone structure. It cannot be a room or floor within a two-story building or attached to another structure. No weapons of any kind that are "in play" will be stored in the area designated as "off-limits". The "off-limit" area is manned with a minimum a two-person radio watch. The town OIC will coordinate with the town OC/T and inform him/her of the location of the "off limit" area. The area will be clearly marked with a VS-17 panel with the word "off limit area" typed on paper, laminated, and taped to the VS-17 panel.
9. Tracked vehicles are authorized to maneuver in urban areas and engage targets. The following restrictions apply:
  - a. Pivot/Neutral steering is unauthorized within towns and on hardball road networks.
  - b. The minimum distance between vehicles and personnel outside of buildings is 5m. An OC/T must be present with any tracked vehicles operating within 1000 meters of an urban area.
  - c. No physical contact between vehicles and any structures is authorized.
  - d. Units must ensure vehicles do not drive over subterranean structures.
10. **Subterranean Operations.**
  - a. Numerous underground tunnels can also be found vicinity the Town of Razish; NV 367118. Use of simulated pyrotechnics and demolition in the complex would cause severe overpressure, see section 3-7 for more information. Table 3-7b lists training complexes considered to be impervious to normal tube launched artillery.
  - b. The Challenger Buried CONNEX in Training Area LF16, Grid NV433326 represents a Subterranean Command Post of earthen construction. Demolitions and live-fire training is prohibited. A collapse is likely with the use of grenades and even small amounts demolitions. The subterranean environment is susceptible to cave-in with heavy volumes of tube launch artillery > 155mm.

| Table 3-7b<br>Subterranean Training Sites representing solid construction dug into granite |          |              |          |
|--------------------------------------------------------------------------------------------|----------|--------------|----------|
| Complex Name                                                                               | Location | Complex Name | Location |
| Pioneer Cave                                                                               | NV139151 | No Name Cave | NV376975 |
| Alpine Cave                                                                                | NV248272 | Chili Bowl   | NV570003 |
| Bruno Cave                                                                                 | NV370221 | Cereal Cave  | NV259151 |
| John Wayne Cave                                                                            | NV430080 |              |          |

### 3-8 Pyrotechnics and Munitions Replication.

1. **Pyrotechnics.** Pyrotechnics include standard smoke, booby traps, flares, ATWESS, MGSS, etc.
  - a. **Booby Traps.** Only NTC approved pyrotechnics are authorized.
  - b. **Subterranean.** The only pyrotechnic booby trap authorized is the M117 booby trap simulator. All other

booby traps are to be non-lethal and approved by an OC/T. No use of CS gas or smoke is permitted inside or within 10 meters of a cave or tunnel complex. If smoke or CS gas enters the cave due to wind directions and drifting the cave must be evacuated immediately. These gases in confined areas can displace oxygen rendering all gas masks (except respirators with oxygen tanks) useless inside. Rotational units may clear tunnels with smoke by showing an OC/T that they have the capability. The unit must still maneuver within throwing distance of the cave entrance with an OC/T present. The rotational player will then expend the smoke grenade by throwing it a safe distance away from the cave complex. Only after this step is executed, will the OC/T adjudicate at his/her discretion.

- c. Replicate RTU ADA missiles with a WHITE star cluster; OPFOR with a GREEN star cluster. OC/Ts must ensure projectiles travel away from the air space corridor. Never discharge MGSS, ATWESS or star cluster within 500m of aircraft. Reference CH 6, ADA for a more detailed discussion.
- d. The following restrictions are in effect for Smoke and Flares:
  - i. Red Smoke/Red Star Clusters: Real world emergencies.
  - ii. CS smoke/grenade: CBRN effects.
  - iii. Purple smoke: Insertion of SCATMINE minefields.
  - iv. RTU will not possess CS, grenade or artillery- ground burst simulators.

2. Hand Grenades. MRE hand grenades replicate all hand grenades during force-on-force training.

| Table 3-8<br>MRE Hand Grenades by color and type |                         |               |                                                                                             |
|--------------------------------------------------|-------------------------|---------------|---------------------------------------------------------------------------------------------|
| Chem-lite Color                                  | Type                    | Range         | Effects                                                                                     |
| Blue                                             | Concussion (Mk3A2)      | 2-5m          | Effectuated personnel cannot react for 5 sec; Can damage equipment; No damage to structures |
| Yellow/Green                                     | HE/FRAG (M67)           | 5-15m         | Kills personnel within 5m; Effects on personnel to 15m                                      |
| Red                                              | Stun (M84)              | 2m            | Stunned personnel cannot react for 5 sec; No damage to structures, vehicles or equipment    |
| White                                            | Incendiary (AN-M14 TH3) | Impact 40 sec | Destroys shelters, vehicles and equipment; no direct effect on personnel                    |

- a. Production. OC/Ts verify successful completion of the supply requisition process before allowing the unit to begin construction of MRE hand grenades. MRE Grenades are physically produced at the company level. Each MRE hand grenade will consist of an MRE bag filled one quarter full with loose sand and taped shut. An unbroken chem-lite will be taped to the top to replicate the hand grenade pin. Table 3-6 lists the colors used to distinguish grenades. Units will only replicate grenades based on their allocation specified on a DA 581.
- b. Use of Projectiles. Absolutely no object will be directly thrown or fired at an opposing player. Any other type of projectile must be pre-approved by an OC/T and must meet training requirements. For further guidance reference Chapter 5, Paragraph 5-2, Training Demolitions.
  - i. Execution. To ensure proper effects are replicated, grenade throwers will display the grenade to be employed to an OC/T or OPFOR/COB LNO. If an OC/T or OPFOR/COB LNO is not present, or the grenade is not shown beforehand allowing proper identification, then the grenade will default to a fragmentary grenade.
  - ii. Arming. To arm the grenade, the Soldier will break the chem-light (to replicate pulling the pin) and underhand toss the grenade at the intended target. Grenades are employed in accordance with the tactical situation but are not to be thrown at a high velocity at personnel. Soldiers will yell 'frag out', prior to employing a grenade.
  - iii. Incoming grenades may not be picked up and thrown back. Expended grenades are policed up by OC/Ts to ensure they are not reused.

3. **Direct Fire Signature Requirements.** All weapon systems will emit a “signature” to replicate the ammunition discharge when firing. Vehicles not emitting a signature will be assessed as a Penalty Kill.
  - a. A MGSS, ATWESS, FLASHWESS, or blank round must be fired during direct fire engagements. If the system uses FLASHWESS, a secondary physical/audio signature must be used to simulate direct fire. If the system runs out of signature rounds or is non-operational, it may not fire.
  - b. Crews may only load simulator ammunition equal to the actual carrying capacity: ex, 17 rounds (M1A1) or 18 rounds (M1A2/SEP) into the MGSS replicates the number of rounds in the ready rack. Once expended the crew must reload the MGSS to replicate cross leveling from the semi-ready rack.
  - c. When the MGSS rack is expended on vehicles in contact, the vehicle will immediately move to cover and reload. Defensive fire to provide protection while actively seeking cover is authorized.
4. **Missiles:**
  - a. **AT Weapons Back Blast.** AT weapons fired from inside buildings must meet the back blast and clearance requirements listed in AR 385-63. Soldiers who are within the back blast area, or in an area that does not meet the clearance requirements when the weapon is fired, will be assessed as casualties IAW the TESS card given to them by an OC/T.
  - b. **Javelin Anti-tank Guided Missile.** The Javelin missile will be replicated by the Field Tactical Trainer (FTT), the Command Launch Unit (CLU) and the Simulated Battery Coolant Unit (SBCU).
    - i. Javelin is equipped with an Anti-Tank Launch Effects Simulator (ALES).
    - ii. **Signature.** A artillery simulator will be thrown for every Javelin round fired, within 50m of the gunner to allow engaged unit to acquire the signature. Signatures will not be on a reverse slope out of RTU view.
    - iii. **Ground to Air engagement signature.** OC/T's will replicate RTU with a WHITE star cluster; OPFOR with a GREEN star cluster. Star clusters must be used for every ground to air engagement. Never fire within 500m of aircraft.
    - iv. Units will possess Javelin Simulated Battery Coolant Units (SBCU) as indicated on their DA 581.
    - v. **Additional rounds.** Replicated by a 21.6 pound sandbag with lot number. Lot number ensures proper procurement through supply channels. Care needs to be taken to ensure FTTs are programmed to reflect accurate round counts. The FTT counts as a single round.
  - c. **TOW 2B Top Attack Adjudication.** Increased range and capability will require more OC/T manual adjudication. With the inclusion of the TOW 2B and TOW 2B Aero (wireless top attack missile), OC/Ts will need to adjudicate based on munitions, range, and type of target engaged. For engagements where top attack mode is utilized (standard mode for TOW 2b), OC/Ts will verify all systems operated properly.

### 3-9 Searches/Destruction of Caches.

1. Caches are subject to search, capture, and destruction by RTU.
2. If the capturing unit desires to destroy a supply stockpile/cache; they must show the OC/T the resources necessary to accomplish the destruction. The OC/T marks the supplies as destroyed and notifies DTOC to arrange for evacuation of the notionally destroyed supplies.
3. If the capturing unit desires to evacuate and retain/exploit accountable property, only simulated weapons and ammunition, or documents of intelligence value may be taken. Items will not be taken from a cache without an OC/T's knowledge.
4. Off limits areas will be clearly identified by the town OIC and communicated to OC/Ts.

5. **Safe Areas.** Infiltration and ex-filtration from FICA will be conducted using organic vehicles and will be competitive. If the RTU unit is in pursuit of a SPF element enroute to FICA and correctly reports the SPF actions to its higher headquarters prior to the SPF entering FICA, a 1/3 attrition will be applied to the SPF element. The 1/3 attrition is attributed to action by friendly adjacent units and will be reported to the rotational unit by the DTOC. During the rotation (RSOI-1 through TD 14) the area between the “light line” and the LSA/RUBA is competitive including the trail leading from the Regimental motor-pools to Garlic Springs (Vic NU326986). This is further described/defined as Barstow Road SW from the “light line” to the intersection of Barstow Road and Outer Loop South to 5th Street and then South again to the Draw Yard. A “line in the sand” extends from vicinity NV28850245 to NU29000130 to NV27500100. SPF must be northwest of this line to be considered in a “safe area.” SPF may be engaged anywhere south of the previously mentioned “line in the sand.” The SPF forces will not be pursued into FICA.

**3-10 Non-Standard Tactical Vehicles (NSTV).** RTUs are authorized to operate CCMs and ATVs at the NTC during rotation. These vehicles will abide by the speed limits for wheeled vehicles outlined in Chapter 15. All CCM and ATV operators will be licensed at home station and a memorandum certifying their training will be forwarded to Ops Grp Plans. Operators must also be certified to operate their CCM and ATV during hours of limited visibility with NOD's. Operators will wear gloves, protective eyewear, and ballistic helmet. (D.O.T. approved protective helmets are also authorized.)

**3-11 Road Culverts.** All culverts inside of the training area are in play and usable by the OPFOR SPF for the emplacement of IEDs. RTU may use any non-permanent means, to exclude padlocks, to prevent the tampering of the Culvert Protection Systems (CPS).

### **3-12 Remotely Operated Weapons Systems**

1. Operators are considered in-play while controlling robotics weapons systems. Operators must wear MILES equipment and adhere to EXOP.
2. **AT Weapon/Javelin system:**
  - a. Operators will adhere to same procedures for employment of similar AT Systems
  - b. OC/T will ensure the operator can properly acquiring targets and that the weapon can physically engage desired target (missile arming range, clear of obstructions, etc.)
  - c. Operators must manually reload weapons and OC/T must ensure operator possesses ammunition for reload. Additional rounds are replicated by a 21.6 lb. sandbag.
  - d. **Signature.** The OC/T drops one hand grenade simulator for every round fired for signature.
3. **Machine Gun systems.** Operators will adhere to same procedures for employment of similar AT Systems. OC/T will ensure the operator is properly acquiring targets and that the weapon can physically engage desired target (within line of sight, clear of obstructions, etc.)
4. **MILES systems.** In addition to miles for “Hull” of robotic system, a MIK will be paired with each system. This enables blue force to engage remotely operated weapon system with direct/indirect fire. Miles sensors around “hull” were blocked by positioning robotic weapon system behind micro terrain (depth of less than 18” of dirt/rock). The addition of the MIK system improves realism of blue force engagements of the ground robotic systems.
5. **Safety Kill Rule** applies to all robotic weapons systems.
6. If a robotic weapon system is operated by a civilian contractor and that system is captured, the civilian operator will remain in place and operate the system under the direction of the RTU until such time as the system is destroyed or has expended all ammunition.
7. **Once destroyed, Robotic Systems** will be marked with orange tape.
8. **Robot mounted optics:** (Tethered UAS, Skycam systems working in tandem with robotic weapons systems)

- a. Neutralize weapons systems.
- b. Destroyed optics systems will be marked by orange tape.

### **3-13 Trench Operations (FoF)**

1. OPFOR Link-up: OC/Ts Team will conduct initial coordination with trench OPFOR OICs/leadership NLT 24 hours in advance of Trench Operations. OC/Ts will discuss OPFOR scheme of maneuver, location of key weapons systems, avenue of approach for follow-on/reserve forces, location of IEDs, booby traps, and obstacles. OC/Ts will also discuss adjudication procedures and OPFOR training objectives to ensure a safe and effective training environment for OPFOR and RTU.
2. Indirect Fire Engagements against trench. OC/Ts will adjudicate effects of indirect fire on trench IAW manual artillery assessment tables. OC/Ts will apply reasonable judgement of the impact of indirect fires while preserving enough combat power to enable RTU and OPFOR to achieve training objectives.
3. OC/Ts will closely monitor RTU/OPFOR trench clearance operations to ensure forces are adhering to safety kill procedures.

## **Chapter 4 Fire Support**

- 4-1 Mission Command**
- 4-2 FA Organization**
- 4-3 Fire Control**
- 4-4 Weapons Locating Radars**
- 4-5 Fire Marking & Special Munitions Replication**
- 4-6 Laser Operations**
- 4-7 Precision Munitions**
- 4-8 Artillery/Mortar Safety**
- 4-9 Manual Artillery Assessment Tables**
- 4-10 Crater Analysis Procedure**
- 4-11 BONUS Round Employment**

### **4-1 Mission Command**

1. **Command.** The field artillery headquarters for all NTC rotational units is the 52ID DIVARTY / VII Corps Artillery Headquarters. The Senior Fire Support Combat Trainer (Wolf 07) is the 52ID DIVARTY Commander, VII Corps Artillery FSCoord, and the force field artillery commander, who serves as the fire support coordinator (FSCoord) for the force commander. Wolf 07 retains approval authority on all fire support matters at NTC as the senior fire support combat trainer. Warrior 27 serves as the 52ID Division Fire Support Officer.
2. The Commander, 52ID, with the assistance of the DTOC, controls field artillery echelons above brigade.

**4-2 FA Organization.** Rotational maneuver brigades will deploy with their organic field artillery battalion and organic mortars.

### **4-3 Fire Control**

1. **RTU.** The BCT/RCT FSE will, at a minimum, maintain voice communications with 52ID/VII Corps FSE at all times. Digital communications should be maintained when able.
  - a. An OC/T must be present in order to fire. Prior to firing a mission or subsequent corrections, the FDC must provide the OC/T with the artillery mission card listing for replication and casualty assessment during force on force. The data required includes:
    - Target number
    - Target description
    - Type of fuse
    - Pieces to fire
    - Target location and altitude
    - Special instructions
    - Type of projectile Charge
    - Distribution (Sheaf Type)
    - Number of rounds/rockets
    - Fuse time setting when applicable- (LFX only)
    - Range to fuse function (ILL) (LFX only)
    - Range to impact (ILL) (LFX only)
    - Max ORD (LFX only)
2. During FOF, the mission will be replicated as requested, regardless of possible fratricide.
3. **Weapon and Ammunition Information.** Ammunition Information and Muzzle Velocities will be applied at all times in order to conduct Fire For Effect (FFE) missions during Force on Force. Muzzle Velocities can be derived by any means during FOF, as specified in TC 3-09.81, Chapter 4 (Muzzle Velocity Management). This includes Calibration, Subsequent-Lot Inference, Predictive Muzzle Velocity Technique and Estimating Shooting Strength (Ch 4, Section III).

### **4-4 Weapons Locating Radars**

1. Actual WLRs and the controlling FA headquarters of notional radars must provide the following

initialization data for all zone data to the 52ID Fires Brigade Counterfire Officer (Wolf TAFF): Grid location, azimuth of search (AOS), mask angle, and target block must all be submitted in addition to the grids and activation times of any zones to be put in the system. OC/Ts will update the Wolf TAFF with any changes, including but not limited to fire missions, operating data, and execution performance. (survey accuracy, procedures, screening crests, etc.)

2. Acquisitions. Actual radars and the controlling headquarters of notional radars that are ready to observe (IPRTO) will receive enemy FA systems unit and impact locations. Acquisitions must be both within the radar search sector and occur during cueing windows. The Wolf 36 team may override acquisitions at their discretion.
3. For the rotational unit to shoot live counter-fire during the Live Fire Exercise (LFX) portion of the rotation the following minimum requirements must be met:
  - a. Unit FSCMs built in the radar MILTOPE and any AFATDS in the counter-fire chain must match; i.e. radar zones.
  - b. Unit must maintain at a minimum voice communications during the Force on Force Under Live Fire Conditions portion and all data must be sent via digital means when able.
  - c. All live counter-fire missions must be beyond the Coordinated Fire Line and will be ran through the Wolf 36 Team in coordination with Dragon Team. Wolf TAFF must be notified once missions are clear.
  - d. The OC/T will provide their approval once previous listed requirements are met. Wolf 07 remains the final authority for Live Counter-fire during LFX.

#### **4-5 Fire Marking and Special Munitions Replication**

1. OC/Ts must communicate all Blackhorse and RTU fires plans to Wolf TAFF in advance to ensure fire markers are available to mark missions (NLT 2 hours prior). The Wolf TAFF will control all dispatching of Palehorse and contracted fire markers. The Wolf TAFF will position ten fire markers to mark OPFOR on BLUFOR indirect fire missions and two fire markers to mark BLUFOR on OPFOR indirect fire missions.
2. Special munitions, to include FASCAM must be requested through the DTOC and strike warn given IAW the timelines established by the 52ID order. These strike warnings facilitate fire marking in a timely manner. If the strike warning is not given to standard, special missions will be fired and marked as quickly as marking is available.
3. Smoke missions, both RTU and OPFOR, are replicated utilizing a specialized smoke truck operated by a fire marker. They will replicate the mission in accordance with the length, width, attitude and duration of the mission executed by the firing unit. Units should provide details of their planned smoke targets to their OC/Ts prior to execution to ensure proper replication.
4. All FASCAMs will be marked to their actual size in the following manner:
  - a. RTU will issue a STRIKEWARN for any FASCAM target (including those approved by the Brigade Commander) through 52ID Division Fires IAW the 52ID order. Wolf TAFF announces "shot FASCAM" on OPS CMD once RTU FA unit begins firing the mission. Wolf TAFF fires a smoke mission in CTC-IS to replicate the initial volley of mines being emplaced.
  - b. Fire marker pops a purple smoke canister and 5 grenade simulators, and emplaces center marking pole at the center grid. For a 200 X 800 = the two corner points that define the closest corner to the enemy will be emplaced first. For 400 X 400 = the three corner points that define the closest corner to the enemy will be emplaced first.
  - c. OC/T or fire marker distributes a ground signature of approximately 500 Blue/Red wooden blocks.
  - d. After 15 minutes from the initial mark, the FASCAM becomes active. Wolf TAFF fires FASCAM mission in CTC-IS activating AWES for adjudication.
  - e. Fire marker removes the barber poles and drops a purple smoke and 5 grenade simulators replicating

the remaining second 50% of the FASCAM landing.

- f. At the timed completion of the FASCAM, the fire marker will confirm the FASCAM is inactive through WOLF TAF prior to marking with smoke and grenade simulators. The OC/T or Fire Marker will then remove the blocks.

#### **4-6 Laser Operations**

1. Force on Force Operations. Eyesafe lasers are the only laser range-finders/designators allowed to lase or designate in Force on Force Operations. Use of any other lasing device during Force on Force is unauthorized unless approved by 52ID.
2. Laser Capabilities and Restrictions. An OC/T must be present and operators must receive RED DIRECT FOR LASING through the maneuver chain of command prior to conducting any actual laser operations. OC/T has to make sure the RTU is qualified and certified within the last six month (Laser Safety Test).

#### **4-7 Precision Munitions.**

1. Rotational units are authorized to fire the following munitions provided the following conditions are met:
  - a. M982 Excalibur GPS Guided Munition and M1156 Precision Guidance Kit (PGK). M777A2 and M109A7 MTOE Units are authorized to utilize the M982 Excalibur GPS Guided Artillery Round during Force on Force Operations. Prior to execution, units must possess required equipment, load proper CRYPTO, and demonstrate correct procedures to employ precision/near precession munitions in order to receive credit.
  - b. M31 and M31A1 Guided MLRS Rocket (GMLRS). Units are authorized to utilize the M31 and M31A1 GMLRS Rocket during Force on Force operations. MLRS and GMLRS support will be granted on a case-by-case basis. Wolf 07 is the approval authority for all Division rocket allocations.
  - c. ATACMS BLOCK I, BLOCK IA, BLOCK II and M48/M57 ATACMS QUICK REACTIONARY UNITARY. Units are authorized to utilize the ATACMS family of munitions provided they possess the capability to fire them from either the M270A1 or the M142. Units may utilize the BLOCK IA ATACMS from non-GPS aided systems (M270), but they will only achieve BLOCK I accuracy. All ATACMS fires must be approved through 52ID.

#### **4-8 Artillery/Mortar Safety.**

1. Certification. Unit commanders are responsible for Artillery/Mortar safety certification. Commanders will ensure that crews are certified in accordance with AR 385-63. Commanders will also ensure that a minimum of two safety certified personnel are present throughout the duration of the live- fire and that safety personnel understand and follow both the NTC EXOP and the appropriate weapon systems technical manuals. Rotational artillery units will provide a Safety Certification Letter by RSOI2, signed by the Fires BN CDR, to the Wolf Team (W32/05) prior to being cleared to conduct live-fire or calibration.
2. OC/T will assess Howitzer Direct Fire Engagements when not equipped with TESS. They will observe whether howitzer sections conduct direct fire procedures IAW ATP 3-09.50. In general, a section must fire one round long, and one round short to establish the range. OC/Ts will adjudicate kills based on crew drill, accuracy of crew's range, munition used, and target vehicle.

**4-9 Manual Artillery Assessment Tables.** Area Weapons Effects Simulator (AWES) is the primary method for assessing indirect fire engagements. However, in the case of AWES malfunction or the requirement to assess vehicles and personnel which are not fitted with TESS. OC/Ts will assess casualties by applying reasonable judgment if the impact of the indirect fires is not obstructed by a building or other structure. When time allows, OC/Ts should use JWS to accurately assess BDA.

**4-10 Crater Analysis Procedure.** Units must perform or possess the following in order to properly conduct and receive credit for its selected procedure: Conduct the analysis in accordance with CATS individual task *061-306-6004: Perform Crater and Shell Fragment Analysis*. Units must request to perform a Crater Analysis to their corresponding OC/T or OC/T team. Units must perform any of the crater analysis techniques in the presence of an OC/T. Possess all the required equipment to perform any of the crater analysis techniques, such as declinated

compass or aiming circle, stakes, wire or 550 cord, and curvature template.

**4-11 BONUS Round Employment.**

1. **Definition and Background:** The BONUS round is a base-bleed sub-munition dispensing artillery round designed to have a lethal effect against armored formations both moving and stationary. It is currently available in NATO stock in 155mm and 152mm variants, with usage in US war stock in at the 155mm variant only. After firing, when the round functions it dispenses two heat sensing explosive penetrators that seek out heat signatures matching enemy armored vehicles in an area of 300m x 400m (at a BRTY 1 fire order area target). The BONUS round adheres to the NATO convention on cluster munitions and is similar in ballistics to the M864 Base Bleed DPICM munition. The BONUS round has a range of 8km – 28km and requires a TLE less than CAT IV (31m – 91m).

Figure 1.1: BONUS Round Cross-Section

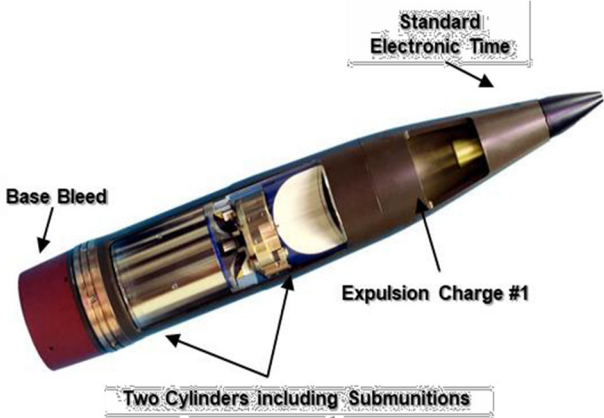
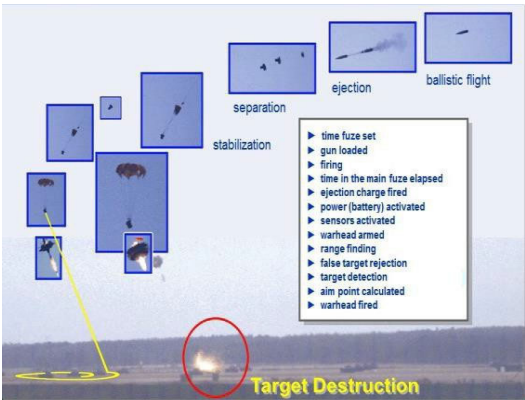
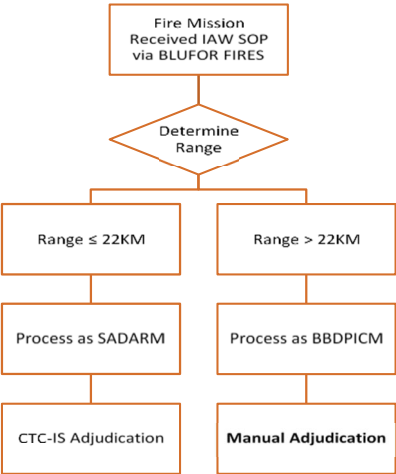


Figure 1.2: BONUS Function



2. **Fire Mission Processing:** Fire missions will be processed as a point or area target from the observer and weaponeered at the BCT FSE ICW the FA BN FDC to provide the BONUS round as the desired munition for the effect requested by the observing unit. White card information passed via Wolf OC/T to Wolf TAFF via BLUFOR Fires net will specify munition type requested. Wolf TAFF will adjudicate effect via the effects adjudication based on the effects replication diagram listed below.

Figure 1.3: Diagram for BONUS Adjudication in Wolf TAFF



3. Should the fire mission present at a target range of less than 22k, the mission will be entered into CTC- IS as a SADARM mission. Using the preexisting SADARM munition in CTC-IS presents similar effects as the BONUS round when fires at armored formations less than 22k from gun to target. Should the mission exceed 22k the mission will be processed as a BBDPICM mission in CTC-IS and a manual adjudication table will be used to determine the effect on the target formation.
4. **Effects Replication:** The BONUS round is designed to be effective at engaging and destroying armored

targets through top attack explosive penetrator sub-munitions and as a result the number of rounds required to get a destruction effect on an armored formation is fewer than seen with standard and base bleed DPICM munitions. The general guideline used for BDA adjudication is two BONUS rounds to achieve a destruction effect on one main battle tank or similar armored vehicle with a BN 1 (18 rounds) to achieve a destruction effect on a MBT heavy platoon. The adjudication will be executed and validated by Wolf TAFF and affected OPFOR vehicles given firepower kills, mobility kills, or catastrophic kills using “black box” effects in CTC-IS.

5. **Unit Basic Load (UBL) and Controlled Supply Rate (CSR):** The BONUS round is a limited resource munition with supply constraints in theater stockages and the allowed number in the initial unit basic load and controlled supply rates will reflect the BONUS as a finite resource. The allowed number of BONUS rounds in the UBL will not exceed 60 – not to exceed 108 bonus rounds per rotation. This equates to around 1% of the overall UBL of M777 and M109A6/A7 formations. The controlled supply rate can be seen as a dynamic table that may be adjusted based on the success or challenges of the rotational training unit but overall the CSR will not exceed 2 rounds per tube per day (36 rounds total for M777 and M109A6/A7 formations) based on consumption (i.e. cannot be resupplied with more rounds than actually fired, nor any quantity >36 \*2rds per tube). This allows the RTU to have the ability to target and destroy 3 armored platoon formations per day if technical and tactical triggers are met.
6. **Storage and Stockpiling:** M109A6/A7 formations are allowed to store 1x BONUS round in the Paladin in the space allotted for the Excalibur round and 3x BONUS rounds in the FAASV. All other rounds must be stored on the PLS/LHS or LMTV. M777 units are allowed to store 3x rounds (one case) unfused in the M777 prime mover. No forward positioning or stockpiling of BONUS is authorized.
7. **Each Palletized Loading System flat rack is capable of moving 96 complete bonus rounds based on cubic space.** Each pallet consists of 6 rounds, and each flat rack can move 16 pallets. IAW TB 9-1320- 204-13 when BONUS projectiles are transported on wheeled vehicles or tracked vehicles in containers or in ready racks – subjected to vibration – the unit has 5 days to fire projectiles IAW proper storage procedures.

## **Chapter 5 Engineer and Explosive Ordnance Disposal Operations**

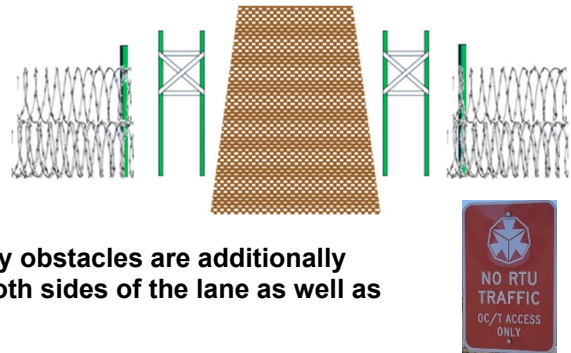
- 5-1 Administrative Requirements**
- 5-2 Scatterable Mines and Munitions**
- 5-3 Reduction Drills**
- 5-4 Improvised Explosive Devices (IEDs)**
- 5-5 Earth-Moving Operations**
- 5-6 Training Demolition**

### **5-1 Administrative Requirements.**

#### **1. Obstacles.**

- a. Tracking.** Units will provide their OC/Ts with locations of all obstacles and survivability positions prior to construction. Upon completion of the obstacle or survivability position. OC/Ts will use this information to ensure that all obstacles are correctly entered into the CTC-IS computer system and to track post-mission battlefield restoration.
- b. Restriction.** Units will not construct inherently dangerous obstacles (e.g., head high, un-marked single strand barbed wire, tangle foot). Units will not begin emplacing obstacles until locations are given to the OC/T to prevent emplacement in a “NO DIG” area.
- c. Restoration.** Battlefield restoration is an emplacing unit responsibility, defined as the clean-up, fill-in, or reconstruction of all obstacles and survivability positions that they constructed or breached. Complete restoration prior to the next mission if the obstacle no longer serves a tactical need. Restoration will begin after “continue the mission” as directed by the DTOC. Sidewinder TAFF reports all remaining obstacles and fighting positions to Fort Irwin Range Operations at CTM.
  - i. Restoration following LFX.** RTU must mark all vehicle fighting positions according to para 5-5, 3c. prior to departure to Desert Download at CTM. All CL IV will be consolidated in each engagement area prior to departure to Desert Download and will be recovered in accordance with RTU regeneration timeline.
  - ii. Restoration may begin at CTM and will continue on BRD 1** under the direction of Fort Irwin Range Operations and NTC G3 after equipment operators have fully recovered IAW with the standards mentioned above. Vehicles and equipment are authorized to remain in the training area to support battlefield restoration efforts with BCT CDR approval. RTU must provide grid location and recovery plan to their OC/T prior to departure to Desert Download. No sensitive items, CL V, or personnel are authorized to remain in the training area.
  - iii. All legacy obstacles that were breached during force-on-force operations will be remediated during regeneration.** The SIDEWINDER Team will provide QA/QC support to Fort Irwin Range Operations and NTC G3 with verification of obstacle restoration during BRD.
- d. Material.** Units will return all obstacle materials to storage configuration (e.g. all mines disarmed and stored in containers if available) and all wire banded and palletized.
- e. OPFOR Obstacles.** OPFOR emplaced obstacles can be either competitively emplaced or emplaced before the start of operations dependent on scenario design. Obstacles will be marked according to EXOP however they will follow OPFOR Red Book design. OPFOR obstacles may be emplaced with a lane and activated in the IS system when closed by withdrawing unit. Palehorse OC/Ts and Ops Group’s OC/Ts will ensure OPFOR units are using marked lanes for obstacles not yet activated.
- f. Natural Obstacles/River Crossings.** Rivers will be replicated to the greatest extent possible given resource limitations. Designated crossing sites will be marked with blue dye, Seibert stakes, and signs specifying MLC (if applicable). Intelligence sources will provide crossing gap distances (if applicable). Rivers will have an active minefield effect to assist in the adjudication of casualties during unauthorized fording attempts. As an example, the Ziemsko River near Columbia Wash when included in the rotational design by the Senior Trainer.
- g. Dragons’ Teeth.**

- i. Units relocating dragons' teeth must provide an on site asset capable of lifting 1,400lbs and will incur a lift time penalty of 5 minutes per dragon's tooth. Movement of replicated dragons' teeth will be limited to 8x per PLS/LHS flat rack.
- ii. Units who plan to construct and employ dragon's teeth as part of their defensive plan will observe the following planning factors.
  - Concrete cure time: seven days (e.g. dragon's teeth poured on RSOI-3 are available to employ on TD5).
  - Payload capacity: 8x DT per PLS/LHS platform.
  - Emplacement requirement: HEMTT wrecker, HEMTT with crane, HMEE, or other asset with at least 1,500lbs lift capacity.
  - Replication: RTU's preconstructed forms or coordinated with Dragon OC/Ts to request replication in accordance with 52ID controlled supply rate.
- h. **Administrative Lane Marking.** Administrative lanes are for OC/T, contractor, and real-world evacuation traffic only. RTU/OPFOR is not authorized to use these lanes as a bypass. OC/Ts will ensure RTU/OPFOR only use breach lanes through obstacles and will adjudicate based on the composition of the obstacle.
  - i. Administrative lanes through tactical obstacles will be marked by two long pickets spaced two feet apart, with engineer tape wrapped between the pickets in an X shape. This marker will be placed on both sides of the lane and both sides of the obstacle.
  - ii. Administrative lanes through enduring / legacy obstacles are additionally marked by red "OC/T Traffic Only" signs on both sides of the lane as well as both sides of the obstacle.



## 2. Environmental Clean-Up Team (ECT).

- a. The ECT white cell will not augment the rotational unit with survivability or battlefield restoration effort, without specific approval from 52ID DTOC. ECT vehicles will display placards stating "ENVIRONMENTAL TEAM". The ECT will maintain continuous communications with Range Operations.
- b. **Procedures for Employment.** The ECT will make runs as necessary to dispose of contaminated soil using the RTU MSR. After coordinating with 52ID DTOC, Range Operations will dispatch the ECT for routine spills as required. Range Operations & ECT will maintain a log of reported and completed spills.
- c. The ECT will avoid entering areas where tactical actions are in progress. The ECT will not be dispatched to these areas without DTOC approval. If this is unavoidable, DTOC will assign escort responsibility to a specific OC/T team. If engaged during the conduct of a clean-up mission, the ECT will insert yellow keys and continue clean-up. At no time will the ECT actively participate in combat operations or attempt to influence tactical situations.

## 3. Unexploded Ordnance (UXO).

- a. **General.** The NTC has both real world and training unexploded ordnance on the battlefield. To ensure the safety of everyone and proper training for the rotational unit the following procedures are in place. For safety purposes, soldiers will consider all UXO found on the NTC battlefield as live. Any soldier spotting an UXO will perform the following measures:
  - i. Prepare a standard UXO Spot Report (Ref STP 21-1-SMCT) and forward the report to Range Operations IOT request Fort Irwin EOD response IAW DA PAM 385-64.

- ii. Mark all UXO using the NATO UXO markers or, as an alternative, with pickets or stakes. Place chem. lights and engineer tape three (3) feet off the ground so that they are visible from all approach routes IAW DA PAM 385-64.
  - iii. Range Operations will coordinate with Fort Irwin EOD Response. OC/Ts onsite may contact Sidewinder 18 Team for assistance to expedite EOD response.
  - iv. Fort Irwin EOD will determine disposal requirements of UXO in accordance with Annex B and 60 Series Publications.
- b. Scrap. Fort Irwin contractors or EOD will remove scrap ordnance out of the immediate area to eliminate the confusion of whether it is live or not. RTU and OC/Ts will not consolidate or collect UXOs or scrap metal

## **5-2 Scatterable Mines (SCATMINE) and Munitions.**

### **1. OPFOR Conventional Minefields.**

- a. Anti-tank mines. The OPFOR uses three types of mine replicators: the TM-89 mine shell with MES insert (primary); the M21 plastic shell without fuse, painted blue in color; and the M15 metal mine painted blue in color. All three replicate the TM-89 mine and are used in all OPFOR conventional minefields. The M15 and M21 are US mines but are used in OPFOR minefields due to limited available training aids. Accordingly, RTU should plan and act according to doctrinal minefield density. OC/Ts will assess a vehicle as a catastrophic kill if the vehicle drives over or straddles the mine and a mobility kill if the vehicle moves within one meter of the mine. Any troops in the open within 25 meters of a mine blast will be assessed as a casualty. OC/Ts will remove any mines that have been detonated or properly reduced.
- b. Anti-personnel mines. The OPFOR uses a replica of the OZM-3 AP mine. The OZM-3 is detonated by a variety of fuses including tripwire and electrical command. When triggered the mine explodes approximately 1.5 meters off the ground. The fragmentation results in a casualty radius of 25 meters.
- c. All OPFOR minefields (FASCAM, ground system, or hand emplaced) employed as part of the rotation (i.e. not part of legacy obstacles) will be reported to Warrior TOC. This includes reporting 1-hour warning order, emplacement, and emplacement complete.

### **1. SCATMINE.**

- a. Authority level for the execution of 4 hour SCATMINE employment will be designated in the 52ID order. Emplacement of a SCATMINE obstacle with a duration of over 4 hours will reside with the 52ID commander.

#### **b. Rotational Unit Responsibilities.**

- i. Reporting. A SCATMINWARN will be sent to the DTOC a minimum of 60 minutes prior to execution of a scatterable minefield. Failure to meet the 60 minute lead time requirement may result in delays in receiving proper replication of SCATMINE effects on enemy forces.
- ii. 48 Hour Duration. Both RTU and OPFOR units can request to emplace a 48-hour duration scatterable minefield. 48-hour duration scatterable mines will remain in effect until self-destruction is complete, even during a suspension of battlefield effect event. Units need to be prepared to provide overwatch if necessary to avoid accidents or injuries.
- iii. Request procedure. Units will follow the Scatterable Munitions Procedure outlined in TAB B (SCATTERABLE MINUTION PROCEDURE) TO APPENDIX 1 (MOBILITY & C-MOBILITY) TO ANNEX G (ENGINNER) of the 52ID OPORD.

| Table 5-2a SCATMINE SD Windows |                     |
|--------------------------------|---------------------|
| SD Time                        | SD Window Begins    |
| 4 hours                        | 3 hours 12 minutes  |
| 48 hours                       | 38 hours 24 minutes |
| 5 days                         | 4 days              |
| 15 days                        | 12 days             |

- c. **Replication.** 1x hand grenade simulator will be dropped to designate initiation of the minefield. SD window begins either when the Volcano emplacement vehicle is driving centerline, after the RAAM fire mission is complete, or once the rotational unit has initiated the SAVO minefield. 2x hand grenade simulators will be dropped when the minefield self-detonates at expiration. 1x hand grenade simulator will be dropped when vehicles enter the minefield to replicate the mines detonating. There is a doctrinal safety zone which units should recognize, but will not be marked.
- d. To replicate wire-mine obstacles across MSR/ASRs, units will mark the road in accordance with Administrative Lane Marking procedure in para 5-1.h.i. Units will also place the required wire, pickets, and mines on the side of the MSR/ASR. Lanes not across MSR/ASRs may not be marked this way.
- e. **Marking.** RTU will mark the sides of all minefields in accordance with their unit SOP. Minefields will be marked with single-strand concertina wire fencing in accordance with TM 3-34.85, Table 7-12. As an exception, barbed wire will not be used as a marking material due to its low visibility for OC/Ts moving around the training area. Engineer tape is authorized as an alternate marking method if appropriate, standard CL IV is not available.
- f. **Number of mines.** RTU will emplace number of mines consistent with type of minefield being employed. If the RTU or OPFOR does not emplace the proper amount of mines consistent with the size of the minefield, then the minefield will be considered low density and will reduce the casualty rate by 50%.
- g. **Non-AWES Adjudication.** If AWES is not available at the time the mission is shot, manual adjudication will be conducted throughout the duration of the minefield.
- h. Once a minefield is considered inactive IAW ATP 3-90.8, Table E-3, units should still consider the possibility of some mines not self-destructing and should maintain situational awareness of the minefield across the force. Prior to maneuvering through the area of an inactive minefield, the unit should take the appropriate steps to ensure the selected route is clear of any explosive hazards.
- i. **Sidewinder TAFF** will program minefield effects in AWES upon initiation of a minefield system. Upon expiration of the system's self-destruct period, the effect will expire in AWES as well.

## 2. Artillery/Rocket Delivered SCATMINE.

- a. **Replication.** All FASCAMs will be marked to their actual size in the following manner:

- i. Fire marker pops a purple smoke canister and 5 grenade simulators, and a center marking pole at the center grid.
- ii. For 200 X 800 = the two corner points that define the closest corner to the enemy will be emplaced first. For 400 X 400 = the three corner points that define the closest corner to the enemy will be emplaced first.
- iii. Dragon Soldiers or fire marker distributes a ground signature of approximately 500 Blue/Red wooden blocks.

| Table 5-2b SCATMINES BY TYPE |                               |
|------------------------------|-------------------------------|
| Type                         | Number of blocks per          |
| Field Artillery              | 500 blocks                    |
| Volcano                      | 100 per rack                  |
| MOPMS                        | 21 blocks                     |
| SAVO                         | 10 blocks per SAVO base plate |

- iv. Fire marker removes the barber poles and drops a purple smoke and 5 grenade simulators replicating the remaining second 50% of the FASCAM landing.

- b. **Removal.** At the timed completion of the FASCAM, the fire marker will confirm the FASCAM is inactive through WOLF TAFF prior to marking with smoke and grenade simulators. The Dragon Soldiers, OC/T, or fire marker will remove the blocks.

3. **Volcano/UMZ.** The OPFOR UMZ dispenses the PTM-3 AT mine and PFM AP mine. While neither the Volcano AT mine nor the PTM-3 have anti-handling devices, both are magnetic fused and therefore would detonate if moved. Therefore the mines cannot be lifted out of the way. The OPFOR UMZ minefield is

dispensed in a manner similar to the RTU Volcano minefield.

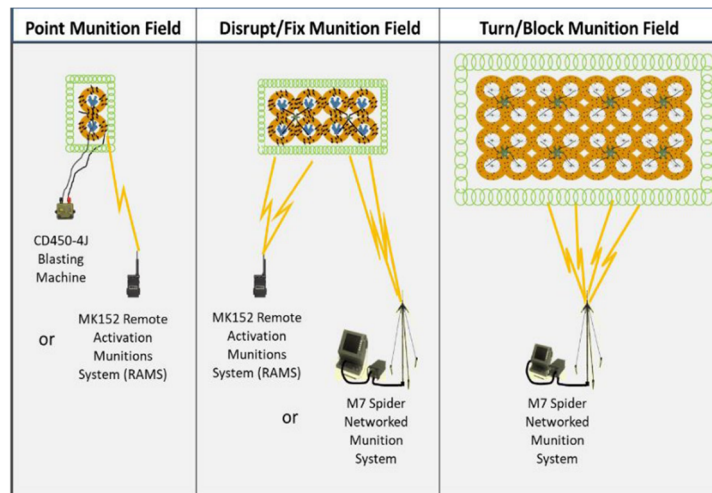
- a. RTU must process requests for Volcano canisters IAW Chapter 8. After the 581 is confirmed, the unit may upload the initial Volcano canisters on the M139 dispenser. Units need requisite number of “ready” M89 canisters uploaded on the M139 dispensers and proper systems checks conducted.
  - b. The correct number of empty honeycombs with a properly processed and verified DA Form 581 constitutes a Volcano reload, and must be on-hand prior to a unit conducting reload operations. The unit must download the entire load of “expended” M89 canisters into the honeycombs prior to uploading the same canisters, now “ready” on to the M139 dispensers. The empty honeycombs replicate “fired” canisters and must be backhauled to the brigade ATP.
  - c. All ground Volcano minefields will be marked IAW ATP 3-90.8, Figure E-6. However, Rotational units will have the ability to place multiple ground Volcano minefields within one frat fence. They must maintain the 20m safety zone around the minefields for the frat fence. If marking and/or fencing of minefields is not possible based on the tactical situation, commanders will mitigate risk to friendly forces and civilian populace accordingly.
  - d. Air Volcano Force-on-Force Replication will be the same as FASCAM described above with three exceptions.
    - i. All Air Volcano minefields will be marked IAW ATP3-90.8, Figure E-7. However, Rotational units will have the ability to place multiple air Volcano minefields within one frat fence. They must maintain the 100m x 30m safety zone around the minefields for the frat fence.
    - ii. Air volcanos are emplaced quickly. Adjudication begins after the delivering aircraft completes its pass or passes and the corner that faces the general direction of the enemy is marked:
      - 140m x 278m and 140m x 1115m = the corner points on the long edge facing the enemy side will be emplaced first.
      - 460 x 557m = the three corner points closest to the enemy will be emplaced first.
    - iii. Pyrotechnics. 1x hand grenade simulator will be dropped for each pass during emplacement.
  - e. Logistical requirements/restrictions. The unit must bring a full load of M-89 training canisters per Volcano system. Units will still draw their first Volcano load in theater. The unit must fly missions with the bottom two racks (Rack 1 and 2) loaded with 40 M-89 canister each for a total of 80 canisters. Emergency jettison squibs must be installed prior to aircraft flight. The aircraft DCU must pass a canister bit test prior to the execution of each mission. The PIC must show the OC/T that the aircraft can carry the load of mines and the proper fuel on board IAW the PPC for the mission. Ingress speed is limited to -10 performance planning for the current conditions prior to launch.
  - f. Ground Volcano/UMZ Force-on-Force Simulation. The Volcano/UMZ mines will be dispensed by hand from the dispensing vehicle or supporting vehicle(s) trailing the dispenser done by the Emplacing Unit. The OC/T mark when the Volcano/UMZ begins dispensing and a second hand grenade simulator when dispensing is complete. Once the VOLCANO/UMZ has run the centerline, the vehicle(s) dispensing the blue/red blocks are not subject to assessment while dispensing the blocks. Mines (blocks) must be recovered during battlefield restoration, or after the minefield expires. The controlling OC/T adjudicates all mine effects.
4. Spider – Network Munitions System. The munitions system consists of four major components: the remote control unit (RCU), remote control unit transceiver (RCUT), repeater, and munitions control unit (MCU).
- a. Replication. The Spider Training, Dispensing Set consists of the M-92 Miniature Grenade Training Simulator (MGTS) and MCUT. The inert M68 claymore practice kit replicates anti-personnel mines.
  - b. Marking. Per ATP 3-90.8 Appendix G, the Spider is considered a weapon system, not a mine. Frat fence is not required when employing the command-operated MCU / miniature grenades.

- c. **Adjudication.** OC/Ts will adjudicate based off of the number of munitions attached to the MCU that is fired. An MCU with six M18 claymores attached will produce lethal effects out to 100 meters from the M18 Claymore across a frontage of 225 meters. An individual M18 Claymore attached to an MCU will provide lethal effects out to 100 meters across a frontage of 37 meters. OC/Ts will assess personnel in the open from 0 to 50 meters from the detonated M18 at 25% KIA and 50% WIA. OC/Ts will assess personnel in the open from 51 to 100 meters with 25% WIA. OC/Ts must take into account terrain, available cover, and orientation of the M18 Claymores when assessing casualties. If the MCU only has the six Miniature Grenade Launchers (MGL) attached the effects for each MCU that is fired are 10% KIA and 25% WIA to all personnel in the open within a 32m diameter of the MCU. Again, OC/Ts on the ground will use their judgment to assess casualties based off of terrain and available cover. Each 40mm grenade fired from the MGL has a kill radius of 6 meters and casualty producing radius of 20 meters.
- d. **Logistics Requirements.** Units draw Division authorized quantities of Spider munitions components from TASC per each engineer company. Additionally, units are authorized to use any Spider systems that were issued at home station. Emplacing units must have the appropriate batteries for the RCU and MCU. After a Spider munitions system is expended the MCU must be recovered and the attached munitions must be backhauled to the battalion LRP where it will be tagged by an OC/T, provided that the DA Form 581 is at the LRP with the munitions annotated. If the unit has additional munitions on hand the RCU and MCUs are reusable.

**5. Selectable Lightweight Attack Munition (SLAM).**

- a. **Replication.** OC/T will observe the operator emplace the M320A1 Selectable Lightweight Attack (SLAM) training kit. RTUs must have all appropriate materials for the method of emplacement, such as wire or straps to secure it in side attack mode or MDI components for command detonation.
- b. **Marking.** When used in command detonation mode, frat fence is not required. When used as a mine, the minefield will be marked in a manner similar to ATP 3-90.8 Figure E-6 with a 50m safety zone around the munition. Units have the ability to place multiple SLAMs within one frat fence.
- c. **Adjudication.** When used in command detonation mode, OC/T will observe operator fire the munition and will adjudicate appropriately. When utilized as a mine, OC/T will observe the signature from the training kit and adjudicate. Lightly armored vehicles may be assessed as mobility or catastrophic kills depending on how the SLAM is employed, while heavily armored vehicles may be assessed as firepower or mobility kills. Dismounted personnel in the open may also be assessed as casualties.
- d. **Logistics Requirements.**
  - i. RTUs may only employ Army approved M320A1 training aids, either brought forward from home station or drawn from NTC TASC.
  - ii. RTUs must process requests for SLAM munitions IAW Chapter 8. Prior to submitting the DA Form 581-e, Units will ensure ability to transport requested munitions and systems. Once a munition is used, an OC/T will tag it and the unit is not allowed to use that munition again until they have received a resupply in the form of a DA Form 581 or DA Form 5515.
  - iii. If the unit does not arm the munition, the unit can recover the munition and utilize for future planning.
- e. Units are required to submit a SCATMINWARN with ROZ prior to arming the SLAM when used as a mine.

## 6. Standoff Activated Volcano Obstacle (SAVO) Minefield.



- a. **Replication.** The SAVO minefield fills critical Gaps in Directed SCATMINE Obstacles within the BCT Main Engagement Areas. It consists of a SAVO base plate, 4 – M87A1 canisters per base plate and can be initiated utilizing the M7 Spider, MK152/M156 RAMS or CD450- 4J Blasting Machine. Regardless of initiation method, the SAVO minefield once fired has a duration of 48 hour IAW ATP 3-90.8, figure E-3.
- b. **Marking.** All SAVO minefields will be marked IAW ATP 3-90.8, Figure E-6. The fence will be at least 80m beyond the closest SAVO baseplate. Units have the ability to place multiple SAVO minefields within one frat fence.
- c. **Adjudication.** OC/Ts will replicate SAVO minefield initiation, mine detonation, and expiration IAW para 5-2.2.
- d. **Logistical Requirements.**
  - i. Rotational Training Units must process requests for M87A1 canisters IAW Chapter 8. Prior to submitting the DA Form 581-e, Units will ensure ability to transport requested munitions and systems.
  - ii. Rotational Training Units may only employ Army approved SAVO base plates, either from home station or through draw from the NTC TASC. Units draw MCUs, Volcano Canisters, and Blue Blocks from NTC TASC. Units must bring replication for wire and Army approved initiation systems (M7 Spider, MK152/M156 RAMS, CD450-4J Blasting Machine) from home station.
  - iii. If the unit places the SAVO for a planned obstacle but doesn't fire the obstacle, the unit can recover the obstacle and utilize for future planned obstacles.
- e. Rotational Training Units must process requests for M87A1 canisters IAW Chapter 8. Prior to submitting the DA Form 581-e, Units will ensure ability to transport requested munitions and systems.
- f. Rotational Training Units may only employ army approved SAVO base plates, either from home station or through draw from the NTC TASC. Units draw MCUs, Volcano Canisters, and Blue Blocks from NTC TASC. Units must bring replication for wire and Army approved initiation systems (M7 Spider, MK152/M156 RAMS, CD450-4J Blasting Machine) from home station.
- g. OC/Ts will replicate SAVO minefield initiation, mine detonation, and expiration IAW Chapter 5-2, section 2 of the NTC EXOP. Once initiated, RTU will place 10 blue blocks scattered out to 40m radius per SAVO base plate (60 blocks total for a 280m x 160m disrupt/fix MF and 220 blocks total for a 520m x 320m block/turn MF). Rotational units with DA Form 581-e but not physical CLV on hand will emplace proper frat fence and blue blocks to replicate minefield.

- h. If the unit places the SAVO for a planned obstacle but doesn't fire the obstacle, the unit can recover the obstacle and utilize for future planned obstacles.
7. **XM-204.** The XM204 system provides four top attack munitions per system that can be set for four hours, forty-eight hours, and 15 days. The munition may be connected to four SAVO base plates and will initiate the SAVO baseplates. With a SAVO baseplate connected, the XM204 cannot be set to a four hour SD time, however it can be set to 48hrs or 15 days. Any terrain or vegetation which obscures the line of sight to the radar antenna will degrade to effectiveness of the XM204 and will be adjudicate by an OC/T.
- a. **Replication.**
    - i. **Stand alone munitions.** The RTU will initiate a thirty-three minute arming sequence once the XM204 is emplaced. When the thirty-three minutes elapse, the OC/T will mark the XM204 with a green Chem light.
    - ii. **SAVO attached.** After the thirty-three minute arming period, the OC/T will mark the XM204 with a green chemlight and detonate 1x hand grenade simulator to replicate initiation of the SAVO minefield.
  - b. **Reduction.**
    - i. **Mechanical.** The XM204 has anti-tampering and when moved or removal battery is attempted, the munition will fire all rounds. Units can attempt to destroy the munition by firing several .50 cal rounds thru the center of the munition housing.
    - ii. **Explosive.** To disable, place one block of C4 on the center of the munition.
  - c. **Marking.**
    - i. **Standalone munitions.** XM204 minefields will be marked by frat fence, at least 170m from each munition. Units can place multiple XM204 munitions within one frat fence.
    - ii. **SAVO attached.** XM204/SAVO minefields will be marked as described in para 5-2.9d. The frat fence will be modified to account for the difference in standoff between Volcano and XM204 munitions.
  - d. **Adjudication.** The XM204 will cause a mobility kill for heavily armored vehicles, and a catastrophic kill for all other vehicles. The XM204 will cause shrapnel; OC/Ts will adjudicate casualties. The probability of kill is 30%, allowing each XM204 replicated munition to damage or destroy two vehicles. OC/Ts will mark the detonation of the XM204 with 1x hand grenade simulator when a vehicle approaches within a 50m radius of a munition. OC/Ts will replicate the mine detonation, and expiration of the connected SAVO minefield IAW Table 5-2a.
  - e. **Logistical Requirements.**
    - i. RTUs may only employ Army approved XM204 replicated munitions, either brought forward from home station or drawn from NTC TASC.
    - ii. RTUs must process requests for XM204 munitions IAW Chapter 8. Prior to submitting the DA Form 581-e, Units will ensure ability to transport requested munitions and systems. Once a munition is used, an OC/T will tag it and the unit is not allowed to use that munition again until they have received a resupply in the form of a DA Form 581 or DA Form 5515.
    - iii. If the unit does not arm the munition, the unit can recover the munition and utilize for future planning.
  - f. Units are required to submit a SCATMINWARN with ROZ prior to arming the XM204.

### **5-3 Reduction Drills.**

- 1. **RF Signal.** During force-on-force, coordinate through the Sidewinder TAFF to turn off the RF signature

prior to attempting to reduce a replicated minefield. OC/T on ground will report the reduction asset used and planned point of breach. Once reduction is complete, OC/T on ground will report breach lane start/end points to update in AWES.

## **2. Explosive Breaching.**

- a. **MICLIC.** MICLIC must be fully operational; electronically as well as hydraulically. The OC/T on the ground will fire a Star Cluster to simulate the launch of the rocket upon RTU initiation after the rail has been raised. Unprotected personnel within 200 meters of the line charge when detonated will be assessed as casualties. OC/Ts will adjudicate effects for the MICLIC charge. After the 62 meter standoff is taken into account, OC/Ts will remove any destroyed mines and wire in the 14m x 100m path credited to the line charge. Any mines left in the lane by the OC/T must be removed using appropriate proofing/reduction techniques.
- b. **Logistics Requirements:** Unit must have a rail adapter and training tub from TASC to simulate having a rocket and M58 MICLIC. The unit must also have a DA 581 stating the unit has MICLIC Rockets and Tubs.
- c. **Training Aids.** RTU must demonstrate the knowledge and produce the requisite training aids in order to reduce obstacles during the force on force. Examples of reduction methods with training aids include bangalores, urban breaching charges, etc.
- d. **Line Mains.** RTU is authorized to conduct out-of-contact reduction of minefields using a det-cord line main and emplaced charges during FOF and LFX operations. The line main must be command-initiated and should span the width of the obstacle; “pop and drop” charges are not authorized as outlined in Annex B.
- e. **OPFOR Reduction.** When an IMR or MTK is used to explosively breach an obstacle, the tubes will be elevated and two grenade simulators will be used to replicate the shooting of the rocket and the detonating of the line charge. OPFOR personnel must be ‘buttoned up’ in a replicated armored vehicle if within 200M of the charge. Any personnel not in an armored vehicle within 200M will be assessed as a casualty.

## **3. Mechanical.** Units may use any type of blade asset to reduce anti-tank ditches and berms or move other physical obstacles. Units may use the “bull through” or “push through” technique, such as pushing a simulated non-mission capable or destroyed vehicle, to breach minefields. No actual physical contact is to be made between vehicles. The OC/T on the ground will detonate hand grenade simulators to replicate mine detonation. If the main gun of the tank is not traversed to the side during plowing or rolling, and a mine is encountered by the tank, the tank will be assessed as a firepower kill upon completion of the breach.

- a. **Plow.** The plow must maintain enough spoil to prevent blade to mine contact. If inappropriate spoil (up to the top of the moldboards on a tank) allows a mine to contact the blade, the blade is destroyed and the vehicle can no longer be used for breaching operations. If the vehicle continues and comes in contact with another mine, an OC/T will manually assess the vehicle as a Catastrophic Kill. Additionally, if the blade comes completely off the ground and a mine passes under, the vehicle will be assessed as a Catastrophic Kill. OPFOR main battle tanks (MBT) with a plow VISMODO will simulate anti-vehicle ditch (AVD) reduction by driving through the lane past the AVD and back to the start point five times before passing through.
- b. **M1 Tank Mine Roller (MCR) and Light Weight Mine Roller (LWMR).** Each roller bank can withstand two mine strikes. The second mine strike on the same roller bank will destroy it. If the vehicle continues and a third mine is encountered on the side of the destroyed bank, then the vehicle is assessed as a catastrophic kill. If a mine passes through the roller banks without a “dog bone” assembly, the vehicle will be assessed catastrophic.

## **4. Manual reduction.** When grappling, if a grappling hook hits a TM-89 or OZM-3 mine, OC/Ts will assess the mine as destroyed along with the grappling hook and a portion of the grappling hook line; due to anti-handling devices. Every time a TM 89 mine is moved using the “lasso” technique 15 feet of rope will be destroyed. When using explosives, at least a 1 pound charge, must be placed next to but not touching the mines. OC/Ts will assess casualties when soldiers fail to take appropriate safeguards against the TM-

**5-4 Improvised Explosive Devices (IEDs).**

1. At the National Training Center, in order to keep up with developing trends and observed TTPs utilized by foreign and domestic terrorist within the operational environment the six (6) types of IEDs employed by OPFOR / paramilitary forces will simulate Command Wire (CWIED), Remote Controlled (RCIED), Victim Operated (VOIED), Time Delay, Vehicle Borne (VBIED), and Suicide Vest (SVEST).
2. Force-on-Force simulation utilize:
  - a. Replication of CWIED will contain a length of simulated command wire from observation point to the point of detonation and means to initiate device.
  - b. Replication of RCIED will contain a garage door opener, PMR, or cellular device which will connect with RC receiver to initiate device.
  - c. Replication of VOIED will contain either pressure or anti-lift device which will initiate the main charge as force is appropriately applied.
  - d. Replication of Time Delay will contain a mechanical or digital self-destruct feature which will detonate at programmed time.
  - e. Replication of VBIEDs will contain a vehicle, a means of initiation, main charge. Trained OC/Ts will use any form of battlefield effects simulator to indicate the detonation.
  - f. Replication of Suicide IEDs will contain any type of military or Unknown Bulk Explosives (UBE) with an audible signature device attached to explosive device. When the buzzer sounds the IED has detonated.
  - g. Unknown Bulk Explosives are made in containers that prevent easy identification contents. Container examples include, but are not limited to 5gal fuel container, propane tanks, PVC pipes, or any other vessel. These devices will include simulated explosives and a functional initiating system attached to audible device or battlefield effects simulator.
  - h. Military Munitions in an IED are replicated with military ordnance with a functional initiation system attached to audible device or battlefield effects simulator.
3. Emplacement. OPFOR/ paramilitary forces will use any means available to target RTU and GRNFOR within the operational environment to disrupt foreign relations and US/ NATO influence. When emplaced, the OPFOR/ paramilitary force must inform Blackhorse TAFF, who will input into CTC-IS.
4. Reduction. To simulate the reduction of IEDs, the EN/EOD RTU must demonstrate the capability to transport a complete demolition system to the IED by trained operators. Once charge placement is confirmed, detonation is simulated by the OC/T utilizing a single grenade simulator. The IED is then removed from the battlefield by OC/T or prepared for exploitation.
  - a. EOD RTU is authorized to draw, store, transport, and employ live class V demolition materials and energetic tools during force on force phase. Live class V demolition materials will only be employed under direct observation by Team Leader Certified EOD OC/Ts. IOT reduce battlefield UXO/ERW/IEDs, qualified EOD RTU must safely transport a complete demolition system to the IED to designated disposal area. Once charge placement is confirmed by OC/T, firing procedures may commence.
5. Exploitation. After the reduction of an IED, EOD RTU will conduct Tier I/ II exploitation and relinquish chain of custody to MP and MICO for further exploitation and analysis.
  - a. Command Detonated IED's wire will be left in place.
  - b. RCIEDs: At the point of detonation; a disassembled trigger device similar to the model used to initiate the device and the munitions used will be left in place.

6. Counter RCIED Electronic Warfare Devices (CREW). TSD/CI2C personnel assist the unit in installation and training of Dukes devices during RSOI. If the CREW device is not functioning properly or the IED is not on the same frequency as the CREW then the IED may detonate. Vehicles will be able to use their SINCGAR radios in the Frequency Hop (FH) mode.
7. IED Defeat Robots. Robots used for IED reduction will use the following table to assess damage during an IED blast.

| Table 5-4a. IED Assessment Table for Robots |                                   |
|---------------------------------------------|-----------------------------------|
| Detonation within 5m                        | CAT Kill                          |
| Detonation 5 - 15m                          | Mobility Kill                     |
| Detonation 15-25m                           | Loss of function, retain mobility |

8. EOD/WIT Tactical Site Exploitation.
  - a. Procedures for Employment. The OPFOR will place a functional and exploitable target (Complete IED, HME, CACHE, etc.) after an IED event. These components are to be returned to the Terrorist Explosive Network shop at the end of every rotation.
  - b. EOD RTU will conduct Level I and II TSE/SSE in accordance with 60 Series Publications and unit TACSOP.
  - c. OC/Ts ensure RTU leave in place Terrorist Explosive Network (TEN) shop non-exploitable items and process evidence through their respective S2 at echelon.

## 5-5 Earth-Moving Operations

1. Digging.
  - a. Before placing any blade in the ground, RTU must give their OC/T on the ground the 10 digit grid locations, direction, equipment type and depth. The OC/T will verify with their TAFF the dig area and gain approval for digging. Once approval is granted, the TAFF will contact the OC/T with the dig classification of free dig, no dig, or restricted dig and give the OC/T any other special instructions. RTU will follow all restrictions and or special instructions from the OC/T once the approval from the TAFF was granted.
    - i. “No Dig” areas prohibit digging due to the high risk of uncovering unexploded ordnance, hazardous materials or archaeological sites. These areas are marked as “No Dig” on the overprinted NTC map. All units (Training and tenant) will ensure all digging or excavation equipment will utilize the Proximity Warning Unit (PWU) to alert the operators when they are operating in the vicinity of buried cable or utilities if the vehicle is so equipped. Fiber optic cables run along all MSRs and enters each FOB at varying angles from the MSR. The following areas are off-limits to all rotational unit personnel, equipment, and activities in the Live-Fire area of operations:
      - Drinkwater Lake (NV424283), No Name Lake (NV473218), Nelson Lake (NV204208), Red Pass Lake (NK583028), Leach Lake Area (North of E-W Grid NV33).
      - Live-Fire Operations Bunker. The bunker located at NV475273, antenna/camera sites, OC/T Command Posts, and OC/T field support sites are all off limits. Exceptions granted only when specifically directed by an OC/T.
      - Target pits and demolition pits are off limits.
      - Archaeological sites which are areas marked with single strand barbed wire cattle fence and tactical warning signs, as well as any area which has a sign posted ‘Off Limits to Rotational Personnel and Equipment.
    - ii. Restricted dig areas are former impact areas or portions of former impact areas that have been

cleared and are authorized for excavation under a FORSCOM waiver. The following restrictions apply:

- The surface area will be inspected for unexploded ordnance before the start of digging. A safety observer will be present, but in a safe location during all digging operations.
- Rotational unit personnel and equipment are allowed within 25 meters of the structures within the following NTC No Fire Areas (NFAs): NFAs 06, 07, 09, 10, 11, 12, 14, 15, 16, 18, 22, and 25.

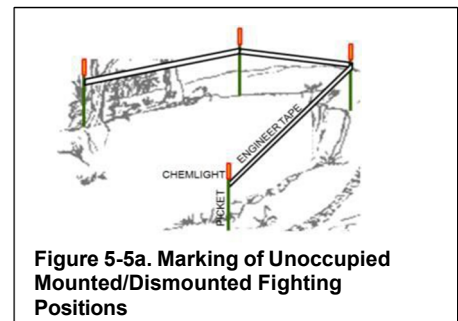
- b. All engineer equipment (all models of Dozers, HMEEs, Scrapers, Bucket Loaders), can dig in restricted dig areas in hours of daylight as long as the operator and observers wear eye protection, gloves, IOTV with plates, and Ballistic helmets. In the event that unexploded ordnance is observed, digging operations at that site will cease until the area is cleared by EOD.
- c. Paleontology. While conducting digging activities/operations on Fort Irwin, all personnel involved in these activities will immediately stop digging and notify Range Control to prevent inadvertent destruction of cultural or paleontological resources.
- d. Evidence of Human Activity. Stop digging if bones or bone fragments, pottery shards or any type of woven material such as baskets or cloth, any type of arrowhead, spear point, or other tools or implements that appear to be handmade, any fossils or any metal objects are found.

## 2. MSR Restrictions.

- a. The following MSRs must remain open for safety/evacuation purposes and will be specified in the 52ID Deployment Order: RTE IA Drang (East Range Road), RTE Bull Run (Barstow Road), RTE Long Island (Langford Lake Road / Red Pass Road), RTE San Juan (Silver Lakes Road), RTE Osan (Goldstone Road). Track vehicles are not allowed to drive on any MSR due to the damage caused by these vehicles which could further restrict infil and exfil of ambulances and CASEVAC vehicles. Fiber Optic cable runs along all MSRs and units are not authorized to dig or excavate within 50 meters of the road on either side to include tank trails. Barstow Road is further restricted that units may only dig up to the edges of the two tank trails which parallel each side of the main road.
- b. To replicate an anti-vehicle ditch crossing a road during tactical operations, Rotational Units will mark the road in accordance with the Administrative Lane Marking procedure in para 5-1.1h.
- c. Wire obstacles across the MSRs will be marked by placing the quantity of wire and pickets needed to cross the MSR on the side of the MSR and will mark the road in accordance with the Administrative Lane Marking procedure in para 5-1.1h.
- d. MSR/ASR's not appropriately marked will be considered bypass lanes with no obstacle effect.
- e. All tactical vehicles and contractors not serving as role players will turn off their headlights at the light line. Contractors within the scenario will use lights in accordance with the tactical scenario.
- f. TCPs in Vicinity of Light Line. TCPs in vicinity of the light line on Barstow Road (MSR Bull Run) are prohibited within 500m of the light-line/Barstow Road intersection.

## 3. Marking of Excavation Sites.

- a. Leaders must ensure personnel marking hasty or deliberate fighting positions have night vision capability before marking their Soldiers' position. Leaders can use luminous tape, infrared chemical lights or regular chemical lights to mark fighting positions to prevent fratricide based on unit SOP. See Figure 5-5a for an example of marking fighting positions.
  - i. The area north of the LFX Dud Effects line is a temporary impact area. Day and night digging will be executed per the current Live Fire 02 Deviation of Impact Area and Live Fire Area



Restrictions Memorandum. Follow procedures outlined in the NTC EXOP Chapter 5-8.

- ii. Personnel supporting the digging of fighting positions in the live fire temporary impact area will wear the required PPE; ballistic helmet, body armor, eye protection, gloves, and hearing protection.
  - iii. The unit will appoint a safety observer who will be present but in a safe location during all digging operations. The observer will inspect the proposed digging location before digging begins and continue observation to identify any potential UXO during dig operations. Observers are required to be in PPE. Observers must have NVGs or red lens flashlights on the person during hours of limited visibility.
  - iv. The safety observer will be present during the UXO identification portion of the Live Fire Effect Brief conducted during RSOI.
  - v. Fighting positions will be IAW GTA 7-6-1 Fighting Position Construction, TM 3-34.85, or ATP 3-37.34.
- b. Leaders must check all dismounted fighting positions for survivability and ensure positions are safe, ensuring the positions are not placed near vehicle perimeters and/or adjacent to an improved trail.
  - c. All survivability positions and excavations will be marked with U-shaped pickets on all four corners immediately upon construction. White engineer tape will mark the two sides and the front edges, at least five meters from the edge of the position, leaving the entrance open. Chem-lights will be placed on the pickets during limited visibility. Evaluate the survivability of constructed vehicle-fighting positions per TM 3-34.85 Engineer Field Data, ATP 3-90.1 Armor and Mechanized Infantry Company Team, ATP 3-90.5 Combined Arms Battalion, and ATP 3-37.34 Survivability Operations.

#### 4. Road Craters.

- a. Replication. Once executed, mark the perimeter of the crater with 6 foot pickets, at the corner points, with engineer tape between the pickets. A tripod of three U-shaped pickets wrapped in engineer tape marks the center of the crater. A sign indicating a road crater can be hung at the site. Warning signs will be visible in both daylight and hours of limited visibility. Upon completion of the road crater the grid location and MSR/ASR that the crater is located on must be called up to the DTOC to ensure that OC/Ts and contractors circulating the battlefield are aware of the location.
- b. Reduction. In the case of simulated RCs (RC with perimeter marked with four orange road cones and center with U-shape picket tripods), blade assets, any vehicle with a front blade, and tracked vehicles move to the edge of the obstacle and replicate reduction by continuously moving forward and backward for five (blade asset) or ten (other vehicle) minutes. A squad must be on site for 30 minutes with at least six personnel.

#### 5-6 Training Demolition.

1. Only EOD RTU will draw live demolitions during RSOI and maintain it throughout force-on-force. IAW AR 190-11 Section 7-10.e. which provides an exemption to the armed guard requirements of Section 7-10.b. providing the explosives are issued to an individual Soldier or unit performing mission essential requirements and remains under continuous positive control of the responsible party.
2. OC/Ts will use hand grenade simulators during force-on-force to replicate demolitions. Only Team Leader Certified EOD OC/Ts can enable EOD RTU to utilize class V IAW 60 Series Publications and EXOP 5-3 Improvised Explosive Devices (IEDs).
3. Handling. Units will handle training demolitions in the same manner as live demolition material.
4. Resupply. Units must reorder expended demolition materials through the Class V resupply system to receive demolitions for future missions.
5. All demolition systems used at the National Training Center will be command-detonated to maintain maximum control of blast timing. M14 time fuse will not be used as a secondary initiator. This applies to all Soldiers at the National Training Center, including international Soldiers.

## **Chapter 6 Air Defense**

### **6-1 Command and Control**

### **6-2 Aircraft**

### **6-3 Air Defense**

### **6-4 Adjudication and Battle Damage Assessment**

#### **6-1 Command and Control**

1. **Airspace Control Plan.** The Airspace Command and Control (AC2) Cell in the DTOC is responsible for developing a complete Airspace Control Plan. The AC2 is responsible for consolidating Airspace Coordination Measure Requests (ACMRs) from the RTU and Blackhorse. The approved plan once integrated should be distributed to the RTU in the Airspace Control Order (ACO) with only the RTU's Airspace Coordination Measures (ACMs). AC2 should have the integrated ACMs in their TAIS to manage airspace for all airspace users. The Airspace Control Order (ACO) and Air Tasking Order (ATO) will be published at 2100L hours daily and distributed to all agencies. The ACO will be distributed daily via TAIS and posted on the Warrior Portal. The Special Instructions (SPINS) will be published once on RSOI 3 and be updated as required.
2. **RTU.** Constructive Air Defense assets are available for the Rotational Training Unit in the absence of a trained and certified Air Defense Battery. These assets will consist of one (1) Constructive Sentinel Radar and four (4) Constructive SGT Stouts. Units may request the use of the Stinger Man Portable Air Defense System (MANPADS) through the Rotational Unit's Chain of Command to the Division Air Defense Officer. Additionally, the RTU may draw the two vehicle M-LIDS VISMOD from the draw yard if they have a minimum of two dedicated operators that are licensed on the JLTV per vehicle.
3. **Stinger Man Portable Air Defense System (MANPADS).** MANPADS are available to individuals and crews that are ASI A5 trained and certified or have completed gunnery IAW TC 3-01.18. The RTU may request to draw up to 18 additional (MANPADS) for non-certified crews through an ETP signed by the BDE commander and submitted by the ADO/ADCOORD through the RFI process (Annex C).
4. **C-UAS equipment.** The RTU may draw the two vehicle M-LIDS VISMOD from the draw yard if they have a minimum of two dedicated operators that are licensed on the JLTV per vehicle. Additionally, the RTU may draw a total of two (2) Skyview UAS detection systems and 17 drone busters (six live and 11 training aids) from the ET2RC team.
5. **All aircraft in the box (i.e. SOKOL, VIPs, COG helicopter)** will be considered "in play" and are subject to engagement and adjudication by the RTU.
6. **RCS 242** serves as net control station for all ground to air engagements. All Air Defense or designated OC/T will monitor RCS 242 to ensure rapid communication of engagements.

#### **6-2 Aircraft**

1. **Rotary Wing.** Types of RTU RW are based on FORSCOM Reg 350-50-1 and approved troop list. All RTU RW must be TESS instrumented.
2. **Fixed Wing.** RTU Fixed Wing Aircraft support is based upon availability through Green Flag – West.
3. **Unmanned Aerial Systems (UAS).** UAS are not currently TESS instrumented. UAS coordination measures will be included in the daily ACO. Exception to this rule is micro UAS, such as Black Hornet Nano, so long as operators are following procedures of flying strictly from Surface to 50 FT AGL and micro UAS are forced to land when Rotary Wing is observed operating in the same area.
4. **All aircraft** will follow ACO as described further in Chapter 9.

#### **6-3 Air Defense.**

1. **Passive Air Defense.** Measures such as obscuration, dispersion, and other limiting measures must be considered during assessment of BDA during notional air attacks.
2. **Early Warning.** Warrior 16 will replicate Division Early Warning functions when the Rotational Training

Unit does not have an organic radar present. The primary means of transmitting Early Warning to the BCT is through Transverse or SVOIP. Warrior 16 will also notify Air Defense OC/T of incoming air strikes over RCS 242 and Warrior TOC over O&I 103.

a. **Division Early Warning Format**

- i. **Type of Threat: RW, FW, TBM or UAS (Small UAS Groups 1 & 2, Phantom 4 Pro (1) and T-STORM Quad Copter (2)); Groups 3, 4, & 5 Outlaw (3), Shadow (3), Grey Eagle (4), and Global Hawk (5)**
- ii. **Friendly/Hostile/Unknown**
- iii. **Location (4-digit grid)**
- iv. **Heading**

3. **Radar used to acquire aircraft for early warning purposes and that are operating in the competitive zone are required to have TESS instrumentation IAW with Chapter 4.**
4. **Active Air Defense. A valid engagement is determined when the operator acquires, tracks and properly fires a functioning weapon system at a target within range. Air Defense engagements must be monitored by an OC/T to provide feedback to the Warrior 16 for adjudication on RCS 242.**
  - a. **Stinger. OC/T will mark RTU SAM engagements with a WHITE star cluster; OPFOR with a GREEN star cluster. Ensure cluster goes up and away from the air corridor. During periods of darkness, DO NOT FIRE star clusters if target aircraft is within 500m of the shooter. If the target aircraft is within 500m, the shooter may use a white light in large figure-8 pattern for a period of 5 seconds. Max effective range of the Stinger is 5000 meters, maximum effective altitude is 4300 meters.**

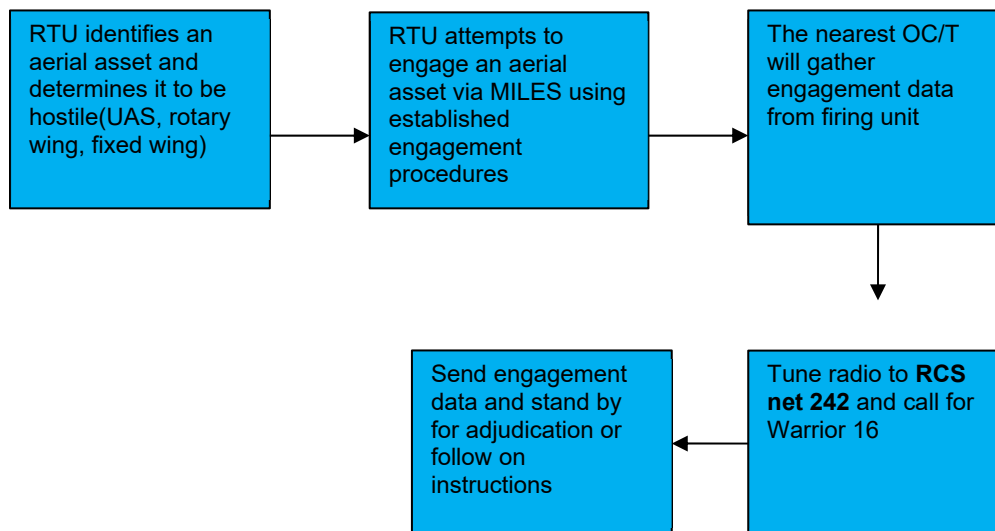
| <b>Table 6-4 Weapon Ranges and Effects</b> |                          |                        |                            |                               |                            |
|--------------------------------------------|--------------------------|------------------------|----------------------------|-------------------------------|----------------------------|
| <b>Platform</b>                            | <b>Weapon System</b>     | <b>Target System</b>   | <b>Max Effective Range</b> | <b>Max Effective Altitude</b> | <b>Probability of Kill</b> |
| Avenger/<br>SGT Stout                      | FIM-92 Stinger Missile   | RW, FW, UAS Groups 2-3 | 5000m                      | 4300m                         | 80%                        |
| Avenger                                    | M3P .50cal               | UAS Groups 1-2, RW     | 1500m                      | 900m                          | 200 rounds/kill            |
| Stinger MANPAD                             | FIM-92 Stinger Missile * | RW, FW, UAS Groups 2-3 | 5000m                      | 4300m                         | 80%                        |
| M-LIDS                                     | Coyote BLK II Missile    | UAS Groups 1-3         | 10,000m                    | 4300m                         | 90%                        |
| Electronic Warfare**                       | UAS Groups 1-3           |                        | 2000-6000m                 | 4300m                         | 100%                       |
| SGT Stout                                  | 30mm (HE)                | UAS Groups 1-2         | 1500m                      | 900m                          | 50 rounds/kill             |
| SGT Stout                                  | 30mm (Prox)              | UAS Groups 1-2         | 1500m                      | 900m                          | 5-10 rounds/kill           |
| MLIDS .50cal***                            | UAS Groups 1-2           |                        | 1500m                      | 900m                          | 5-15 rounds/kill           |
| CAFAD                                      | 5.56/7.62mm              | UAS Group 1            | 500m                       | 200m                          | 100-200 rounds/kill        |
| M2 .50 cal                                 | UAS Groups 1-2           |                        | 1500m                      | 900m                          | 200 rounds/kill            |
| 25mm                                       | UAS Groups 1-2           |                        | 1500m                      | 900m                          | 100 rounds/kill            |

**Notes: \* Day Capable ONLY unless unit has night sights / \*\*C2 & GPS ONLY; does NOT have effects on TSM- 800 primary LTE / \*\*\*Notional on-board sensor assisted with slew to cue for more effective fires**

#### 6-4 Adjudication and Battle Damage Assessment.

1. **Adjudication.** All ADA engagements require an OC/T to call Warrior 16 for adjudication on RCS 242. Warrior 16 tracks RW movement across the battlefield using CTC-IS displayed on AMDWS. Fixed Wing and UAS are not equipped with TESS. Weapon systems that are TESS activated should register an electronic adjudication on Enemy Rotary Wing to assist Warrior 16 with final adjudication. UAS and low-flying Fixed Wing engagements will require OC/T on ground to call an engagement request to Warrior 16 on RCS 242 for adjudication. Warrior 16 will template weapon system ranges based on the engagement rings and the real time aircraft location. This will facilitate rapid adjudication of ground to air engagements. For all RTU engagements, the BCT Main CP/Tactical CP will contact Warrior 16 using the appropriate engagement report. Warrior 16 will then notify Pale Horse, Sundance, or Raven manually or through RCS.

##### **Air Defense Adjudication Process Matrix.**



##### **Air Defense Engagement Request Format**

#### **8-line Engagement Report**

1. Time of Engagement
2. Firing unit and bumper number
3. Grid of firing unit
4. Azimuth to target
5. Altitude of target
6. Distance to target
7. Target description (i.e. 1x tiger striped Lakota)
8. Number and type of rounds fired

2. **Adjudication and BDA Assessment.** Instrumented Air Defense Systems and Rotary Wing Aircraft with functional TESS should provide an electronic adjudication to Warrior 16 to facilitate final adjudication. The OC/T on the ground will ensure all steps to perform an effective Air Defense engagement with a Stinger MANPADS or Avenger Weapon System are completed properly. The OC/T is required to call up the engagement to Warrior 16 on RCS 242. ATWESS is not always operational on the Stinger Trainers or on Avengers. Warrior 16 adjudicates the engagement as a Hit or Miss based on the data provided. Above is a Format engagement report. It is difficult from the ground perspective to provide all the data on the engagement report format. At a minimum: type of aircraft engaged, type of engagement (example- Stinger and unit), Grid of Fire Unit, Azimuth of Target, and Time of Engagement should assist Warrior 16 with adjudicating properly.

- a. **ADA Adjudication against Enemy Fixed Wing Aircraft)** is not automated. OC/T on ground will call Warrior 16 on RCS 242 for adjudication. After Warrior 16 has conducted the adjudication, he will contact Pale Horse and Raven TAFF with the results. Once the adjudication process is complete, the OC/T with the Ground Station Controller should be notified by Raven and subsequently will notify the Mission Commander/Aircraft Commander (AC) of the adjudication results. Fixed Wing Aircraft without TESS are assessed as a casualty based on the maximum effective and altitude of designated weapon system. The OC/T on the ground will ensure all steps to perform an effective Air Defense engagement with a Stinger MANPADS or SHORAD Weapon Systems are completed properly. The OC/T is required to call up the engagement to Warrior 16 on RCS 242. Engaging UAS (Groups 4-5) Short Range ADA systems are likely out of range of Groups 4-5 UAS. If the RTU has detection capabilities of Enemy Group 4-5 UAS, the report from the RTU to the Division AMD should begin coordination for assets (Defensive Counter Air or Patriot engagement) to engage, if available. Warrior 16 will discuss with Warrior 03. Warrior 03 will replicate the Combined/Joint Forces Air Component Commander (CJFACC) who is the authority for these theater-level engagements.
- b. **Counter Small UAS (Groups 1-3) - Kinetic.** Enemy Group 2-3 UAS should produce enough heat signature for a Stinger missile to seek it. M-LIDS Coyote missile is capable of neutralizing Group 1-3. Group 1 UAS can be countered with ADA guns primarily, but in the event ADA units are not in position, massing CAFAD against Group 1 is a method. Drone Swarms (up to 100 simultaneous drones massing) typically do not radiate RF signals and cannot be defeated with Non-Kinetic C-UAS systems like the Drone Buster or Drone Defender. TSM-800 operates primarily on cell phone network. Thus, countering a drone swarm currently requires kinetic defeat.
- c. **Counter Small UAS (Groups 1-3) – Non-Kinetic.** Commercial Off-the-Shelf (COTS) UAS, non-kinetic systems, such as Drone Buster (DB) can be employed. Effective range of DB against sUAS is 400 meters. OC/T must observe the DB operator set the Operational Mode to C2 ONLY and subsequently observe the DB being pointed in the direction of the sUAS target with no obstructions. ABSOLUTELY NO GPS JAMMING is authorized with these C-UAS Systems – C2 ONLY Jamming is authorized. OC/T on the ground will call Warrior 16 on RCS 242 and alternatively will call their respective TAFF. Warrior 16 or Line Team TAFFs will confirm UAS occupation through AC2. They then report the engagement to the Pale Horse TAFF. Pale Horse TAFF will report the sUAS return home status or any re-engagements, ensuring aircraft is safe. Combined Arms for Air Defense (CAFAD). OC/T on ground should call Warrior 16 on 242 and provide a report of unit actions against enemy air threat. Rotational Training Unit employment of CAFAD represents the unit using its organic assets as protection against air attack. CAFAD engagements (5.56mm through 120 mm) against Rotary Wing aircraft should create a TESS adjudication to assist Warrior 16 with final adjudication. For RW and all other air threats, Warrior 16 will adjudicate based on weapon system range, capability, and volume of fires.
- d. **Constructive ADA** should be able to impact Enemy RW if the unit has given the ADA Fire Units positioning guidance and is tracking them using an AMDWS with track feed. RTU should call or message Division AMD (Warrior 16) for adjudication. Once Warrior 16 adjudicates, he will notify Pale Horse TAFF who will then notify the air crews of immediate action to egress. Warrior 16 should also notify Warrior Staff on RCS 103.

## Chapter 7 Reconstitution

- 7-1 Personnel Reconstitution
- 7-2 Vehicle Reconstitution
- 7-3 Supply / Commodity Reconstitution

### 7-1 Personnel Reconstitution

1. **Personnel Reconstitution.** Unless otherwise directed by 52ID, all Phases will start with **INDIVIDUAL RECONSTITUTION**. Suspension of Battlefield Effects (SOBE) Instructions for each battle phase will further define details for reconstitution. The standards for personnel reconstitution are as follows:

| Table 7-1 Personnel Reconstitution |                   |                                                                                                                       |                                                                                                               |                                                                                 |
|------------------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Casualty Type                      | EVAC Req't        | Reconstitution Process                                                                                                | OC/T Validation Process                                                                                       | Hours Out of Combat                                                             |
| WIA                                | Role I or Role II | Appropriate treatment; BN must submit DCIPs or DA 1156 for all casualties to BDE S1                                   | TM 24 OC/T validates treatment complete; TM 17/28/08 and Bronco OC/T validates DCIP or 1156 complete          | Based on unit actions to complete treatment                                     |
| DOW                                | BDE MACP (BSA)    | Unit completes MACP process; BN must submit DCIPs or DA 1156 for all casualties to BDE S1; BDE S1 sends report to DIV | GM10B MA Trainer validates MACP process complete; TM 17/28/08 and Bronco OC/T validates DCIP or 1156 complete | IAW Continue Mission Instructions; Normally 2 hours after completion of process |
| KIA                                | BDE MACP (BSA)    | Unit completes MACP process; BN must submit DCIPs or DA 1156 for all casualties to BDE S1; BDE S1 sends report to DIV | GM10B MA Trainer validates MACP process complete; TM 17/28/08 and Bronco OC/T validates DCIP or 1156 complete | IAW Continue Mission Instructions; Normally 2 hours after completion of process |

2. **Reconstitution Point.** Each Brigade Combat Team is required to establish a Reconstitution Point (Personnel Holding Area). The Reconstitution Point will consist of all applicable life support requirements. The BCT will man the reconstitution point 24 hours a day in order to maintain accountability of Soldiers awaiting reconstitution and coordinate for the return of these Soldiers to their unit. The reconstitution point NCO logs Soldiers into the reconstitution point and maintains 100% accountability for Soldiers in the reconstitution point. In order to maintain positive control, Soldiers will be ordered that their place of duty is within the boundaries of the reconstitution point. The supervising Bronco/Goldminer Team member will issue the reconstitution time once process is complete.
3. **Types of Reconstitution.** There are several types of reconstitution that can occur at NTC
  - a. **Individual Reconstitution.** Individual Reconstitution is the standard unless otherwise directed by Headquarters, 52ID.
    - i. A DA Form 1156, Casualty Feeder Report will be completed on all casualties, including RTDs and collected by the S1/4 IAW their SOP. Units will submit all completed DA Form 1156s to their higher headquarters.
    - ii. **Non-US Military Deaths.** The BCT must transport the remains of any non-US Military personnel killed (DOW or KIA) due to US action to the Brigade MACP. Once the MACP Trainer has verified that the proper paperwork is done, the non-US Military personnel will be released.
  - b. **Individual Modified Reconstitution.** Units will be notified when Individual Modified Reconstitution is in effect. This method stops medical evacuation at the Level I facility (BAS). Soldiers will be immediately resurrected and returned through the personnel system (CTCP or BCT personnel section). Transportation from AXP/BCT personnel section back to their unit is the parent unit responsibility.
  - c. **UNIT/TF Reconstitution.** The senior OC/T (COG during FoF) may designate a unit, or a portion thereof, be reconstituted based on reporting and requests with no evacuation of casualties. Unit reconstitution procedures involve the processing of all requests for replacements. Casualties remain

with their unit and are re-keyed resurrected by the unit OC/T upon completion of proper request procedures. Unit reconstitution procedures are as follows: S-1 provides complete unit battle roster identifying the status of each individual from the unit (i.e., PFD, WIA, KIA, and MIA for those individuals of whom the status is unknown). An appropriate DA Form 1156, casualty feeder card will be attached to the roster. After verifying the DA Form 1156 and the status of all unit members is verified, the S-1 or representative will forward these forms to the OC/T conducting reconstitution. The unit will complete all specific requirements identified by the senior OC/T (i.e., new equipment PMCS receipt, inventories, personnel in processing, in-briefs, etc.). Based upon completion of these requirements the senior OC/T will determine the unit reconstitution time.

- d. **Immediate Reconstitution.** All personnel immediately resurrected. The unit will begin consolidating forces as required in preparation for its follow-on mission. No reports to OC/Ts are required.
4. **Unit Coordinating Instructions.** All Soldiers evacuated back to the BSA/Mortuary Affairs Collection Point/Level II Medical Treatment Facility (MTF) will have FLC, ACH, protective mask, JSLIST gear, MILES, MRE, and sleeping bag. The unit will have to coordinate for the Soldiers that were evacuated to Level II MTF as part of a CASEVAC operation.

## 7-2 Vehicle/Equipment Reconstitution.

1. **Vehicle/Equipment Reconstitution.** Reconstitution is a result of extraordinary actions taken by a commander to restore a unit to a desired level of combat effectiveness. Timely reconstitution sustains the fight designed to preserve the initiative. Possible reconstitution actions include cross-leveling or replacing vehicles, supplies and equipment; and conducting essential training. Command priorities allocate resources and preserve unit cohesiveness. Periodically, as directed in the 52ID OPORD, selected equipment may not be immediately available. Such equipment, if destroyed, may be unavailable for up to 24 hours. In order to model this loss of time, vehicles and equipment will be out of play for a minimum period of time, based on the training requirements, before they are reconstituted and can be used by the unit. Once a vehicle is destroyed, the BCT requests replacement through 52ID. Catastrophic vehicles are reconstituted as per 52ID direction.
2. **Low-Density Equipment Reconstitution.** Reconstitution of Low-Density Equipment will follow the same procedures as all other equipment, except that the equipment will be out of play for no less than 12 hours. For the purpose of this paragraph, Low-Density Equipment is defined as a special-purpose vehicle/equipment in which the BCT possesses FIVE or LESS of overall. Examples: Shadow UAV, UAS Ground Control Station (GCS), JNN, PROPHET. On a case-by-case basis, Team 07s may authorize accelerated reconstitution if significant training value would be lost by following the 12 hour standard.
3. **Types of vehicle reconstitution.** There are three types of vehicles reconstitution: Individual Catastrophic, Individual Damaged, and Immediate Reconstitution.
  - a. **Individual Catastrophic Reconstitution (See Annex E).** Unit is responsible to follow all steps from the OPERATION GROUP VEHICLE CATASTROPHIC CARD IOT successfully complete the reconstitution process. The Unit Maintenance Collection point (UMCP) is the single point at which all catastrophic vehicles are reconstituted. A catastrophic vehicle represents a “burning hulk” that is unsalvageable and/or too great a cost to recover or repair. It should not have recovery assets deployed in support of it. If a unit desires to execute a catastrophic recovery using high lift assets, a low boy or HET, the Team 07 is the approving authority for that training objective and risk associated with the operation. All catastrophic vehicles must move to the UMCP on a non- contested move, supervised by an OC/T. If the vehicle is still on the battlefield at SOBE, the vehicle and personnel will attend Unit AAR. The vehicle can be moved to the UMCP from the AAR site upon ROBE.
  - b. **Individual Damaged Reconstitution (See Annex E).** Damaged equipment is categorized as Mobility, Firepower or Communication. Unit is responsible to follow all steps from the OPERATION GROUP EQUIPMENT DAMAGE CARD IOT successfully complete the reconstitution process. Maintenance shop must show necessary mechanic, tools, parts and POL to complete job and once all paperwork, mechanics, tools, parts and POL is verified and correct, equipment is reconstituted in base of repair time.
  - c. **Immediate Reconstitution.** All damaged equipment or personnel return immediately to their duty location as if there was no damage.

### 7-3 Supply / Commodity Reconstitution.

1. There are two types of supply or commodity reconstitution: catastrophic and immediate. This process applies to CL I, II, III, V, VIII, and IX.
  - a. **Catastrophic Reconstitution.** Catastrophic damage of commodities can only occur due to indirect fire (IDF) or persistent chemical attack. This type of destruction is caused when IDF occurs and the supply storage is within the blast radius. The reconstitution is treated as two separate processes: the supply or commodity and the equipment used to store the commodity. Both processes must be completed before the commodity may be used for issue. The unit must complete all the steps listed on the Operations Group Supply Damage Card in order to successfully complete the reconstitution process. If the CL IX is to be decontaminated for use, then the SSA Accountable Officer (AO) will follow the decontamination process in accordance with the ATP 3-11.32 to decontaminate and regenerate the parts for use. The contaminated parts and FPU will be regenerated upon successful decontamination. Additional accounting requirements for SSA losses outlined in AR 710-2.
  - b. **Immediate reconstitution.** The 07 can approve immediate reconstitution. Supply and equipment return immediately and become available for use.

|                                                                                                                                                                                                                               |               |       |          |          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------|----------|----------|
| Card is completed in the same manner as catastrophic vehicle reconstitution cards.<br>Reconstitution process will be tracked by the same individuals as equipment reconstitution<br>Operations Group Supply Catastrophic Card |               |       |          |          |
| Unit:                                                                                                                                                                                                                         | Admin #/Info: | OC/T: | MIN TIME | MIN TIME |
| Event                                                                                                                                                                                                                         |               | DTG   | TEAM     | OPS GRP  |
| Supply Destroyed                                                                                                                                                                                                              |               |       | 0 HRS    | 0 HRS    |
| Unit submits DA 2404 for equipment                                                                                                                                                                                            |               |       | 1 HR     | 1 HR     |
| Unit submits DA 1348-1 to S4                                                                                                                                                                                                  |               |       |          |          |
| LOGSTAT submitted to S4 to reflect new OH quantity                                                                                                                                                                            |               |       |          |          |
| S4 submits 1348-1 AND DA 3590 to BDE S4                                                                                                                                                                                       |               |       | 1 HR     | 1 HR     |
| Unit initiates DD 200 for loss of commodity                                                                                                                                                                                   |               |       |          |          |
| S4 submits LOGSTAT to BDE S4 to reflect new OH quantity                                                                                                                                                                       |               |       |          |          |
| BDE submits DA 1348-1 to Div G4                                                                                                                                                                                               |               |       | 1 HR     | 1 HR     |
| BDE provides document number for DD 200                                                                                                                                                                                       |               |       |          |          |
| BDE submits LOGSTAT to Div G4 to reflect new OH quantity                                                                                                                                                                      |               |       |          |          |
| Div G4 approves equipment reconstitution                                                                                                                                                                                      |               |       | 2 HRS    | 2 HRS    |
| Div G4 approves resupply of commodity                                                                                                                                                                                         |               |       |          |          |
| New equipment arrives at UMCP/BSA                                                                                                                                                                                             |               |       | 8 HRS    | 2 HRS    |
| New supply/commodity arrives at UMCP/BSA                                                                                                                                                                                      |               |       |          |          |
| Total time to reconstitute equipment and supply/commodity                                                                                                                                                                     |               |       | 13 HRS   |          |

## Chapter 8 Sustainment

|      |                                         |
|------|-----------------------------------------|
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**8-1 Personnel.** Each unit will provide a battle roster to their OC/T counterpart on RSOI 1 before deployment from LSA Warrior. Each TF will also provide a daily strength report showing personnel strength figures of their subordinate units to their OC/T by total officers, warrant officers and enlisted Soldiers. In addition, rotating units will provide a 100% accountability report to the 52ID DTOC every morning at 0600. This is especially important during live-fire exercises.

### 8-2 Unit Ministry Team.

1. NLT 6 months out or at LTP, the Bronco 77 Team will connect with the BCT UMT, providing products and a link to the MS Team page.
2. The B77 Team will offer training to the BCT UMT via digital platforms IOT prepare the UMT for success.
3. Prior to deployment the BCT UMT will submit to the B77 Team training objectives compatible with and nested with their command and 52ID. The UMT training objectives will be based on Measures of Performance and include Measures of Effectiveness.
4. Prior to deployment the BCT UMT will provide a validated PACE plan to 52 ID. This plan will be validated by the OC/Ts on D-1.
5. On D-2, the BCT UMT and each BN UMT (to include enabler BNs) will provide a Religious Area Analysis (RAA) brief based on the current Host Nation Smartbook. Each UMT will develop its own RAA brief; the BCT UMT should not prepare and distribute a single brief for its UMT cohort.
6. The BCT UMT will provide the B77 Team digital copies of the Religious Support TACSOP, Running Estimate format, and any other products prior to arrival at NTC. Examples of additional products may include a Religious Support Concept of Support, Tactical Pause Concept (for a hasty memorial), and Spiritual Triage procedures card.
7. Each RTU UMT will be observed and coached through the following: 1) Integration / Synchronization, 2) Planning throughout the phases of the operation, 3) Creation and execution of Products and Systems, 4) Operations, and 5) Advisement.
8. The Chaplain will be measured on the capabilities of providing religious support and advising commanders on the impacts of religion, morals, ethics, and morale on all aspects of military operations. The capability of Provide is further delineated through the competencies of nurture the living, care for the wounded, and honor the fallen. The capability of adviser is further delineated through internal and external advisement.
9. Religious Affairs Specialists (RAS) will be measured on the capabilities of Integration of Religious Support, Spiritual Readiness, and Basic Human Interaction. In addition to these capabilities, the RAS will receive additional coaching on Force Protection and CUOPs / Battle Tracking.
10. Prior to the end of rotation, each UMT will be expected to provide a Religious Impact Assessment (RIA) brief to the 52ID leadership. 52ID will publish additional guidance on this requirement during the rotation.

11. OC/Ts will not assess the content of religious worship services. However, the B77 Team will give feedback on whether UMTs conduct worship services in a professional manner and take into consideration the tactical environment.
12. RTU UMTs are responsible for providing for all Religious Support requirements for RTU Soldiers. This responsibility begins with the arrival of RTU Torch Party, continues throughout the rotation (to include coverage of the White Cell), and concludes with the departure of the Trail Party. Neither the Fort Irwin Religious Support Office nor the B77 Team will provide direct ecclesiastical support for RTU personnel, to include the provision of worship services, pastoral counseling, or hospital visitation. RTU Soldiers are welcome to attend installation worship services during RSOI and Regeneration activities, per RTU commander guidance. RTU leaders are responsible for coordinating transportation requirements for Soldiers attending such services.
13. UMTs will deploy with sufficient ecclesiastical supplies to support the RTU for the duration of their deployment to Fort Irwin. Neither the Fort Irwin Religious Support Office nor the B77 Team will provide ecclesiastical supplies for RTU UMTs. UMTs will utilize organic resupply procedures to obtain additional ecclesiastical supplies.
14. RTU UMTs are responsible for responding to real world emergencies involving RTU Soldiers. In response to such events, UMTs may use the most expedient and mission safe routes to bring ministry. The B77 Team will provide support for, and advice to, RTU UMTs responding to real world emergencies but the RTU UMT retains primary responsibility.

### **8-3 TESS Casualty Assessment.**

1. OC/Ts will issue Casualty card at POI. After RTU is assessed as a casualty the OC/T will fill-in point of injury (POI) DTG.
2. OC/T must record the time of injury, arrival at Role I and arrival at Role II on the casualty card. Lost/misplaced cards without documentation (TC3 card, SF 600, etc.) result in an automatic Died of Wounds (DOW) due to inability to properly treat injuries and document care. Below are the types of TESS Casualties.
  - a. Wounded in Action (WIA) cards specify the mechanism of injury, injury sustained, ability or inability to walk and talk, and vital signs at each echelon of care. Specific CBRN cards are used in the case of a CBRN attack. The RTU is responsible for rendering treatment appropriate to the wound description and meeting the evacuation time standards. OC/Ts will utilize the back of the TESS card to indicate arrival time and disposition as far as WIA, RTD or DOW at each echelon of care. The unit will process DA 1156 according to their unit SOP.
  - b. Killed in Action (KIA) cards are only issued at time of incident. The unit is responsible for transporting casualties with KIA cards to the Brigade MACP. At no time will these casualties be transported to Role II or with Soldiers WIA. If KIAs are transported with Wounded in Action (WIA) Soldiers, all WIAs in the platform will be adjudicated DOW and the platform will be out of play for 12 hours for cleaning.
  - c. DOW. The only personnel authorized to pronounce death are credentialed medical providers (MD/DO, not PAs) A soldier is DOW (died of wounds): if he is assessed as a casualty, is carrying a card indicating a Casualty Precedence Level (Urgent, Priority, or Routine) and one or more of the following is true:
    - i. Does not receive the appropriate treatment at any level of care (DOW-Treatment)
    - ii. Is not evacuated to the appropriate level of care in the required amount of time.
    - iii. Is not properly evacuated. (DOW Transport)
    - iv. Is missing their TESS card and any documentation of wounds between POI and Role II.
  - d. ROE/Safety Violation. Units will process casualties that have been issued penalty casualty cards as indicated on the card, the same as they would a standard casualty card.

3. **Casualty Precedence.** All casualty evacuation times are based on precedence. Time starts at the point of injury and is dependent on care provided. Times are not cumulative. If RTU starts appropriate self or buddy care at point of injury to Role I 30 minutes will be added to the time table, adjudicated by a medical OC/T. Casualty evacuation times from Role I to Role II are assessed from the time the patient is loaded into the evacuation platform to reception at Role II.

**TABLE 8-3, Time Table Assuming Proper Tx**

| Patient Cat | POI to Role I | Role I to Role II |
|-------------|---------------|-------------------|
| URGENT      | 1 hr          | 2 hr              |
| PRIORITY    | 4 hr          | 4 hr              |
| ROUTINE     | 12 hr         |                   |

4. **Mild Traumatic Brain Injury (mTBI).** The following real world events will require screening for mTBI utilizing the MACE:
  - a. Any service member in a vehicle associated with a blast event, collision, or rollover.
  - b. Any service member within 50 meters of a blast (inside or outside)
  - c. Any direct blow to the head or witnessed loss of consciousness.
  - d. Command-directed or exposure to multiple blast events.
5. Unit medics legibly fill out TCCC Card (DD1380) or other appropriate documentation, at each echelon of care, IAW ATP 4-02.2, Medical Evacuation Referenced Forms, and the latest TCCC guidelines.
6. RTU medics are only authorized to give IVs to Soldiers who are part of their Brigade Combat Team.

#### **8-4 Tactical Evacuation.**

1. **Required Equipment.** When casualties are evacuated to the medical treatment facility, they must bring as a minimum, their FLC, ACH, protective mask, JSLIST gear, MILES, MRE, and 72-hour bag with personal hygiene kit and water source. All sensitive items remain with the parent unit.
2. **MEDEVAC Platforms.** For medical evacuation (MEDEVAC) ground/air ambulance platforms (M997s, M113s, M1133s, HAGA, or UH/HH-60), casualties are loaded and secured IAW FM 4-02.2. Special care is required to ensure correct loading by patient precedence.

| <b>Table 8-4a</b>       |                |                    |                         |
|-------------------------|----------------|--------------------|-------------------------|
| MEDEVAC Platform        | Maximum Litter | Maximum Ambulatory | Mixed Category          |
| M996 Wheeled Ambulance  | 2              | 6                  | 1 litter + 3 ambulatory |
| MaxxPro Ambulance MRAP  | 2              | 3                  |                         |
| RG33 MRAP HAGA          | 3              | 6                  | 1 litter + 3 ambulatory |
| Caiman MTV Ambulance    | 4              | 6                  | 2 litter + 3 ambulatory |
| M1133 Stryker Ambulance | 4              | 6                  |                         |
| M997 Wheeled Ambulance  | 4              | 8                  | 2 litter + 4 ambulatory |
| M113 Tracked Ambulance  | 4              | 10                 |                         |
| UH/HH-60 w/ hoist       | 3              | 4                  | 4 litter + 1 ambulatory |
| UH/HH-60 w/o hoist      | 6              | 7                  | 4 litter + 1 ambulatory |

3. **CASEVAC Platforms.** For non-medical military vehicles or casualty evacuation (CASEVAC) vehicles or aircraft, casualties are loaded and secured using the correct casualty precedence and equipment (IAW FM 4-02.2). Once loaded and secured, the casualties will arise from the litters and ride seated on the non-

standard vehicle, utilizing vehicles seats and benches, proper eye protection, and ACH. Units will not exceed the casualty carrying capacity of the CASEVAC vehicle. The chart below outlines capacities for commonly used military vehicles:

| Table 8-4b           |                |                    |                                                                                                                                |
|----------------------|----------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------|
| CASEVAC Platform     | Maximum Litter | Maximum Ambulatory | Mixed Category                                                                                                                 |
| M998 (4-person)      | 3              | 4                  |                                                                                                                                |
| M998 (2-person)      | 5              | 0                  |                                                                                                                                |
| M1081 LMTV           | 7              | 12                 |                                                                                                                                |
| Trk Cgo 2.5 or 5 Ton | 12             | 16                 |                                                                                                                                |
| HEMTT Cargo          | 16             |                    |                                                                                                                                |
| UH-60 Black Hawk     | 3              | 10                 | 1 litter + 6 ambulatory                                                                                                        |
| CH-47 Chinook        | 24             | 31                 | 4 litter + 25 ambulatory 8 litter + 19 ambulatory 12 litter + 16 ambulatory 16 litter + 10 ambulatory 20 litter + 4 ambulatory |
| C-130 Hercules       | 70             | 85                 |                                                                                                                                |

| Table 8-4c<br>CH 47 Casualty Transportation Limits w/ Litter Support Kit |        |
|--------------------------------------------------------------------------|--------|
| Ambulatory                                                               | Litter |
| 31                                                                       | 0      |
| 25                                                                       | 4      |
| 19                                                                       | 8      |
| 16                                                                       | 12     |
| 10                                                                       | 16     |
| 4                                                                        | 20     |
| 1                                                                        | 24     |

| Table 8-4d<br>UH 60 Casualty Transportation Limitation |        |
|--------------------------------------------------------|--------|
| Ambulatory                                             | Litter |
| 10                                                     | 0      |
| 6                                                      | 1      |
| 0                                                      | 3      |

4. Litters, litter straps, and all equipment required to properly transport the casualty must accompany casualties throughout evacuation.
5. Air CASEVAC Load/Unload Procedures. The first patient is properly secured to the litter, loaded aboard the aircraft, and properly secured to the aircraft floor. Once an OC/T verifies proper completion of procedures, the Soldier is released and seated in a troop seat. Remaining casualties are carried on litters to the cabin door inside of the rotor system for a UH-60 or to the ramp of the CH-47 under the crew chief's direction. These casualties occupy troop seats and comply with all loading instructions from the aircrew. During unloading procedures, the casualties exit the aircraft and remain within the rotor system abeam of the cabin door with the UH-60 (and at the ramp for the CH-47). At this location, litter patients are properly configured on a litter prior to movement away from the aircraft. All litters and all equipment required to properly transport the casualty will accompany casualties through the evacuation.

### 8-5 Medical Echelons.

1. (Role I) Medical Care. The first level of medical care includes the following:
  - a. Self-aid/Buddy aid require no special training.
  - b. Combat Lifesaver (CLS) must be certified and possess CLS bag. Combat Lifesaver Operations. During RSOI Companies must provide their OC/Ts with a list of current combat lifesavers prior to departing from LSA Warrior. OC/Ts inspect the combat lifesaver bags to ensure contents are current and to-standard. The current combat lifesaver bag inventory is located on <http://www.usamma.army.mil>

- c. **Combat Medics must be MOS qualified and carry their National Registry Emergency Medical Technician (NREMT) and Basic Life Saver (BLS) cards on their person at the NTC.**
  - d. **Treatment teams consist of a physician or a physician's assistant, a minimum of three appropriate combat medics (68Ws) and the appropriate medical sets, kits, and outfits organic to a treatment squad. Must possess a minimum of one x Trauma MES and one x Sick call MES or 1 x Tactical combat medical care MES. Like-elements provide this echelon of care at ambulance exchange points augmented with treatment teams, chemical casualty decon sites, and brigade support medical companies (BSMC) or area support medical companies (ASMC).**
2. **(Role II) Medical Care. At the NTC, in order for a Medical Treatment Facility (MTF) to be considered at Role II this facility must duplicate Role I capabilities and expands services available by having operational x-ray, lab, dental and patient hold capabilities. The Role II medical treatment facility will typically be the 'end' destination of all TESS casualties here at the NTC unless an Echelon III MTF is established for a rotation. Once casualties receive proper treatment from the Role II MTF and evacuation assets have been allocated for movement to LSA Warrior, they will be processed back into the brigade by the BCT S-1 section or sent to the MACP.**
  3. **SOF qualified medics must be one of the following: Special Forces Medic (MOS 18D); Special Operations Independent Duty Corpsman (NEC 8403); or Air Force PJ (AFSC 1T2X1), who must have attended the Special Operations Medical Training Branch and are working within USASOC, MARSOC, NAVSOC, or AFSOC. SOF medics may treat TESS casualties as outlined below:**
    - a. **Urgent. If properly supplied, SOF RTU medical personnel may provide treatment to an urgent patient for a period of up to 12 hours.**
    - b. **Priority. SOF RTU medical personnel may provide care to a priority patient for a period of up to 24 hours.**
    - c. **Routine. SOF medic can sustain the casualty for a period of up to 36 hours. Depending on the severity of the injury, casualties with routine injuries may RTD after treatment by a qualified SF medic. The OC/T will inform the medic if the routine casualty requires Level 2 treatment at the time of injury.**
  4. **In order to comply with HIPAA regulations, each role of care is authorized to keep one cell phone to be used for patient discussions with the Brigade Surgeon Section, RUBA Aid Station, and/or the RTU WACH LNO.**

#### **8-6 Material Readiness Reporting.**

1. **Units report their readiness status IAW unit SOP. The unit motor officer or representative provides current combat system maintenance status to the Logistics Trainer Team at the Brigade maintenance meeting.**
2. **Vehicle Evacuation from the NTC Training Area must meet one of the following criteria:**
  - a. **Non-repairable at the Field maintenance level and requires Sustainment level maintenance.**
  - b. **The required part(s) to fix the vehicle is not available and/or have an ESD that exceeds the estimated remainder of the campaign.**
  - c. **Vehicle is found by an ECOD to be uneconomically repairable.**
  - d. **Vehicle is damaged in an accident/rollover that prohibits its further operation.**
  - e. **Vehicle type is affected by a Safety of Use Message (SOUM), and condemned from use, until an action that cannot occur in a field environment takes place.**
3. **RFI. Units submit a 52ID RFI through the G3 for approval (Goldminer 07). The RFI must include an evacuation plan, maintenance plan to include the higher source of maintenance's accepting job order number, or estimated receipt date of necessary repair parts with valid status.**

4. SSA Accountable Officer (AO) will submit a daily SSA performance/Transaction report to the Goldminer 29 (SSA/MM Trainer). The format of the report will be provided to the RTU SSA AO during RSOI.

#### 8-7 Transportation.

1. Movement of Supplies: All notional supplies are transported on unit vehicles. The amount and type of supplies cannot exceed the weight or size capacity of these trucks. Table 8-7 specifies vehicle capacities.
2. In the absence of live aerial lift rotational assets, OC/Ts enable the white card constructive aerial movement of supplies. The amount and type of supplies cannot exceed the weight or size capacity of specified aircraft. Real-world white carded supplies will move via expedited ground transport to incentivize aerial movement of supplies and equipment.

| Table 8-7a<br>Vehicle Cargo Carrying Capabilities |                                 |                                  |                   |              |                 |
|---------------------------------------------------|---------------------------------|----------------------------------|-------------------|--------------|-----------------|
| VEHICLE                                           | NOMENCLATURE                    | OFF/ON<br>PAYLD                  | TOWED LBS.        | CREW/PASS    | CAP. CUB<br>FT. |
| M1078                                             | LMTV                            | 5,000 LBS.                       | 12,000<br>LBS.    | 3/12         | 576             |
| M1083                                             | MTV                             | 10,000<br>LBS.                   | 21,000<br>LBS.    | 3/12         | 576             |
| M1075                                             | Palletized Load System          | 33,000<br>LBS.                   | 87,000<br>LBS.    | 2            | 1,280           |
| M1120                                             | Load Handling System            | 22,000<br>LBS.                   | 71,000<br>LBS.    | 2            | 1,280           |
| M1070 w/ M1000<br>(trailer)                       | Heavy Equipment<br>Transport    | 140,000<br>LBS.                  | 230,000<br>(GCWR) | 2/4          | N/A             |
| M1152                                             | TRK, UTL 5/4T                   | 2,500 LBS.                       | 3,400             | 1/9          | 215             |
| M830<br>M923/4/5                                  | TRK, CGO 5T LWB<br>6X6          | 10,000<br>LBS.                   | 15,000            | 2/20         | 411             |
| M830 M927                                         | TRK, CGO 5T XL WB 8X8           | 10,000<br>LBS.                   | 15,000            | 2/0          | 597             |
| M871                                              | SEMITRAILER LOWBED<br>22 1/2'   | 30,000<br>LBS.                   | N/A               | N/A          | 855             |
| M977                                              | TRK, CGO HEMTT 10T<br>8X8       | 20,000<br>LBS.                   | 20,000            | 2/0          | 540             |
| M978                                              | TRK, TNK HEMTT<br>2500 GAL. 8X8 | 2,500 GAL.                       | 20,000            | 2/0          | N/A             |
|                                                   | TRLR, CGO 3/4T                  | 1,500 LBS.                       | N/A N/A           | N/A N/A N/A  | 175             |
|                                                   | TRLR, CGO 1 1/2T                | 3,000 LBS.                       | N/A               |              | 283             |
| M35                                               | TRLR, CGO 2T                    | 4,000 LBS.                       |                   |              | N/A             |
|                                                   | TRK, CGO 2 1/2T                 | 8,000 LBS.                       | 15,000            | 2/20         | 408             |
|                                                   | TRK, CGO 5T TRK,<br>DUMP 5T     | 10,000<br>LBS.<br>10,000<br>LBS. | 15,000<br>15,000  | 2/20<br>2/15 | 580<br>135      |

3. **Maximum Artillery CL V (155mm) Transportation Allowances.** All notional CL V are transported on unit vehicles. The amount and type cannot exceed the weight or size capacity of these vehicles. Table 8-7b specifies vehicle capacities.

| <b>Table 8-7b<br/>Vehicle Cargo Carrying Maximum Allowances</b> |                        |
|-----------------------------------------------------------------|------------------------|
| <b>Vehicle</b>                                                  | <b>Complete Rounds</b> |
| <b>PLS and/or PLS Trailer</b>                                   | <b>176 Rounds</b>      |
| <b>LHS and/or LHS Trailer</b>                                   | <b>120 Rounds</b>      |
| <b>HEMTT Cargo</b>                                              | <b>120 Rounds</b>      |
| <b>LMTV w/ Trailer</b>                                          | <b>96 Rounds</b>       |
| <b>M109A7</b>                                                   | <b>42 Rounds</b>       |
| <b>M992A2</b>                                                   | <b>98 Rounds</b>       |
| <b>Prime Mover (LMTV)</b>                                       | <b>15 Rounds</b>       |

## **8-8 Classes of Supply**

1. **Class I.** Units provide a listing of all ration breakdowns and the total number of rations per breakdown on a daily basis: water, ice, dry rations and wet rations. Units drawing rations from Subsistence Supply Management Office (SSMO) should have a designated representative from the CL I breakpoint.
2. **Class III.** Units provide a listing of basic load CL III (Bulk) items for each of its fuel assets. The unit's POL representative ensures each fuel vehicle has the proper safety gear: gloves, apron, goggles and spill kit and that each unit conducts fuel operations IAW FM 10-6701 and ATP 4-43. The CL III (P) forecasted to the Supply Branch NLT D-60. It is maintained by individual units and any replenishment will be requested through the BDE's GSO in the rear, who collects requests to be filled by the HAZMART and shipped to the Forward DSU for distribution. Forward Support Companies will be responsible for maintaining and the distribution of CL III (P) to their respective maneuver battalions. A designated OC/T is provided with fuel accountability twice a day, once in the morning and once in the evening. All RTU home station F24 fuel tankers must pass Fuel Filter Effectiveness Test (FFET) to enter the training area. Preposition fuel tankers are already tested by government contractors. No later than RSOI 3, unit POL representatives provide a FFET to their designated OC/T prior to deploying to the box. Home station fuel tankers, HEMTT fuelers and MFS/TRM are not authorized to draw fuel if missing FFET, and must be completed. "Over-the-top" fuel operations (hose inside the manhole cover) is not authorized at the NTC to avoid fuel spills in the training area. If the TRM's Port G Bottom Load (front of TRM) and the TRM's Port B Bottom Load (side of TRM) do not facilitate HEMTT/TRM bulk transfer, the use of the TRM's Port F Top Load is authorized (Port F is not considered "over-the-top").
3. **Class IV.** Data pertaining to the total Class IV item, barrier and survivability material, allocated and issued by unit to the S-4 FSC OC/T.
4. **Class V.** The Required Supply Rate (RSR) of ammunition is established by maneuver commanders NLT D-90 and submitted to Commander, NTC Material Management Center, however, requests for changes may be requested after the rotation starts. The RSRs are compared with available theater stocks and a Controlled Supply Rate (CSR) is determined and provided to maneuver commanders. Prior to the start of each mission, the TF S-4 or representative provides data pertaining to the total amount, by type, of ammunition allocated, issued and the location of the ammunition to the appropriate OC/T. Ammunition may be stockpiled/cached in defensive positions. Appropriate numbers of vehicles/trips are used to emplace this ammunition and the stocks are subject to direct and indirect fire. The OC/T on the ground makes the call if the ammunition is affected based on location, efforts to safeguard it, and strike of incoming rounds. The stockpiled ammunition is represented by either "paper" ammunition or by pre-stocked MGSS and ATWESS rounds. NOTE: Appropriate flares and chaff rounds are ordered and received as paper ammunition in order to benefit from an aircraft's flare/chaff dispenser.
5. **Class VII (Operational Readiness Float at the NTC).** If a brigade combat team brings one or more combat platforms to be used as an ORF, the weapon system MUST be instrumented with TESS prior to the system maneuvering in the rotational unit's area of operations. Units include these platforms in their TESS request prior to arrival for RSOI operations. During recovery operations do not exceed requirements of towing capacity.

6. **Class VIII.** Units provide a complete listing of all Class VIII items on hand, by medical chest, and orders to the medical OC/T as required. Combat lifesavers must receive Class VIII resupply through normal channels. Class VIII is utilized to treat all casualties. There is no simulation of treatment, except when a procedure could put a Soldier in danger. Rotational units should request/issue Class VIII medical supplies throughout the rotation identically to real-world operations.
7. **Class IX.** BN TFs/separate companies provide a daily status of requisition initiated to their respective OC/Ts in a format that breaks down information by company team, by priority (02/03, 05/06, 12/13). Additionally, GCSS-Army CL IX reports may be required by respective OC/Ts. The BN maintenance tech supply provides a daily status of all requisitions processed and passed to their respective OC/T in a format that breaks down information by CO/TM by priority.

#### **8-9 Ammunition.**

1. Rotational units are issued two types of ammunition: replicators and paper ammunition. Blank ammunition simulates live rounds and is issued IAW the unit's basic load or pre-established issue plan. While in LSA Warrior, units are authorized to have .50 caliber, below blank ammunition distributed, and uploaded. Units are also authorized to upload paper ammunition and replicators within LSA Warrior. All MGSS charges and ATWESS rounds remain outside the LSA in the ASP or a Field ASP until the unit departs, at which time they can be issued to the unit. At no time are units allowed to setup an ATP to store ammunition inside LSA Warrior. At no time are units allowed to have live ammunition in LSA Warrior.
2. RTU and OPFOR units are never authorized to use Chemical Smoke (CS), artillery and hand grenade simulators, Red Smoke and Red Star Clusters. Red pyro is only carried by OC/Ts in case of an emergency.
3. Simulators and Direct/Indirect Fire Cue (DIFCUE). Simulators are ordered IAW unit SOP and handling instructions outlined in the following paragraphs of the EXOP.
4. Anti-Tank Weapon Effects System Simulator (ATWESS) replicate AT-4, TOW, Javelin, and STINGER missiles. Units are responsible for requesting the appropriate number of rounds by type and nomenclature using DA 581 through the Brigade Ammunition Officer.
  - a. AT-4, TOW and STINGER will be requested 1 for 1. Unit must designate use of each ATWESS round. For example, if unit requests 10 ATWESS rounds they must account for the rounds by stating how many of each weapon system is on their DA 581. 10 ATWESS rounds, 5 AT-4 and 5 TOW. ATP will use paper ammo to account for each type of ATWESS usage.
  - b. Javelin paper ammo will be issued as normal by the ATP. However, the hand grenade simulators will be issued to the requesting unit's OC/Ts. For safety, OC/Ts will draw, maintain control of and execute usage of all hand grenade sims during the rotation. Draw of hand grenade simulations will come from the OPS GRP STRAC.
5. Sniper Weapons Systems (SWS) will operate IAW EXOP Chapter 3-5. Unit must request SWS ammo through 581 process, DODIC A136 is used. Spotter removes BFA off of M4 or designated weapon system and fires rounds to replicate signature. Following the engagement, the appropriate number of paper placards will be returned to the OC/T denoting the expenditure of X rounds.
6. One MGSS charge represents one main gun tank round.
7. Ammunition replicators are issued by the NTC for use during Force-on-Force.
8. Demolition. The amount of inert demolitions available to each engineer unit approximates an offensive basic load. RTU units use these items exclusively to replicate breaching charges during offensive missions in Force-on-Force.
  - a. The items include: C4, shape charges, cratering charges, det cord, electric and non-electric blasting caps, time fuse, igniters and Bangalore torpedo sets. Live non-electric blasting caps, det cord, time fuse, and fuse igniters are used in Demolitions Effects Simulators (DES). These items must be built by rotational units and must be drawn from the rotational unit field ASP.

- b. At the completion of a breach, the OC/T on site recovers the inert demolitions used and maintains the demolitions until the rotational unit requisitions and is resupplied with demolitions. The OC/T then reconstitutes the demolitions.
  - c. MRE hand grenades. MRE hand grenades are requested utilizing the DA 581 process. Once the requesting unit receives this approved DA 581 from the ATP and the transportation of this DA 581 from the ATP to the unit area is complete, the end user can then construct the MRE hand grenades.
    - i. Blue Chem-Lite – Concussion Grenade (MK3A2).
    - ii. Yellow/Green Chem-Lite – High-Explosive/Fragmentary Grenade (M67).
    - iii. Red Chem-Lite – Stun Grenade (M84).
    - iv. White Chem-Lite – Incendiary Grenade (AN-M14 TH3).
  - d. Satchel charges are permissible at the NTC. The OC/T on site determines the effects of the satchel charge. The charge damages or destroys bunkers, aircraft, and personnel. The 10-meter rule applies in the emplacement of the satchel charge.
9. Paper Ammunition. Paper ammunition placards are used for those ammunition types not simulated or replicated by other methods (e.g. – ATWESS, MGSS, pyro, etc.). Units follow the same request and handling procedures for paper ammunition as those required for other ammunition types.
10. Firing. When a crew fires a weapon system, the appropriate number of paper ammunition placards are returned to the unit OC/T. OC/Ts ensure the amount of ammunition represented by the placards on hand matches the number of TESS rounds available to fire.
11. Resupply. Paper ammunition is issued at two locations during the rotation. First, the Forward Support Company Observer/Controller in LSA Warrior issues it during initial upload, after the DA Form 581 has been validated. Second, the Goldminer ATP trainer at the ATP site issues paper ammunition once DA Form 581 has been approved and validated with DA Form 5692-R, Ammunition Consumption Certificate by 52ID or the Goldminer ATP Trainer. If units do not submit Ammunition Consumption Certificates with DA Form 581's request will be disapproved.
12. Caching Artillery Rounds. Artillery units are authorized to Cache CL V. Requirements are that the ammunition must be on a flat rack and an approved DA Form 5515 must be attached. Timeline for utilization will be based on guidance from Wolf 07.
13. Paper Ammunition Transfer. In order to transfer paper ammunition, the ammunition placard is physically transported to the gaining unit IAW proper handling procedures. OC/Ts ensure the losing vehicles MILES ammo count reflects the transfer of ammunition. The gaining vehicle's count is not increased until the ammunition placard is on-hand.
14. Engineer Ammunition for Counter-Mobility. All CL V engineer counter-mobility replication devices used during STX and/or Force-on-Force operations are requested by brigade through the TAS-C. All CL V replication devices capable for coordination and pick-up will be conducted NLT RSOI 4. Replication devices capable for coordination and pick-up are as follows: M139 Volcano Mine Dispenser and M131 Modular Pack Mine System.
15. Engineer Ammunition for Mobility. All CL V engineer mobility simulation devices used during STX and/or Force-on-Force operations are requested by brigade through NTC. All CL V simulation devices will be coordinated NLT RSOI 4 for pick-up at rotational unit field ASP. Simulation devices capable for coordination and pick-up are as follows: M58 Mine Clearing Line Charge (Empty Tub) and Smokey Sam Simulator
16. Ammunition Handling. Individual TESS gear will not be removed in order to handle ammunition. The following paragraphs outline the minimum requirements a unit is expected to follow in conducting resupply operations at the NTC.

- a. **Corps Storage Area (CSA).** NTC's ASP is the CSA for the theater. The CSA issues Class V. The CSA has no transportation capability in Theater but does possess MHE.
- b. **Controlled Supply Rate (CSR).** Class V drawn from the CSA is the total amount of Class V available for the exercise. CSRs are determined as per the 52ID OPORD. Rotational Units request ammunition through NTC Support Brigade during the Logistics Recon. Requests for additional Class V during rotation go through the BAO to the Corps (NTC) ASP. Additional Class V must be approved by 52 ID.
- c. **Units transport all Class V drawn from the CSA.** The CSA verifies vehicles meet DD Form 626 standards prior to loading. Vehicles will not be loaded beyond their capacity in weight/cube of simulators, replicators or paper ammunition. Any vehicle not meeting DD Form 626 standard is not permitted to transport munitions of any type. CLV accountability will be maintained as per all applicable Army regulations across all echelons.
- d. **Verification of Simulated, Replicated, and Paper CL V.** Once ammunition is transported from the CSA to the AHP or throughput to a supported unit, the OC/T on site collects or marks off the number of boxes/rounds transferred to their units from the placards. When units transfer all of the Class V from a pallet, the unit repositions the pallet(s) within the cargo vehicle to make room for material or equipment for backhaul. Pallet(s) are returned to the AHP during the next established pickup.
- e. **All ammunition will be handled by enough personnel to move it, for example, one Soldier can safely lift only one tank main gun or TOW round and is allowed to lift one MGSS or ATWESS charge.** A single Soldier may not carry more than the following number of ATWESS charge(s): one TOW, two AT-4s, or two stingers. This limit includes the loading of ATWESS in the weapon systems.

| <b>Table 8-9a Vehicle Mine Carrying Capabilities</b> |         |           |       |        |        |
|------------------------------------------------------|---------|-----------|-------|--------|--------|
|                                                      | 5/4 Ton | 2 1/2 Ton | 5 Ton | 10 Ton | 22 Ton |
| <b>M21</b>                                           | 27      | 54        | 111   | 12     | 203    |
| <b>M15</b>                                           | 551     | 104       | 204   | 108    | 712    |

| <b>Table 8-9b Ammunition Transportation Capabilities</b> |       |       |         |     |           |
|----------------------------------------------------------|-------|-------|---------|-----|-----------|
| <b>Pallets - Full Weight and Cube</b>                    |       |       |         |     |           |
| Nomenclature                                             | 5 Ton | HEMTT | Low Boy | PLS | S & P Tlr |
| 120mm Tank                                               | 4     | 8     | 14      | 10  | 16        |
| 155mm Arty                                               | 12    | 27    | 30      | 37  | 56        |
| 155mm Propellant                                         | T4    | 7     | 14      | 16  | 16        |
| 155mm Copperhead                                         | 6     | 8     | 14      | 12  | 16        |
| 105mm Arty                                               | 4     | 8     | 14      | 10  | 10        |
| 40mm MK 19                                               | 6     | 8     | 14      | 10  | 10        |
| TOW                                                      | 4     | 6     | 6       | 8   | 8         |
| Dragon                                                   | 4     | 6     | 6       | 8   | 8         |
| Stinger                                                  | 4     | 6     | 6       | 8   | 8         |
| AT-4/Viper                                               | 4     | 8     | 14      | 10  | 16        |
| 25mm                                                     | 4     | 6     | 8       | 16  | 16        |
| M21 Mine                                                 | 4     | 8     | 14      | 10  | 16        |

| <b>Table 8-9c Ammunition Transportation Capabilities</b> |    |    |     |     |     |
|----------------------------------------------------------|----|----|-----|-----|-----|
| M15 Mine                                                 | 4  | 8  | 14  | 10  | 16  |
| MOPMS / APOBS (# mines)                                  | 61 | 94 | 308 | 110 | 148 |
| Hornet (#mines)                                          | 5  | 8  | 27  | 9   | 13  |
| Hellfire                                                 | 4  | 3  | 8   | 10  | 12  |
| 2.75in Rocket                                            | 4  | 7  | 8   | 10  | 12  |
| 5.56mm                                                   | 4  | 8  | 14  | 10  | 16  |
| 7.62mm                                                   | 4  | 8  | 14  | 10  | 16  |
| .50 cal                                                  | 3  | 6  | 12  | 10  | 14  |
| Rkt Mtr MICLIC                                           | 4  | 10 | 18  | 10  | 18  |
| MICLIC                                                   | 0  | 3  | 5   | 4   | 6   |
| 60mm Mortar                                              | 4  | 8  | 14  | 10  | 14  |
| 81mm Mortar                                              | 4  | 8  | 14  | 10  | 16  |
| 120mm Mortar                                             | 5  | 10 | 14  | 10  | 14  |
| Volcano Honeycomb                                        | 4  | 8  | 14  | 8   | 16  |

| <b>Table 8-9d Vehicle Stinger Missile Carrying Capacities</b> |       |
|---------------------------------------------------------------|-------|
| # of Missiles                                                 | M998  |
| M998                                                          | 6     |
| M113                                                          | 6     |
| M35                                                           | 39    |
| M923                                                          | 42    |
| M978                                                          | 72    |
| M101/M105                                                     | 18/22 |

| <b>Table 8-9e Ammunition Transportation Capabilities</b> |                 |              |               |
|----------------------------------------------------------|-----------------|--------------|---------------|
| <b>120mm Mortar Box Ammunition</b>                       |                 |              |               |
| <b>Nomenclature</b>                                      | <b>Capacity</b> | <b>Boxes</b> | <b>Rounds</b> |
| Trailer 3/4 Ton                                          | 1,500 lbs       | 18           | 37            |
| Trailer 1 1/2 Ton                                        | 3,000 lbs       | 37           | 75            |
| Trailer M997 10 Ton                                      | 20,000 lbs      | 250          | 500           |
| Trailer 22 Ton                                           | 30,000 lbs      | 375          | 750           |
| M998 5/4 Ton                                             | 2,500 lbs       | 31           | 62            |
| Truck 2 1/2 Ton                                          | 5,000 lbs       | 62           | 125           |
| Truck 5 Ton                                              | 10,000 lbs      | 125          | 250           |

17. **Excess Simulated, Replicated, and Paper CL V.** OC/Ts confiscate excess ammunition carried by vehicles and individuals. Vehicles and individuals are assessed as SBD and casualties as necessary for carrying excess ammunition. Ammunition exceeding the carrying capacity of a vehicle or convoy is confiscated by OC/Ts. Class V confiscated from the convoy is re-designated at its origin; units are then required to send appropriate vehicles back to recover the Class V.
18. **Transportation.** All ammunition, simulators and paper, is treated as if it had the same weight and mass as the rounds it represents. For example, one MGSS charge equals the weight of one take main gun/howitzer round. Ammunition beyond the capability of the aircraft or vehicle will be confiscated by an OC/T and the vehicle or aircraft assessed as a maintenance loss due to overloading. RTU EAB units are exempt from this requirement when transporting simulators, replicators or paper ammunition from the FASP to the BSB ATHP.

19. **Blank vs. Live.** Blank and live ammunition will be separated to the maximum extent possible. Blank and live ammunition will NOT be stored on the same pallet. Blank and live ammunition may be stored on the same PLS flat-rack but will be separated by space and/or a physical barrier. Blank and live ammunition may be transported on the same vehicle but must be separated prior to issue.
20. **52ID Fires Brigade determines the Field Artillery Unit Basic Loads (UBL) and Controlled Supply Rates (CSR) UBL.** The proponent for field artillery ammunition placards is the Field Artillery Training Team. The CSR and UBL will be issued on ammunition placards. Ammunition for immediate consumption must be requested from the 52ID Fires Brigade.
21. **Aerial Ammunition Transport.** Personnel trained to load and handle hazardous cargo must be on hand to perform prescribed duties. The cargo to be transported, shipping equipment and helicopters must be present at the pickup and drop sites.
  - a. **Capability.** Simulated loads will not exceed aircraft or environmental load limitations.
  - b. **At the transfer point,** Maneuver team OC/Ts issue paper cards to represent individual rounds. This issue is based on the amount of ammunition replicated by both shipping documents and pallets.
  - c. **The LSA Warrior transportation elements** off load all pallets. The FSC assets load them.
  - d. **If internally loaded,** missiles and rockets can be transported using non-shipping containers weights.
  - e. **If slung under the aircraft,** ammunition must be calculated as being in their shipping crates. Should ammunition be transported without shipping crates it will be considered unserviceable due to shock and vibration.
22. **During backhaul,** task force support units will retain pallets after issuing the ammunition. Once the ammunition is issued, the task force trucks may stack pallets using the same criteria as the LSA Warrior. Distribution platoons must backhaul residue and exchange the containers with the new load from the FASP.

#### **8-10 Aviation FARP and Ammunition Operations.**

1. **Aviation FARPS at NTC** are temporary and do not require a site plan; a risk assessment is still required. All standards within DA PAM 385-65 apply.
2. **Paper Ammunition or Replicated Load Method** will be designated prior to each rotation to simulate the supply, transportation, and time requirements to support an aviation task force is paper ammunition.
  - a. **Paper Ammunition Method:**
    - i. **Tracking.** Hellfire missiles, 2.75-inch rockets, OH-58D .50 caliber machine gun, and 30mm are notional and tracked on an 8x10 inch Ammunition Loading card. This card represents the actual weight and dimensions of the ammunition when planning and transporting large caliber ammunition. Small arms for M-249, M-240, M-4/M-16, and .50 cal MGs are replicated using actual blank ammunition. **Ammunition Breakdown Time:** Ammunition other than actual blank ammo will follow the below prescribed breakdown times prior to being able to use the Paper ammunition. To determine the total time to breakdown a given load of ammunition, multiply the ammunition time factor by the amounts of ammunition, then divide by the total number of personnel available. For example, if 10 Hellfires were transported, five personnel could break them down in the less than 2 minutes. All break down times will be DOUBLED with the absence of a forklift or suitable mechanical lifting boom.

| Table 8-10, Figure 1<br>Aviation Ammunition Breakdown Times |                 |                 |                   |
|-------------------------------------------------------------|-----------------|-----------------|-------------------|
|                                                             | Hellfire        | Rockets         | Cannon            |
| Breakdown Time                                              | 1 min/1 missile | 1 min/ 4 rounds | 1 min/ 100 rounds |

| Table 8-10, Figure 2<br>Aviation Ammunition Loading Times |           |             |             |                     |
|-----------------------------------------------------------|-----------|-------------|-------------|---------------------|
|                                                           | HELLFIRE  | Rocket Pods | 30MM/.50cal | 30MM w/ side loader |
| 1 PAX                                                     | N/A       | 20-40 min   | N/A         | 20 min              |
| 2 PAX                                                     | 10-20 min | 10-20 min   | 30 min      | 15 min              |
| 3 PAX                                                     | 5-10 min  | 5-10 min    | 25 min      | 15 min              |

- ii. **Attack Aircraft Re-Arming Time Table:** Table 8-10, Figure 2 prescribes the necessary time an attack aircraft must remain on the ground versus the number of dedicated re-arming personnel. PAX must be standing outside the aircraft, not engaged in refueling. The time will begin while the aircraft is in re-fuel. An additional five minutes per aircraft penalty will be added if all of the personnel effecting re-arming are not certified; such as armament MOS, attack aircraft crew chief or rated pilot. Time requirements are for the desired ammunition loads only. Aircraft found to be in violation of the below table will be assessed as destroyed due to a notional re-arming incident. Table 8-10 Figure 2 is applicable per each aircraft.

| Table 8-10, Figure 3.<br>Volcano Load/Unloading Time |                       |                         |
|------------------------------------------------------|-----------------------|-------------------------|
| Team                                                 | Canister Upload (160) | Empty Canister Download |
| 6 PAX                                                | 6 Min                 | 4 Min                   |
| 4 PAX                                                | 10 Min                | 5 Min                   |
| 2 PAX                                                | 15 Min                | 8 Min                   |

- iii. **Air Volcano ammunition breakdown.** Air Volcano ammunition will be broken down at the rate of 1 Man Hour/ 40 Canisters. For example, four Soldiers break down 160 canisters in 1 hour. Air Volcano load times are listed in Table 8-10, Figure 3 for broken downloads.
- b. **Replicated Load Method.** This method uses inert Hellfire missiles, 2.75" rockets, 30 mm, along with sand-filled shipping crates to replicate the transportation requirements and reload times.
- i. The unit will sign for replicated Class V Hellfires, 2.75" rockets, and 30MM. Sand filled crates will be used to replicate the size and weight of the actual ammunition shipping crates. The crates will be organized in pallets at the Division ASP. The unit will then transport the crates as they would in actual combat.
- ii. Aircraft will execute rearming operations by landing at the FARP, arming the aircraft with the replicated ammunition, and immediately de-arming. Only the Aviation RTU Commander or Eagle 07 may approve aircraft flying with replicated ammunition. The FARP OC/T will adjudicate appropriately, adding only the amount of ammunition loaded to the aircraft's TESS system.
- iii. Units are responsible for rebuilding the pallets after change of mission and placing them in their original condition at the end of rotation.

### 8-11 Tactical Convoy Operations.

1. **Use of MSRs.** The hardball surface of Barstow Road and the cantonment area are off limits to all tactical convoys. All other MSRs and ASRs to include all paved roads, unimproved roads, and tank trails are available for use by rotational units. Further restrictions will be specified in the 52ID deployment order.
2. **Convoy speed limits** posted in Chapter 14-9 must be adhered.
3. **Tactical Convoy Operations.** All movements within and outside of the brigade sector are considered tactical movements and must be tracked at the appropriate echelon.
4. **RTU commanders must establish convoy standards** for units (taking into consideration the operational environment, terrain, weather, hours of limited visibility, land navigation skills, driver's proficiency, etc.)

to adhere to:

- a. Minimum internal & external communications standards
  - b. Minimum protection (gun truck) standards.
  - c. Maximum number of vehicles per serial standards.
5. OPS Group OC/Ts will enforce these standards consistently with the Commander's intent but will not stop a tactical convoy from departing if these standards are not met and the unit commander feels it necessary to exercise his/her ability to accept prudent risk.

#### 8-12 FSR/LAR (C/DLSE) Call Forward Process.

1. NTC is designed for the unit to develop and execute internal processes and procedures. AMC Support is executed based on a "Pull" system.
2. Unless embedded with the RTU, no LAR/FSR/FSE personnel will move forward from LSA WARRIOR without a request from the BDE SPO / S6 / XO or CDR. Requests may be submitted digitally, physically, via radio, JCR, etc.
3. Priority of unit support and equipment is set by DIV and relayed to the D/CLSE. May be delegated to RTU for Direct Authorized Liaison to D/CLSE.
4. D/CLSE authorizes forward movement of support personnel based on requests and priority.
5. NTV movement to the BSA/RSA is considered a simulated AMR and will not be considered part of the rotational scenario.
6. Support personnel at the BSA and any movement forward on the battlefield, including to the BDE TOC is considered part of the rotation scenario.
7. Movement forward of the BSA requires actual AMR or unit escorted secure convoys.
  - a. May be combined with other movements but the unit is responsible for returning the individual same-day unless otherwise coordinated.
  - b. Movements forward of the BSA must be in tactical vehicles.
  - c. FSRs/LARs will wear appropriate PPE.

| AMC Support Request                            |                                                                                 |
|------------------------------------------------|---------------------------------------------------------------------------------|
| Date of Request:                               | 011200JAN20                                                                     |
| Line 1: Nomenclature/System Name:              | MTRCS                                                                           |
| Line 2: Description of Fault/Issue:            | System will not hold temperature                                                |
| Line 3: Unit Actions Taken to Resolve:         | Troubleshoot system as per -10 level TM.<br>Cannot determine what the fault is. |
| Line 4: Requesting Unit:                       | B Trp, 1-99 Cav                                                                 |
| Line 5: POC (Operator/Maintainer)              | SPC Boudreaux / JCR Role ID XXXXXXXXXX                                          |
| Line 6: GRID (location of equipment):          | NV12344321                                                                      |
| Line 7: Escort POC (if different from LINE 5): | SSG Jones / JCR Role ID XXXXXXXXXX                                              |
| Line 8: SPO/S6 Authorizing Agent (Rank / Name) | MAJ Smith BDE SPO                                                               |
| LST - Irwin - 20JAN20                          |                                                                                 |

Specific Type of equipment / system needing support AND As detailed as possible what the fault is

Steps taken by unit to resolve the issue.

Actual Unit requesting (Not just BDE)

Unit POC who can speak intelligently about Lines 2&3 and will be POC if a call-forward is necessary

Grid location of Unit requesting OR of equipment

Call-Forward Escort POC (If equipment is not at the BSA)

All support requests must come via BCT SPO/S6/XO to ensure prioritization

## Chapter 9 Aviation

|      |                                                              |
|------|--------------------------------------------------------------|
| 9-1  | General                                                      |
| 9-2  | Radio Procedures                                             |
| 9-3  | TESS                                                         |
| 9-4  | Direct Fire Engagements and Battle Damage Assessment         |
| 9-5  | Casualty Operations                                          |
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| 9-14 | Close Air Support (CAS)                                      |
| 9-15 | Common Missile Warning System, and Armed Aircraft Procedures |
| 9-16 | Aviation                                                     |

### 9-1 General.

1. All assembly areas on the NTC reservation are to be considered tactical and are considered to be forward of the light line. All assembly areas are subject to enemy actions consistent with OPFOR doctrine and tactics used against such areas.
2. Aircraft Markings. All aircraft will be marked in white chalk with 2-inch thick numbers that are 30 by 30 inches. These numbers will be designated by the aviation OC/T team. For UH-60 aircraft, the numbers will be placed midway on both sides of the tail boom. Chalk numbers will be placed on both AH-64 engine nacelles. For CH-47 aircraft, the number will be placed on both sides of the aft pylon. OC/T aircraft are painted OD green and orange and do not have chalk markings.
3. Aircraft and Vehicle Survival Equipment. All aircraft and vehicles will have as a minimum, two quarts of water, one MRE, and one blanket or poncho liner for every person on board. A cold/hot weather survival kit can be used in lieu of the above listed items. One kit will be on board for every two personnel. Attack helicopters will have one quart of water and a survival vest per crewmember due to space limitations.
4. Local Area Orientations (LAOs) are not required to operate in the training area. Only requirements are stated in NTC Regulation 95-1, Chapter 3, Section 3-2. If units wish to execute LAOs, the entire training area is open through D-3. After D-3, LAOs remain south of the 98 Northing unless waived or changed by the Senior Aviation Trainer.

### 9-2 Radio Procedures.

1. Desert Radio provides airspace flight following for NTC restricted airspace. Eagle OC/Ts will flight follow with Desert Radio for RTU aircraft when able—manned and unmanned aircraft. Exceptions are when an OC/T is located on an RTU aircraft with unreliable communications and diminished position accuracy, i.e. low illumination and low altitude; when OC/Ts “pitch and catch” RTU aircraft; anytime the OC/T is unable to provide accurate position of RTU aircraft. OC/T will notify RTU aircraft of Desert Radio responsibilities.
2. OC/Ts will attempt to make Desert Radio communication requirements transparent to the RTU. BCT's are responsible for airspace management within the confines of their battle space, and RTU aircraft will coordinate with the BCT for airspace usage through current doctrine means. Prior to launching an aircraft, communications will be established with Desert Radio by the OC/T or RTU, and a PACE plan for UAS will include an authorized field phone.
3. DTOC, Eagle TAF, and Desert Radio will monitor and track all aircraft missions.
4. Lost Communications procedures will be IAW the ABSOP. Aircraft operating without OC/T escort (normally single ship) will return along their ingress route until communications with Desert Radio is established or the aircraft arrives at its point of departure. Single aircraft operating with OC/T escort should signal the OC/T and conduct operations IAW OC/T guidance. Flights operating with OC/T escort

must maintain communications with their OC/T through at least one aircraft. If communications with the OC/T is lost, the flight must reestablish communications with the OC/T.

5. All AC and ATC procedural requirements must be in place prior to launch. UAS operators will maintain radio communications with Desert Radio and/or Air Traffic Control personnel and report IAW established AC measures. If radio communications are not established by the unit, the OC/T must contact Desert Radio to ensure procedural control is maintained to coordinate local airspace. RTU PACE (Primary, Alternate, Contingency, and Emergency) plan must include the NTC- authorized field phone.
6. Aircraft Communication Requirements. OPFOR aircraft will maintain contact with the Blackhorse TAFF or OPFOR LNO during all operations in the maneuver box. Additionally, positive communications with Desert Radio shall be maintained at all times.
7. IFF/SIF Requirements. All rotary wing aircraft, including every aircraft in multi-ship formations, will squawk appropriate code as directed by Fort Irwin AR 95-1, at all times while they are conducting flight operations. In addition, all aircraft will install the current "A" / "B" Mode 4 IFF codes. The unit is responsible for bringing this COMSEC on a Simple Key Loader (SKL) from their home station.

### 9-3 TESS

1. TESS/AGES Equipment. All aircraft must have an operational TESS/AGES system installed in order to operate in the designated maneuver area forward of the NTC Light Lines (the "box"). TESS will remain "ON" at all times, except during required maintenance operations, or bonafide emergencies. Aircraft will have all required ASE equipment installed and operational in order to receive credit for the reduced vulnerability capability of TESS/AGES-II. All personnel must wear an individual MILES system to include HALO (HALO and IWS harness are not required on crew members during flight) when inside the designated maneuver area to include assembly areas or logistic bases. The MILES harness is not required while conducting pre-flight or maintenance on the aircraft; upon leaving the aircraft the harness must worn. Damage to contracted equipment by removal and re-installation of rotational unit, may result in financial charges to the unit.
2. Aircraft Instrumentation. All aircraft must have an operational TASE B-Kit or Man worn Instrumentation Kit (MIK) installed and maintenance operational check complete, to include checking accurate position reporting, to operate in the maneuver area. These devices provide the NTC with the position location and other required data during the rotation. Validation gunnery to check weapon systems and engagements is highly encouraged but not required to launch. The unit will coordinate with OCTs for process and execution of validation gunnery.
  - a. TESS Coordination Meeting. The unit will coordinate a meeting between the Aviation RTU TESS representative and WTA personnel to outline the schedule for the WTA contractor to install aircraft TESS and instrumentation. The unit will provide the priority of installation for each aircraft to facilitate force package build up. All TESS and instrumentation is contractor installed, but the unit has supervisory and accountability responsibility for all equipment. Rotational Units are not authorized to remove TESS. UH-60 /CH-47 must draw an additional TESS harness for every M- 240H weapon system to pair the weapon with the harness.
  - b. Installation. Units will sign for the tracking equipment and be responsible to meet prearranged installation and de-installation appointments with the civilian contractor. Scheduled conflicts will be resolved by the Senior Aviation Trainer. TESS Bs will not be taken off Fort Irwin/NTC without the approval of the Senior Aviation Trainer. If an aircraft must leave the reservation, the unit must coordinate with the Senior Aviation Trainer so that arrangements can be made for removal and/or reinstallation of the TESS B. The TESS B will be deactivated prior to departing the NTC reservation.

### 9-4 Direct Fire Engagements and Battle Damage Assessment.

1. All Air to Ground engagements will be good effects from MILES-on-MILES. Manual adjudication of Air to Ground engagements will be by exception as approved by OCTs. To manually adjudicate Rotary Wing Air to Ground engagements, the Eagle OC/T provides the Eagle TAFF with the engagement information. The Eagle TAFF verifies OPFOR at RTU passed grid and verifies with Blackhorse TAFF. The Eagle OC/T will contact the Palehorse OC on the ground for adjudication purposes. If the Palehorse OC is not available, the Eagle TAFF will analyze the engagement and inform the Blackhorse TAFF of the number of vehicles to

be black boxed based on PK. Eagle TAFF will then call the covering Eagle OC/T with the adjudicated BDA. The covering Eagle OC/T then provides the RTU aircrew(s) with their BDA. To avoid compromising both RTU and OPFOR positions, Eagle OC/Ts will fly out to OPFOR vehicles to verify BDA only if unable to make contact with the covering ground OC/T.

2. To adjudicate Ground to Air engagements, reference the Chapter 6, ADA.
3. Eagle TAFF will report directly to Eagle or Palehorse OC/T any confirmed direct fire engagements from rotary wing aircraft. Raven OC/T will report any rotary wing engaged by fixed wing platforms.
4. Maneuver Area Boundaries. All aircraft will abide by the maneuver area boundaries and published ACO. Aircraft flying out of the designated boundaries or flying in unauthorized areas will receive a warning. If corrective action is not taken or violation occurs again, the aircraft will be assessed by the aviation OC/T as being damaged-not repairable by friendly or OPFOR fire from adjacent notional units.
5. Aircraft Recovery (TESS kill). The covering OC/T will verify the kill code to ensure it was a valid engagement and provide guidance on how to proceed. The OC/T will pass instructions to the aircrew for landing or recovery and any permissible radio and/or electronic notifications. The crew will take actions IAW OC/T guidance. Aircraft assessed as damaged flyable may self-recover but must consider the damage to the aircraft and the injuries to personnel. Chapter 7-2, 2, discusses Reconstitution.
6. Aircraft and Equipment Reconstitution will be accomplished as follows.
  - a. Damaged Aircraft and Equipment. A damaged aircraft or ground equipment item will remain damaged until the appropriate personnel, equipment, and simulated parts have been assembled and the maintenance allocation chart (MAC). Damage caused by enemy action is based on either the damage card for ground equipment or the subjective evaluation by the aviation OC/T for aircraft. While in this “damaged” status, real world maintenance can be performed to include test flights. The requirement for simulating repairs can only be waived by the Senior Aviation Trainer (E07).
  - b. Damaged-Not Repairable Aircraft and Equipment. A damaged not repairable aircraft or ground equipment item will remain damaged not repairable after change of mission for the brigade/regiment IAW Chapter 7-2, Reconstitution. Any damaged aircraft or equipment cannot be reconstituted unless the RTU has shown they can effectively recover the aircraft or equipment.
7. Downed Aircraft must be recovered for it to go through reconstitution. One of the following methods may recover the aircraft:
  - a. Self-Recovery. For damaged-repairable the aircraft can self-recover after the appropriate simulated maintenance actions are completed. This requires the unit to conduct a proper battle damage assessment and have the required parts, personnel, and tools available to execute the required maintenance repairs.
  - b. Air Extraction. For damaged-repairable or damaged-not repairable, the unit may decide to recover the aircraft using an UMARK. For this option, the Downed Aircraft Recovery Team (DART) will rig and simulate hookup and sling operations. The recovery aircraft must be on scene or coordinated for.
  - c. Ground Recovery. The appropriate ground vehicle must be used when executing this means of recovery. The DART must simulate the rigging and loading of the damaged aircraft. The recovery vehicle will then return the simulated aircraft back to the FOB or TAA.
  - d. Destroy Aircraft. The unit must gain the appropriate approval authority to destroy the aircraft in place.

#### **9-5 Casualty Operations.**

1. All casualties will be assessed IAW Chapter 8-3.
  - a. If shot down, the aircrew may be directed to escape or evade capture by covering OC/T. Crewmembers need to maintain positive control of sensitive items and equipment. An OC/T must be present before the crew attempts to start evading. If aircraft will be left unattended an OC/T will remain on site until aircraft is recovered by RTU.

- b. Aircrews may be extracted by sister aircraft. Aircrew injuries are the first priority in considering demonstrated means of extraction. The OC/T must observe the downed crew attached to the recovery aircraft before giving credit. At no time will an aircraft take off with a crewmember secured to the outside of an aircraft.
- c. A Personnel Recovery (PR) team may recover the aircrew members by any vehicle (aircraft or ground vehicle). Isolated personnel/crew members will be evacuated as directed by the on- scene OC/T. If the OC/T directs the crew members to remain with the aircraft and not be evacuated, only the crewmember's casualty cards will be evacuated. The recovery vehicle must account for the weight and space required to transport the injured crewmembers.
- d. Personnel Reconstitution. Personnel assessed as casualties will comply with the conditions stated on their individual TESS casualty card IAW with Chapter 7 and 8. The Senior Aviation Trainer may authorize a second life IAW with Chapter 3-1, 4, a.

#### **9-6 Aviation CBRN.**

- 1. General. All helicopters, crews, and passengers are susceptible to the effects of chemical agents. Units should employ appropriate MOPP levels, place M9 paper on external portions of the aircraft, conduct CBRN surveys, use the M256 chemical detection kit, and observe the indicators for chemical use by the OPFOR.
- 2. Contamination. Should a helicopter enter a contaminated area, an aviation OC/T will assess casualties based on exposure duration, concentration, characteristics of the agent, and personnel MOPP levels observed.
- 3. Simulation. All aircrews and passengers will wear the appropriate equipment IAW directed MOPP level in order to be assessed as "protected" against a particular chemical agent. Aircrew members performing flight duties are not required to wear either the JSLIST or simulated suit when performing flight duties. However, for safety reasons, if the unit decides to don the MOPP gear, the aircraft pilot-in-command (PC) will remain unmasked. Upon aircraft shutdown, the aircraft crew will have 8-minutes to complete the appropriate MOPP level to be considered "protected."
- 4. Non-Flying. When on the ground (not flying), the rotational unit personnel will adhere to the appropriate MOPP level. If the aircrew member is awake and up in a common area, but still conducting fighter management, he or she will go to the appropriate MOPP level.

#### **9-7 Personnel Recovery Training.**

- 1. The decision to execute PR Training during rotation resides with both the Commander of Operations Group (COG) and the Senior Aviation Trainer, or their designated representative, whether it is a pre-planned scenario, or a target of opportunity isolated/missing/detained/captured (IMDC) event.
- 2. The Aviation OC/Ts (Eagle Team) are the proponent for PR Training for the Aviation Task Group. If other teams in Operations Group request PR training, Eagle Team will ensure the following:
  - a. Team PR OC/Ts are experienced and trained in: Joint & Army PR Operations, High Risk of Isolation (HRI); Survival, Resistance, Evasion & Escape (SERE) Tactics, Techniques & Procedures (TTPs) from the Division to individual Soldier Levels.
  - b. Compliance with the Division OPLAN for all NTC Rotations.
- 3. The 52ID TOC serves as the tasking authority for all PR Operations to be conducted during rotations. Additionally, when a PR Event is reported by the RTU, the 52ID TOC will simulate the activation of the Division's Personnel Recovery Coordination Center (PRCC), led by the Division G32 cell. This PRCC is responsible for the management of external enablers that can affect the Division's Area of Operations and assist in the PR event as well as assets available through the Joint Personnel Recovery Coordination Center.

## **9-8 Group 3-5 UAS Employment.**

1. **Launch and Recovery Operations.** All A2C2 and ATC positive and procedural requirements must be in place prior to launch. The OC/T that is covering down on the UAS team is responsible for player-positioning the UAS crew and air vehicle while in flight. OC/T will ensure RTU is in compliance with Desert Radio Letter of Agreement at all times.
  - a. **Fixed UAS launch/recovery sites:** Nelson Lake, FOB Miami, Spider DZ, Painted Rocks, and Bicycle Lake are all regularly maintained and certified sites for Shadow UAS launch/recovery.
  - b. **Hasty UAS launch/recovery sites:** Units are authorized and encouraged to construct Hasty Shadow launch/recovery sites on any ASR; MSRs will not be used for UAS recovery. Units must conduct grading, compaction, etc. as necessary to bring the ASR to specifications for recovery IAW the UAS technical manual. Coordination with ITAM / Environmental will be conducted prior to site improvement. Units must also account for the use of a hasty launch/recovery site in their flight mission risk assessments.
  - c. **All A2C2 and ATC positive and procedural requirements must be in place prior to launch.** The OPFOR LNO that is covering down on the Red UAS team is responsible for player-positioning the UAS crew and air vehicle while in flight. OC/T will ensure Red UAS is in compliance with Desert Radio Letter of Agreement at all times.
2. **Group 3-5 UAS “Lives”.** A UAS is considered “killed” if the system is assessed to ADA fire per Chapter 6-4.3 or if the system is unable to be properly recovered based on Operational Environment constraints placed on the RTU. For example, if the Launch recovery site is postage stamped 100 kilometers from the FLOT and notional transit time was not accounted for during fuel planning. OC/T can assess the UAS would not have sufficient fuel to be safely recovered it is assessed as a kill and the RTU must follow Reconstitution procedures IAW Chapter 7-2.
3. **Group 3-5 UAS Reconstitution.**
  - a. **When any 3-5 UAS is assessed as destroyed by ADA or other means, the unit may opt to either launch an immediate follow-on mission with no penalty UAS in one of two ways on a case-by-case basis:**
    - i. **If there is a relatively high amount of fuel remaining in the current UAS, the unit has an available UAS that is FMC and the training unit opts to launch an immediate follow-on mission, the “killed” UAS will be moved into a “penalty box” within the Launch/Recovery ROX with its payload caged (pilots window). The UAS will remain in the penalty box until the RTU crews have completed preflight and new UAS is ready for take off. All actions will be completed to include logbook writeups, preflight, and mission approval. Once these requirements are met an additional 30 minutes will be added to the penalty time to replicate take off and climb out prior to UAS returning to mission. When all requirements are met the “killed” UAS may return to mission. All operational environment constraints will remain in place, to include and transit time penalties.**
    - ii. **If there is a relatively low amount of fuel remaining for the current flight mission, and/or the training unit opts to not launch a follow-on mission, the aircraft will be required to immediately cage payload and return to Launch/Recovery ROZ and land as soon as safely possible. The “killed” UAS will not return to mission if requirements outlined in paragraph above have not been met.**
  - b. **Once the mission is complete and the aircraft is recovered, that specific aircraft will be out of play until reconstitution paperwork is complete IAW Chapter 7-2.**
4. **UAS Personnel.** UAS operators are subject to Fighter Management, IAW SOP. Unit Commanders will establish specific requirements for their personnel. Safety of personnel and equipment (both the UAS unit's and those on the ground under or near the UAS) is the paramount consideration. UAS personnel who become casualties will be assessed IAW the EXOP. See paragraph (9) (d) for “in-flight” personnel assessment procedures.
5. **Ground Equipment.** Due to nature of the electronic emissions from UAS control stations and antennas

they may operate without TESS.

- a. **Control Stations.** Vehicles will be assessed IAW the appropriate sections of the EXOP. A control shelter will remain FMC if only the prime mover is damaged but may not be moved until repairs are affected. Due to the nature of the electronics on board, a control station is considered “destroyed” when the assessment determines an engagement involved any part of the control shelter. Replacements for “Destroyed” equipment must be requisitioned. Replacements will be put in service 8 hours IAW Ch. 7.2.
- b. **Antennas engaged small arms** are assessed NMC; any other DF are assessed “destroyed”. NMC antennas may be “repaired” in 1 hour, if qualified maintenance personnel and parts are available. Replacements for “destroyed” antennas must be requisitioned. Replacements will be put in service 8 hours after a proper request.
- c. If duplicate or replacement equipment exists within the Brigade AO, the commander may relocate that equipment. Actual or surrogate equipment must be moved on the battlefield to attain FMC status.

#### **9-9 Air Assault and Air Movement Operations.**

1. **RTU and OPFOR units** conduct air assault operations. OPFOR air assaults are referred to as Task Force Angel; authorization and mission specific instructions are found in the CBI.
2. **OC/T Escort Requirements.** In UH and CH aircraft, at a minimum one installed seat must be reserved for an Aviation OC/T. The seat must provide access to an ICS cord, a headset, and the TESS controller boxes, with access to all radios. Additionally, the maneuver task force will manifest its OC/Ts. The maneuver task force OC/Ts manifested will include one per rifle platoon, one per specialty platoon, one per company headquarters, and one for the task force command group.
3. **Helicopters.** Day OPFOR air assaults are to be flown by or escorted by LUH-72 VISMOT to provide visual recognition of an OPFOR air assault. LUH-72 VISMOT escort not required during period of darkness.
4. **Personnel.** Dismounted infantry squads will have an operational MIK. RTU DCI checks must be completed prior to departing the PZ through the respective TAFs. One seat per chalk will be allocated for the ground maneuver unit OC/T. Once the dismounted elements depart the LZ, the OC/T team will have responsibility for controlling and making assessments on that dismounted element, with the assistance of the appropriate Palehorse OC/Ts. Exceptions to instrumentation requirements must be approved by DTOC. In approved cases, player positioning will substitute for the instrumentation.
5. **Reconstitution.** If a troop-carrying aircraft is assessed as a CAT kill on ingress or in the vicinity of the LZ, it will remain with that lift but will not be authorized to offload its troops. Once the lift returns to the PZ the aircraft will be reconstituted and used again for the remainder of the air assault mission due to restricted aircraft availability, however, the troops and equipment cannot be reinserted on a follow-on lift. The CBI will state how many “lives” SOKOL escort aircraft have for that day. If SOKOL uses all of its escort lives before completing the air assault, no more lifts will be authorized to depart the PZ.

#### **9-10 Missions in Support of Special Operations.**

1. **Governing Regulations.** IAW AR 95-1, Aviation Flight Regulations, the RTU may conduct airborne, rappel, and FRIES/SPIES operations from rotary wing platforms without troop seats installed. OC/Ts will ensure “seats out” is specifically addressed in the mission deliberate risk assessment worksheet and identified risk mitigation safety procedures are put in place. All night FRIES operations will be regarded as medium risk, at a minimum, as per FM 3-05.210, Special Forces Air Operations.
2. **Seats Out.** A request for Seats Out Waiver and completed deliberate risk assessment worksheet will be turned in prior to TD 01 for NTC CG approval. This must be complete before any rotary wing operations may take place where the standard seats and safety belts are not utilized. The approving authority for the seats out waiver is the first MG/O8 in the chain of command (CG, USASFC; CG, MARSOC; CDR, NAVSPECWAR; and CDR, USASOC for Rangers). Seats Out waivers must be approved and returned to the RTU prior to arrival at the NTC. No exceptions will be made. NTC CG retains authority to deny seats out execution.

3. **FRIES.** Rotational units must complete the prerequisite training prior to their arrival at the NTC. The RTU will provide a memorandum to NTC with the names of all personnel who have completed FRIES training prior to the SOF RTU's arrival at the NTC. During infiltration, SOF OC/Ts will place themselves in the stick. Either the OC/T or Exercise Support Group (ESG) personnel will conduct a safety inspection of the proposed FRIES infiltration location prior to execution.

#### **9-11 Airborne Operations.**

1. **Drop Zone Responsibilities.** The responsibility of surveying and running drop zones for RTU airborne operations prior to and during rotation falls on the RTU. All static line airborne operations and drop zones will be run IAW USASOC Regulation 350-2, *Training Airborne Operations*; IAW FM 3-05.210, *Special Forces Air Operations*; FM 3-21.220, *Static Line Parachuting Techniques and Training*; and the Fort Irwin Range Regulation. All HAHO and HALO airborne operations will be run IAW FM 3-05.211, *Special Forces Military Free-fall Operations*, and the Fort Irwin Range Regulation. A copy of the Airborne OPORD, current risk assessment, and current DZ Survey must be submitted to the 52ID TOC NLT 48 hours prior to TOT for COG approval for any airborne operation.
2. RTU is responsible for setting up the DZ during all phases of their deployment. If the RTU wishes to jump into the NTC from home station, they will ensure that the DZ party is a part of their Quartersing Party. Prior to RSOI3 and after BRD1, the RTU will open and close the DZ through Fort Irwin Range Control unless part of the rotational design. During FOF the SOF RTU will have a designated DZ Party including a malfunction NCO and dedicated medical support as a part of their support package that will set up the drop zone.
3. RTU is authorized to survey DZs for short term use to support HALO and HAHO operations. These DZs must be surveyed and approved 48 hrs prior to TOT.
4. Conduct safety inspections of all HLZ's and DZ's prior to their utilization by the SOF RTU.

#### **9-12 Fixed Wing Aircraft**

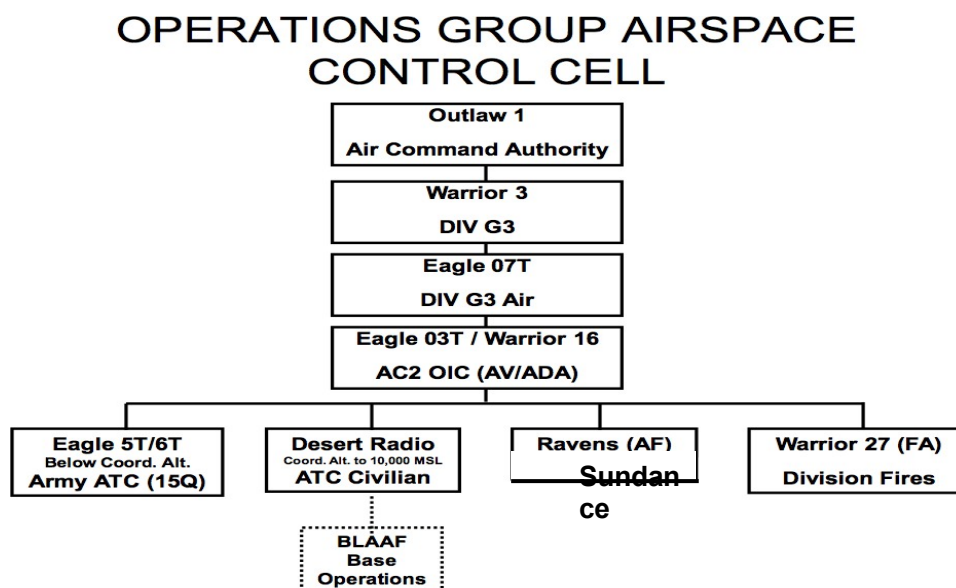
1. **Green Flag-West Integration.** Green Flag-West (GFW) is the preeminent tactical level exercise for preparing close air support (CAS) and precision guided munitions (PGM) capable units, Army supporting ASOS units, and other supporting units. GFW trains aircrew, in support of surface forces in a realistic combat environment in conjunction with an Army NTC rotation and provides essential training to all participants in the joint employment of airpower. The focus of GFW is the tactical execution of CAS missions.
2. Rules for Requesting and Scheduling CAS are located in 52ID TACSOP.
3. **Air Force Execution of CAS.** Aircraft normally deploy from Nellis AFB. GFW determines the optimum timing and tempo of aircraft supporting force on force (FoF) based on the number of aircraft available, training requirements, LD time, and doctrinal application of units may request CAS on-station times to be adjusted to support their battle plans. This coordination must take place NLT 36 hours prior to the ATO execution.
4. **Control of Aircraft.** The unit (TACP) or a Forward Air Controlling (FAC) aircraft controls aircraft. The aircraft enter the NTC airspace and remain under the control of the TACP or FAC aircraft in accordance to published GFW SPINS. If the aircraft expend all of their ordnance before their station time is complete, the Raven Team may regenerate aircraft ordnance after coordination with the 549 CTS Green Flag-West operations supervisor.
5. **Aircraft Non-Utilization.** If there are aircraft available but the rotational unit has no use for them, the Division may retain those sorties. Raven 07 will recommend Division-level targets or extended scenario training to the extent to not impact the full spectrum scenario. Attacks on Division-level targets will not result OPFOR attrition.
6. **Extended Scenario.**
  - a. **Additional Training (non-scenario).** In addition to the CAS mission, the Air Force conducts other training which is not included in the rotational scenario. This training includes Air Interdiction (AI),

Kill Box, and live ordnance drops. Live ordnance drops are generally conducted at Leach Lake Training Range (LLTR).

- b. Integration into Rotational Scenario. These aircraft may or may not be integrated into the full spectrum scenario. The guidance is to incorporate as much CAS as possible, without unduly affecting the direct fire engagement. Warrior 3 and Raven 07 coordinate for a recommendation to Outlaw 01 on when to terminate CAS effects across the battle space.

### 9-13 Airspace Control.

1. General. The purpose of 52ID Airspace Control is to enable safe and realistic training. Uniquely, 52ID AC2 acts in both a HICON and an EXCON role. 52ID acts in a HICON status by enabling RTU airspace planning and simulation of the Joint ACO process. 52ID acts in an EXCON status because it controls both RTU and red use of airspace below the Coordination Altitude where risk of UAS/Rotary wing collisions are highest.
2. Agencies. There are two primary agencies for managing Airspace Control at the National Training Center:
  - a. Operations Group Airspace Control Cell. This cell is situated in Building 990 (DTOC floor). Eagle 03T, the Operations Group Airspace Control OIC, and Warrior 16 are the primary facilitators of information and coordination within the cell and among the rest of the DTOC. The Airspace Control cell consists of two Air Traffic Control NCOs (15Qs), Raven Team representatives, Warrior 27, and Air Traffic Services (ATS). See Organizational Chart:



- b. Desert Radio. Desert Radio, located at Bicycle Lake Army Airfield (BLAAF), is the flight following agency for all aircraft operating in R2502N, R2502E, and R2502A. Eagle OC/Ts are required to notify Desert Radio upon departure of Bike Lake and completion of mission. The OC/T will notify Eagle TAFF (Eagle Tango) upon departure.
3. Rotational units must receive prior approval from the 52ID/ X Corps TOC/TAC to use any airspace or conduct ingress / egress outside of its sector/zone.
4. EXCON ACO and Airspace Control graphics will be posted every day of the rotation and emailed out through the Warrior AC2 Distro. EXCON ACO graphics shall not be given to the RTU without E7, E3, E3D, or E2 specific concurrence.
5. RTU Airspace Control Measures shall be pushed out via TAIS and posted on the Warrior SIPR Portal under the "G3 Air" tab.
6. Airspace Coordination Area (ACA). Formal and informal ACAs may be used during force on force and live-fire. All ACAs will be activated through the 52ID Airspace Control. The following restrictions apply.

- a. No A/C within 100 meters of personnel or equipment while conducting interdiction operations.
  - b. Aircraft shall not fly within 500m of active UAS ROZs without coordination and provide a 500ft vertical buffer when overflying UAS ROZs.
  - c. Aircraft may enter active ROZs if they have positive communication and coordination with the ROZ's ACA. RW aircraft and UAS shall maintain 500m lateral separation within the ROZ. For other types of ROZs (fire, PR, etc.), the positive communication and deconfliction requirement with the ACA remain.
  - d. In Artillery ROZs aircraft must remain a minimum of 100m from the gun target line and the indirect fire gun.
7. Coordinating Altitude (CA) and Coordinating Level (CL). The CA will be published in Appendix 10 to Annex C of the 52ID OPPORD for each rotation. All trainers and training units must review the exercise ACO to verify the CA for each rotation; hard deck is published RSOI 1. The CL for NTC Rotations is 2000 feet AGL. To ensure safe operations, fixed wing aircraft will remain above the Coordinating Level (CL) and in contact with Sundance. Rotary wing aircraft will remain a minimum of 500' below the (CL) and have the capability to contact DESRAD. Transitions through the CL or CA require prior coordination with both DESRAD and Sundance.
  8. At a minimum, all rotary-wing aircraft will fly with a paper or digital product that clearly and graphically depicts the current ACO. All rotary-wing aircraft with digital cockpits and/or electronic flight bags should fly with a digital product that clearly and graphically depicts the current ACO. IAW the NTC APG frequencies, aircrews or OC/Ts will contact Desert for flight following, notice of other aircraft in route of flight, and current active ROZ status: Prior to crossing into designated live fire areas crews or OC/Ts are required to contact ZULU TAC for clearance. OC/Ts also have the ability to contact Zulu TAC for clearance via their internal communications system and Rotary Wing aircraft will maintain positive communications with Desert Radio for flight following in designated live fire areas.
  9. Aircraft will not under fly indirect fire gun-target lines except during force on force operations, or during MLRS shoots with 12 CTS/CC approval.
  10. Airspace Usage. The RTU will conduct air operations IAW the following guidelines: Request airspace control measures (ACM) through DIV Airspace Control NLT 1200 the day prior to mission execution (for example UAS/fires ROZs, ROZ ISO air assault mission, etc.). BPT receive and distribute current ACO published with approved ACMRs by DIV Airspace Control via Warrior Portal NLT 1800L the day prior to execution. The unit will notify Desert Radio immediately of all accidents or incidents to include precautionary landings. The unit must call Desert Radio or 52ID during and upon completion of operations and to deactivate the ROZ. If there is no activity scheduled in the ROZ for more than two hours, the unit must call Desert Radio or 52ID to deactivate the ROZ. USAF weather can be contacted per the NTC APG to obtain the latest weather information.
  11. Below the coordinating altitude all aircraft will flight follow with Desert Radio or chase aircraft OC/ T and be controlled by the units' ALO. Prior to entering airspace below coordinating altitude, the BAE must notify Airspace Control of the maneuver area via Global Area Reference System (GARS).
    - a. Coordination altitudes for the four major airspace users during a rotation are: UAS (Surface to 20,000 MSL), Rotary Wing (500' below the coordinating altitude / coordination level), Fixed Wing (Above the coordinating altitude / coordination level), Fires (Surface to Max Ord).
    - b. Fixed Wing. All Air Force aircraft must submit a PPR either as part of Green Flag Operations or as a separate flight request. PPRs are processed by Bicycle Lake Ops. The Raven Team/Air Force element will initially contact Desert Radio to request the airspace altitude in R2502 East to be raised from coordinating altitude to desired flight level at least 15 minutes prior to usage.
    - c. Fires. A 1km ROZ will be created at gun location and a 1km box along the round trajectory to realistically inhibit aircraft movement during fire missions. Warrior 27 is the FSCOORD to 52ID and for airspace deconfliction and approval.
  12. Aircraft deconfliction procedures in the Airspace Control cell:

- a. Outlaw 01 will set the priority of airspace users NLT RSOI 4. Daily operations and approvals will be controlled by Eagle 3T and W16. During rotations, Warrior 3 retains the authority to override ACO priorities to facilitate maximum training for the RTU. For immediate airspace requests below the Coordination Level, Eagle FG concurrence will be sought prior to a final decision.
  - b. Deconfliction of multiple users in the BCT AO will be completed at the Brigade level and reported up to 52ID Airspace Control. As such, the RTU must maintain communication with all users either through their subordinate units or directly. The BAE will routinely be required to report status of all airspace users and locations to Airspace Control.
13. The Chief of Intelligence (W2) in the DTOC as the central point of contact for all constructive and virtual UAS operations/issues at FT Irwin.
- a. UAS that do not require a dedicated launch and recovery site (such as a landing strip or airfield) will utilize the process outlined in Table 9-13 and Figure 9-13a for launch, operations below 1500' AGL, and recovery in the ROZ Box system. If these UAS plan to operate above 2000' AGL, the same process as above will be used for launch and recovery, but the UAS will operate in the Grid Area Reference System (GARS) IAW NTC Regulation 95-1. UAS that require a dedicated launch and recovery site will follow the procedures starting at 13.b. and in NTC Regulation 95-1.

| SMALL UAS AIRSPACE REQUEST PROCEDURES (TRAINING)                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RTU                                                                                              | OCT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <input type="checkbox"/> CO/TRP submits request to activate a SUAS ROZ to BAE                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <input type="checkbox"/> BN/SQD submits request to activate a ROZ to BAE                         | <input type="checkbox"/> Line Team OCT confirms receipt at BAE<br><input type="checkbox"/> Line Team OCT contacts AC2 with:<br>- ROZ Number<br>- Operator name                                                                                                                                                                                                                                                                                                                                                                         |
| <input type="checkbox"/> BAE de-conflicts and submits for BCT; AC2 receives BCT training request | <input type="checkbox"/> AC2:<br>- Verifies operator is trained<br>- Verifies if the ROZ box conflicts with any ACAs or RTEs on the ACO<br>- Verifies weather and appropriate risk management has been completed<br><input type="checkbox"/> If there is a conflict with planned ACMs, Eagle Team Field Grade Officer approves or denies ROZ<br><input type="checkbox"/> AC2:<br>Once approved or if there are no conflicts, notifies Desert Radio<br>AC2 provides line team OCT with Channel/LOC and announces that the ROZ is active |
| <input type="checkbox"/> BAE activates airspace, alerts airspace users                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <input type="checkbox"/> BN/SQD advised of airspace                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <input type="checkbox"/> CO/TRP receives approval and channel locator                            | <input type="checkbox"/> Line Team OCT:<br>- Provides operator with the channel/LOC<br>- Confirms launch/recovery grid is inside the ROZ<br>- Informs AC2 of wheels up/down times                                                                                                                                                                                                                                                                                                                                                      |
| <input type="checkbox"/> SUAS LAUNCHES                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

Table 9-13

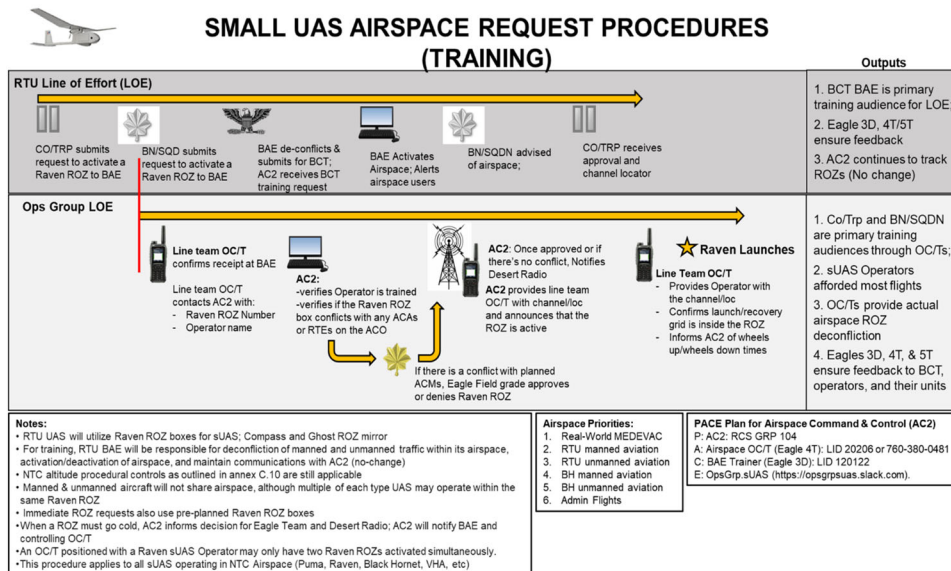


Figure 9-13a

- b. **UAS ACMRs shall be submitted by 1200L the day prior to execution to the AC Cell, whom is the approving authority for all airspace control measures for live, constructive, and virtual UAS operations. At a minimum the brigade S3 Air is responsible for submitting the following information:**
  - i. **POC for the requesting unit**
  - ii. **Requesting unit call sign and frequency**
  - iii. **Control measure dimensions with grid**
  - iv. **DTG for ACMR**
  - v. **Task and Purpose.**
- c. **All UAS operations will be published in the Air Tasking Order (ATO) and Airspace Coordination Order (ACO) and comply with the NTC Aviation Procedure Guide (APG) and all Special Instructions (SPINS). The ACO is published at 2000 hours daily.**
- d. **Any UAS request submitted after 1200L will be considered an immediate request.**
- e. **All Aircraft Operators (AOs) must receive the NTC G3 Safety briefing and the AC2Weather briefing prior to conducting any tactical operations.**
- f. **Operating altitudes for all Live, constructive and virtual UAS will be directed by division in orders to the rotational unit or directed by the division ACA on a case by case basis.**
- g. **Asset Baselines. The unit must allocate its UAS resources to reflect what is available and fully mission capable.**
- h. **UASs operate without TESS. Engagements are manually assessed by OC/Ts on the ground based upon parameters developed by the ADA Center (see section 3).**
- i. **Spectrum Management. The rotational unit must coordinate for the use of approved frequencies prior to any UAS flight operations at the NTC IAW the 120-day letter.**
- j. **Requested frequencies must be coordinated and emitters tested prior to flight operations. UAS will not operate until this is complete.**
- k. **If the UAS asset is controlled and maintained above the BDE level, the Division G2 is the controlling authority for all UAS operations.**

- I. While in Direct Support of the Brigade, UAS information collection is restricted to within the rotational unit BCT boundary. Requests to collect outside of approved ACM or/and BCT boundary by the BCT must be processed through the Division G2/AC2 for approval. Dynamic re-tasking is possible provided the re-tasking does not cause the UAS to depart the BCT AO without the proper approval as stated above.
- m. Unit must notify 52ID Airspace Control 5 minutes prior to UAS launch and request launch code. Airspace Control will confirm the launch code with the OC/T on site. Once confirmed, Airspace Control will notify DESRAD that the ROZ is active and will notify BAE on ROZ status. The unit or OC/T must maintain positive communications with Desert Radio and provide position reports to Desert Radio every 15 minutes providing a 6-digit grid, or at the discretion of Desert Radio during UAS operations. If communication between the UAS operator or OC/T and Desert Radio is lost, the unit shall immediately report to the OC/T lost comms status. The OC/T will report to Airspace Control who will coordinate landing site of UAS. Airspace Control will relay to OC/T the approved landing area and continue to provide DESRAD with updates until UAS is recovered. The UAS will discontinue flight activities until communications are reestablished. UAS operators shall yield right-of-way to all other air vehicles regardless of type and immediately land, if any other air vehicle's safety is in jeopardy.
- n. UAS Operators will receive a briefing from Desert Radio at Building 6212, Bike Lake Army Airfield, NLT RSOI 4. IAW AR 95-1, UAS operators are required to obtain a weather briefing for their mission.
- o. Small UAS (Raven, Silverfox, Puma) and Tactical UAS (Shadow, Gray Eagle). Units will conduct UAS operations IAW the following guidelines:
  - i. TUAS Operators will receive a briefing from DIV Airspace Control on RSOI 1 at the RUBA briefing room T9011.
  - ii. Notify DIV Airspace Control 30-minutes prior to UAS launch and request activation of the applicable ACMs along with the applicable launch code.
  - iii. Contact Desert Radio 30-minutes prior to desired launch time to establish communications check. iv.
  - iv. Prior to launch relay the approval launch code specifically assigned to their missions. Airspace Control will confirm with the OC/T on site at operating ROZ and the parameters of their mission.
  - v. DESRAD will provide the UAS operators an updated briefing of weather and any applicable restrictions.

#### 9-14 Close Air Support (CAS).

1. Mission. The United States Air Force executes a simultaneous and collaborative exercise during NTC rotations, GREEN FLAG-West (GFW), to train Combat Weather, Tactical Air Control Parties (TACP), fixed-wing aircrew members, and BCT staffs. In keeping with these purposes, the focus of CAS training is on execution IAW Joint Publication 3-09.3, integration of ASOS personnel with their supported units, and the utilization of available GFW assets to meet the ground commander's operational and tactical intent. The rotational unit will receive credit for the use of CAS in its battle space only when its execution is a direct result of the brigade combat team's targeting and decision-making process. CAS sorties will only result in battlefield attrition when the rotational unit employs aircraft in line with the commander's current CAS focus. CAS striking targets of opportunity outside the direction and control of the rotational unit will not receive credit for their effects. CAS sorties not utilized by the RTU will be retained by the division and used against division targets.
2. Employment. Rotational units are authorized to employ CAS in accordance with Joint Pub 3-09.03, AFI 11-214 (with all ACC supplements), COMACC EXPLAN 323, participating aircraft MCM series TTPs, AR 385-63, and NTC EXOP. Multiple sets of Close Air Support (CAS) aircraft may simultaneously operate in the maneuver box. All aircraft must contact Sundance for clearance prior to entering or departing NTC airspace (R2502 N/E NTC Range-Complex).

3. **Terminal Control.** Aircraft will operate under the direction of a qualified Joint Terminal Attack Controller (JTAC), Forward Air Controller-Airborne (FAC-A), or Joint Air Attack Team (JAAT) Air Mission Commander. Only qualified joint/coalition controllers, however, may conduct terminal control. Type 1, 2, and 3 control may be used during force on force operations. A qualified JTAC or FAC-A must use Type 1 Control procedures for all live CAS engagements unless requirement for Type 1 is waived by Raven Team chain of command and replaced with either Type 2 or Type 3 (see Live-Fire Training Chapter for Live-Fire Restrictions). Aircraft must be cleared to depart the IP by the final control authority (see table 4-8). A qualified JTAC must provide final control for targets within 3 km of the FLOT. A qualified JTAC or FAC-A must provide final control for targets greater than 3 km of the FLOT. Aircraft must receive a "CLEARED HOT" call from the final control authority on each pass prior to releasing live ordnance.
4. **Visual marks at NTC are limited to the following (IAW AFI 11-214, A4.1.3.4.1):** CAS targets within 5,000 meters of any personnel must be associated with a visual mark. Marks at NTC are limited to the following:
  - a. 2.75-inch WP/HE/SP/TP or JSLIST rockets. TP rockets require multiple release.
  - b. 20 mm, 25mm, 30mm guns TP/HEI
  - c. 60mm, 81mm, 120mm MTR, 105mm, 155mm HE/WP/ILA/SMK
  - d. 120mm TPCSDS, HEAT-TP-T
  - e. FAC-A delivered BDU-33/MK-76
  - f. IR Pointers or Laser Target Designators (LSS/LST)
  - g. VDL Capture
  - h. Smoke grenades delivered from rotary wing (hand tossed)
  - i. .50 Cal
  - j. 81mm mortars HE/WP/ILA/SMK
  - k. 60mm mortars HE/WP/ILA/SMK
  - l. 40mm grenades delivered by MK-19
  - m. AT4 84mm
  - n. Distance and direction from a unique terrain feature
5. **GP Bombs and inert ordnance are not an acceptable mark.** All ABORT calls are given in the clear (no authentication) by anyone observing an unsafe act. The JTAC/FAC-A will pass a CAS 9-line brief to the aircrew prior to the aircraft departing the IP/CP for each CAS attack. Terminal Attack Controllers use the following considerations in developing their 9-line briefing:
  - a. FLOT and other friendlies (COLTS, Scouts, TACs etc.)
  - b. Fire Support Coordination Measures
  - c. Artillery and mortar locations / GTLs
  - d. Airspace conflicts/ROZs
6. **Self-Illumination.** Aircraft released LUU and Rocket Flares are authorized. Range-to-fuse function must occur at least 500 meters away from friendly units' positions. Range-to-impact must occur at least 800 meters from friendly units' positions.
7. **Restrictions.** The following restrictions apply to both force on force and live-fire operations: Air-to-air equipped CAS fighter platforms may engage rotary wing in R2502N/E while in scenario if able to do so

while maintaining assigned airspace blocks. Multi-role CAS platforms will not utilize infrared or laser target designation to illuminate or track manned aircraft at any time. Aircraft will operate with available IFF systems activated at all times. The FLOT and individual positions forward of the FLOT must be marked to allow for quick aerial identification of the friendly positions during night-live CAS operations only. FAC-As and attack aircraft must confirm location of friendly forces via a “visual friendlies” call. Fixed-wing aircraft will fly appropriate tactics for the ADA threat level. VFR weather criteria is 1500’/3nm for force on force and 1500’/3nm or 500 feet above minimum release altitude (whichever is higher) for live weapons release. CAS with live ordnance may over-fly, but not “hold” over friendly troops. Cluster munitions are not authorized in LLTR or R2502 N/E. Coordinate dependent weapons (JDAMs) are authorized, however, if the appropriate weapon Safety Danger Zone (SDZ) schematic is on file with NTC Range Control. Raven OC/Ts will direct aircraft that are unable to expend ordnance in live-fire to an alternative target at Leach Lake Tactics Range that is at least 5000 meters (3 nm) from any personnel.

8. **Urban CAS.** CAS may conduct urban operations throughout the 2502 N/E airspace. Operations conducted over the Fort Irwin cantonment area are restricted to 10,000 feet MSL. Aircraft will be dry and have a pinned gun. Simulated strafe attacks and expendables (chaff/flares) are not authorized over the Fort Irwin cantonment area at any altitude.
9. **Airspace Management.** Rotational units must receive prior approval from the 52ID/ X Corps TOC/TAC to use any airspace or conduct ingress / egress outside of its sector/zone.
  - a. **Coordinating Altitude.** Coordinating Level (CL). 2,000K AGL is the standard CL for NTC exercises, but may change from rotation to rotation. All trainers and training units must review the exercise ACO to verify the CL for each rotation. To ensure safe operations, fixed wing aircraft will remain above the CL and in contact with Sundance. Rotary wing aircraft will remain a minimum of 500' below the CL and in contact with DESRAD. Transitions through the CA require prior coordination with both DESRAD and Sundance.
  - b. **Airspace Coordination Area (ACA).** Formal and informal ACAs may be used during force on force and live-fire. All ACAs will be activated through the 52ID Airspace Control Cell. Aircraft will not under fly indirect fire gun-target lines except during force on force operations, or during MLRS shoots with 12 CTS/CC approval.
  - c. **Lateral Separation.** Indirect fires and CAS may attack different targets simultaneously if the indirect fire GTL and CAS target are coordinated by an informal/formal ACA. During live-fire, CAS must also adhere to the live-fire CAS minimum altitudes in paragraph 4-9.
  - d. **Time Separation.** When below 5000’ AGL, CAS, artillery, and mortars may attack the same target provided an adequate time separation between the last round on the ground and the first aircraft delivered ordnance on the target. Aircraft will not violate active GTLs or live-fire CAS minimum altitudes in paragraph 4-9.
  - e. **Altitude Separation.** CAS, artillery, and mortars may attack the same target simultaneously using Maximum Ordnance or ORD 1 procedures while adhering to live-fire CAS minimum altitudes in paragraph 4-9. Units may use the Maximum Ordnance procedure provided aircraft remain at least 1,000 feet above the direct and indirect fire trajectories and their effects. Units will not establish a single Maximum Ordinate over their sector/zone for an entire battle. ORD 1 procedures are authorized during live-fire operations if the unit demonstrates proficiency during force on force operations and receives approval from the Commander, Operations Group. When using ORD 1 procedures aircraft will remain at least 25 degrees laterally separated from the artillery GTLs until crossing the target area.

| Table 9-14a<br>LIVE CAS Final Control/ Target Marking Requirements |                                        |               |
|--------------------------------------------------------------------|----------------------------------------|---------------|
| CAS TGT                                                            | TAC<br>(Terminal Attack<br>Controller) | TGT MARK REQD |
| Personnel less than 3 KM                                           | JTAC                                   | YES           |
| Personnel 3 KM – 5.0 KM                                            | JTAC/FAC-A                             | YES           |
| Personnel > 5.0 KM                                                 | JTAC/FAC-A                             | NO            |

10. CAS Minimum Safe Distances. The minimum safe distances for ground personnel relative to the target or impact area are IAW the JFIRE, ATP 3-09.32, MCRP 3-31.6, NTTP 3-09.2, AFTTP 3-2.6, Table 101.

#### **9-15 Armed Aircraft Procedures**

1. All Flight and FARP OC/Ts will familiarize themselves with all appropriate Warnings, Notes, and Cautions associated with the Common Missile Warning System (CMWS) and the use of Infrared Countermeasure (IRCM) flares. CMWS equipped aircraft with IRCM flares installed requiring access to the Main Post Helipad (MEDEVAC or AMR (for passenger pick-up/drop-off)), will be approved on a case-by-case basis by Eagle 07 prior to execution. Aircrews will ensure aircraft armament systems (including ASE) are placed on SAFE and prior to joining "Green Route" in vicinity of the Fort Irwin Cantonment Area and will inform Desert Radio of this status. CMWS equipped aircraft operating on SAAFR "Green Route" will request special routing through Desert Radio and remain a minimum of 500m outside the published "Green Route" when transiting the Cantonment Area. Additionally, CMWS equipped aircraft will remain a minimum of 1000m from any Ammunition Supply Point (ASP/FASP).
2. Arrival and Departure Procedures. As determined by aircraft configuration and Unit SOP, set cockpit switches as appropriate prior to entering / exiting the operations area.
3. Aircraft Parking. While aircraft are parked at BLAAF or the RTU TAA between missions, the aircraft armament systems (including ASE) must be placed on SAFE and safety pins installed. Remove payload modules, store in proximity of the aircraft, and out of direct sunlight.
4. When conducting face-to-face coordination with a supported ground unit, the aircraft will land a minimum 200m away from ground personnel/vehicles. The payload modules may remain installed, with the aircraft armament systems (including ASE) placed on SAFE and safety pins installed.
5. If the aircraft is on Quick Reaction Force (QRF) status, the aircraft will be repositioned to a designated "Alert Area" at least 100m away from other "Non-QRF" personnel / aircraft or FARP operations. The payload modules may be installed, with the aircraft armament systems (including ASE) placed on SAFE and safety pins installed. Only emergency radio transmissions will be made from portable radios within 100m of the "Alert Area."
6. Proximity to Ground Forces. Aircraft will never approach, over fly, or land within 100m of Soldiers or vehicles. Aircraft must land down-wind from Soldiers when possible.
7. Use of Flares. The discharge of live or simulated self-protect flares from aircraft operating within the R-2502 is authorized within approved tactical maneuver areas only during missions controlled by an OC/T. The ACA may restrict the use of flares based on ground hazards. Fixed wing aircrews will refer to Air Force Instruction 11-214 - "Range Planning and Operations," for restrictions and limitations concerning the use of self-protect flares. The use of other aircraft discharged flares will be coordinated with the appropriate ACA at least twenty-four (24) hours prior to the actual mission.
8. Armed Aircraft Procedures will be IAW Fort Irwin 95-1. No helicopter arming operations will be conducted at BLAAF. Range 18 will be utilized for uploading Hellfire missiles and CMWS flares only. Helicopters with an in-flight weapons systems malfunction or gun jam will return to the unit's arming pad (FARP) site to be de-armed or cleared by certified unit personnel.
9. If a loaded weapon systems or jammed gun cannot be cleared after following the unit SOP, the unit will notify Ft. Irwin Range Operations. Range Operations will aid unit to get additional assistance or local EOD personnel support to correct the problem.
10. Armed aircraft requiring emergency use of BLAAF, will contact Desert Radio AIC to coordinate Ft. Irwin's Fire Department response. Use runway 13 primarily, winds dependent, in order to orient weapons system toward Tiefert Mt. and minimize risk in case of weapon discharge. When using runway 31, if possible turn the aircraft toward Tiefert Mt. prior to shutting down.

#### **9-16 Aviation.**

1. Governing Regulations. RTU aircraft will operate at the NTC IAW NTC Regulation 95-1, APG, ACO, and

their unit TACSOP. Air-to-air stingers (ATAS) may be fired at an RPVT during live-fire operations.

**2. Proximity to Ground Forces.**

- a. **Vehicles and Soldiers.** Aircraft will never approach, fly-over, dust, or land near soldiers or vehicles. Aircraft must land down-wind from soldiers when possible.
- b. **Dust Mitigation.** Aircraft will not use hovering techniques to intentionally stir up dust and debris when conducting aerial searches for opposing ground forces. Violators will be adjudicated as Safety Kills.

**3. Scheduled Landings.** If required to make a scheduled landing in Force-on-Force operations, pilots will land in an area which will not interfere with ground vehicles.

**4. Animals.** Horses and other animals will remain at least 500m away from rotary wing aircraft in order to prevent possible injury to the animal and rider. Rotary wing aircraft should make every effort to maintain a 500m slant range from observed live animals along their route of flight.

**5. Refueling Procedures**

- a. **Hot Refueling.** Aircraft will land at the RTU FARP and comply with their SOP requirements. Aircraft armament systems (including ASE) must be placed on SAFE and armament/CMWS safety pins installed prior to conducting refueling operations. Only emergency radio transmissions will be made. During night operations, the position lights will remain on STEADY BRIGHT. The Fire Guard will be positioned to see both the pilot and refueler. Fire guards will not pressurize fire extinguishers unless there is an emergency. Passengers will marshal in designated areas. No passenger or crew changes are authorized on refuel pads; these activities shall be accomplished elsewhere. No other personnel should approach the refuel area while an aircraft is present.

- b. **Cold Refueling.** Aircraft armament systems (including ASE) must be placed on SAFE and armament/CMWS safety pins installed prior to conducting refueling operations. Additionally, when CMWS is installed, the unit will comply with Section 15-13, Aviation Operations of the EXOP at all times with regards to the aircraft being "Armed."

**6. Weather Limitations.** All Group 3-5 UAS will return to the Launch and Recovery Site if published Weather Advisories/Warnings prevent safe, normal operations of the UAS IAW the UAS operations manual. Group 1 & 2 UAS may continue operations with appropriate command approval when observable weather is IAW operator's manual.

**7. UAS Safety.** UASs, by their nature, represent a unique hazard. The composite material of the fuselage produces toxic fumes while burning. The possibility of fire is always present during and after a UAS mishap. Additionally, many UAS systems include various pyrotechnic or explosive devices, therefore, anyone coming upon a downed UAS should do the following: Stay upwind at a safe distance. Do not attempt to extinguish any fire, unless it poses an immediate hazard to life or limb (remain upwind while fighting the fire). Keep all others upwind and at a safe distance. Notify the DTOC/COG thru OC/T chain for SIR procedures. Secure the scene. Evacuate all personnel upwind of the site. Do not approach the aircraft. Do not disturb any debris.

## Chapter 10 Information Advantage

- 10-1 Information Environment
- 10-2 MILDEC, TAC-D and DISO
- 10-3 Public Affairs
- 10-4 Civil Affairs
- 10-5 PSYOP/MISO
- 10-6 Civilians on the Battlefield and Subject Matter Expert Support
- 10-7 Detainee Operations

### 10-1 Information Environment

1. Overview. The rotational Information Environment is coordinated prior to and during the execution of the rotation via Ghost Team and Lizard Plans. The information environment is created based off the training requirements, and the overall scenario design.
2. The Information Environment is competitive during RSOI -4. Everything in the Information environment is assessed via the Dynamic Information Environment (DIE) Report. This report is calculated via the Ghost TAFF daily and can be submitted by any member of the NTC Operations Group. Calibration of the daily reports will be conducted daily by the Ghost Team to drive the overall perception of potential target audiences and direction for the scenario narrative. The DIE Score will also be used to drive non kinetic and kinetic events depending on the score, training objectives and other Operational/Mission Variables.
3. Events driven by effects in the information environment will be determined during the OPSGRP daily O&I then submitted to the COG or their designee for final approval. Effects that RTU requests may result in intelligence given to the RTU, scaling of protests or large gathering of civilians, reduction or increase local militia, or additional HN security personnel becoming available to the RTU.
4. Changes to the Information Environment may be requested via Ghost Team to the COG or appointed delegate. Suggested changes must provide solutions or alternatives to open threads to mitigate risk of desyncing the scenario narrative and RTU Understanding.

### 10-2 Military Deception (MILDEC)/ Tactical Deception (TAC-D)/ Deception in the Support of OPSEC (DISO).

1. Joint MILDEC. Joint Military Deception is not authorized at NTC. All deception activities will fall under Tactical Deception and Deception in Support of OPSEC.
2. TAC-D/DISO. Tactical Deception and Deception in Support of OPSEC can be planned and executed by the RTU. Authorized TAC-D activities include, but are not limited to, the following: Feints/demonstrations, decoys, sonic deception, camouflage, and false insertions. RTU must submit TAC-D plans and implementation schedules IAW the 52ID OPORD AnC14A IO for synchronization and deconfliction.

### 10-3 Public Affairs

1. Real World Media Embedding. Real world media is coordinated through Coyote Team and may also embed with training units. Coyote and the RTU will provide media escort and other coordinating instructions prior to the Real-World Media embed. Unless authorized, Real World media will not wear MILES/TESS. Remember, you and your Soldiers are representing the U.S. Army when you speak with them. All comments, even in the chow line, are on the record.
2. Replicated Media. Media on the battlefield begins on D-4. Media on the battlefield effects will be adjudicated starting on D-3. NTC replicates local and international media. Contracted role players replicate print and video news teams that circulate the battlefield and produce printed articles and video broadcasts. Media teams will only interact with personnel participating in an NTC rotation (i.e., rotational soldiers wearing TESS equipment) unless otherwise authorized by the COG. Media role players will not interact with general officers unless specifically authorized by the NTC CDR.
3. Social Media. NTC replicates social media through a closed internet network. The RTU will receive stand-alone laptops and box phones to monitor and interact with the social media environment. Role players also have access to network and create postings based on battlefield conditions. Real world social media exploitation and subsequent amplification on the Cyber Environment Replication (CER) will be conducted

in accordance with Ghost Team and NTC Operations Group G2 standard operating procedures" (This is the G2 Memo authorizing social media OSINT).

4. **Constructive Battle Damage Assessment on Media.** To provide OSINT on constructive enemy/adversary damage caused by air or indirect fires a report must be provided to Ghost TAFF with the following information. Grid Location, DTG, Vehicle(s) damaged. Report received by the Ghost TAFF and stock photos of damaged equipment will then be posted to social media and/or shared with Contracted Role Players to generate OSINT.

#### **10-4 Civil Affairs**

1. **Dislocated Civilian (DC) Movement**
  - a. Units will encounter dislocated civilians (DCs) on the battlefield. DCs will consist of contracted role players. DCs will be handled IAW directives from 52ID Annex K to 52ID OPORD and the rotational unit's SOP. U.S. country team SMEs will assist the RTU in planning for DC operations.
  - b. DC groups of seven or more will move with a MIKPAC. The MIKPAC must be confirmed with DTOC prior to SP to ensure equipment is functioning.
2. **Protests**
  - a. Non-combatants may stage protests in accordance with the rotation scenario. All participants must wear TESS.
  - b. At no time will the RTU employ riot control agents or other less than lethal munitions against role players. However, the RTU may display the means to do so, and the role players will respond in a manner consistent with the use of such weapons. The use of directional loudspeakers is authorized. The volume of the directional loudspeakers will be reduced to safe levels when employed and the role players will disperse appropriately.
  - c. Role players participating in a hostile protest may use tennis balls or paper balls to demonstrate hostile action/intent such as rock throwing. Role players will not intentionally attempt to strike a soldier with a tennis ball or paper ball or simulated rock. The use of simulated rocks shall require the immediate supervision of an OC/T.
3. **Foreign Humanitarian Assistance (FHA).** NGOs (contracted role players) will be active in the training area in accordance with the scenario. The RTU can coordinate with NGOs to conduct FHA operations in support of the mission and unit training objectives. The 52ID OPORD will provide guidance to the RTU on NGO coordination and FHA activities.

#### **10-5 PSYOP**

1. **WEBOPS**
  - a. WEBOPS is a replicated social media capability that can be leveraged to amplify PSYOP messaging during rotation. The employment of WEBOPS capabilities can be requested by the RTU. WEBOPS can amplify, suppress and/or obfuscate through social media via cyber personas.
  - b. RTU may request use of WEBOPS effects IAW AnC13. SOF RTU may utilize and create a cyber persona based off their inherent tier authorities. Tier Authorities must be established prior to RSOI.
  - c. A complete list of all Cyber Personas created by Ghost, Burro, Black Horse, or any other unit/team participating in the rotation must be submitted to Ghost TAFF prior to RSOI -3 to facilitate tracking analysis of social media. Any changes or creation of new personas during the rotation must be provided to Ghost TAFF upon update or introduction.
  - d. A complete list of all Hashtags created by Ghost, Burro, Black Horse, or any other unit/team participating in the rotation must be submitted to Ghost TAFF prior to RSOI -1 to facilitate tracking analysis of social media. Any changes or creation of new personas during the rotation must be provided to Ghost TAFF upon update or introduction.

## 2. Tiplines

- a. Rotational use of a tipline by the RTU is RTU dependent and must be coordinated prior to the rotation. If authorized the RTU will be given a box phone and phone number for the box phone to use.
- b. Once a RTU tipline is established, role players and OC/Ts can call the tipline to give information and messages vetted by the Ghost Team or TF Reaper leads to call the tipline and provide misinformation and counter messaging. Coordination of efforts will be deconflicted during the Ghost daily O&I synch.

3. Mass Messaging. Requests for PSYOP mass messaging, regardless of dissemination means, will be requested by the RTU and an approved CONOP will be posted to the 52<sup>nd</sup> ID G39 portal for adjudication of effects. When appropriate, Ghost Team will replicate the dissemination means, such as sending text messages to OPFOR box phones with surrender appeals.

## 4. Surrender Appeals

- a. Ghost, Burro, and BH representatives will discuss during the OPSGRP daily O&I IOT review the next 48 hours of surrender appeal operations and adjudication. In conjunction with tables 10-8-1 and effects in the Information environment determines the adjudication. The OC/T on the ground will report to their TAFF when a unit conducts a surrender appeal. The report will include: the unit, location, perceived effectiveness of the message, and if the message would reach the desired target. The TAFF will provide further guidance on adjudication based on daily input from Ghost/Burro team.
- b. When targeting an individual with a tactical call out. The Psychological Operations (PSYOP) OC/T on the ground will ensure the message would reasonably have the desired effect. The OC/T on the ground will report to their TAFF when a unit conducts a surrender appeal. The report will include: the unit, location, perceived effectiveness of the message, and if the message would reach the desired target. The TAFF will provide further guidance on adjudication based on daily input from Ghost/Burro team.

Table 10-8-1, Surrender rate in D-D+3:

| ENY Unit Strength | Well-equipped and trained | Moderately well-equipped and trained | Sever equipment and training shortage | Militia (BFB) |
|-------------------|---------------------------|--------------------------------------|---------------------------------------|---------------|
| 80-100%           | 1%                        | 3%                                   | 5%                                    | 1%            |
| 70-79%            | 3%                        | 5%                                   | 8%                                    | 2%            |
| <70%              | 5%                        | 8%                                   | 10%                                   | 3%            |

Table 10-8-1, Surrender rate in D+4-D+6:

| ENY Unit Strength | Well-equipped and trained | Moderately well-equipped and trained | Sever equipment and training shortage | Militia (BFB) |
|-------------------|---------------------------|--------------------------------------|---------------------------------------|---------------|
| 80-100%           | 3%                        | 5%                                   | 7%                                    | 3%            |
| 70-79%            | 5%                        | 7%                                   | 10%                                   | 4%            |
| <70%              | 7%                        | 9%                                   | 12%                                   | 5%            |

Table 10-8-1, Surrender rate in D+7-D+9:

| ENY Unit Strength | Well-equipped and trained | Moderately well-equipped and trained | Sever equipment and training shortage | Militia (BFB) |
|-------------------|---------------------------|--------------------------------------|---------------------------------------|---------------|
| 80-100%           | 7%                        | 10%                                  | 12%                                   | 8%            |
| 70-79%            | 10%                       | 12%                                  | 15%                                   | 9%            |
| <70%              | 12%                       | 14%                                  | 17%                                   | 10%           |

## 10-6 Civilians on the Battlefield (COB) and Subject Matter Expert Support.

1. NTC employs contracted role players to replicate the host nation population, non-governmental organizations (NGOs), local government leaders, and key informal leaders. RTU will not physically harm role players. If the RTU would like to simulate physical interaction with role players, the RTU will contact the nearest Ghost OC/T or contact the Ghost TAFF for adjudication. If the RTU Soldier physical harms a role player, that Soldier will be removed from the scenario and an AR 15-6 investigation will be initiated to ascertain the facts and circumstances surrounding the incident.
2. All Role players will wear personnel TESS and TESS on vehicles except for site managers. Site managers

and their vehicles are not in play. Any vehicle or person with TESS can be targeted.

3. NTC also employs contracted Subject Matter Experts (SMEs) to replicate US Unified Action Partners (UAPs). This includes US embassy personnel, Department of State, and other US government agencies and departments. All SMEs have worked for the agency or department that they replicate and are available to share their expertise with and provide feedback to the training unit.
4. For the purposes of privacy and security, any images containing role players or SMEs may not be publicly released or posted on any publicly accessible online forum without the approval of Ghost 46.
5. When a role player is assessed as a casualty, the RTU will not insert IVs or any other medical device into the role player. The RTU will talk through treatment in the event insertion of medical devices would be appropriate. If a role player is assessed as deceased and is at an RTU medical treatment facility, the RTU must coordinate for proper disposition of remains. Once proper disposition of remains occurs, the role player will be escorted from the battlefield by an OC/T.
6. OC/Ts will conduct initial coordination with town OICs/leadership 24 hours in advance of Urban Operations to conduct necessary coordination with role players.
7. Civilian Casualties (CIVCAS) Reconstitution. All adjudication and reconstitution of COBs/media and SME role players is processed thru Ghost Team. If a Ghost Team OC/T is not immediately present the contractor team lead present can notify the Ghost TAFF and/or Ghost Team OC/T.
8. Non-Combatant Evacuation Operations (NEO). NEOs are executed to replicate extraction of United States citizens and designated Third Country Nationals (TCNs) to train joint operability and coordination at the Brigade level. The U.S. country team will issue guidance and planning documents to the RTU to facilitate NEO planning.

#### **10-7 Detainee Operations**

1. Overview. Detainees are processed according to the ROE defined in the 52ID OPORD. These processing times and responsible agencies differ according to the NTC scenario for each rotation. Detainees must be transferred to the Division MPs within 24hrs. A 24hr extension may be requested to hold an EPW/Detainee for up to a maximum of 48hrs. Requests for 24-hour extension to hold an EPW/detainee are sent through the BDE PM to the 52ID Provost Marshal (Bronco 13).
2. Simulation of binding or blindfolding. Player units will at no time physically bind, muffle, or blindfold detainees, although they may simulate these measures by displaying the physical means.
  - a. Simulate handcuffs, flex-cuffs, zip-strips, rope, etc. by placing the means of binding in the detainee's hands. The detainee is required to maintain the bindings in his hands and to act as if his hands are physically bound until removed.
  - b. Blindfolding a detainee is simulated by loosely tying a blindfold or gag around the detainee's neck, or a similar device inside the role-player's shirt. The role-player must act accordingly. BLUEFOR must carefully help move the role-player as if he could not see or walk.
3. Evidence collection will be conducted IAW ROE and applicable regulations. A minimum of one OC/T is required to cover down on the operation.
4. Personnel searches may only be conducted in the presence of an OC/T. Any searches conducted without OC/T coverage will be immediately stopped, and the personnel being searched will be permitted to break contact because of improperly initiating search procedures. The unit will not be able to exploit information found on an individual searched without OC/T coverage.
  - a. A Soldier conducting a search on an individual that is a different gender will clearly describe the search procedures, articulating where he/she would search. At no time will searches be conducted by members of the opposite gender.
  - b. The Safe Bag:

- i. One 'Safe bag' is authorized for OPFOR and Role Players. This bag is constructed using a zip lock sandwich bag with 100 MPH tape on the front and back near the opening. Bag will include SAFE BAG in 1in block lettering. On one of the sides the owner annotates their name (Last, First, MI), their troop/town, and the date. The Safe Bag will contain only the following items: Medication; military/civilian identification (non- role); wallet; government cell phones; personal cell phones.
  - ii. The Safe Bag MAY NOT CONTAIN Role ID card or grids to caches.
  - iii. All cell phones not included in the Safe Bag are in play and may be confiscated and exploited by BLUEFOR. Personal cell phones found on OPFOR/COB personnel will be turned over to Town OIC or OPFOR/ COB OC/T. The OC/T Team 07 with consultation from Team 09 will determine the intelligence value of the cell phone based on the role of the OPFOR/ COB player.
5. Items of intelligence value. (Associated with the training scenario) Must not be carried within or with personal items like wallets or photographs or hidden in areas that may not be searched due to the restrictions of the training environment.
6. Identification documents. Those associated with the detainee (whether real or related to the training scenario) must be forwarded with the detainee at every level.
7. Sensitive items. Those found in the possession of a detainee will remain in control of the detainee until turned over to an OC/T or OPFOR LNO. If the detention occurred within or near a town, the local law-enforcement which is usually comprised of OPFOR leadership can accept responsibility for the items.
8. Vehicle Capture Procedures. Soldiers may not block a vehicle's path with their bodies to capture it. Soldiers who attempt to do so become casualties IAW their TESS casualty card. Catastrophic or safety killed vehicles, bunkers or fighting positions are completely destroyed and are of no intelligence value.
9. Combat Vehicle Search Procedures. Prior to any information being exploited, the capturing Soldier must first inform their OC/T of their intent to search the vehicle to the nearest covering OC/T. Once this has occurred, the OC/T, accompanied by the senior Soldier from the captured vehicle, will observe the inspection of the combat vehicle. On tracked vehicles, the inspection will entail the OC/T and the capturing Soldier mounting the vehicle and looking in the turret without entering the turret.
10. Other Vehicle Search Procedures. COB equipment or vehicles may be searched at any time, provided an OC/T or OPFOR/COB OC/T is present. RTU will not drive any COB vehicles. There are no safe areas in these vehicles, however TA-50, sensitive items, protective masks, TESS, and other accountable/personal property including pogeys, bait, tobacco, and any other item purchased by the OPFOR/COB will not be confiscated. If the RTU requests to impound the vehicle to a designated area, the driver of the detained vehicle will remain with the vehicle and drive it to the rotational unit's detention holding area. The vehicle will remain with the driver throughout the detention process until BHO to MP's at echelons above the BCT. If detention occurs in vicinity of a town, the vehicle and keys may be turned over to the OPFOR/COB town leadership. If the vehicle being detained becomes inoperable for maintenance reasons, then the OC/T on the ground will contact an OPFOR/COB LNO to facilitate recovery of the vehicle by OPFOR/COB maintenance support assets. RTU may continue to evacuate the detained driver after he hands the vehicle over to the responding OPFOR/COB maintenance support assets. If a vehicle is damaged or destroyed by RTU or OPFOR actions, the RTU must replicate towing of the vehicle by show the OC/T the resources necessary and display the method they will use to tow the damaged vehicle.
11. Intelligence Provided. The OC/T will determine if any maps or overlays are reasonably available (visible) and direct the vehicle Soldier to provide it to the capturing Soldier. Radio frequencies set on any vehicle radio will always be considered reasonably available. Material provided can be copied on site but will be returned to the senior Soldier of the captured vehicle.
12. Quarantine and Return of Captured Equipment. All captured equipment will be evacuated to the rotational unit's detention/holding area until they are processed and handed over to MP's at echelons above the BCT and/or released. Following BHO of the vehicle to MP's at echelons above the BCT, the vehicle will not reenter the area of operations for a minimum of six hours. All vehicles reentering the AO after the six-hour period will do so competitively.

- 13. Movement of detainees requires OC/T supervision or OPFOR/COB OC/T escort. Detainees mistreated by the rotational unit, to include failure to provide for basic needs and safety (food, water, and shelter), will be assessed as casualties and removed from the area.**
- 14. All potential violations of the Geneva Convention, International Law, or 52ID directives, or any detention conducted without appropriate justification, will be investigated under the provisions of AR 15-6.**
- 15. Processing and Evacuation of Detainees.**
  - a. A Minimum of two copies of DA Form 2823 (Sworn Statement) completed by Soldiers who participated in the detention.**
  - b. Apprehension Form.**
  - c. DA Form 4137 (Evidence Document).**
  - d. Sworn statements from the detainee or witnesses (local nationals).**
  - e. DD Form 2708; Medical Documentation.**
  - f. Pictorial evidence collected by the capture unit.**
  - g. DD Form 2745, Capture Tag.**
- 16. Evidence Collection. A minimum of one OC/T is required to cover down on the operation.**

## Chapter 11 Chemical, Biological, Radiological, and Nuclear CBRN

- 11-1 Chemical, Biological, Radiological and Nuclear (CBRN)
- 11-2 Chemical Agent Attacks
- 11-3 Decontamination
- 11-4 CBRN Reconnaissance and Survey
- 11-5 Persistent Agents
- 11-6 Non-Persistent Agents
- 11-7 Biological Agents
- 11-8 Nuclear / Radiological Material

### 11-1 Chemical, Biological, Radiological and Nuclear (CBRN).

1. CBRN equipment must be present, operational, and employed in a doctrinally correct manner to receive credit. Adjudication for suit failure begins 24 hours after contamination, at a rate of 50% per hour. There are no substitutions of JSLIST items without 52ID approval (example: duct tape for M9 paper or wet weather gear for JSLIST tops and bottoms).
2. CS grenades or CS gas producing devices with air/ground burst artillery simulators replicates CBRN attacks; however, the absence of CS smoke/grenade on the battlefield does not always indicate absence of a chemical agent. OC/Ts may give visual signals (hand/arm, marking of M8/M9 paper), audio (M42 alarm), or CBRN casualty cards.
3. The only authorized CBRN Training equipment substitution on the Chemical Detection Equipment (CDE) list as training aides due to the cost-efficient replacements:
  - a. M100 Sorbent Decontamination set can be simulated with a small sponge in a plastic resealable bag labeled "M100 vehicle DECON"
  - b. RSDL packets can be simulated with a small sponge in a plastic resealable bag.
  - c. ATNAA injector use can be verbalized administered with the correct processes
  - d. Super Tropical Bleach can be simulated with potable water

### 11-2 Chemical Agent Attacks.

1. Replication. CBRN OC/Ts will assess all CBRN strikes. For indirect chemical fires, air burst/ground burst artillery simulators and CS grenades indicate the incoming CBRN rounds. OPFOR have capability to use improvised chemical or radiological dispersal devices (CDD/RDD). OC/Ts will provide information concerning color changes on chemical detector paper (M8/M9) or M42 alarm, as appropriate. The CBRN hazard area is a 1,000m radius.
2. Assessments. OC/Ts will issue a casualty card to simulate personnel in the downwind hazard area. If Soldiers do not take appropriate actions to warn others, additional casualty cards will be issued. Individuals will be allowed to continue their mission once the proper level of protective posture has been attained. Personnel are assessed as follows:
  - a. Units and personnel in the attack area, who do not respond will be assessed as casualties.
  - b. OC/Ts may assess CBRN casualties based on protective equipment failures and shortages while in presence of a chemical agent.
  - c. When CBRN agent poisoning is observed, the individual or battle buddy must initiate the correct first aid procedures, to include using a MK-1 trainer and MK-1 nerve agent antidote (NAAK) card, if. OC/T can credit three simulated MK-1 kits. The OC/T will annotate the NAAK card with date/time group and call sign for each administered MK-1.
3. Initial contingency stocks of JSLIST is based on two per deployed soldier. The second set of CBRN gear is issued to the rotational unit, by paper only to validate the processes, by the unit's S-4 prior to departure

from the LSA Warrior. Every Soldier is required to have one physical set of JSLIST prior to deploying to NTC. OC/Ts are responsible to enforce units to order a second paper set of CBRN gear.

4. Simulated CBRN equipment/supplies/medical items will be issued through the BSA IAW requisitions submitted by the unit. Complete requests are required in accordance with Army logistics requests. Sufficient transportation is required down to the individual soldier to complete reconstitution process. Donning the JSLIST regardless of the time worn equates to a day of wear.
5. The 52ID DTOC will issue a scripted chemical downwind messages (CDM) to appropriate rotational units every six hours throughout the rotation. The source of the CDM comes from the Air Force SWO.
6. Individuals operating around contaminated vehicles must take the following appropriate protective measures: Wear a protective mask if within 1m (arm's length) and MOPP-4 when touching a contaminated vehicle.

### **11-3 Decontamination**

1. Conduct immediate decontamination. All contaminated individuals should use their skin decontamination kits (SDK) or wipe contaminants on their skin. All contaminated individuals will wipe down their equipment utilizing a M295 kit from their individual equipment. This should be completed within 15 minutes after contamination. If the unit fails to complete immediate decontamination to standard, the unit must remain in MOPP IV while completing the following:

- a. If started within 6 hours, conduct operational decontamination, in conjunction with weathering.

| <b>Table 11-3a<br/>Weathering After Operational Decon</b> |                                   |
|-----------------------------------------------------------|-----------------------------------|
| <b>Daily Mean<br/>Surface Air</b>                         | <b>Duration of Agent</b>          |
| <b>Less than 97 deg F</b>                                 | <b>4 hrs / 3 hrs CARC surface</b> |
| <b>Greater than 97 deg F</b>                              | <b>3 hrs / 2 hrs CARC surface</b> |

- b. Conduct thorough decontamination

2. Decontamination sites must be properly closed out, marked and reported with an CBRN 5 report IAW ATP 3-11.32 and the CBRN Warning and Reporting System (CBRNWRS).

- a. For troop decontamination units will conduct MOPP gear exchange for operational decontamination and Detailed Troop Decontamination (DTD) for thorough decontamination.
- b. Decontamination sites will remain contaminated for 24 hours for a persistent agent and 2 hours for a non-persistent agent following site closeout. Contaminated site size will be 500m radius from the center mass grid of the decontamination site. Units entering decontamination site following closeout will become contaminated. Aid Stations assessing contaminated casualties are subject to the rules as decontamination sites.

| <b>Table 11-3b<br/>Vehicle Decontamination Water Consumption Planning Factors</b> |                                     |
|-----------------------------------------------------------------------------------|-------------------------------------|
| <b>Thorough</b>                                                                   | <b>Operational</b>                  |
| <b>Wheeled: 164 Gal per vehicle</b>                                               | <b>Wheeled: 150 Gal per vehicle</b> |
| <b>Armored: 206 Gal per vehicle</b>                                               | <b>Armored: 200 Gal per vehicle</b> |

- c. Responsibility for decontamination sites will be handed over 52ID upon site closeout. OC/T will assume control.
- d. Decontamination operations may continue during SOBE periods pending COG guidance.

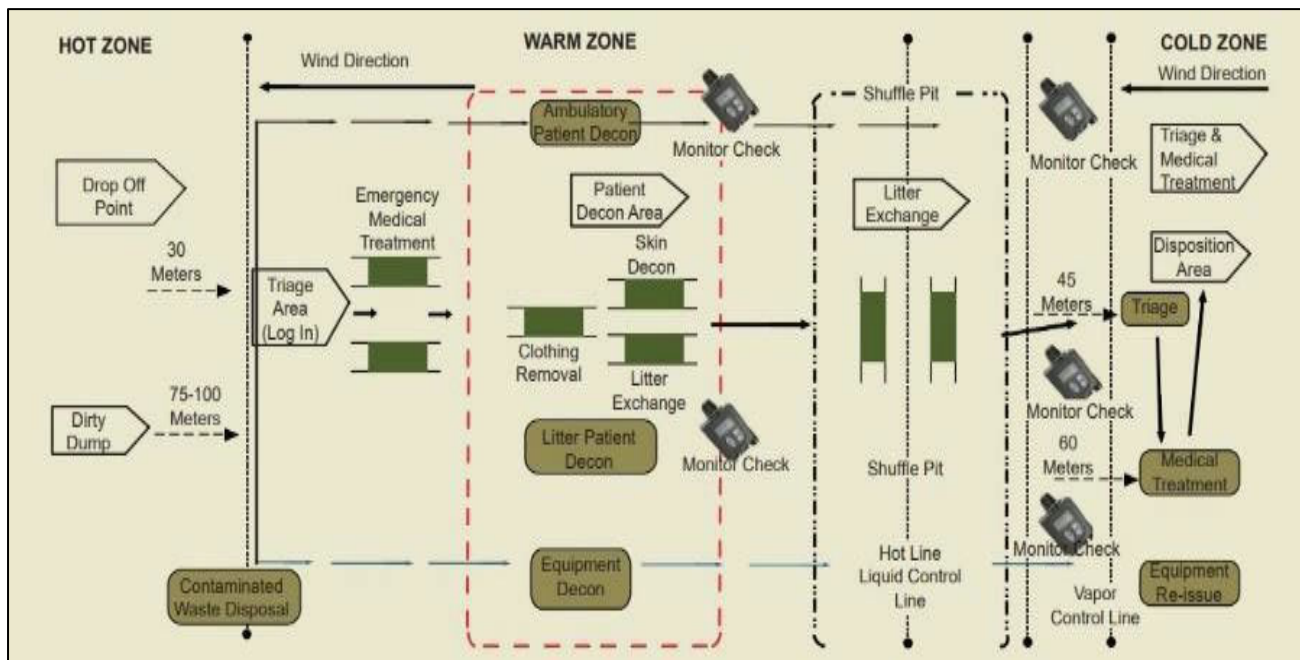


Table 11-4 Contaminated Casualty Care

- Units must deliberately plan their protective posture, to include clean and dirty routes. Any movement of contaminated personnel and equipment down clean routes will leave the route contaminated, and further casualties may be assessed.

**11-4 CBRN Reconnaissance and Survey.** Reconnaissance or survey missions are not valid unless the unit performing the mission is accompanied by an OC/T. While conducting the recon/survey, the OC/T will provide the necessary cues (i.e., simulate, meter readings, or symptoms) to the RTU. Marking of contaminated areas should be IAW the RTU's SOP and doctrine.

#### 11-5 Persistent Agents.

- The duration of persistent agent effectiveness is 24 hours.
- Rotational Unit must identify that the agent is persistent through employing an appropriate detector system or kit (JCAD, M256, NBCRV, etc.). The RTU should not know the agent is persistent until they detect it. The rotational unit must inspect with detection devices to verify the agent has dissipated.
- Rotational Unit Soldiers not in MOPP gear at time of attack and only wearing mask **MUST** conduct immediate decontamination within 30 minutes of becoming contaminated **BEFORE** donning the JSLIST. All Soldiers that do not conduct immediate decontamination will become casualties or KIA due to entrapping contamination to body IAW the type of contamination.

#### 11-6 Non-Persistent Agents.

- Duration of non-persistent agent effectiveness is 2 hours.
- Rotational Unit must identify that the agent is non-persistent through employing an appropriate detector system or kit (JCAD, M256, NBCRV, etc.). The RTU should not know if the agent is non-persistent until detection has been completed.

#### 11-7 Biological Agents.

- Biological agents are available to the OPFOR. Biological agents affect COBs, OPFOR and RTU soldiers and civilians who encounter a biological agent. Personnel infected with biological agents may be contagious (through touch or exchange of bodily fluids). RTU has the capability to detect Biological agents using Hand-held assays or through the employment of a BIDS, JBPDS, RAZOR-EX, or JBAIDS system from a CBRN unit.

2. The RTU should not know if the agent is biological until detection is complete.
3. The RTU must conduct Medical Contract Trace procedures to track Soldiers that have spread contamination throughout formations and adjacent units, including medical quarantine actions IAW unit SOP. Duration of Trace and quarantine procedures will last 3-5 days from time of attack. Biological training operations may continue until next SOBE period pending COG guidance.

#### **11-8 Nuclear / Radiological Material**

1. The duration of nuclear or radiological material effectiveness is 24 hours. Radiological operations may continue an additional 24 hours depending on isotope type and half-life and during SOBE period pending COG guidance IOT meet unit training objectives.
2. Rotational Unit must identify the nuclear or radiological contamination through employing an appropriate radiological detector system or kit (PDR-77, RDS, Ludlum, etc.). Personnel contaminated with nuclear or radiological material will be given medical indicators from CBRN OC/T for radiation poisoning in the first 15 minutes of entering the contaminated area and assess 25% casualties within the first hour. The RTU should not know the presence of nuclear or radiological isotopes or type until they detect it. The rotational unit must inspect with detection devices to verify the radiological material has expired to a life-safe half-life level before entering area without casualties.

## Chapter 12 Communications

- 12-1 Network
- 12-2 Spectrum
- 12-3 COMSEC
- 12-4 Logistical Systems

### 12-1 Network

1. **Mobile Video Unit (MVU) Van Fiber.** The RTU is required to connect and validated fiber connectivity through the MVU NLT 1700hrs TD 01; and remain connected for the remainder of the rotation.
2. **WIN-T BCT Main CP Fiber Connect to MVU.** Configuration in order to connect to MVU fiber is determined by the Lot number of the RTU WIN-T systems.
  - a. Lot 10: fiber connection between the STT and the JNN has a cost of 400.
  - b. Lot 9 and below: fiber connection between the STT and the JNN has a cost of 0. 52ID NETOPS will direct the costing configurations of the fiber network.
3. **High-Capacity Line of Sight (HCLOS) and Peer-to-Peer (P2P) Links** primarily provide redundancy to the RTUs JNNs/CPNs using LOS data packages enabling high speed connectivity to JNNs/CPNs for high bandwidth programs like video feeds. Every 12 hours / once every shift, all HCLOS links transmit and receive power and dBms are checked to ensure they are operating at an optimal level. This prevents the burning up of feed cones due to excessive power level. This also mitigates risk of outages due to loss of power associated with wind and antenna movement.
4. **Survivable Mobile Anti-Jam Reliable Tactical Terminal (SMART-T).** The SMART-T, if manned and provided by the RTU, acts as a direct connection from 52ID to the RTU ensuring reliable redundant mission command connectivity.
5. **AN/PSC-15 Global Rapid Response Information Package (GRRIP).**
  - a. COMSEC Key. Warrior team will sub hand-receipt PPK COMSEC Key via Key Variable Management (KVM) worksheet during RSOI 2.
  - b. The GRRIPs computers will be updated weekly by utilizing a CD uploaded with the latest virus definitions from ARCERT. Units may use an external CD drive for the systems.
6. **Network Enterprise Center (NEC) Service.** In order for the RTU to gain NEC services at NTC the following must be completed. RTU will provide seven-day lead-time for any requests requiring NEC services (NIPR, NEC SIPR, VTC, etc.). Emergencies will be handled on a case-by-case basis.
7. RTU will process all NEC requests to NTC Installation Spectrum Manager. POC can be contacted at 760-380-7456 or DSN 470-7456.
8. OC/T teams will provide a 5 Ws report to DTOC upon occurrence of a reportable Cybersecurity incident on the RTUs network. If the detected incident is Cyber OPFOR activity, OC/Ts will evaluate RTU execution of cyberspace defense tasks and will provide the RTU with feedback as to the execution of their incident response plan. If the incident is not Cyber OPFOR activity, the OC/Ts will assist the RTU in the proper execution of incident response and reporting.

### 12-2 Spectrum

1. **Frequency Plans for the Land Mobile Radios, Motorola XTS series of radios, RCS radios, and frequencies associated with Line of Sight systems** are managed by NTC.
2. **Voice Communication. Radio Room/ TOCNET.** WTRS Contractors are responsible for loading the ASIP radios with the current load set/SOI received from the OPS GRP 30 team. After WTRS Contractors has loaded the ASIP radios a cut sheet is developed and posted in the Radio Room and given to the TOCNET FSR. WTRS Contractors will load all available ASIP radios with the RTU's Frequencies / CEOI / load set;

however, will leave the SC PT 52ID nets loaded on a set standard of ASIP radios at all times. The purpose of this is to ensure communications with OC/Ts at any time if the RCS radio system becomes NMC. Loading of the load set is to take place NLT RSOI 2 to ensure FM communications with the RTU. Cut sheet identifying each ASIP radio by Frequency, unit ID and/or if the radio is not being utilized. If COMSEC changeover takes place or a COMSEC compromise takes place and the ASIP radios must move to a different Julian date then WTRS Contractors will ensure communications with the RTU is kept before and after the COMSEC changeover has occurred. TOCNET. After WTRS Contractors has loaded the ASIP radios and handed the cut sheet to the TOCNET FSR the FSR will load the TOCNET system.

3. **Flight Operations.** Jabber Chat is primary communication platform with Green Flag – West and/or 196 California National Guard IC assets. Download Jabber from Defense Connect Online (DCO) and install Jabber software on select NIPR systems as per Annex H in Appendix 5, Tab G. Assign one NIPR computer and at least one ROVER or OSRVT to facilitate communication with 196 RS at the BCT TOC.
4. **Fort Irwin COMSEC office** issues the Communications-Electronics Operating Instruction (CEOI). The CEOI and only that equipment authorized by the CEOI, SOP, Operations Center, applicable regulations and technical manuals will be used.
5. **All FM nets** will operate in the secure FH mode (unless otherwise directed by Warrior Main / TAC / or Dragon Live-Fire OC/Ts). The Crypto Net Variable (CNV) will be provided by the Warrior Team and will not be changed without the concurrence of the DTOC.
6. **The RTU** will provide Plans and Operations Division, Operations Group, information on cross attachments, support units, or other requirements not specifically provided for in the issued CEOI package as notes to the troop list coordinated through FORSCOM NLT 120 days prior to the rotation.
7. **CEOI Editions & Changeover.** Units will not supersede editions in the event of a compromise, the RTU's COMSEC compromise battle drill will use Julian date changes to mitigate the compromise instead of changing segments. The FM key will not change throughout the rotation.
8. **Call Signs.** Units may use fixed call signs. The unit must provide a list of call signs and expanders to the 52ID G6 by RSOI 02 Units will use CEOI call signs on non-secure nets.
9. **Division High Frequency (HF) database** is managed by CPSI. CPSI assigns and deletes frequencies associated with the Radio Section's HF data base.
10. **During force-on-force**, only specified individuals in the rotational unit may use a government cell phone for ADMINISTRATIVE purposes. Government cell phones shall not be used for command and control purposes. Specified individuals include, BDE/BN CDR, BDE/BN CSM, BDE Chaplain, BDE Surgeon, BDE EO, Safety Officer, Environmental Control Team Chief, and STT Operators to peak and poll. The BDE CDR can request an Exception to Policy in writing to the COG NLT 1700hrs RSOI 03. This request is submitted thru the Warrior Team.
11. **Closed Cellular Network (CCN)** cell phones are distributed and managed by the 916th Support Brigade, 760-380-5347. RTU will pick-up on RSOI 01 at 0900hrs with signature card and assumption of command orders. CCN towers become active on Friday RSOI 05. 11ACR is responsible for tower power generation and fuel sustainment. The CCN is managed by the NTC G6.
12. **Handheld Radios** are unauthorized IAW FCC policy and will remain in LSA Warrior.
13. **Unsecure hand-held radios** are not authorized for use at the NTC. RTUs should coordinate with the NTC Spectrum Management Office NLT 180 days prior to their arrival at the NTC for testing and approval of any RF transmitting equipment not formally tested or approved.

14. Operations Group CONPLAN for RCS failure is below.

**OPS GRP CONPLAN for RCS Failure**

|                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Situation:</b> RCS fails or is degraded to such a point that unacceptable risk is incurred for the Observer Controller Communicaton System during rotation.                                                                                                                                                                                                                      | <b>Timeline:</b>                                                                                                        |
| <b>Mission:</b> Provide alternate communications in the event of RCS failure or degraded conditions using FM frequency radios.                                                                                                                                                                                                                                                      | H- 4:00<br>Warruir TOC issues CONPLAN instructions and sets H Hour<br>Teams receive pre-established Commo Card with SOI |
| <b>Concept of Operation:</b> In the event of RCS failure, the capability to have one Net that every team can use for OPS CMD which has the ability to contact Warrior Main (Bldg 990) and to have two team internal Nets to communicate. TOCNET already has all Nets loaded into the INI file. OC/Ts are still able to communicate in the Box utilizing the RCS radio in DIR" mode. | H- 2:00<br>OCCP radios prepped with CONPLAN frequencies                                                                 |
| <b>Tasks:</b>                                                                                                                                                                                                                                                                                                                                                                       | H- 1:45<br>DTCO executes COMMEX wit OCCPs                                                                               |
| Vulture                                                                                                                                                                                                                                                                                                                                                                             | H- 1:00<br>DTCO COMMEX with all Teams to confirm OC/Ts are equipped to execute without RCS radios                       |
| • Issue SOI – OPS GRP CMD net and 2x nets for each team                                                                                                                                                                                                                                                                                                                             | H-Hour<br>All OC/Ts are equipped with ASIP radio Comms                                                                  |
| Warrior                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                         |
| • Issue CONPLAN INSTR                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                         |
| • Conduct FM comms rehearsal                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                         |
| Lizard 30                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                         |
| • Issue FM nets each rotation                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                         |
| <b>Coordinating Instructions:</b>                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                         |
| • Ensure all OCCPs have operational ASIP radios IOT monitor and communicate with OC/Ts and Warrior TOC                                                                                                                                                                                                                                                                              |                                                                                                                         |
| • Identify OC/T vehicles needing FM radios                                                                                                                                                                                                                                                                                                                                          |                                                                                                                         |
| • BPT execute team internal relay to cover operations and deadspace                                                                                                                                                                                                                                                                                                                 |                                                                                                                         |
| • Ensure all teams maintain OPSEC on single channel net                                                                                                                                                                                                                                                                                                                             |                                                                                                                         |
| • Identify RTU OPS that cannot be covered with adequate OCT FM coverage                                                                                                                                                                                                                                                                                                             |                                                                                                                         |

**12-3 COMSEC**

**1. Firefly and PPK keys.**

**a. RTU must provide their own firefly and PPK keys.**

**b. 52ID NETOPS is responsible for all COMSEC for SNAP terminals, the 52ID JNN, Lan- in-a-Can (LIC) kits, and Fly-Away-Kits (FAK).**

**2. COMSEC Compromises. COMSEC/CEOI compromises will be reported immediately to WARRIOR Main via Operations, G2 and G6 channels. RTU/BCT is not authorized to initiate COMSEC compromise actions until directed by the COMSEC Controlling Authority. The RTU will execute a Julian date change during compromise.**

**12-4 Logistical Systems. The RTU will utilize an AMC Request Form (See EXOP Para. 8-12 FSR/LAR (C/DLSE) Call Forward Process) to request support for all C4I systems from FSRs. The form is provided to the DLSE Commander/SPO who prioritizes the LARs/FSRs Support based on the other call forward requests.**

## Chapter 13 Cyberspace Electromagnetic Activities (CEMA) / Space Operations

- 13-1 Cyberspace Operations
- 13-2 Electronic Warfare
- 13-3 Aerial Electronic Attack
- 13-4 Spectrum Operations
- 13-5 Space Enabled Systems
- 13-6 CEMA Effects During Live Fire

### 13-1 Cyberspace Operations.

1. The Commander of Operations Group is the release authority for all cyber actions conducted at the National Training Center. All cyberspace operations will be vetted through Lizard 9, Lizard 30, and the Ghost team. The COG may delegate approval authority for specific cyberspace operations to the Ghost team.
2. OPFOR Cyberspace Operations. The DTG (OPFOR) will coordinate with the Cyber OPFOR to synchronize cyberspace operations with maneuver operations. The Cyber OPFOR will coordinate all cyber activities and effects through the DTG commander's CEMA representative. The DTG will submit requested effects to the Ghost CEMA team for review and de-confliction prior to submission to the COG.
  - a. The Cyber OPFOR will not compromise any Personal Identifying Information, HIPAA controlled information, military justice information, information relating to the exercise of worship or religious pursuits and other information outside of the scope of the Cyber OPFOR charter. The Cyber OPFOR will not compromise classified information.
  - b. The Cyber OPFOR will conduct operations in line with the ROE established by the Memorandum of Understanding between Lizard 30 / Ghost 07, and the 1<sup>st</sup> IO Commander. Operations will be conducted according to Cyber OPFOR Methodology of Research, Recon, Exploit, Post-Exploit, Cyber Effects and Recovery.
  - c. Restrictions on Countering Red Team. Counterattacks, counter-mapping, and counter-probing against the Army Red Team is strictly prohibited. RTU system administrators may block IP addresses or follow other approved standard operating procedures for incident response. Exercise Blue Forces should react to any attack on their network as if it were a real-world event. Once the individual IP address has been confirmed as belonging to the Red Team, the individual IP address may be blocked, but an entire subnet may not be blocked to facilitate support of exercise objectives.
  - d. If the RTU suspects or detects activity from the Cyber OPFOR on the network, they will take the appropriate defense actions in accordance with their incident response plan and will notify 52ID Main and G6.
3. RTU Offensive Cyberspace Operations (OCO). The RTU may request offensive cyberspace operations in support of maneuver operations during force-on-force. The RTU will submit a Cyber Effects Request Form (CERF) along with a CONOP to the Operations Group CEMA Cell NLT 72 hours prior to the requested execution time. All RTU OCO requests will be approved by the COG, or a designated representative. Ghost Team will conduct necessary coordination with Lizard/Warrior/Reaper teams to ensure effects are replicated accurately in line with the RTU request, and the COG's guidance.
  - a. Denial Of Service (DNS). The RTU May request effects upon the IC3NS 4G LTE Sites (Cell Phone Towers) via CERF with CONOP. These sites provide Box Phone and potential drone coverage. The RTU CERF/CONOP must specify what specific locations, effects on the locations specified and time. Prior to approval by Ghost Team, Ghost Team will coordinate with Lizard 30 and the IC3NS team to ensure no collateral effects occur to other systems. If feasible, Ghost Team will approve CONOP and schedule LTE Site Location to be turned off through Lizard 30 and IC3NS team.
  - b. CCTV Exploit. The RTU May request access to CCTVs inside towns/villages inside the training area via CERF with CONOP. Ghost 07 or other delegate can approve if the CERF/CONOP provide location and time for exploitation. Upon Approval Unit will receive instructions via the 52ID G39 transverse chat and portal.

### **13-2 Electromagnetic / Electronic Warfare.**

- 1. OPFOR Electronic Attack Effects.** All RTUs are subject to attempted OPFOR CEMA effects. Range and locations are announced on RCS OPS CMD (100) prior to OPFOR CEMA OPS. No OPFOR CEMA effects will occur without approval from the COG. CEMA OPS will continue until conclusion of the essential CEMA support task, RTU counters the activity, or CEASE BUZZER is ordered by the COG or designated representative.
- 2. OPFOR EW Deception operations** will not be conducted with captured RTU communications equipment. EW deception can be conducted using OPFOR radio and EW systems including SINCGARS, STRATOMIST, and VROD/VMAX.
- 3. EW assets** will adhere to the No-Jam and No-Collect frequency lists published prior to each rotation. Spectrum management at the NTC ensures training objectives are met while preventing infractions of Federal, State, and Local regulations. The restrictions below will be followed during all rotational exercises (these lists are provided to the rotational unit upon arrival at the NTC).
- 4. Restricted Frequency Lists** as described below are maintained by the NTC Frequency Management. Restricted Frequencies are broken into separate listings with specific limitations as shown below:
  - a. List 1 and 2** are Permanent Status 0 (no-jam/no-intercept/no collect). They are labeled Permanent Status 0 and 02.
  - b. List 3** is a Rotational Status 0 (no-jam/no-intercept/no-collect) list. The frequencies in lists 1 through 3 are strictly off limits to OPFOR/RTU at all times.
  - c. List 4 and 5** are respectively the 50 and 1500 watt restricted jamming lists. Collection operations are authorized against frequencies on these lists at all times.
  - d. List 6** is the CT-IS set to CT-IS rise restricted jamming list. Even though collection operations are authorized against frequencies on this list at all times, jamming is only authorized while the CT- IS is above the horizon. Ranges increase during the hours of darkness and interfere with civilian and other nearby military forms of communication.
- 5. Unrestricted Frequencies.** All other frequencies not covered by the aforementioned lists are targetable for collection and jamming operations at all times.
- 6. RTU Jammers.** Jammers may be employed on the battlefield at the NTC under the following conditions (subject to approval IAW AR 525-22 and FORSCOM REG 350-50-1):
  - a. All EW equipment** the RTU has the potential to use during the rotation, to include commercial of the shelf equipment must be reported to NTC EW personnel and Spectrum Management IAW FORCOM regulation 350-50-1 in order to receive necessary spectrum clearance for operation.
  - b. An EW OC/T** must be positioned in proximity to all employed and operational Jammers. This is to allow the OC/T to shut down the units quickly should the need arise. This is for safety purposes only; the OC/T in no way will assume responsibility for damage control or property accountability of jamming units.
  - c. EW personnel** are authorized to use ES and EA capabilities in order to identify immediate threats for the conduct of military operations including threat warning, avoidance and jamming.
  - d. EW personnel** will not intercept, identify or locate intentional or unintentional radiated electromagnetic energy for intelligence purposes. If EW equipment is used for these purposes, it must be manned by 35 series SIGINT personnel.
- 7. EW Operations against TACAIR.**
  - a. Restrictions.** Communications jamming/deception may be employed in all Force-on-Force areas of the NTC on both Blue and Red TACAIR. Intrusion and deception attempts may not be real- world call signs (i.e., Sundance or Fort Irwin range Control). Jamming is prohibited on safeguard frequencies (in

accordance with the NTC G-6 joint restricted frequencies list). Havequick equipment and procedures may be used if all players are Havequick equipped. A safety call to terminate jamming will be made by an aircrew member, FAC, or controlling agency to terminate comm-jam whenever a hazard is imminent, or an emergency is in progress. All electronic jamming and all intrusion/deception activity will be terminated when safety, Stop Buzzer, or cease jam is transmitted on FM frequency 41.95 MHz, UHF guard frequency 243.0 MHz, or VHF guard frequency 121.5 MHz.

- b. Procedures. Pre-mission briefings, coordination and mission planning will include Chattermark and Brevity Code procedures. Additionally, the FAC/Fighter briefing at the Contact Point (CP) will include Chattermark procedures. A jam-free rendezvous frequency will be designated and briefed to all participants. This frequency will be used only to establish communications if radio contact is lost. When Havequick is to be used, any changes will be published in the "GREEN FLAG-West Quarterly" and "Weekly SPINS". Team Raven personnel will brief Havequick procedures to all participants. There are four RTU UHF strike frequencies allocated for Force-on- Force battles. Three of these frequencies may be jammed during any one CAS mission. The OPFOR TACP has three allocated UHF frequencies, any two of which may be jammed for any one CAS mission. There are two FM strike frequencies available for the Blue TACPs and two for the OPFOR TACPs. One of these frequencies may be jammed per-mission for each force. Airborne and ground-based jammers are authorized with prior detailed coordination between Operations Group (Lizard Plans) and GREEN FLAG-West.
8. Safety. Ghost Team and TF Reaper will continuously monitor for CEASE BUZZER on (Primary) OPS CMD (RCS 100) and (Alternate) GHOST 01 (RCS 170), during times when jamming operations are conducted, and cease operation immediately if so directed. All jamming will cease during MEDEVAC and CASEVAC operations.

### 13-3 Aerial Electronic Attack (AEA).

1. Implementation. The RTU BCT may request for AEA assets to support their operations. The effect(s) may be constructive, replicated, or live. The CEMA cell will determine if requests are supported or unsupported. If requests are submitted to the DIV FSO, the DIV FSO will inform the DIV CEMA cell, which will determine whether the request will be supported or unsupported. If the asset is to be notional and the effects constructive, the CEMA cell (in the case of immediate requests) will provide the affected areas and times to the Blackhorse TAFF, Raven team, and the DIV FSO at the DTOC. If the asset is live, coordination with Raven team, the Ground Liaison Officer (GLO) from 5th Battlefield Coordination Detachment (BCD), and an LNO for the live asset will take place prior to the rotation. The DIV CEMA cell will provide affected areas and times to the Blackhorse TAFF at the DTOC.
2. Requesting Procedures. All requests for electronic attack (EA) must consist of the following: DD 1972, Joint Tactical Airstrike Request, Electronic Attack Request Form (EARF), and a CONOP is required 72 hours prior to execution; submit CONOPs to DIV EWO.
3. Request Flow. BNs must submit requests to the BCT EWO for prioritization and approval. The BCT EWO must submit the products IAW Tab A (Air Request Numbering System) to Appendix 5 (Air Support) to Annex D (Fires). The BCT CEMA cell will place all requested products in the DROP BOX folder on the 52ID / VII Corps / CJTF EWO PORTAL (echelon is as applicable based on rotation type). In the case of immediate requests, all request products must be submitted via transverse followed with the DD 1972 in the DROP BOX.
4. The Jamming Control Authority (JCA) is delegated by 52ID CEMA to the BCT EWO. The responsibilities of the JCA are: Participating in development of and ensuring compliance with the joint restricted frequency list, Validate and approve/deny cease- jamming requests, Maintain situational awareness of all jamming-capable systems in the area of operations, Serve as the BCT/BN commander's executive agent for developing EW intelligence gain/loss recommendations when electronic attack or electronic warfare support conflicts occur, coordinating jamming requirements with joint force components. Investigating unauthorized jamming events and implementing corrective measures.
5. JCA Communications Requirements. The JCA must have communications with the supporting asset and the supported element. It is recommended that the JCA has the following communications capabilities available: multi-band radio (Harris or MBITR) and a SIPR computer with Jabber/mIRC/ChatSurfer/ Transverse.

6. **Cease Buzzer Procedures.** CEASE BUZZER (CB) procedures must be articulated in all EA requests to include CB FREQs (UHF/HF/FM) and JCA/JTAC call signs. All calls for CB must be verified by reason.
  - a. **Example 1:** ZAPPER 31 THIS IS RTU 16, CEASE BUZZER IOT COLLECT.
  - b. **Example 2:** ZAPPER 31 THIS IS RTU 16, CEASE BUZZER EXPERIENCING INTERFERENCE ON RCS.
  - c. If CB is called to de-conflict interference, BUZZER ON must be called after the interference is known not to be from the asset.
7. **Constructive asset replication supporting the RTU.** Real world Air Electronic Attack assets cannot be utilized for every requirement during training due to lack of training resources, therefore the 52 ID EWCC replicates them notionally.
  - a. During the rotation, the BDE EWO will submit AEA requests in support of the RTU mission. These requests are preplanned using the form DD1972 and submitted to the 52 ID EWCC for validation and resourcing. Occasionally the RTU will submit and emergency EA requests using the emergency EA 5-Line format. The purpose of the request can range from suppression of enemy air defense systems to communications denial.
  - b. When the EWCC deems that a request is valid and warrants support, there are multiple role-players that need to adhere to EW replication procedures in order to facilitate realistic EW effects. Figure 1 outlines the appropriate procedures for simulation of a notional AEA asset.

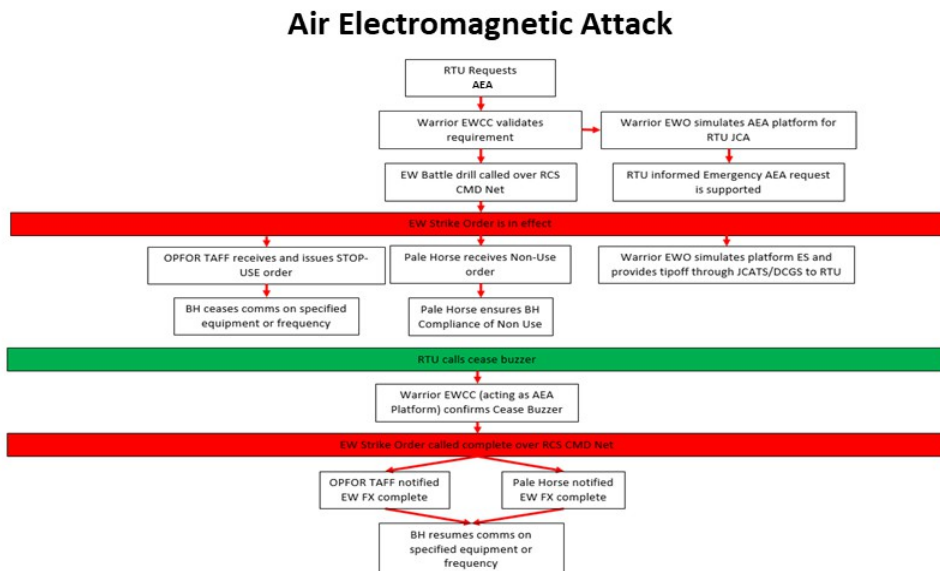


Figure 1.

8. **Live non-lethal effects targeting OPFOR.** When the RTU has a real-world AEA asset such as EC-130 Compass Call, the BCT EWO will act as the Jam Control Authority and target specific OPFOR frequencies with non-lethal effects.
  - a. The OPFOR will adhere to the 11<sup>th</sup> DTG SOI. Any deviation due to RTU offensive EA must remain inside of the approved jamming limitations published by the NTC spectrum management office. It is considered a violation of the NTC EXOP for OPFOR to communicate outside of the approved jamming list.
  - b. The Operations Group Spectrum Manager will ensure that the SOIs used by OPFOR are included in the trusted agent list for approved jamming and that those frequencies are not on the JRFL.
  - c. If during the EA mission the asset reports enemy SC/PT FM communications on any frequency other than the approved SOI, the JCA WILL NOT direct the aircraft to jam those frequencies. The EWO will collect the post mission data from the aircrew and submit the violation report to the COG through the appropriate reporting channels.

### **13-4 Spectrum Operations**

1. The rotational unit must coordinate for the use of approved frequencies prior to use of any emitter at the NTC IAW FORCOM Regulation 350-50-1. Jamming and/or shutting down of CCN towers will be conducted as follows: The Operations Group EWO will contact either Spectrum Management or the 11<sup>th</sup> ACR Network Technician with the tower affected and the requested duration. That rep will then shut down the identified tower for the duration of the operation.
2. The web link to the JRFL will be published in ANNEX H (SIGNAL) to the 52ID base OPORD. The JRFL will be a living document that will reflect the current Jam restrictions at all times and serve as the official governing document for all NTC role players to include joint assets participating in NTC training.

### **13-5 Space Enabled Systems**

1. GPS Disruption and Denial
  - a. All GPS test requests will conform to CJCSM 3212.03A. The Operations Group Space Operations Officer or EWO will submit all test requests through NTC G-6 Spectrum Management NLT 90 days prior to the first test period for a rotation. The Space Operations Officer and/or EWO will oversee all GPS testing and ensure proper OC/T coverage during execution. An appropriately trained OC/T will be present in the DTOC or the immediate vicinity of the testing during all GPS testing events.
  - b. The Operations Group Space Operations Officer is responsible for training OC/Ts and 11<sup>th</sup> ACR EW personnel in GPS testing procedures. This responsibility may be delegated to the Operations Group EWO as required.
  - c. The Space Operations Officer and/or EWO will conduct all required Federal Aviation Administration (FAA) Air Route Traffic Control Center (ARTCC) 24-hour and 90-minute notifications prior to each test period and will maintain two forms of communications with the 52ID Main in case of a CEASE BUZZER call. FAA ARTCC notifications may be delegated to 11<sup>th</sup> ACR EWO/EWNCO provided they have received proper training in GPS testing procedures.
  - d. The 52ID Main will be listed as the CEASE BUZZER point of contact for external agencies, such as the FAA, with either the Space Operations Officer or EWO as the secondary point of contact. In the event of a CEASE BUZZER call, the 52 ID Main broadcasts "CEASE BUZZER for GPS testing" over RCS OPS CMD (100). OC/Ts with jamming units will verify all test equipment is turned off and report termination to 52 ID Main within three minutes of the CEASE BUZZER call.
  - e. 11<sup>th</sup> ACR is the primary operator of GPS jamming equipment. Properly trained OC/Ts may also employ jammers to better replicate the effects of GPS denial or meet specialized training requirements during authorized testing windows. All GPS testing procedures apply to both Operations Group and 11<sup>th</sup> ACR.
  - f. Jammer operators will maintain constant communications with an appropriately trained OC/T or 11<sup>th</sup> ACR EWO/NCO during test events, either via RCS or physical presence. Operators report BUZZER ON and BUZZER OFF times to the Operations Group Space Officer, Operations Group EWO, or the 11<sup>th</sup> ACR EWO/NCO. The Space Officer, EWO, or designated 11<sup>th</sup> ACR representative then reports BUZZER ON or BUZZER Off to the DTOC via RCS OPS CMD (100).
  - g. Any and all OC/Ts are authorized and expected to call a CEASE BUZZER at any time during GPS denial events over RCS OPS CMD (100) for safety reasons. Such reasons include, but are not limited to:
    - i. Real-world MEDEVAC and CASEVAC events
    - ii. Real-world downed aircraft
    - iii. Loss of control of any manned or unmanned aerial platform
    - iv. Jammed vehicles or personnel about to enter into dangerous areas, such as impact areas

2. **SATCOM Denial.** To expose RTUs to the impacts of operating within a Denied, Degraded, and Disrupted Space Operating Environment (D3SOE), the NTC employs three SATCOM denial TTPs:
  - a. **JBC-P/JCR denial via the Mission Command Support Center (MCSC) against any unit.**
    - i. All JBC-P/JCR denial requests are coordinated through the MCSC.
    - ii. The MCSC requires JCR/JBC-P transceiver serial numbers so that they can decommission transceivers on demand. The Operations Group Space Operations Officer or EWO provides the MCSC with the serial numbers of all transceivers scheduled to receive disruption NLT 48 hrs. prior to execution.
    - iii. Following completion of the JBC-P/JCR denial window, the MCSC re-commissions all affected transceivers to return to normal operating mode.
  - b. **Replicated TACSAT denial against OPFOR via the PTP 700 Microwave Line-of-Sight Transceivers or LTE Flyaway Kit.**
    - i. The Operations Group Space Officer or EWO coordinates with Lizard 30 to disrupt OPFOR digital C2 replicating TACSAT during select convergence windows in support of RTU operations.
    - ii. Services are immediately restored following the conclusion of the TACSAT denial window. The effects of this TTP are limited to OPFOR C2 nodes and should not impact the RTU or most OPFOR elements.
  - c. **TACSAT denial via the Regional Hub Node (RHN) and/or the Wideband SATCOM Operations Control Center (WSOC)**
    - i. Operations Group Space Officer or EWO coordinates with Lizard 30 to disrupt RTU SATCOM during select convergence windows in support of RTU training objectives.
    - ii. TACSAT denial may be conducted through Wideband Authorized Injection Signal (WAIS), exclusive to Wideband Global SATCOM (WGS) usage, or by coordinating with the RHN to temporarily disrupt RTU SATCOM.
    - iii. Execution of WAIS serves to meet simultaneous 53<sup>rd</sup> Space Operations Squadron (U.S. Space Force) and RTU training objectives. WAIS requests must be submitted NLT 45 days prior to execution and require close coordination with the RTU or RTU's higher headquarters. The Operations Group Space Officer will coordinate with Lizard 30 and the RTU's higher headquarters to plan for WAIS utilization based on guidance from the COG.
3. **All SATCOM denial windows must be synchronized within the scenario and are intended to reinforce the concept of cross-domain convergence as defined in FM 3-0. SATCOM denial windows may be planned and executed under one of three conditions:**
  - a. As pre-planned events aligned with higher echelon's broader convergence windows or D3SOE training objectives. These SATCOM denial windows may be executed independently from RTU engagement to generate opportunities for RTU to exploit OPFOR vulnerabilities. Conversely, preplanned windows may be conducted against the RTU to exercise PACE plans and SATCOM interference reporting procedures.
  - b. Upon request of the RTU. All requests for SATCOM denial must include the submission of a Space Support Request (SSR) and a CONOP NLT 72 hours prior to event execution. CONOPs will be processed and recommended for approval/disapproval by the Ops Group Space Operations Officer and/or EWO.
  - c. Upon request of 11<sup>th</sup> ACR. Approval of 11<sup>th</sup> ACR SATCOM denial is contingent on several criteria:
    - i. Requests must be submitted to higher headquarters NLT 72 hours prior to execution.

- ii. Effects must be nested within OPFOR higher headquarters' scheme of maneuver.
- iii. Effects must ultimately support RTU training objectives.
- iv. Effects must meet the COG's intent for the rotation and not impose undue risk to safety.

#### **13-6 CEMA Effects During Live Fire**

1. Ghost CEMA elements and Sidewinder SIGINT elements (if applicable) will assist Dragon in the emplacement and recovery of emitters during LFX. No emplacement / reset / recovery of emitters will occur while in "fit to fight" status.
2. Ghost CEMA and SW SIGINT OCs will ensure a comms plan is place for continuous monitoring of OPS CMD and Dragon 1 RCS nets, in addition to their internal team nets (to include the team nets of supported maneuver units, as necessary).
3. Target prosecution methods will be determined by Dragon based on the assessed proficiency of firing batteries and mortar teams. This includes (but is not limited to) whether dynamic target prosecution and unobserved fires are authorized.
4. RTU EW and SIGINT elements must state their intent to participate in emitter LFX NLT their IPC o/a D-180. RTU EW and SIGINT elements must re-confirm their intent and confirm their capability to participate (i.e. manning, training and equipment readiness) NLT their LTP o/a D- 90.
5. RTU EW and/or SIGINT elements not intending to participate in emitter LFX (due to manning, training and/or equipment shortfalls) will participate in ACA lanes with TF Stability.

## Chapter 14 Risk Management

- 14-1 Rotational Unit Safety Officers (RSO)
- 14-2 Force Protection
- 14-3 Rainstorms, Flash Floods, and Lightning
- 14-4 Weather Related Illnesses
- 14-5 Wildlife
- 14-6 Lost In Desert (LID)
- 14-7 Sleep Areas
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- 14-10 Ammunition
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- 14-12 Carbon Monoxide Poisoning, Toxic Smoke, and Fumes
- 14-13 Serious Accident/Emergency Situation Procedures
- 14-14 Serious Incident Reports
- 14-15 MEDEVAC Procedures
- 14-16 RCS S.O.S. Procedures

### 14-1 Rotational Unit Safety Officers (RSO).

1. Rotational units must deploy with an RSO from their home station safety office per FORSCOM Regulation (FR) 350-50-1, 3-8.b., Safety Officer Requirements. RSO duties and responsibilities are outlined in FR 350-50-1, 4-8d. The RSOs are not “players” during the rotation. The RSO vehicle will be marked with Safety placards identifying it as an administrative vehicle.
2. Aviation units will appoint a U.S. Army Combat Readiness Center (USACRC) trained Aviation Safety Officer (ASO) for Aviation Task Forces (ATF) regardless of size or composition. This ASO is considered to be a member of the player unit and will wear IWS and HALO. The ASO will be issued a RTD TESS casualty card.

### 14-2 Force Protection.

1. The RTU will, as part of the operations process, include force protection measures to mitigate risk. This will either be accomplished as a separate annex or incorporated throughout the order as applicable.
2. Units at all echelons will integrate risk management (RM) into all phases of mission or operational planning, preparation, execution, and recovery at Brigade, Battalion, Company, and Platoon level IAW ATP 5-19 Risk Management.
3. Risk Assessment Approval Authority for residual risk of MODERATE, HIGH, and EXTREMELY HIGH is the RTUs chain of command by unit SOP and FORSCOM Regulation 350-50-1, 4-8.d(3).

### 14-3 Rainstorms, Flash Floods, and Lightning.

1. Rainstorms, Flash Floods. Hazard. The Mojave Desert has deep wadis created by severe rainstorms. The rainfall does not have to occur on the reservation to produce runoff sufficient for major flooding. Do not park, sleep, or remain in wadis or ravines during wet weather. Do not attempt to cross flooded areas.
2. Noah’s Ark. The RTU can request through 52ID and NTC to execute inclement weather plan NOAH’s ARK (Inclement Weather Plan) IAW NTC REG 350-12. The goal is to provide a quick, orderly movement of Soldiers and their equipment to a warm and dry area.

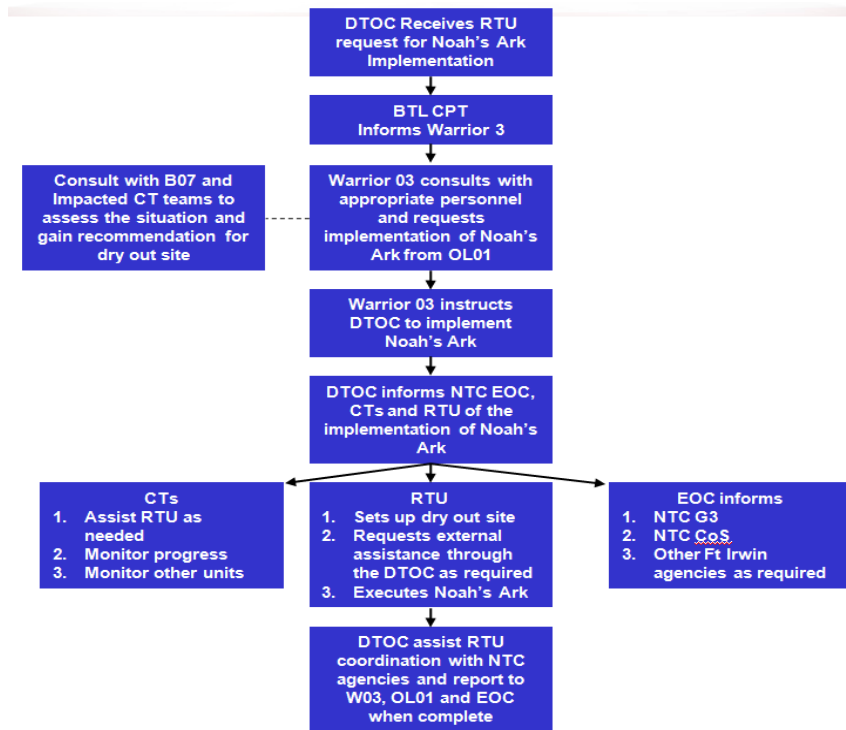


Figure 14-3. (Noah's Ark Battle Drill)

#### 14-4 Weather Related Illnesses.

1. **Heat Related.** Heat related illness is the number one injury resulting in emergency medical evacuation of Soldiers. A combination of insufficient water and food intake, combined with fatigue, and additional uniforms places Soldiers at high risk for heat injuries. To report a heat casualty you must record a core temperature. Altered Mental Status is sufficient reason to MEDEVAC regardless of core temperature. After deemed a heat casualty, a Soldier cannot return to the fight until released by a medical provider (MD/DO/PA).
  - a. **Hot Weather Casualty Mitigation responsibilities.**
    - i. Units will deploy with one cooler with one set of ice sheets per platoon and one thermometer per Company during months of MAR-NOV.
    - ii. OC/Ts will ensure each platoon-sized element is equipped with ice sheet cooler and ice is resourced daily to maintain temperature.
    - iii. OC/T will ensure RTU personnel are adequately trained to treat heat casualty using ice sheets.
2. **Cold Weather:** High winds will produce a significant wind chill factor. It is important to use cold weather clothing properly, maintain adequate hydration and ensure nutritional requirements to ward off cold weather injuries. When wearing clothing in cold weather, remember the acronym C- O-L-D: C: Keep it Clean; O: Avoid Overheating; L: Wear clothing Loose and in layers; D: Keep clothing Dry.

#### 14-5 Wildlife

1. **General.** Venomous snakes, spiders, scorpions, insects, and large wild animals indigenous to the Mojave Desert are abundant on the reservation. Bobcats and coyotes are found on all parts of the reservation and roam freely in the cantonment area.
2. **Coyotes & Bobcats. Hazard.** Both bobcats and coyotes have been known to attack Soldiers when threatened. Anyone bitten should carefully cleanse the wound and immediately seek medical help. **Desert Tortoise. Hazard.** The desert tortoise is protected by State and Federal Wildlife Endangered Species regulations. Penalties include up to one year imprisonment, and \$50,000 fine. A significant tortoise

population exists on the NTC reservation. Risk Reduction. Report all tortoises encountered on roads and trails to prevent collisions with vehicles. Report all tortoises and injured animals to the DTOC. DPW Environmental section and Range Operations will collect these animals for treatment. Once reported, OC/Ts will maintain observation of the desert tortoise until Range Control or the Environmental Section arrive on site. OC/Ts will take note of movement patterns and any suspected burrows.

3. **Venomous Snakes. Hazard.** Four species of venomous snakes have been found on Fort Irwin. If a snake bites a Soldier, remember the snake markings and color. Do NOT attempt to kill or capture the snake. Take pictures without getting too close to the snake. If the snake is dead, carefully place it in a secure container for transport to the medical facility for identification. Sit the patient in the shade. Do not let the victim stand or walk around. Keep the patient as calm and comfortable as possible. Immobilize the wounded extremity. Place a strap or belt snugly above the bite. Tighten the strap around the limb to retard the blood flow but do not stop the pulse. Treat for shock. DO NOT elevate the bitten extremity. Evacuate the patient as soon as possible. DO NOT use the 'cut and suck' method of treatment. Do not treat the bite with electric shock or treat with ice or ice water.
4. **Arthropods (Scorpions, Spiders, Wasps, and Bees).** Several species of venomous arthropods are found throughout the desert. Avoid stings and bites by hanging clothes, boots, and sleeping gear off the ground. Check bedding before use. Shake out boots and check socks and clothing before putting them on. If anyone is stung or bitten, keep patient calm and send for medical aid. Clean the wound with an application of a mild antibacterial agent. Cool the area 10 to 12 inches around the puncture point with ice.

#### **14-6 Lost in the Desert (LID)**

1. It is deceptively easy to become lost at the NTC. A soldier lost in the desert during summer (temperatures of 110 or above) can survive three (3) days. This figure assumes a full canteen of water, and the soldier remains immobile in a shaded area. Physical activity will significantly reduce survival time. Training units will notify an OC/T immediately when soldiers are reported missing from their units and will keep OC/Ts updated on search progress. OC/Ts will assist in the search effort to find soldiers lost in the desert.
2. **LID Soldiers.** If you are in a vehicle, do not leave it, as a search party will spot a vehicle easier than someone walking. Move to open terrain if your vehicle is operational. Use the vehicle's mirror for signaling. If your radio is operational, contact your unit and explain your situation. The radio can also provide a homing signal for search and rescue aircraft. Prepare visual or audible signaling devices for searchers to see or hear.

#### **14-7 Sleeping Areas**

1. Soldiers will sleep in approved sleep areas established IAW the unit's SOP. Commanders will ensure that sleeping area perimeters are designated and marked. Sleeping areas should be off natural lines of drift and protected by natural obstacles.
2. At a minimum, sleep areas that are established without tents or tents smaller than GP medium will be marked with white engineer tape that is Hip high and approximately 20 FEET from sleep area. At night, this area will have chem. lights placed no further than twenty feet apart. Vehicles placed as a barrier will be positioned so that they cannot roll into the sleep area and will always have chock blocks in place. IBCT units, dismounted without vehicle support, hence no pickets, will at minimum place engineer tape knee high, on rucksacks, rocks or brush, ensuring chem. lights are visible.
3. DO NOT sleep under vehicles. Leaders/drivers must verify that personnel are not sleeping under or near vehicles prior to movement.
4. No personnel will lay prone outside of designated and marked sleep areas during rest periods, tactical pauses / SOBE, in congested areas, collection points, field site operations areas, bivouac, or assembly areas.
5. A roving guard or guards will be posted with lights or other high-visibility signal device to warn approaching vehicle crews that there are troops on the ground. Guards will enforce the use of ground guides.

## 14-8 Vehicle Operation

1. General. Vehicle accidents are the number one cause of injuries/fatalities during training rotations at the NTC. Excessive vehicle speed and absence of ground guides are involved in most cases. Table 14-08 outlines rotational unit speed limits. However, personnel will not drive faster than is prudent, given road, vehicle, and driver conditions. When units are in contact, vehicles may execute tactical evasion drills and other maneuvers IAW unit safety risk assessment. Temporary high speed dashes are permitted providing vehicles are not within, or closing within 5/10/50 meter rule of other vehicles/personnel and provided life, limb, eyesight and property is not placed at undue risk. Unit commanders will establish limits/guidance for their Soldiers.

| Table 14-8<br>Training Speed Limits in the Training Area |                  |                |                   |
|----------------------------------------------------------|------------------|----------------|-------------------|
| Normal Daytime Conditions                                |                  |                |                   |
| Road Type                                                | Wheeled Vehicles | Track Vehicles | Convoy Operations |
| Improved Roads (4a)                                      | 35               | n/a**          | 20                |
| Unimproved Trails (4b)                                   | 25               | 20             | 15                |
| Limited Visibility Conditions                            |                  |                |                   |
| Road Type                                                | Wheeled Vehicles | Track Vehicles | Convoy Operations |
| Improved Roads (4a)                                      | 25               | n/a**          | 15                |
| Unimproved Trails (4b)                                   | 20               | 15             | 10                |
| Cross-Country                                            | 10               | 10             | 5                 |

\*\*Tracked vehicles, Strykers and maneuver force convoys will not operate on MSRs.

2. Vehicles and trailers, both RTU and OC/T, will utilize chock blocks while parked. No vehicle will be left unattended with the engine running.
3. Interception procedures. Units will not make physical contact between vehicles during pursuit, interception or other forms of contact. Tracked or wheeled vehicles that attempt to pursue or interdict civilian or paramilitary "role playing" vehicles must abide by the 50meter rule, visually signal the passengers of the intercepted vehicle to stop and exit the vehicle, and inform their accompanying OC/T of the action (e.g., stop and search, etc.).
4. Vehicles towing trailers or equipment will utilize unimproved trails speed limit during normal daytime conditions, limited visibility conditions and convoy operations.
  - a. Improved roads: Barstow Rd MSR, Langford Lake MSR, East Range Rd MSR, Bitter Springs MSR, Flagpole MSR, Silver Lake MSR, Pioneer/Debnam Pass MSR.
  - b. Unimproved Trails: Trails/Cuts/Passes that are not leveled or graded and have no visible maintenance but are recognizable to drivers.
  - c. Limited Visibility Conditions. Any environmental condition that impairs normal visibility; includes heavy dust, CTC-IS, night operations (under white light or NVGs), and inclement weather.
  - d. Where there is a speed limit sign, obey the posted limit.
5. COB-V Accidents. COB-Vs accidents will be reported in the same manner as an accident involving a military or government-owned vehicle. (Ex. DA 285-AB Feb 09 U.S. Army Abbreviated Ground Accident Report (AGAR)). Accident reports will be submitted through the responsible organization with a copy to the NTC Safety Office where any damage to a COB-V occurs involving a government-owned vehicle.
6. Unit commanders will ensure vehicle rollover and fire drills are conducted prior to deploying for the rotation and refresher training is conducted as part of RSOI operations. Rollover and Fire Drills will be rehearsed prior to the moving of vehicles. The Gunner Restraint System, (GRS), along with established rollover procedures, is a safety enhancement for turreted vehicle systems. Soldiers must be instructed to not rely solely on the GRS to prevent injury in the event of a rollover or vehicular accident.

## **7. Required Equipment.**

- a. **Headgear.** All soldiers must wear a combat vehicle crew, approved ballistic helmet, or flight helmet as appropriate, while operating or riding in tactical military vehicles at all times.
  - b. **Eye Protection.** Soldiers will wear Authorized Protective Eyewear List (APEL) eye protection while operating or riding as a passenger in Army motor/combat vehicles.
  - c. **Safety Restraints.** Safety restraints/seat belts are mandatory for all vehicle occupants in vehicles that are so equipped. All restraint devices must be serviceable. Vehicle systems with turrets that have an approved Gunner Restraint System must be mounted in the vehicle before that position may be occupied during vehicle movement.
8. **Intercom.** Tracked vehicles, and wheeled combat vehicles, such as Strykers, will have a working intercom from Driver to TC. Operators will additionally utilize ground guides whenever they are moving in or through congested areas, collection points, field site operations areas, bivouac, or assembly areas.
9. **Hatches.** Vehicle hatches will be secured using an approved locking pin or latching device at all times. Vehicles with broken hatch pins or latching devices will not be operated until proper repairs have been made or specifically authorized by the unit commander. For Bradley family of vehicles, or any vehicles with combat override, use of override is not permitted except by permission of unit commander (O-5) or higher.
10. **M1 Driver's Hatches.** The driver hatch of the M1 series tank will be closed whenever the tank is moving and/or whenever the turret is in operation.
11. **Load Plans.** All vehicles must have load plans and the vehicle's equipment will be secured IAW the load plan. Transport personnel only in vehicles with approved troop seats. DO NOT transport personnel in vehicle trailers/shelters. Personnel will be wholly contained within the body/sideboards of any vehicle. Secure safety straps and tailgates when transporting troops. All personnel will be seated when the vehicle is in motion.
12. **Antennas.** Tie down antennas when moving within the cantonment area. Cover antenna tips with a protective ball to prevent injury to personnel.
13. **TC/VC / Senior Occupant Requirements.**
- a. TCs / VCs will inspect vehicle load plans and correct deficiencies prior to moving vehicles. TCs/VCs will ensure a crewmember walks completely around the vehicle to check that no one is in danger and that the area is free of obstructions or material that could be impacted by the vehicle before moving. TCs/VCs must be in position before moving. TCs and Vehicle gunners must be nametag defilade in the TC hatch when the vehicle is in motion.
  - b. Ground guides will be utilized at all times when operating vehicles in the vicinity of, or while going through, congested areas, motor pools, parking areas, cantonments, assembly areas, bivouac/sleeping areas, field site operations areas, collection points, etc. Front and rear ground guides will be used when backing vehicles larger than M998 series vehicles. Ground guides will be used during limited visibility operations whenever the driver's visibility is so poor that he or she is required to reduce the vehicle speed to the speed of a brisk walk.
  - c. OC/Ts will park their vehicles outside the rotational unit's assembly area perimeter during limited visibility.
14. **Limited Visibility.** Take extra precautions while driving during the periods of limited visibility (night, dust, or less than optimum driving conditions). Personnel will reduce driving speeds to match conditions; maintain vigilance for such obstacles as barbed wire, tank ditches, wadis, on-coming vehicles, etc.; and dismount personnel to reconnoiter forward prior to moving vehicles. OC/Ts will mark their vehicles with a chemlight if they leave their vehicle unattended (i.e., dismounting with rotational counterparts) during hours of limited visibility to prevent collisions with other vehicles.

15. **Vehicle Running Lights.** The rotational unit chain of command will adjust light discipline measures based on the tactical situation and use infrared (IR) lights when tactically feasible. OC/Ts will operate IAW the level of light discipline set by their rotational counterparts if possible. OC/Ts may use the IR searchlight at their discretion for safety/accident prevention purposes. At no time will RTU units be authorized to use white lights on MSRs, unless directed by O1/O40 or 52ID, or during an emergency.
16. **Vehicle Searchlight Restrictions.** Vehicles equipped with searchlights will not use searchlights against helicopters at any time.
17. **Personnel WILL NOT sit or ride on top of moving vehicles.** Exceptions require approval by an O- 6 level CDR.
18. **MSR Restrictions.** Tracked vehicles, Strykers and maneuver force convoys will not operate on MSRs. This includes headquarters units that conducting movement to reposition their command posts. Only combat sustainment convoys or MEDEVAC activities are authorized on MSRs, unless directed by 52ID or OC/Ts. Within Outer Loop Road and south of the water tower on MSR Bull Run, tracked vehicles and Strykers may only cross hard surface roads at track crossing sites.
19. **All HMMWV variant operators will be licensed at home station.** Operators must also be certified to operate their HMMWV variant during hours of limited visibility with NODs. At NTC, a HMMWV variant operator is defined as the driver.
20. **Recovery missions.** Personnel will conduct recovery operations IAW ATP 4-31, Recovery and Battle Damage Assessment and Repair (BDAR). The Risk Management process is outlined in ATP 5-19.
  - a. Recovery personnel must observe safety at all times during any recovery operation. Before any recovery operation, they will do calculations, inspect tackle, and keep rigging references handy. A haphazard approach to recovery can lead to damaged equipment and severe injury or death.
  - b. Leaders will, at a minimum, conduct real time risk management for the recovery operation and communicate hazards and controls to the recovery team. Examples of operational risk assessments and common hazards are outlined in ATP 4-31 Chapter 5.
  - c. OC/Ts will ensure hazards and control measures common to NTC are observed and communicated to all personnel. Considerations will include the tactical situation as well as physical and tactical security of the site to prevent other vehicles and personnel from interfering with the recovery operation.

#### 14-9 UXOs Found in the Training Area

1. **Hazard.** The NTC has provided the military community with a long history of training that dates back prior to World War I. While many portions of the reservation have been surfaced cleared of live and dud munitions, both live and dud munitions continue to be found. Abide by maneuver and excavation restrictions listed in Chapter 5. Do not enter off limits or restricted areas. The following rules apply when you find live or dud ordnance in the field:
  - a. **Default to Danger.** Assume that all bombs, projectiles, canisters, and rockets are live ordnance.
  - b. **Stay Away.** Do not approach, touch, run over, or disturb UXOs.
  - c. **Marking.** Mark ordnance found IAW CTT standards. Mark all UXO using the NATO UXO markers, or, as an alternative, with pickets or stakes. Place chemlights and engineer tape three (3) feet off the ground so that they are visible from all approach routes.
  - d. **Report all UXO** using the standard 9-line UXO spot report through your unit chain-of- command for forwarding to the rotational EOD unit and DTOC.
2. **EOD Support.** During rotation, the rotational EOD company in support of the BCT will conduct a recon of ordnance items to evaluate and determine if they are live or training and determine what hazards exist. The rotational EOD unit is NOT authorized to reduce live ordnance. If the rotational EOD unit determines that the ordnance encountered is to be destroyed. Unit will construct protective works if required.

Information on all items destroyed or not destroyed by the rotational unit will be forwarded to the Ft Irwin EOD unit at the end of the rotation by the Sidewinder 18 team.

#### **14-10 Ammunition**

1. **Definition.** Ammunition and Explosives includes, but is not limited to, all items of U.S.-titled (i.e., owned by the U.S. Government through the DOD Components) ammunition; propellants, liquid and solid; pyrotechnics; high explosives; guided missiles; warheads; devices; and chemical agent substances, devices, and components presenting real or potential hazards to life, property and the environment. Excluded are wholly inert items.
2. **Pyrotechnics Safety.** Simulators pose hearing, fragmentation, smoke, fire, and burn hazards to unprotected personnel within Surface Danger Zone (SDZ) areas. Pyrotechnics will not be thrown toward unprotected personnel inside the SDZs (M115A2 – 35m; M116A1 Orange label – 30m; M116A1 Yellow label – 15m). Personnel are considered protected when shielded by suitable cover, such as armored vehicles, buildings, terrain, or within barricaded areas or pits. Observe all applicable warnings and cautions outlined in TM 9-1370-206-10 for pyrotechnic signals and TM 9- 1370-207-10 for pyrotechnic simulators.
3. **Storage.** The Installation Ammunition Supply Point (ASP) is the only authorized permanent ammunition storage site on the installation. For this chapter, the term (Field Storage Site (FSS)) applies to Field Ammunition Supply Points (FASP), Ammunition Transfer Points (ATP), and Ammunition Holing Areas (AHA). Field Storage Sites and use of CONEX containers will be governed by appropriate DoD, DA, and Local Installation regulations. Field Storage Sites may be established as long as they do not exceed 30 days and cannot be reoccurring on the same location. All Field ammunition operations safety requirements to include explosives safety distances still apply. Refueling operations should be conducted at least 50ft from the Field Storage Sites. If refueling in a Field Storage Site, it will be done 100ft from the nearest ammunition pallet, PLS Rack, or ammo stack. Personnel handling ammunition at a Field Storage Site will be MOS certified. Soldiers that are not certified will receive training required by DoD, DA, FORSCOM, and local installation regulations. Regardless of training, non-MOS certified personnel will be supervised by MOS trained personnel at all times.
4. **Blank and Live Separation.** Blank and live ammunition will be separated by the maximum extent possible. Blank and live ammunition will NOT be stored or transported on the same pallet. Blank and live ammunition will not be stored on the same PLS flat-rack. There will be a definite line of separation between blank and live ammunition during storage at all Field Storage Areas.
5. **Transportation.** Blank and live ammunition may be transported on the same vehicle, but must be separated prior to issue and during storage. Ensure that all ammunition and explosives are transported in the appropriate inner and outer shipping containers.
6. **Handling Hazards.** In the past, Soldiers have been seriously injured by improper handling of ammunition both Live and blank. Some examples include but are not limited to .50 Cal and small arms ammo, smoke grenades, signal devices, and explosive simulators. Do not utilize ammunition in place of proper tools. An example is utilizing a 50 Cal round in place of a hammering tool. Ensure ammunition and explosives remain in its original packing until they are ready to be issued to personnel and or weapons systems. Do not hold grenades, grenade and or artillery simulators in order to “cook off” before throwing. Ensure soldiers are trained in the proper employment of all types of ammunition that they will be utilizing.
7. **Turn-in.** Upon the completion of your exercise, return all ammunition, components, and residue to the ASP IAW unit SOP. Company/Troop Commanders will complete and sign the required “Download Certification Memorandum” and provide to their OC/T. The placement of ammunition in trash containers, chemical toilets, buried underground is strictly prohibited.
8. **Ammunition and Explosives Accidents/Incidents.** Ensure that all materials that are associated with the accident/incident are recovered. Examples are but not limited to Inner and outer packaging in order to preserve DODIC and Lot number identification, ammunition cartridges, primers, projectiles, ammunition issue and receipt paperwork, weapons systems. Once items have been collected or cordoned off, contact the NTC Ammunition LAR per NTC Regulation 385-64.

#### **14-11 Laser Device Operations**

1. The TESS is an eye-safe system and is not considered hazardous under training conditions at the NTC and Fort Irwin.
2. Ground forces are only permitted to use eye-safe lasers during force-on-force.
3. M2A2 ODS, M2A3 BFV, M1A2, and M1A2 SEP are equipped with the eye-safe Laser Range Finders and may be used during force-on-force.
4. Aiming Lights. Infantry Aiming Light, Infrared (AN/PAQ-4) is eye-safe and can be used during Force-on-Force. However, hand held and vehicular mounted laser range finders and designators (AIM-1, GCP) are prohibited during force-on-force operations. AN/PEQ-2s are also considered non eye-safe.
5. Airborne IR Lasers. During force-on-force training, the ACP-2, ACP-2A, and LITENING II pod (IR Marker) airborne IR lasers may be employed over ground personnel as long as the aircraft remain above 10,000 feet AGL and are actively monitored via the Air Warrior Measurement and Debriefing System (AWMDS) by the Raven Team and/or via active RADAR by Sundance. If the aircraft drop below 10,000 feet AGL, laser operations will be terminated by Raven white cell.

#### **14-12 Carbon Monoxide Poisoning, Toxic Smoke, and Fumes**

1. Hazard. A number of systems/devices produce toxic fumes on the NTC battlefield. Many of these are difficult to detect or have delayed effects.
2. Risk Reduction Measures.
  - a. Fuel Burning Heaters, Stoves, and Generators. Commanders will ensure that only authorized tent heaters are utilized at the NTC. Units will not use commercial off-the-shelf or locally purchased heaters in lieu of available type classified Army equipment, except: Acquisition of commercial off-the-shelf heaters is justifiable only in mission-critical circumstances. In those cases, units will obtain equipment meeting the requirements of a national standards organization, such as Underwriters Laboratories, American National Standards Institute, the International Standards Organization, or the National Fire Protection Association. Personal (individually owned) heaters are not authorized for use in Army operations. Do not operate generators, heaters, or gas burning stoves in poorly ventilated areas. Someone must be awake while heaters are being used.
  - b. Sleeping in Vehicles. Only authorized heaters will be used to heat vehicles. When vehicle heaters are used, hatches/windows will remain partially opened to allow circulation and to prevent carbon monoxide poisoning.
  - c. Signs and Symptoms of Poisoning. Be alert for symptoms of carbon-monoxide poisoning. The early symptoms of carbon monoxide poisoning often are mistaken for the flu. Symptoms include headache, dizziness, weakness, nausea, vomiting, sleepiness and confusion. Breathing very high concentrations of carbon monoxide can be lethal in minutes.
  - d. Exposure to HC smoke from AN-M8 white smoke grenades or smoke pots (HC smoke) or metallic powder obscurants can cause long term health effects and death in confined spaces. OC/T's will use common sense when deploying smoke and will avoid deploying smoke within the close confines of urban operations. Anytime exposure to smoke produces breathing difficulty, eye irritation, or discomfort in one individual will serve as a signal for all similarly exposed personnel to evacuate the immediate area. The exact nature of the smoke inhalation, namely HC white smoke, should be brought to attention of medical personnel.

#### **14-13 Serious Accident/Emergency Situation Procedures**

1. Red Pyrotechnics. Red pyrotechnics are only used to signal an actual emergency.
2. Personnel Actions. Personnel not required for MEDEVAC procedures will relocate or avoid coming within 500 meters of the MEDEVAC site and resume training as soon as MEDEVAC is completed.

**14-14 Serious Incident Reports.** Rotational units will report the following incident through the rotational chain of command to the 52ID / X Corps TOC and to unit OC/Ts.

1. Any accident involving personal injury or vehicle damage.
2. Any vehicle fire or flarebacks.
3. Any damage to the weapon system due to firing.
4. Any accident involving petroleum, ammunition, pyrotechnic, or demolitions.
5. Any other emergency or unusual incident which could have caused injury, severe damage, or loss of life.
6. Improper target ID and engagement.
7. Any unexploded ordnance.

**14-15 MEDEVAC Procedures.**

1. General. RTUs are expected to evacuate casualties IAW unit SOP. The RTU chain of command is responsible for ensuring that the MEDEVAC frequencies and procedures are known by all soldiers.
2. Heat Casualties. Soldiers will not be medically evacuated out unless their core temperature is equal to, or greater than 102.0 degree F. Core temperatures less than 102 should be controlled at the unit location using appropriate temperature reduction techniques (IV, ice sheets, shade, etc.). During high heat events when there is one heat casualty, there are likely more, and unnecessarily calling a MEDEVAC for a condition that can be resolved at the unit level consumes a critical asset that could be better applied against a more critical medical emergency. *Unit medical professionals can still make a call for evacuation if the situation warrants*
3. Unit Information. C/2916th Aviation (Air Ambulance) provides aeromedical evacuation and Weed Army Community Hospital, in conjunction with the NTC Fire Department, provides ground medical evacuation to all units training at the NTC for ACTUAL URGENT MEDICAL EMERGENCIES affecting the loss of life, limb, or eyesight. Requests for MEDEVAC HELICOPTER and use of NTC ground ambulance exchange/transfer points will be called directly to Fort Irwin Range Operations on FM frequency 38.90 (single channel/plain text), VHF 126.20, UHF 241.00, or NIPR (760) 380-3637/3878 using the NATO 9-line MEDEVAC request format including MIST. Requesting element will remain in contact with Range Operations until MEDEVAC is complete.
4. OC/Ts are trained in MEDEVAC procedures and will assist units experiencing difficulty requesting MEDEVAC using RCS Group 295. During loss of life, limb, or eyesight emergencies, OC/Ts will monitor the RTU response and intervene as necessary to limit any delay in emergency response. The OC/T on-site will provide an initial report to Team 07 and perform lifesaving measures with RTU medics. Ensure that a physician is requested if there is a possibility of a fatality. Secure site for possible investigation and establish the HLZ if the RTU is unable. Report status of MEDEVAC to Warrior TOC, TAFF, and keep Team 07 informed of patient status. Team 07 will provide an overall report to the COG once the patients are evacuated. Team TAFF will send an NTC Safety Incident Report upon completion of Team 07 updates.
5. Helicopter Landing Zones. Pilots may reject LZ and land elsewhere. Remain available on specified frequency. Do not use ground guides to assist in landing aircraft. Sites should be as flat as possible. If "H" pad is nearby, use it. Pick an area that is free of large rocks, brush, commo wire, and barbed wire.
6. Use of smoke (red) is the preferred method of marking the LZ during daytime. Only pop smoke once requested by the pilot.
7. Use of twirling (buzz saw) chemlight at the end of a 3 foot piece of rope is the preferred method of marking the LZ during night time. Use only orange, white, red, or IR chemlights. Crews use NVGs on all night missions. Turn off all vehicle lights while aircraft is on approach. Only use a star cluster (red) upon request from the pilot.

| NATIONAL TRAINING CENTER HELICOPTER LANDING ZONES |                                                              |                    |
|---------------------------------------------------|--------------------------------------------------------------|--------------------|
| IDENTIFIER                                        | DESCRIPTION                                                  | GRID LOCATION      |
| ASP                                               | ASP HELIPAD                                                  | 11S NU 29500 98050 |
| BAB                                               | BICYCLE LAKE ARMY AIRFIELD                                   | 11S NV 33140 03140 |
| C2                                                | C2 FACILITY HELIPAD                                          | 11S NV 47660 26920 |
| CL                                                | CHAH-E LANGFORD / GUBA HELIPAD                               | 11S NU 35374 96974 |
| ES                                                | ERTEBAT SHAR / UJEN HELIPAD                                  | 11S NV 36770 11862 |
| JDL                                               | JAHEL DAR LAD-E / DEZASHAH HELIPAD                           | 11S NV 21618 19455 |
| LF                                                | LIVEFIRE BUNKER HELIPAD                                      | 11S NV 46532 27614 |
| LSA                                               | LSA WARRIOR / GARDAKERT HELIPAD                              | 11S NV 30465 01768 |
| MIA                                               | FOB MIAMI / NAJALABAN HELIPAD                                | 11S NV 58821 05396 |
| MPH                                               | MAIN POST HELIPAD                                            | 11S NV 28440 02689 |
| SDJ                                               | SHARQ DARWAZA JAME'A / BARASU HELIPAD                        | 11S NV 59162 15924 |
| ST                                                | SHAR-E TIEFORT / RAZISH HELIPAD                              | 11S NV 44085 10079 |
| ZUL                                               | ZULU TOC HELIPAD                                             | 11S NV 49540 29360 |
| NTC GROUND AMBULANCE EXCHANGE/TRANSFER POINTS     |                                                              |                    |
| AXP BICYCLE LAKE                                  | MSR Bull Run light line (Barstow Road)                       | 11S NV 31633 05139 |
| AXP LANGFORD LAKE                                 | Long Island light line (Langford Lake Road) IVO Building 851 | 11S NU 31662 97812 |
| AXP GOLDSTONE                                     | NASA complex (Goldstone Road & Pioneer Road)                 | 11S NV 12207 13324 |
| AXP PAINTED ROCKS                                 | IVO Painted Rocks on Fort Irwin Road                         |                    |

| NTC MEDEVAC REQUEST CARD                                                                                                                                                                            |                                                                                                                                                                                                                                                      |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <div> <div>PRIMARY: SINGGARS<br/>SC / PT 38.900 to Range Operations</div> <div>SECONDARY: RCS<br/>Group 295 to Range Operations</div> <div>CONTINGENCY: PHONE<br/>380-760-3878 OR 3673</div> </div> |                                                                                                                                                                                                                                                      |  |
| LINE                                                                                                                                                                                                | ITEM                                                                                                                                                                                                                                                 |  |
| 1                                                                                                                                                                                                   | Location of Pickup Site                                                                                                                                                                                                                              |  |
| 2                                                                                                                                                                                                   | Radio Frequency, Call Sign, Suffix                                                                                                                                                                                                                   |  |
| 3                                                                                                                                                                                                   | No of Patients by Precedence<br>A = Urgent, B = Urgent-Surg, C = Priority, D = Routine, E = Convenience                                                                                                                                              |  |
| 4                                                                                                                                                                                                   | Special Equipment Needed<br>A = None, B = Hoist, C = Extraction equipment, D = Ventilator                                                                                                                                                            |  |
| 5                                                                                                                                                                                                   | No of Patients by Type<br>L = Litter, A = Ambulatory                                                                                                                                                                                                 |  |
| 6                                                                                                                                                                                                   | Number and type of Wound, Injury, Illness                                                                                                                                                                                                            |  |
| 7                                                                                                                                                                                                   | Method of Marking Pickup Site<br>A = Panels, B = Pyrotechnic signal, C = Smoke Signal, D = None, E = Other                                                                                                                                           |  |
| 8                                                                                                                                                                                                   | Patient Nationality and Status<br>A = US military, B = US civilian, C = Non-US mil, D = Non-US civilian, E = EPW                                                                                                                                     |  |
| 9                                                                                                                                                                                                   | Terrain Description (Peacetime)<br>Include details of terrain features in and around proposed landing site. If possible, describe the relationship of site to a prominent terrain feature (lake, mountain, tower)                                    |  |
| 10                                                                                                                                                                                                  | MIST= Mechanism, Injuries, Signs, Treatment<br>Mechanism - (What caused the injury)<br>Injuries - (What are the casualties injuries)<br>Signs - Blood Pressure<br>Pulse<br>Respirations<br>SPO2 (Pulse Ox)<br>Treatment Given to include Medications |  |

#### 14-16 RCS S.O.S. Procedures.

1. **General.** All Operations Group OC/Ts and contracted personnel entering the box are required to carry and monitor their RCS. If during a rotation, the personnel are required to notify their respective TAFF or Range Control of when they enter and leave the box. If outside of the rotational schedule, the personnel are required to notify Range Control of entering/leaving the box as well as intended location they are traveling to.
2. **RCS S.O.S. Procedures.** All RCS and attachable hand mics have an Emergency S.O.S. call button (see images 14-1 and 14-2). This button is to be pressed if personnel become injured in any way where they require Medical help. Once pressed, the S.O.S. sends out a broadcast call across all stations with the person's RCS LID. Once the S.O.S. is received, Range Control is required to:
  - a. Direct dial the RCS LID that sent the S.O.S. and confirm whether the individual is injured or if they accidentally pressed the S.O.S. button by mistake.
  - b. If the person is injured, Range control will obtain all information required and initiate the MEDEVAC Procedures as listed in 14-8. If near the RTU, the OC/T is allowed to request medical assistance from the RTU until the MEDEVAC has arrived.
  - c. If the S.O.S. button was activated by accident, Range Control will confirm and receive an "All Clear" from the OC/T and then notify the DTOC and give the "All Clear."
3. **Unresponsive RCS S.O.S. Procedures (Search and Rescue).** If Range Control fails to establish communications with the OC/T LID that activated the S.O.S. call button, Range Control will execute the following steps in order to determine if a Search and Rescue mission is necessary and if so, to properly execute the mission:
  - a. Notify the responsible Team TAFF of the situation in order for the TAFF to try and make contact over



the Team internal Group Channels.

- b. Obtain from the Team TAFF the OC/T's: Name, Rank, Call Sign, Cell Phone #, Travel plan/last known location, vehicle description, POC and means of communication with parent unit, and possible places they may be if they are not in the desert.
- c. If Team TAFF cannot make contact with the OC/T after 5 minutes, Range Control will notify the DTOC (if active) and EOC of the current situation.
- d. After DTOC notification, Range Control will make a blanket call on FM 38.90 and RCS giving a description of the missing party, request that anyone who may have seen the missing party to call Range Operations.
- e. Range Control will make a blanket missing party/request for assistance call three more times in ten minutes. If no result, Range Control will notify the Provost Marshal (PM), DTOC (if operational) and (EOC) of status. Request guidance from EOC on further actions to be taken. If contact is made initiate accident/incident report and MEDEVAC if required. NOTE: The NTC OEC is responsible for determining if a Search and Rescue Operation is to be initiated.
- f. If EOC determines that a search and rescue needs to be initiated, Range Control will broadcast on FM 38.90 and RCS that a search and rescue operation is underway. The same rules apply as for a "Crash Phone."
- g. Once the party has been found, Range Control will coordinate with DTOC to reopen the radio nets for normal operations.



# **National Training Center EXOP**

## **ANNEX A AFTER ACTION REVIEW STANDARDS**

This document is the "SOLE SOURCE" for rotational units addressing battlefield simulation.  
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**JUNE 2025 (FY25)**

## **Annex A After Action Review Standards**

- A-1 Overview**
- A-2 OC/T Standards of Conduct**
- A-3 Instrumentation Capabilities**
- A-4 Preparation for an AAR**
- A-5 Informal AAR**
- A-6 Formal AAR**
- A-7 TAFF and Building the TF/BDE AARs**

### **A-1 Overview**

1. An AAR is a professional discussion of a training event that enables Soldiers/units to discover for themselves what happened and develop a strategy for improving performance. Facilitators provide an overview of the event plan (what was supposed to happen) and facilitate a discussion of what happened during execution. This leader's guide supports the Army training doctrine in ADP 7-0 and ADRP 7-0 (Training Units and Developing Leaders) and FM 7-0 (Train the Force). The concepts and processes in this Chapter are applicable to all units and are based on the lessons contained in the Leader's Guide to After-Action Reviews (AAR) dated December 2013.
2. Unit arriving expect a dynamic training experience with candid, relevant feedback grounded in current doctrine. OC/T's must be focused on facilitating focused discussion to identify areas of improvement.
3. AARs should follow the same four steps:
  - a. A review of what was supposed to happen.
  - b. Establish what did happen.
  - c. Determine what was right or wrong with what happened.
  - d. Determine how the task should be done differently next time.

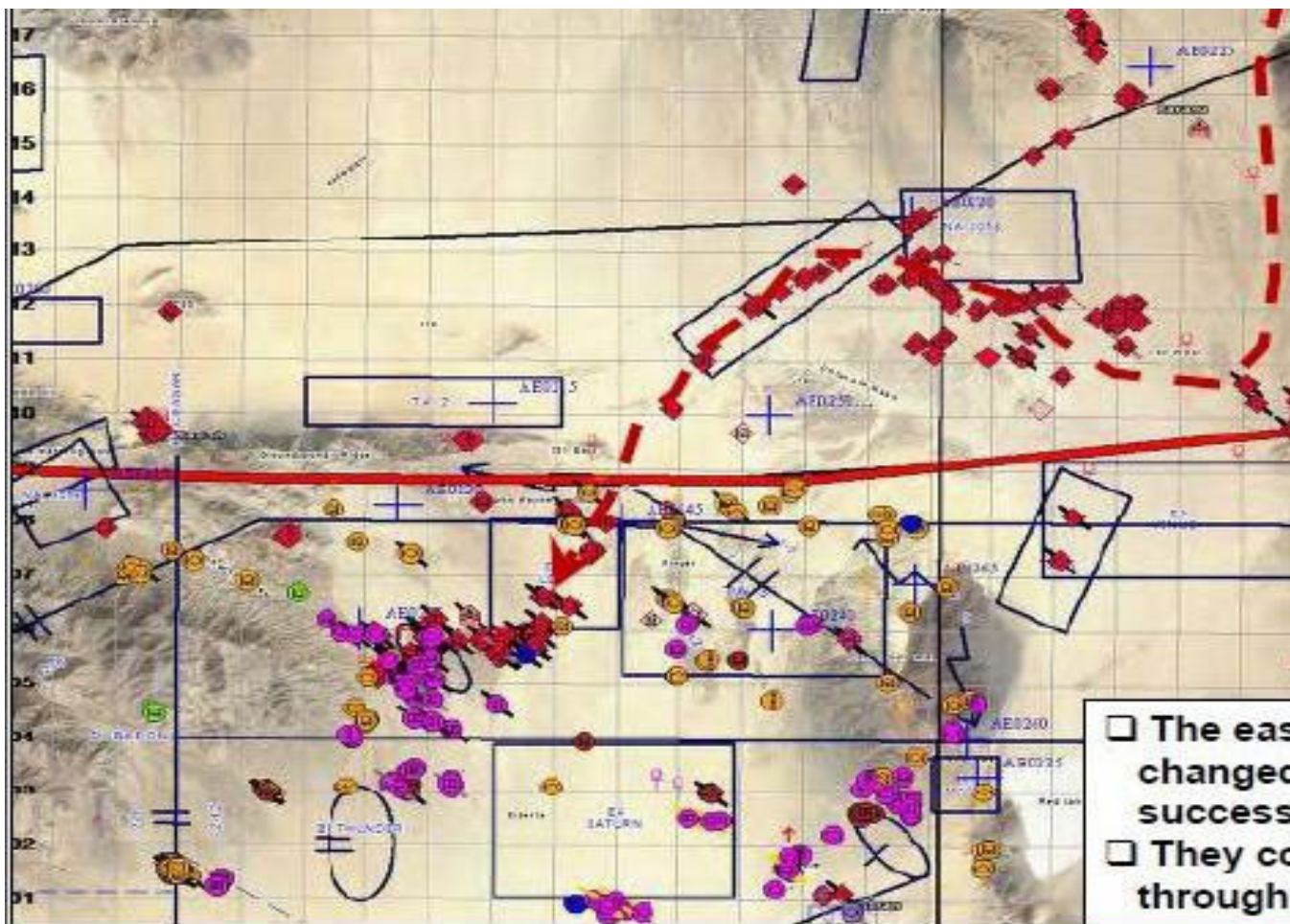
### **A-2 OC/T Standards of Conduct.**

1. OC/T's uniform will meet the following standards when interacting with the RTU:
  - a. ACH or authorized headgear, FLC, Eye Protection, and Gloves are minimums.
  - b. RCS radio will either be silenced or used with an earpiece.
  - c. Truck mounted radio speakers should be silenced to ensure scenario integrity.
  - d. No profanity, tobacco, or eating should be conducted while engaging RTU counterparts.
2. Establish eye to eye contact during the AAR to facilitate professional communication and build the trust relationship necessary to share candid opinions on performance of the unit.
3. The OC/T communicates what should have happened within the Army's doctrinal framework. OC/T's will inherently pull from personal experience in their duties but should make every attempt to ensure doctrinal principles are reinforced.

### **A-3 Instrumentation Capabilities.**

1. RTU Performance Metrics against expected outcomes.
2. Doctrinal References.
3. "A Way" Teach Slides with TTP's and Best Practices.
4. Commo Cuts from the RTU's radio nets.

## 5. CTC-IS Screenshots and Playback video of the Battle focused on a selected unit.



### A-4 Preparation for an AAR.

1. Blackhorse Leaders #1 Priority after securing men, weapons, and equipment is to participate and provide feedback from the OPFOR perspective.
2. Focused attention must be given to scheduling the AARs to ensure each echelon knows what resources are available to prepare and execute.
3. Scheduling AAR windows starts with planning SOBE windows and continues through confirming locations while reading SOBE instructions. The following must be considered when planning AAR timelines:
  - a. BDE Consolidated AARs normally occur at least twice a rotation.
    - i. BN/BDE CDR AAR: a formal AAR facilitated by the COG for BN and BDE command teams and select BDE primary staff.
    - ii. Senior NCO AAR: a formal AAR facilitated by Outlaw 40 for all 1SGs and above.
  - b. BN/TF AARs
    - i. TF CMD AAR: executed at least twice during the rotation with instrumentation tied to an AVI Site or AAR Van.
    - ii. CP AARs: executed by Team 02/03 at the Main or Alternate CP. Usually occurring off cycle from TF CMD AARs.iii. TF Hotwash AARs are conducted during SOBE when instrumentation is not available. Typically these TF Hotwash AARs occur during TD6; timeframe can be defined

- in rotational construct.
- c. **Platoon / Company AARs**
    - i. **Formal AARs:** OC/T's will make every effort to provide each Company an instrumented AAR per rotation. Priority is given to Maneuver Companies and Fires Batteries.
    - ii. **Informal AARs** occur after every phase to include RSOI. Priority is for Platoon AARs to occur prior to Company AARs.
  - d. **Warfighting Function AARs.** Sustainment, Intelligence, Signal, and Fires will execute consolidated Formal AARs, as required, throughout the rotation.

#### **A-5 Informal AAR**

1. Classically defined by a face-to-face discussion reviewing notes from a green book focused on the unit's training objectives. Care must be taken to ensure the AAR does not turn into a checklist completion review, but is a professional discussion of specific event(s) based on training objectives, performance measures, and the commander's intent.
2. Platoon "Hot washes" are an informal AAR conducted after a battle phase utilizing the OC/T's personal notes, TAFF observations, and a review of the collective tasks executed by the platoon.
3. Company "Hot washes" are the norm for most phases deconflicted against Platoon and Higher Headquarters' AARs.

#### **A-6 Formal AAR**

1. Defined as a prepared production usually associated with greater than 6 hours to prepare and lasting no more than 2 hours. Defining characteristic of a formal AAR is the inclusion of training aids.
2. Equipment can include but is not limited to a Tri-fold Board, Projection Terminals, Wired Trailers, and Audio Visual Instrumentation sights.
3. External leaders and external OC/T led discussion focusing on results of targeted collection efforts.
4. TF Formal AARs will be executed at least twice during a rotation.

#### **A-7 TAFF and Building the TF/BDE AARs**

1. The Tactical Analysis and Feedback Facility is designed to capture performance of the unit through its instrumentation system; data collection from OC/Ts; and access to external data sources and agencies. The TAFF's primary mission is to provide the TF and BDE level staff pointed feedback on their performance – "The Proof".
2. Take Home Packets are designed to provide the RTU with consolidated AAR products to drive home station training and lesson learned adoption. The following items can be included in the unit's take home packet:
  - a. **Formal TF AARs**
  - b. **Sanitized Photos** ensuring no spillage occurs
  - c. **Audio/Visual Products** produced on the RTU's behalf
  - d. **Executive Summary** to verbalize training highlights and training deficiencies to help guide future planning efforts.



# **National Training Center EXOP**

## **ANNEX B LIVE FIRE EXERCISE**

This document is the "SOLE SOURCE" for rotational units addressing battlefield simulation. Local reproduction of this publication "IS AUTHORIZED".

**JUNE 2025 (FY25)**

## **Annex B – Live Fire Exercise (LFX)**

- B-1 Overview**
- B-2 Pre-Deployment Period**
- B-3 Deployment and RSOI Period**
- B-4 Force on Force Training**
- B-5 Live Firing Training**

### **References:**

1. AR 385-63 (Range Safety), January 2012
2. AR 385-63 (Range Safety), June 2025
3. DA PAM 350-38 (Standards in Weapons Training), September 2022
4. DA PAM 385-30 (Risk Management), December 2014
5. FM 3-09 (Fire Support and Field Artillery Operations), April 2020
6. FM 3-22.3 (Stryker Gunner), March 2006
7. TC 3-04.3, (Aviation Gunnery), March 2019
8. TC 3-09.8 (Fire Support and Field Artillery Certification and Qualification), March 2020
9. TC 3-20.0 (Integrated Weapons Training Strategy), June 2019
10. TC 3-20.21-1 (Individual and Crew Live Fire Prerequisite Testing), July 2010
11. TC 3-20.31 (Training and Qualification, Crew), March 2015
12. TC 3-20.31-1 (Gunnery Skills Test), November 2015
13. TC 3-20.33 (Training Qualification and Mortars), August 2017
14. TC 3-22.9 (Rifle and Carbine), May 2016
15. TC 3-22.23 (M18A1 Claymore Munition), November 2013
16. TC 3-22.90 (Mortars), March 2017
17. TC 44-117.21 (Avenger Team Crew Training), September 2008
18. TM 3-34.82 (Explosives and Demolition), March 2016
19. ATP 3-21.8 (Infantry Platoon and Squad), April 2016
20. ATP 3-06 (Urban Operations), July 2022
21. ATP 3-90.5 (Combined Arms Battalion), July 2021
22. ATP 3-37.34 (Survivability Operations), April 2018
23. ATP 3-09.30 (Observed Fires), September 2017
24. FORSCOM Regulation 350-50-1, October 2018
25. AFI 11-214 (Air Operations Rules and Procedures), June 2021
26. JP 3-09 (Joint Fires Support), April 2019

### **B-1. Overview**

1. The Dragon LFX OC/T Team oversees NTC LFX operations and is the final authority for effective and safe execution. Adherence to all prerequisite events during RTU home station training and RSOI is the responsibility of the embedded Dragon OC/T ICW the RTU and the unit's respective OC/T team. The Dragon OC/T will provide planning support recommendations and restrictions to the TF OC/T team and the RTU leadership IOT accomplish their training objectives within the exercise scenario.
2. Governing Regulations. Live Fire exercises (LFX) at the NTC are tactical operations conducted IAW the NTC EXCON OPOD, AR 385-63, DA PAM 350-38, and the NTC EXOP. Rotational units are required to apply Surface Danger Zones (SDZs), Weapons Danger Zones (WDZs), Minimum Safe Distance (MSDs), and restrictions IAWAR 385-63 for all weapon systems during LFX training. Operations Group provides rotational units with deviations from AR385-63 approved by the Commanding General of Fort Irwin and the National Training Center. Deviations permit the RTU to conduct effective and safe LFX training under more realistic conditions not normally seen at home stations. Rotational commanders must employ necessary control measures to mitigate accidental and tactical risk IAW DA PAM 385-30. All RTU will consult with respective OC/T teams and the Dragon Team for any planning considerations.
3. NTC Deviations

- a. **Range Marking Deviation:** Allows RTU to conduct NTC LFX operations without displaying warning signs, 'limit of fire' markers, or vehicle signal flags/lights. In addition, rotational rotary wing aircraft may conduct LFX without marking start and cease-fire lines for running fire and firing positions for hover fire.
- b. **Impact Area Deviation:** Allows rotational forces, OC/Ts, and approved contractors/visitors to maneuver through the LFX impact area where dud producing munitions have impacted prior to surface clearance operations. This deviation also allows rotational units to conduct controlled digging in temporary and surface cleared inactive impact areas. This deviation also establishes the Dud Effects Line.
- c. **MICLIC SDZ Deviation:** Allows a 'buttoned-up' M1 plow tank alongside the MICLIC firing vehicle in Area F. RTU personnel and OC/T in armored vehicles may occupy the fragmentation zone behind the MICLIC firing line. Vehicles and personnel with tactical relevance to the current tactical operation and their OC/Ts may occupy the noise hazard contour behind the MICLIC firing line.
- d. **Dynamic Entry Deviation:** Allows personnel to occupy positions within the 300-meter Missile Hazard Distance (MHD) for explosive charges less than 12.27 kilograms (27 pounds), where the primary explosive is detonation cord, to allow the assault force immediate access to the target. In addition, the detonation of charges at specifically prepared sites is not required.
- e. **GMLR SDZ Deviation (Suspended since 1 OCT 18\*)**
- f. **Artillery SDZ Deviation:** Authorizes units to occupy Danger Areas A, B, and C of the indirect fire weapon system SDZ through established Minimum Safe Distances (MSD). Also reduces Danger Area E for indirect fire systems from 725M to 350M for 155mm and from 350M to 300M for 105mm. Allows RTU, OC/Ts, and contractors/DA Civilian personnel with a valid requirement to enter Danger Area E.
- g. **Excalibur Deviation:** (Rescinded on 7JUN24)
- h. **Dry Fire Rehearsal Deviation:** Allows RTUs to forego a "dry run" rehearsal prior to executing maneuver live fire operations during Active Component rotations. This deviation is required to allow the RTU at the NTC a more realistic training environment similar to combat operations. This deviation is not authorized during National Guard rotations. To mitigate risk, the RTU must confirm that units are certified at echelon IAW TC3-20.0 Integrated Weapons Training Strategy for all collective tasks and battle drills to be executed, OC/Ts will observe the previous ten days' force-on-force training to identify potential inabilities to execute safely, and ensure all echelons execute required rehearsals and procedures associated with Fit to Fight standards in this Annex. (B-5, 4a) to include a combined arms rehearsal incorporating SDZs and control measures. RTU during ARNG rotations will conduct dry run rehearsals in accordance with AR 385-63.
- i. **Cone SDZ and 15-Degree Flanking Fire Deviation:** Allows shoulder-fired small arms (carbines and machine guns on bipod - 5.56mm and 7.62mm) to fire within 15 degrees of the flank of a maneuvering unit. Also allows flanking fire within 100m, but no less than 15 degrees, of the maneuvering individual or unit for all ground-mounted and vehicle-mounted small arms machine guns. This deviation provides realistic training with suppression elements and to build confidence while firing within close proximity to maneuvering forces.
- j. **Brazier Breach Deviation:** Allows improvised shape charge breaches utilizing a picket and C4 (Brazier Breach) on wire obstacles. This allows the breaching element to utilize an MSD of 20 meters in the line of axis in defilade. This deviation provides realistic training with breaching elements and to build confidence while conducting dismounted wire breaches on objectives.
- k. **Bangalore Breach Deviation:** Allows breaching elements to utilize an MSD of 100meters in the line of axis under defilade and 200 meters lateral MSD per 5 feet of Bangalore torpedo utilized. This deviation provides realistic training with breaching elements and builds confidence while conducting dismounted wire breaches on objectives.

- I. **Dragon's Teeth Satchel Charge Deviation:** Allows improvised satchel charge breaches utilizing C4 on Dragons teeth obstacles. This allows the Breaching element to utilize MSD of 100 meters in approved armor vehicles and 200 meters in defilade. This deviation provides realistic training with breaching elements and to build confidence while conducting dismounted wire breaches on objectives
4. **General.** The NTC LFX is a tailorable and scalable training exercise based on the training objectives set by the rotational unit Senior Trainer and the FORSCOM Commander. Training may incorporate numerous tactical tasks against a dynamic opposing force in a live-fire environment with realistic battlefield effects. NTC LFX is not a traditional range package but a force-on-force scenario under live fire conditions. The guidelines in the NTC EXOP apply during LFX operations unless otherwise specified in this annex. Annex B facilitates combined arms operations, integration of joint fires, and employment of organic capabilities attached to the RTU for the rotation. RTU commanders are responsible for the planning, preparation, and execution of all LFX operations and meeting minimum home station training requirements, as directed in this document and per current STRAC, IWTs, and currently applicable doctrine.

## **B-2. Pre-Deployment Period**

1. **General.** RTU conducts home station training IAW current FORSCOM training guidance and Senior Trainer training objectives. RTU are encouraged to continue coordination with the Dragon Team throughout its pre-deployment planning and training process.
2. **Leader Training Program (LTP)**
  - a. LTP is where direct coordination between the RTU and the Dragon Team begins.
  - b. RTU leaders, staff, and Master Gunners will attend an LFX briefing provided by Dragon 07 and 40 IAW the published LTP schedule. The brief provides current capabilities, a specific scenario overview, detailed guidance on RTU development of LFX memorandums and waivers, and the specific support provided by the Dragon Team throughout the LFX planning and execution process.
3. **RTU Firing Status Memorandums, Waivers, Crew Rosters, and TULSA Gun Cards.** These memorandums list all RTU firing elements that will train at NTC, providing a status of qualified and unqualified systems at echelon. Dragon 40 provides example memorandums to the RTU at approximately D-45. RTU memorandums and waivers must reflect the same information. All battalion-level units will submit a memorandum signed by the commander. The BCT will submit a consolidated BCT-level memorandum signed by the commander, with supporting battalion-level memorandums, to the Dragon Team by Main Body deployment to allow review before RSOI 1.
  - a. **RTU Firing Status Memorandums and Crew Rosters.** Units that do not meet prerequisites for LFX operations, as detailed in FORSCOM training guidance and this EXOP, may submit a waiver for an exception to policy to meet training objectives. Dragon 40 provides an example LFX waiver to the RTU at approximately D-45. Submission and processing of waivers are an RTU responsibility. The approval authority for all LFX waivers is the RTU Brigade Commander, with final endorsement by the COG. Occasionally a unit commander determines that a specific echelon will not participate in LFX due to a lack of qualification or training proficiency. A waiver is not required in that case, but the decision will be accurately reflected in the RTU Firing Status Memorandum. Waivers will be submitted with unit memorandums and updated crew rosters by Main Body deployment to allow review before RSOI-1.
    - i. **Citations.** Waivers will be specific to the Soldier, crew, section, platoon, or company echelon. All waivers will identify the specific NTC EXOP directive or requirement the RTU requests to waive. Waivers will also include appropriate doctrinal references that apply. Waivers include a detailed statement of the request for the waiver and measures employed by the chain of command to mitigate the risk inherent in the request. Mitigation measures include but are not limited to; specific pre-rotational training conducted, employment restrictions, and leader tasks. The POC for waivers is the Battalion/Squadron S3. Signature blocks are provided for the Battalion/Squadron Commander and the BCT Commander.

- ii. Battalion-level and BCT commanders are the only approved unit signature authorities for LFX waivers.
  - iii. Submitting unit waivers is not an approved substitute for a failure to meet FORSCOM-350-50-1 directed training guidance or planned unit training objectives, nor are they a guarantee of COG approval.
- b. **Additional Required Documents.** During the MG Brief on RSOI-1, each BN and attachment will provide updated TULSA Gun Cards (if applicable) for review by their OC/T Team.
- c. **Interoperability Considerations**
  - i. Multinational units participating in Force on Force Under Live Fire Conditions must submit a letter of qualification on RSOI-1, by echelon and signed by their highest-ranking officer undergoing training at NTC. The Dragon Team will determine the IWTS equivalency by translating the proficiency level onto the Firing Status Memorandum. The COG and/or Multinational RTU commander may elect specified integration restrictions for the offense and/or defense LFX. If partnered with US Armed Forces, endorsements are authorized (i.e. SFAB).
  - ii. Multiservice units participating in Force on Force Under Live Fire Conditions must submit the Firing Status Memorandums per their service regulations.
- 4. **Range Operations.** Coordination for NTC LFX training ranges before and during RSOI is an RTU responsibility. The RTU will coordinate its requirements with NTC G3 Range Operations during its PDSS. This does not explicitly apply to RTU LFAST & Zero and Field Artillery Calibration conducted in the BCT TAA during RSOI week.
- 5. **Pre-Requisites by Warfighting Function.** The NTC requires the RTU to arrive with qualified (proficient) echelons IAW FORSCOM Regulation 350-50-1 and TC 3-20.21-1 (Individual and Crew Live Fire Prerequisite Testing). Regardless of component, formation, or unit, all qualifications, certifications, and proficiency ratings are valid for 12 months unless stated explicitly within a relevant training publication.
  - a. **Indirect Fire Systems.**
    - i. **General Artillery/Mortar Certification.** Artillery/Mortar certification is a rotational unit responsibility. All commanders will ensure crews are certified IAW FORSCOM Regulation 350-50.1, understand the NTC EXOP, and follow the procedures described in the weapon technical manuals. Units requiring certification/qualification of their Fire Direction Center will coordinate with OC/Ts to ensure certification/qualification takes place before any live fire in support of maneuver elements. Certification and qualification will be per TC 3-09.8, for field artillery; TC 3-20.33, for mortars; and Battalion SOPs. The RTU administers certification and qualification processes. OC/Ts will advise but not certify.
    - ii. **Field Artillery.** The RTU Field Artillery Master Gunner will submit a qualification memorandum for all Field Artillery/Fire Direction Tables VI, XII, XV, and XVIII; Fire Support Tables VI, IX, XII, XV, and XVIII; and Counterfire Tables VI and XVIII to the Wolf Team and Dragon Team.
    - iii. **Mortars.** RTU Battalion/Squadron Master Gunners will submit a section qualification memorandum to their OC/T teams and Dragon team.
    - iv. **National Guard units** are not required to meet Table XVIII.
    - v. **Home Station Equipment Maintenance Data Requirements.** Mortars and howitzers brought from home station will have their DA 2408-4 (Weapon Record Data), with a current bore scope and pullover gauge data completed within the timeframe prescribed in the weapon's technical manual. In addition, firing battery commanders will verify the completion of fire control alignment tests and notify firing battery OC/Ts of completions before conducting live fire or

calibration exercises. Artillery battalions will deploy operational chronographs for all howitzers to conduct powder lot calibration before the live fire.

- vi. All Joint Fires observers are certified to perform target coordinate mensuration.
  - vii. Field Artillery units need to be certified through ATXV to support any company, battalion, or brigade combined live fire exercise. IAW TC 3-09.8 (Artillery Tables) (Chapter 11, Figure 11-70).
- b. **Mortar Training Requirements.** Infantry Mortar Leaders Course (IMLC) Additional Skill Identifier (ASI) B1 requirements: Each echelon of employment will have a minimum of one Infantry Mortar Leader Course graduate with the B1 additional skill identifier (ASI) to serve as the FDC Computer. For example, if all tubes are consolidated into a Platoon, only one IMLC graduate is required. If the platoon operates as two sections, one IMLC per section is required. For the mortar platoon to conduct roving gun operations, each roving gun squad will have an ASI B1-certified Squad Leader assigned to it.
- c. **Air Defense**
- i. **Qualification Memorandum.** Units intending to employ any ADA system will submit a qualification memorandum to the Dragon Team documenting the crews, by name, who have completed the required qualification events IAW all applicable qualification standards on their unique pieces of equipment.
  - ii. **Live Stingers.** Any live Stinger operations will be coordinated NLT 30 days before the beginning of rotation to enable appropriate coordination for OC/T resourcing and live fire area deconfliction. Units will coordinate for targets and target operators before arriving at NTC. Stinger targets should be coordinated through the Cruise Missile Defense System (CMDS) Project Office, SFAEMSL-CMDS, at Redstone Arsenal, AL.
- d. **Protection**
- i. **Hand grenades.** Soldiers will have negotiated a hand grenade course within 12 months (AC and RC/NG) IAW DA PAM 350-38 (approved current FY STRAC) and thrown a live grenade within one year.
  - ii. **Construct a Modernized Demolition Initiator (MDI)/Detonating Assembly.** Demolition's training standards. 90% of assigned Soldiers with an SM requirement will have constructed demolition firing systems and primed explosives for live fire to SM standards (Task# 052-193-1311, Prime Military Explosives) within the past 12 months (AC). For RC/NG, 80% of assigned Soldiers with an SM requirement will have constructed demolition-firing systems and primed explosives for live fire to SM standards every 12 months (RC/NG).
  - iii. **Create a Crater Obstacle using Explosives.** Shaped Charge/Cratering charge standard. All Combat Engineer Squads will have employed inert and live demolitions to create a three-hole hasty road crater to collective task standards (Task# 05-PLT-2017: Create a Crater Obstacle Using Explosives) within the past 12 months (AC and RC/NG).
  - iv. **Create a Lane through an Obstacle Using Explosive Techniques.**
  - v. **Bangalore torpedo standard.** All Combat Engineer Platoons will have employed a live Bangalore torpedo to collective task standards (Task# 052-193-2101, Direct Emplacement of a Bangalore Torpedo) within the past 12 months (AC and RC/NG).
  - vi. **MICLIC standard.** The MICLIC strategy applies to units assigned MICLICS by TO&E.
  - vii. **Each squad assigned a MICLIC will employ it to standards (Drill Number: 05-SQD-D0003, Reduce an Obstacle with a Mine Clearing Line Charge (MICLIC) using a Live Rocket / Inert Tub**

at home station annually.

- viii. Each engineer platoon will employ one assigned MICLIC to standards (task: Create a Lane through an Obstacle Using Explosive Techniques) using a Live Rocket / Inert Tub at home station annually.
- ix. ABV standard (MILIC). Sidewinder OC/Ts will verify AVB crews are current and qualified before ABV MICLIC is employed. Combat engineer companies will have employed the MICLIC (Task#05-CW-1013 Create A Lane through An Obstacle Using an Assault Breacher Vehicle (ABV)) using six inert line charges at home station within the past 12 months. NOTE: The only fuse authorized for use with the ABV is the M1134A4 (A4) fuse. MICLICS w/ NSNs 1375-01-326-9642 and 1375-01-471-6793 are only used with the ABV.
- x. Emplace a Tactical (Scatterable) Minefield (MOPMS or VOLCANO).
- xi. MOPMS Standard. All Combat Engineer squads with MOPMS assigned will have participated in the installation and recovery of the MOPMS Training Dispenser (M136) to operator's manual standards (Task# 05-PLT-2012, Emplace a Modular Pack Mine System (MOPMS) disrupt or fix minefield) within the past 6 months.
- xii. VOLCANO Standard. Ninety percent of the Soldiers assigned in units with a VOLCANO and Soldier's Manual requirement will have conducted the DCU-BIT Test to operator's manual standards within the past 6 months. The Platoon and/or section will have successfully employed the VOLCANO with the M88 and the M89 training device to standards (Task# 05-PLT-2011, Emplace a VOLCANO Minefield) within the past 6 months. M88s are fired from the four corners only; M89s fill all other positions.
- xiii. Emplace a Munitions Field (Networked Munitions). All Combat Engineer squads and platoons will have met collective task standards. (1) Install/recover a hasty protective field and (2) Emplace a munitions field (Network Munitions/SPIDER) using inert munitions within the last 12 months.
- xiv. Add MPLIC, APOBS, Brazier, and Dragons Teeth Satchel Charges
- xv. Units submit a memorandum signed by the Battalion Commander certifying EOCA trained Soldiers' data. The memorandum will be submitted NLT RSOI-2 and include the following:
  - Standard name-line of Soldier. DTG of EOCA course graduation and EOCA Course number (copy of EOCA certificate on-hand with HQ).
  - DTG of latest demolitions certification/recertification (will be within six months of the end of scheduled NTC rotation).
  - DTG of robotics familiarization/certification, specifically addressing robotics system employment procedures and demolitions utilization/placement.
- e. Rotary Wing Aviation Crew Training.
  - i. AH-64 Aerial Gunnery Training Requirements. Individuals will be aerial gunnery qualified IAW TC 3-04.3, Aviation Gunnery, Table VI and IX within twelve months. Table VI cannot be waived, but Table IX can be waived with approval from the Commander of Operations Group. An approved Table IX waiver authorizes the RCM to participate in GT VII-IX qualification at the NTC. Units desiring to conduct collective gunnery will coordinate with Eagle 3M NLT D-90 in order to develop a plan that does not conflict with the rotational construct and scenario design. All TC 3-04.3 gunnery requirements remain in effect.

- ii. **Refresher Training Requirements.** Immediately before deployment, units will complete refresher training on all weapons systems. All aviation units will conduct mountain and desert flight technique briefings before deployment.
  - iii. **Live-Fire Waiver Memorandum.** The unit will complete and return the Crew/Individual Live-Fire Waiver memorandum, signed by the battalion/squadron commander to Eagle 03 NLT RSOI 1. Eagle Team will send the signed waiver to Dragon 40 NLT 1500 RSOI 3. Multiservice units will follow the same guidance.
  - iv. **Aviation Live Fire Waiver Requirements.** Completion of aerial gunnery qualification (Table VI) within 12 months is mandatory – no waivers.
  - v. **Hellfire Lanes.** Units that desire to conduct Hellfire training while at the NTC will contact Eagle 03M NLT D-60. Hellfire lanes allow crews to conduct live Hellfire engagements outside of the tactical scenario. Units will provide missiles from their STRAC allocation. This is not a substitute for the collective live-fire training event.
  - vi. **Door Gunnery Requirements.** Assault, Lift, and General Support RCMs and NRCMs shall be qualified GT VI within the previous 12 months IAW TC 3-04.3 Aviation Gunnery. No waivers authorized
- f. **Integration of Foreign Forces.** Training with our allies is a frequent occurrence at the NTC. All partnered forces are required to submit a LFX memorandum to Dragon Team NLT RSOI 1 confirming individual, crew, and collective qualification statuses. The qualification standard should be IAW IWTS standards. Any specific Battle Drills they want to execute at the NTC to U.S. equivalent standards must be annotated on an applicable firing memorandum. When applicable, a U.S. partnered O-5 or above will co-sign the LFX memo with the partnered unit O-5 equivalent. This memo is due to Dragon 40 NLT RSOI 1. Example: If a ROKA element wishes to participate in BD6 during LFX, they will require an SFAB O5 to provide a waiver stating they are proficient.

### **B-3. Deployment and RSOI**

1. **General.** RSOI provides the RTU with its final preparation period before roll-out into FoF. This applies to LFX requirements as well. The RTU BCT Master Gunner will notify Dragon 40 and Dragon MGs of arrival at NTC and provide contact information for further coordination.
2. **LFAST/Zero and FA Calibration Requirements.**
  - a. LFAST/Zero and FA Calibration (part of the overall Fire Support Validation Exercise) are specified unit-level tasks in the RTU RSOI task list provided in the NTC EXCON higher headquarters order.
  - b. LFAST/Zero and FA Calibration are NTC pre-LFX requirements for all tanks, Bradleys, Stryker Dragoon, MPF, and indirect fire platforms. Planning and execution of both events are a unit responsibility. Mortar registration is not a requirement.
  - c. RTU will draw Class V.
  - d. The RTU is responsible for establishing TCPs ISO LFAST/Zero.
  - e. A Dragon Master Gunner will be initially present to ensure that the RTU has met all requirements to conduct effective and safe LFAST/Zero operations. They will also conduct periodic checks to ensure RTU Master Gunners are sufficiently supported.
  - f. The RTU BCT Master Gunner will submit LFAST/Zero completion numbers to Dragon 40 at 1600 daily until complete.
  - g. FA Calibration will occur as specified in NTC EXCON higher headquarters orders.

- h. The Wolf Team is the OPS GRP lead for FA Calibration, supported by the Dragon Team from the NTC EXCON higher headquarters Main Fires Desk.
  - i. The RTU is responsible for establishing TCPs ISO FA calibration.
  - j. Alibis LFAST/Zero and FA Calibration, for systems not able to do so during RSOI, will take place, IAW the NTC EXCON higher headquarters' LFX order.
  - k. Zero (All other platforms). Stryker RWS/mounted machine gun variants as well as other mounted machine gun systems can zero and test fire during RSOI if coordinated with Range Operations by the rotational unit, or during Alibi-Zero.
3. **Mandatory Briefings.** Select rotational unit personnel will attend the following briefings before executing live fire training at the NTC:
- a. **Master Gunner In-Brief.** The Dragon Team conducts an in-brief for rotational unit Master Gunners (MG) at 0900 hours on RSOI 1 at building 599 in the Dragon Team conference room. Attendees include unit BDE MG, BN/SQDN MGs, and a representative from all attached elements. The meeting covers the requirements for live fire operations IAW DA PAM 350-38, Master Gunners and attachments will bring a draft and digital copy of the unit's live fire waiver documents and a copy of their unit's firing platforms' crew rosters.
  - b. **Waiver Submission Process:**
    - i. 0900 RSOI 1, the BCT Master Gunner brings the draft and digital copy of approved firing status memos and any waiver requests to the Master Gunner in-brief for review and immediate feedback. In addition, crew rosters will be reviewed to verify the required manning for all firing platforms. Waivers must be submitted if a required crew member is supplemented and/or turbulent.
    - ii. NLT 1700 hours RSOI 1, the SQDN/BN submits the signed approved firing status memos and any waiver requests to their respective Dragon Team representatives for review and recommendation. BCT MG will submit signed LFX waivers and memos to Dragon MG NLT RSOI 1.
    - iii. NLT 1700 RSOI 2, the Dragon Team 07 has reviewed and made recommendations.
    - iv. NLT 1300 RSOI 3, the COG will approve/disapprove all waivers and memos. (POC is Dragon 40, building 599; phone 760-267-6752).
    - v. NLT 0700 RSOI 4, the BDE MG will brief the BDE CDR during the Combat Power brief on the final firing status of the BDE. The rotational BDE CDR will sign the memo.
    - vi. Dragon Team will provide final copies to the OC/T line teams and RTU.
  - c. **Format Guidance.** The approved firing status memos and waivers are submitted using a standard MFR format and the waiver support forms. Route the MFR from the rotational Battalion/Squadron Commander through the following: RTU BN CDR, RTU BCT CDR, Dragon 07, and the COG.
  - d. **Final Approval.** The approved waiver, signed by the COG, will be provided to the respective covering Dragon Team representative, Team 07, and the rotational BN and BCT CDRs.
  - e. **RSOI Live Fire and Effects Brief (LFEB).** The LFEB is provided to the rotational unit during RSOI-3 through RSOI-4 in the vicinity of RTU TAAs by Dragon OC/Ts. The purpose of the brief is to convey live fire safety, EXOP requirements and to demonstrate the targets and weapons effects used in LFX. Unit commanders will ensure that all rotational unit squad leaders and above executing LFX will attend the LFEB. Dragon OC/Ts will coordinate location and times with the covering OC/T team. The

Eagle Team will conduct the Aviation LFEB with the aviation task force.

4. **Deliberate Risk Assessment.** Per DA PAM 385-30, rotational unit commanders will provide a detailed and comprehensive DD Form 2977, Deliberate Risk Assessment Worksheet (DRAW), to their covering OC/Ts during the Initial In-brief and to the Dragon Team at the Master Gunner In-brief.
5. **Personal Protective Equipment (PPE).** Required PPE for all Soldiers conducting live fire training or operating in the live fire area as per AR 385-63. At a minimum, this includes body armor with DOD-issued plates that are certified for live fire. plates labeled “Not for Live Fire” or “For Training Only” will not be used. Ballistic helmets, APEL-approved eye protection, gloves, and hearing protection, are also required.. Multiservice/Multinational units will use the approved PPE directed by their service. Combat Crewmen Ballistic vests are authorized inside armored vehicle crews as directed by unit SOP. However, if personnel elect to dismount IOT assault onto an objective, the service member is required to replace his Crewmen Ballistic Vest with the Army issued body armor and approved plates. Paladin crews are authorized to wear Kevlar.
6. **MILES.** All vehicle and personnel MILES systems will be functional IOT participate in live fire operations.
  - a. This requirement applies to all vehicles, squads, and personnel forward of LD or in the unit's main defensive area. The MILES kill capability is used both as a safety control measure and to apply battlefield effects. If not functioning, the vehicle will not be cleared to depart the TAA. Direct fire weapons and mortars are not authorized to fire overhead of troops IAW AR 385-63 This restriction includes MILES systems. Vehicle crews and personnel will react to MILES kills or effects identical to force-on-force operations.
  - b. **MILES instead of Live Ammunition.** Specific target models are equipped with LTIDS/MILES sensors to enable rotational personnel to engage with select anti-tank missile and rocket systems. Requirements for the employment of replicated anti-tank systems are as directed in the NTC EXOP. OC/Ts will not raise targets to test RTU miles. Units will boresight and confirm serviceability with their respective OC/T teams and MILES contact teams. Units may engage targets with the Tow, Javelin, and Viper weapon systems with effects using MILES during live fire.

#### **B-4. Force on Force (FoF) Training**

1. **General.** Based on demonstrated RTU proficiency, Team 07s will make recommendations to the COG to further shape the LFX training scenario, including specific restrictions and associated risk mitigation.
2. **Decertification and Recommendation Process.**
  - a. **OC/T Optional Recommendations.** An individual Soldier or vehicle crew can be recommended for decertification/exclusion from conducting LFX by their OC/T team for a single incident of fratricide during Force-on-Force or any blatant disregard for safety and/or negligence. The recommendation for decertification will be submitted by the covering OC/T team, through their 07, to the COG, who is the final approval authority for decertification. The OC/T Team 07 will update the Senior Live Fire Trainer on all decertification/exclusion from conducting LFX.
  - b. **OC/T Mandatory Submission.** An individual Soldier or vehicle crew will be decertified and excluded from executing the live fire exercise if they are responsible for two or more incidents of fratricide during Force-on-Force or for repeated behavior demonstrating blatant disregard for safety and/or negligence. The decertification will be submitted to the COG by the covering OC/T team through the Critter Team 07, and then through Dragon 07.
  - c. **Memorandum for Record.** Covering OC/T teams recommending individual Soldier(s) or vehicle crew(s) for decertification will submit a decertification recommendation memo in MFR format with the individual(s) name(s) and battle roster number(s) or vehicle crew identifier(s) along with decertification justification for approval by the COG NLT TD 10. The COG is the final approval authority for decertification.

## **B-5. Live Fire Training**

### **1. Transition to LFX Requirements:**

- a. The RTU is responsible for posturing in the BCT LFX TAA upon receipt of SOBE instructions from partnered OC/T Teams. No RTU equipment or personnel will be left forward of the designated LFX LD.
- b. The RTU is responsible for downloading Blank Class V, retrograding to the BSB, and uploading and accountability of Live Class V for LFX.
- c. The RTU will conduct alibis LFAST/Zero and FA calibration for firing platforms not done during RSOI or for platforms that have undergone maintenance repair of major firepower components during FoF.

### **2. Unit-level LFX Planning:**

- a. A Dragon OC/T will provide an LFX planning brief to the BCT staff during MDMP and support the process, ICW the Bronco Team, through completion of the RTU CAR.
- b. Dragon OC/Ts will support Maneuver Battalions and Cavalry Squadron MDMP and CARs ICW partnered OC/T Teams IAW published unit timelines.
- c. A Dragon OC/T will support BSB planning and observe all unit-level preparation training ISO the BSA LFX.
- d. A Dragon OC/T will support Multinational units planning ICW the partnered OC/T Team.

### **3. Fit-to-Fight. Before executing LFX, OC/T line teams will report units Fit-to-Fight posture to Warrior TOC. When an area (1-11) is red, all OC/Ts will remain in the appropriate protective posture. Any deviation will be requested from the team 07 to the COG. Fit-to-fight posture standards include:**

- a. Shared understanding has been achieved two levels down through deliberate and detailed rehearsals.
  - i. BCT/BN Fires Rehearsals
  - ii. Fires Technical Rehearsals
  - iii. BCT IC Rehearsals
  - iv. BCT/BN Sustainment Rehearsals
  - v. BDE BN Combined Arms Rehearsals
  - vi. Company and Platoon Rehearsals
  - vii. AMCM, AMB, Air Crew Brief
- b. 100% Accountability of all Soldiers, weapons, and equipment. OC/Ts will direct and confirm accountability of the physical location and ensure all Soldiers, weapons, and equipment are in a safe area.
- c. All blank ammunition downloaded, BFAs removed.
- d. All Soldiers are in required PPE.
- e. All MILES for participating vehicles, Soldiers, and squads (MIC vest) are operational. All equipment and Soldiers in the box during live-fire that do not have an active, functioning MILES system must have their location verified by an OC/T before Fit-to-Fight.

4. **No-One Forward of Line of Departure (LD).** No one forward means establishing a line, whether a phase line or a grid line, that teams report both OC/T and RTU, NOF of X. The following are the requirements to report No-One Forward:
  - a. **OC/T Teams Confirm 100% physical accountability and location of all OC/T personnel, RTU Soldiers, and equipment.**
  - b. **All OC/Ts, RTU Soldiers, and equipment are rearward of the LD when Fit-to-Fight is established.**
  - c. **TAFFs validate that all icons in CTC-IS have vacated the live fire area. Vehicles with inoperable MILES, or ghost/stale icons, must be physically verified by respective Operations Group Line Team members. Once verification is complete, the respective TAFF will move the icon to match the physical location of the Soldier/Equipment out of the live-fire area, rearward of the LD, and verify the new location with Warrior TOC.**
  - d. **The final action to establish No-One Forward of the LD will be a net call from the OC/T Line Team 07/40/02/03 to Warrior TOC verifying all OC/T personnel, RTUs Soldiers, and equipment are rearward of the Line of Departure.**
5. **Weapons safety posture (WSP) and Weapons control status (WCS).**

#### **WEAPONS SAFETY POSTURE “AMBER”**

NTC EXCON higher headquarters does not utilize an “Amber” posture at the Division level. Units whose SOP follows the FORSCOM “Red/Amber/Green” method, may utilize their internal SOP for additional control so long as it does not violate any NTC EXCON directed WSP.

#### **WEAPONS SAFETY POSTURE “GREEN AND CLEAR”**

All weapons completely cleared, any misfires removed, all weapons systems inspected by the vehicle commander or first line supervisor. Ammo may still be in ready boxes.

**Bradley Fighting Vehicles.** All BFV series weapons are downloaded and their 25mm feeder assembly pulled, cleared, timed, and reinstalled.

**Dragoon** All 30mm series weapons are downloaded and their 30mm feeder assembly pulled, cleared, timed, and reinstalled.

**SHORAD** All MSHORAD 25mm, 50 cal, and Stringer are safed with electronic and mechanical safe, and all available ammo removed from the weapon systems

**Attack and Armed Reconnaissance Helicopters.** Master Arm Switch and LASER switch in the OFF position, aircraft downloaded, including ATWESS.

**MLRS.** Rocket pods on the launcher with LLM in a stowed position and W19/W20 cables disconnected from rocket pods.

**MICLIC.** Charge and rocket loaded and secured; rocket pin and electrical cable disconnected.

**Howitzers.** The weapon on safe, and the bore is verified clear.

**Claymore/Demo.** Claymore mines and demolitions may not be primed.

### WEAPONS SAFETY POSTURE “RED”

Direct and Indirect firing is authorized. All weapons may be loaded, and rounds chambered, but will be kept on mechanical or electrical safe until a target is positively identified and the gun target line is clear.

When units go into a RED status, they need to ensure 100% accountability of all personnel and vehicles and all personnel are wearing the proper PPE. Field artillery and mortar unit FDC/POCs must ensure FDCs, FECC/FSEs and FISTs have all fire support coordination measures to include all air control measures. FDC and FSEs will maintain communication with higher HQ.

Claymore/Demo. Blasting caps may be inserted. The firing device may be connected but will remain on safe.

Javelin/ Dragon/AT4/Stinger. Launchers configured for firing with safeties engaged.

MICLIC. Vehicles can raise rockets.

Live Stinger or Hellfire Missiles. Live Stinger or Hellfire missiles require a separate request for RED status due to the extremely large SDZs. Units will request and receive “RED status for stinger” or “RED status for hellfire” before firing those munitions.

Lasers. Lasers are direct-fire weapons and may be used without eye-safe filters during live fire. Units will request RED status when not in a RED status. When granted, lasing is executed only upon an OC/T’s verification that the target area is clear.

Field Artillery and Mortars. FA and mortars can execute fire missions against targets after receiving clearance from higher headquarters and FDC OC/T personnel. Direct Fire Mode. Field Artillery units may engage targets with direct fire only when approved by the Senior Fires Trainer and upon granting Red status by Zulu TAC.

Attack Helicopters. Weapons systems are de-actioned, and electrical arm switches are on Safe or Stand-by.

Lift/Utility Helicopter. Door-mounted weapons are bore clear and belt removed from feed tray, with weapon selector on safe.

Bradley Fighting Vehicles. Electrical or manual safe engaged, ghost round may be cycled; missiles or ATWESS may be loaded in the launcher.

Tanks. Battle carry per unit SOP, electrical and manual safety engaged.

MSHORAD Loaded, all safeties engaged

Machine Guns/COAX. Manual safe with the bolt locked to the rear.

Javelin/AT4. Configured for firing with electrical and/or manual safety engaged.

### WEAPONS CONTROL STATUS

Weapons Hold. Engage only if ordered to engage.

Weapons Tight. Engage only targets that are positively identified as enemies.

Weapons Free. Not authorized at the National Training Center.

## **WEAPONS SAFETY POSTURE**

**Check Fire.** All weapon systems cease firing immediately. Artillery will unhook lanyards.

**Check Fire Freeze.** (Artillery and Mortars Only) Cease all firing immediately. Do not move anything on the howitzers or mortar tubes. All personnel evacuate vehicles and stand to the rear of the howitzer, mortar, or FDC.

**Cease Loading.** (Artillery only) Continue firing current rounds in the tube only. Do not load additional ammunition.

**Cease Fire.** Stop firing. Place weapons on manual safe. Artillery will unhook lanyards.

### **6. Live Fire Targets**

- a. **Target Types.** There are no moving ground targets or flank targets at the NTC. There are several targets available in the NTC live fire maneuver area. Targets and associated pyrotechnic signatures demonstration to rotational units during the RSOI Live Fire Effects Brief. ALL personnel entering the live fire exercise area must attend this brief. It is the training unit's responsibility to ensure and track attendance. Remotely Piloted Vehicle Targets (RPVT) UAS/SUAS aerial moving targets may be employed with specific coordination before the rotation.
- b. **Target Lifters.** Target lifters are remotely operated mechanical targets used throughout the live fire training area to replicate enemy vehicles and personnel.
  - i. Each target has ballistic hit detectors.
  - ii. Targets will sense when a round strikes it, register as a kill if engaged by the proper munitions according to the target sensitivity levels, and then drop with a pyrotechnic signature.
  - iii. Target pits are marked only by a small picket with the target name for administrative purposes only. Pits are not marked for visible recognition to provide a more accurate/realistic enemy presence. The target pits may cause vehicle rollovers if not appropriately identified and bypassed safely. Personnel and equipment may maneuver near target pits but will remain more than 10 meters or 30 feet from a target pit due to pyrotechnics minimum safe distance. The use of target pits as vehicle or dismounted fighting positions is prohibited.
  - iv. Tampering with or handling target pyrotechnic devices is not authorized at any time by rotational unit personnel or OC/T outside of Dragon and Phoenix Teams.
  - v. Each target has a unique silhouette and is covered with a distinct pattern of reverse polarity thermal paper. Examples of these silhouettes are:

**Tank**



**BMP**



**BTR**



**BRDM**



**Truck**



**Dismounted Troops**



- c. **Dumper/Drop Targets.** Single-use engagement targets are typically used to replicate dismounted infantry inside trench systems, urban objectives, and complex terrain.
- d. **Hard Targets.** Hard targets (vehicle hulks) throughout the live fire training area for engagement primarily by indirect fire, rockets, and missiles. Due to ricochet hazard, units will only engage hard targets with indirect fire, TOW missile variants, Javelin missiles, AT-4 munitions, attack aviation (30mm, 2.75mm rockets, Hellfire missiles), USAF fixed-wing platforms, and service 120mm, 30mm, 25mm Service Ammunitions HEAT. 120mm (Tank) and 25mm training rounds may be utilized with a minimum range of 1000m.
- e. **Target Overkill.** If a target is engaged and does not go down after being hit twice with 120mm or thrice with 25mm, engage another target. If the target continues to emit direct fire signatures, units should re-engage. If the target does not lower automatically after a three (3) minute time-out period, report the issue to the attached Dragon Primary on site (or to Zulu TAC if the Dragon Primary is unavailable). Do not engage the target if there continues to be no signature or response from the target.
- f. **Pyrotechnics.** Battlefield Effects Simulators (BES) use pyrotechnics to replicate enemy weapons' signatures. NTC uses two separate pyrotechnic simulators and one electronic simulator. These replicate hostile fire and catastrophic kills. Each has its unique pyrotechnic signature.
  - i. The hostile fire signature of an enemy vehicle's main gun or from a heavy weapon dismounted section appears as a flash and puff of smoke. For individual dismounted infantry targets, a strobe light is used to simulate small arms fire electronically. When these signatures are observed, this indicates direct fire contact with the enemy.
  - ii. The catastrophic kill ("steel-on-steel") signature appears as a black BES smoke signature (employed FY26), replicating a hit on an enemy vehicle by a friendly weapon system. This visual cue means the enemy vehicle was hit and destroyed by live main gun rounds or one of the MILES TOW or OC/T lasers.
- g. **Close Range Engagement.** No targets for vehicle-mounted weapon systems will be engaged within 100 meters during offensive engagements. For dismounted small arms, do not engage within 1 meter at any target due to ricochet hazards. Any RTU vehicle defensive positions established within 150 meters will result in target lifters being deactivated to ensure adequate stand-off.

- h. **Bunkers.** AT-4, Javelin, and TOW can engage non-grenade-designed bunkers.
- i. **Rotary Wing (RW) and Fixed Wing Targets.** RW/FW are only authorized to engage Hulk vehicle targets. Options are being explored and evaluated for potential opportunities for future RW/FW pop-up target presentations.

## **7. Movement and Maneuver**

### **a. Mounted Operations.**

- i. **Only weapons with a functional turret or platform stabilization system may fire on the move (M1, M2, Dragoon, ATGM, CROWS, and RWS).** If a turret/weapon platform stabilization is not operational, vehicles will have the weapon systems in electrical and manual safe while moving. At no time are flex-mounted machine guns authorized to fire on the move. Non-stabilized platforms (Stryker family of vehicles and gun trucks) are not authorized to fire on the move.
- ii. **Before the live fire, crews will be in complete uniform and have all guards in place per unit SOP, TMs, and safety regulations.**
- iii. **Individual weapons and mortars will be fired from hatches from stationary vehicles only.**
- iv. **Mortars may be fired from stationary vehicles or ground mounted.**
- v. **Vehicle direct-fire weapons, including MILES, are not authorized to fire overhead of troops per AR 385-63.**
- vi. **To fire in support of an adjacent maneuvering unit (flanking fire), the mounted platforms (M1, M2, and Stryker vehicles equipped with MK19s) will maintain 40 degrees and no less than 100m separation from the supported unit's forward line of troops. Vehicles employing mounted direct-fire weapons (M240, M249) can achieve 15 degrees from the supported unit's forward line of troops. Mounted machine guns are those defined as coaxially mounted or utilized on pintle mounts with traverse and elevation mechanisms employed. If the traverse and elevation mechanism is not employed (free gun), the gunner will maintain 40 degrees and no less than 100m separation from the supported unit's forward line of troops, e.g. the loaders mounted machine gun on the M1 series tank.**
- vii. **Non-firing platforms participating as maneuver elements during the Live Fire Exercise will have white engineer tape around the gun tube/ barrel and displayed on an antenna. An 18-inch tail will hang off the antenna, so OC/Ts can identify non-firing platforms.**

### **b. Dismounted Operations.**

- i. **MIC Vests.** All dismounted elements of all unit types will deploy with a functioning MIC vest and notify their OC/T of destination and timeline. No dismounted element deploys forward of the FLOT without an accompanying OC/T.
- ii. **15-Degree Rule.** Shoulder-fired small arms (carbines and machine guns on a bipod, 5.56mm and 7.62mm only) may fire within 15 degrees of a maneuver unit IAW current flanking fire deviation. For weapons that do not meet the criteria for 15-degree flanking fire, normal SDZs apply (40 degrees for most weapons systems).
- iii. **Strong Point, Trench, and Bunker Clearance.** The following procedures apply to the reduction of enemy strong points. Strong points include trenches, bunkers, and obstacle systems.
  - **Rehearsals and OC/T Battle Drill Verification.** Before conducting live fire trench and bunker clearing, rotational squads and platoons will rehearse relevant battle drills.

Covering OC/Ts will be present to verify doctrinal and safety standards.

- **PPE Requirements.** All personnel will wear gloves, hearing protection, eye protection, helmet, and body armor (DOD-approved plates).
- **Fires on the Strong Point Objective.** Units may employ direct fires on the objective before assaulting; indirect fires will be at least 100m off the objective to preserve training resources.
- **Authorized Direct Fire Weapons.** All units are required to complete individual weapon qualification IAW Gate 4 of TC 3-20.0. No waivers are authorized. Do not fire over the heads of troops in trench systems.
- **Weapons Firing Inside of Trenches/Bunkers.** 5.56mm, 9mm, and 12 ga. (or below, non-slug ammunition) Shotgun rounds are the only authorized calibers inside the trench/bunker system. All weapons will be on safe with muzzles pointed down (low ready) when in the trench except when firing. Because of the depth of trenches at NTC, Soldiers in the trench may not fire at targets outside of the trench. Do not fire directly into the firing ports within 25 meters due to the ricochet hazard.
- **Marking Systems.** The unit will use their internal SOP to mark the lead soldier's forward line of troops (FLOT) in a trench system. Unit markings will be visible under day and night conditions. Covering OC/Ts will be prepared with appropriate equipment to mark the forward trace should the RTU markings fail.
- **To clear a trench with live rounds during LFC,** the unit must be certified on Battle Drill 7. If units are not Battle Drill 7 certified, and want to conduct LFX inside the trench, they need to submit a waiver.

**c. Urban Operations (UO).**

- Rehearsals and OC/T Battle Drill Verification.** Before conducting live fire urban operations, rotational squads and platoons will rehearse relevant battle drills. Covering OC/Ts will be present to verify doctrinal and safety standards.
  - OC/T teams will validate that unit TTPs are IAW ATP 3-06, Combined Operations in Urban Terrain, and that the unit is prepared to execute the task safely.
  - During rehearsals, unit leaders at all levels will specifically emphasize muzzle awareness, safety/selector control, trigger finger discipline, and weapons control statuses.
  - Urban objectives are constructed from either Shock Absorbent Concrete (SACON) or plywood. SACON is only rated for munitions up to 7.62mm fired from precision rifles. Sustained fire on a single area of SACON is not authorized as it will damage the material beyond operational use. While SACON can absorb small arms fire, personnel will not conduct a "hot-wall" by engaging toward a wall with friendly forces on the opposite side. 5.56mm, 12ga., 9mm, and 7.62mm are the only authorized munitions that can be fired inside any of NTC's urban buildings. There are no restrictions on weapon types for perimeter targets.
  - To enter a building and clear a room with live rounds during ULFC, the unit must be certified on Battle Drill 6. If units are not Battle Drill 6 certified, and want to conduct LFX inside a building, they need to submit a waiver.
- Use of Smoke/Pyrotechnics in Buildings.** The use of smoke or pyrotechnics inside of any wooden structure is not authorized due to fire hazards. Any extended burning pyrotechnic identified next to the wooden structure(s) must be immediately relocated to at least 2 meters

or 6 feet from the structure(s).

- iii. **Urban Breaching.** Breaching plans and methods will be coordinated and rehearsed in advance with the covering OC/T team. Dragon team primary will be informed of all plans before execution.
  - **Ballistic breaching.** Individuals will be qualified with their weapons and demonstrate proficiency in the task during rehearsals (as certified by an OC/T).
  - **Explosive breaching.** Approve the location, type, and size of each charge through the covering qualified OC/T. A detailed rehearsal is required; it will be observed and certified by a qualified OC/T. A qualified OC/T will supervise the preparation and emplacement of demolitions. The unit will obtain final clearance through the covering OC/T before initiating any firing device.
- iv. **Off-Limits Buildings.** Due to structural integrity concerns, all multi-story SACON buildings are off-limits to all personnel. This includes any single-story building with floor panels covering the first-floor walls. Doors and windows to these structures are boarded and marked with “Off Limits” and/or “Do Not Enter” labels.

**d. Fragmentary Hand Grenades.**

- i. **Authorized Use.** Live fragmentary grenades can be used to enter the trench system, clear around corners within the trench system, clear bunkers and clear designated SACON grenade-rooms provided the Soldier employing the grenade meets minimum certification requirements outlined in para B-3.4.f. Live fragmentary grenades may be thrown under the following conditions: impact areas will be free of obstacles; a minimum side-to-side distance of 5m between each individual during the employment of the grenade is maintained; throwing positions will protect the throwers from fragments; an OC/T will directly supervise and control the throwing of fragmentation grenades; and Soldiers will demonstrate the ability to throw the grenade using grenade bodies with fuses to an OC/T during rehearsals
- ii. **Soldier Kit Configuration.** Carry grenades in Army-issued grenade pouches. Do not tape hand grenade spoons.
- iii. **Restrictions on Stacking.** If live fragmentary grenades are used to clear corners or bunker entrances, only the first two Soldiers can stack directly at the corner. The remainder of the team will remain at least 5 meters back to provide the first two Soldiers room to react if the grenade bounces or rolls back.
- iv. **Individual Weapon of Soldier throwing Grenade.** Soldiers employing grenades will not hold their primary weapon in hand while “prepping” and dropping or tossing a grenade. Soldiers hold weapons or secure them with a “hands-free” style assault sling.
- v. **Two-Man Trench Entry Requirements.** If the two-man trench entry is used (FM 3-21.8, Battle Drill #7), the Soldiers dropping the grenades will lay feet-to-feet as they prep and drop (not throw) the grenades. After dropping the grenades, the team leader physically grabs the grenade throwers as they roll away and maintains positive control of both Soldiers to ensure they do not attempt to enter the trench before both grenades detonate.
- vi. **Cooking Off Hand Grenades.** “Cooking off”, delaying a throw after initiating a hand grenade, is not authorized at NTC.
- vii. **Accountability.** The unit will maintain a running count of all grenades detonated. Confirm accountability before going “Green and Clear.”

- viii. **Verbal Shouts/Warnings.** The grenadier will yell "grenade" to alert personnel to take cover if an errant fragmentary grenade bounces or rolls back. Every Soldier echoes "Prepping Frag" when he removes the grenade safety clip and "Frag Out!" when he removes the pin and deploys the grenade. All personnel in the vicinity will drop prone and face the blast.
- ix. **Hand Grenade Dud Procedures.**
- **Dud at Trench Entry Point.** If a dud occurs at the initial entry point, maneuver to another entry point and avoid the affected leg. A Soldier from the unit (under OC/T supervision) positions himself near the entry point to prevent other Soldiers from accidentally entering that portion of the trench.
  - **Dud during Trench Clearing.** Bypass the leg of the trench where a dud has occurred. The unit places a Soldier on each end of that leg (under OC/T supervision) to prevent other Soldiers from accidentally entering that section of the trench. Depending on where the dud occurs, the unit may be able to move tactically around the duded trench section and reenter the trench at the next leg to continue clearing.
  - **Dud in Bunker or Room.** If a dud occurs in a bunker, the unit will not clear that bunker. The unit positions a Soldier (under OC/T supervision) near the bunker entrance to prevent others from entering.
  - **Securing of Dud.** Covering OC/T will report and mark location of DUD to ZULU TAC. ZULU TAC will relay that DUD location to EOD for destruction.
- e. **Anti-Armor Munitions.**
- i. **General Procedures.** After clearing the Rear Danger Area, the firing Gunner notifies the OC/T and requests permission to fire the munition. Before granting permission to fire, the Soldier and his OC/T verify that the surface danger zone is clear. OC/T then coordinates with Dragon OC/T to verify clearance of air. Once complete, the OC/T grants permission to fire. The firing of the weapon is dependent upon an OC/T granting permission.
  - ii. **AT4.** All personnel and vehicles will be outside the Rear Danger Area, 100m and 90 Degrees (Danger Area and Caution Areas). The AT4 will execute hull and bunker engagements only to avoid reducing the risk of dud production.
  - iii. **Javelin.** All personnel and vehicles will be outside the Rear Danger Area, 100m (Primary Danger Area, Caution Areas 2 and 3). The Javelin will execute hull and bunker engagements only to avoid reducing the risk of dud production.
  - iv. **TOW.** All personnel and vehicles will be outside the Rear Danger Area, 75m (Primary Danger Area, Caution Areas 1, and 2). Only authorized individuals allowed in Area H (1600m behind the TOW firing line) will be OC/Ts required for the safe employment of the weapon and the firing crew. The OC/T will be in a protected site, i.e., behind an earthen berm, tank ditch, or last major terrain feature IAW with AR 385-63. The TOW will execute hulk and bunker engagements only to avoid reducing the risk of dud production.
- f. **Night Live Fire.**
- i. **At a minimum, all individual weapons will have a bore-sighted laser with night optic or integrated illumination (artillery, mortar, or parachute flares) for night live-fire operations. When operating in urban areas, units use tac-lights, illumination, or a laser and NVG combination.**

- ii. All combat vehicles will have fully functional thermal sights and have conducted reverse polarity target training to conduct night live fire.
- iii. Soldiers utilizing crew-served weapons will use the optic utilized while qualifying with that weapon system; it must be previously mounted and zeroed.

#### **8. Fires.**

- a. **General.** The Live fire has no predesignated firing points, range boundaries or predetermined safety data. Areas for indirect fire impacts consist of the area bounded by unit boundaries from the NTC EXCON higher headquarters operations order and fire support coordinating measures (NTC EXCON higher headquarters and unit created).
- b. **Fires General Directives.** The following directives apply to cannon artillery, rockets, and mortars.
- c. **Red Indirect Status.** Indirect Fire is authorized. Field artillery and mortar units require all the following before receiving a red status:
  - i. 100% accountability of PAX, weapons, equipment, and ammunition.
  - ii. Maneuver graphics are posted in the FDC and plotted on observer maps, including phase lines, axis of advance, and battle positions.
  - iii. During operations that support maneuver live fire operations, all NTC Range Control, 52ID and unit FSCMs must match in AFATDS across all FDCs and FSEs, as well as with 52ID. OC/Ts will validate that units have, at minimum, all NTC Live Fire FSCMs posted on their analog map before requesting Red Indirect. Units that wish to process fire missions using analog means alone (no AFATDS) must have all FSCMs and maneuver graphics posted on their analog map. Exceptions to this requirement must be approved by Wolf 07.
  - iv. Meet all 5 Requirements for Accurate Predicted Fires per TC 3-09.81
  - v. It is the unit's responsibility to place itself in the "Adjust Fire" mode when they cannot meet the five requirements for Accurate Fire. Failure to do so will result in the unit being placed in a "check firing" status by an OC/T.
  - vi. Pre-fire checks conducted on all firing platforms IAW applicable TM.
  - vii. Misfire procedures rehearsed and posted at all firing platforms.
  - viii. All personnel are in the fit-to-fight uniform IAW NTC EXOP.
  - ix. Sensor to shooter rehearsals complete for all planned targets that will be executed during the upcoming phase. Units may request red indirect status prior to completion of technical rehearsals but will only be allowed to fire targets technically rehearsed from sensor to shooter. Any exceptions must be approved by Wolf 07.
- d. **Dynamic Mortar indirect fires** are not authorized unless approved by the COG. Dynamic Field Artillery is determined by Wolf 07 and the RTU's proficiency during FoF. Field Artillery participation in live fire is approved by the COG with a recommendation by Wolf 07 on the evaluation of:
  - i. Proper fire mission processing procedures at the FDC.
  - ii. The BDEs ability to safely maneuver forces with limited number of indirect-fires fratricide incidents throughout FoF.
  - iii. The BDEs ability to execute proper air and ground clearance procedures.

- e. **Mortar indirect fires** are not authorized to fire overhead of troops per D AR385-63.
- f. **Clearing Indirect Fires.** Prior to firing a mission or subsequent corrections, the FDC will give the OC/T the artillery mission card for final safe-ing during live fire. It is the unit's responsibility, once OC/Ts have verified the fire mission is safe, for the final clearance to fire any indirect fire mission in accordance with the unit's SOP (Refer to EXOP, Chapter 4 for required mission card data.)
  - i. **Observation.** All fires in support of the maneuver during live fire will be conducted by a qualified observer in the presence of an OC/T or a 13F/A OC/T with approval from the COG.
    - Radar observed counterfire is authorized during live fire when rehearsed with two qualified radar sections and a qualified Counterfire Cell. Counterfire must be approved by the COG with input from Wolf and Dragon 07. Radar can only be utilized as an independent observer when observing counterfire missions under direct supervision of a radar OC/T with guidance from Dragon Team. Two qualified radars may be used as an alternate observer with Wolf 07 approval.
    - Any SM may be utilized for observation if they are Fire Support Table VI qualified.
    - UAS, FMV, and aerial observers may be utilized for observation. Group 3 or higher UAS crews conducting Call for Fire or Adjusting Fire during the LFX will be aerial gunnery qualified IAW TC 3-04.3, Aviation Gunnery Table VI within 12 months. UAS crews that are RL1 but not Table VI qualified may still participate in an ISR/IC role to collect information, provide situational awareness, observe effects, and conduct BDA during the LFX with COG approval. A qualified observer must view the feed/target from the ground control station or have direct access to the live feed via OSRVT. BDE FSEs are authorized to originate and adjust Calls for Fire using live feed.
  - ii. **Communications.** Voice communications must be maintained from the sensor to shooter during the processing of fire missions. If voice communications are lost with controlling higher headquarters (at any time) and/or observer (during a fire mission), the firing element and FDC will place itself in check firing until communications are re-established. The RTU may request through Senior Fires Trainer to employ alternate means of primary communication (i.e. Digital VHF, HF, Digital HF), Senior Live Fire Trainer retains decision authority to deviate from the specified primary means of safely controlling indirect fires.
  - iii. **Dragon Fires** will clear all indirect fires through the covering OC/T. Units receive all NTC EXCON higher headquarters FSCMs from the DTOC during RSOI including live fire FSCMs. FSCMs will be loaded onto every AFATDS, copied on observer maps, and Fire Direction Officer (FDO) analog maps before execution.
  - iv. **FSCM & SDZ Violation Authority.** During Live-Fire Operations, the NTC Commanding General withholds authority to violate Restricted Fire Areas (RFAs) and SDZs.
  - v. If a firing incident occurs, the unit must place itself in a check-firing status. OC/T's can place a unit in check-firing status at any time. The unit is required to investigate all firing incidents and take corrective action. Decertification by an OC/T is completed through paragraph B-3.3. The unit or OC/T that placed the firing unit in check firing is the authority to cancel check firing.
- g. **Lasers**
  - i. **Safety filters, training cables, and/or inhibitor plugs** will remain installed until the operator receives RED status from an OC/T. Lasing devices are only used in the presence of an OC/T. Zulu TAC gives clearance before the utilization of any laser in a designation mode during live fire.

- ii. **Laser Classification.** Class 1 lasers do not require a RED status. If the filter, training cables, or inhibitor plugs reduce a Class 2-4 device to a Class 1 laser, it may be used if the filter, cables, or plugs remain correctly installed. Class 2-4 lasers require RED status.
- iii. **Buffer.** When operating a laser, the operator will have a 15-mil buffer when lasing over a reflective surface, near personnel, or below the skyline. Maintain a 15-mil buffer off the laser target line.
- h. **Minimum Safe Distances (MSDs).** MSDs established by NTC are listed in the table below. Units may increase MSDs based on risk assessment. The following chart provides the deviations specific to NTC and is updated each FY. Consult the respective OC/T team and the Dragon Team for updates.

| System | High Angle | Low Angle | Direct Lay |
|--------|------------|-----------|------------|
| 60mm   | 300mm      | N/A       | 150m       |
| 81mm   | 500mm      | N/A       | 200m       |
| 120mm  | 800mm      | N/A       | N/A        |
| 105mm  | 650mm      | 600mm     | N/A        |
| 155mm  | 1000mm     | 800mm     | N/A        |

- i. **Artillery Operations.**
  - i. All FDCs will perform target grid location and altitude checks before every fire mission.
  - ii. Effects of artillery fire will not violate Minimum Safe Distances (MSD) for artillery weapon systems at NTC.
  - iii. Personnel are authorized to occupy Areas A, B, and C of the indirect fire SDZ when MSDs are applied.
  - iv. MLRS/HIMARS units must conduct OPAREA safety for each firing location utilizing the Safety Data Calculator, accounting for both immediate and downrange mask. The target box for reduced range practice rockets is defined with a 1,000m box bounding each target, Distance X, W, and Y are then applied based upon range to target.
  - v. All indirect targets during live fire operations must be rehearsed from sensor to shooter prior to being executed with live munitions. At minimum, the following data must be validated and rehearsed by the firing unit:
    - Target Location
    - Firing Battery/Platoon
    - PAA of Firing Unit
    - Projectile
    - Charge Family (Lima vs. Hotel charges)
    - Trajectory (High Angle vs. Low Angle)
  - vi. Any changes to the above data will require that a new technical rehearsal be completed prior to target execution. Units may use “ghost guns” to complete rehearsals from templated PAAs. Units must be able to provide their OC/Ts with firing unit, PAA, max ordinate, and gun target line for all rehearsed targets. Any exceptions to this requirement must be approved by Wolf 07.
  - vii. **Firing Battery Responsibilities.**
    - Firing battery leadership will lay howitzers IAW the current doctrinal manual for the weapon system. Firing positions will be surveyed to 5th-order accuracy and have a direction common to all other firing elements. At a minimum, for live fire, guns self-locate and conduct Big 3

Checks, then verify accuracy using DAGR or VMS. Big 3 Checks will use DAGR and validate weapon is within 10m of northing/easting/attitude. Battery OC/Ts will verify that the battery/platoon leadership has confirmed their howitzer locations in the AFATDS database before calling for RED indirect status. Batteries may lay using degraded means with the approval of the Field Artillery Senior Trainer.

- XO's minimum quadrant elevation will be determined for all charges fired.
  - Ensure that Danger Area E is clear of all personnel without valid need. NTC currently has a range safety deviation reducing Area E to 350 meters for 155mm and 300 meters for 105mm.
  - Time settings and variable time fuses are authorized in live fire. Any personnel in Area A or C will be protected per AR 385-63.
  - Each howitzer section chief has the final responsibility for safe firing.
  - Misfires will be handled IAW the appropriate TM.
  - No overhead fires in a direct fire mode. Direct fire is authorized on hulk targets only. Refer to paragraph g. for additional information.
  - Cannon firing batteries may execute self-illumination, killer junior, and emergency fire mission engagements upon the Senior Live Fire Trainer's approval.
  - Fire Control. Rotational units process all fire support tasks IAW unit SOP. An OC/T must be present to fire.
- j. **Safety Violations.** Safety violations are broken down into two categories: safety incidents and firing incidents. A safety incident occurs when safety personnel or crews fail to follow the procedures outlined in AR 385-63, the NTC EXSOP, or applicable technical manuals.
- i. The battery/platoon senior OC/T will shut down a firing unit for:
    - Failing to conduct pre-fire checks properly. A common error is not completing bore sight requirements specified in the weapon technical manual.
    - Failing to conduct secondary independent checks.
    - Failing to meet minimum manning requirements when firing.
    - Personnel in the recoil path of weapon.
    - Personnel failing to wear a ballistic helmet inside howitzer.
    - Conducting an improper crew drill.
    - Failing to verify fire commands by reading back fuse setting, fuse-round combination, charge, PANTEL deflection, and quadrant, PANTEL gunner's sight picture, reload on loading elevation, properly swabbing after each round is fire, announce bore clear, command "FIRE" and properly ram round (auto and manual).
    - "Joy sticking" a Paladin to speed load and lay times.
  - ii. The battery/platoon senior OC/T will shut down an FDC section for failing to:
    - Conduct secondary independent checks.

- Issue proper fire commands.
  - Maintain positive control of the FDC section and firing on the gunline.
  - Have up-to-date maneuver graphics, air corridors, and FSCMs posted.
  - Perform grid and altitude location checks for each mission.
  - Ensuring the effects of fires for the initial mission and the subsequent adjustments do not violate FSCMs or boundaries.
  - Checking for intervening crests along the gun-target line.
- iii. A firing Incident is defined as any time a round impacts or functions at a point or time other than the designated target within four probable errors in range, deflection, and height of burst. Failure to follow NTC clearance procedures constitutes a firing incident. Upon notification of a firing incident, the effected field artillery battery will immediately go into a “check firing” posture. Rotational units will conduct their internal investigation IAW the FA Battalion and TF Commanders’ guidance to determine the cause of the incident. The firing battery OC/T will inform Warrior Fires that a unit is placed in a “check firing” status. The investigation is a unit chain-of-command responsibility. Once the training unit determines the cause of the incident, the unit chain of command will take measures to correct unsafe conditions and prevent recurrence. The training unit will make a preliminary (voice) report of findings and actions taken to the COG, through the Senior Fires Trainer.
- iv. Final Action. After the rotation, the training unit submits a letter through the Senior Live Fire Trainer to COG detailing each incident, the findings of the investigation, and corrective actions taken. The following are commonly observed firing incidents: firing at load elevation, pre-cut charges, improper fuse setting, using the joystick to bring the tube to load elevation, and FDO/ FDNCO failing to conduct secondary independent checks of the target location grid entered into the AFATDS.
- k. Direct Fire Engagements.
- i. Battery leaders control direct-fire engagements and weapon control status. Leaders will ensure no one is along the target line from the gun to the range equivalent to 267 mils (Distance X) IAW AR 385-63.
  - ii. Battery leadership will coordinate with all adjacent units for sectors of fire and other mutual defense issues. Sectors of fire will be established, marked, and verified. Section chiefs will verify direct fire telescope bore sight and gun target line clearance before engaging targets.
- l. Killer Junior will be planned for IAW guidelines outlined in ATP 3-09.50 and the appropriate weapon system TM. Final approval for firing Killer Junior will be Dragon 07 with input from Wolf 07.
- m. Ammunition Restrictions.
- i. Precision Guidance Kit (PGK). No personnel within the SDZ. Units will possess the required equipment, COMSEC, and demonstrate correct procedures to employ near-precision munitions.
  - ii. Excalibur Units use the reduced NTC SDZ as established by the appropriate NTC deviation from AR 385-63. Units will possess the required equipment, COMSEC, and demonstrate correct procedures to employ precision munitions. Units will coordinate with Wolf and Dragon Teams to ensure proper planning of these munitions.

- iii. **Illumination.** Range-to-fuse function is no less than 500m from friendly positions. Range to-impact will comply with howitzer Minimum Safe Distance (MSD).
- iv. **Rocket-Assisted Projectile (RAP).** Overhead fires of RAP is only authorized with approved Lots. According to AIN 001-15-155mm, rocket-off can only be employed in a combat emergency. No personnel are authorized to be 5,000m short of the target when firing 105mm RAP with rocket-on, and 5,000m on the far side of the target when firing rocket off. No personnel are authorized to be 7,000 short of the target when firing 155mm RAP with rocket-on or 7,000m on the far side of the target when firing rocket-off.
- v. **Improved Conventional Munitions (ICM) and FASCAM.** ICM and FASCAM munitions and variations are unavailable from the Fort Irwin ASP. HE will replicate these munitions. Coordination is required through the Fire Support and Sustainment Teams for replication.
- vi. **RRPR.** When MLRS fires the Reduced Range Practice Rocket (RRPR), the uninhabited zone of Exclusion Area 1 is reduced to 1,000 meters. Exclusion Area II is authorized for occupation by rotational units and Combat Trainers. The RRPR is authorized for overhead fires for personnel in Exclusion Area II only in accordance with the approved RRPR deviation.

**n. Mortars.**

- i. **Location.** Mortar firing positions require a DAGR with FOM 1 for accurate location. No map spots are authorized. Platoon/section will be laid for firing with an M2 aiming circle. Verify the lay of the platoon/section with a declinated M2 compass or an M2 aiming circle. All ground-mounted mortar systems will settle each tube base plate per the latest Safety Use Message and verify lay before conducting a registration or fire-for-effect mission in the indirect fire mode.
- ii. **Ammunition.** Do not expose charges before firing or pre-cut a charge.
- iii. **Boresight of mortar sight** will be conducted IAW the appropriate doctrine as a part of mortar PCC/PCIs before live fire operations, whether digital or degraded.
- iv. **Misfires** are removed IAW the appropriate doctrine. Misfires do not put the entire unit in CHECK FIRE.
- v. **Direct Lay.** The 120mm, 81mm, or 60mm mortar may fire in direct lay mode if sections meet qualification standards.
- vi. **No overhead fires of mortars** IAW AR 385-63
- vii. **RTU Units** arrive to NTC with updated TULSA gun cards to verify that tubes are serviceable.

**o. Observation Operations.**

- i. **Location.** There are no pre-designated Observation Posts (OP) in live fire. Observer teams must self-locate with DAGR and provide at least an eight-digit grid position to the higher headquarters and supporting FDC. Map spotting the observer's location is not authorized. An OC/T will accompany observers.
- ii. **No Fire Area (NFA).** Rotational unit will emplace NFAs in the AFATDS over all OP locations. The size of the NFA is IAW the unit's SOP.
- iii. **Night Operations.** Observer teams must utilize observation systems equipped with night imaging for operations under limited light or darkness. Night Vision Devices and Enhance Night Vision Devices cannot be used for observation alone unless adjusting illumination.

## 9. Protection.

- a. **General.** Sidewinder 07 or Dragon 07 approves any simulated engineer activities or effects.
- b. **Obstacle Effects.**
  - i. **Enemy Targetry:**
    - All OPFOR mines have full-width vehicle kill capability. Adjudicate any vehicle that drives through a known minefield as a Catastrophic or Mobility Kill. Adjudication of personnel and BDA is at the discretion of the covering OC/T.
    - If the unit activates an anti-handling device, mine, or IED, assess all individuals within 25 meters as casualties, including Soldiers not buttoned up in hardened vehicles.
- c. **Rotational Unit Obstacles.** Engineer OC/Ts verify all obstacles for effectiveness to determine the delay of the enemy attack. Obstacle quality, density, and location is the base for enemy obstacle negotiation times. The rotational unit is responsible for reporting to OC/Ts the disposition and composition of all emplaced obstacles. Data of all completed obstacles reported to Sidewinder TAFF will also be consolidated at the Zulu TAC Target Control Center to ensure that simulated enemy forces react according to physical obstacles in CTC-IS.
- d. **Employment of Mines.** Treat all mines as real (e.g., transporting, handling, emplacing, and explosive capabilities). In the event of improper procedures, OC/Ts have the authority to adjudicate RTU as a fratricide.
- e. **Use of Demolitions.**
  - i. **Pre-Prime of Demolitions.** Engineers may pre-prime demolitions with detonating cords at any time (State I). Ensure Sidewinder Engineer OC/T approves before connecting or emplacing a blasting cap to any demolition (State II), to be conducted at the breach site.
  - ii. **Claymore / Demo.** Insert blasting caps and systems tests with OC/T approval. Claymore must be placed at the approved planned engagement position before inserting the blasting cap.
  - iii. **SDZ.** The rotational engineer unit is responsible for notifying the Engineer OC/T that the Surface Danger Zone is clear of all personnel and equipment. Once the Engineer OC/T verifies the Surface Danger Zone is clear, the covering Dragon OC/T grants permission to initiate the demolition system. The standoff is IAW AR 385-63 *Range Safety*, TM 3-34.82 *Explosives and Demolitions*, and NTC deviations.
  - iv. **Inspection Post-Detonation.** The Engineer OC/T is the first to inspect the demolition site after the charge(s) have detonated.
  - v. **Misfires.** In the event of any demolition misfire, the Engineer OC/T will wait at least thirty minutes (cool down period) before conducting misfire clearing operations per TM 3-34.82, *Explosives and Demolitions*, Chapter 2, Priming Methods and Firing Systems.
  - vi. **Urban Breaching.** Breaching plans will be coordinated in advance with the covering OC/T Team and approved through the covering Dragon OC/T. Unnecessary or disproportionate structural damage may result in the RTU being held financially liable for repair costs. Build and emplace all charges IAW TM 3-34.214 *Explosives and Demolitions*.
    - **Ballistic Breaching.** Individual(s) will demonstrate proficiency during rehearsals (as certified by an OC/T). Prior coordination will be conducted with the Rotational Planner NLT at the D-90 meeting.

- **Explosive Breaching.** Explosive breaches will be coordinated with the Sidewinder and Dragon Team. Each charge's exact location, type, and size will be briefed during the rehearsal and approved explicitly through the covering Dragon OC/T. A detailed rehearsal is required and will be observed and certified by an Engineer OC/T. A qualified Engineer OC/T will supervise the preparation and emplacement of demolitions. The unit will obtain final clearance through the covering OC/T before initiating any firing device.
- f. **Pop and Drop Breach.** The "Pop and Drop" method of breaching is NOT authorized. Utilizing multiple charges, separately primed and initiated, defines the "pop and drop breach" and applies to time fuse and command initiation systems.
  - g. **MICLIC Operations.** Before firing the MICLIC during the combat operations, the Breach Commander will notify the chain of command to begin clearing the Surface Danger Zone. NTC has deviated from SDZ requirements in AR 385-63, JAN 12. Live MICLIC operations require the following:
    - i. **Shunting.** The MICLIC firing system will remain shunted until connected to the blasting machine.
    - ii. The only vehicles allowed to stay in Area F, a 30-meter radius around the MICLIC, are the MICLIC armored towing vehicle, ABV, or an M1A2 plow. Any personnel must be in one of these armored vehicles, with the hatches closed, and wearing appropriate hearing protection.
    - iii. The Breach Force Security Element may occupy the fragmentation zone behind the MICLIC firing line, outside of Area F. These personnel will be in an armored vehicle, with the hatches closed, and wearing appropriate hearing protection.
    - iv. Only required vehicles and personnel are allowed in the noise hazard contour behind the MICLIC firing line. All dismounted personnel and soft-skin vehicles will be at least 138 meters to the rear or flank.
    - v. After clearing the Surface Danger Zone, the Engineer OC/T on site will work with the Dragon OC/T while the breach force positions at the point of breach. Once clear, the Dragon OC/T will notify the Engineer OC/T, who will let the breaching unit know that the SDZ is clear. The RTU will follow its rehearsed SOPs for requesting command to launch the rocket and for detonating the line charge through their chain of command. After the RTU chain of command approves the launch and detonation, the RTU unit will notify the Engineer OC/T before the countdown.
  - h. **Modernized Demolition Initiators (MDI).** Do not use MDI with conventional demolition initiation systems (M7 nonelectric blasting cap, M6 electric blasting cap, M60 fuse igniter, or M700 time fuse). The Company Commander certifies all Soldiers on MDI.
  - i. **Marking.** All fighting positions will be marked IAW Section B-4, Paragraph 3 of this document.
  - j. **IED and UXO Reduction.**
    - i. **Training Requirements.** Units participating in live fire operations while in rotation at the National Training Center are authorized to utilize Explosive Ordnance Clearance Agents (EOCA). Soldiers possessing an EOCA ASI are permitted to reduce IEDs, mines, munitions, UXOs (unless otherwise restricted) if the following criteria have been met:
    - ii. The Soldier or leader has attended and graduated from the Explosive Ordnance Clearance Agent (EOCA) Course at Fort Leonard Wood, MO. Exception is if the Soldier or leader has attended and graduated from the Route Reconnaissance / Clearance Operations Course - Sapper (R2C2-S) at Fort Leonard Wood, MO (10-day curriculum).

- iii. The Soldier or leader has conducted demolition certification / Recertification within six months of the end of the scheduled NTC rotation.
  - iv. The unit possesses the proper mechanical or robotics platforms for interrogation, identification, and reduction charge placement; no manual approach is authorized.
  - v. The Soldier or leader has conducted Robotics familiarization and certification for reducing charge placement.
- k. Capabilities and limitations for EOCA reduction of UXO / IEDs. The rotational training unit will not reduce real-world UXOs; rotational unit is responsible for notifying EOD if a real-world UXO is encountered. Before reduction, the units certified EOCA Soldier WILL positively identify ordnance type and size. EOCA can reduce Improvised Rocket Launchers (IRL), buried and partially buried IEDs. The decision for reduction resides with the patrol leader and EOCA on the ground. EOCA personnel are not authorized to reduce the following mines, munitions, UXOs, and charges:
- i. EFPs or Shaped Charge Munitions.
  - ii. Items over 155mm Military Grade Munitions.
  - iii. Chemical, Biological, Radiological, and Nuclear (CBRN) munitions.
  - iv. "Daisy chained" items.
  - v. Suicide bombers or VBIEDs.
  - vi. Homemade Explosives (HME) with a net weight greater than 50 LBS
- I. Adjudication Procedures.
- i. Stow, transport, and utilize live or training demolitions IAW TM 3-34.82, *Explosives and Demolitions* and NTC EXOP chapter 5-2, *Training Demolition*. Establish proper security procedures (Blocking positions, 5-Cs conducted, proper stand-off/SDZ, use of terrain/armament for personnel protection). EOCA follows proper identification and response procedures IAW, ATP 3-34.20 *Countering Explosive Hazards* and EOCA IED reduction flowchart. OC/Ts will use discretionary adjudication when rotation units fail to operate accordingly.
  - ii. The rotational unit will be adjudicated if certified EOCA personnel fail to correctly identify SDZ and assesses the immediate area for potential high-order detonation effects damage.
  - iii. The rotational unit will be adjudicated if unit personnel fail to consult proper authorization authority for reduction, verify the cordoned area is clear for detonation, or ensure that personnel, infrastructure, and equipment are clear.
  - iv. EOCA will request permission from Engineer OC/T and Dragon as required to initiate the charge.
  - v. IED adjudication procedures conducted IAW NTC EXOP Chapter 5-3 during interrogation/interdiction procedures; assess casualties/BDA as prescribed.
  - vi. Adjudication of Indirect Fires. RTU Fires approve fire missions vetted by the on-ground OC/T and Dragon Fires. Upon impact and on-ground OC/T reports rounds observed to Dragon Fires, the Phoenix Team and Warrior Team determine round impacts, the target type in the simulation, and the location of the active target lifters. Dragon Fires reports adjudication to on-ground OC/T and/or the Dragon Primary.

## **10. Sustainment.**

- a. Ammunition.** RTU authorized to use notional ammunition for weapon systems not in NTC STRAC, ex: FASCAM, Javelins.
- b. Medical Support.** The rotational unit is responsible for maintaining the capability to conduct real-world casualty evacuation, stabilization, and treatment throughout live fire operations.

## **11. Rotary Wing and UAS Operations.**

- a. Live Hellfire.** Units desiring to conduct Live Hellfire training while at the NTC will contact Eagle 03/03M/08 NLT D-60. Units can procure their own Above-the-STRAC allocation from FORSCOM or request support from NTC G3 Ammo Above-the-STRAC allocation, if available. Eagle 03M/08 are available to assist with either request.
- b. Loitering Munitions.** Loitering munitions require both air and ground clearance. Operators must request airspace that accounts for the entire SDZ through AC2 and approved by Zulu TAC. Prior to engaging targets, operators must request a “Red Indirect Status” and “Call for Fire” clearance through an OC/T over Dragon Fires. Launch grid, target grid, and ditch point grid must be in approved airspace. Dynamic retasking is after launch and Dynamic targeting is only authorized with COG approval.
- c. Training Requirements to Complete at Home Station.** The following is a list of training prerequisites, by echelon, IAW TC 3-04.3 (June 2023):
  - i. AH Gunnery Training Requirements:** GT VI is the minimum requirement for all RCMs within the preceding 12 months. No waivers authorized; GT IX is required for all live-fire missions involving a flight of two or more aircraft. GT IX waivers will be considered by Commander of Operations Group. An approved GT IX waiver authorizes GT IX unqualified/uncurrent ACMs to conduct collective gunnery qualification at the NTC. All TC 3-04.3 standards remain in effect.
  - ii. Utility and Cargo Helicopter.** NRCMs will be qualified GT VI within the preceding 12 months. No waivers authorized.
  - iii. Utility and Cargo Helicopter RCMs** will be qualified GT VI within the preceding 12 months. No waivers authorized.
  - iv. All Air Mission Commanders and Flight Leads** participating in the BCT LFX will attend the Combined Arms Rehearsal and unit-level rehearsals to synchronize their execution with the maneuver plan.
  - v. UAS Gunnery Training Requirements.** Group 3 or higher UAS crews conducting Call for Fire or adjusting Fire during the LFX will be aerial gunnery qualified IAW TC 3-04.3, Aviation Gunnery Table VI, within twelve months. UAS crews that are not Table VI qualified may still participate in an ISR/IC role to collect information, provide situational awareness, observe effects, and conduct BDA during the LFX with COG approval.
  - vi. Loitering Munition Training Requirements.** Operators for loitering munitions must be qualified IAW respective service training doctrine. If qualification does not exist in doctrine, operators must have undergone New Equipment Training (NET) or similar training signed by a Battalion Commander (O-5) or higher. Qualification memorandums will be submitted to both G3 Air and Dragon Team.
  - vii. Coordination Level.** The coordination level is specified in the NTC EXCON higher headquarters ACO to ensure the safe deconfliction of rotary wing and fixed-wing aircraft. All fixed-wing aircraft will remain at least 500' (AGL) above the respective coordination level, and rotary-wing aircraft will remain at least 500' (AGL) below the coordination level unless coordinated with Desert Radio and ZULU TAC.

- d. **General Directives.** All personnel will possess body armor with DOD-issued plates in live fire areas regardless of live fire area status. Uniform is unit directed when AO Dragon is GREEN. Uniform is 'fit-to-fight' when the live fire area is RED. The fit-to-fight uniform consists of the following minimum:
  - i. **Aircrew members will carry ACH on board their aircraft.**
  - ii. **APEL-approved eye protection and hearing protection.**
  - iii. **All aircrew members wear full NOMEX uniform and approved flight boots.**
  - iv. **All AC2 and LFX Graphics.**
- e. **Aviation.** Rotational unit aircraft in the live fire area operate under the control of the following agencies in priority: The Aviation Trainers (Eagles), ZULU TAC, and Range Operations.
  - i. **Aviation Trainers.** Unit aircraft escorted by an Eagle OC/T conduct tactical operations per instructions from their chain of command.
  - ii. **All aviation units will request entrance into the live fire area via their BAE, designated airspace management cell, or Zulu TAC on 64.500 SC/PT and always maintain positive communications with Zulu TAC.**
  - iii. **Zulu TAC.** Unit aircraft not escorted by an Eagle OC/T will establish contact with Zulu TAC (64.500) before entering the live fire area. Aircraft will not climb above the coordinating altitude while attempting to establish contact with Zulu TAC unless Sundance Advisory or Desert Radio has approved. If the aircraft cannot contact Zulu TAC, it will not enter the live fire area.
  - iv. **Coordination Level.** The specified coordination altitude is in the NTC EXCON higher headquarters ACO. To ensure safe operations, all fixed-wing aircraft remain above the respective coordination altitude (AGL), and rotary-wing aircraft remain at least 500' below unless coordinated with Desert Radio.
  - v. **Coordinating Altitude.** Assigns authority of airspace above 20,000' (MSL) to Sundance Advisory. Zulu TAC will coordinate with Desert Radio to raise or lower the altitude as appropriate.
  - vi. **Aircraft MILES.** Aviation units ensure that all aircraft have operational MILES. The unit removes the MILES from the firing aircraft IAW the current airworthiness release.
- f. **Communications Requirements for Live Fire.**
  - i. **Continuous Communications.** Unit flight operations maintain continuous communications and locations of all unit aircraft and indirect fire systems in the Live Fire area.
  - ii. **Accountability.** The aviation unit will always have positive control over all aircraft, vehicles, and personnel. Not being able to account for any of the above halts the LFX.
- g. **Radio Procedures.**
  - i. **During LFX, Brigade Aviation Element (BAE) or designated airspace management cell utilizes FM 64.500 SC/PT for the sequence and timing of aircraft within the BCT airspace.**
    - **One aircraft within the flight, within R2502, will monitor desert Radio.**

- Aircraft that lose communications with their OC/T will signal the OC/T IAW the AC2 brief, assume a "GREEN" status, immediately land, and re-establish communications with the OC/T. Flights operating with an OC/T escort require an aircraft in contact with an OC/T. Aircraft in a flight experiencing a loss of communications assume a "GREEN" status and remain with the flight.
- ii. **Reporting Use of Red Star Clusters and Red Smoke.** Aircrews report the use of all Red Star clusters and Red Smoke to the chain of command and Eagle OC/T.
- h. **Precautionary Landing Procedures.** Aircraft experiencing a precautionary landing execute the appropriate emergency procedures and notifies Zulu TAC and their chain of command. The aviation unit should recover the crew and aircraft as soon as possible. Aircraft report their current location to Zulu TAC and confirm weapons systems are "Green and Clear." If the aircraft lands forward of firing ground elements, the aviation unit recovers the crew immediately. Recovery of the aircraft will occur at a time that does not interfere with the ground scheme of maneuver. The aviation unit's chain of command notifies Zulu TAC for coordinating a No Fire Area around the aircraft's location and to inform a future time to recover the aircraft.
- i. **Situational Awareness Requirements.** All aircraft Pilots in Command (PICs) will graphically depict the following on the maps: artillery firing areas (PAAs), mortar firing points (MFPs), and friendly ground positions down to Battalion / Task Force level. Pay special attention to the location of small units (e.g., scout observation points). Maps are 1:50,000 scale.
  - i. **Overhead Fires.** No overhead aviation direct fires.
  - ii. **Harmonization.** RTU Aviation may conduct harmonization IAW the Live-Fire FRAGO issued by 52ID, as required. The time block(s) and locations available will be defined in the FRAGO.
  - iii. **Target Pits.** Aircraft do not hover over target pits due to the potential hazard of radio transmissions setting off the pyrotechnics.
  - iv. **Fratricide Prevention.** Aircraft will adhere to all published maneuver graphics and airspace control measures to afford protection from friendly fires.
  - v. **Engagements in Vicinity of Troops.** Unit aircraft escorted by an Eagle OC/T may conduct properly approved live fire engagements in proximity to protected and unprotected troops using minimum safe distances designated by and at the discretion of the Eagle 07 and Dragon07.
  - vi. **Minimum Safe Distance.** The MSD of each weapon system is IAW ATP 3-09.32, and the minimum safe distance for 30mm TP, .50 Cal., and 2.75" rockets is 500 meters. Units will ensure they deploy to the NTC with appropriate SDZ overlays (at the required scale) for planning.
  - vii. **Safety.** Safety and risk management is the unit commander's responsibility. Eagle 07 reserves the right to ground any aircrew, halt any vehicle, or otherwise stop any unit operation if there is reason to believe a safety hazard exists. Eagle 07 is the only individual who authorizes the resumption of training.

## **12. Close Air Support.**

- a. **Control.** A qualified Joint Terminal Attack Controller (JTAC) or Forward Air Controller (FAC-A) will use Type 1 or 2 Control procedures for all live fire CAS engagements. The Commander of the NTC EXCON higher headquarters may authorize Type 3 Control after consulting with Raven 07.

- i. **CAS targets within 5,000 meters of personnel will be associated with a visual mark. Marks at NTC are limited to the following:**
  - **2.75-inch WP / HE / SP / TP or JSLIST rockets. TP rockets require multiple releases.**
  - **20mm, 25mm 30mm guns TP / HEI**
  - **60mm, 81mm, 120mm MTR, 105mm, 155mm HE / WP / ILA / SMK**
  - **120mm TPCSDS, HEAT-TP-T**
  - **FAC-A delivered BDU-33 / MK-76**
  - **VDL Capture**
  - **Smoke grenades delivered from RW (hand tossed)**
  - **50 Cal**
  - **40mm grenades delivered by MK-19**
  - **AT4 84mm**
  - **Distance and Direction from a Unique Terrain Feature**
- ii. **GP Bombs and inert ordnance are not acceptable marks. Give all abort calls in the clear.**
- iii. **JTAC / FAC-A will pass a CAS 9-line brief to the aircrew before the aircraft departs the IP / CP for each CAS attack. Terminal Attack Controllers use the following considerations in developing their 9-line briefing:**
  - **FLOT and other friendly forces (COLTS, Scouts, TACs, etc.)**
  - **Fire Support Coordination Measures**
  - **Artillery and mortar locations/gun target lines**
  - **Airspace conflicts / Airspace Control Measures**
- iv. **Self-Illumination. Aircraft released LUU, and Rocket Flares are authorized. Range-to-fuse function will occur at least 500 meters from friendly units' positions. Range-to-impact will occur at least 800 meters from friendly units' positions.**
- v. **Aircraft must always operate with active IFF systems.**
- vi. **The FLOT and individual positions forward of the FLOT will be marked to allow for quick aerial identification of the friendly positions during night-live CAS operations only. FAC-As and attack aircraft will confirm location of friendly troops.**
- vii. **VMC weather criteria is 1500 feet / 3 nautical miles or at least 500 feet above the highest portion of the weapons delivery pattern, whichever is higher. (N/A for fixed wing level deliveries above 5,000 feet AGL.) For rotary wing operations, the ceiling will be 800 feet AGL or at least 500 feet above the highest portion of the weapons delivery pattern, whichever is higher.**

- viii. CAS with live ordinance may overfly but not “hold” over friendly troops. Aircraft never overfly friendly troops if the aircraft has “hung” ordinance.
- ix. No cluster munitions are authorized.
- x. Coordinate dependent weapons (JDAM) are authorized at the NTC. AGM-65 is authorized on Leach Lake targets 3, 4, and 5 per safe-range employment restrictions.
- xi. Raven OC/Ts will need to direct aircraft that cannot expend ordnance in live fire to an alternative target at Leach Lake Tactics Range that is at least 5,000 meters from any personnel.

**b. Airspace Management:**

- i. **Coordinating Altitude.** The coordination altitude for R2502 N/E “The NTC Range-Complex” are IAW the Green Flag West Spins published for each rotation. Violation of the coordinating altitude results in a range foul for the aircraft.
- ii. **Airspace Coordination Area.** Activate all formal and informal ACAs through NTC EXCON higher headquarters FSE.
- iii. **Lateral Separation.** Indirect fires and CAS may attack different targets simultaneously if the indirect fire GTL and CAS targets are coordinated with an informal/formal ACA. During live fire, CAS will also adhere to the live fire CAS minimum altitudes.
- iv. **Time Separation.** When below 5,000 feet Above Ground Level (AGL), CAS, artillery, and mortars may attack the same target provided a minimum of 30 seconds separation between the last round on the ground, and the first aircraft delivered ordnance on the target. Aircraft will not violate active GTLs or live fire CAS minimum altitudes.
- v. **Altitude Separation.** CAS, artillery, and mortars may attack the same target simultaneously using Maximum Ordnance or ORD 1 procedures while adhering to live fire CAS minimum altitudes. Units may use the Maximum Ordnance procedure provided aircraft remain at least 1,000 feet above the direct and indirect fire trajectories and their effects. Units will not establish a standing Maximum Ordnance over their sector/zone for an entire battle. When using ORD 1 procedures, aircraft will remain at least 25 degrees laterally separated from the artillery GTLs until crossing the target area.
- vi. **CAS Minimum Altitude.** CAS employment must maintain a minimum altitude above the Vertical Hazard Distanced (VHD) of active direct fire SDZs. The VHD width is equal to the width of all active SDZs and out to Distance X for the largest weapon system in use. CAS employed greater than the largest Distance X from the FLOT may employ as low as 300 feet AGL unless the target is within the range of indirect fires, in which case the minimum altitude is 3,000 feet AGL.
- vii. **Minimum Safe Distances for bombing and strafing for fixed and rotary wing aircraft** are taken from Table 37 in the most currently published Joint Fire (J-FIRE) (FM 3-09.32).
- viii. **Applicability.** This table establishes minimum distances that ground JTAC / TACP personnel may safely locate concerning standard munitions' target/impact area. The area within the limits established by this table is designated the danger area. Minimum safe distances are from the target/impact area and for a ground function only (no airburst munitions). Additionally, range features can affect weapon impact points (e.g., high terrain short of the intended target may intersect weapon fly-out trajectories, causing short impacts). Only the weapon listed may use the distances in the table, and the aircrew will adhere to specific remarks for a weapon if they are not listed. Only the following aircraft may utilize the MSD table: A-10, AC-130, AV-8B, B-1, B-2, B-52, F-15E, F-16, F/A-18, AH-1, and UH-1.

- ix. **Parameters Assumptions.** Aircraft attack parameters will be at or below 15,000 feet AGL for level or diving deliveries and at or below 20,000 feet AGL, 540 knots true air speed (KTAS) for level LGBs. For GBU-31/32/38/39 munitions from a bomb-on-coordinate (BOC) mode, altitude, and release airspeeds are limited by range regulation parameters and weapon batter life. B-1, B-2, and B-52 will reference Note 5, and AC-130 will reference Note 6.
  - x. **Multiple Deliveries.** Ripple/string/stick deliveries will be less than 500 feet in total length, with a maximum of six weapons. For IAMs deliveries, a 250-foot maximum impact distance from the primary target location is used for all pattern-managed drops.
  - xi. **Ammunition / Bullet Numbers.** For AC-130 operations, ammo numbers are taken from AFI 11-2AC-130v3. Ricochet fan numbers are SAFE RANGE-derived for 20mm and 30mm (extrapolated for 25mm) fighter strafe passes. Single drop fighter strafe MSD numbers are Joint Munitions Effectiveness Manual (JMEM) derived. Helicopter ricochet fans are SAFE RANGE-derived, and MSD numbers are JMEM derived.
  - xii. **Rocket Deliveries.** Fixed-wing parameters: at or below 15,000 feet AGL, 540 KTAS, 15 degrees of dive, 8,000 feet slant range. Rotary wing parameters: running/diving fire with 5–20-degree dive angle, two-round burst, and forward flight.
13. **Intelligence. Virtual, Constructive, and Live Intelligence.** Live, Virtual, and Constructive MI assets enable the unit to gain intelligence on the OPFOR and terrain. Units may request division assets to augment organic capabilities in support of live fire operations.
14. **Electronic Attack (EA) / Electronic Warfare (EW) Operations.** Electronic warfare (EW) operations follow the established procedures used during Force-on Force operations with the following exceptions:
- a. **Imitative Communication Deception (ICD)** is not authorized during live fire operations.
  - b. **Authority.** Units position EW assets per the maneuver plan unless special requests are coordinated to conduct pre-planned lanes, which requires an O-6 BDE CDR signed memorandum to remove from the Live Fire Area.
  - c. **Restrictions.** EW is not authorized against TACAIR during Live Fire operations. All TACAIR communications in Live Fire are BLUFOR/Friendly communications. EA and Cyber effects are not authorized against the RTU, or as a requested effect for the BLUFOR during Live Fire unless with COG Approval. Electronic Warfare Support (ES) is authorized if conducting pre-coordinated lanes.
  - d. **Reporting.** The Deployable Intelligence Support Element (DISE) will send all reports, combat information, and TACREPs to the NTC EXCON higher headquarters DTOC during Live Fire operations.
  - e. **Ghost CEMA elements and W2 SIGINT elements** will assist Dragon in the location and set-up of emitters during LFX.
  - f. If EW and SIGINT teams are in a position where they could potentially receive the emitter's signal but cannot receive it due to a lack of emitter strength, OC/Ts will confirm with W2 that the RTU will receive intelligence regarding the location of the emitter.
  - g. If EW and SIGINT teams are in a position where they could potentially receive the emitter's signal but cannot receive it due to the team's improper equipment set-up, no effects will be adjudicated.
  - h. If the EW and SIGINT teams receive the emitter signal and report to the BCT that an emitter signal has been identified, OC/Ts will confirm with W2 that intelligence will be released to the RTU.
  - i. Before every rotation, Lizard intelligence planners and W2 will determine the type of intelligence given to the RTU, dependent on the emitter location and replication of the threat.

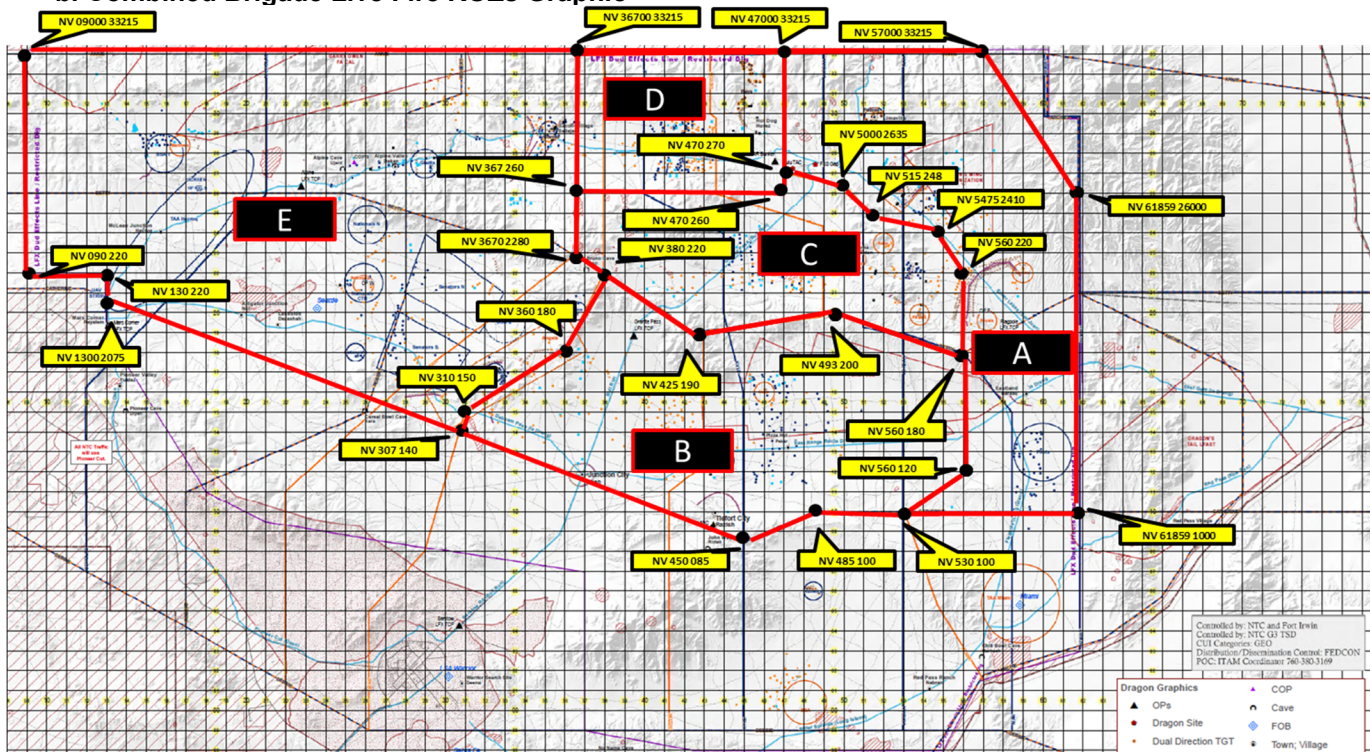
15. **Emerging Weapons Technology Integration.** All emerging technology which does not have a corresponding doctrinal qualification program will require a waiver to fire IAW applicable limited range safety use staffing. Units bringing these assets to NTC must ensure they have been trained IAW pertinent doctrine pertaining to the platform prior to arrival. If no doctrine exists, operators must have successfully completed NET/NEF. This requirement is not waivable. Non-standard qualifications will be executed IAW army emerging technology rules and regulations (ATECs, TSINs, ARSMMs etc.)

16. **Airspace.**

a. The Brigade Live Fire Airspace will consist of the following areas, all surface to 38,000 feet MSL:

- i. ROZ A (Silver Lakes East)
- ii. ROZ B (Central Corridor)
- iii. ROZ C (Echo Valley)
- iv. ROZ D (Drinkwater)
- v. ROZ E (West)

b. Combined Brigade Live Fire ROZs Graphic





# **National Training Center**

## **ANNEX C**

### **IMPLEMENTING DIRECTIVES**

This document is the "SOLE SOURCE" for rotational units addressing battlefield simulation.  
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**JUNE 2025 (FY25)**

## **Annex C Implementing Directives**

- C-1 Administrative**
- C-2 Maneuver**
- C-3 Urban Operations (UO)**
- C-4 Fire Support**
- C-5 Air Defense**
- C-6 Engineer**
- C-7 OPFOR Recovery Operations**
- C-8 Mission Command**
- C-9 CBRN Operations**
- C-10 Definitions of Commonly Used Terms**

### **C-1 Administrative**

- 1. Rekeying an element ensures systems are not lost due to “bogus” MILES kills.**
  - a. OPFOR Rekey/Reconstitution.** OC/T will not reconstitute reconnaissance elements or Disruption Zone forces killed between midnight prior to the battle and the end of the battle. If DTG or BTG elements choose to reinforce the Disruption Zone, it will not exceed 30% of CBI.
  - b. Rekey requests for OPFOR elements are submitted through the Palehorse leadership through Palehorse 07 or Blackhorse 03.**
  - c. OPFOR Artillery Weapon systems reconstitute to 100% only at ROBE of each phase. The COG via Wolf 07 must approve any additional reinforcements.**
- 2. Vehicles in direct fire contact are not authorized rekeys without coordination with the 07, 03 or 02 of the affected OC/T team. The Line Team 07 makes the final determination for rekeys of RTU or OPFOR vehicles in direct fire contact. OPFOR vehicles that are authorized CBI rekeys and are in direct fire contact must remain dead until they are able to withdraw to the reasonable reconstitution line (normally one terrain feature). Once the formation is destroyed the vehicles will go back to the CTCP to get rekeyed.**
- 3. Tracking of OPFOR Assets maintains the fidelity of the battlefield and facilitates AARs by providing adequate disposition of opposing forces. The OPFOR TAF will keep the DTOC informed concerning OPFOR elements that are not tracking for whatever reason. Recon elements, Detachments and other units that are committed to the battle prior to LD should track before leaving the LD. The OPFOR TAF will work through the OPFOR LNOs to resolve any tracking issues once forces have been committed. Tracking problems that cannot be resolved will be brought to the attention of the DTOC. Once LD occurs and OPFOR forces are engaged in direct fire contact, tracking issues will continue to be worked through the OPFOR TAF with the OPFOR LNOs and in conjunction with the affected OC/T Team 07 and the DTOC**

### **C-2 Maneuver**

- 1. Boundary Violations**
  - a. The first time a vehicle or person exits the competitive area of operations, an OC/T, OPFOR or COB liaison will notify the vehicle. If the vehicle does not return to the competitive AO within 30 minutes, the vehicle will be penalty killed.**
  - b. Rotary wing (OPFOR and RTU) aircraft flying out of the designated boundaries will be “ordered” back into the competitive AO. If the aircraft flies out of the competitive AO a second time, the aircraft will be assessed by the OC/T as destroyed by friendly fire from adjacent notional units. Eagle 07 is the final approval authority for RTU aircraft, based on unit training objectives. DTOC is the final approval authority for OPFOR aircraft adjudication.**
  - c. Task Force Angel. Upon coordination with the DTOC, OPFOR air assaults out of sector may be authorized with a minimum of a 1/3 combat power assessment.**
- 2. Air Raid Detachment (ARD) Operations**

- a. Submit ARD initial Warning Order (WO) and DRT insertion to the DTOC and the Eagle TAF NLT 24 hours prior to mission execution. The WO will contain the primary and alternate routes and a series of LZs. The ARD final plan must be submitted to the DTOC NLT six hours prior to execution. The final plan should include any DRT sweep timelines. W3 is the final approval authority. Provide final LZ locations for ARD to W02 NLT PZ H-3 hours for dissemination to OC/T teams.
  - b. OPFOR LNO may submit changes to LZ locations as they occur to W02 and the DTOC for approval. W02/DTOC will staff these changes through W3, W16, and E07T to ensure airspace coordination. If there is an airspace coordination issue, W3 will determine if the missions can be coordinated by time or space.
  - c. RTU will have priority if time/space coordination is not possible. False insertions of ARD can be authorized. An Operations Group OC/T or an OPFOR LNO will cover all ARD missions. The OC/T will check TESS and tracking through the Eagle TAF prior to mission execution. ARD mortars may carry either the 82mm or the 60mm based on available equipment. A blank M4 fired in the tube replicates the firing mortar tube; One round per mortar fired.
  - d. Non-VISMOD aircraft are not authorized for "non-escorted" missions. Until modified, all aircraft will be accompanied by a VISMOD escort.
3. Tracking ARD on Division Early Warning (DEW) Net
- a. 52ID DTOC will replicate the actions of the FAAD BN TOC by disseminating Air Defense Warning, Weapons Control Status, and attacking aircraft track data when appropriate. This will be done on the FM Directed Early Warning (DEW) Broadcast Net. When tracking ARD, DTOC personnel (usually W16) provide track data to the field based on the following:
  - b. OPFOR TAF reports "Wheels Up" to DTOC once ARD leaves PZ. ADW and WCS are broadcast over the DEW net as "Red, Tight, and Lookout". The PZ location becomes the initial track grid, once ARD is airborne and enroute to one of four possible LZs.
  - c. Once DTOC is notified the first lift approaches the LZ, the DTOC will broadcast "Dynamite" as the local ADW and will also give the initial track designator number, track description (type and number of aircraft), current 4-digit grid location, and track heading (using cardinal directions).
  - d. The DTOC will periodically follow up track data by disseminating track updates over the DEW net. The DTOC will rebroadcast track designator number, current 4-digit grid location (based on aircraft icon as seen on CTC-IS screen), and track heading.
  - e. The DTOC will stop track updates approximately 3 kilometers from the LZ. As ARD aircraft depart the LZ and egress out of sector, DTOC will broadcast track data in the same manner as above.
  - f. ARD consists of more than one lift (up to as many required to move 100 infantrymen and 3 x AT5s from PZ to LZ). The DTOC will broadcast track data as stated above as long as ARD is operating in sector.
  - g. Once ARD has cleared the Division Area of Operations for the final time, the DTOC will broadcast the ADW and WCS as "White, Tight, and Lookout".
4. AT-5 Operations
- a. The AT-5, as replicated by the AT-5 BRDM and the dismounted AT-5 (TOW) system, will execute the following signature effects and will be repeated for each round fired by the system: Fire ATWESS from the AT-5 system, an alternate signature of an artillery simulator will be thrown to the front of the vehicle level with the weapons system dropped if ATWESS does not work.
  - b. For the AT-5 in the dismounted mode the gunner and the day sight can both be killed/destroyed. Both must be exposed to enemy fire (i.e., MILES berms are prohibited). If they are not exposed the entire weapon system is authorized to be destroyed IAW the MILES berm rule.
  - c. If a dismounted AT-5 is destroyed, the ammunition carried on the parent vehicle may be cross leveled

by ammo carriers to another weapon system provided the vehicle is still operational.

- d. If the gunner on a dismounted AT-5 system is killed by indirect fires the entire weapon system may be destroyed. If the gunner is killed by direct fires, then an OC/T on the ground will determine if the AT-5 system was also destroyed depending on the type of direct fire system engaging the assessed gunner (i.e., the AT-5 may not be destroyed by 5.56mm direct fires, but may be destroyed by 25mm direct fires).

## **5. Special Purpose Forces (SPF) Operations**

- a. **Uniform.** The uniform is paramilitary attire (i.e., nothing specific that will distinguish them from the civilian population; refer to Ch 3-5).
- b. **Vehicles driven by SPF forces** are authorized to use white light within the training area. When approaching or passing RTU or OC/T vehicles that are operating under black out drive conditions, they will reduce speed to 15 MPH to reduce the chance of vehicle collisions.
- c. **Cache Sites.** The SPF force will begin each rotation with one UBL. The SPF Commander will determine what is cached, what is carried and what is left in a safe area. Caches may be separate from the base camp.
- d. **SPF will operate within the BCT zone of operation dictated by the CBI.** These zones will be identified to the RTU as historical areas of SPF operations.
- e. **Mortars.** SPF forces will have 82mm mortars (replicated by 60mm mortars). They will replicate mortar rounds using sandbags. There must be an audible signal for each mortar round fired (i.e. 5.56mm blank round fired down the barrel of the mortar tube or hand grenade simulator).
- f. **SPF KIA** will be available for one hour following their assessment for search by the RTU. Following RTU search efforts, the KIA will be returned to the OPFOR Regiment for reconstitution purposes. **SPF WIA EPWs** will remain together for accountability and control. Upon being reconstituted, SPF forces must competitively infiltrate back into their respective areas of operation.
- g. **When OPFOR raid teams are able to steal the COMSEC** the OPFOR cannot transfer the COMSEC from the RTU vehicle to their vehicles based on “real world” equipment variants. The OPFOR must have the means and tactical ability to extract the stolen vehicle before they can begin to monitor the net. The OPFOR must confirm this route with OC/T present.
- h. **SPF Drones (Group 1 sUAS).** SPF forces will have Phantom 4 Pro Commercial Off-The-Shelf (COTS) Drones replicating the Group 1 Small UAS (sUAS) threat. These sUAS aircraft can be defeated with C-UAS Systems, e.g. DroneBuster or DroneDefender. TAF Elements can provide notional SSE products (i.e. Fingerprints, Imagery, etc.) from sUAS downed notionally. RTU must not physically exploit OPFOR COTS sUAS in order to prevent damage to equipment.
- i. **Drone Swarm (Group 2 sUAS).** OPFOR uses Group 2 sUAS T-STORM QuadCopters to replicate a Drone Swarm (~40 Drones) threat for Rotational Units. The Drone Swarms are typically used to harass and disrupt RTU operations. These sUAS can also notionally drop small ordinance and propaganda leaflets.

## **6. OPFOR UBL**

- a. OPFOR is restricted to:

| Platform                   | Quantity on hand (UBL)             | Type of round | Max Effective Range |
|----------------------------|------------------------------------|---------------|---------------------|
| T-90                       | 6                                  | AT-11B        | 5 km                |
| BMP-3                      | 8                                  | AT-10         | 4 km                |
| Kornet AT14 (JAV)          | 3                                  | AT-14**       | 5 km                |
| VAB (BRDM) AT-HOT-3        | 4 in the Launcher<br>8 in the Hull | HOT-3         | 4 km                |
| MI-24 Hind-E               | 8                                  | ATG Spiral    | 5 km                |
| Prizrak 19 unmanned (RTFU) | 1                                  | AT-14**       | 5 km                |

**\*\*Kornet AT14 (JAV) rounds must be replicated with the JAV VISMOD only – 3 ON HAND**

- b. Resupply. All platforms begin operations with one UBL. One resupply is authorized in the offense and two resupplies are authorized in the defense. resupply may be conducted via supply point (cache) or tailgate (resupply vehicle); resupply operations require 10 minutes. Cache may be in the OPFOR battle area replicated ammunition cache will be pipes that are crated together upon a pallet. The size (height and width) to include weight must replicate the munitions. Cache points will be built in CTC-IS. Tailgate may be conducted at/near a battle position with a dedicated resupply vehicle from a cache point or the OPFOR Support Zone.
7. OPFOR sUAS Operations. In order to replicate longer range UAS, ground control station (GCS) may administratively emplace (OC escorted) within range of a proposed target.
- a. Administrative GCS will be established along the flight path from the targetable/replicated GCS and the target area FPV-one way / loitering munition:
- sUAS will launch from the administrative GCS to confirm target location
  - TSM-800s programed with location loiter over target, CTC-IS/ MILES effects replicated through IDF (administrative kill) mission on specific platforms.
- b. UAS emplaced minefield:
- TSM-800s equipped with modified droppable M21 plastic shell mines conduct 3 flights to cover mined area.
  - PH OCs recover the dropped modified M21 plastic shell mines and replace with FASCAM Blocks to preserve the modified mines.

### **C-3 Urban Operations (UO)**

- Building Effects Simulation System (BESS). Many buildings within the NTC training area are equipped BESS. This set consists of a MILES CVKI, MILES belts, smoke signature, MILES transmitter, and sound emitter. MILES belts are located along doorways and windows. Typically a single structure has one set mounted, but larger buildings have several sets mounted.
  - BESS Operation and hit assessment: A successful hit with a direct fire weapon system, indirect, or CAS will cause the BESS CVKI to light, smoke signature to fire, audible MILES kill tone to sound, and cause a MILES transmitter inside the building to fire a wide area universal kill code. This will clearly indicate which building has been struck and will record the weapon system kill code. Near misses will be registered if the weapons system misses or is too small to kill the building. The controller box is the standard MILES II vehicle system and the structure will show on NTC-IS with current status. It can be killed from a TAF.
  - Non-BESS Equipped Assessment: Use manual adjudication chart in Section B.
  - BESS Protection Levels: BESS can be set to three different levels of protection. Settings used are M113, M2 Bradley, and M1A1. The level of protection will be preset prior to the rotation and done in

conjunction with the NTC standard structure numbering system and will be issued to the unit with adequate building descriptions. There is no special marking system to differentiate level of protection due to ever changing scenario requirements. Painting or facades are impractical. Building description within the division order/TOA brief and the consistent near miss signature of the CVKI will be a sufficient indicator of a strongly constructed building.

- d. **Maintenance:** BESS is a Raytheon responsibility. Raytheon fire markers are responsible for loading any pyrotechnic devices that are part of BESS. Raytheon MILES is responsible for maintenance of the equipment. OC/T teams can coordinate for fire marker support through Wolf TAF. OC/T teams will coordinate with MILES contact team for maintenance support.
- e. **Safety:** Smoke and MGSS launchers that are part of the BESS are mounted on roofs of buildings. OC/T should ensure no player personnel of any kind on roofs with BESS equipment. The BESS smoke devices can emit a sizable flame and a 1-meter safe distance should be kept in all directions during the burn.
- f. **Building Destruction:** Once the BESS has been successfully initiated or the OC/T manually adjudicated an un-instrumented building, OC/Ts will determine if the building has been merely damaged or destroyed based on the weapon system and number of rounds fired. If damaged the building remains in play.
- g. **Destroyed buildings** will be marked with orange tape across all apertures (doors/windows) by the town OC/T. Destroyed buildings may not be reoccupied for any purpose other than COB life- support until they are reconstituted. Due to limited sleeping areas COBs may use destroyed buildings for sleeping or environmental protection only. Destruction is defined as unusable due to loss of structure integrity with no possible use as cover or original use intent. A *general* guideline for destruction criteria follows:
  - i. **Building Reconstitution:** Once a structure has been assessed as destroyed the player unit or the COBs may reconstitute the structure if they can demonstrate the means to do so. OC/T Teams retain final approval authority to reconstitute destroyed buildings based on reconstruction efforts and/or the requirement to meet future training objectives. Destroyed buildings or tunnels and subsequent reconstitution must be reported to the DTOC.
  - ii. **Wooden structures** at the NTC are considered wooden structures with the same structural integrity for interior and exterior walls.
  - iii. **Railroad cars, mobile home trailers and campers** are considered to be made of 2-inch non-reinforced concrete.
  - iv. **Anteon buildings** represent structures made with 8-inch reinforced concrete. Buildings at the Pioneer Site are considered to be constructed of 8" Concrete Modular Units (CMU) filled with concrete and reinforced with one-half inch reinforcing bar placed at eight-to-ten-inch intervals.
  - v. **Roof Penetration.** A building must be within 50 meters of indirect fire.
  - vi. **Wall Breach.** For a breach in the walls, the weapon system must be fired in direct mode using procedures in the appropriate TM and FM 3-1.6.23.
  - vii. **The following are effects by direct fire weapon system:**

| Weapon  | Structure       | Rds | Breach      | Assessment of casualties |
|---------|-----------------|-----|-------------|--------------------------|
| M4/M249 | Wooden Building | 60  | Penetration | 40%                      |
|         |                 | 200 | Penetration | 60%                      |
|         | Stucco          | 60  | Penetration | 20%                      |
|         |                 | 200 | Loop hole   | 40%                      |
|         | 8" CMU          | 60  | Penetration | -N/A-                    |
|         |                 | 200 | Loop Hole   | 20%                      |

|                               |                            |            |                                |                                        |
|-------------------------------|----------------------------|------------|--------------------------------|----------------------------------------|
| <b>M240M2M-60<br/>M240B</b>   | <b>Wooden<br/>Building</b> | <b>100</b> | <b>Penetration</b>             | <b>60%</b>                             |
|                               |                            | <b>300</b> | <b>Penetration</b>             | <b>80%</b>                             |
|                               | <b>Stucco</b>              | <b>100</b> | <b>Loop hole</b>               | <b>40%</b>                             |
|                               |                            |            |                                |                                        |
|                               | <b>8" CMU</b>              | <b>300</b> | <b>Mouse hole</b>              | <b>60%</b>                             |
|                               |                            | <b>100</b> | <b>Loop Hole</b>               | <b>20%</b>                             |
| <b>M2M-2</b>                  | <b>Wooden<br/>Building</b> | <b>300</b> | <b>Mouse Hole</b>              | <b>40%</b>                             |
|                               |                            | <b>50</b>  | <b>Penetration</b>             | <b>80%</b>                             |
|                               | <b>Stucco</b>              | <b>100</b> | <b>Penetration</b>             | <b>100%</b>                            |
|                               |                            | <b>50</b>  | <b>Loop hole</b>               | <b>60%</b>                             |
|                               | <b>8" CMU</b>              | <b>100</b> | <b>Mouse hole</b>              | <b>80%</b>                             |
|                               |                            | <b>50</b>  | <b>Loop Hole</b>               | <b>20%</b>                             |
| <b>AT4/RPGDragon</b>          | <b>Wooden</b>              | <b>50</b>  | <b>Mouse Hole</b>              | <b>40%</b>                             |
|                               |                            | <b>100</b> | <b>Mouse Hole</b>              | <b>40%</b>                             |
|                               | <b>Stucco</b>              | <b>50</b>  | <b>Loop hole</b>               | <b>60%</b>                             |
| <b>JavelinJavelin</b>         | <b>Wooden<br/>Building</b> | <b>50</b>  | <b>Loop hole</b>               | <b>60%</b>                             |
|                               |                            | <b>100</b> | <b>Loop hole</b>               | <b>40%</b>                             |
|                               | <b>8" CMU</b>              | <b>1</b>   | <b>Loop hole</b>               | <b>20%</b>                             |
| <b>BMP-3</b>                  | <b>Wooden<br/>Building</b> | <b>1</b>   | <b>Loop hole</b>               | <b>60%</b>                             |
|                               |                            | <b>1</b>   | <b>Loop hole</b>               | <b>40%</b>                             |
|                               | <b>Stucco</b>              | <b>1</b>   | <b>Loop hole</b>               | <b>20%</b>                             |
|                               |                            | <b>1</b>   | <b>Loop hole</b>               | <b>20%</b>                             |
|                               | <b>8" CMU</b>              | <b>1</b>   | <b>Loop hole</b>               | <b>20%</b>                             |
|                               |                            | <b>1</b>   | <b>Loop hole</b>               | <b>20%</b>                             |
| <b>TOW/AT-5TOW/<br/>AT- 5</b> | <b>Wooden<br/>Building</b> | <b>15</b>  | <b>Loop Hole</b>               | <b>80%</b>                             |
|                               |                            | <b>25</b>  | <b>50"x30" Breach<br/>Hole</b> | <b>100%</b>                            |
|                               | <b>Stucco</b>              | <b>15</b>  | <b>Loop hole</b>               | <b>80%</b>                             |
| <b>M1A1/T-90</b>              | <b>Wooden<br/>Building</b> | <b>25</b>  | <b>50"x30" Breach<br/>Hole</b> | <b>100%</b>                            |
|                               |                            | <b>15</b>  | <b>-N/A-</b>                   | <b>-N/A-</b>                           |
|                               | <b>8" CMU</b>              | <b>25</b>  | <b>Penetration</b>             | <b>20%</b>                             |
| <b>TOW/AT-5TOW/<br/>AT- 5</b> | <b>Wooden<br/>Building</b> | <b>1</b>   | <b>Mouse Hole</b>              | <b>60%</b>                             |
|                               |                            | <b>1</b>   | <b>Mouse Hole</b>              | <b>40%</b>                             |
|                               | <b>8" CMU</b>              | <b>1</b>   | <b>Mouse Hole</b>              | <b>20%</b>                             |
| <b>M1A1/T-90</b>              | <b>Wooden<br/>Building</b> | <b>1</b>   | <b>Breach hole</b>             | <b>100% (including<br/>room above)</b> |
|                               |                            | <b>1</b>   | <b>Breach hole</b>             | <b>100% (including<br/>room above)</b> |
|                               | <b>8" CMU</b>              | <b>1</b>   | <b>Breach hole</b>             | <b>80%</b>                             |

viii. IDF and Attack Helicopter Effects.

| <b>Weapon</b>              | <b>Structure</b>                                      | <b>Ammo<br/>Rds</b>          | <b>Breach</b>                                                              | <b>Assessment of<br/>Casualties</b>                |
|----------------------------|-------------------------------------------------------|------------------------------|----------------------------------------------------------------------------|----------------------------------------------------|
| <b>155mm<br/>Excalibur</b> | <b>Wood Building</b>                                  | <b>1</b>                     | <b>Caliber size<br/>hole in roof, 50" hole in wall</b>                     | <b>1st room KIA and 2nd<br/>room per BDA cards</b> |
|                            | <b>2" Concrete</b>                                    | <b>1</b>                     | <b>Caliber size hole in roof,<br/>30" hole in wall</b>                     | <b>1st and 2nd room per<br/>BDA cards</b>          |
|                            | <b>8" CMU<br/>Concrete filled<br/>with 1/2" rebar</b> | <b>1</b>                     | <b>Caliber size hole in roof ;<br/>30" hole in wall, rebar<br/>remains</b> | <b>1st and 2nd room per<br/>BDA cards</b>          |
| <b>105mm HE</b>            | <b>Wood Building</b>                                  | <b>1 x DLY or<br/>1 x PD</b> | <b>Roof penetration to bottom<br/>floor</b>                                | <b>1st room per BDA cards</b>                      |
|                            | <b>2" Concrete</b>                                    | <b>1 x DLY</b>               | <b>Roof penetration only</b>                                               | <b>1st room per BDA cards</b>                      |
|                            | <b>8" CMU<br/>Concrete filled<br/>with 1/2" rebar</b> |                              | <b>Roof penetration only</b>                                               | <b>1st room 25% cas per<br/>BDA cards</b>          |
|                            | <b>Wood Building</b>                                  | <b>1</b>                     | <b>Roof penetration to bottom<br/>floor</b>                                | <b>1st room KIA and 2nd<br/>room per BDA cards</b> |

|                       |                                             |                            |                                         |                                                |
|-----------------------|---------------------------------------------|----------------------------|-----------------------------------------|------------------------------------------------|
| <b>GMLRS M31A1</b>    | <b>2" Concrete</b>                          | <b>3</b>                   | <b>Roof penetration to bottom floor</b> | <b>1st room KIA and 2nd room per BDA cards</b> |
|                       | <b>8" CMU Concrete filled with ½" rebar</b> | <b>3</b>                   | <b>Roof penetration to bottom floor</b> | <b>1st room KIA and 2nd room per BDA cards</b> |
| <b>ATACMS M48/M57</b> | <b>Wood Building</b>                        | <b>1</b>                   | <b>Building destroyed</b>               | <b>1st room KIA and 2nd room KIA</b>           |
|                       | <b>2" Concrete</b>                          | <b>1</b>                   | <b>Building destroyed</b>               | <b>1st room KIA and 2nd room KIA</b>           |
|                       | <b>8" CMU Concrete filled with ½" rebar</b> | <b>1</b>                   | <b>Building destroyed</b>               | <b>1st room KIA and 2nd room KIA</b>           |
| <b>Mortar 60mm HE</b> | <b>Wood Building</b>                        | <b>1 x DLY or 1 x PD</b>   | <b>Caliber size holes</b>               | <b>1st room 50% casualties per BDA cards</b>   |
|                       | <b>2" Concrete</b>                          | <b>1 x DLY</b>             | <b>None</b>                             | <b>None</b>                                    |
|                       | <b>8" CMU Concrete filled with ½" rebar</b> | <b>1 x DLY</b>             | <b>None</b>                             | <b>None</b>                                    |
| <b>Mortar 81mm HE</b> | <b>Wood Building</b>                        | <b>1 x DLY or 1 x PD</b>   | <b>Caliber size holes</b>               | <b>1st room per BDA cards</b>                  |
|                       | <b>2" Concrete</b>                          | <b>1 x DLY</b>             | <b>Caliber size holes</b>               | <b>1st room 50% casualties per BDA cards</b>   |
|                       | <b>8" CMU Concrete filled with ½" rebar</b> | <b>1 x DLY</b>             | <b>Caliber size holes</b>               | <b>1st room 25% casualties per BDA cards</b>   |
| <b>AH-64</b>          | <b>All MOUT structures</b>                  | <b>40 x 30mm</b>           | <b>30" hole</b>                         | <b>1st room per BDA cards</b>                  |
|                       |                                             | <b>1x Hellfire missile</b> | <b>18" hole</b>                         | <b>1st room per BDA cards</b>                  |
|                       |                                             | <b>1x 2.75 FFAR</b>        | <b>6" hole</b>                          | <b>1st room per BDA cards</b>                  |

## **C-4 FIRE SUPPORT**

### **1. The 50% Rule.**

- a. The 50% rule applies to RTU maneuver company level units based on unit strength at LD/NLT Defend Time. The 50% rule applies to killing systems (MBT, BFV/CFVs, TOWs, AH-64s, etc.). OC/Ts will round down BDA in favor of the RTU unit. When the RTU unit reaches 50% of its combat killing systems catastrophically killed to artillery or CAS, assessments will cease, to allow the direct fire battle to occur. W3/Outlaw 01 will establish a threshold to turn off OPFOR CAS BDA. The Team 07 may authorize additional artillery assessments to achieve training objectives. OC/Ts make all artillery/CAS assessments regardless of the time involved.
- b. RTU on OPFOR Artillery/CAS Assessments. OPFOR Fires assets may only be assessed at 11% during both offensive and defensive operations to enable training objectives.
- c. Exceptions to RTU and OPFOR BDA assessments are held at the Team 03 level and not delegated.

### **2. Notional Artillery Replication (RTU and OPFOR)**

- a. **Wolf TAFF Personnel Support:** During the Force on Force portion of NTC Rotations, the 11th Armored Cavalry Regiment provides 24 hour coverage (at a minimum 1xSoldier with a Secret or above clearance per 12 hour shift) to assist in data entry, processing OPFOR fire missions, movement orders, ammunition resupply and radar operations in the Wolf TAFF. The Wolf TAFF provides the workspace, computers, and necessary on the job training to accomplish the above tasks. Key requirements for Blackhorse LNOs include:
  - i. Full computer access (no visitor accounts)
  - ii. Conduct link-up with Wolf TAFF personnel in building 990 at 0900 D-3 to receive initial in-brief and begin on the job training. 24-hour coverage is required beginning roll-out day.
- b. **Positioning:** The RTU is responsible for the positioning of reinforcing batteries provided by 52ID. RTU will communicate the desired location to their OC/Ts, who will pass this information to the Wolf TAFF for replication. OPFOR DTG artillery must be positioned within the OPFOR Division boundary. OPFOR constructive artillery must be positioned CTC-IS system's "Magic Box" in locations that an artillery unit could realistically occupy based on terrain considerations and the position/boundaries of the OPFOR unit involved. OSC level OPFOR artillery are positioned in the CTC-IS for replication based on actual locations from the simulations center.
- c. **Movement:** Notional unit movement is replicated in the CTC-IS. Notional artillery will not move until it has finished firing its current mission. Actual movement will be based on a rate of march of one kilometer every three minutes. If the unit TOC/FSO specifies a route, the analyst will move the icon along the route. If the unit does not specify a route, then the analyst will move the icon on the most direct route, terrain considering (precluding movement over the terrain that is impassable by artillery). If the icon encounters a minefield, then the unit will be assessed one tube per minefield encountered. If the icon encounters a non-lethal obstacle (wire or tank ditch) then the unit will stop and report the obstacle to the unit TOC/FSO. If an icon is in position and ready to fire and is overrun by its own combat units (i.e. Co/Tm / MRC), then it will be suppressed from firing for 5 minutes after the friendly maneuver unit clears the position area (to replicate running over comms wire, collimators, and violation of danger area Echo).
- d. **Emplacement/Displacement:** Notional artillery, both for RTU and OPFOR, will conduct emplacement and displacement within the time standards outlined in the ODIN Worldwide Equipment Guide provided by TRADOC but with an additional five minutes added to account for the movement of a formation. Wolf 07 may adjust these times in accordance with readiness levels of the RTU, to better facilitate training objectives.
- e. **OPFOR BDA:** Blackhorse 27 may request OPFOR BDA at any time through the Blackhorse LNO team in the Wolf TAFF.
- f. **Suppressed Notional Artillery:** Notional artillery units will be suppressed if a friendly unit drives

through the notional unit. If an enemy force drives through the Notional Artillery Unit, the Notional Unit will be attrited by the Fire Support TAFF. Observers will receive 6-digit grids during the day and 4-digit grid locations at night through OC/T channel. The report will describe the type/quantity of equipment.

- g. Visually compromised notional artillery will result in a report with 8-digit grids and description of the unit from OC/T channels in accordance with the Table 4-8.

| Table 4-8, Observed Notional Artillery Table |        |        |
|----------------------------------------------|--------|--------|
|                                              | DAY    | NIGHT  |
| Unaided Observer                             | 1.5 km | .5 km  |
| Observer w/bino/map                          | 5 km   | 3 km   |
| Aided Observer                               | 5 km   | 3 km   |
| RAS                                          | 10 km  | 7.5 km |

### 3. Radar Procedures

- a. BDA for both OPFOR and RTU for counterfire procedures are assessed IAW C-4-1.
- b. Organization.
  - i. The RTU DS Battalion is authorized one Q36 radar and one Q37 radar, or 2 x Q-53 based on current MTOE, either brought from home station or played notionally through the Wolf TAFF. Notional use of radar systems is at the discretion of the senior fires trainer.
  - ii. OPFOR: One 1L-220 Radar is assigned to the DTG for OPFOR conventional forces. Assignment of a 1L-220 Radar for OPFOR conventional forces will be listed in the CBI.
  - iii. Capabilities:

| Radar | Artillery/Mortars | Rockets       | Search Limit |
|-------|-------------------|---------------|--------------|
| Q36   | 12,000 meters     | 24,000 meters | 1600 mils    |
| Q37   | 30,000 meters     | 50,000 meters | 1600 mils    |
| Q53   | 32,000 / 18,000m  | 60,000 meters | 6400 mils    |
| ARK-1 | 12,000 meters     | 24,000 meters | 800 mils     |

- c. Division Notional Q-53 Radar: Rotational units request radar coverage through the BCT by submitting a 13-line radar coverage request to Division. Wolf 07 approves or disapproves all requests for division radar coverage.
- d. OPFOR Radar: OPFOR notional radars will radiate according to an announced cuing schedule approved by Blackhorse 27. This schedule and the subsequent movement of the radar is controlled by the BH 27 or their designated representative. Movements of the radar and changes to the cueing schedule will be reported to Wolf 68. Reconstitution for OPFOR radar occurs automatically at the start of each phase. During open phases, destroyed OPFOR radar is reconstituted after a 48-hour period (accounting for the time needed to assess the original radar as destroyed and the orders process and movement time for a new radar to be assigned) has elapsed or earlier per W07 assessment that training value would be maximized through an improvement in OPFOR counterfire capabilities.
- e. Movement: All radar movements are controlled by the Wolf TAFF in coordination with the 36 Team. Operational status of radar and radiation times are conveyed from the radar team on the ground to the Wolf TAFF in order to provide acquisitions to the radar. Blackhorse radar must also submit radar deployment orders and cueing schedules in order to receive acquisitions.
- f. Emplacement/Displacement: Notional artillery, both for RTU and OPFOR, will conduct emplacement and displacement within the time standards outlined in the ODIN Worldwide Equipment Guide provided by TRADOC. Wolf 07 may adjust these times in accordance with readiness levels of the RTU, to better facilitate training objectives.

- g. **Counterbattery Acquisitions:** The Radar Simulation System (RSS) computer provides radar acquisitions of artillery, mortar, and rocket systems based upon fire missions fired in the Wolf TAFF. The RSS is operated by Wolf 68. Only those fire missions which occur during cueing periods within radar search sectors of radars ready to observe will be detected. To acquire rounds the radar must not be masked by terrain (i.e. the radar will not acquire rounds if it is positioned behind Tiefert Mountain). The fire support analyst reports the hostile fire unit location and impact predict location to the appropriate counterfire headquarters.
- h. **Acquisition of RTU Radars:** When the OPFOR has the ELINT systems to acquire the WLRs success is determined by duration of cueing and radar site type. If the radar system radiates in excess of the maximums shown below without displacing, OC/Ts will report their location through enemy fire support channels. Radar OC/Ts will coach toward position improvement and work/rest cycles within each radar section. Radar cumulative radiation will only be a factor for movement if the OPFOR possess an asset that can locate the radar system and is in use. Once OPFOR has the ability to locate the friendly radar system based on frequency and searching in the proper location, cumulative radiation time will begin. The frequency tracking asset information will be passed from OPFOR to Wolf 68 in the Wolf TAFF to validate friendly radar locations. If a friendly system is located within the search area, Wolf 68 will contact a radar OC/T to begin the cumulative radiation count. OC/Ts will follow the threat guidance and only report system location to enemy fire support elements when deemed appropriate due to OPFORs ability to track.

| <b>Table 4-3-1 Radiation Maximums<br/>(ONLY USED WHEN BLACKHORSE HAS ELINT SYSTEMS ACTIVE)</b> |                             |                             |
|------------------------------------------------------------------------------------------------|-----------------------------|-----------------------------|
| <b>Type of Site</b>                                                                            | <b>Cumulative Radiation</b> | <b>Continuous Radiation</b> |
| <b>Opt. Radar Site</b>                                                                         | <b>15 min</b>               | <b>2 min</b>                |
| <b>Opt. Screening Crest (only)</b>                                                             | <b>8 min</b>                | <b>2 min</b>                |
| <b>Other Site</b>                                                                              | <b>2 min</b>                | <b>2 min</b>                |

#### **4. Ammunition Replication for Notional Artillery Units**

- a. All guns/launchers start each phase with 50 rounds. Guns/launchers cannot exceed haul capacity of 50 rounds (i.e. no gun can have greater than 50 rounds on hand). Ammunition cannot be “stored on the ground.” Resupply will fill a gun/launcher to its haul capacity and excess rounds will not be allowed. Special munitions are not included in the ammunition count.
- b. One daily resupply of 50 rounds per gun/launcher is authorized– 45 minutes from request to rounds on gun/launcher. One additional emergency resupply of 50 rounds per gun/launcher is authorized per day. Wolf 07 is the approval authority for emergency resupply missions IOT facilitate training without desynching the rotational scenario – 45 minutes from approval to rounds on gun/launcher. Resupply is by battery and ammunition can be shifted between guns/batteries. Transferred ammo is moved at the rate of 20 KPH. Constructive guns/launchers do not have to displace to a Refuel Rearm Resupply Point (R3P) IOT to be resupplied.
- c. Start of each training day (0001) and start of each phase all guns/launchers revert to 50 rounds. Wolf 07 retains authority to reconstitute OPFOR artillery assets and ammunition during “open phase” battles IOT generate sustained training opportunities throughout the phase.
- d. OSC level OPFOR artillery will be listed in the CBI (Combat Battlefield Instructions) with number of missions per phase. OSC assets will deploy with appropriate number of rounds by weapon system in the Worldwide Equipment Guide (WEG). No special munitions will be used unless stated in the CBI, and no resupply will occur in phase without the approval of the senior fires trainer.
- e. The following factors are used to calculate the amount of Class V destruction and resupply quantities when notional artillery units are destroyed:
  - i. **RTU: Basic Load** - Upon arrival at the NTC for RSO&I, RTU field artillery battalion staffs will determine their basic load, based on the unit’s “go to war” allocation, and submit this count to its OC/Ts. OC/Ts will produce ammunition placards which replicate this ammunition, and the unit will distribute the ammunition to its howitzers or launchers, using a DA form 4513 per platform. Vulnerability – Notional ammunition, stored on the ground is destroyed if any

indirect or direct fire effects intersect with its location (e.g. if the ammunition storage point is within the simulated blast radius of an artillery/mortar strike, or within the direct line between an element using a direct fire weapon and its target). This includes ammunition loaded on flat racks that are on the ground (not on PLSSs). Ammunition on howitzers, launchers, and flat racks is only destroyed if the carrying vehicle is destroyed (e.g. a catastrophic kill). Destroyed ammunition must be requested on a DA form 581 to be replaced. It is not replaced when the carrying vehicle is reconstituted.

- ii. Ammunition upload is affected at the following rates: 1-Round per man / Per minute (155MM - Manual), 3-Rounds per man / Per minute (105MM - Manual), 8-Rounds per minute (155MM) with crane, 30-Rounds per minute (105MM) with crane, 7 Minutes per Pod to the Launcher, 5Minutes per Pod to the HEMMT or Trailer. Emergency Resupply - If approved, 4 hours from approval to availability; however, W07 may change the resupply time based on the situation and unit training objectives. Transfer from other units - 1 rd/man-minute plus transportation time at 20 km/hr.
- iii. OPFOR: Basic Load - Stockpiled at unspecified and un-instrumented location. Vulnerability - CL V quantities unaffected by loss of tubes or counter battery fires in the area. Upload Time - No adjustment for time to upload from stock piles. Emergency Resupply - If approved, 30 minutes from approval to availability. Transfer from other units - Transportation time at 20 km/hr.

#### 5. Notional MLRS vs. Live MLRS RTU

- a. Notional MLRS: 52ID controls notional MLRS at the NTC. The RTU must request for notional MLRS and radar coverage IOT support BCT/RTU objectives. Warrior 27, in conjunction with the senior fires trainer, will regulate and control 52ID MLRS assets and radar coverage supporting the RTU.
- b. Actual MLRS O&I TOC Controlling MLRS Fires: When the/an actual MLRS TOC (or O&I) operates as counterfire headquarters during a rotation, the unit determines the number of rockets fired at the OPFOR DTG. The number of rockets fired determines the number of OPFOR weapons lost to counterfire with a maximum loss of six weapons per mission fired. Special displacement time for BM21s apply when an actual unit operates as the counterfire headquarters. The displacement time is seven minutes until one battery of BM21s remains. When only one battery of BM21s remains, the displacement time is only one minute.

#### 6. OC/T Actions during Force on Force Excalibur and fuse XM1156 (PGK)

- a. Once the fire support OC/T's counterpart informs him that he is responsible for the execution of either a planned or on-call PGK mission the OC/T will take the following steps: Observe and verify that his counterpart correctly plots the firing piece location, OP location, and utilizes and plots the correct Excalibur template(if applicable) for the battlefield conditions, Observe and ensure the observing element possesses the ability to mensurate a 10-digit grid to the target location, Observe and ensure the observing element has communications with higher and firing element, During the mission, fire support and fire direction OC/Ts and analysts will verify the following items: If M982 Excalibur or Fuse 1156 PGK, Ensure Projectile is M795 or M549A1 and Charge is greater than 1 increment of M231(1L). Verify firing data to ensure M232A1 ("Hotel") charge is being fired, Verify the firing unit weapon system is PGM capable with black keys, Verify quadrant to be fired is between 800 mils and 1244 mils, Verify gun crew is conducting proper procedures for Excalibur round inspection and/or fuse setting, Verify firing platoon possesses the M1155A1 EPIAFS fuse setter, Properly conduct fire direction crew drill and howitzer crew drill, Verify TGT #, Target Grid, BIP grid, and firing element, Verify range from howitzer to target is greater than 8,000 meters, if M982. All data will be sent on GRP 138 (Blue Fires)
- b. The OC/T will observe his counterpart throughout the call-for-fire and adjudicate using one of these three adjudication methods: Free play Method—this is the preferred method for adjudication. BDA on ground is determined by CTC-IS and adjudicated by the AWES system. Digital Method— this is the second most preferred method for adjudication. The OC/T calls shot on GRP 372 (Blue Fires). The target grid and data are entered into CTC-IS. CTC-IS provides BDA which is relayed to the OC/T and fire marker on ground. OC/T Manual Method—this is the least preferred method for adjudication. The CTC-IS system is not functioning properly and unable to provide BDA. The OC/T after verifying a good track on the target will manually adjudicate the target. If the target is out of range of the OC/Ts

controller gun, the OC/T can either have another OC/T in the target area or the TAF execute the kill.

## 7. Fire Mission Processing Data Collection.

- a. OC/Ts across the Operations Group fire support enterprise will utilize FireWire to collect fire mission processing data. The primary goal of FireWire is to streamline data collection efforts to increase OC/T situational awareness and to provide accurate feedback through After Action Reviews.
- b. Fire Mission data is initiated by the Fire Support OC/T at a maneuver battalion Fire Support Element when a Call for Fire is processed. Required data is TGT #, TGT Location, Observer, and sensor type. Once a mission is created OC/Ts at each echelon in the sensor to shooter chain are required to input the date and time received as well as the date and time the mission is sent to the next echelon.
- c. Wolf Team BTRY 13J OC/Ts are required to input times for both the BTRY FDC and the Gunline. Additional gunline data requirements include weapon system, round type, and round count.
- d. The Wolf TAFF is responsible to inputting BDA or TLE for each mission to facilitate timely feedback to OC/Ts.
- e. The notes feature at each echelon should be utilized to provide OC/Ts across the enterprise situational awareness of any friction identified during mission processing and/or prosecution.

## C-5 Air Defense

### 1. Ground-To-Air Assessments Against RTU Aircraft

- a. OPFOR. Air Defense assets are replicated at a minimum with visual modification (VIZMOD) representation. These assets will consist of Giraffe agile multi-beam (AMB), SA-22, SA-6, SA-15, SA-8, Crotale SAM, 2S6, and SA-24. All engagements are sent up via manual process highlighted under adjudication and BDA assessment.
- b. OPFOR. Refer to the OPLAN for Enemy Military Intelligence Assessment.
  - i. AGO 105 to Eagle TAFF serves as net control station for all ground to air engagements of Rotary Wing and UAS (Shadow) assets.
  - ii. AGO 453 to Raven TAFF serves as net control station for all ground to air engagements of Fixed Wing aviation assets.
- c. Blackhorse 16, Eagle TAFF, Raven TAFF, and designated OC/Ts will monitor RCS 105 and AGO 453 to ensure rapid communication of engagements.

### 2. Air Defense Systems

- a. Active Air Defense. A valid engagement is determined when the operator acquires, tracks and properly fires a functioning weapon system at a target within range. Air Defense engagements must be monitored by Blackhorse 16 when engagements are sent to respective TAFF for accurate battle damage assessment. OC/T will receive engagement report from TAFF and report adjudication based RTU aviation air survivability maneuvers.
- b. Max engagement range/altitude for ADA systems:

| System      | Range (km) | Altitude (1k ft) |
|-------------|------------|------------------|
| SA-22       | 20         | 49               |
| SA-6        | 24         | 46               |
| SA-15       | 12         | 19               |
| SA-8        | 10         | 16.5             |
| Crotale SAM | 10         | 18               |
| 2S6         | 8          | 19.6             |
| SA-24       | 6          | 11.5             |

- c. Green star clusters will be fired after every engagement. Never fire within 500m of aircraft. Never fire during periods of darkness, replicate the green star cluster by flashing a green light on ground.
- d. Early Warning. Blackhorse 16 will provide Division Early Warning with GAMB radar feed. All real-world ADA assets have an internal radar. Both the GAMB and internal radar air pictures are depicted on the assigned tablets. Tablets with the common operating air picture will be assigned to the live ADA and BTG TOC. MANPADS should not be assigned tablets. All platforms are responsible for monitoring the live radar air picture and contact BH ADA for de-confliction prior to engaging.

### 3. Adjudication and BDA Assessment

- a. Adjudication. Blackhorse 16 tracks FW, RW and UAS movement across the battlefield using GAMB radar air picture and CTC-OIS. Blackhorse 16 will template the weapon system ranges based on the engagement rings and the real time aircraft location. This will facilitate rapid adjudication of ground to air engagements. For all OPFOR engagements the ADA operators will contact Blackhorse 16 or Eagle TAFF using the appropriate engagement report.
  - i. Adjudication for Ground to Air engagements by Air Defense systems against Fixed Wing aircraft is not automated. These engagements are assessed IAW guidelines listed below. Once the adjudication process is complete, the OC/T at the Ground Control Station will notify the mission commander/Aircraft Commander (AC) of the adjudication results.
  - ii. Ground to Air: Fixed and Rotary Wing Aircraft are assessed as a casualty based on the maximum effective range and altitude of designated weapon system. Probability of Kill will vary based on the presence of Aircraft Survivability Equipment (ASE) and survivability tactics performed to deter impact. Blackhorse 16, Eagle 07T, and Raven 03 will assess all engagements and coordinate adjudication.
  - iii. The ADA operator on ground will identify aircraft flying by either visual confirmation or confirmation through Blackhorse 16. Once aircraft is positively identified, a radiate call will be sent to either Eagle TAFF or Raven TAFF based on threat type. This radiate call will consist of ADA system type, and location (8-digit grid). Once the radiate call is sent to the respective TAFF, miles tracking is confirmed, and the OC/T is notified of ADA threat location. The OC/T then provides RTU pilot that their aircraft is being radiated on from a relative direction (i.e. 11 o'clock). This gives the RTU pilot the opportunity to evade ADA system. The ADA operator is notified that they are cleared to radiate once OC/T has been notified. After radiation call is complete, ADA operator can send engagement data consisting of aircraft type engaged, aircraft location (8-digit grid), named location, azimuth, and altitude, number of missiles fired, number of star clusters fired, and time of engagement. The OC/T on the ground will ensure all steps to perform an effective Air Defense engagement with ADA Systems are completed properly. The respective OC/T and or TAFF confirms adjudication as quickly as possible and informs ADA operator of engagement results.
  - iv. Engaging UAS (Shadow): The Eagle OC/T on the ground and Blackhorse 16 will adjudicate all Air Defense engagements against UAS systems. Air Defense weapon system status, location, distance to target, altitude, and environmental conditions (day/night, illumination, ceiling, etc.) will be reported on AGO 105 and be considered when making assessments. A Probability of Kill (PK) table accounting for the capabilities and limitations of weapon systems against all UAS will be maintained and utilized to adjudicate all engagements.
  - v. Air to Ground: Fixed Wing Air to Ground engagements are conducted by Raven JFO, in coordination with Black Horse 16, over RCS 453. Raven JFO will provide adjudication and BDA to Blackhorse 16 for Air Defense engagements. Blackhorse DTOC will record all BDA in the daily battle log for distribution to the TAFF. Rotary Wing Air to Ground engagements are conducted by Eagle, in coordination with Black Horse 16, over RCS 105. Eagle will provide adjudication and BDA to Blackhorse 16 for Air Defense engagements. Blackhorse DTOC will record all BDA in the daily battle log for distribution to the TAFF.

**b. Air Defense Adjudication Process Example:**

**RADIATE CALL:**

ADA to Eagle TAFF:

"Eagle Tango this is Hawg 23 sending radiate call from 2S6 IVO of 11SNV 1234 5678"

Eagle TAFF to ADA:

"Roger, 2S6 radiate call from NV 1234 5678, you are tracking in system, sending to OC/T now"

Eagle TAFF to OC/T:

"OC/T this is Eagle TAFF, 2S6 system radiating IVO 11SNV 1234 5678"

OC/T to RTU Pilot:

"RTU Pilot this is OC/T, you are being radiated on from 11 o'clock"

OC/T to Eagle TAFF:

"Eagle Tango this is OC/T, pilot has been notified"

Eagle TAFF to ADA:

"Hawg 23 this is Eagle Tango, you are cleared for radiate"

**PREPARE FOR ENGAGEMENT CALL:**

ADA to Eagle TAFF:

"Eagle Tango this is Hawg 23, ready to send engagement"

Eagle TAFF to ADA:

"Roger, standby"

Eagle TAFF to OC/T:

"OC/T, Hawg 23 is ready to engage"

OC/T to RTU Pilot:

"RTU Pilot this is OC/T, you have a 2S6, tracking, 11 o'clock"

\*\*OC/T observes RTU maneuver to tracking indication\*\*

OC/T to ADA:

"Hawg 23, do you still have a good engagement?"

ADA to OC/T:

"Affirmative"

OC/T to ADA:

"When ready, fire engagement and send data"

**ENGAGEMENT CALL:**

ADA to Eagle TAFF:

"Sending Engagement Call on 1x AH-64, flying at 11SNV 1234 5678, IVO 781 East, at 260 degrees, at an altitude of 1,000 ft., 2 missiles fired, 2 star clusters fired, and time of engagement 2005."

Eagle to OC/T:

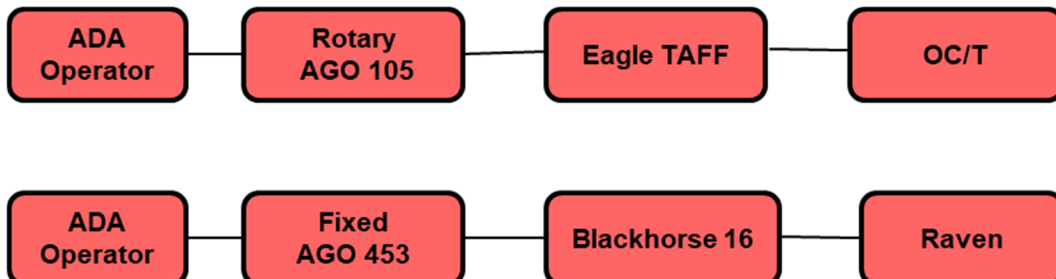
\*\*At this point OC/T receives engagement data from Eagle TAFF, confirms or denies adjudication\*\*

OC/T to Eagle:

"1 AH-64 CATKILL"

Eagle to ADA:

"Hawg 23 this is Eagle Tango, 1 CATKILL on AH-64, good hit."



| TABLE C-7-1 IED ADJUDICATION CHART  |                                                   |                                                                                                                                                                              |                                                                                                                                                                  |                                                                                                                                                                                              |                                                                                |
|-------------------------------------|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| IED Type                            | Personnel*                                        | M1, M2, M3, Stryker w/Armor                                                                                                                                                  | Stryker w/o Armor, M88                                                                                                                                           | M113, Up Armored HMMWV                                                                                                                                                                       | Light Skinned Vehicles                                                         |
| VBIED**                             | KIA 50m                                           | Mob Kill w/i 15m                                                                                                                                                             | Mob Kill w/i 15m                                                                                                                                                 | Mob Kill w /i 15m                                                                                                                                                                            | Catastrophic w /i 25m                                                          |
|                                     | MILES card 100m                                   | SBD up to 30m ***                                                                                                                                                            | SBD up to 40m ***                                                                                                                                                | SBD up to 40m ***                                                                                                                                                                            | Mob kill up to 50m                                                             |
| Suicide Bomb Vest                   | KIA 2m                                            | SBD up to 2m ***                                                                                                                                                             | SBD up to 2m ***                                                                                                                                                 | SBD up to 2m ***                                                                                                                                                                             | SBD up to 5m ***                                                               |
|                                     | MILES card 15m                                    |                                                                                                                                                                              |                                                                                                                                                                  |                                                                                                                                                                                              |                                                                                |
| 12 item military ordnance IED       | KIA 10m                                           | Mobility kill if hit underneath                                                                                                                                              | Mobility kill if hit underneath                                                                                                                                  | Catastrophic if hit underneath                                                                                                                                                               | Catastrophic if hit underneath                                                 |
|                                     | MILES card 20m                                    | SBD up to 10m                                                                                                                                                                | SBD up to 10m                                                                                                                                                    | SBD up to 15m                                                                                                                                                                                | SBD up to 25m                                                                  |
| 3 or more Daisy Chain IED           | KIA 15m                                           | Catastrophic if hit underneath                                                                                                                                               | Catastrophic if hit underneath                                                                                                                                   | Catastrophic if hit underneath                                                                                                                                                               | Catastrophic if hit underneath                                                 |
|                                     | MILES card 30m                                    | SBD up to 15m                                                                                                                                                                | SBD up to 20m                                                                                                                                                    | SBD up to 25m                                                                                                                                                                                | Mob kill up to 40m                                                             |
| HME <10lbs                          | KIA 5m                                            | Mobility kill if hit underneath                                                                                                                                              | Mobility kill if hit underneath                                                                                                                                  | Mobility kill if hit underneath                                                                                                                                                              | Mobility kill if hit underneath                                                |
|                                     | MILES card 15m                                    | SBD up to 5m                                                                                                                                                                 | SBD up to 5m                                                                                                                                                     | SBD up to 10m                                                                                                                                                                                | SBD up to 15m                                                                  |
| HME >10lbs                          | KIA 10m                                           | Mobility kill if hit underneath                                                                                                                                              | Mobility kill if hit underneath                                                                                                                                  | Catastrophic kill if hit underneath                                                                                                                                                          | Catastrophic kill if hit underneath                                            |
|                                     | MILES card 25m                                    | SBD up to 10m                                                                                                                                                                | SBD up to 10m                                                                                                                                                    | SBD up to 15m                                                                                                                                                                                | SBD up to 20m                                                                  |
| Explosively Formed Penetrator (EFP) | Direct Line – KIA 50m<br>MILES card 75m           | Catastrophic kill w/i 30m                                                                                                                                                    | Catastrophic kill w/i 40m                                                                                                                                        | Catastrophic kill w/i 50m                                                                                                                                                                    | Catastrophic kill w/i 75m                                                      |
|                                     | Outside of direct line – KIA 2m<br>MILES card 10m | Mobility kill w/i 2m                                                                                                                                                         | Mobility kill w/i 5m                                                                                                                                             | Mobility kill w/i 5m                                                                                                                                                                         | Mobility kill w/i 5m                                                           |
| RKG-3/ RGK- 3M<br>RKG-3EM           | KIA 5m<br>MILES card 15m                          | No casualties to side attack. Top down attack will penetrate and cause KIA, L, and LU casualties. Vehicle side attack no damage; Top down will be M/FP/C kill, OC assessment | Will penetrate side and top down attack causing KIA, Litter and Litter urgent casualties. Vehicle is at the least a mobility kill w/OC assessment for FP & commo | Will penetrate with side attack and cause serious injuries (LU/LP or KIA). Top down will cause multiple casualties. Vehicle is at a minimum a mobility kill; OC may assess catastrophic loss | Full penetration of hull and multiple casualties. Vehicle is catastrophic loss |

## **C-7 OPFOR Recovery Operations**

1. OPFOR maintenance/recovery operations are non-competitive events. The following rules apply:
2. Offense: Non-MILES equipped vehicles in the unit trains, or support squadron will not move forward of the RL until change of mission or cleared forward by BH5 or BH3.
3. Defense: NLT 2400 hrs the night prior to the mission, the BTG maintenance reserves, non-player vehicles, and the maintenance site will be positioned one terrain feature behind the Rear Boundary (RB) of the defense.

## **C-8 Mission Command**

1. JTF/DTOC/DTAC Operations
  - a. The DTOC serves as the nerve center of the Operations Group during rotations. Teams will ensure administrative and tactical information is passed to the DTOC as necessary to keep the COG, NTC command group, and the player unit CG fully informed about incidents and actions during the rotation.
  - b. During the rotation, the DTOC controls all access and egress from the training area. ICW Desert Radio, the DTOC is responsible for AC2 for both the RTU, Ops Group, and any external agencies.
  - c. ICW Zulu TAC, the DTOC monitors live fire status and weapons control status during live fire operations.
  - d. Full Operation. DTOC will begin 24-hour operations with the G3 Ops section on RSOI 1 and all sections when Operations Group assumes control of the training area. This will continue through BRD. The DTOC is not regularly manned at other times.
  - e. Control of the Training Area. During RSOI, the DTOC assumes control of the training area from Range Control and is responsible for all operations in the box. At the beginning of BRD, the DTOC will relinquish control of the training area back to Range Control until the next RSOI period. DTOC as HICON and EXCON. The DTOC acts as the division headquarters for the brigade training during a rotation. It is the airspace and terrain manager for the NTC throughout a rotation. It establishes MSRs for RTU, OPFOR, OC/Ts, and other administrative traffic throughout the rotation. DTOC SOP. The DTOC SOP contains details on the specific execution of Battle Command in Operations Group.
2. Defining Suspension of Battlefield Effects (SOBE). The purpose of Suspension of Battlefield Effects is to allow RTU leadership and attachments to participate in BCT level and below AARs/hot washes, and to allow commanders to conduct internal AARs with their units at the completion of the BCT AARs, without giving a noncompetitive advantage to the unit or the OPFOR. Secondary objective is to repair non-functional MILES. The third purpose of SOBE is to reposition forces appropriately on the following mission. Specific instructions regarding the duration, constraints and administrative details will be issued by Warrior TOC prior to each SOBE period.
3. Reports
  - a. The rotational unit will submit reports IAW 52ID Division TACSOP & deployment order. Blackhorse will submit all required reports to the DTOC through the Regimental TAC (Blackhorse Oscar).
  - b. Blackhorse will provide the following:
    - i. Executive summary of CONOP with operational graphics to DTOC/W02 NLT 1200 hours the day prior to the operation. Graphics must include planned main CP, lager sites, RSA locations, schemes of maneuver, and control measures.
    - ii. Proposed Artillery locations and fire plans for each battle to DTOC/W02 NLT 1200 hours the day prior to the operation. These positions must also be inputted into NTC-IS and CPOF by the

time of submission. Constructive Artillery PAAs MUST be placed in terrain realistic for the capabilities of that particular weapon system. For example, NO constructive BM-21's Battery on top of the Matterhorn.

- iii. Recon and combat forces Player Lists, indicating task organization through CO/TM level, to the DTOC NLT 1200 hours the day prior to employment.
- iv. Report planned locations and status of non-tracking or un-instrumented systems (ADA, EW, OPs, RETRANS, etc.) with the Players List.
- v. Report planned obstacle locations, FASCAM and other planned use of special munitions to DTOC/W02 NLT 1200 hours the day prior to the operation.
- vi. Report Class V pre-stock locations for defensive missions with the Players List. Report will include eight-digit grid location, type, and quantity of Class V.
- vii. Report intent to employ MIBN reserve, anti-tank reserve, and/or MIBR Combined Arms Reserve (CAR) to the DTOC prior to commitment. Report will include any plans to reconstitute reserve forces.
- viii. Report battle damage assessment and losses to forces on the Players List to the OPFOR/Blackhorse Oscar NLT CTM/COM/EOM + 3 hours.

c. Reporting and RCS Operations.

- i. Net Calls. Warrior 3 will publish the net call sequence for each rotation. When directed by Warrior TOC or per battle rhythm, all teams will answer net calls in the prescribed sequence for that rotation.
- ii. Monitoring of RCS. All teams are required to monitor Ops Command at all times when the net is open. This is the primary net for operational traffic and reporting. O&I is the secondary net, and on order teams will transition to O&I net for reporting.

|                                     | RED 1 - CONTACT REPORT (Card 1) 18FEB2021   | RED 1 - CONTACT REPORT (Card 2) 18FEB2021                                  |
|-------------------------------------|---------------------------------------------|----------------------------------------------------------------------------|
| National Training Center            | 1 O/C Team, FLD O/C Callsign, Your Callsign | Direct Fire Contact Data                                                   |
| Operations Group                    | 2 DTG Contact Occurred, DTG End, DTG Zulu   | 20-21 Direct Fire Casualties                                               |
| STANREPS and NTC Reports            | 3 BN-TF / PLT/CO Designation                | (Training Day, CF KIA, CF LU, Cause of Contact, DF Type, Status, Comments) |
| RED 1 - CONTACT REPORT              | 4 Country, Province, District, City/Town    | Direct Fire Vehicle BDA                                                    |
| BLUE 1 - UAS OPERATIONS             | 5 Location (Grid)/AO Format EX: 11SNU123456 | (Training Day, CAT, Fire, Cause of Contact Comments)                       |
| BLACK 1 - DETAINEE REPORT           | 6 SIGACT (Yes or No), Comments              | Indirect Fire Contact Data                                                 |
| NTC ORANGE 1 - NEGLIGENCE DISCHARGE | CONTACT REPORT                              | 22-24 IDF Casualties                                                       |
| NTC ORANGE 2 - FRATRICIDE           | 7 Target Number                             | (Training Day, CF KIA, CF LU, Cause of Contact, DF Type, Status, Comments) |
| NTC ORANGE 3 - SERIOUS INCIDENT     | 8 Mission Type (various)                    | IDF Vehicle BDA                                                            |
| NTC ORANGE 4 - SPILL REPORT         | 9 Cause of Contact (various)                | (Training Day, CAT, Fire, Cause of Contact Comments)                       |
| NTC ORANGE 5 - REAL WORLD MEDEVAC   | 12 Type of Complex Attack (various)         | 25 POO Actual (GRID)                                                       |
| NTC ORANGE 6 - REAL WORLD UXO       | 11 Effective Attack (Yes or No)             | Patrol Sent                                                                |
| NTC ORANGE 7 - LOST SOLDIER         | Attack canceled                             | Evidence found                                                             |
| NTC ORANGE 8 - RED CROSS MESSAGE    | ESCALATION OF FORCE DATA                    | 26 POO Unit Tracked (GRID)                                                 |
| NTC ORANGE 9 - TURTLE REPORT        | 13 EOF procedures                           | 27 POI (GRID)                                                              |
| NTC ORANGE 10 - ADMINISTRATIVE      | 14 Who (Soldier)                            | 28 CF Equipment Losses                                                     |
|                                     | 15 Rank                                     | 29 Crater Analysis performed                                               |
|                                     | 16 EOF Type (six types)                     | 30 Crater Analysis to Standard (Y/N)                                       |
|                                     | 17 Why, if improper (comment box)           | 31 QRF-IRF dispatched                                                      |
|                                     | 18 Sufficient Security established          | 33 Radar acquired                                                          |
|                                     | 19 EOF kit used                             | 34 Counter Fire initiated                                                  |
|                                     | MILES                                       | 35 Counter Fire Time to Fire (min/hours)                                   |
|                                     | Force                                       |                                                                            |
|                                     | Miles Transmitter                           |                                                                            |
|                                     | Miles Berm                                  |                                                                            |
|                                     | OC DF                                       |                                                                            |
|                                     | continued on card 2                         | continued on card 3                                                        |
| Version 28 (WEBTAS)                 | RED 1 - CONTACT REPORT (Card 1) 18FEB2021   | RED 1 - CONTACT REPORT (Card 2) 18FEB2021                                  |

| RED 1 - CONTACT REPORT (Card 3) 18FEB2021 |                                                                                                |
|-------------------------------------------|------------------------------------------------------------------------------------------------|
| <b>IED CONTACT DATA</b>                   |                                                                                                |
| 36-37                                     | IED Casualties<br>(Training Day, CF KIA, CF LU, Cause of Contact, DF Type, Status, Comments)   |
|                                           | IED Vehicle BDA<br>(Training Day, CAT, Fire, Cause of Contact Comments)                        |
| 38                                        | Length of Command Wire                                                                         |
| 39                                        | Type of IED triggering device                                                                  |
| 40                                        | Time reported to BN-TF                                                                         |
| 41                                        | DTG EOD requested                                                                              |
| 42                                        | DTG EOD dispatched                                                                             |
| 43                                        | DTG WIT requested                                                                              |
| 44                                        | DTG WIT dispatched                                                                             |
| 45-48                                     | Type of Crew, device, # of crew device FMC<br># of crew device NMC                             |
| 49                                        | Post Blast Analysis Kit employed                                                               |
| <b>DOW DATA</b>                           |                                                                                                |
| 51-55                                     | DOW<br>(Training Day, Cause of Contact, Name, Rank Level Occurred, DTG, Cause, Unit, Comments) |
| <b>RELATIONSHIPS</b>                      |                                                                                                |
|                                           | TYPE                                                                                           |
|                                           | TO OBJECT ID                                                                                   |
|                                           | SUMMARY                                                                                        |
|                                           | DATE OF RELATIONSHIP                                                                           |
| RED 1 - CONTACT REPORT (Card 3) 18FEB2021 |                                                                                                |

| BLUE 1 - UAS OPERATIONS 18FEB2021 |                                                  |
|-----------------------------------|--------------------------------------------------|
| 1                                 | O/C Team, FLD O/C Callsign, Your Callsign        |
| 2                                 | DTG Contact Occurred, DTG End, DTG Zulu          |
| 3                                 | BN-TF / PLT/CO Designation                       |
| 4                                 | Country, Province, District, City/Town           |
| 5                                 | Location (Grid)/AO Format EX: 11SNU123456        |
| 6                                 | SIGACT (Yes or No), Comments                     |
| <b>UAS OPERATIONS</b>             |                                                  |
| 7                                 | UAS Type (Raven,Shadow,Predator,Reaper,other)    |
| 8                                 | Mission Type (C&S, ECP,Non Lethal, Patrol,Other) |
| 9                                 | UAS Task                                         |
| 10                                | UAS Purpose (Text Field)                         |
| 11                                | Mission Time (Duration)                          |
| 12                                | Total Flight Time Over OBJ / NAI (Duration)      |
| 13                                | Number of UAS Flights Requested For Mission      |
| 14                                | Number of UAS Flights Flown                      |
| 15                                | Rover Utilized (Yes or No)                       |
| 16                                | How Long Rover Utilized (Duration)               |
| <b>RELATIONSHIPS</b>              |                                                  |
|                                   | TYPE                                             |
|                                   | TO OBJECT ID                                     |
|                                   | SUMMARY                                          |
|                                   | DATE OF RELATIONSHIP                             |
| BLUE 1 - UAS OPERATIONS 18FEB2021 |                                                  |

| BLACK 1 - DETAINEE REPORT 18FEB2021 |                                                                              |
|-------------------------------------|------------------------------------------------------------------------------|
| 1                                   | O/C Team, FLD O/C Callsign, Your Callsign                                    |
| 2                                   | DTG Contact Occurred, DTG End, DTG Zulu                                      |
| 3                                   | BN-TF / PLT/CO Designation                                                   |
| 4                                   | Country, Province, District, City/Town                                       |
| 5                                   | Location (Grid)/AO Format EX: 11SNU123456                                    |
| 6                                   | SIGACT (Yes or No), Comments, Time to DCP                                    |
| <b>DETAINEE REPORT</b>              |                                                                              |
|                                     | Warrant Executed (Y/N), Type of Warrant                                      |
| 7                                   | Target Number on Red 1 Contact Report                                        |
| 8                                   | # of Detainees Taken From Point of Capture<br>Detainee enrolled in BAT (Y/N) |
| 9                                   | Reason for Detention                                                         |
| 10                                  | Initial Detention (GRID) EX: 11SNU123456                                     |
| 11                                  | Detainee(s) Secured to Standard (Yes or No)                                  |
| 12                                  | Camera Used for Evidence (Yes or No)<br>Submit Lines 13-22 For Each Detainee |
| 13                                  | Role Player Rank                                                             |
| 14                                  | Role Player Real Name                                                        |
| 15                                  | Role Player Unit (Company)                                                   |
| 16                                  | Role Player Name                                                             |
| 17                                  | Role Player ID Number                                                        |
| Continued on card 2                 |                                                                              |
| BLACK 1 - DETAINEE REPORT 18FEB2021 |                                                                              |

| BLACK 1 - DETAINEE REPORT (CARD 2) 18FEB2021 |                                                            |
|----------------------------------------------|------------------------------------------------------------|
| <b>DETAINEE REPORT (continued)</b>           |                                                            |
| 18                                           | Location Detained                                          |
| 19                                           | Tested with X-SPRAY (Y / N)                                |
| 20                                           | Location of Transfer / Release                             |
| 21                                           | Unit Releasing                                             |
| 22                                           | Reason for release<br>Detainee turned over to HNSF (Y / N) |
| <b>TO BE COMPLETED BY DCP OWNER</b>          |                                                            |
|                                              | Report updated by (call sign)                              |
|                                              | Accepted to DCP                                            |
|                                              | Time accepted (DTG)                                        |
|                                              | Affiliation (various)                                      |
|                                              | Final Disposition                                          |
| <b>RELATIONSHIPS</b>                         |                                                            |
|                                              | TYPE                                                       |
|                                              | TO OBJECT ID                                               |
|                                              | SUMMARY                                                    |
|                                              | DATE OF RELATIONSHIP                                       |
| BLACK 1 - DETAINEE REPORT (CARD 2) 18FEB2021 |                                                            |

| ORANGE 1 - NEGLIGENT DISCHARGE 18FEB2021      |                                               | ORANGE 2 - FRATRICIDE 18FEB2021 |                                                          |
|-----------------------------------------------|-----------------------------------------------|---------------------------------|----------------------------------------------------------|
| 1                                             | O/C Team, FLD O/C Callsign, Your Callsign     | 1                               | O/C Team, FLD O/C Callsign, Your Callsign                |
| 2                                             | DTG Contact Occurred, DTG End, DTG Zulu       | 2                               | DTG Contact Occurred, DTG End, DTG Zulu                  |
| 3                                             | BN-TF / PLT/CO Designation                    | 3                               | BN-TF / PLT/CO Designation                               |
| 4                                             | Country, Province, District, City/Town        | 4                               | Country, Province, District, City/Town                   |
| 5                                             | Location (Grid)/AO Format EX: 11SNU123456     | 5                               | Location (Grid)/AO Format EX: 11SNU123456                |
| 6                                             | SIGACT (Yes or No), Comments                  | 6                               | SIGACT (Yes or No), Comments                             |
| <b>NEGLIGENT DISCHARGE</b>                    |                                               | <b>FRATRICIDE</b>               |                                                          |
| 7                                             | Live Ammunition (Y/N)                         | 7                               | Live Ammunition (Y/N)                                    |
| 8                                             | Name of Soldier                               | 8                               | Weapon System                                            |
| 9                                             | MOS & Rank of Soldier                         | 9                               | Casualty Grid                                            |
| 10                                            | Weapon Type, Assigned Weapon, Qualified (Y/N) | 10                              | Range Engaged                                            |
| 11                                            | Actions being taken                           | 11                              | Mission Type (C&S, ECP, CLP, Lethal, Non-lethal, Patrol) |
| 12                                            | As of DTG                                     | 12                              | Total Casualties by Type                                 |
| <b>WARRIOR TOC ACTIONS IF LIVE AMMUNITION</b> |                                               | 13                              | Equipment Destroyed                                      |
|                                               | Notified Warrior 03                           | 14                              | Name of Soldier                                          |
|                                               | DTG Forwarded                                 | 15                              | Rank of Soldier                                          |
|                                               | Forwarded to: EOC, Post Safety, OPS Group     | 16                              | Explain Why (Circumstances and Situation)                |
|                                               | Safety, Range Control (Y/N)                   | 17                              | Enemy Contact                                            |
|                                               | DTG Follow up report                          | 18                              | Elements Intermixed                                      |
|                                               | Comments                                      | 19                              | Observed Field of Fire                                   |
| <b>RELATIONSHIPS</b>                          |                                               | 20                              | Cover and Concealment                                    |
|                                               | TYPE                                          | 21                              | Orienting Terrain                                        |
|                                               | TO OBJECT ID                                  | 22                              | Weather Impact                                           |
|                                               | SUMMARY                                       | 23                              | Good Visibility                                          |
|                                               | DATE OF RELATIONSHIP                          | 24                              | Soldier Fatigue                                          |
|                                               |                                               | 25                              | Leader Fatigue                                           |
|                                               |                                               | Continued on Card 2             |                                                          |
| ORANGE 1 - NEGLIGENT DISCHARGE 18FEB2021      |                                               | ORANGE 2 - FRATRICIDE 18FEB2021 |                                                          |

| ORANGE 2 - FRATRICIDE (CARD 2) 18FEB2021      |                                              | ORANGE 3 - SERIOUS INCIDENT 18FEB2021 |                                                                                                             |
|-----------------------------------------------|----------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------|
| 26                                            | Rehearsals Conducted to Standard (Yes or No) | 1                                     | O/C Team, FLD O/C Callsign, Your Callsign                                                                   |
| 27                                            | Obscuration (Yes or No)                      | 2                                     | DTG Contact Occurred, DTG End, DTG Zulu                                                                     |
| 28                                            | Firer MOPP Level (I-IV)                      | 3                                     | BN-TF / PLT/CO Designation                                                                                  |
| 29                                            | DTG of BCT OPORD                             | 4                                     | Country, Province, District, City/Town                                                                      |
| 30                                            | DTG of TF OPORD                              | 5                                     | Location (Grid)/AO Format EX: 11SNU123456                                                                   |
| 31                                            | Echelon in Control                           | 6                                     | SIGACT (Yes or No), Comments                                                                                |
| 32                                            | Vehicles have EPLRS (Yes or No)              | <b>SERIOUS INCIDENT REPORT</b>        |                                                                                                             |
| 33                                            | EPLRS Active at Time of Frat (Yes or No)     | 7                                     | Type of Incident (Red Cross, AWOL, Physical Contact, Veh Fire, Veh Accident, Lost Sens Item, Injury, Other) |
| 34                                            | Operator Proficient (Yes or No)              | 8                                     | Personnel Involved                                                                                          |
| 35                                            | Direct Causes (Comment Box)                  | 9                                     | Weather Conditions (If Applicable)                                                                          |
| 36                                            | Contributing Factors (for YES answers)       | 10                                    | Actions Being Taken                                                                                         |
| <b>WARRIOR TOC ACTIONS IF LIVE AMMUNITION</b> |                                              | 11                                    | As of DTG                                                                                                   |
|                                               | Notified Warrior 03                          | 12                                    | Relevance (Real World or Training)                                                                          |
|                                               | DTG Forwarded                                | <b>WARRIOR TOC ACTIONS</b>            |                                                                                                             |
|                                               | Forwarded to: EOC, Post Safety, OPS Group    |                                       | Notified Warrior 03                                                                                         |
|                                               | Safety, Range Control (Y/N)                  |                                       | DTG Forwarded                                                                                               |
|                                               | DTG Follow up report                         |                                       | Forwarded to: EOC, Post Safety, OPS Group                                                                   |
|                                               | Comments                                     |                                       | Safety, Range Control (Y/N)                                                                                 |
| <b>RELATIONSHIPS</b>                          |                                              |                                       | DTG Follow up report                                                                                        |
|                                               | TYPE                                         |                                       | Comments                                                                                                    |
|                                               | TO OBJECT ID                                 | <b>RELATIONSHIPS</b>                  |                                                                                                             |
|                                               | SUMMARY                                      |                                       | TYPE                                                                                                        |
|                                               | DATE OF RELATIONSHIP                         |                                       | TO OBJECT ID                                                                                                |
|                                               |                                              |                                       | SUMMARY                                                                                                     |
|                                               |                                              |                                       | DATE OF RELATIONSHIP                                                                                        |
| ORANGE 2 - FRATRICIDE (CARD 2) 18FEB2021      |                                              | ORANGE 3 - SERIOUS INCIDENT 18FEB2021 |                                                                                                             |

| ORANGE 4 - SPILL REPORT 18FEB2021                                                                         |                                                       | ORANGE 5 - REALWORLD MEDEVAC 18FEB2021                    |                                                    |
|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------|
| 1                                                                                                         | O/C Team, FLD O/C Callsign, Your Callsign             | 1                                                         | O/C Team, FLD O/C Callsign, Your Callsign          |
| 2                                                                                                         | DTG Contact Occurred, DTG End, DTG Zulu               | 2                                                         | DTG Contact Occurred, DTG End, DTG Zulu            |
| 3                                                                                                         | BN-TF / PLT/CO Designation                            | 3                                                         | BN-TF / PLT/CO Designation                         |
| 4                                                                                                         | Country, Province, District, City/Town                | 4                                                         | Country, Province, District, City/Town             |
| 5                                                                                                         | Location (Grid)/AO Format EX: 11SNU123456             | 5                                                         | Location (Grid)/AO Format EX: 11SNU123456          |
| 6                                                                                                         | SIGACT (Yes or No), Comments                          | 6                                                         | SIGACT (Yes or No), Comments                       |
| <b>SPILL REPORT</b>                                                                                       |                                                       | <b>REALWORLD MEDEVAC</b>                                  |                                                    |
| 7                                                                                                         | What Spilled                                          | 7                                                         | Method of Transportation                           |
| 8                                                                                                         | How Much (gallons)                                    | 8                                                         | Soldier Name                                       |
| 9                                                                                                         | Spilled From (Container Type)                         | 9                                                         | Soldier Rank                                       |
| 10                                                                                                        | Gallons Container Holds                               | 11                                                        | Injury / illness                                   |
| 11                                                                                                        | Gallons Left in Container                             |                                                           | IV issued (Y/N)                                    |
| 12                                                                                                        | Unit Owning Container                                 | 12                                                        | Level of Care                                      |
| 13                                                                                                        | Cause of Spill                                        | 13                                                        | Weather Conditions                                 |
| 14                                                                                                        | Actions to Contain Spill                              | 14                                                        | Actions being taken                                |
| 15                                                                                                        | Name / Unit / Phone                                   | 15                                                        | As of DTG                                          |
| WARNING: Federal, State, Local laws and NTC regulations requiring to report all spills....Notify the DTOC |                                                       | <b>WARRIOR TOC ACTIONS IF LIVE AMMUNITION</b>             |                                                    |
| <b>RELATIONSHIPS</b>                                                                                      |                                                       | Notified Warrior 03                                       |                                                    |
| TYPE                                                                                                      |                                                       | DTG Forwarded                                             |                                                    |
| TO OBJECT ID                                                                                              |                                                       | Forwarded to: EOC, Post Safety, OPS Group                 |                                                    |
| SUMMARY                                                                                                   |                                                       | Safety, Range Control (Y/N)                               |                                                    |
| DATE OF RELATIONSHIP                                                                                      |                                                       | DTG Follow up report                                      |                                                    |
|                                                                                                           |                                                       | Comments                                                  |                                                    |
|                                                                                                           |                                                       | <b>RELATIONSHIPS</b>                                      |                                                    |
|                                                                                                           |                                                       | TYPE                                                      |                                                    |
|                                                                                                           |                                                       | TO OBJECT ID                                              |                                                    |
|                                                                                                           |                                                       | SUMMARY                                                   |                                                    |
|                                                                                                           |                                                       | DATE OF RELATIONSHIP                                      |                                                    |
| <b>ORANGE 4 - SPILL REPORT 18FEB2021</b>                                                                  |                                                       | <b>ORANGE 5 - REALWORLD MEDEVAC 18FEB 2021</b>            |                                                    |
| <b>ORANGE 6 - REALWORLD UXO REPORT 18FEB2021</b>                                                          |                                                       | <b>ORANGE 6 - REALWORLD UXO REPORT (CARD 2) 18FEB2021</b> |                                                    |
| 1                                                                                                         | O/C Team, FLD O/C Callsign, Your Callsign             | 18                                                        | Recommended Priority (Immediate, Minor, No Threat) |
| 2                                                                                                         | DTG Contact Occurred, DTG End, DTG Zulu               | 19                                                        | Miss Fire - Dud                                    |
| 3                                                                                                         | BN-TF / PLT/CO Designation                            | 20                                                        | If Yes, Miss Fire Procedures Conducted?            |
| 4                                                                                                         | Country, Province, District, City/Town                | 21                                                        | Is Evac Possible?                                  |
| 5                                                                                                         | Location (Grid)/AO Format EX: 11SNU123456             | 22                                                        | If Yes, How Far?                                   |
| 6                                                                                                         | SIGACT (Yes or No), Comments                          | 23                                                        | Link Up Location                                   |
| <b>REAL WORLD UXO REPORT</b>                                                                              |                                                       | <b>REALWORLD UXO REPORT</b>                               |                                                    |
| 7                                                                                                         | DTG Found                                             | 24                                                        | Battle in Progress                                 |
| 8                                                                                                         | Reporting Activity                                    | 25                                                        | Route Restrictions                                 |
| 9                                                                                                         | Contact Method                                        | 26                                                        | DTOC Notified                                      |
| 10                                                                                                        | Type of Munitions (dropped, placed, projected thrown) | <b>WARRIOR TOC ACTIONS</b>                                |                                                    |
| 11                                                                                                        | Size (Length and Diameter)                            | Notified Warrior 03                                       |                                                    |
| 12                                                                                                        | Color                                                 | DTG Forwarded                                             |                                                    |
| 13                                                                                                        | Fuse Present                                          | Forwarded to: EOC, Post Safety, OPS Group                 |                                                    |
| 14                                                                                                        | NBC Contamination                                     | Safety, Range Control (Y/N)                               |                                                    |
| 15                                                                                                        | Resources Threatened                                  | DTG Follow up report                                      |                                                    |
| 16                                                                                                        | Impact on Mission                                     | <b>RELATIONSHIPS</b>                                      |                                                    |
|                                                                                                           | Protective Measures Taken                             | TYPE                                                      |                                                    |
| <b>Continued</b>                                                                                          |                                                       | TO OBJECT ID                                              |                                                    |
| <b>RELATIONSHIPS on Card 2</b>                                                                            |                                                       | SUMMARY                                                   |                                                    |
| TYPE                                                                                                      |                                                       | DATE OF RELATIONSHIP                                      |                                                    |
| TO OBJECT ID                                                                                              |                                                       |                                                           |                                                    |
| SUMMARY                                                                                                   |                                                       |                                                           |                                                    |
| DATE OF RELATIONSHIP                                                                                      |                                                       |                                                           |                                                    |
|                                                                                                           |                                                       |                                                           |                                                    |
|                                                                                                           |                                                       |                                                           |                                                    |
|                                                                                                           |                                                       |                                                           |                                                    |
| <b>ORANGE 6 - REALWORLD UXO REPORT 18FEB2021</b>                                                          |                                                       | <b>ORANGE 6 - REALWORLD UXO REPORT 18FEB2021</b>          |                                                    |

| ORANGE 7 - LOST SOLDIER REPORT 18FEB2021 |                                           |
|------------------------------------------|-------------------------------------------|
| 1                                        | O/C Team, FLD O/C Callsign, Your Callsign |
| 2                                        | DTG Contact Occurred, DTG End, DTG Zulu   |
| 3                                        | BN-TF / PLT/CO Designation                |
| 4                                        | Country, Province, District, City/Town    |
| 5                                        | Location (Grid)/AO Format EX: 11SNU123456 |
| 6                                        | SIGACT (Yes or No), Comments              |
| LOST SOLDIER REPORT                      |                                           |
| 7                                        | Soldier's Name                            |
| 8                                        | Soldier's SSN (Last 4)                    |
| 9                                        | DTG Last Seen                             |
| 10                                       | Last Known Location                       |
| 11                                       | Last Seen Wearing                         |
| 12                                       | Last Known Activity                       |
| 13                                       | Any Sensitive Items                       |
| 14                                       | Amount of Food or Water                   |
| 15                                       | Vehicle Individual Last Seen In           |
|                                          | Actions Being Taken                       |
|                                          | As Of DTG                                 |
| RELATIONSHIPS                            |                                           |
|                                          | TYPE                                      |
|                                          | TO OBJECT ID                              |
|                                          | SUMMARY                                   |
|                                          | DATE OF RELATIONSHIP                      |

ORANGE 7 - LOST SOLDIER REPORT 18FEB2021

| ORANGE 9 - TURTLE REPORT 18FEB2021 |                                           |
|------------------------------------|-------------------------------------------|
| 1                                  | O/C Team, FLD O/C Callsign, Your Callsign |
| 2                                  | DTG Contact Occurred, DTG End, DTG Zulu   |
| 3                                  | BN-TF / PLT/CO Designation                |
| 4                                  | Country, Province, District, City/Town    |
| 5                                  | Location (Grid)/AO Format EX: 11SNU123456 |
| 6                                  | SIGACT (Yes or No), Comments              |
| WARRIOR TOC ACTIONS                |                                           |
|                                    | Notified Warrior 03                       |
|                                    | DTG Forwarded                             |
|                                    | Forwarded to: EOC, Post Safety, OPS Group |
|                                    | Safety, Range Control (Y/N)               |
|                                    | DTG Follow up report                      |
|                                    | Comments                                  |
| RELATIONSHIPS                      |                                           |
|                                    | TYPE                                      |
|                                    | TO OBJECT ID                              |
|                                    | SUMMARY                                   |
|                                    | DATE OF RELATIONSHIP                      |

ORANGE 9 - TURTLE REPORT 18FEB2021

| ORANGE 8 - RED CROSS MESSAGE 18FEB2021 |                                           |
|----------------------------------------|-------------------------------------------|
| 1                                      | O/C Team, FLD O/C Callsign, Your Callsign |
| 2                                      | DTG Contact Occurred, DTG End, DTG Zulu   |
| 3                                      | BN-TF / PLT/CO Designation                |
| 4                                      | Country, Province, District, City/Town    |
| 5                                      | Location (Grid)/AO Format EX: 11SNU123456 |
| 6                                      | SIGACT (Yes or No), Comments              |
| RED CROSS MESSAGE                      |                                           |
| 7                                      | Actions Being Taken                       |
| 8                                      | As of DTG                                 |
| 9                                      | Message Number / Type of Incident         |
| 10                                     | Personnel Involved                        |
| 11                                     | Weather Conditions                        |
| 12                                     | Message Details                           |
| 13                                     | Relevance (Real World / Training)         |
| WARRIOR TOC ACTIONS IF LIVE AMMUNITION |                                           |
|                                        | Notified Warrior 03                       |
|                                        | DTG Forwarded                             |
|                                        | Forwarded to: EOC, Post Safety, OPS Group |
|                                        | Safety, Range Control (Y/N)               |
|                                        | DTG Follow up report                      |
|                                        | Comments                                  |
| RELATIONSHIPS                          |                                           |
|                                        | TYPE                                      |
|                                        | TO OBJECT ID                              |
|                                        | SUMMARY                                   |
|                                        | DATE OF RELATIONSHIP                      |

ORANGE 8 - RED CROSS MESSAGE 18FEB2021

| ORANGE 10 - ADMINISTRATIVE 18FEB2021 |                                           |
|--------------------------------------|-------------------------------------------|
| 1                                    | O/C Team, FLD O/C Callsign, Your Callsign |
| 2                                    | DTG Contact Occurred, DTG End, DTG Zulu   |
| 3                                    | BN-TF / PLT/CO Designation                |
| 4                                    | Country, Province, District, City/Town    |
| 5                                    | Location (Grid)/AO Format EX: 11SNU123456 |
| 6                                    | SIGACT (Yes or No), Comments              |
| WARRIOR TOC ACTIONS                  |                                           |
|                                      | Notified Warrior 03                       |
|                                      | DTG Forwarded                             |
|                                      | Forwarded to: EOC, Post Safety, OPS Group |
|                                      | Safety, Range Control (Y/N)               |
|                                      | DTG Follow up report                      |
|                                      | Comments                                  |
| RELATIONSHIPS                        |                                           |
|                                      | TYPE                                      |
|                                      | TO OBJECT ID                              |
|                                      | SUMMARY                                   |
|                                      | DATE OF RELATIONSHIP                      |

ORANGE 10 - ADMINISTRATIVE 18FEB2021

#### **d. Battle Tracking**

- i. **DTOC Responsibilities.** DTOC will battle track and archive all unit reports and planned operations, OC/T team reports, OPFOR concepts of operation and CBI (through the Palehorse cell), SIGACTs, and the rotational timeline.
  - ii. **TAF Responsibilities.** Team TAFs will battle track all partnered battalion timelines, operations, OPORDs/FRAGOs, team timelines and operations, and SIGACTs. As required, they will provide detailed information to the DTOC through digital logs and STANREPs.
4. **Command and Control Vehicles.** OPFOR Regimental Commander and the Chief of Operations are authorized to operate from their T90 and/or BMP-3. If not included in the CBI authorized strength, these vehicles are limited to one rack of Hoffmans and five ATWESS cartridges each to provide limited self-defense capability. If not included within the CBI authorized strength, the Commander and the Chief of Operations must operate from these vehicles or the extra vehicles cannot participate in the battle. The purpose of this rule is to give the Commander and the Chief of Operations greater protection from the effects of enemy fire without affecting the correlation of forces on the battlefield. In defensive operations, C2 vehicles from the “off squadron” command and staff are not authorized as alternate command or combat vehicles on the battlefield, unless specified in the CBI.

### **C-9 CBRN**

#### **1. Persistent Chemical**

- a. **Approval for CBRN.** The OPFOR will nominate CBRN targets through the OPFOR /COB TAF to the OPFOR/COB Regimental Commander for approval. The OPFOR may normally nominate three CBRN targets per battle during DATE rotations. Nomination must include a priority target with an anticipated STRIKEWARN time. OPFOR will nominate CBRN targets at least 24 hours prior to the anticipated STRIKEWARN time. The intent for CBRN use is to shape the battlefield and cause casualties.
- b. **STRIKEWARN** indicates special rounds being brought forward to the guns and battery level prep- to-fire procedures for special munitions (MOPP IV). Operations Group will use the 1hr time period from STRIKEWARN to prepare fire markers, CTC-IS, and teams to initiate CBRN, if fired. After 1hr, OPFOR has 30 minutes to fire the target. If after 30 minutes the target has not been fired, OPFOR must begin STRIKEWARN procedures all over again, as described above. OPFOR gets only two (2) STRIKEWARN opportunities per battle. If the target is not fired after the second STRIKEWARN, OPFOR loses CBRN for the battle. Final approval for strike will be made by Warrior TOC/COG.
- c. **Firing.** The AAG may fire the CBRN if in advance of OPFOR LD/RL (offensive missions) or defend NLT time (defensive missions). If after LD/RL or NLT defend times, the DAG or RAG must fire the CBRN. If fired by the AAG, no AAG counter-battery attrition by the RTU will occur. If fired by the DAG or RAG, counter-battery attrition may occur based on RTU acquisition, targeting, and accurate counter-fires against the DAG or RAG. CBRN liquid hazard area has a 1000m radius. (2k diameter). Downwind hazard area is possible dependent upon weather conditions and must be included in initial STRIKEWARN. Conditions are dependent upon temperature, inversion, and wind speed, etc. Due to large area of possible contamination from a CBRN event approval for contaminated area will be determined during STRIKEWARN and inputted into NTC-IS for situational awareness across Operations Group.
- d. The OPFOR will not intentionally plan or fire a CBRN within 2 kilometers of OPFOR soldiers unless force protection measures are observed during the emplacement of the special munitions. The OPFOR will not target CBRN munitions within 2 kilometers of OPFOR defensive positions, to include ambush positions, infantry strongpoints, and CSOPs, unless authorized by the OPFOR/COB Regimental Commander in consultation with the COG. The 2-kilometer planning figure is from the edge of the CBRN hazard area, not the center.
- e. The OPFOR will not target CBRN munitions within 1 kilometer of an attack route. Once on the ground, there is no buffer zone around the CBRN for OPFOR forces on the attack. However, the OPFOR /COB Regimental Commander may direct attacking forces to adopt increased CBRN protective posture if they intentionally travel within 1 kilometer of the outer edge of the CBRN hazard area. OPFOR not in protective gear or are not taking appropriate action after coming within 1 km of the CBRN hazard area

will be assessed IAW the EXOP.

- f. Assessments of vehicles in the CBRN hazard area will be made by AWES and the 62/39s/Team REPs on the ground. OC/Ts on site will ensure that only those vehicles, which violate the CBRN hazard area, will actually be assessed. Vehicle locations will be determined by the OC/Ts on the ground, using a GPS device and not by the location as shown on the TAF computer screens.
- g. If OPFOR are within 2 kilometers of the edge of the CBRN hazard area on a defense or if OPFOR travels within 1 Km of the CBRN hazard area on an offensive mission, then the Regiment may direct masking to any of its forces as a force protection measure. T90 tanks, BMP-3s, and BRDMs are equipped with overpressure systems. OPFOR crews in these types of vehicles in CBRN hazard area may button-up without masking as a force protection measure.
- h. Chemical downwind (CDM) data is produced by Raven weather station and sent to DTOC. Data is taken every 6 hours. Data is then uploaded in NTC-IS machines and provided to the BCT via TACLAN or FM. OC/Ts will receive wind speed and direction from their TAF for non-persistent agents.
- i. The CG, NTC, or the COG can disapprove any CBRN target they determine would unduly disrupt the established (RTU) training objective.
- j. The COG retains approval authority of contaminated equipment and personnel not having to decontaminate based upon RTU training objectives.
- k. Decontamination will not begin until the unit provides all support requirements, such as, medical, engineer, water, traffic management, and CDE resupply. Decontamination will continue until completed to standard even into darkness.

## **2. Replication of Chemical Effects**

- a. RTU. An adequate signature (e.g., arty simulators, CS, etc., normally used to mark the boundaries of the contaminated area) must be presented to RTU players in order to allow the player unit to react to chemical hazards prior to assessing casualties. Once presented, the effected OC/T team observes the RTU reaction and assesses accordingly. This procedure allows the rotational unit to train chemical conditions on the battlefield.
- b. OPFOR. All OPFOR vehicles/personnel are assessed when they move into/through a chemical hazard unless they are wearing appropriate chemical protective equipment. An OC/T or OPFOR/COB LNO must verify this.
- c. CBRN Event Execution Checklist. 24hr notice of 3x projected CBRN strike locations with priority target (type of agent-Sarin/Mustard-etc., Persistency-Non persistent or Persistent with hours of durations on ground and/or in air, number and type of rounds, air or ground bursting, projected downwind hazard, UXO's planned). 1 hour strike warning with refined grid and confirmation of all previously mentioned. Final strike with final approval from Warrior TOC/COG and notice of any changes to above listed items. Signature using to mark CRBN event (i.e. C/S, artillery simulators, pyrotechnics, CBRN alarms simulator).

## **C-10 Definitions of Commonly Used Terms**

- 1. The following represent Lizard Plans and Operations definitions of commonly used terms in a standard rotation:
  - a. Report Line (RL): In the CBI, a RL is the same as a LD. Prior to the RL for the training day battle the only forces that are authorized to cross this line prior to the "RL time" are reconnaissance and other specifically authorized forces indicated by the CBI.
  - b. Contemporary Operating Environment Forces Forward Boundary (FB): The most forward point where OPFOR main battle combat forces operate. The only forces that may set up operate forward of the FB without DTOC/CBI permission are reconnaissance forces. CSOP and ambush positions may occupy within 1km of the FB.

- c. **Suspension of Battlefield Effects (SOBE):** The period during which all forces are prevented from influencing the opposing force in order to facilitate battlefield police or separation of forces. Actions such as repositioning behind the FLOT/LD, vehicle/equipment reconstitution, paper ammunition reconciliation, planning, and passive activities such as surveillance, electronic collection, and survivability and obstacle preparations may be permitted. Actions which might adversely influence the opposing force will not be permitted. Examples include direct or indirect fire engagements, jamming, air insertions beyond the FLOT/LD, movement of mounted systems other than to hide positions when beyond the FLOT/LD, and repositioning of competitive scout/recon assets. Electronic collection may begin at CTM+4 regardless of SOBE. This is when the RTU MI Company is clear of AARs and can begin collection effort.
- d. **Resumption of Battlefield Effects (ROBE):** When all forces in the training area are competitive, combat engagements and assessments may begin.
- e. **OPFOR Reconnaissance Limit of Advance (Recon LOA):** The farthest forward OPFOR reconnaissance assets may position.
- f. **OPFOR Restricted Fire Line (RFL):** This is the limit of which OPFOR indirect fires may be placed. The RFL is lifted based upon DTOC and OPFOR/COB approval, generally understood as when the first company team crosses the RFL in an offensive capacity. A company team does not include the total of RTU reconnaissance forces.
- g. **Secure (sector):** The sector that is assigned (to OPFOR) can be occupied and fought for. Direct fire engagements are authorized and battlefield effects are normally resumed.
- h. **Occupy (sector):** OPFOR may move into (physically occupy) the sector from FB to rear boundary and begin defensive prep to include obstacle and survivability work. CSOPs/ambush positions may position forward and prepare their positions upon occupation.
- i. **Battle Handover Line (BHL):** The rear boundary of the security zone. This will either be to the rear of the subsequent position or to the rear of the forward position (if the security zone requires the establishment of an initial, subsequent and forward position).
- j. **Competitive Reconstitution:** During multi-day missions, or when reconnaissance carries over to the next mission, reconstitution will often be competitive. This means the asset must be recovered under combat conditions and returned to the rear boundary by a like vehicle (if vehicle casualty) or CASEVAC (if personnel casualty only). Recovery assets are subject to battlefield effects during competitive reconstitution.
- k. **Rear Boundary:** The rear boundary of the defense. This area is the line where catastrophic and SBD vehicles must be moved in order for them to be reconstituted. Maintenance reserve vehicles, higher echelon reserve vehicles (e.g., MRR CAR in a MRB fight), and other administrative/CSS vehicles are examples of assets that should be to the rear of the rear boundary.
- l. **TESS Rules:** A common OC/T and EXOP term for allowing effects of TESS and AWES to rule [assessments] whenever possible on the NTC battlefield and minimal use of OC/T controller guns to affect either player on the battlefield. This basic premise is fundamental to all engagements at the NTC. Exceptions are normally highlighted in the EXOP such as the 50m rule, non-AWES minefields, etc.
- m. **Competitive Recovery and Reconstitution:** Up until midnight the night before a DATE battle day OPFOR and RTU are allowed to competitively recover, reconstitute and reinsert forces into a battle area. The asset being reconstituted must be physically positioned behind the reconstitution line before "Reconstitution End" time in order to be considered eligible for reconstitution. Exceptions to this time may be specified by the DTOC on advice of the COG and the OPFOR/COB Regimental Commander.
- n. **Brigade Forward Boundary (BFB):** A line that delineates surface areas between the Brigade and Division. for the purpose of facilitating coordination and deconfliction of operations between adjacent units, formations, or areas.

## C-11 NTC FoF Notional and Simulator Ammunition

| NTC FoF Notional and Simulator Ammunition List                                                                                                               |                                               |                   |             |                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-------------------|-------------|--------------------------------|
| Units are responsible for requesting the appropriate amount of rounds and must have an approved DA Form 581 from 521D prior to being issued ammunition below |                                               |                   |             |                                |
| DODIC                                                                                                                                                        | Nomenclature                                  | Paper Requirement | PYRO        | Substitute/ Interchangeability |
| A974                                                                                                                                                         | CTG, 25MM, APDS-T, M791                       | X                 |             |                                |
| A975                                                                                                                                                         | CTG, 25MM, HEI-T, M792 LNKD                   | X                 |             |                                |
| A986                                                                                                                                                         | CTG, 25MM, APFSDS-T                           | X                 |             |                                |
| AA11                                                                                                                                                         | CTG, 7.62MM, M118                             | X                 |             | A136/A171                      |
| AA89                                                                                                                                                         | CTG, 30MM X 173MM, LNKD                       | X                 |             |                                |
| AA90                                                                                                                                                         | CTG, 30 X 173MM, TP-T, LNKD                   | X                 |             |                                |
| B118                                                                                                                                                         | CTG, 30MM, M788 TP                            | X                 |             | B120                           |
| B130                                                                                                                                                         | CTG, 30MM HEDP M789                           | X                 |             |                                |
| B542                                                                                                                                                         | CTG 40MM HEDP M430 / M430A1                   | X                 |             | B571                           |
| B546                                                                                                                                                         | CTG, 40MM HEDP M433                           | X                 |             | B568                           |
| B647                                                                                                                                                         | CTG, 60MM, ILLUM, M721 W/ FUZE                | X                 |             | B627                           |
| BA04                                                                                                                                                         | CTG 60mm IR Illum M767                        | X                 |             |                                |
| BA14                                                                                                                                                         | CTG, 60MM SMOKE WP M722A1                     | X                 |             | B630/B646                      |
| BA45                                                                                                                                                         | CTG, 60MM, HE, M888                           | X                 |             | B643/BA17/BA16/BA44            |
| C484                                                                                                                                                         | CTG, 81MM INFRARED ILLUMINATING XM816         | X                 |             |                                |
| C508                                                                                                                                                         | CTG, 105MM, HEAT, COMP B, M456                | N/A               | SIM, MGSS   |                                |
| C543                                                                                                                                                         | CTG, 105MM APFSDS-T M900                      | N/A               | SIM, MGSS   | C521                           |
| C625                                                                                                                                                         | CTG, 120MM, ILLUM, M930                       | X                 |             | CA39/C790                      |
| C791                                                                                                                                                         | CTG, 120MM, HEAT-MP-T, M830A1                 | N/A               | SIM, MGSS   | C787                           |
| C868                                                                                                                                                         | CTG, 81MM HE                                  | X                 |             | C256/C869/CA43/CA63/CA66       |
| C870                                                                                                                                                         | CTG, 81MM SMOKE RP M819                       | X                 |             | C276                           |
| C871                                                                                                                                                         | CTG, 81MM ILLUMINATING M853A1                 | X                 |             | C226                           |
| CA03                                                                                                                                                         | CTG 120MM Smoke WP M929                       | X                 |             | C624                           |
| CA04                                                                                                                                                         | CTG 120MM HE M934A1 w/ MOF M734A1             | X                 |             | C379/CA44                      |
| CA07                                                                                                                                                         | CTG, 120MM, IR, ILLUM                         | X                 |             |                                |
| CA30                                                                                                                                                         | 84MM, AT4                                     | X                 | SIM,ATWES S |                                |
| CA38                                                                                                                                                         | CTG, 120MM CANISTER M1028                     | N/A               | SIM, MGSS   |                                |
| CA40                                                                                                                                                         | CTG, 105MM, CANISTER, M1040                   | N/A               | SIM, MGSS   |                                |
| CA63                                                                                                                                                         | CTG 81mm HE, IM Enhanced, M889A4, w/M783 Fuze | X                 |             | CA43/C869/C256                 |
| CA64                                                                                                                                                         | CTG, 120MM APFSDS-T, M829A4                   | X                 | SIM, MGSS   | CA26/C792                      |
| D514                                                                                                                                                         | PROJ, 155MM HE RAAM-S M741A1                  | 1                 |             | D509                           |
| D528                                                                                                                                                         | PROJ, 155MM SMK WP M825                       | 1                 |             |                                |
| D529                                                                                                                                                         | PROJ, 155MM, HE, M795                         | 1                 |             | DA51/D513/D544/D571            |
| D563                                                                                                                                                         | PROJ, 155MM, M483, M43A1                      | 1                 |             |                                |
| D579                                                                                                                                                         | PROJ, 155MM HERA M549, M549A1                 | 1                 |             |                                |
| D864                                                                                                                                                         | PROJ, 155MM, M864                             | 1                 |             |                                |
| DA12                                                                                                                                                         | CHG, PROP 155MM XM/M231 MACS, 4 EA/CNTR       | 1                 |             | D540/D541                      |
| DA13                                                                                                                                                         | CHG, PROP 155MM XM/M232/A1 MACS, 5 EA/CNTR    | 1                 |             |                                |
| DA45                                                                                                                                                         | PROJ, 155MM HE M982 EXCALIBUR                 | 1                 |             |                                |
| DA49                                                                                                                                                         | PROJ, 155MM IR ILLUM, M1066                   | 1                 |             |                                |
| DA57                                                                                                                                                         | PROJ 155MM ILLUM                              | 1                 |             | D505                           |
| DA66                                                                                                                                                         | PROJ 155MMEXT RANEG, SPOTTING                 | 1                 |             | D550                           |

| DODIC | Nomenclature                               | Paper Requirement          | PYRO        | Substitute/ Interchangeability |
|-------|--------------------------------------------|----------------------------|-------------|--------------------------------|
| DA67  | PROP CAHRGE 155MM (MACS)                   | 1                          |             | DA13/D532/D533                 |
| DA69  | PROJ, 155MM, BONUS MK2                     | 1                          |             |                                |
| G881  | GREN, HAND, FRAGATION                      | refer to EXOP Chapter 8- 9 |             | G880                           |
| HA08  | RCKT & LNCHR, 83MM, HEDP, XM141 (SMAW-D)   | X                          | SIM,ATWES S |                                |
| HA10  | RCKT, 2.75 IN, 2.75" IR FLARE MK66-4       | N/A                        |             | H154/HA11/H462                 |
| HA12  | RCKT, 2.75 IN, W/ WHD, HE, M151            | N/A                        |             |                                |
| HA18  | RCKT, 2.75" ILLUM M257 MK66-4              | N/A                        |             | H183/H182                      |
| HA51  | RP, 298MM, M31A1, GMLRS                    | X                          |             |                                |
| HB11  | RCKT POD, 298MM, M30A1                     | X                          |             |                                |
| HB35  | GMLRS/MLRS                                 | X                          |             | HA22/H104/H186/H108            |
| J003  | CANISTER, M87A1 MINE ANTI-TANK VOLCANO     | 2                          |             |                                |
| J143  | RCKT MTR , 5 IN MK22 MOD 2 FOR LINEAR DEM  | 2                          |             |                                |
| K042  | CANISTER, MINE PRAC, M88                   | 2                          |             |                                |
| K866  | SMK POT, HC, ABC-M5                        | 2                          |             | K865                           |
| M023  | CHG, DEMO M112                             | 2                          |             |                                |
| M028  | KIT, DEMO, BANGALORE TORP, M1A2            | 2                          |             |                                |
| M039  | CHG, DEMO, 40 LBS CRATERING                | 2                          |             |                                |
| M420  | CHG, DEMO M2A3, M2A4                       | 2                          |             |                                |
| M421  | CHG, DEMO SHAPED M3, M3A1                  | 2                          |             |                                |
| M456  | CORD, DET, FLEX                            | 2                          |             |                                |
| M913  | CHG, DEMO, LINEAR, HE, COMP C4, M58A4      | 2                          |             |                                |
| ML47  | CAP, BLASTING: NON-ELEC, M11               | 2                          |             |                                |
| MN03  | CAP, BLST NON-ELEC, 1000FT SHOCK TUBE, M13 | 2                          |             |                                |
| MN06  | CAP, BLASTING: NON-ELEC, 5 MINUTE DLY, M14 | 2                          |             |                                |
| MN08  | IGNITER, TIME BLASTING FUSE, M81           | 2                          |             |                                |
| MN69  | BOOSTER, DEMO CHG, M152                    | 2                          |             |                                |
| MN79  | APOBS, MK7 MOD 1                           | 2                          |             |                                |
| MN88  | CAP, BLASTING, NON-ELEC, M21               | 2                          |             |                                |
| MN90  | CAP, BLASTING, NON-ELEC, M23               | 2                          |             |                                |
| MP03  | KIT, DEMO, BANGALORE TORP                  | 2                          |             | M028/M026                      |
| N248  | FUZE, MT W/O BOOSTER M565                  | 1                          |             |                                |
| N278  | FUZE, MTSQ W/BOOSTER M564                  | 1                          |             |                                |
| N285  | FUZE, MTSQ W/O BOOSTER M577A1              | 1                          |             |                                |
| N286  | FUZE, MTSQ W/BOOSTER M582                  | 1                          |             |                                |
| N291  | FUZE, PROXIMITY W/BOOSTER M732E2/M732A2    | 1                          |             | N464                           |
| N340  | FUZE, PD W/BOOSTER M739                    | 1                          |             | N335                           |
| NA09  | FUZE, MULTI-OPTION M782                    | 1                          |             | NA15/N290                      |

| <b>DODIC</b> | <b>Nomenclature</b>                        | <b>Paper Requirement</b> | <b>PYRO</b>           | <b>Substitute/ Interchangeability</b> |
|--------------|--------------------------------------------|--------------------------|-----------------------|---------------------------------------|
| NA15         | FUZE ET M767A1                             | 1                        |                       | N290                                  |
| NA17         | FUZE, ELECTRONIC TIME M762A1               | 1                        |                       | N289                                  |
| NA35         | PRIMER, PERC M82A1                         | 1                        |                       | N523                                  |
| NA37         | PGK, M1156E2/A1                            | 1                        |                       | NA28/NA29                             |
| PL34         | GM, SURF ATTACK, AT, FGM 148A, JAVELIN     | X                        | SIG, ILLUM WS CLUSTER |                                       |
| PL53         | GUIDED MISSILE, ANTI-TANK FGM-148B JAVELIN | X                        | SIG, ILLUM WS CLUSTER |                                       |
| PL64         | GUIDED MISSILE, ANTI-TANK FGM-148C JAVELIN | X                        | SIG, ILLUM WS CLUSTER |                                       |
| PL94         | GM, I-A, FIM-92C STINGER                   | X                        | SIM,ATWES S           |                                       |
| PM75         | ATACMS                                     | N/A                      |                       | PL38/PL65/PL81                        |
| PM77         | GM & LAUNCHER, AT FGM-148D JAVELIN         | X                        | SIG, ILLUM WS CLUSTER |                                       |
| PM93         | GM, JAVELIN BLK I, FGM-148E                | X                        | SIG, ILLUM WS CLUSTER | PL64                                  |
| WF97         | AGM-114L                                   | N/A                      |                       | PU55                                  |
| WH53         | GM, SURF ATTACK, BGM-71F-3-RF, TOW         | X                        | SIM,ATWES S           | WJ53/WH52/WF37/WG02/WJ39/WJ40/ WF93   |
| WJ24         | AGM,HELLFIRE/LONGBOW                       | N/A                      |                       | WJ52/WF96/WG01/PU72/PV30/WH87/ PV29   |
| XXXX         | PROJ, 155MM, BONUS, M999                   | 1                        |                       |                                       |

**Notes:**

"X" indicates that DODIC requires placards are required

"1" indicates all 155mm projectiles, fuzes and primers are exempt from paper placards; however still require a DA Form 581 request for 52ID approval. FA OC/T's are responsible in issuing a (Red Card) with approved DA Form 581.

"2" indicates all DEMO is exempt from paper placards; however still require a DA Form 581 request for 52ID approval.

**RTU is responsible for requesting any required PYRO**



# **National Training Center EXOP**

## **ANNEX D DIVISION LEVEL PROCEDURES**

This document is the "SOLE SOURCE" for rotational units addressing battlefield simulation.  
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**JUNE 2025 (FY25)**

## Annex D Division Level Procedures (Live and Constructive Operations)

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1. Overview. With the below exceptions, the National Training Center Exercise Procedures (November 2019) remains the basis for all actions at the National Training Center. The purpose of this Annex is to describe the probable interactions between EXCON, HICOM (replicating a Corps HQ), the Rotation Training Unit (primarily a Division-level headquarters), and its down-trace units (Response or Work Cells). This Annex also outlines procedures for settle simulation anomalies through a manual process, considering facts related to the issue and the application of military judgement for a “reasonable” solution.
2. Operations Group encourages all training participants to read this Annex carefully to understand process and procedures for unique events during execution.
3. This Annex is not all inclusive, or designed to be, but will, based on the exercise, be updated prior to execution to meet anticipated requirements or situations.

### D-1 Administrative.

1. Division Level Exercises are defined as those exercises involving a live Division Headquarters as a training audience inside the National Training Center’s designated training area. These exercises require the replication of a Corps-level Headquarters acting as HICOM and may involve additional constructive elements at echelon, depending on training objectives, scenario, and exercise design. Division Level Exercises requires re-organization of Operations Group (internally) and, most likely, involve numerous Guest OC/Ts and additional personnel to serve as Subject Matter Experts for headquarters above or outside the BCT, for additional live formations that exceed our capacity, and to maintain a robust constructive environment.
2. OC/T Certification Requirements Overview
  - a. There is no change to the requirements of OC/Ts or Uncertified Guest OC/Ts to complete Phase I training prior to entering the training area.
  - b. Exceptions will be made for those OC/Ts or Subject Matter Experts whose primary place of duty (as defined by role or responsibility) is outside the designated training area.
3. Higher Headquarters. The VII Corps (Jayhawk) operates as the rotational training unit (RTU) higher headquarters (HICOM) for all tactical orders and briefings from RSOI 1 (or the pre-defined start of the

exercise) through the last training day of the exercise. The VII Corps TACSOP contains specific instructions for requesting support and contact information (in addition to this document).

**a. Command and Control.**

- i. Corps headquarters elements may deploy to NTC to participate in a division level rotation. In principle, the headquarters elements act as an extension of VII Corps. Headquarters elements deploying to NTC can configure in one of three ways:
  - Integrated into the VII Corps HICOM (inside or near Building 990)
  - As a HQ element in the cantonment area
  - As a competitive element in the training area
- ii. A HQ element in the cantonment area will maintain its own internal structure, report to the Jayhawk staff in accordance with its HQ function, receive HICOM information, and gain approval by VII Corps prior to dissemination of any intelligence products/information. See VII Corps SOP for additional requirements.

**b. EXCON Internal Battle Rhythm Events.** At a minimum, the following events will occur in accordance with published timelines. The purpose of these meetings is to synchronize operations within Operations Group, identify additional support requirements, adjust the exercise based on Senior Trainer input, and coordinate activities between live and constructive elements.

- i. Exercise Control Group (ECG) Huddle/Net Call (refer to published 7-minute drill for focus areas, inputs, and net call sequence)
- ii. Red/Blue Fixed Wing Sync
- iii. Scenario Sync
- iv. OPFOR Sync
- v. Master Event Scenario List (MSEL) Sync
- vi. Exercise Director Pre-Brief
- vii. Exercise Director Brief

**c. HICOM Battle Rhythm Events.** At a minimum, the following events will occur in accordance with published timelines. The purpose of these meetings is to replicate the necessary Boards, Bureaus, Cells, Centers, and Working Groups (B2C2WG) of a Corps headquarters and interact with subordinate live and constructive units to achieve desired results in accordance with the exercise design and published training objectives.

- i. Airspace Working Group
- ii. Operations and Intelligence Sync
- iii. Non-lethal Working Group
- iv. Targeting/Collection Working Group
- v. Sustainment Working Group
- vi. Targeting Decision Board
- vii. Sustainment Decision Board
- viii. Battle Update Brief

ix. **Commander's Update Brief**

**D-2 Intelligence**

1. G2, VII Corps, provides Higher Command (HICOM) intelligence and Exercise Control (EXCON), synchronizes efforts of intelligence plans personnel and external enablers to present a realistic and challenging intelligence scenario. The G2 manages the NTC's echelon above brigade (EAB) live, virtual, and constructive intelligence collection (IC) efforts. It manages maintenance support for all intelligence systems including DCGS-A, Trojan, TGS, and CIDNE. Refer to Chapter 2 for additional procedural responsibilities.
2. Intelligence Architecture. G2 Intel Systems Architecture is based on the DCGS-A family of systems. Rotational units must bring, use, and maintain their organic DCGS-A systems. DCGS-A FSRs (CECOM) and 353T are in G2, VII Corps, and are available to assist rotational unit G2 section with DCGS-A data integration and Tactical Entity Database (TED) replication with the Corps G2 intelligence fusion server (IFS) located in bldg. 990.

**D-3 Maneuver.** Refer to Chapter 3, Maneuver, when adjudicating live elements operating within the defined training area.

1. EXCON maintains the responsibility of preventing the interaction between constructive and live direct fire systems, unless pre-approved through the exercise and scenario design process.
2. In order to maintain realism, for the rotational training unit and opposing forces operating live within the training area, constructive ground or rotary wing forces may not be employed when direct fire contact with live forces is expected or intended.
  - a. To do this, an "off-limits area" will be designated within the constructive environment that prohibits movement of elements that may result in direct fire contact. Sustainment operations that require the movement of constructive elements into the "off-limits area" to execute the transfer of supplies, personnel, or equipment, will be allowed.
  - b. Through pre-defined battle rhythm events, EXCON will maintain awareness of rotational unit and OPFOR scheme of maneuver (both live and constructive), identify areas of potential friction within the training area, and make recommendations to the Exercise Director, or designated representative, to minimize impacts on the exercise. Impacts will be mitigated through the direction of VII Corps (HICOM).
  - c. If live elements come into contact with constructive elements (through maneuver or mismanagement of constructive elements), recommendations will be made from EXCON to the Exercise Director, or designated representative, in regard to adjudication (based on systems encountered and exercise training objectives). There will be no effects placed against live units in this circumstance.
  - d. Indirect fire or fixed wing force may be employed as long as it produces the proper signature within the constructive environment.

**D-4 Airlift, Air Assault, Airdrop, and/or Airborne Operations**

1. Requests for air movements or air assaults will be processed through Air Mission Requests submitted through the 521D Warrior Portal and confirmed by the RTU LNO in the DTOC. In the absence of live Army Aviation RTU, constructive assets may be employed to enable training.
2. Lifted unit will competitively move to the PZ or departure airfield and be task organized into airlift posture.
3. For RW/FW air movements, a WARSIM overlay will be created and shared by the lifted unit, which should include PZ, LZ or DZ, alternate LZ, and other applicable locations. The aviation units will use this to create air routes.
4. The lifting unit will competitively fly mission (without ground units or equipment). The unit will fly from the origin location to the PZ, land and stay on the ground simulating A/C loading. When flying the mission,

the aviation Work Cell will notify the ground unit when it is at the LZ/DZ. For an Air Lift mission, the A/C must land to simulate off-load. Airdrop or Airborne must loiter over DZ until complete.

5. Once A/C depart the LZ (or overfly the DZ), ground units will MAGIC MOVE to LZ/DZ according to manifest and load plans. If A/C are shot down, EXCON-Forward Personnel or OC/T will inform EXCON and request to decrement personnel and equipment accordingly. Ground unit losses will not be adjudicated until after A/C adjudication is complete.

#### **D-5 Rotary Wing Aviation**

1. Eagle Team will directly augment the 52nd Infantry Division (52ID) Warrior Staff as the G32 Aviation Section. This includes active participation in Commanders Update Assessments, OPSYNCS, and coordination with all DIV warfighting functions to enable deep shaping. Warrior 32 will coordinate directly with 11th Armored Cavalry Regiment (11ACR) Black Horse to adjudicate and recommend battle damage assessments (BDA) resulting from constructive execution of Attack Aviation Mission Requests (ATMRs). This collaborative effort ensures accurate reporting and informed decision-making regarding aviation assets and mission effectiveness.
2. Constructive against live unit BDA is authorized only in the absence of live Army Aviation RTU and approved prior to the final planning conference.
3. Constructive rotary wing aviation (attack or reconnaissance) may enter the designated training area to engage live OPFOR. Constructive rotary wing aviation (heavy or medium lift) may be used to conduct resupply, transport equipment, and/or personnel movements must be within the capabilities of the aircraft and Warrior 32. Constructive rotary wing aviation may be used as an observation or targeting platform against live OPFOR.

#### **D-6 Unmanned Aerial Systems (UAS)**

1. A Virtual UAS replicated in virtual environment (MUSE) may be used to collect on live and constructive OPFOR within the designated training area. These UASs may also engage OPFOR within capabilities and armaments available or be used as a call-for-fire platform.
2. Only live UAS, with live attack rotary wing aviation, may conduct MUM-T operations within the designated training area. Constructive/Virtual UAS cannot be used.

#### **D-7 Special Operations Forces (SOF)**

1. All SOF attacks against OPFOR forces must be coordinated between EXCON, CJSOTF (HICOM), EXCON SOF Cell, and EXCON OPFOR Cell prior to execution. This is to ensure that the desired level of OPFOR training stimulus for all training audiences is maintained. EXCON SOF Cell will list SOF Task and Purpose by Phase and Training Day on the Rotational Sync Matrix. The NAI(s) and Enemy Unit(s) will be listed, so the EXCON OPFOR are aware of proposed SOF effects for that Phase and Training Day so the appropriate level of BDA can be induced through the EXCON OPFOR Cell. Any BDA from any non-coordinated attacks will be manually adjudicated as damaged equipment only.
2. All SOF Special Reconnaissance missions, Civil Reconnaissance and Engagement Missions, ambushes, use of demolitions, hides, and resupply missions require the Training Unit submit the necessary CONOPs or plans through CJSOTF (HICOM) and to the EXCON SOF Cell prior to execution of the specified mission. Given the capabilities of the executing unit, assets available, strength of OPFOR (if applicable), and use of enablers, SOF EXCON Cell and EXCON OPFOR Cell will recommend results of mission. All SOF units must move competitively, as must as all enablers, to achieve credit. SOF SR teams will receive a once-a-day MAGIC RESUPPLY of Class I (food and water) due to extensive survival skill training.
3. All SOF attacks against OPFOR Command Posts (DIV and above) must be coordinated in detail between the EXCON SOF Cell and EXCON prior to execution. BDA and C2 degradation effects of approved attacks will be in accordance with Table D-3-6-1 below. Any BDA from non-coordinated attacks will be adjudicated back to pre-attack levels.

| OPFOR Strength after attack | Elite        | Regular       | Conscript     | Militia       |
|-----------------------------|--------------|---------------|---------------|---------------|
| 80 – 100%                   | No Effect    | No Effect     | No Effect     | No Effect     |
| 70 – 79%                    | 1 Hour delay | 2 Hour delay  | 3 Hour delay  | 6 Hour delay  |
| 40 – 69%                    | 2 Hour delay | 4 Hour delay  | 8 Hour delay  | 10 Hour delay |
| <40%                        | 4 Hour delay | 10 Hour delay | 14 Hour delay | 16 Hour delay |

Table D-7-3-1, OPFOR CP (DIV and above) C2 Degradation Matrix

## **D-8 Fire Support**

### **1. Mission Command.**

- a. **Command.** The Force Field Artillery Headquarters for the rotation will be designated based on the approved Troops List, training objectives, and exercise design. Command and support relationships will be published through the VII Corps (HICOM) orders process.
- b. **The Commander, VII Corps (HICOM),** with assistance of the EXCON FIRES Cell, controls field artillery echelons above division.

### **2. Fires Adjudication Procedures**

- a. **The EXCON FIRES Cell** is responsible for the management and representation of field artillery assets, as approved through the exercise Troops List, in both WARSIM/JLCCTC and CTC-IS to properly allow for the replication of effects.
- b. **The EXCON FIRES Cell,** through dedicated liaisons or OC/Ts, will maintain awareness of the task organization and command support relationships of field artillery units.
- c. **Constructive to Constructive.**
  - i. Throughout the exercise, the results of field artillery engagements in WARSIM/JLCCTC will be the primary adjudication method, for both the Training Audience and OPFOR. If required, and in accordance with the scenario design, adjudication can be pre-determined to meet scenario or training objectives through consult with EXCON Fires Cell and the Simulation Team.
  - ii. Results of field artillery engagements (battle damage assessments) are the responsibility of the observing unit and will not be provided to the Training Audience by EXCON, OC/Ts, etc. VII Corps (HICOM) may provide battle damage assessments based on ISR/Observer plans.
  - iii. If required, adjustments can be made to Training Audience BDA beyond the CFLCC FSCL, or OPFOR engagements against the Training Audience, to maintain scenario design requirements to meet desired training objectives. This will be considered as part of the EXCON Scenario Sync with recommendation made to the Exercise Director, or designated representative, in the Exercise Director Brief.
- d. **Constructive to Live.**
  - i. **Training Audience fires against OPFOR**
    - During a designated phase, in accordance with the approved scenario design, the OPFOR can be reduced to 11% at echelon (2xWeapon Systems per battalion) as a result of the Training Audience field artillery and coordinated Division Fires that will be limited to a 2 to 1 for effects during a phase. Key systems are at the discretion of the Exercise Director, or designated representative, in accordance with exercise design and training objectives. (PENDING REVIEW BY BF EFFECTS WG)
    - Adjudication recommendations will be passed from the EXCON OPFOR Cell, in consultation with the EXCON INTEL Cell and the VII Corps (HICOM) G2, to the EXCON OIC,

for a decision by the Exercise Director, or designated representative.

- EXCON INTEL Cell will make necessary changes to intelligence estimates through the VII Corps (HICOM) G2 for distribution to the Training Audience.

ii. OPFOR fires against the Training Audience

- As part of the exercise design process, OPFOR will be provided with Combat Battle Instructions that limit the amount and type of field artillery that may be employed against live Training Audience in the designated Training Area.
- During a designated phase, in accordance with the approved scenario design, the live training audience can be reduced to 11% at echelon (2xWeapon Systems per battalion) as a result of the OPFOR field artillery during a phase. Key systems are at the discretion of the Team Senior Trainer, in accordance with exercise design and training objectives.
- EXCON MANEUVER TEAM Cells will assist OC/Ts to promptly, and properly, resurrect the appropriate systems within the designated training area.

e. Live to Constructive.

i. Training Audience fires against OPFOR

- During a designated phase, in accordance with the approved scenario design, the live training audience can be reduced to 11% at echelon (2xWeapon Systems per battalion) as a result of the OPFOR field artillery during a phase. Key systems are at the discretion of the Exercise Director, or designated representative, in accordance with exercise design and training objectives.
- Adjudication recommendations will be passed from the EXCON OPFOR Cell, in consultation with the EXCON INTEL Cell and the VII Corps (HICOM) G2, to the EXCON OIC, for a decision by the Exercise Director, or designated representative.
- EXCON INTEL Cell will make necessary changes to intelligence estimates through the VII Corps (HICOM) G2 for distribution to the Training Audience.

ii. OPFOR fires against the Training Audience

- As part of the exercise design process, OPFOR will be provided with Combat Battle Instructions that limit the amount and type of field artillery that may be employed against live Training Audience in the designated Training Area.
- During a designated phase, in accordance with the approved scenario design, the live training audience can be reduced to 11% at echelon (2xWeapon Systems per battalion) because of the OPFOR field artillery during a phase. Key systems are at the discretion of the Team Senior Trainer, in accordance with exercise design and training objectives.
- EXCON MANEUVER TEAM Cells will assist OC/Ts to promptly, and properly, resurrect the appropriate systems within the designated training area.

3. Fire Marker Priorities (Field Artillery Effects Replication)

- a. OPFOR fires against the RTU will be priority for fire markers. If unable to execute, OC/Ts in the local area will employ the required signature IAW Chapter 4, Fire Support.
- b. EXCON will designate a priority area for the employment of fire markers against OPFOR based on the location of RTU observers (ground air-breathing, airborne air-breathing, live- UAS, constructive UAS). Fires unable to be observed, visually, by the RTU will use OC/Ts (i.e., Palehorse) in the area to employ the required effects. EXCON FIRES Cell will assist in managing and coordinating activities. OC/Ts (Ops Group) may be required to assist in the replication of OPFOR fires.

**D-9 Fixed Wing Aviation.** Refer to Chapter 9, Section 14, Close Air Support, for additional restrictions when operating within the defined training area.

1. The EXCON FIXED WING Cell is responsible for the management and representation of fixed wing assets, as approved through the exercise Troops List, in both WARSIM/JLCCTC and CTC-IS to properly allow for the replication of effects. This includes OPFOR fixed wing aviation.
2. Constructive fixed wing Close Air Support will be permitted against live OPFOR in the close fight in accordance with adjudication provide in paragraph 3 and will be weighed against required enemy slants dictated by the COG
3. Adjudication.
  - a. Through-out the exercise, the results of fixed wing engagements in WARSIM/JLCCTC will be the primary adjudication method, for both the Training Audience and OPFOR. If required, and in accordance with the scenario design, adjudication can be pre-determined to meet scenario or training objectives.
  - b. Results of fixed wing engagements (battle damage assessments) are the responsibility of the EXCON RED/BLUE FIXED WING Cell and will occur across a designated means, as required.
  - c. If required, adjustments can be made to Training Audience BDA beyond the VII Corps (HICOM) FSCL, or OPFOR engagements against the Training Audience, to maintain scenario design requirements to meet desired training objectives. This will be considered as part of the EXCON Scenario Sync with recommendation made to the Exercise Director, or designated representative in the Exercise Director Brief.
  - d. Manual adjudication by EXCON FIXED WING Cell OC/Ts will use several variables, to include mission planning, synchronization, and coordination, enemy threat system capabilities, and target intelligence estimates when determining the outcome. Training Audience/OPFOR Constructive fixed wing Close Air Support will be adjudicated by Blackbird (EXCON) with Raven (AF Trainers) Oversight using a three to one principle when having effects on live forces in order requisite combat power remains to enable training. Furthermore, the BDA will be provided to the supported element before the Close Air Support comes off station.
  - e. The minimum force requirements established in the EXSOP allowing forces to fight unrestricted during battle periods and regenerate on the same timeline as other forces. At the start of each phase, both sides will be reconstituted to 100% of forces barring maintenance constraints on the training audience. Therefore, the training audience would only fight with functional weapon systems with the only exception being when they are unable to maintain one fighting element capable of acquiring a firing solution for Smoke or FASCAM at a critical point of training.

**D-10 Airspace Management.** This section supersedes Chapter 9 for all Division-level rotations.

1. VII Corps (HICOM) vs. EXCON Command and Control.
  - a. Warrior 32 will serve as the echelon above the principal training audience, the Division for a maneuver Brigade, the Corps for a Division, or the Battlefield Coordination Detachment for a Corps. VII Corps (HICOM) AC2 describes the functions that VII Corps executes to replicate Corps functions, including producing FRAGORDS and other actions to stimulate planning and execution at the Division level to meet training objectives. This includes reporting, production of the constructive ACO, etc. and takes place mainly in the constructive environment.
  - b. EXCON AC2 refers to exercise control of airspace and airspace users, where the primary concern is safety of live airspace users. EXCON G3 AVN/AC2 encompasses the planning of airspace for the live Training Audience and OPFOR (11ACR) airspace users, production of the live ACO, and the near real-time tracking of all airspace users at the National Training Center.
2. Elements of EXCON AC2

- a. **Warrior TOC** – During a division rotation, this entity organizes itself into a JAGIC-like COIC. Including fires, AC2, ASOC section, and CFACC replication, the Warrior TOC tracks live airspace usage. Warrior TOC pre-emptively identifies airspace conflicts between OPFOR and Training Audience airspace users and deconflicts fires, RW and FW activity, and provides launch approval for live SUAS/TUAS systems.
  - b. **Zulu TAC** – During Live Fire training events at NTC, Zulu TAC serves as the forward element to Warrior TOC. Zulu TAC assumes responsibilities for live airspace deconfliction during Live Fire Training Events.
  - c. **Desert Radio (DESRAD)** – NTC’s Airspace Information Center that provides flight following services. Except in special circumstances described in Ch9 of this EXSOP, the Training Audience will not communicate with DESRAD. OC/Ts communicate with DESRAD on behalf of the Training Audience, reporting present position and intentions to promote shared understanding. DESRAD also specializes in tracking/deconflicting TUAS (Shadow/Grey Eagle) activity.
  - d. **OC/Ts in the designated training area** – OC/Ts in the designated training area provide Warrior TOC live information on airspace usage. They relay requests by the Training Audience to launch/recover UAS systems to Warrior TOC for approval. They ensure Airspace Users remain within their assigned airspace for deconfliction of both UAS and RW systems. USAF OC/Ts ensure FW operations are safe and deconflicted with RW and UAS users.
3. **Differences in a DIV rotation from a BCT rotation**
- a. **BCT Rotation:** Warrior TOC replicates the DIV JAGIC and G3 Air section. Warrior TOC receives UASROZ requests and other ACMs and approves/denies the requests as the Division HQ.
  - b. **DIV Rotation:** Warrior TOC draws on information from OC/Ts on ground, watching over the shoulder of the Training Audience, to maintain awareness of UAS information. The Training Audience maintains control of the airspace, but Warrior TOC has final approval authority for UAS Launch/Recoveries. This is relayed through the on-ground OC/T.
  - c. This structure allows the Training Audience to train as it fights, without burdening Division with unrealistic reporting requirements to Corps, while maintaining safety and situational awareness of the NTC airspace.
4. **SUAS and TUAS launches.**
- a. Whether launching TUAS or SUAS, the OC/T on ground will notify Warrior AC2 on RCS 104 (Warrior AC2) NLT 30 mins prior to launch. TUAS requests will include Airspace activated if applicable. SUAS requests will include launch and recovery grid, airspace dimensions, airspace name, and which unit is flying. The OC/T on-ground will report LID to enable Warrior AC2 to direct dial the OC/T in an emergency (i.e. Real World MEDEVAC).
  - b. Simultaneously, the SUAS Operator routes his request according to unit SOP.
  - c. Warrior AC2 will check for conflicts with pending RW missions and either deny the request with suggestions on how to change the request for approval or approve the request and assign a unique Channel and Locator to that UAS.
  - d. The OC/T on ground, after receiving approval from Warrior AC2, ensures the SUAS operator remains within the limits of the approved ROZ and is using the assigned Channel and Locator code.
  - e. To launch a SUAS or TUAS, the operator must receive the appropriate approval from through Training Audience procedures and from Warrior AC2. Warrior AC2’s approval is relayed through the OC/T on ground.
  - f. TUAS launches and recoveries must have pre-planned ROZs.
  - g. TUAS procedures for launch/recovery are the exact same as SUAS except that a Channel and Locator code are not assigned to TUAS units.

## 5. Unit Airspace Plans, the Airspace Control Order and the Airspace Tasking Order

- a. Training Audience Airspace Plans will be submitted according to the below timelines. Division-level rotations will operate under a 72-hour ACO/ATO timeline.

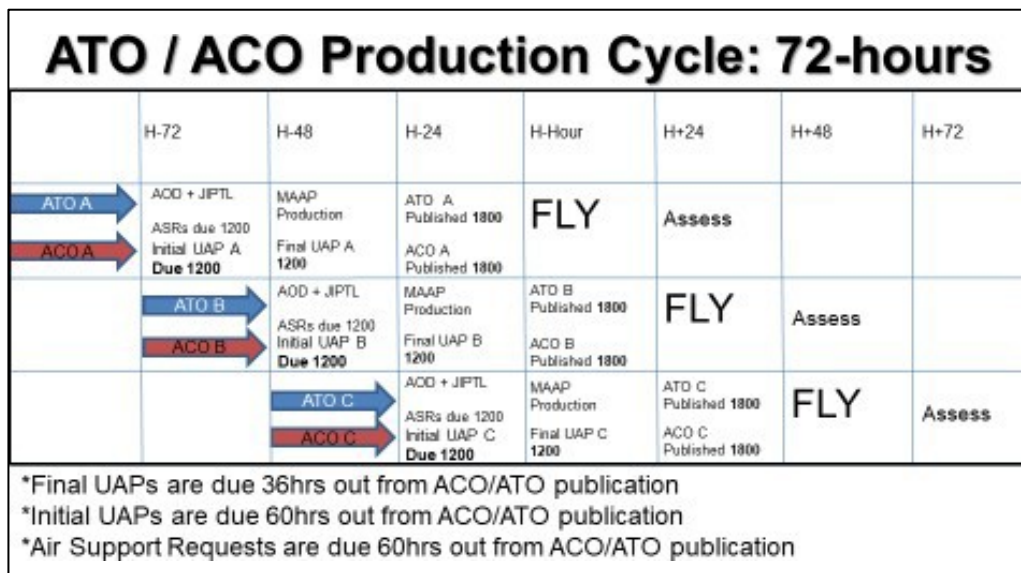


Table D-10-5-1, ATO/ACO Production Cycle

- b. OPFOR ACMs for the live ACO cycle will be submitted NLT 2400, 18 hours prior to ACO publication. This allows adequate time to identify conflicts with Training Audience ACMs and suggest changes that don't meaningfully affect or change the OPFOR's scheme of maneuver.

## 6. Specific VII Corps (HICOM) functions

- a. Produce FRAGORDs relevant to the VII Corps G3 AVN/AE Cell
- b. Facilitate the VII Corps Airspace Working Group
- c. Participate as necessary in other VII Corps Working Groups
- d. Produce the VII Corps UAP and the Constructive VII Corps ACO

## 7. EXCON functions

- a. Produce the ACO for designated live training area.
- b. Distribute live ACO (Blue Graphics Only) to the Training Audience for situational awareness.
- c. Distribute live ACO (All Graphics) to all other Airspace Users.
- d. Cooperate with Warrior Fires, Warrior ASOC, and Desert Radio to mirror JAGIC functions and dynamically deconflict airspace.

## D-11Reconstitution

### 1. Personnel Reconstitution

- a. Live Reconstitution of personnel follows the procedures outlined in Chapter 7, Reconstitution, with the following exceptions:
  - i. Once a soldier has been categorized as either KIA or DOW, Reconstitution Packets will be routed through the Training Audience G1 (IAW SOP) to the VII Corps (HICOM) G1 for approval.

- ii. Personnel will be transported to the unit designated Reconstitution Point in vicinity of the Battalion Role I Aid Station (Personnel Holding Area (PHA)). KIA or DOW personnel will not be transported with WIA or un-injured personnel.
  - iii. There is a minimum EIGHT (8) hour processing time between the approval of the reconstitution packet by the VII Corps (HICOM) G1 and the availability of personnel to constructively begin movement to the DSA.
  - iv. Replacement personnel will be made available through priorities established by the VII Corps (HICOM) G1.
  - v. Replacement personnel will move from established point in Corps Support Area (constructive) to the Division Support Area (Live), and then to the appropriate reconstitution point via ground or air movement (co-located with the PHA). Coordination for movement of personnel from the Corps Support Area to the DSA is coordinated by the VII Corps (HICOM) G1/G4 staff. Movement forward of the DSA to the reconstitution point (PHA) is coordinated live by the training audience.
  - vi. Once the live movement via ground or air has arrived at the reconstitution point the personnel will be immediately reconstituted.
  - vii. VII Corps (HICOM) G1 maintains responsibility for tracking Live Personnel Reconstitution Packets and provides feedback through the ECG Huddle/Net Call.
- b. Constructive Reconstitution of personnel follows the following procedures:
- i. Once a soldier has been categorized as either KIA or DOW, Reconstitution Information Spreadsheets (Exhibit 1 to Tab A (HR Support) to Appendix 2 (Personnel Services Support) to Annex F (Sustainment)) will be routed through the Training Audience G1 (IAW SOP) to the VII Corps (HICOM) G1 for approval. The Reconstitution Information Spreadsheet will be provided.
  - ii. There is a minimum EIGHT (8) hour processing time between the approval of the reconstitution information by the VII Corps (HICOM) G1 and the availability of personnel to constructively begin movement to the DSA.
  - iii. Personnel will be made available through priorities established by the VII Corps (HICOM) G1.
  - iv. Replacement personnel will move from established point in Corps Support Area (Constructive) to the Division Support Area (Constructive), and then to the appropriate reconstitution point (Constructive). Coordination for movement of personnel from the Corps Support Area to the DSA is coordinated by the VII Corps (HICOM) G1/G4 staff. Movement forward of the DSA to the reconstitution point (PHA) is coordinated constructively by the training audience.
  - v. VII Corps (HICOM) G1 maintains responsibility for tracking Live Personnel Reconstitution Packets and provides feedback through the ECG Huddle/Net Call.

## 2. Equipment Reconstitution

- a. Live Reconstitution of equipment will follow the procedures outlined in Chapter 7, Reconstitution with the following exceptions:
- i. Once a vehicle is destroyed, Reconstitution Packets will be routed through the Training Audience G4 (IAW SOP) to the VII Corps (HICOM) G4.
  - ii. The vehicle requiring reconstitution will move, at the discretion of the assigned OC/T Team but no longer than two hours, to the designated Maintenance Collection Point for reconstitution.
  - iii. There is a minimum EIGHT (8) hour processing time between the approval of the reconstitution packet by the Training Audience G4 (or Corps DRU BDE S4 and the

reconstitution of the equipment IAW the VII Corps (HICOM) CL VII Controlled Supply Rate (CSR) for the operation. However, in order for that processing time to be adhered to the Training Audience G4 must submit prioritized reconstitution packet to VII Corps (HICOM) G4.

- iv. Once received by the VII Corps (HICOM) G4, the Training Audience G4 (or Corps DRU BDE S4) will be notified of which pieces of equipment will be reconstituted and by time/date. If requested equipment reconstitution exceeds the VII Corps (HICOM) CL VII CSR, partial reconstitution will occur IAW CSR until all requested equipment has been reconstituted.
  - v. The Training Audience G4 (or Corps DRU BDE S4) must communicate reconstitution timeline internally to subordinate units. Concurrently, the VII Corps (HICOM) G4 provides continuous updates to OC/Ts as to equipment reconstitution timelines. Once the timeline has been met, the equipment will be considered reconstituted.
  - vi. VII Corps (HICOM) G4 maintains responsibility for tracking Live Equipment Reconstitution Packets and provides feedback through the ECG Huddle/Net Call.
- b. Constructive Reconstitution of equipment follows the following procedures:
- i. Once a vehicle is destroyed, Reconstitution Information Spreadsheets (Exhibit 1 to Tab B (Maintenance) to Appendix 1 (Logistics) to Annex F (Sustainment)) will be routed through the Training Audience G4 (IAW SOP) to the VII Corps (HICOM) G4 for approval.
  - ii. There is a minimum TWENTY-FOUR (24) hour processing time between the approval of their constitution packet by the VII Corps (HICOM) G4 and the availability of the equipment for transfer to the Training Audience.
  - iii. Once approved, Constructive HETs must move from designated location in Corps Support Area to the designated Division Support Area location carrying notional equipment (empty) forward to a Brigade Combat Team (BCT), or designated echelon, Maintenance Collection Point. This location must be the location of the vehicle requiring reconstitution. Constructive HETs move separate BDE equipment directly to that BDEs support area.
  - iv. Once this transfer is complete, the Constructive equipment will be reconstituted, pending the Personnel Reconstitution status of the vehicle crew.
  - v. The VII Corps (HICOM) BSWS operator retains control of the equipment until arrival at the supported DSA or separate BDE support area. Once the equipment has arrived at the destination, BSWS operators at the Division are transferred control.
  - vi. VII Corps (HICOM) G4 maintains responsibility for tracking Live Reconstitution Packets and provides feedback through the ECG Huddle/Net Call.

## **D-12 Sustainment**

### **1. Controlled Supply Rates**

- a. Controlled Supply Rates (CSRs) of classes of supply are determined by the VII Corps (HICOM) G4.
- b. The EXCON SUSTAINMENT Cell, ICW the VII Corps (HICOM) G4, tracks usage rates and balances expenditures at the VII Corp (HICOM) Sustainment Working Group and EXCON internal processes.
- c. Conflicts or shortages in classes of supply governed by VII Corps (HICOM) imposed CSRs are resolved at the WfF Synchronization Board.
- d. CSR are subject to change at the discretion of the Exercise Director, or a designated representative, based on exercise design or training objectives.
- e. Changes in CSR will be communicated through the ECG Huddle/Net Call.

### **2. Logistical Resupply**

- a. **Live Logistical Resupply.** Refer to Chapter 8, Sustainment, Section 8-7 and 8-8, for transportation and class of supply, respectively, procedures.
  - i. All requests for logistical support external to the Training Audience must be routed through the VII Corps (HICOM) G4 for approval.
  - ii. The EXCON SUSTAINMENT Cell, ICW the VII Corps (HICOM) G4, tracks usage rates and balances expenditures at the VII Corp (HICOM) Sustainment Working Group and EXCON internal processes.
  - iii. Allocation of classes of supply are determined in the VII Corps (HICOM) Sustainment Decision Board.
  - iv. Once approved, VII Corps (HICOM) G4 will notify Training Audience of synchronized time for live supply point operations at the CSA (LSA Warrior) to include authorized quantity of commodities to draw. All live commodities will be drawn via live training audience CSSB or ASB convoy to the CSA to conduct supply point. Other Corps units are authorized as well to conduct supply point resupply from the CSA (LSA Warrior).
  - v. Replicated paper CL V when requested will be delivered to the DSA from the CSA via constructive transportation. Movement of paper CL V forward of the DSA is conducted via live ground or air movement not forward of the FTCP. This movement must occur live but the requirements for ammunition to be transported on appropriate transportation assets is reduced to 1 HEMTT family vehicle for CL V in addition to convoy security. Once at the FTCP the FSC is required to present appropriate live transportation capability IAW Chapter 8 for distribution forward.
  - vi. Transfer of resupply will be in accordance with Tables 8-7a, 8-7b, 8-9a, 8-9b, 8-9c, 8-9d, and 8-7e. Transfers of supply not listed in those tables will be determined, prior to the rotation, by the EXCON SUSTAINMENT Cell and communicated to the Training Audience (for planning purposes).
  - vii. Throughput logistics of constructive units to live units forward of the Division Support Area is subject to the approval of the Exercise Director, or a designated representative.
- b. **Constructive Logistical Resupply**
  - i. All requests for logistical support external to the Training Audience must be routed through the VII Corps (HICOM) G4 for approval.
  - ii. The VII Corps (HICOM) G4, tracks usage rates and balances expenditures at the VII Corp (HICOM) Sustainment Working Group and EXCON internal processes.
  - iii. Allocation of classes of supply are determined in the VII Corps (HICOM) Sustainment Decision Board.
  - iv. All constructive resupply activities must be executed within the constructive environment with appropriate assets matching class of supply requirements. Requests for immediate supply reconstitution will be directed from the Training Unit through VII Corps G4 (HICOM) to the EXCONSUSTAINMENT Cell for consideration by the Exercise Director, or a designated representative. If approved, Senior Control will make necessary changes.
- c. **Transition between Live and Constructive Resupply**
  - i. The transition of classes of supply between live and constructive units, or vice versa, will be managed by the VII Corps (HICOM) G4 and OC/Ts. The VII Corps (HICOM) G4 BSWS Team will coordinate directly with Goldminer OC/Ts at the DSA to provide awareness to in progress and completed movements of constructive personnel replacement, equipment replacements, and CL V. These updates will be provided via RCS when movements have departed the CSA, are approximately 1 hour away from the DSA, and upon arrival.

- ii. OC/Ts will maintain awareness of logistical requirements (i.e., transportation platforms) and ensure that the proper amount of transfer time between platforms is replicated in accordance with available equipment.

### **3. Casualty Procedures**

- a. **Live Casualty Assessments (TESS).** Refer to Chapter 8, Sustainment, Section 8-3, for casualty care procedures. This includes requirements for Role I and Role II Medical Treatment Facilities.
  - i. If no Role II is available in the Live environment (and validated through the approved rotation Troop List), live training casualty process will terminate at Role I.
  - ii. VII Corps (HICOM) SURGEON maintains responsibility for tracking Live Casualty Assessments and provides feedback through the ECG Huddle/Net Call.
- b. **Constructive Casualty Assessments.**
  - i. Upon receiving casualties, BSWs Operators will determine the number and type for reporting purposes.
  - ii. VII Corps (HICOM) SURGEON maintains responsibility for tracking Constructive Casualty Assessments and provides feedback through the ECG Huddle/Net Call.

### **4. EAB Asset Request**

- a. Beyond the Reception, Staging, Onward Movement, and Integration, or the Regeneration phases of the rotation, there will be no direct contact between the Training Audience and the 916<sup>th</sup> Support Brigade. (The ONLY requests sent directly to the 916<sup>th</sup> Support Brigade SOC are for field services, to include trash trailers and human waste bins. Field services support is a capability unique to 916<sup>th</sup> Support Brigade which they must directly fulfill).
- b. All requests for classes of supply or transportation support will be routed through the VII Corps (HICOM) G4 and, if approved, coordinated by the VII Corps (HICOM) G4 for action.
- c. 916<sup>th</sup> Sustainment Brigade activities may replicate distribution points or a constructive unit. The role will be determined by the VII Corps (HICOM) G4 to meet the exercise design requirements.

**D-13 Chemical, Biological, Radiological, and Nuclear (CBRN).** Refer to Chapter 11, Chemical, Biological, Radiological, and Nuclear (CBRN), when adjudicating live elements operating within the defined training area.

- 1. The deployment of CBRN munitions by indirect fire will follow the same procedures as proscribed in section D-4, Fire Support. Deliberate CBRN munition employment by the OPFOR will be pre-planned through the EXCON Scenario Sync, coordinated through the EXCON MESL Sync, and approved by the Exercise Director, or designated representative, based on scenario design or training objectives. Hasty CBRN munition employment will require a minimum 3 hours of advance notice by OPFOR Cell to EXCON, for approval by Exercise Director, or designated representative, based on scenario design or training objectives.
- 2. **Decontamination in the Constructive Environment.** Following the employment of CBRN munitions in the constructive environment, the following actions must be taken by the RTU for operational decontamination to be complete.
  - a. **BSWS Operator Actions:**
    - i. Within RTU SOP, the effected unit must move to a Chemical Decontamination Unit, or vice versa, with the appropriate amount of water available (barring the presence of another water source) prior to the start of the decontamination process.
    - ii. BSWs Operator will record the time of arrival at designated decontamination site and the start time of decontamination for each unit. Designated decontamination site pre-determined

through operations process.

- iii. Use Tables D-8-4-1, Decontamination Planning Factors, and D-8-4-2, Rotary-Wing Decontamination, to determine the time required to decontaminate unit(s), and record the time each is complete.
  - iv. Notify EXCON-Forward Personnel when the decontamination time has elapsed for each contaminated unit.
  - v. Decontamination time is paused if contaminated unit comes into contact with OPFOR or changes location while being decontaminated.
- b. EXCON-Personnel Forward Actions: Report completion of decontamination event to EXCON and provide assessments to appropriate OC/T Team.

| Mission                                                                                                                                                                                                                                     | Organization                            | Mission Coverage                                                                | Water Required (gallons) | Decontaminate (lbs STB) | Time (Minutes)   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------------------------------------------------------------------------------|--------------------------|-------------------------|------------------|
| Personnel Decontamination                                                                                                                                                                                                                   |                                         |                                                                                 |                          |                         |                  |
| MOPP Gear Exchange                                                                                                                                                                                                                          | Affected Unit                           | 40 PAX                                                                          | 40                       | 0                       | 30               |
| Detailed Troop Decontamination                                                                                                                                                                                                              | Affected Unit                           | 40 PAX                                                                          | 318                      | 600                     | 40               |
| Equipment Decontamination                                                                                                                                                                                                                   |                                         |                                                                                 |                          |                         |                  |
| Operational Decontamination                                                                                                                                                                                                                 | Battalion PDDE or Decontamination Squad | Each large vehicle will take approximately 200 gallons of water and 15 minutes. |                          |                         |                  |
|                                                                                                                                                                                                                                             |                                         | Armored Platoon (4 - M1/M2)                                                     | 800                      | 0                       | 60               |
|                                                                                                                                                                                                                                             |                                         | Each small vehicle will take approximately 150 gallons of water and 12 minutes. |                          |                         |                  |
|                                                                                                                                                                                                                                             |                                         | Wheeled Platoon (10 HMMWV)                                                      | 1500                     | 0                       | 120              |
| Detailed Equipment Decontamination                                                                                                                                                                                                          | Light Decontamination Platoon           | 1 vehicle                                                                       | 450                      | 50                      | 96               |
|                                                                                                                                                                                                                                             |                                         | 4 vehicles                                                                      | 1800                     | 200                     | 156 <sup>1</sup> |
|                                                                                                                                                                                                                                             | Heavy Decontamination Platoon           | 1 vehicle                                                                       | 450                      | 50                      | 90               |
|                                                                                                                                                                                                                                             |                                         | 10 vehicles                                                                     | 4500                     | 500                     | 210 <sup>2</sup> |
| Area Decontamination                                                                                                                                                                                                                        |                                         |                                                                                 |                          |                         |                  |
| Terrain Decontamination                                                                                                                                                                                                                     | Heavy Decontamination Platoon           | 100 m X 30 m area                                                               | 1500                     | 300                     | 40               |
| <sup>1</sup> First vehicle will take approximately 96 minutes to process, each successive vehicle will take an additional 20 min.                                                                                                           |                                         |                                                                                 |                          |                         |                  |
| <sup>2</sup> Time is based on 2-lanes as shown in Figure D-14. First pair of vehicles will take 90 minutes, each successive pair will take an additional 15 minutes.                                                                        |                                         |                                                                                 |                          |                         |                  |
| <b>Legend:</b><br>HMMWV high mobility multipurpose wheeled vehicle      PAX passengers<br>lbs pounds      PDDE power driven decontamination equipment<br>m meter      STB super tropical bleach<br>MOPP mission-oriented protective posture |                                         |                                                                                 |                          |                         |                  |

**Table D-13-4-1, Decontamination Planning Factors (from ATP 3-11.32)**

| Mission                     | Organization                        | Airframe | Water Required (gallons) | Time (Minutes) |
|-----------------------------|-------------------------------------|----------|--------------------------|----------------|
| Operational Decontamination | Heavy/Light Decontamination Platoon | UH-60    | 200                      | 180            |
|                             |                                     | AH-64    | 200                      | 180            |
|                             |                                     | CH-47    | 250                      | 240            |

**Table D-13-4-2, Rotary Wing Decontamination (based on ATP 3-11.32 estimates)**

**D-14 Air Defense.** Refer to Chapter 6, Air Defense, when adjudicating live elements operating within the defined training area.

1. VII Corps (HICOM) ADA Cell will establish Corps-level protection priorities and allocate air-defense systems to the subordinate Divisions through the orders process.
2. EXCON ADA Cell retains procedural adjudication authority for all ADA engagements in the training area, regardless of if executed by live or constructive systems, for the Training Unit. EXCON-Forward Personnel will contact EXCON ADA Cell with issues or concerns regarding adjudication in the constructive environment. EXCON ADA Cell will recommend adjudication courses of action, if required, to the Exercise Director, or designated representative based on scenario designer training objectives.

**D-15 Command and Control Node Degradation (Destroyed or Disrupted in Constructive Environment)**

1. If the headquarters of a Training Audience, Response Cell, or Work Cell, is destroyed or disrupted in the constructive environment, OC/T will immediately notify EXCON with a detailed summary of events and requests work around implementation guidance.
  - a. EXCON OIC notifies Exercise Director, or designated representative, and recommends a course of action based on exercise design and training objectives. The approved course of action (work around) is communicated from EXCON to the EXCON OPFOR Cell and OC/T for implementation.
  - b. Upon implementation instructions, OC/T notifies applicable node/cell of actions to be taken, to include loss of communications or degradation of specific systems/capabilities.
  - c. The degradation of a command and control node will last no longer than four (4) hours, or the discretion of the Exercise Director, or designated representative.

**D-16 Cyberspace Electromagnetic Activities (CEMA) / Space Operations.** Refer to Chapter 13, Cyberspace Electromagnetic Activities (CEMA) / Space Operations, when conducting applicable activities within the defined training area.

1. Constructive, Ground-Based platforms may not be place inside or have effects inside the designated training area for either BLUFOR or OPFOR units.
2. To the greatest extent possible OPFOR EW, live or constructive, will be scripted through the approved scenario design process and coordinated, when appropriate, through the Scenario and MSEL Syncs.
3. Constructive Effects of OPFOR RW, FW, or Ground-Based Platforms
  - a. OPFOR will notify EXCON CEMA Cell thru OPFOR Sync desired employment of EW effect (PNT Denial, FM Jamming, SATCOM Denial, Cyber effect) with appropriate request.
  - b. EXCON CEMA Cell will review request for applicability to current battlefield conditions in WARSIM in relation to exercise design and training objectives.
  - c. If approved, EXCON CEMA Cell will coordinate for action. If not approved, EXCON CEMA Cell will notify OPFOR of reason for no action.
  - d. Once actioned, the EXCON CEMA Cell will notify the appropriate OC/T Team that EW effects are occurring, relevant information regarding the type of EW, and systems affected. If EW effects impact Response Cell or Work Cell, then the EXCON CEMA Cell will notify the cell and provide specific instructions on relevant scenario information that needs to be submitted to the Training Audience.
  - e. EXCON CEMA Cell will notify MUSE Cell if EW effects impact UAS capabilities.
4. Constructive Effects of Rotational Training Unit (RTU) RW, FW, or ground-based platforms
  - a. The Training Audience will submit EW Effects Request (PNT Denial, FM Jamming, SATCOM Denial, etc.) through VII Corps (HICOM) CEMA via JTAR/EARF process.

- b. VII Corps (HICOM) CEMA will review request for applicability to current battlefield conditions in WARSIM/JLCCTC in relation to exercise design and training objectives.
- c. If approved, VII Corps (HICOM) will send request to EXCON CEMA Cell for action. If not approved, VII Corps (HICOM) will notify Training Audience of reason for no action.
- d. EXCON CEMA Cell will notify OPFOR Cell that EW effects are occurring, relevant information regarding the type of EW, systems affected, and duration.

#### **D-17 Civil Military Operations**

1. The following describes the constructive effects of Civil Affairs unit interaction with civilians on the battlefield. Scripting, with desired end state, is executed through the EXCON MSEL Sync, and is managed by the EXCON Civil Affairs Cell.
  - a. EXCON Civil Affairs Cell notifies appropriate EXCON-Forward Personnel no less than one hour prior to intended engagement of intended event and the disposition of civilians.
  - b. The Training Audience detects or is directed to make contact with a group of civilians.
  - c. Training Audience tasks a civil affairs unit to interact with a group of civilians (recognized as non - belligerent).
  - d. The Civil Affairs unit demonstrates the capability to, for example, distribute food and water, provide medical treatment, or provide security to the group.
  - e. Minimum required time for effective action will be four (4) hours if the engagement occurs in urban terrain or two (2) hours if the engagement is in open terrain, with the following recommended results (arrival time validated by EXCON-Forward Personnel and communicated to EXCON Civil Affairs Cell):

| Length of Engagement |               | Results                                                 |
|----------------------|---------------|---------------------------------------------------------|
| Open Terrain         | Urban Terrain |                                                         |
| 2 hours              | 4 hours       | Disposition changed from HOSTILE to NEUTRAL             |
| 4 hours              | 8 hours       | Disposition changed from NEUTRAL to FAVORABLE           |
| 8 hours              | 12 hours      | Provide limited usable INTEL that can be used by BLUFOR |
| 12 hours             | 18 hours      | Provide specific INTEL that can be used by RTU          |

Table D-17-1-1, Initial 'Hostile' Disposition Engagement Results

| Length of Engagement |               | Results                                                 |
|----------------------|---------------|---------------------------------------------------------|
| Open Terrain         | Urban Terrain |                                                         |
| 2 hours              | 4 hours       | Disposition changed from NEUTRAL to FAVORABLE           |
| 4 hours              | 8 hours       | Provide limited usable INTEL that can be used by BLUFOR |
| 8 hours              | 12 hours      | Provide specific INTEL that can be used by BLUFOR       |

Table D-17-1-2, Initial 'Neutral' Disposition Engagement Results

| Length of Engagement |               | Results                                              |
|----------------------|---------------|------------------------------------------------------|
| Open Terrain         | Urban Terrain |                                                      |
| 2 hours              | 4 hours       | Provide limited usable INTEL that can be used by RTU |
| 4 hours              | 8 hours       | Provide specific INTEL that can be used by BLUFOR    |

Table D-17-1-2, Initial 'Favorable' Disposition Engagement Results

- f. Upon completion of the engagement, EXCON Civil Affairs Cell provides feedback in relation to exercise design and training objectives to the MSEL Sync with recommendations for further action, if required.
- g. If ignored for more than eight (8) hours, the EXCON Civil Affairs Cell may recommend, thru EXCON, that the civilian group move to and conduct direct action against a designated RTU unit.

- h. For a Division rotation, non-lethal effects in the information environment will be adjudication beginning on D-14.

#### **D-18 Psychological Operations**

1. The following describes the constructive effects of Psychological Operations unit interaction with OPFOR units by various means, to include radio broadcast, leaflet drops (aerial or artillery delivered), or loudspeaker (aerial or ground). Scripting, with desired end state, is executed through the EXCON MSEL Sync, and is managed by the EXCON PSYOP Cell.
  - a. Training Audience develops a detailed PSYOP plan and is reviewed by PSYOP OC/T. The plan must address the size, mission, and command structure of assigned PSYOP units, and identify other assets available to support the plan.
  - b. EXCON PSYOP Cell notifies appropriate EXCON-Forward Personnel no less than one hour prior to intended engagement.
  - c. Air missions (leaflet drop or loudspeaker) must be flown or artillery missions to deliver leaflets must be executed to begin mission. Loudspeaker must remain in place for at least five (5) minutes before effects are achieved.
  - d. Loudspeaker dispersion areas are defined as a cone shaped 120-150degree area with a maximum range of 1800 meters (terrain and conditions dependent). This dispersion area will remain in effect for the length of the mission or until the PSYOP unit is rendered non- operational. Similar requirements exist for aerial-delivered radio broadcasts (i.e., Commando Solo).
  - e. Loudspeaker and Leaflet surrender and defect messaging attrition rates:

| Enemy Unit Strength | Well- equipped and trained | Moderately well- equipped and trained | Severe equipment and training shortage | Militia (BFB) |
|---------------------|----------------------------|---------------------------------------|----------------------------------------|---------------|
| 80 - 100%           | 1%                         | 3%                                    | 5%                                     | 1%            |
| 70 - 79%            | 3%                         | 5%                                    | 8%                                     | 2%            |
| < 70%               | 5%                         | 8%                                    | 10%                                    | 3%            |

**Table 18-1-1, Attrition Rates in Phase II**

| Enemy Unit Strength | Well- equipped and trained | Moderately well- equipped and trained | Severe equipment and training shortage | Militia (BFB) |
|---------------------|----------------------------|---------------------------------------|----------------------------------------|---------------|
| 80 - 100%           | 3%                         | 5%                                    | 7%                                     | 3%            |
| 70 - 79%            | 5%                         | 7%                                    | 10%                                    | 4%            |
| < 70%               | 7%                         | 9%                                    | 12%                                    | 5%            |

**Table 18-1-2, Attrition Rates in Phase III**

| Enemy Unit Strength | Well- equipped and trained | Moderately well- equipped and trained | Severe equipment and training shortage | Militia (BFB) |
|---------------------|----------------------------|---------------------------------------|----------------------------------------|---------------|
| 80 - 100%           | 7%                         | 10%                                   | 12%                                    | 8%            |
| 70 - 79%            | 10%                        | 12%                                   | 15%                                    | 9%            |
| < 70%               | 12%                        | 14%                                   | 17%                                    | 10%           |

**Table 18-1-3, Attrition Rates in Phase IV**

- f. EXCON, following notification of results by EXCON PSYOP Cell, will notify OPFOR Cell of total losses based on number of defectors.
- g. EXCON-Forward Personnel will notify Senior Control to transfer defected unit from OPFOR Cell to the capturing unit Work Cell for processing IAW Training Audience SOP.
- h. EXCON PSYOP Cell should be prepared to provide additional intelligence if CI personnel are used.

## **D-19 Underground Facilities**

1. The use of underground facilities (UGFs) and hardened artillery sites (HARTs) must be determined prior to the start of the exercise, in accordance with scenario design and training objectives. As part of the VII Corps (HICOM) G2 pre-rotation intelligence build and road to war, selected sites will be designated as UGFs based on the best available intelligence.
2. Locations of each known UGF, as well as the maximum size unit that can occupy it, and the number of egress doors, at a minimum, will be provided to the Training Audience. Information can include:
  - a. Breach Levels:
    - i. Level 1 portal. Entry is possible through forced entry on the barrier or surrounding wall using basic entry techniques (includes mechanical and ballistic methods). Barriers are standard use with standard locking mechanisms, and do not possess any special reinforcement against access.
    - ii. Level 2 portal. Entry is possible through forced entry on the barrier or surrounding wall using mechanical or thermal breaching techniques. Barriers use reinforced locking mechanisms to include security bars or internal relocking bars to reinforce against entry.
    - iii. Level 3 portal. May require the use of multiple explosive charges (steel-cutting, shape, and bulk) and the extensive use of thermal cutting techniques. Entrances may include multiple barriers. Locking mechanisms are large in diameter. Their internal locking bolts may include hydraulic latches.
  - b. Number of levels/floors identified or suspected within the UGF.
  - c. Complexity:
    - i. Minimal: Maximum of one complex intersection, squad or lesser mobility corridors, small to moderate single-room clearance, corridor length limited (maximum 50 meters).
    - ii. Moderate: Maximum of four complex intersections, squad or lesser mobility corridors, small to moderate multiple-room clearance, corridor length moderate (maximum 100 meters).
    - iii. High: At least five complex intersections, greater than squad sized mobility corridors, large-room clearance involving multiple rooms, corridor length maximum (greater than 100 meters).
  - d. Enemy (OPFOR) Composition:
    - i. Low: Assessed/capable of housing squad or below, no Level 3 portals.
    - ii. Moderate: Assessed/capable of housing platoon, may possess one Level 3 portal.
    - iii. High: Assessed/capable of housing company, at least one Level 3 portal.
    - iv. Maximum: Assessed/capable of housing company (+), multiple Level 3 portals.
  - e. Chemical, Biological, Radiological, and Nuclear (CBRN) Threat:
    - i. c/b/r/n: Suspected presence of a chemical/biological/radiological/nuclear weapons, agents, or materials.
    - ii. C/B/R/N/E: Confirmed presence of chemical/biological/radiological/nuclear weapons, agents, or materials.
    - iii. m/M: Suspected/confirmed presence of two or more chemical/biological/radiological/nuclear weapons, agents, or materials.

**3. Detection, Destruction, or Seizing of UGF:**

- a. EXCON-Forward Personnel will assist work cell BSWs operators in properly identifying UGF/HART icon in JLCCTC/WARSIM environment.
- b. EXCON-Forward Personnel will contact EXCON OPFOR Cell to determine status of the site (Occupied/Decoy/ Unoccupied/ Door(s) open or closed/ etc.).
- c. EXCON and appropriate OC/Ts will determine Training Audience COA (destroy, secure, seize, etc.)
  - i. If destroy, EWCON will determine the method used and assess damage to facility.
  - ii. If seized, OC/Ts will validate COA, to include personnel, equipment, and systems available, along with OPFOR presence inside facility, and make recommendation thru EXCON to Exercise Director, or designated representative, as to appropriate level of adjudication of BLUFOR and OPFOR.
  - iii. If secures, RTU will continue to operate in competitive environment with no manual adjudication.
- d. EXCON Intelligence Cell must be able to provide appropriate information/intelligence gathered if RTU seizes (i.e., breaches and searches) UGF.

**4. Destruction/Blocked Entrances:**

- a. UGFs may be damaged by indirect fire (PGMs), Demolitions (DEMO V), FASCAM, JDAM, 150 rounds HE, Hellfire Missiles, SDMs, 2 X 750 lb laser, guided munitions, HEAT or MPAT tank fire.
- b. UGF entrances may be repaired if the appropriate type of engineering unit is competitively employed. One bulldozer takes one hour to open each door. If FASCAM or air delivered mines were used in the strike, the units clearing the UGF must first competitively breach the minefield.

5. Use the below table to determine OPFOR UGF Egress times based on the number of doors available for use and the size of the occupying unit. OPFOR units will MAGIC MOVE at the corresponding time and echelon within 500m of the UGF.

| NUMBER OR DOORS (IN UGF): | 1  | 2  | 3   | 4   |
|---------------------------|----|----|-----|-----|
| COMPANY                   | 20 | 10 | 6.5 | 5   |
| BATTALION                 | 60 | 30 | 15  | 7.5 |

Table D-19-6-1, OPFOR UGF Egress Times (in minutes)

6. Artillery systems must competitively move from a hardened artillery site (HART) to its firing position before firing. It must also return to its site competitively.

**D-20 Opposing Forces (OPFOR)**

1. The EXCON OPFOR Cell will execute the Concept of the Operation determined, and approved, through the scenario design process and adjusted through EXCON internal battle rhythm events, based on Training Audience training objectives.
2. Prior to the start of the exercise, Combat Battle Instructions for each phase, with key weapon system 'slants,' task, purpose, and desired endstate, at a minimum, will be used to create schemes of maneuver for live and constructive OPFOR operations.
3. The EXCON OPFOR Cell may not deviate from pre-approved actions or activities, live or constructive, without the approval of the Exercise Director, or a designated representative.

**D-21 Master Scenario Event List (MSEL) Inject Execution**

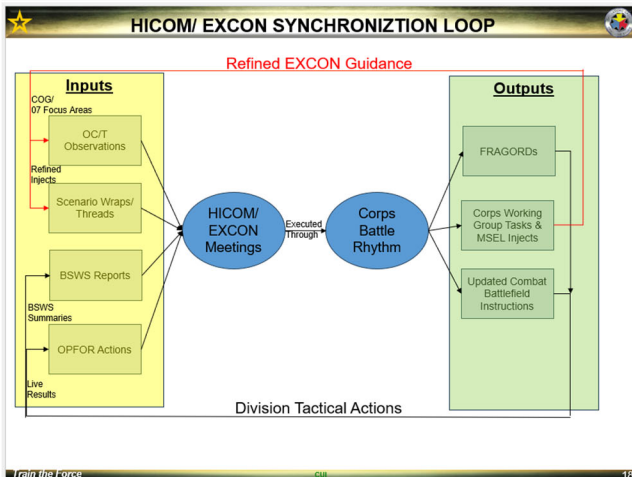
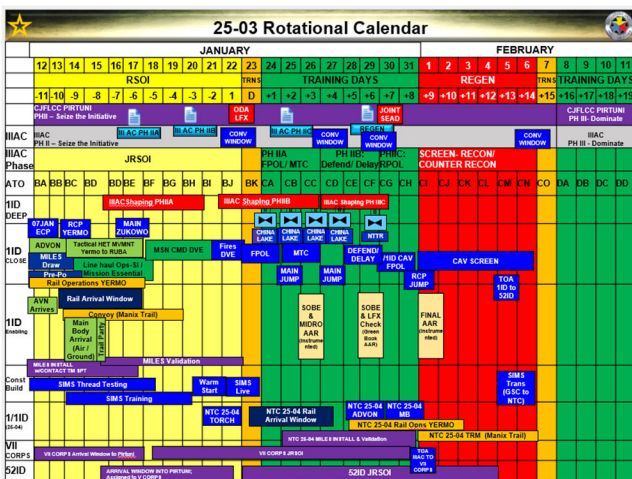
1. A MSEL is a collection of pre-scripted events intended to guide an exercise toward specific outcomes.

**Injects are individual events inserted into the scenario to elicit a change in behavior or a desired action within the Training Audience.**

- 2. The MSEL is an output of the rotation planning conference(s) and is tied to training objectives and scenario design.**
- 3. The MSEL is managed by EXCON and can have effects in the live or constructive environment.**
- 4. Each MSEL Inject will, at a minimum, identify the following information prior to execution:**
  - a. Specific Line of Effort or Event the inject is tied to**
  - b. Inject identification information**
  - c. Whether the inject is in the Live or Constructive environment**
  - d. The Subject Matter Expert/Point of Contact for the Inject**
  - e. The Trigger for execution**
  - f. The Event**
  - g. The Purpose**
  - h. The Method of Dissemination**
  - i. The Desired Outcome**
  - j. Probable Units Actions**
  - k. Available Consequences**
  - l. Follow on Events**
- 5. Prior to execution of an Inject, the SME/POC or MSEL Manager will alert EXCON with the appropriate information, which will include the MSEL Inject Identification Information (number) and time of execution. The alert is confirmation that the necessary coordination for execution is complete.**
- 6. Following the MSEL Inject, the SME/POC will capture the following information:**
  - a. Action Taken by the Training Audience**
  - b. Assessment of Actions Taken**
  - c. Recommendation for additional injects to achieve desired training objective**

| NTC 25-03 BATTLE RHYTHM |      |      |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
|-------------------------|------|------|------------------------------------------|--|--|--|--|--|--|--------------------------------------|--|--|--|--|--|--|-----------------------------------------|--|--|--|--------------|----|----|
| Legend                  |      |      |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  | CAO: 22JAN25 |    |    |
| Weekly Battle Rhythm    |      |      |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  | CDR          | WG | DB |
| Time                    | Time | Time | EXCON (CJFLCC PIRTUNI - 10TH FIELD ARMY) |  |  |  |  |  |  | HICOM (III ARMORED CORPS)            |  |  |  |  |  |  | 1ST INFANTRY DIVISION                   |  |  |  |              |    |    |
| FICA                    | FRKS | ZULU |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 0500                    | 0700 | 1300 |                                          |  |  |  |  |  |  | Information Collection Working Group |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 0530                    | 0730 | 1330 |                                          |  |  |  |  |  |  | G2 Sync                              |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 0600                    | 0800 | 1400 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  | Battle Staff Assessment                 |  |  |  |              |    |    |
| 0630                    | 0830 | 1430 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 0700                    | 0900 | 1500 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 0730                    | 0930 | 1530 | RCS Update (Chief Controller Standup)    |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 0800                    | 1000 | 1600 |                                          |  |  |  |  |  |  | COMMANDER UPDATE ASSESSMENT          |  |  |  |  |  |  | MOVEMENT WORKING GROUP                  |  |  |  |              |    |    |
| 0830                    | 1030 | 1630 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 0900                    | 1100 | 1700 | Intel and Fires Sync                     |  |  |  |  |  |  | C2C DIALOGUE                         |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 0930                    | 1130 | 1730 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  | C2 WG                                   |  |  |  |              |    |    |
| 1000                    | 1200 | 1800 |                                          |  |  |  |  |  |  | OPS SYNC                             |  |  |  |  |  |  | Collection WG                           |  |  |  |              |    |    |
| 1030                    | 1230 | 1830 |                                          |  |  |  |  |  |  | JMB                                  |  |  |  |  |  |  | Targeting DB                            |  |  |  |              |    |    |
| 1100                    | 1300 | 1900 | EXCON/ HICOM Sync                        |  |  |  |  |  |  | CDP SYNC                             |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 1130                    | 1330 | 1930 |                                          |  |  |  |  |  |  | OCG-S T/P                            |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 1200                    | 1400 | 2000 |                                          |  |  |  |  |  |  | Targeting WG                         |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 1230                    | 1430 | 2030 |                                          |  |  |  |  |  |  | G1 SYNC                              |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 1300                    | 1500 | 2100 | Sustainment / Protection Sync            |  |  |  |  |  |  | Intelligence Spt                     |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 1330                    | 1530 | 2130 |                                          |  |  |  |  |  |  | Protection WG (C2C Page)             |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 1400                    | 1600 | 2200 |                                          |  |  |  |  |  |  | Intel Sync                           |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 1430                    | 1630 | 2230 |                                          |  |  |  |  |  |  | MCP / RCP T/P                        |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 1500                    | 1700 | 2300 | Exercise Control Decision                |  |  |  |  |  |  | ATO Published                        |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 1530                    | 1730 | 2330 |                                          |  |  |  |  |  |  | Sustainment Working Group            |  |  |  |  |  |  | Assessment Working Group                |  |  |  |              |    |    |
| 1600                    | 1800 | 0001 | RCS Update (Chief Controller Closeout)   |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 1630                    | 1830 | 0030 |                                          |  |  |  |  |  |  | Network Operations Working Group     |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 1700                    | 1900 | 0100 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 1730                    | 1930 | 0130 |                                          |  |  |  |  |  |  | Targeting Decision Board             |  |  |  |  |  |  | Sustainment & Protection Decision Board |  |  |  |              |    |    |
| 1800                    | 2000 | 0200 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 1830                    | 2030 | 0230 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  | CUA                                     |  |  |  |              |    |    |
| 1900                    | 2100 | 0300 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 1930                    | 2130 | 0330 |                                          |  |  |  |  |  |  | BUA                                  |  |  |  |  |  |  | C2C                                     |  |  |  |              |    |    |
| 2000                    | 2200 | 0400 |                                          |  |  |  |  |  |  | Corps TRB                            |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 2030                    | 2230 | 0430 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  | Plans DB                                |  |  |  |              |    |    |
| 2100                    | 2300 | 0500 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  | Movement Working Group                  |  |  |  |              |    |    |
| 2130                    | 2330 | 0530 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  | Protection Working Group                |  |  |  |              |    |    |
| 2200                    | 0001 | 0600 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 2230                    | 0030 | 0630 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 2300                    | 0100 | 0700 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 2330                    | 0130 | 0730 |                                          |  |  |  |  |  |  | Functional Working Group (RCP)       |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 0001                    | 0200 | 0800 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 0030                    | 0230 | 0830 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  |              |    |    |
| 0100                    | 0300 | 0900 |                                          |  |  |  |  |  |  |                                      |  |  |  |  |  |  |                                         |  |  |  |              |    |    |

## HICOM/EXCON Battle Rhythm



### HICOM/ EXCON SYNCHRONIZATION MEETING

**Inputs**

- Meeting: Chief Controller Standup
- Audience: SWO, Plans, ECG Staff, FRKS, EXCON, OPFOR, HICOM LNO
- Chair: COG
- Inputs: OC/T Observations, Critical Event Status, Daily Training Objectives
- Frequency: 0900 Daily
- Purpose: Create shared understanding to synchronize rotational training objectives.

**Outputs**

- Training Objective Status
- Scenario/MSEL Adjustments (As Required)

**Agenda**

- Scenario Overview & Assessment
  - Intel Update
  - Storyline / MSEL Inject Status
- OPFOR Assessment
- HICOM
- SOF Plans
- Fires
- Information Related Capabilities (UAPC / CA / PSYOP / Legal)
- Sustainment

**Requested Senior Trainer Decisions**

## EXCON Battle Rhythm Event 7-Minute Drills

| EXCON Exercise Director Brief                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | UPDATED AS OF: 20200614                                                                                                                                                                                                                                                                                              | HICOM | EXCON                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purpose:</b> INFORMATION GUIDANCE <b>DECISION</b> ACTION<br>EXCON brief to Exercise Director on status of the exercise covering actions and observations along all Warfighting Functions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | <b>Attendees:</b><br><b>Staff Proponent:</b> Warrior 03<br><b>Chair:</b> Exercise Director (Outlaw 01)<br><b>Small Group (In-Person):</b> Senior Mentor, Lead 6, Outlaw 01, Outlaw 40, Warrior 3, Vulture 07<br><b>Large Group (Distributed):</b> HICOM/EXCON Primaries, ENG, PROT, GS, GS)<br><b>As Applicable:</b> |       |                                                                                                                                                |
| <b>Frequency:</b> Daily, 1500<br><b>Duration:</b> 1 hour<br><b>Location:</b> Room 204, Bldg 990<br><b>PACE:</b><br>P: In Person at Room 204, Bldg 990<br>A: In Person at Room 139, Bldg 990 distributed over SVOIP Phone Bridge<br>C:<br>E:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                                                      |       |                                                                                                                                                |
| <b>Agenda</b> <ul style="list-style-type: none"> <li>Rotation Training Objectives Review</li> <li>Previous EXDIR Guidance *</li> <li>Decision points for EXDIR</li> <li>Distinguished Visitors*</li> <li>EXCON Update               <ul style="list-style-type: none"> <li>Simulation Status* (V07/L30)</li> <li>Exercise Weather* (SWC)</li> <li>SIMOFFOR (B02(a)/B09(a))</li> <li>OPFOR (BH03)</li> </ul> </li> <li>HICOM               <ul style="list-style-type: none"> <li>Corps Intel Update (L09)</li> <li>Corps Fires Update (W07)</li> <li>CFACC/ Corps ALO Update (R07)</li> <li>Corps DCG-M Update (B07)</li> <li>SOTF-S Update* (S07)</li> <li>Corps DCG-S Update (GM07)</li> </ul> </li> <li>MESL Focus</li> <li>Consolidated Exercise Recommendations</li> <li>EXDIR Guidance/ Decision</li> </ul> |  | <b>Inputs</b> <ul style="list-style-type: none"> <li>Assessments by WFF/Focus Area</li> </ul>                                                                                                                                                                                                                        |       | <b>Outputs</b> <ul style="list-style-type: none"> <li>OPFOR next 24 hrs</li> <li>MESL injects next 48</li> <li>Any Scenario changes</li> </ul> |
| 6/15/2020 EXCON                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | UNCLASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE                                                                                                                                                                                                                                                                    |       | The Jayhawk Corps!!! 5                                                                                                                         |

| EXCON Scenario Sync                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | UPDATED AS OF: 20200604                                                                                                                                                                                                                      | HICOM | EXCON                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| <b>Purpose:</b> INFORMATION GUIDANCE <b>DECISION</b> ACTION<br>Synchronize live and constructive rotational events; modify OE as required to achieve DIV Training Objectives                                                                                                                                                                                                                                                                                                                       |  | <b>Attendees:</b><br><b>Staff Proponent:</b> EXCON – Warrior 3<br><b>Chair:</b> Warrior 3<br><b>Members:</b> EXCON – Lizard 09, Vulture 07, Warrior 27, Warrior 3A, Scorpion 7T, Wrangler rep, OPFOR. HICOM: G3 rep<br><b>As Applicable:</b> |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Frequency:</b> Daily, 0800 PST<br><b>Duration:</b> 30 Minutes<br><b>Location:</b> Room 139, Bldg 990<br><b>PACE:</b><br>P: In-Person<br>A:<br>C:<br>E:                                                                                                                                                                                                                                                                                                                                          |  |                                                                                                                                                                                                                                              |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Agenda</b> <ul style="list-style-type: none"> <li>&gt;24hrs, CUOPS, go/no-go</li> <li>Next 96 hrs, FUOPS, brainstorm</li> <li>Next 72 hrs, FUOPS, develop</li> <li>Next 48 hrs, CUOPS/FUOPS, refine</li> <li>Next 24 hrs, CUOPS, validate</li> <li>Discussed in relation to:               <ul style="list-style-type: none"> <li>Blue – IID</li> <li>Blue – VII Corps, 21ID, 35ID, 70 MEB</li> <li>Red – OPFOR</li> <li>Green – ATR, CIVPOP</li> <li>MESLs (key events)</li> </ul> </li> </ul> |  | <b>Inputs</b> <ul style="list-style-type: none"> <li>Exercise Director Guidance</li> <li>EXCON WFF Decision Board Guidance</li> <li>WORKING DOCUMENT: 20-10 Synchronization Matrix</li> </ul>                                                |       | <b>Outputs</b> <ul style="list-style-type: none"> <li>Scenario Design Changes               <ul style="list-style-type: none"> <li>Blue (RTU, higher/adjacent units)</li> <li>Red</li> <li>Green</li> </ul> </li> <li>EXCON               <ul style="list-style-type: none"> <li>Guidance to OPFOR Sync</li> <li>Guidance to MESL Sync</li> <li>Guidance to FW Sync</li> </ul> </li> <li>HICOM               <ul style="list-style-type: none"> <li>INTSUMs</li> <li>FRAGOs</li> </ul> </li> </ul> |
| 6/15/2020 EXCON Warrior 3 LTC Sargent                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | UNCLASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE                                                                                                                                                                                            |       | The Jayhawk Corps!!! 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|  <b>EXCON OPFOR Sync</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | UPDATED AS OF: 20200604 <span>HICOM</span> <span>EXCON</span>                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purpose:</b> INFORMATION GUIDANCE DECISION ACTION<br>Synchronize live and constructive OPFOR actions; modify OPFOR SoM as required to properly achieve DIV Training Objectives<br><br><b>Frequency:</b> Daily, 0900 PST<br><br><b>Duration:</b> 30 Minutes<br><br><b>Location:</b> Room 204, Bldg 990<br><br><b>PACE</b><br>P: In Person<br>A: In Person (Small Group) + CPOF Ventrillo OPFOR Repository (Blackhorse)<br>C:<br>E:                                                                                                                                                                                                                                                   |  | <b>Attendees</b><br><b>Staff Proponent:</b> Lizard 09<br><br><b>Chair:</b> Blackhorse 6<br><br><b>Small Group (In-Person):</b> Warrior 3, Warrior 3C, Lizard 3, Lizard 3S, Lizard 09, Vulture Team<br><br><b>Large Group (Distributed):</b> Blackhorse 6, Blackhorse OPFOR Response Cell, Blue/Red Air White Cell DIC<br><br><b>As Applicable:</b> Senior Trainer as available / required |                                                                                                                                                             |
| <b>Agenda</b> <ul style="list-style-type: none"> <li>Review Senior Trainer guidance and training objectives for next 24 hours</li> <li>Review OPFOR targeting priorities / planned SoM for next next 24 hours</li> <li>Review planned MESLs that impact OPFOR and SoM</li> <li>Review current disposition / composition / strength (constructive and live); discuss any required adjustments in CDFMs, timeline for critical events, etc. Review any concerns by WFF:               <ul style="list-style-type: none"> <li>Intelligence</li> <li>Movement &amp; Maneuver</li> <li>Fires</li> <li>Sustainment</li> <li>Protection</li> <li>Command &amp; Control</li> </ul> </li> </ul> |  | <b>Inputs</b> <ul style="list-style-type: none"> <li>TBP</li> </ul>                                                                                                                                                                                                                                                                                                                       | <b>Outputs</b> <ul style="list-style-type: none"> <li>OPFOR SoM Live adjustments (Next 24)</li> <li>OPFOR SoM Constructive adjustments (Next 24)</li> </ul> |
| 6/16/2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | EXCON Lizard 09                                                                                                                                                                                                                                                                                                                                                                           | UNCLASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE<br>The Jayhawk Corps!!!                                                                                   |

|  <b>EXCON MESL Sync</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | UPDATED AS OF: 20200604 <span>HICOM</span> <span>EXCON</span>                                                                                                                                                                                                                                                                   |                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purpose:</b> INFORMATION GUIDANCE DECISION ACTION<br>Synchronize constructive MESL injects; modify MESL injects<br><br><b>Frequency:</b> Daily, 1000 PST<br><br><b>Duration:</b> 1 hour<br><br><b>Location:</b> Room 139, Bldg 990<br><br><b>PACE</b><br>P: Face to Face at Room 139, Bldg 990<br>A: NIPR VOIP Dial-In<br>C: DCS Connect / Skype for Business<br>E:                                                                                                                                                                                                   |  | <b>Attendees</b><br><b>Staff Proponent:</b> Lizard 09<br><br><b>Chair:</b> Lizard 09<br><br><b>Small Group (In-Person):</b> Warrior 3, Warrior 3C, Lizard 3, Lizard 3S, Lizard 09, Lizard 30, Vulture Team, Warrior 71, Bronco 71, HICOM Rep from each WF<br><br><b>Large Group (Distributed):</b><br><br><b>As Applicable:</b> |                                                                                                                                               |
| <b>Agenda</b> <ul style="list-style-type: none"> <li>Review previous 24 hour MESL impacts / required follow up</li> <li>Review follow Senior trainer guidance / training objectives that require MESL injects for next 24 hours</li> <li>Review planned MESLs for next 24 hours (by WFF)               <ul style="list-style-type: none"> <li>Intelligence</li> <li>Movement &amp; Maneuver</li> <li>Fires</li> <li>Sustainment</li> <li>Protection</li> <li>Command &amp; Control</li> </ul> </li> <li>Discuss probable MESL requirements for next 48/72 hrs</li> </ul> |  | <b>Inputs</b> <ul style="list-style-type: none"> <li>Planned MESL events by WFF</li> </ul>                                                                                                                                                                                                                                      | <b>Outputs</b> <ul style="list-style-type: none"> <li>MESL adjustments (Next 24/48/72)</li> <li>MESL execution decisions (Next 24)</li> </ul> |
| 6/16/2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | EXCON Scorpion TAFF                                                                                                                                                                                                                                                                                                             | UNCLASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE<br>The Jayhawk Corps!!!                                                                     |

| EXCON Airspace Working Group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |          |        | HICOM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | EXCON |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| INFORMATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | GUIDANCE | DECISION | ACTION |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |
| <b>Purpose:</b> <ul style="list-style-type: none"> <li>To approve the Live-NTC ACO (Red, White, Blue)</li> <li>To understand Live assets in play</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |          |        | <b>Staff Proponent:</b> EXCON Airspace Element                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |
| <b>Frequency:</b> Daily, 1230                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |          |        | <b>Chair:</b> Warrior 03, Warrior 03N, Eagle 3T                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |
| <b>Duration:</b> 30 Minutes EXCON                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |          |        | <b>Small Group (In-Person):</b> Raven 07, Raven 03, Eagle 07, Eagle 03, Warrior 27, Dragon 02 (Zulu TAC OIC), Blackhorse G3 Air, Blackhorse UAS, Warrior 02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |
| <b>Location:</b> EXCON Meeting Room (Room 139, Bldg 990)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          |          |        | <b>Large Group (Distributed):</b> DESRAD, Blackhorse G3 Air, Blackhorse UAS, 2916 <sup>th</sup> S3, VIP UH-60 rep, Sokol Rep, NTC Protocol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |
| <b>PACE</b><br>P: In-Person<br>A: MS Teams<br>C: CPOF/Ventrilo<br>E: Cell Phone Dial-In                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |          |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |
| <b>Agenda</b> <ul style="list-style-type: none"> <li>Yesterday's ACO (As necessary)               <ul style="list-style-type: none"> <li>Airspace /Safety Violations</li> <li>Coaching Necessary to DN JAGIC</li> </ul> </li> <li>Today's ACO Review (5 mins)               <ul style="list-style-type: none"> <li>Live FW operations</li> <li>Live RW operations</li> <li>Live UAS (BH + GE) operations</li> <li>Live VIP operations</li> <li>Live Sokol operations</li> <li>Live Fires / Constructive Fires affecting Scenario</li> <li>Potential Conflicts / Contingencies</li> </ul> </li> <li>Tomorrow's ACO Review (+24) (10 mins)               <ul style="list-style-type: none"> <li>Same as above</li> <li>Output: Approved LIVE-NTC ACO</li> </ul> </li> </ul> |          |          |        | <b>Briefing Responsibilities</b> <ul style="list-style-type: none"> <li>Warrior               <ul style="list-style-type: none"> <li>Pending VIP Missions</li> </ul> </li> <li>Raven               <ul style="list-style-type: none"> <li>Live and Virtual FW Activities</li> </ul> </li> <li>Eagle               <ul style="list-style-type: none"> <li>Live RW Activities</li> <li>Live TUAS/GE Activities</li> </ul> </li> <li>Warrior 09               <ul style="list-style-type: none"> <li>Live GE activities</li> </ul> </li> <li>Blackhorse G3 Air               <ul style="list-style-type: none"> <li>UAS Activities</li> <li>Sokol Activities</li> </ul> </li> </ul> |       |
| Train the Force                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |        | V1.0 6/15/2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |

| EXCON Airspace 7-Minute Drill                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |          |        | HICOM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | EXCON |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| INFORMATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | GUIDANCE | DECISION | ACTION |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |
| <b>Purpose:</b> <ul style="list-style-type: none"> <li>Share information across the DTOC</li> <li>Enable CDR to understand Airspace Operations</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |          |        | <b>Ongoing Operations:</b> <ul style="list-style-type: none"> <li>Live FW operations (Blackbird)               <ul style="list-style-type: none"> <li>Current</li> </ul> </li> <li>Live RW operations (Eagle 3T)               <ul style="list-style-type: none"> <li>Current</li> </ul> </li> <li>Live UAS (BH + GE) (Eagle 3T)               <ul style="list-style-type: none"> <li>Current</li> </ul> </li> <li>Live VIP/Sokol operations (Eagle 3T)               <ul style="list-style-type: none"> <li>Current</li> </ul> </li> <li>Live Fires (Warrior 27)               <ul style="list-style-type: none"> <li>Current</li> </ul> </li> <li>Live Fires <b>-OR-</b> Constructive Fires (Warrior 27)               <ul style="list-style-type: none"> <li>Current</li> </ul> </li> </ul> |       |
| <b>Frequency:</b><br>O/O, at least twice daily                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |
| <b>Duration:</b><br>7-minutes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |          |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |
| <b>Location:</b><br>EXCON DTOC floor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          |          |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |
| <b>PACE:</b><br>P: In-Person on DTOC floor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |          |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |
| <b>Agenda:</b> <ul style="list-style-type: none"> <li>Live FW operations (Blackbird)               <ul style="list-style-type: none"> <li>Current</li> <li>Next 24</li> </ul> </li> <li>Live RW operations (Eagle 3T)               <ul style="list-style-type: none"> <li>Current</li> <li>Next 24</li> </ul> </li> <li>Live UAS (BH + GE) (Eagle 3T)               <ul style="list-style-type: none"> <li>Current</li> <li>Next 24</li> </ul> </li> <li>Live VIP/Sokol operations (Eagle 3T)               <ul style="list-style-type: none"> <li>Current</li> <li>Next 24</li> </ul> </li> <li>Live Fires (Warrior 27)               <ul style="list-style-type: none"> <li>Current</li> <li>Next 24</li> </ul> </li> <li>Live Fires <b>-OR-</b> Constructive Fires (Warrior 27)               <ul style="list-style-type: none"> <li>Current</li> <li>Next 24</li> </ul> </li> </ul> |          |          |        | <b>Next 24:</b> <ul style="list-style-type: none"> <li>Live FW operations (Blackbird)               <ul style="list-style-type: none"> <li>Next 24</li> </ul> </li> <li>Live RW operations (Eagle 3T)               <ul style="list-style-type: none"> <li>Next 24</li> </ul> </li> <li>Live UAS (BH + GE) (Eagle 3T)               <ul style="list-style-type: none"> <li>Next 24</li> </ul> </li> <li>Live VIP/Sokol operations (Eagle 3T)               <ul style="list-style-type: none"> <li>Next 24</li> </ul> </li> <li>Live Fires (Warrior 27)               <ul style="list-style-type: none"> <li>Next 24</li> </ul> </li> <li>Live Fires <b>-OR-</b> Constructive Fires (Warrior 27)               <ul style="list-style-type: none"> <li>Next 24</li> </ul> </li> </ul>            |       |
| Train the Force                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |          |        | V1.0 6/15/2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |

|  <b>EXCON Fixed Wing Sync Meeting</b>                                                                                                                                                       |  | UPDATED AS OF: 20200604                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | HICOM                                                                                                                                                                              | EXCON |
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| <b>Purpose:</b> Synchronize and execute Blue and Red Air Live and Constructive Fixed Wing sorties for VII Corps and RTU Division                                                                                                                                             |  | <b>Attendees</b><br><b>Staff Proponent:</b> EXCON – Warrior 3<br><b>Chair:</b> Warrior 3<br><b>Small Group (In-Person):</b> Warrior 3, Lizard 09, Warrior 27, Raven, Lizard CEMA<br><b>Large Group (Distributed):</b> Blue/Red Air White Cell DIC<br><b>As Applicable:</b> N/A                                                                                                                                                                                                                                                                |  |                                                                                                                                                                                    |       |
| <b>Frequency:</b> Daily, 1630 PST<br><b>Duration:</b> 30 minutes<br><b>Location:</b> Room 139, Bldg 990<br><b>PACE</b><br>P: DCS Connect (NPR)<br>A: Skype for Business (NPR)<br>C: SVOIP for Voice, E-mail Distro for Slides/EXMAT<br>E: Face to Face at Room 204, Bldg 990 |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                                                                                                                    |       |
| <b>Agenda</b> <ul style="list-style-type: none"> <li>Assessment Last 24 ATO</li> <li>Next 24 ATO Execution</li> </ul>                                                                                                                                                        |  | <b>Inputs</b> <ul style="list-style-type: none"> <li>Exercise Director Guidance</li> <li>EXCON WWF Decision Board Guidance</li> <li>Last 24               <ul style="list-style-type: none"> <li>Mission Results (Assessment)</li> </ul> </li> <li>Next 24               <ul style="list-style-type: none"> <li>JFACC apportionment</li> <li>JFLCC allocation</li> <li>VII Corps distribution (CAS)</li> <li>Draft ATO                   <ul style="list-style-type: none"> <li>Live</li> <li>Constructive</li> </ul> </li> </ul> </li> </ul> |  | <b>Outputs</b> <ul style="list-style-type: none"> <li>ATO for following day               <ul style="list-style-type: none"> <li>Live</li> <li>Constructive</li> </ul> </li> </ul> |       |
| 6/16/2020 EXCON Warrior 3 – Lt Col Sargent UNCLASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE <i>The Jayhawk Corps!!!</i> 11                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                                                                                                                    |       |

|  <b>EXCON WfF Synchronization Decision Board</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                 |                                                                                                                                                      |          | UPDATED AS OF: 20200614<br>HICOM EXCON |                                                                                                                                                                                                                                                                                                                                           |
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| Purpose                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | INFORMATION                                                                                     | GUIDANCE                                                                                                                                             | DECISION | ACTION                                 | Attendees                                                                                                                                                                                                                                                                                                                                 |
| <b>Purpose:</b> EXCON brief to Exercise Director on status of the exercise covering actions and observations along all Warfighting Functions.<br><br><b>Frequency:</b> Daily, 1500<br><br><b>Duration:</b> 1 hour<br><br><b>Location:</b> Room 204, Bldg 990<br><br><b>PACE</b><br>P: In Person at Room 204, Bldg 990<br>A: In Person at Room 139, Bldg 990 distributed over SVOIP Phone Bridge<br>C:<br>E:                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                 |                                                                                                                                                      |          |                                        | <b>Staff Proponent:</b> Warner 03<br><br><b>Chair:</b> Exercise Director (Outlaw 01)<br><br><b>Small Group (In Person):</b> EXCON Warner 3, Vulture 07<br>HICOM Primaries (DCG-M, DCG-S, COS, G1, 2, 3, 4, 5, 6, FSCCOORD)<br><br><b>Large Group (Distributed):</b> HICOM/EXCON Primaries, ENG, PROT, G8, G9<br><br><b>As Applicable:</b> |
| <b>Agenda</b> <ul style="list-style-type: none"> <li>• Rotation Training Objectives Review</li> <li>• Previous EXDIR Guidance *</li> <li>• Decision points for EXDIR</li> <li>• Distinguished Visitors *</li> <li>• EXCON Update               <ul style="list-style-type: none"> <li>• Simulation Status* (V07/L30)</li> <li>• Exercise Weather* (SWO)</li> <li>• SIMOPFOR (B02(a)/B09(a))</li> <li>• OPFOR (BH03)</li> </ul> </li> <li>• HICOM               <ul style="list-style-type: none"> <li>• Corps Intel Update (L05)</li> <li>• Corps Fires Update (W07)</li> <li>• CFACC/ Corps ALO Update (R07)</li> <li>• Corps DCG-M Update (B07)</li> <li>• SOTF-G Update* (S07)</li> <li>• Corps DCG-S Update (GM07)</li> </ul> </li> <li>• MESL Focus</li> <li>• Consolidated Exercise Recommendations</li> <li>• EXDIR Guidance/ Decision</li> </ul> | <b>Inputs</b> <ul style="list-style-type: none"> <li>• Assessments by WfF/Focus Area</li> </ul> | <b>Outputs</b> <ul style="list-style-type: none"> <li>• OPFOR next 24 hrs</li> <li>• MESL injects next 48</li> <li>• Any Scenario changes</li> </ul> |          |                                        |                                                                                                                                                                                                                                                                                                                                           |
| 6/16/2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | EXCON                                                                                           | UNCLASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE                                                                                                    |          |                                        | The Jayhawk Corps!!!<br>12                                                                                                                                                                                                                                                                                                                |

## VII Corps (HICOM) Battle Rhythm Event 7-Minute Drills

|  <b>Commanders Update Brief – 7-Minute Drill</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                 |          | UPDATED AS OF: 20200520<br>HICOM EXCON |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| Purpose                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | INFORMATION                                                                                                                                                                                                                                                                                                                                                                           | GUIDANCE                                                                                                                                        | DECISION | ACTION                                 | Attendees                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Purpose:</b> Provide the Commander with an assessment of current operations and review upcoming events and decisions in the short-range planning horizon (<24 hours)<br><br><b>Frequency:</b> Daily, 1700<br><br><b>Duration:</b> 1 Hour<br><br><b>Location:</b> VII Corps Main CP and Distributed<br><br><b>PACE</b><br>P: CPOF / Ventrillo<br>A: Transverse and SharePoint for slides<br>C: SVOIP Bridge and SharePoint for slides<br>E: FM or TACSAT and SharePoint for slides<br>EE: RCS and SharePoint for slides                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                 |          |                                        | <b>Staff Proponent:</b> G33 CUOPS, VII Corps<br><br><b>Chair:</b> CG, VII Corps (Senior Trainer)<br><br><b>Members:</b> CCSM, DCG-M, DCG-S, COS, G1, G2, ISR, SWO, G3, G33, G35, G39 IO, G3 AMD, G3 AVN, G3 FM, G3 SPACE, FIRES, ALO, EWO, G4, SURG, G5, G6, PROT CHF, CBRN, ENG, PMO, G7, G8, G9, CEMA, CHAP, IG, KM, PAD, SEC COOP, SJA, MSC CDRs<br><br><b>EXCON:</b> Exercise Director, EXCON Staff, OC/Ts as required<br><br><b>As Applicable:</b> Attachments, Interagency Representatives |
| <b>Agenda</b> <ul style="list-style-type: none"> <li>• Operations (2 min) – G33</li> <li>• Intelligence (2 min)               <ul style="list-style-type: none"> <li>• SWO</li> <li>• G2 OPS</li> <li>• ISR</li> </ul> </li> <li>• Fires (2 min)               <ul style="list-style-type: none"> <li>• Fires Chief</li> <li>• ALO</li> <li>• EWO</li> </ul> </li> <li>• Sustainment (2 min)               <ul style="list-style-type: none"> <li>• G4</li> <li>• G1</li> <li>• Surgeon</li> </ul> </li> <li>• Protection (1 min)</li> <li>• Mission Command (2 min) – G6 OPS</li> <li>• FUOPS (1 min)</li> <li>• Staff by Exception</li> <li>• MSCs (7 min / DM/SEP BDE)</li> <li>• VII Corps CG</li> </ul> | <b>Inputs</b> <ul style="list-style-type: none"> <li>• Updated Running Estimates</li> <li>• Updated Situation Template (SITTEMP)</li> <li>• Updated operational graphics, friendly unit locations and disposition</li> <li>• Significant activities last 24 hours</li> <li>• Commander's Critical Information Requirements (CCIR)</li> <li>• Decision Support Matrix (DSM)</li> </ul> | <b>Outputs</b> <ul style="list-style-type: none"> <li>• Commander's decisions and guidance</li> <li>• Fragmentary order, as required</li> </ul> |          |                                        | <b>Comms Check (15 min prior)</b><br><b>Roll Call (5 min prior)</b>                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 6/15/2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | VII Corps G33                                                                                                                                                                                                                                                                                                                                                                         | UNCLASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE                                                                                               |          |                                        | The Jayhawk Corps!!!<br>3                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|  <b>Collection Management Working Group – 7-Minute Drill</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                 | UPDATED AS OF: 20200521<br>HICOM EXCON                                                                                                                                                                                                                                                                                                                                  |
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| <b>Purpose:</b> INFORMATION GUIDANCE DECISION ACTION<br>Review, prioritize, coordinate, and validate asset allocations to enable the Commander's decision making<br><br><b>Frequency:</b> Daily, 1300<br><br><b>Duration:</b> 1 Hour<br><br><b>Location:</b> Building 990 Room 139<br><br><b>PACE</b><br>P: CPOF / Ventrillo<br>A: Transverse and Sharepoint for slides<br>C: SVOIP Bridge and SharePoint for slides<br>E: FM or TACSAT and SharePoint for slides<br>EE: RCS and SharePoint for slides                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                 | <b>Attendees</b><br><b>Staff Proponent:</b> G2, VII Corps<br><br><b>Chair:</b> Collection Manager/Collection Tech<br><br><b>Small Group (In Person):</b> G2 Ops, G3 FUOPS, ACE Section Leads, SWD, Fires, ISRLD, STO, CEMA, TAIS, Protection, IO, ALO<br><br><b>Large Group (Distributed):</b> Subordinate Command Collection Managers<br><br><b>As Applicable:</b> N/A |
| <b>Agenda</b> <ul style="list-style-type: none"> <li>Corps CM Update               <ul style="list-style-type: none"> <li>Provide Corps Collection Sync Matrix for ATD+3</li> <li>Review PIR and Collection Priorities</li> <li>Review current enemy situation / BDA</li> <li>Review collection plan (48-72 hours out)</li> <li>Review wx effects to Collection Assets</li> <li>Review asset status (organic, theater, National)</li> </ul> </li> <li>Division CM Update               <ul style="list-style-type: none"> <li>Provide Division collection req for ATD+3</li> <li>Provide updated NAI list to nest with Corps efforts</li> <li>Present concerns / issues</li> </ul> </li> <li>Closeout               <ul style="list-style-type: none"> <li>Review collection plan changes (needs approval)</li> <li>Discuss / validate collection plan (72-96 hours out)</li> </ul> </li> </ul> | <b>Inputs</b> <ul style="list-style-type: none"> <li>CG's Priorities</li> <li>Current and projected enemy situation w/ BDA</li> <li>Current and projected friendly operations</li> <li>Collection asset status</li> <li>Weather Update</li> <li>Proposed 72-96 hour collection plan</li> <li>Subordinate unit collection plans</li> <li>Intelligence/collection gaps</li> </ul> | <b>Outputs</b> <ul style="list-style-type: none"> <li>Validated collection plan for the next 48-72 hours</li> <li>Proposed 96-hour collection plan (for the Targeting Board)</li> <li>Nominated collection requirements to higher echelons (AOC)</li> </ul>                                                                                                             |
| 6/15/2020 VII Corps G2 LTC Dever UNCLASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                 | The Jayhawk Corps!!! 6                                                                                                                                                                                                                                                                                                                                                  |

|  <b>Targeting Working Group – 7-Minute Drill</b>                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                               | UPDATED AS OF: 20200520<br>HICOM EXCON                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| <b>Purpose:</b> INFORMATION GUIDANCE DECISION ACTION<br>Synchronize targeting activities in order to ensure target engagements remain nested with Commander's priorities and JTF Objectives.<br><br><b>Frequency:</b> Daily, 1400<br><br><b>Duration:</b> 1 Hour<br><br><b>Location:</b> Building 990 Room 139<br><br><b>PACE</b><br>P: CPOF / Ventrillo<br>A: Transverse and Sharepoint for slides<br>C: SVOIP Bridge and SharePoint for slides<br>E: FM or TACSAT and SharePoint for slides<br>EE: RCS and SharePoint for slides |                                                                                                                                                                                                                                                                                                                                               | <b>Attendees</b><br><b>Staff Proponent:</b> VII Corps Targeting Officer, VII Corps FSCCOORD<br><br><b>Chair:</b> VII Corps FSCCOORD<br><br><b>Small Group (In Person):</b> G2, G33 CUOPS, G35 FUOPS, G3 AVN, G5 Plans, Fires, TACP, SJA, Warrior 3, Warrior 27<br><br><b>Large Group (Distributed):</b> G3 Space, G6, G9, CEMA, ENG, IOWISO, PAO, PMO, SCJTF LNO, Subordinate LNOs<br><br><b>As Applicable:</b> 1ID FSCCOORD, 21 ID FSCCOORD, 35 ID FSCCOORD, 18 FAB, 31 FAB FSCCOORDS |
| <b>Agenda</b> <ul style="list-style-type: none"> <li>Review Commander's Targeting Guidance</li> <li>Review Combat Assessments (Last 24 hours)</li> <li>Review Component SoM (Next 24-72 hours)</li> <li>Review/Approval of Coordinated Target List /Target Nomination List /Air Support Request</li> <li>Review ISR Collection Plan</li> <li>Capabilities Analysis</li> <li>TWG Summary</li> </ul>                                                                                                                                 | <b>Inputs</b> <ul style="list-style-type: none"> <li>Commander's targeting guidance</li> <li>Enemy SITEMP/latest assessment/proposed target sets</li> <li>Assessment Last 24 hours</li> <li>Component SoM</li> <li>CTL/TNL/ASR Nominations</li> <li>ISR Collection Concept</li> <li>Effects sync matrix</li> <li>Running Estimates</li> </ul> | <b>Outputs</b> <ul style="list-style-type: none"> <li>Recommended Target Sets next 72 hours</li> <li>Recommended Target Refinements for next 48 hours ATD</li> <li>Recommended Target Nominations for next 72 hours ATD</li> <li>Recommended Scheme of Fires and Maneuver next 48/72</li> <li>Recommended ISR Collection Plan and Priorities</li> <li>Recommended AI and CAS Allocations</li> <li>Recommended Changes to HPTL</li> </ul>                                               |
| 6/15/2020 VII Corps Fires MAJ Nemeo UNCLASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                               | The Jayhawk Corps!!! 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

|  <b>Airspace Working Group – 7-Minute Drill</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | UPDATED AS OF: 20200520                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | HICOM | EXCON |
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| <b>Purpose:</b> INFORMATION GUIDANCE DECISION ACTION<br>To facilitate and synchronize contributions from all the elements that perform the airspace collective tasks at Corps and DN-level<br><br><b>Frequency:</b> Daily, 0900<br><br><b>Duration:</b> 30 Minutes HICOM / 30 Minutes EXCON<br><br><b>Location:</b> VII Corps Main CP Floor (Room 139, Bldg 590)<br><br><b>PACE</b><br>P: CPOF / Ventrillo<br>A: Transverse and Sharepoint for slides<br>C: SVOIP Bridge and SharePoint for slides<br>E: FM or TACSAT and SharePoint for slides<br>EE: RCS and SharePoint for slides                                                                                                                                                                                                                                                                                                                                                                                                                              |  | <b>Attendees</b><br><b>Staff Proponent:</b> G3, VII Corps<br><br><b>Chair:</b> Airspace Officer, OPS Group G3 Air<br><br><b>Small Group (In-Person):</b> G2, G33 CUOPS, G35 FUOPS, G3 AVN, AE, AMD, G5 Plans, Fires, TACP/ALO, Warrior 3, Vulture, Warrior 27, Bronco 27 CAB LNO, TAIS operator, CEMA rep, SWO<br><br><b>Large Group (Distributed):</b> G3 Space, G4, G9, CADE, CBRNE, CEMA, ENG, IO/MISO, PAO, PMO, SOUTF LNO, Subordinate LNOs, UAS LNO<br><br><b>As Applicable:</b> Subordinate CMD - JAGIC Chief / SAD, FAB, DNARTY, CAB Blackhorse UAS, Blackhorse G3 Air (EXCON only)                                                                                                                                                                                                                                                          |       |       |
| <b>Agenda</b> <ul style="list-style-type: none"> <li>• Same Agenda for HICOM, then EXCON</li> <li>• Last Executed ACO (5 mins)               <ul style="list-style-type: none"> <li>• Airspace/Safety Violations</li> <li>• Coaching Necessary to DIV JAGIC</li> </ul> </li> <li>• Current ACO ACMs Review (10mins)               <ul style="list-style-type: none"> <li>• Friendly GSOM</li> <li>• ADA</li> <li>• UAS, RW</li> <li>• CAS/IA</li> <li>• Potential Conflicts / Contingencies</li> </ul> </li> <li>• Upcoming ACO Review (+24) (5 mins)               <ul style="list-style-type: none"> <li>• Same as above</li> </ul> </li> <li>• Build the next UAP(+48) (10 mins)               <ul style="list-style-type: none"> <li>• JFC's Airspace Guidance</li> <li>• Corps ACMs to be included</li> <li>• Guidance to DIV for UAP Requirements</li> <li>• Division briefs requirements                   <ul style="list-style-type: none"> <li>• GSOM + General ACMs</li> </ul> </li> </ul> </li> </ul> |  | <b>Inputs</b> <ul style="list-style-type: none"> <li>• JFC's Airspace Guidance</li> <li>• Division UAP(s)</li> <li>• Draft ATO or Summary of ASRs</li> <li>• Updated SPINS (as required)</li> <li>• Proposed Corps ACMs:               <ul style="list-style-type: none"> <li>• Aerial ISR Assets (G2)</li> <li>• Corps FA Assets (Fires Cell)</li> <li>• Corps ADA Assets (ADA Cell)</li> <li>• Maneuver and Airspace Boundaries (G3)</li> <li>• RW AVN SAAFR, FARPs, ACs, and other ACMs (CAB LNO)</li> <li>• CAS/IA measures delegated to Division</li> </ul> </li> <li>• EXCON Only:               <ul style="list-style-type: none"> <li>• Blackhorse ACMs (Red) (EXCON)                   <ul style="list-style-type: none"> <li>• UAS</li> <li>• FW</li> <li>• RW</li> </ul> </li> <li>• Raven ACMs (Red/Blue) (EXCON)</li> </ul> </li> </ul> |       |       |
| <b>Outputs</b> <ul style="list-style-type: none"> <li>• Live-NTC ACO Red/White/Blue (EXCON)</li> <li>• Corps UAP for submission to BCD/ACC (if AOC/BCD Replicated) (HICOM)</li> <li>• Exercise 'Blue' ACO (HICOM)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |       |
| 6/15/2020 VII Corps G3 AVN CPT Kennedy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  | UNCLASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE The Jayhawk Corps!!! 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |       |

|  <b>Non-Lethal Effects Working Group – 7-Minute Drill</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | UPDATED AS OF: 20200520                                                                                                                                                                                                                                                                                                                                                                                                                                                           | HICOM | EXCON |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|
| <b>Purpose:</b> INFORMATION GUIDANCE DECISION ACTION<br>To coordinate, synchronize and find solutions to operational problem sets ISO mission objectives and end states through the use of non-lethal / information related capabilities<br><br><b>Frequency:</b> Daily, 1300<br><br><b>Duration:</b> 1 Hour<br><br><b>Location:</b> VII Corps Main CP Floor<br><br><b>PACE</b><br>P: CPOF / Ventrillo<br>A: Transverse and Sharepoint for slides<br>C: SVOIP Bridge and SharePoint for slides<br>E: FM or TACSAT and SharePoint for slides<br>EE: RCS and SharePoint for slides                                                                |  | <b>Attendees</b><br><b>Staff Proponent:</b> G39, VII Corps<br><br><b>Chair:</b> G39<br><br><b>Small Group (In-Person):</b> G2, G33, G35, SJA, G5, G9, CEMA, MISO, PAO, CPSEC, SPEC & SPACE, FIRES, SEC COOP, CHAP, SOF REP<br><br><b>Large Group (Distributed):</b> OGA, MSC G39s<br><br><b>As Applicable:</b> Attachments, Interagency Representatives                                                                                                                           |       |       |
| <b>Agenda</b> <ul style="list-style-type: none"> <li>• Due Outs from previous NLE WG</li> <li>• IRC's Assets Available / Task Organization</li> <li>• Intel Assessment / Enemy Situation Update (G2)</li> <li>• Friendly Current Situation Update (G33)</li> <li>• IE Assessment Update (G39)</li> <li>• Future Plans Update +72 hours (G35)</li> <li>• Review Current Synch Matrix (ALL)</li> <li>• Review Current Messaging and Talking Points (PAO/MISO)</li> <li>• Target Nominations (+72 hours)</li> <li>• Dynamic Targets (24-48 hours)</li> <li>• 96 Hour Guidance</li> <li>• NLE Assessments</li> <li>• Review New Due Outs</li> </ul> |  | <b>Inputs</b> <ul style="list-style-type: none"> <li>• CDR's Objectives, Intent and End State</li> <li>• IRC Running Estimate (Assets Available, etc)</li> <li>• Enemy Situation</li> <li>• Friendly Situation</li> <li>• IE Situation</li> <li>• Inputs from other WGs</li> <li>• Media Analysis / Sentiment Trends</li> <li>• Target Audience Analysis</li> </ul>                                                                                                               |       |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  | <b>Outputs</b> <ul style="list-style-type: none"> <li>• NLE Target Nominations</li> <li>• Refined Messages and Talking Points</li> <li>• Refined NLE Concept of Support</li> <li>• NLE Synchronization Matrix</li> <li>• FRAGO Input (Tasks to Subordinate Units)</li> <li>• Recommended PRIs</li> <li>• RFIs / RFF / RFS</li> <li>• Measures of Effectiveness and Measures of Performance</li> <li>• Collection Requirements ISO MoE</li> <li>• Updated Battle Drills</li> </ul> |       |       |
| 6/15/2020 VII Corps G39 MAJ Montoya                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | UNCLASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE The Jayhawk Corps!!! 9                                                                                                                                                                                                                                                                                                                                                                                                          |       |       |

|   <b>Sustainment Sync Working Group – 7-Minute Drill</b>                                                                                                                                                                                                                                                                                     |             | UPDATED AS OF: 20200521 <span style="background-color: yellow;">HICOM</span> <span style="background-color: yellow;">EXCON</span>                                                                                                                                                                      |          |                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Purpose                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | INFORMATION | GUIDANCE                                                                                                                                                                                                                                                                                               | DECISION | ACTION                                                                                                                                                                                                                                                                                                                                     |
| <p><b>Purpose</b><br/>Synchronize Corps Logistics efforts with Corps / Theater operational and sustainment priorities ICW the ESC and sustainment enablers</p> <p><b>Frequency</b> Daily</p> <p><b>Duration</b> 1 hour</p> <p><b>Location</b> VII Corps SACP</p> <p><b>PACE</b><br/>P: CPOF/Ventrillo<br/>A: Transverse for voice and SharePoint for slides<br/>C: SVOIP for voice and SharePoint for slides<br/>E: Face to Face at the SACP (Room 139, Bldg 990 w/ Phone Link to FRKS) – Limited audience</p> |             | <p><b>Attendees</b><br/><b>Staff Proponent:</b> G4 OPS<br/><b>Chair:</b> ACoS G4, VII Corps<br/><b>Small Group (In-Person):</b> G4, G1, G3, PROT, ENG, SURG<br/><b>Large Group (Distributed):</b> DIV G4s, SPOs<br/><b>As Applicable:</b> LNOs from MSCs, Attachments, Interagency Representatives</p> |          |                                                                                                                                                                                                                                                                                                                                            |
| <p><b>Agenda</b></p> <ul style="list-style-type: none"> <li>• Opening Remarks – G4</li> <li>• Div Ours Review</li> <li>• DIV LOGCOFs</li> <li>• Combat Power – CR Issues, fleet below 90%</li> <li>• Sustainment               <ul style="list-style-type: none"> <li>• Mobility Assessment</li> <li>• Maintenance Assessment</li> <li>• Supply Assessment</li> <li>• Personnel Assessment</li> <li>• Surgeon Assessment</li> </ul> </li> <li>• Distribution Matrix Review</li> </ul>                          |             | <p><b>Inputs</b></p> <ul style="list-style-type: none"> <li>• Planning Efforts</li> <li>• Assessments, current and projected readiness priorities</li> <li>• Impacts on current operations</li> <li>• Synchronization of readiness challenges across Theater requests for support</li> </ul>           |          | <p><b>Outputs</b></p> <ul style="list-style-type: none"> <li>• Recommended changes and updates to priorities of effort, FRAGOS, Safety Messages, etc.</li> <li>• Combat Power forecast for next 24-72 hours</li> <li>• Recommended changes to priority for commodities</li> <li>• Recommendations to Sustainment Decision Board</li> </ul> |
| 6/15/2020 VII Corps G4 CPT Wilcox                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             | UNCLASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE                                                                                                                                                                                                                                                      |          | The Jayhawk Corps!!! <span style="float: right;">10</span>                                                                                                                                                                                                                                                                                 |



# **National Training Center EXOP**

## **ANNEX E CATASTROPHIC & DAMAGED VEHICLE RECONSTITUTION**

This document is the "SOLE SOURCE" for rotational units addressing battlefield simulation.  
Local reproduction of this publication "IS AUTHORIZED".

**JUNE 2025 (FY25)**

**E-1 Overview**  
**E-2 Vehicle and Equipment Reconstitution Cards**

**E-1 Overview.** The RTU is responsible to follow all steps from the Operations Group CATASTROPHIC and DAMAGED VEHICLE and EQUIPMENT CARDS IOT successfully complete the reconstitution process. This annex provides the current Vehicle and Equipment Reconstitution Cards used at the National Training Center. Vehicles and equipment must follow the correct flow of recovery from point of damage to UMCP and generate DA Form 2404 and submit to the unit S4. The unit S4 will submit DA Form 1348-1 and DA Form 3590 to BDE S4. Once received by the BDE S4 a document number is assigned to the packet and reviewed by the DIV S4. If all steps are conducted in a timely manner DIV S4 will approve the reconstitution.

| SBDA-M1A1/A2                                                                                                                                                                                                                            |                                                                                                                                                                                                                                               | UNIT:                                                                                                     | BUMPER #: |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------|
| <input type="checkbox"/> <b>FIREPOWER</b><br><small>FAULT: Slip ring unserviceable<br/>PARTS REQ'D: Slip ring<br/>TIME REQ'D: 2.1 hours</small><br><b>REPAIR START:</b> <input type="text"/><br><b>REPAIR END:</b> <input type="text"/> | <input type="checkbox"/> <b>MOBILITY</b><br><small>FAULT: Final drive unserviceable<br/>PARTS REQ'D: Final drive<br/>TIME REQ'D: 5.5 hours</small><br><b>REPAIR START:</b> <input type="text"/><br><b>REPAIR END:</b> <input type="text"/>    | <div style="border: 2px solid red; width: 30px; height: 30px; margin: 0 auto;"></div> <b>CATASTROPHIC</b> |           |
| <input type="checkbox"/> <b>FIREPOWER</b><br><small>FAULT: GPS unserviceable<br/>PARTS REQ'D: GPS<br/>TIME REQ'D: 2.3 hours</small><br><b>REPAIR START:</b> <input type="text"/><br><b>REPAIR END:</b> <input type="text"/>             | <input type="checkbox"/> <b>MOBILITY</b><br><small>FAULT: Oil pump unserviceable<br/>PARTS REQ'D: Oil pump assembly<br/>TIME REQ'D: 6.3 hours</small><br><b>REPAIR START:</b> <input type="text"/><br><b>REPAIR END:</b> <input type="text"/> |                                                                                                           |           |
| <b>OC CALLSIGN:</b> <span style="margin-left: 100px;"><b>DTG DAMAGED:</b></span> <span style="float: right; border: 1px solid blue; padding: 2px;">OC COPY</span>                                                                       |                                                                                                                                                                                                                                               |                                                                                                           |           |

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| SBDA-M1A1/A2                                                                                                                                                                                                                            |                                                                                                                                                                                                                                               | UNIT:                                                                                                     | BUMPER #: |
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| <input type="checkbox"/> <b>FIREPOWER</b><br><small>FAULT: Slip ring unserviceable<br/>PARTS REQ'D: Slip ring<br/>TIME REQ'D: 2.1 hours</small><br><b>REPAIR START:</b> <input type="text"/><br><b>REPAIR END:</b> <input type="text"/> | <input type="checkbox"/> <b>MOBILITY</b><br><small>FAULT: Final drive unserviceable<br/>PARTS REQ'D: Final drive<br/>TIME REQ'D: 5.5 hours</small><br><b>REPAIR START:</b> <input type="text"/><br><b>REPAIR END:</b> <input type="text"/>    | <div style="border: 2px solid red; width: 30px; height: 30px; margin: 0 auto;"></div> <b>CATASTROPHIC</b> |           |
| <input type="checkbox"/> <b>FIREPOWER</b><br><small>FAULT: GPS unserviceable<br/>PARTS REQ'D: GPS<br/>TIME REQ'D: 2.3 hours</small><br><b>REPAIR START:</b> <input type="text"/><br><b>REPAIR END:</b> <input type="text"/>             | <input type="checkbox"/> <b>MOBILITY</b><br><small>FAULT: Oil pump unserviceable<br/>PARTS REQ'D: Oil pump assembly<br/>TIME REQ'D: 6.3 hours</small><br><b>REPAIR START:</b> <input type="text"/><br><b>REPAIR END:</b> <input type="text"/> |                                                                                                           |           |
| <b>OC CALLSIGN:</b> <span style="margin-left: 100px;"><b>DTG DAMAGED:</b></span> <span style="float: right; border: 1px solid green; padding: 2px;">RTU COPY</span>                                                                     |                                                                                                                                                                                                                                               |                                                                                                           |           |

| SBDA-BFV VARIANTS                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                         | UNIT:                                                                                                     | BUMPER #: |
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| <input type="checkbox"/> <b>FIREPOWER</b><br><small>FAULT: Gunner's hand station INOP<br/>PARTS REQ'D: Gunner's hand station ASSY<br/>TIME REQ'D: 1.4 hours</small><br><b>REPAIR START:</b> <input type="text"/><br><b>REPAIR END:</b> <input type="text"/> | <input type="checkbox"/> <b>MOBILITY</b><br><small>FAULT: Transmission damaged<br/>PARTS REQ'D: Transmission PTO Assembly<br/>TIME REQ'D: 6.2 hours</small><br><b>REPAIR START:</b> <input type="text"/><br><b>REPAIR END:</b> <input type="text"/>     | <div style="border: 2px solid red; width: 30px; height: 30px; margin: 0 auto;"></div> <b>CATASTROPHIC</b> |           |
| <input type="checkbox"/> <b>FIREPOWER</b><br><small>FAULT: Turret distro box damaged<br/>PARTS REQ'D: Distribution box ASSY<br/>TIME REQ'D: 1.6 hours</small><br><b>REPAIR START:</b> <input type="text"/><br><b>REPAIR END:</b> <input type="text"/>       | <input type="checkbox"/> <b>MOBILITY</b><br><small>FAULT: 2 ea. batteries unserviceable<br/>PARTS REQ'D: 2 ea. hull batteries<br/>TIME REQ'D: 1.1 hours</small><br><b>REPAIR START:</b> <input type="text"/><br><b>REPAIR END:</b> <input type="text"/> |                                                                                                           |           |
| <b>OC CALLSIGN:</b> <span style="margin-left: 100px;"><b>DTG DAMAGED:</b></span> <span style="float: right; border: 1px solid blue; padding: 2px;">OC COPY</span>                                                                                           |                                                                                                                                                                                                                                                         |                                                                                                           |           |

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| SBDA-BFV VARIANTS                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                         | UNIT:                                                                                                     | BUMPER #: |
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| <input type="checkbox"/> <b>FIREPOWER</b><br><small>FAULT: Gunner's hand station INOP<br/>PARTS REQ'D: Gunner's hand station ASSY<br/>TIME REQ'D: 1.4 hours</small><br><b>REPAIR START:</b> <input type="text"/><br><b>REPAIR END:</b> <input type="text"/> | <input type="checkbox"/> <b>MOBILITY</b><br><small>FAULT: Transmission damaged<br/>PARTS REQ'D: Transmission PTO Assembly<br/>TIME REQ'D: 6.2 hours</small><br><b>REPAIR START:</b> <input type="text"/><br><b>REPAIR END:</b> <input type="text"/>     | <div style="border: 2px solid red; width: 30px; height: 30px; margin: 0 auto;"></div> <b>CATASTROPHIC</b> |           |
| <input type="checkbox"/> <b>FIREPOWER</b><br><small>FAULT: Turret distro box damaged<br/>PARTS REQ'D: Distribution box ASSY<br/>TIME REQ'D: 1.6 hours</small><br><b>REPAIR START:</b> <input type="text"/><br><b>REPAIR END:</b> <input type="text"/>       | <input type="checkbox"/> <b>MOBILITY</b><br><small>FAULT: 2 ea. batteries unserviceable<br/>PARTS REQ'D: 2 ea. hull batteries<br/>TIME REQ'D: 1.1 hours</small><br><b>REPAIR START:</b> <input type="text"/><br><b>REPAIR END:</b> <input type="text"/> |                                                                                                           |           |
| <b>OC CALLSIGN:</b> <span style="margin-left: 100px;"><b>DTG DAMAGED:</b></span> <span style="float: right; border: 1px solid green; padding: 2px;">RTU COPY</span>                                                                                         |                                                                                                                                                                                                                                                         |                                                                                                           |           |

SBDA-M88A1/A2  UNIT: BUMPER #:

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| <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Hub & arm ASSY damaged<br>PARTS REQ'D: Hub & arm ASSY (#1)<br>TIME REQ'D: 2.6 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Transmission will not shift<br>PARTS REQ'D: Control ASSY, transmission<br>TIME REQ'D: 3.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>CATASTROPHIC</b><br>ORG MAINT |
| <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Spade destroyed<br>PARTS REQ'D: Spade ASSY<br>TIME REQ'D: 1.0 hour<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>                  | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Comp. idler arm cracked<br>PARTS REQ'D: Comp. idler arm ASSY<br>TIME REQ'D: 5.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>           |                                                           |
| OC CALLSIGN: DTG DAMAGED: <input type="text"/>                                                                                                                                                                   |                                                                                                                                                                                                                              |                                                           |
| <input type="checkbox"/> <b>OC COPY</b>                                                                                                                                                                          |                                                                                                                                                                                                                              |                                                           |

SBDA-M88A1/A2  UNIT: BUMPER #:

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Hub & arm ASSY damaged<br>PARTS REQ'D: Hub & arm ASSY (#1)<br>TIME REQ'D: 2.6 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Transmission will not shift<br>PARTS REQ'D: Control ASSY, transmission<br>TIME REQ'D: 3.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>CATASTROPHIC</b><br>ORG MAINT |
| <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Spade destroyed<br>PARTS REQ'D: Spade ASSY<br>TIME REQ'D: 1.0 hour<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>                  | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Comp. idler arm cracked<br>PARTS REQ'D: Comp. idler arm ASSY<br>TIME REQ'D: 5.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>           |                                                           |
| OC CALLSIGN: DTG DAMAGED: <input type="text"/>                                                                                                                                                                   |                                                                                                                                                                                                                              |                                                           |
| <input type="checkbox"/> <b>RTU COPY</b>                                                                                                                                                                         |                                                                                                                                                                                                                              |                                                           |

SBDA  HMMWV UNIT: BUMPER #:

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| <input type="checkbox"/> <b>HMMWV VARIANT MOBILITY</b><br>FAULT: L/S tire unserviceable<br>PARTS REQ'D: L/S tire<br>TIME REQ'D: 1.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>HMMWV VARIANT MOBILITY</b><br>FAULT: Radiator damaged<br>PARTS REQ'D: Radiator ASSY<br>TIME REQ'D: 4.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>                     | <input type="checkbox"/> <b>CATASTROPHIC</b><br>ORG MAINT |
| <input type="checkbox"/> <b>HMMWV VARIANT MOBILITY</b><br>FAULT: R/S tire unserviceable<br>PARTS REQ'D: R/S tire<br>TIME REQ'D: 1.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>HMMWV VARIANT MOBILITY</b><br>FAULT: Chassis wiring harness INOP<br>PARTS REQ'D: Chassis wiring harness<br>TIME REQ'D: 4.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> |                                                           |
| OC CALLSIGN: DTG DAMAGED: <input type="text"/>                                                                                                                                                                      |                                                                                                                                                                                                                                        |                                                           |
| <input type="checkbox"/> <b>OC COPY</b>                                                                                                                                                                             |                                                                                                                                                                                                                                        |                                                           |

SBDA  HMMWV UNIT: BUMPER #:

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| <input type="checkbox"/> <b>HMMWV VARIANT MOBILITY</b><br>FAULT: L/S tire unserviceable<br>PARTS REQ'D: L/S tire<br>TIME REQ'D: 1.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>HMMWV VARIANT MOBILITY</b><br>FAULT: Radiator damaged<br>PARTS REQ'D: Radiator ASSY<br>TIME REQ'D: 4.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>                     | <input type="checkbox"/> <b>CATASTROPHIC</b><br>ORG MAINT |
| <input type="checkbox"/> <b>HMMWV VARIANT MOBILITY</b><br>FAULT: R/S tire unserviceable<br>PARTS REQ'D: R/S tire<br>TIME REQ'D: 1.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>HMMWV VARIANT MOBILITY</b><br>FAULT: Chassis wiring harness INOP<br>PARTS REQ'D: Chassis wiring harness<br>TIME REQ'D: 4.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> |                                                           |
| OC CALLSIGN: DTG DAMAGED: <input type="text"/>                                                                                                                                                                      |                                                                                                                                                                                                                                        |                                                           |
| <input type="checkbox"/> <b>OC COPY</b>                                                                                                                                                                             |                                                                                                                                                                                                                                        |                                                           |

SBDA-M113 Variants  UNIT: BUMPER #:

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| <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: R/S final drive damaged<br>PARTS REQ'D: R/S final drive<br>TIME REQ'D: 4.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>FIREPOWER</b><br>FAULT: .50 caliber mount destroyed<br>PARTS REQ'D: .50 cal MG mount<br>TIME REQ'D: 2.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>CATASTROPHIC</b><br>ORG MAINT |
| <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Generator INOP<br>PARTS REQ'D: Generator, engine<br>TIME REQ'D: 1.5 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>        | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Hub ASSY damaged<br>PARTS REQ'D: Hub ASSY, track<br>TIME REQ'D: 5.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>              |                                                           |
| OC CALLSIGN: DTG DAMAGED: <input type="text"/>                                                                                                                                                                |                                                                                                                                                                                                                     |                                                           |
| <input type="checkbox"/> <b>OC COPY</b>                                                                                                                                                                       |                                                                                                                                                                                                                     |                                                           |

SBDA-M113 Variants  UNIT: BUMPER #:

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| <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: R/S final drive damaged<br>PARTS REQ'D: R/S final drive<br>TIME REQ'D: 4.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>FIREPOWER</b><br>FAULT: .50 caliber mount destroyed<br>PARTS REQ'D: .50 cal MG mount<br>TIME REQ'D: 2.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>CATASTROPHIC</b><br>ORG MAINT |
| <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Generator INOP<br>PARTS REQ'D: Generator, engine<br>TIME REQ'D: 1.5 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>        | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Hub ASSY damaged<br>PARTS REQ'D: Hub ASSY, track<br>TIME REQ'D: 5.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>              |                                                           |
| OC CALLSIGN: DTG DAMAGED: <input type="text"/>                                                                                                                                                                |                                                                                                                                                                                                                     |                                                           |
| <input type="checkbox"/> <b>RTU COPY</b>                                                                                                                                                                      |                                                                                                                                                                                                                     |                                                           |

SBDA  FUELER UNIT: BUMPER #:

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| <input type="checkbox"/> <b>M978 FUEL TANKER MOBILITY</b><br>FAULT: Front Axle damaged<br>PARTS REQ'D: Axle ASSY<br>TIME REQ'D: 4.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>M978 FUEL TANKER MOBILITY</b><br>FAULT: Fuel Tank damaged<br>PARTS REQ'D: Fuel Tank<br>TIME REQ'D: 5.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>CATASTROPHIC</b><br>ORG MAINT |
| <input type="checkbox"/> <b>M969 TANKER MOBILITY</b><br>FAULT: Rear Axle damaged<br>PARTS REQ'D: Axle ASSY<br>TIME REQ'D: 3.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>       | <input type="checkbox"/> <b>M969 TANKER MOBILITY</b><br>FAULT: rear tires unserviceable<br>PARTS REQ'D: tires<br>TIME REQ'D: 3.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>   |                                                           |
| OC CALLSIGN: DTG DAMAGED: <input type="text"/>                                                                                                                                                                      |                                                                                                                                                                                                                    |                                                           |
| <input type="checkbox"/> <b>OC COPY</b>                                                                                                                                                                             |                                                                                                                                                                                                                    |                                                           |

SBDA  FUELER UNIT: BUMPER #:

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| <input type="checkbox"/> <b>M978 FUEL TANKER MOBILITY</b><br>FAULT: Front Axle damaged<br>PARTS REQ'D: Axle ASSY<br>TIME REQ'D: 4.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>M978 FUEL TANKER MOBILITY</b><br>FAULT: Fuel Tank damaged<br>PARTS REQ'D: Fuel Tank<br>TIME REQ'D: 5.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>CATASTROPHIC</b><br>ORG MAINT |
| <input type="checkbox"/> <b>M969 TANKER MOBILITY</b><br>FAULT: Rear Axle damaged<br>PARTS REQ'D: Axle ASSY<br>TIME REQ'D: 3.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>       | <input type="checkbox"/> <b>M969 TANKER MOBILITY</b><br>FAULT: rear tires unserviceable<br>PARTS REQ'D: tires<br>TIME REQ'D: 3.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>   |                                                           |
| OC CALLSIGN: DTG DAMAGED: <input type="text"/>                                                                                                                                                                      |                                                                                                                                                                                                                    |                                                           |
| <input type="checkbox"/> <b>RTU COPY</b>                                                                                                                                                                            |                                                                                                                                                                                                                    |                                                           |

**SBDA**  **UNIT:** **MTV/LMTV** **BUMPER #:**

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| <input type="checkbox"/> <b>MTV/LMTV MOBILITY</b><br>FAULT: Front Axle damaged<br>PARTS REQ'D: Axle ASSY<br>TIME REQ'D: 2.6 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>                  | <input type="checkbox"/> <b>MTV/LMTV MOBILITY</b><br>FAULT: Radiator Damaged<br>PARTS REQ'D: Radiator ASSY<br>TIME REQ'D: 4.3 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>                    | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>MTV/LMTV MOBILITY</b><br>FAULT: L/S Wheel Unserviceable<br>PARTS REQ'D: L/S Wheel, Hub & Tire<br>TIME REQ'D: 3.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>MTV/LMTV MOBILITY</b><br>FAULT: Chassis wiring Harness NMC<br>PARTS REQ'D: Chassis wiring Harness<br>TIME REQ'D: 4.5 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> |                                              |
| <b>OC CALLSIGN:</b> <b>DTG DAMAGED:</b> <input type="text"/>                                                                                                                                                                 |                                                                                                                                                                                                                                  |                                              |

**SBDA**  **UNIT:** **HIMARS** **BUMPER #:**

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| <input type="checkbox"/> <b>HIMARS MOBILITY</b><br>FAULT: Front Axle damaged<br>PARTS REQ'D: Axle ASSY<br>TIME REQ'D: 6 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>   | <input type="checkbox"/> <b>HIMARS MOBILITY</b><br>FAULT: Engine Damage<br>PARTS REQ'D: Engine ASSY<br>TIME REQ'D: 24 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>        | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>HIMARS FIREPOWER</b><br>FAULT: W19/W20 Cable destroyed<br>PARTS REQ'D: Cable<br>TIME REQ'D: 6 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>HIMARS FIREPOWER</b><br>FAULT: Hydraulic Cable<br>PARTS REQ'D: Hydraulic Cable<br>TIME REQ'D: 12 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> |                                              |
| <b>OC CALLSIGN:</b> <b>DTG DAMAGED:</b> <input type="text"/>                                                                                                                                              |                                                                                                                                                                                                              |                                              |

**SBDA**  **UNIT:** **MTV/LMTV** **BUMPER #:**

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| <input type="checkbox"/> <b>MTV/LMTV MOBILITY</b><br>FAULT: Front Axle damaged<br>PARTS REQ'D: Axle ASSY<br>TIME REQ'D: 2.6 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>                  | <input type="checkbox"/> <b>MTV/LMTV MOBILITY</b><br>FAULT: Radiator Damaged<br>PARTS REQ'D: Radiator ASSY<br>TIME REQ'D: 4.3 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>                    | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>MTV/LMTV MOBILITY</b><br>FAULT: L/S Wheel Unserviceable<br>PARTS REQ'D: L/S Wheel, Hub & Tire<br>TIME REQ'D: 3.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>MTV/LMTV MOBILITY</b><br>FAULT: Chassis wiring Harness NMC<br>PARTS REQ'D: Chassis wiring Harness<br>TIME REQ'D: 4.5 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> |                                              |
| <b>OC CALLSIGN:</b> <b>DTG DAMAGED:</b> <input type="text"/>                                                                                                                                                                 |                                                                                                                                                                                                                                  |                                              |

**SBDA**  **UNIT:** **HIMARS** **BUMPER #:**

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| <input type="checkbox"/> <b>HIMARS MOBILITY</b><br>FAULT: Front Axle damaged<br>PARTS REQ'D: Axle ASSY<br>TIME REQ'D: 6 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>   | <input type="checkbox"/> <b>HIMARS MOBILITY</b><br>FAULT: Engine Damage<br>PARTS REQ'D: Engine ASSY<br>TIME REQ'D: 24 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>        | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>HIMARS FIREPOWER</b><br>FAULT: W19/W20 Cable destroyed<br>PARTS REQ'D: Cable<br>TIME REQ'D: 6 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>HIMARS FIREPOWER</b><br>FAULT: Hydraulic Cable<br>PARTS REQ'D: Hydraulic Cable<br>TIME REQ'D: 12 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> |                                              |
| <b>OC CALLSIGN:</b> <b>DTG DAMAGED:</b> <input type="text"/>                                                                                                                                              |                                                                                                                                                                                                              |                                              |

**SBDA**  **UNIT:** **LHS/PLS** **BUMPER #:**

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| <input type="checkbox"/> <b>M1120 LHS MOBILITY</b><br>FAULT: Fuel Tank destroyed<br>PARTS REQ'D: Fuel Tank ASSY<br>TIME REQ'D: 5.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>M1120 LHS MOBILITY</b><br>FAULT: Radiator Damaged<br>PARTS REQ'D: Radiator ASSY<br>TIME REQ'D: 4.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>         | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>M1075 PLS MOBILITY</b><br>FAULT: R/S Tires Unserviceable<br>PARTS REQ'D: R/S Tires<br>TIME REQ'D: 2.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>  | <input type="checkbox"/> <b>M1076 PLS Trailer MOBILITY</b><br>FAULT: rear tires unserviceable<br>PARTS REQ'D: tires<br>TIME REQ'D: 2.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> |                                              |
| <b>OC CALLSIGN:</b> <b>DTG DAMAGED:</b> <input type="text"/>                                                                                                                                                       |                                                                                                                                                                                                                        |                                              |

**SBDA**  **UNIT:** **HEMTT FAMILY** **BUMPER #:**

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| <input type="checkbox"/> <b>HEMTT CARGO MOBILITY</b><br>FAULT: Fuel Tank destroyed<br>PARTS REQ'D: Fuel Tank ASSY<br>TIME REQ'D: 5.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>HEMTT CARGO MOBILITY</b><br>FAULT: Radiator Damaged<br>PARTS REQ'D: Radiator ASSY<br>TIME REQ'D: 4.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>   | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>HEMTT CARGO MOBILITY</b><br>FAULT: R/S Tires Unserviceable<br>PARTS REQ'D: R/S Tires<br>TIME REQ'D: 2.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>  | <input type="checkbox"/> <b>HEMAT TRAILER MOBILITY</b><br>FAULT: Rear tires unserviceable<br>PARTS REQ'D: tires<br>TIME REQ'D: 2.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> |                                              |
| <b>OC CALLSIGN:</b> <b>DTG DAMAGED:</b> <input type="text"/>                                                                                                                                                         |                                                                                                                                                                                                                    |                                              |

**SBDA**  **UNIT:** **LHS/PLS** **BUMPER #:**

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| <input type="checkbox"/> <b>M1120 LHS MOBILITY</b><br>FAULT: Fuel Tank destroyed<br>PARTS REQ'D: Fuel Tank ASSY<br>TIME REQ'D: 5.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>M1120 LHS MOBILITY</b><br>FAULT: Radiator Damaged<br>PARTS REQ'D: Radiator ASSY<br>TIME REQ'D: 4.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>         | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>M1075 PLS MOBILITY</b><br>FAULT: R/S Tires Unserviceable<br>PARTS REQ'D: R/S Tires<br>TIME REQ'D: 2.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>  | <input type="checkbox"/> <b>M1076 PLS Trailer MOBILITY</b><br>FAULT: rear tires unserviceable<br>PARTS REQ'D: tires<br>TIME REQ'D: 2.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> |                                              |
| <b>OC CALLSIGN:</b> <b>DTG DAMAGED:</b> <input type="text"/>                                                                                                                                                       |                                                                                                                                                                                                                        |                                              |

**SBDA**  **UNIT:** **HEMTT FAMILY** **BUMPER #:**

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| <input type="checkbox"/> <b>HEMTT CARGO MOBILITY</b><br>FAULT: Fuel Tank Destroyed<br>PARTS REQ'D: Fuel Tank ASSY<br>TIME REQ'D: 5.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>HEMTT CARGO MOBILITY</b><br>FAULT: Radiator Damaged<br>PARTS REQ'D: Radiator ASSY<br>TIME REQ'D: 4.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>   | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>HEMTT WRCKER FIREPOWER</b><br>FAULT: Boom INOP<br>PARTS REQ'D: Hydraulic Line<br>TIME REQ'D: 8.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>         | <input type="checkbox"/> <b>HEMAT TRAILER MOBILITY</b><br>FAULT: Rear Tires Unserviceable<br>PARTS REQ'D: tires<br>TIME REQ'D: 2.0 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> |                                              |
| <b>OC CALLSIGN:</b> <b>DTG DAMAGED:</b> <input type="text"/>                                                                                                                                                         |                                                                                                                                                                                                                    |                                              |

SBDA  RADAR UNIT: BUMPER #:

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| <input type="checkbox"/> <b>RADAR FIREPOWER</b><br>FAULT: Severed Power Cable<br>PARTS REQ'D: Power Cable<br>TIME REQ'D: 0.25 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>          | <input type="checkbox"/> <b>RADAR FIREPOWER</b><br>FAULT: Flat Tire Antenna Trailer<br>PARTS REQ'D: Tire<br>TIME REQ'D: Q36/Q53 0.5 Hours; Q37 3 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>RADAR FIREPOWER</b><br>FAULT: Blown Circuit Card<br>PARTS REQ'D: Circuit Card<br>TIME REQ'D: Q36/Q37 Only 1 Hour<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>RADAR FIREPOWER</b><br>FAULT: Strapped to Azimuth Encoder<br>PARTS REQ'D: Azimuth Encoder<br>TIME REQ'D: 4 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>           |                                              |
| OC CALLSIGN: DTG DAMAGED: <input type="text"/>                                                                                                                                                                         |                                                                                                                                                                                                                                  |                                              |

SBDA  M777 UNIT: BUMPER #:

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| <input type="checkbox"/> <b>M777 MOBILITY</b><br>FAULT: Lunette Broken<br>PARTS REQ'D: Lunette<br>TIME REQ'D: 0.25 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>M777 MOBILITY</b><br>FAULT: Wheel Damage<br>PARTS REQ'D: Wheel<br>TIME REQ'D: 0.75 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>M777 FIREPOWER</b><br>FAULT: Breech Damage<br>PARTS REQ'D: Breech<br>TIME REQ'D: 2 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>     | <input type="checkbox"/> <b>M777 FIREPOWER</b><br>FAULT: Cradle Damage<br>PARTS REQ'D: Cradle<br>TIME REQ'D: 8 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> |                                              |
| OC CALLSIGN: DTG DAMAGED: <input type="text"/>                                                                                                                                                     |                                                                                                                                                                                                |                                              |

SBDA  RADAR UNIT: BUMPER #:

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| <input type="checkbox"/> <b>RADAR FIREPOWER</b><br>FAULT: Severed Power Cable<br>PARTS REQ'D: Power Cable<br>TIME REQ'D: 0.25 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>          | <input type="checkbox"/> <b>RADAR FIREPOWER</b><br>FAULT: Flat Tire Antenna Trailer<br>PARTS REQ'D: Tire<br>TIME REQ'D: Q36/Q53 0.5 Hours; Q37 3 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>RADAR FIREPOWER</b><br>FAULT: Blown Circuit Card<br>PARTS REQ'D: Circuit Card<br>TIME REQ'D: Q36/Q37 Only 1 Hour<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>RADAR FIREPOWER</b><br>FAULT: Strapped to Azimuth Encoder<br>PARTS REQ'D: Azimuth Encoder<br>TIME REQ'D: 4 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>           |                                              |
| OC CALLSIGN: DTG DAMAGED: <input type="text"/>                                                                                                                                                                         |                                                                                                                                                                                                                                  |                                              |

SBDA  M777 UNIT: BUMPER #:

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| <input type="checkbox"/> <b>M777 MOBILITY</b><br>FAULT: Lunette Broken<br>PARTS REQ'D: Lunette<br>TIME REQ'D: 0.25 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>M777 MOBILITY</b><br>FAULT: Wheel Damage<br>PARTS REQ'D: Wheel<br>TIME REQ'D: 0.75 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>M777 FIREPOWER</b><br>FAULT: Breech Damage<br>PARTS REQ'D: Breech<br>TIME REQ'D: 2 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>     | <input type="checkbox"/> <b>M777 FIREPOWER</b><br>FAULT: Cradle Damage<br>PARTS REQ'D: Cradle<br>TIME REQ'D: 8 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> |                                              |
| OC CALLSIGN: DTG DAMAGED: <input type="text"/>                                                                                                                                                     |                                                                                                                                                                                                |                                              |

SBDA  STRYKER VARIANT UNIT: BUMPER #:

|                                                                                                                                                                                                          |                                                                                                                                                                                                   |                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <input type="checkbox"/> <b>STRYKER MOBILITY</b><br>FAULT: Front Axle damaged<br>PARTS REQ'D: Axle ASSY<br>TIME REQ'D: 6 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>STRYKER MOBILITY</b><br>FAULT: Wheel Damage<br>PARTS REQ'D: Wheel<br>TIME REQ'D: 0.75 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>STRYKER FIREPOWER</b><br>FAULT: Breech Damage<br>PARTS REQ'D: Breech<br>TIME REQ'D: 2 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>        | <input type="checkbox"/> <b>STRYKER MOBILITY</b><br>FAULT: Cradle Damage<br>PARTS REQ'D: Cradle<br>TIME REQ'D: 8 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>  |                                              |
| OC CALLSIGN: DTG DAMAGED: <input type="text"/>                                                                                                                                                           |                                                                                                                                                                                                   |                                              |

SBDA-M109A6  UNIT: BUMPER #:

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| <input type="checkbox"/> <b>FIREPOWER</b><br>FAULT: Hyd. Pump unserviceable<br>PARTS REQ'D: Hyd. Pump<br>TIME REQ'D: 2.1 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>             | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Final drive unserviceable<br>PARTS REQ'D: Final drive<br>TIME REQ'D: 5.5 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>    | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>FIREPOWER</b><br>FAULT: Unable to elevate gun tube<br>PARTS REQ'D: Elevation Cylinder<br>TIME REQ'D: 2.3 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Oil pump unserviceable<br>PARTS REQ'D: Oil pump assembly<br>TIME REQ'D: 6.3 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> |                                              |
| OC CALLSIGN: DTG DAMAGED: <input type="text"/>                                                                                                                                                                       |                                                                                                                                                                                                                |                                              |

SBDA  STRYKER VARIANT UNIT: BUMPER #:

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| <input type="checkbox"/> <b>STRYKER MOBILITY</b><br>FAULT: Front Axle damaged<br>PARTS REQ'D: Axle ASSY<br>TIME REQ'D: 6 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>STRYKER MOBILITY</b><br>FAULT: Wheel Damage<br>PARTS REQ'D: Wheel<br>TIME REQ'D: 0.75 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>STRYKER FIREPOWER</b><br>FAULT: Breech Damage<br>PARTS REQ'D: Breech<br>TIME REQ'D: 2 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>        | <input type="checkbox"/> <b>STRYKER FIREPOWER</b><br>FAULT: Cradle Damage<br>PARTS REQ'D: Cradle<br>TIME REQ'D: 8 Hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> |                                              |
| OC CALLSIGN: DTG DAMAGED: <input type="text"/>                                                                                                                                                           |                                                                                                                                                                                                   |                                              |

SBDA-M109A6  UNIT: BUMPER #:

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| <input type="checkbox"/> <b>FIREPOWER</b><br>FAULT: Hyd. Pump unserviceable<br>PARTS REQ'D: Hyd. Pump<br>TIME REQ'D: 2.1 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>             | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Final drive unserviceable<br>PARTS REQ'D: Final drive<br>TIME REQ'D: 5.5 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>    | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>FIREPOWER</b><br>FAULT: Unable to elevate gun tube<br>PARTS REQ'D: Elevation Cylinder<br>TIME REQ'D: 2.3 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Oil pump unserviceable<br>PARTS REQ'D: Oil pump assembly<br>TIME REQ'D: 6.3 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> |                                              |
| OC CALLSIGN: DTG DAMAGED: <input type="text"/>                                                                                                                                                                       |                                                                                                                                                                                                                |                                              |

SBDA-M992 FAASV



UNIT:

BUMPER #:

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| <input type="checkbox"/> <b>FIREPOWER</b><br>FAULT: .50 caliber mount destroyed<br>PARTS REQ'D: 50 cal MG mount<br>TIME REQ'D: 2.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Oil pump unserviceable<br>PARTS REQ'D: Oil pump assembly<br>TIME REQ'D: 6.3 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>               | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Hub ASSY damaged<br>PARTS REQ'D: Hub ASSY, track<br>TIME REQ'D: 5.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>             | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Transmission will not shift<br>PARTS REQ'D: Control ASSY, transmission<br>TIME REQ'D: 3.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> |                                              |

OC CALLSIGN: DTG DAMAGED: OC COPY

SBDA- M992 FAASV



UNIT:

BUMPER #:

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| <input type="checkbox"/> <b>FIREPOWER</b><br>FAULT: .50 caliber mount destroyed<br>PARTS REQ'D: 50 cal MG mount<br>TIME REQ'D: 2.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Oil pump unserviceable<br>PARTS REQ'D: Oil pump assembly<br>TIME REQ'D: 6.3 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>               | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Hub ASSY damaged<br>PARTS REQ'D: Hub ASSY, track<br>TIME REQ'D: 5.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>             | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: Transmission will not shift<br>PARTS REQ'D: Control ASSY, transmission<br>TIME REQ'D: 3.0 hours<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> |                                              |

OC CALLSIGN: DTG DAMAGED: RTU COPY

SBDA Generator



UNIT:

BUMPER #:

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| <input type="checkbox"/> <b>FIREPOWER</b><br>FAULT: SHRAPNEL IN ENGINE<br>PARTS REQ'D: NEW ENGINE<br>TIME REQ'D: 9 HRS<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: TRAILER TIRES DAMAGE<br>PARTS REQ'D: NEW WHEEL & TIRE<br>TIME REQ'D: 1 HRS<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>FIREPOWER</b><br>FAULT: FUEL INJECTION PUMP<br>PARTS REQ'D: NEW PUMP<br>TIME REQ'D: 4 HRS<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>  | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: LANDING LEG DAMAGE<br>PARTS REQ'D: LANDING LEG ASSY<br>TIME REQ'D: 2 HRS<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>   |                                              |

OC CALLSIGN: DTG DAMAGED: OC COPY

SBDA Generator



UNIT:

BUMPER #:

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <input type="checkbox"/> <b>FIREPOWER</b><br>FAULT: SHRAPNEL IN ENGINE<br>PARTS REQ'D: NEW ENGINE<br>TIME REQ'D: 9 HRS<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: TRAILER TIRES DAMAGE<br>PARTS REQ'D: NEW WHEEL & TIRE<br>TIME REQ'D: 1 HRS<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/> | <input type="checkbox"/> <b>CATASTROPHIC</b> |
| <input type="checkbox"/> <b>FIREPOWER</b><br>FAULT: FUEL INJECTION PUMP<br>PARTS REQ'D: NEW PUMP<br>TIME REQ'D: 4 HRS<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>  | <input type="checkbox"/> <b>MOBILITY</b><br>FAULT: LANDING LEG DAMAGE<br>PARTS REQ'D: LANDING LEG ASSY<br>TIME REQ'D: 2 HRS<br>REPAIR START: <input type="text"/><br>REPAIR END: <input type="text"/>   |                                              |

OC CALLSIGN: DTG DAMAGED: RTU COPY