

National Training Center Exercise Operating Procedures (EXOP)

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

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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 or 760-380-0998.

COL, AR Commanding

Chapter 1 Administrative

- 1-1 NTC Visitation Policy
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- 1-3 Observer Coach / Trainers (OC/T) Duties and Responsibilities
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- 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. <u>Visitors to NTC must be IAW</u> <u>FORSCOM REG 350-50-1</u>.
- 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.
 - 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.
- 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 two (2) day classroom training model, typically held Reception, Staging, Onward Movement, and Integration (RSOI) 2 thru RSOI 3.
 - 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 Waivers and demonstrate knowledge of the waivers, Live-Fire safety planning practical exercise and targetry orientation.
- 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.
- c. Drivers of OPFOR tanks and armored personnel carriers while operating their vehicles.
- 3. Maintenance. OC/Ts will assist rotational units in correcting TESS failures, replace batteries on a onefor- 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.
- 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. OC/T Teams will provide all necessary equipment for units to conduct TESS "zero" and bore sight ranges. 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 ATMP personnel. Do not enter the wash rack with TESS equipment installed, as this will cause serious damage to the equipment.

1-6 Higher Headquarters

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

OVERVIEW. 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. 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.

2-1 Intelligence Architecture.

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. 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 located 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.

2-2 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 in accordance with 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.

2-3 Human Intelligence (HUMINT)

- 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.
- 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.

2-4 Counterintelligence (CI)

1. 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.

2-5 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.

2-6 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
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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.
 - f. TESS does not adequately replicate fragmentation or ricochet behavior, or TESS clearly does not replicate battlefield conditions.

Table 3-1a 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 kills.	CVKI Flash continuously and intercom announcement		

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.
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- g. No vehicle may be exempted from TESS engagement outcomes unless overruled by an OC/T.
- 2. BDA Assessment: Table 3-1a provides the categories of vehicle BDA.
- 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 BMP2
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 BMP1	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, T80 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	Code due t	s subject to change o TESS updates

4. Special Instructions.

- a. Second Lives. Commanders, primary staff officers, platoon leaders, and Network Operations Warrant Officers are authorized second lives. 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 Task Force Senior OC/Ts.
- b. 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.
- c. Assessing OPFOR. OC/T will explain to the OPFOR crew or Palehorse OC/T why the intrusion and notify the Line Team TAF, who will inform the DTOC and Blackhorse TAF.
- d. 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.
- e. 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 BLUEFOR 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 BLUEFOR 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 affected 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.

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 RTU 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. 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. 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."
 - b. 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).

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

- 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 BLUEFOR) 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 "killer" 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 with turret raised over back deck.
 - a. Camouflage Nets. Camouflage nets may not obscure an operational and capable TESS system. All sensors must remain uncovered.
 - b. Intentional. Using inadequate cover to defeat the TESS laser is not authorized: such as, brush, smoke, and dirt berms of insufficient dimensions.
 - c. Ricochet and Fragmentation Effects. An OC/T's assessment will be made when direct fire weapons are shooting at concealed, but either uncovered or partially covered infantry.
- 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

Table 3-3 Bunker Engagement Results				
Range	Elevation	Rds to Destroy		
2000m or less	Bunker level w/tank	1		
2000m to 2500m	Bunker level w/tank	2		
2000m or less	Bunker higher than tank	2		
2000m to 2500m	Bunker higher than tank	3		

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 solider 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 300 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 are required to wear their TESS harness and halo at all times, 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. Insurgent personnel may remove their halo when blending in with population and out of contact with RTU. If carrying a weapon, the insurgent will don his 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. MEDEVAC. 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. If operating within five kilometers of friendly mounted 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. OC/Ts have the ability to 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.

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, .300 Win mag., 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.

- i. 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 lack of accuracy due to weather and shooter skill.
- 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. Sandbags filled to 1/3 full will replicate 84mm rds.

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. 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.
- 2. 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.
- 3. 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.
- 4. Effects. Weapons effects will be assessed against structures IAW a realistic outcome based on the weapon system and construction of the structure as follows:

Table 3-7a Weapons Effect Adjudication					
Distance	5.56mm	7.62mm	.50cal	M203/M320/MK-19	
Less than 25m	Will penetrate wood paneling, sheetrock, plaster	Will penetrate 13in of wood; 2in of concrete; 5in of dry/loose sand	Will penetrate double sandbag,	2in of bordonod	
Less than 50m	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; 55 gallon drum filled with sand	triple bricks; 18in of reinforce concrete; vehicle bodies; all wooden structures	steel; double sandbags; double cinder blocks; 12in of wood	

- 5. 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). Player units (this includes BLUEFOR and COBs) can repair and/or reconstruct a building, if physical means are present. OC/T Team 07s retain final approval authority.

- 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.
- 6. 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.
- 7. 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.
- 8. 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.
- Subterranean Operations. Subterranean Training Sites on Fort Irwin: 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.
 - a. 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 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	NV 370221	Cereal Cave	NV259151	

John Wayne Cave NV430080	
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3-8 Pyrotechnics and Munitions Replication.

- 1. Pyrotechnics. Pyrotechnics include standard smoke, booby traps, flares, ATWESS, HOFFMAN/MGSS, etc.
 - a. Booby Traps. Only NTC approved pyrotechnics are authorized for use by the RTU. All pyrotechnics to be used by the Rotational Unit must be approved by an OC/T prior to it leaving the RUBA.
 - 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 <u>away</u> 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. Black Smoke: Catastrophic and Mobility Killed Vehicles.
 - v. 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 MRE Hand Grenades by color and type				
Chem-lite Color	Туре	Range	Effects	
Blue	Concussion (Mk3A2)	2-5m	Effected 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	Impact;	Destroys shelters, vehicles and equipment;
	(AN- M14 TH3)	40 sec	no direct effect on personnel
1		1	

- 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 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 lob 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. <u>Incoming grenades may not be picked up and thrown back.</u> 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 FM 90-10-A. 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 hand grenade simulator will be thrown for the first and every third 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, Bunkers, and Buildings.

- 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).

- 1. The SOF RTU may utilize NSTVs while conducting operations during the rotation. If the NSTV is not equipped with a compatible TESS system, all occupants will wear the TESS torso harness with the windows down. RTU personnel are authorized to conduct live fire from NSTVs with the appropriate Deliberate Risk Assessment Worksheet and Safety Waiver approval prior to conducting of the training.
- 2. 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.)

<u>3-11 Road Culverts.</u> All culverts inside of the training area are in play and usable by the OPFOR for the emplacement of IEDs. BLUEFOR 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 first round fired and then every third round for signature.
- 3. Machine Gun systems. Operators will adhere to same procedures for employment of similar AT Systems
 - a. 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. Destruction of optics will degrade target acquisition of weapons systems, 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.
- 4. Trench protective obstacles will be properly marked IAW NTC EXOP CH. 5-1 *Obstacles*.

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.

1. 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

- 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. In order for the rotational unit to shoot live counter-fire during the Force on Force Under Live Fire Conditions (FoFULFC) 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 FoFULFC.

4-5 Fire Marking and Special Munitions Replication

- 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 laze 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.

1. 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.

1. 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.

 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 1.2: 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

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.

- 3. 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.
- 4. 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.
- 5. 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.

6. 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. 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).
 - c. Restoration. Battlefield restoration is an emplacing unit responsibility, defined as the clean-up or fill-in of all obstacles and survivability positions that they constructed. 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. OC/Ts will report completion of battlefield restoration to Sidewinder 07 and Sidewinder TAFF. Sidewinder TAFF will report completion of battlefield restoration to the 52nd ID DTOC.
 - i. Restoration following FOFULFC. RTU must reclaim all vehicle fighting positions and wire obstacles prior to departure towards Desert Download at CTM.
 - ii. Restoration 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.
 - 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. Administrative Lane Marking. All administrative lanes through obstacles will be marked by two long pickets spaced 2 feet apart with engineer tape wrapped between the two pickets. This marker will be on both sides of the lane to indicate OC/T and contractor traffic only. RTUs will not be allowed to use these lanes as a bypass, and it is the OC/T's responsibility to ensure RTU's only use the breached lane.
- 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 BLUEFOR 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. 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.
 - b. Employment. The TM-89 shell, M21 shell, or M15 metal mines replicate OPFOR minefields. 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.
 - c. 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.
- 2. 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 SCATMINEWARN 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.

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	

ii. 48 Hour Duration. Both RTU and OPFOR 1 units can request to emplace a 48-hour duration scatterable minefield. 48-hour duration s self-destruction is complete, even during a suspe

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.
- 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 the Administrative Lane Marking procedure in para 5-1.1f. 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. 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%.
- f. 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.

- 3. 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.

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

- iii. Dragon Soldiers, OC/T, or fire marker distributes a ground signature of approximately 500 Blue/Red wooden blocks.
- 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.
- 4. 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 BLUEFOR Volcano minefield.
 - a. BLUEFOR units 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 up-loading 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. 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.
 - 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.
- 5. Modular Pack Mine System (MOPMS).
 - a. Replication. After the fire marker marks the site, the OC/T places the 21 blue blocks scattered out to 35 meters from the container in a 180-degree semi-circle. OC/Ts will mark the minefield initiation with one ground burst simulator. The minefield becomes active once the wooden blocks are dispensed. Vehicles and personnel become casualties if they disturb or influence the mines using non-doctrinal breach methods. The controlling OC/T adjudicates all mine effects.
 - b. Logistics Requirements. Emplacing unit must have the appropriate batteries for the MOPMS dispenser and the RCU. Once a battery is used to dispense mines, the battery used in the container cannot be used again. The unit must provide 21x blue blocks for each MOPMS container employed. The unit must follow employment and emplacement guidelines as described in ATP 3-90.8, Appendix E. After the MOPMS is expended, the unit is not allowed to use that container again until they have received a resupply in the form of a DA Form 581 or DA Form 5515.
- 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. 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. Assessments. 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.

- c. 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.
- 7. Hornet. OC/T will observe the operator emplace the XM97 Wide Area Munition (WAM) trainer. OC/T will report the 8 digit grid location of the XM97 WAM trainer to the TAFF. TAFF will program a 100m radius "MILES kill area" around the munition. When an enemy vehicle enters the kill zone, CTC-IS will register a catastrophic kill on the first enemy vehicle. OC/T will replicate a signature with a star cluster and adjudicate. OC/T may adjudicate additional mobility kills on surrounding vehicles based on spacing and vehicle type.
- 8. Selectable Lightweight Attack Munition (SLAM). OC/T will observe the operator emplace the M320A1 Selectable Lightweight Attack (SLAM) training kit. 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.
- 9. Standoff Activated Volcano Obstacle (SAVO) Minefield.
 - a. Standoff Activated Volcano Obstacle (SAVO) Minefield. 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. 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.



- c. 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.
- d. All SAVO minefields will be marked IAW ATP 3-90.8, Figure E-6. Units have the ability to place multiple SAVO minefields within one frat fence. Once minefield is considered inactive IAW ATP 3-90.8, Figure 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.

- e. 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.
- f. 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.
- 10. 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. The minefield will be marked IAW ATP 3-90.8, Figure E-6 and the frat fence will incorporate the XM204 per the unit SOP.
 - iii. 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.
 - 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.
 - iii. OC/Ts will replicate the mine detonation, and expiration of the connected SAVO minefield IAW Figure 5-2a.
 - c. If the unit does not arm the munition, the unit can recover the munition and utilize for future planning.
 - d. 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.
 - e. 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.
- 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.
 - i. 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.
- b. 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.
- c. 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 VISMOD 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- 89/TM 89 MES mines' anti-handling characteristics.

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 programed 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 BLUFOR 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).
 - a. 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.
 - a. 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.
 - 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:
 - 1. The surface area will be inspected for unexploded ordnance before the start of digging.
 - 2. Safety Observer. A safety observer will be present, but in a safe location during all digging operations.

- b. All engineer equipment (all models of Dozers, ACEs, HMEEs, DEUCES, SEEs, 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 5-1.6.
 - 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 5-1.1f.
 - 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 Figures 5-5a for pictures of marking unoccupied fighting positions.
 - 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. All unoccupied survivability positions and excavations will be marked with U-shaped pickets on all four corners. White engineer tape will mark the two sides and the front edges leaving the entrance open. Chem-lights will



Figure 5-5a. Marking of Unoccupied Mounted/Dismounted Fighting Positions

be placed on the pickets during limited visibility.

- 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.

- 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 in order to receive demolitions for future missions.

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.

- 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 Avenger Battery. These assets will consist of one (1) Constructive Sentinel Radar and six (6) Constructive Avenger Fire Units. 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. OPFOR. Refer to Annex B (Intelligence) of OPLAN for Enemy SITEMP and Order of Battle.
- 4. 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 9-13.

6-3 Air Defense.

- 1. 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 MANPADS and Avenger Weapon Systems fire an ATWESS cartridge. OC/T will mark RTU 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. ADA gun engagements require OC/T on ground to call Warrior 16 on RCS 242 for adjudication. All ADA guns will have notional constructive HEDP-SD rounds which self-detonate. 30 mm should be effective against Enemy Rotary Wing. Effectiveness on Enemy UAS should depend on volume of fires and the higher the caliber the less rounds are required for a "Hit" adjudication. 30 mm and M3P/.50 cal guns max effective range is 1500 meters, max effective altitude is 900 meters. C-RAM 20 mm guns engage rocket, artillery, mortar, and UAS. Max effective range against rocket, artillery, and mortar is 600 meters and against small UAS is 1300 meters, with a max effective altitude of 4300 meters.
- c. Combined Arms for Air Defense (CAFAD) engagements require OC/T on ground to call Warrior 16 on RCS 242 for adjudication. 25 mm and above caliber should be effective against Enemy Rotary Wing. Effectiveness on Enemy UAS should depend on volume of fires and the higher the caliber the less rounds are required for a "Hit" adjudication.
- d. M-LIDS (VISMOD) has effects on Group 1-3 UAS and require OC/T on ground to call Warrior 16 on RCS 242 for adjudication. The RTU when supported with Sentinel radars, should dedicate one Sentinel for sensor to shooter drills with the M-LIDS two vehicle package. If the RTU does not have ADA radars in support, the Division AMD Cell, in coordination with AC2, will alert the RTU of imminent UAS threat. The Coyote missile max effective range is 10000 meters, max effective altitude is 4300 meters.

Table 6-3-1 Weapon Ranges and Effects					
<u>Platform</u>	Weapon System	Target System	<u>Max Effective</u> <u>Range</u>	<u>Max Effective</u> <u>Altitude</u>	Probability of Kill
Avenger	FIM-92 Stinger Missile	RW, FW, UAS Groups 2-3	5000m	4300m	80%
	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%
	Coyote BLK II Missile	UAS Group 1-3	10,000m	4300m	90%
M-LIDS	Electronic Warfare**	UAS Groups 1-3	2000-6000m	4300m	100%
	30mm***	UAS Groups 1-2	1500m	900m	2-10 rounds/kill
	BLADE .50cal***	UAS Groups 1-2	1500m	900m	5-15 rounds/kill
	5.56/7.62mm small arms	UAS Group 1	500m	200m	900 rounds/kill
CAFAD	M2 .50 cal	UAS Groups 1-2	1500m	900m	200 rounds/kill
	25/30mm Autocannon	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

2. Passive Air Defense. Measures such as obscuration, dispersion, and other limiting measures must be considered during assessment of BDA during notional air attacks.

- 3. 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 QuadCopter (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
- 4. 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.

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.
- 2. Air Defense Adjudication Process Matrix.

Constructive Air Defense Engagement Process



Constructive Air Defense Engagement Request Format



3. Ground to Air Engagements. 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.

Live Air Defense Engagement Process



- 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.
- b. ADA Adjudication against Rotary Wing Aircraft. Rotary Wing is equipped with TESS and so are some ADA systems. Those ADA systems equipped with ATWESS should register an electronic adjudication to assist Warrior 16 with final adjudication. OC/T on ground should call Warrior 16 on 242 to receive final adjudication.

- c. 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.
- d. Counter Small UAS (Groups 1-3). Enemy Group 2-3 UAS should produce enough heat signature for a Stinger missile to seek it. Also, 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.
- e. Specifically, to defeat Group 1 Commercial Off-the-Shelf (COTS) UAS, non-kinetic systems, such as Drone Buster (DB) and Drone Defender (DD), can be employed. Effective range of DB/DD against sUAS is 400 meters. OC/T must observe the DB/DD operator set the Operational Mode to C2 ONLY and subsequently observe the DB/DD being pointed in the direction of the sUAS target with no obstructions. ABSOLUTELY NO (C2 & GPS) JAMMING is authorized with these C-UAS Systems C2 ONLY Jamming is authorized. NOTIONAL GPS ENGAGEMENTS ONLY for GPS Jamming of sUAS. If the desired effects are to paralyze the COTS sUAS completely, DB/DD operator will NOT select the C2 & GPS Mode, but rather let the OC/T on ground know the desire to jam C2 & GPS. OC/T on the ground will call primarily Warrior 16 on RCS 242 and alternatively will call their respective TAFF to communicate the live C2 ONLY or the NOTIONAL C2 & GPS engagement of the enemy sUAS. Warrior 16 or Line Team TAFFs will 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.
- f. 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.
- g. 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. One RW replicates a two-ship, thus after a hit adjudication, the aircraft should egress for 5 km then will be allowed to ingress back as the second ship. After a second hit engagement adjudication, RW aircraft should return to base and FARP before returning to operations during the reconnaissance or attack window.
- 4. Air to Ground. Fixed Wing Air to Ground engagements are conducted by Ivan (Raven JTAC), in coordination with Black Horse 16, over RCS 103. Ivan (Raven JTAC) will provide adjudication and BDA to Warrior 16 for Air Defense engagements. Warrior DTOC will record all BDA in the daily battle log for distribution to the TAFF.

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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.
 - c. Card is completed in the same manner as catastrophic vehicle reconstitution cards. Reconstitution process will be tracked by the same individuals as equipment reconstitution:

Ор	erations Group Supply Cata	astrophic Ca	ard	
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 eq	uipment			
Unit submits DA 1348-1 to S	4		1 HR	1 HR
LOGSTAT submitted to S4 t	o reflect new OH quantity			
S4 submits 1348-1 AND DA	3590 to BDE S4			
Unit initiates DD 200 for loss	s of commodity		1 HR	1 HR
S4 submits LOGSTAT to BD	E S4 to reflect new OH			
quantity				
BDE submits DA 1348-1 to Div G4				
BDE provides document nu	mber for DD 200		1 HR 1	1 HR
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 arriv	New supply/commodity arrives at UMCP/BSA			
Total time to reconstitute eq	uipment and		13	HRS
supply/commodity				

Chapter 8 Sustainment

- 8-1 Personnel
- 8-2 Unit Ministry Team
- 8-3 TESS Casualty Assessment
- 8-4 Tactical Evacuation
- 8-5 Medical Echelons
- 8-6 Material Readiness Reporting
- 8-7 Transportation
- 8-8 Class of Supply
- 8-9 Ammunition
- 8-10 Aviation FARP and Ammunition Operations
- 8-11 Tactical Convoy Operations
- 8-12 FSR/LAR (C/DLSE) Call Forward Process

<u>8-1 Personnel.</u> 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 and all enablers providing products and a link to the Team MilSuite 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 Atropian 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 Advise 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.
- OC/T must record the time of injury, arrival at Role I and arrival at Role II on the casualty card. Lost/misplaced cards <u>without documentation (TC3 card, SF 600, etc.)</u> 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).

a. The following real world events will require screening for mTBI utilizing the MACE:

- i. Any service member in a vehicle associated with a blast event, collision, or rollover.
- ii. Any service member within 50 meters of a blast (inside or outside)
- iii. Any direct blow to the head or witnessed loss of consciousness.
- iv. 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.
- 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.

Table 8-4a			
MEDEVAC Platform	Maximum Litter	Maximum Ambulatory	Mixed Category
M996			1 littor ± 3
Wheeled	2	6	ambulatory
Ambulance			anduatory
MaxxPro			
Ambulance	2	3	
MRAP			
RG33 MRAP	3	6	1 litter + 3
HAGA	3	0	ambulatory
Caiman MTV	4	4	2 litter + 3
Ambulance	4	0	ambulatory
M1133			
Stryker	4	6	
Ambulance			
M997			2 littor ± 4
Wheeled	4	8	
Ambulance			ambulatory
M113			
Tracked	4	10	
Ambulance			
UH/HH-60 w/	3	4	4 litter + 1
hoist	3	4	ambulatory
UH/HH-60	6	7	4 litter + 1
w/o hoist	Ö	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			
	Maximum	Maximum	
CASEVAC Platform	Litter	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 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	
UH 60 Casualty T	ransportation Limitation

Litter
0
1
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 <u>http://www.usamma.army.mil</u>
 - 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.

Table 8-7a Vehicle Cargo Carrying Capabilities						
VEHICLE	NOMENCLATURE	OFF/ON PAYLD	TOWED LBS.	CREW/PASS	CAP. CUB FT.	
M1078	LMTV	5,000 LBS.	12,000 LBS.	3/12	576	
M1083	MTV	10,000 LBS.	21,000 LBS.	3/12	576	
M1075	Palletized Load System	33,000 LBS.	87,000 LBS.	2	1,280	
M1120	Load Handling System	22,000 LBS.	71,000 LBS.	2	1,280	
M1070 w/ M1000 (trailer)	Heavy Equipment Transport	140,000 LBS.	230,000 (GCWR)	2/4	N/A	
M1152	TRK, UTL 5/4T	2,500 LBS.	3,400	1/9	215	
M830 M923/4/5	TRK, CGO 5T LWB 6X6	10,000 LBS.	15,000	2/20	411	
M830 M927	TRK, CGO 5T XL WB 8X8	10,000 LBS.	15,000	2/0	597	
M871	SEMITRAILER LOWBED 22 ½'	30,000 LBS.	N/A	N/A	855	
M977	TRK, CGO HEMTT 10T 8X8	20,000 LBS.	20,000	2/0	540	
M978	TRK, TNK HEMTT 2500 GAL. 8X8	2,500 GAL.	20,000	2/0	N/A	
	TRLR, CGO 3/4T TRLR, CGO 1 1/2T TRLR, CGO 2T	1,500 LBS. 3,000 LBS. 4,000 LBS.	N/A N/A N/A	N/A N/A N/A	175 283 N/A	
M35	TRK, CGO 2 1/2T TRK, CGO 5T TRK, DUMP 5T	8,000 LBS. 10,000 LBS. 10,000 LBS.	15,000 15,000 15,000	2/20 2/20 2/15	408 580 135	

2. 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.

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

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 prestocked 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 three types of ammunition: simulators, 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 allows to setup an ATHP 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, 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. At the infantry platoon/company level, TOW, Javelin, recoilless rifle and mortar rounds are replicated with a simulated round of comparable size and weight requested and received through Class V channels. The weight of each mortar round is replicated with sandbags as outlined below:

i.	60mm Mortar:	4.5 pounds = ¼ full sandbag
ii.	Recoilless Rifle Round:	8 pounds = 1/3 full sandbag
iii.	81 mm Mortar:	9.5 pounds = ½ full sandbag
iv.	AT-4 (Viper):	15 pounds = ¾ full sandbag]
v.	Javelin:	21.6 pounds = 1 full sandbag

- d. 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).
- e. 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 ATHP trainer at the ATHP 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 ATHP 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 ATHP 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 ATHP during the next established pickup.
 - e. All ammunition will be handled by enough personnel to move it, for example, one Soldier can safety 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.

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

Table 8-9b Ammunition Transportation Capabilities					Table 8-9c Ammunition Transportation						
Pallets - Full Weight and Cube						Capabilities	1	1	1		I
	5		Low		S&P	M15 Mine	4	8	14	10	16
Nomenclature	Ton	HEMTT	Boy	PLS	Tlr	MOPMS / APOBS (#	61	04	200	110	110
120mm Tank	4	8	14	10	16		01	94	308	110	140
155mm Artv	12	27	30	37	56	Hornet (#mines)	5	8	27	9	13
155mm				-		Hellfire	4	3	8	10	12
Propellant	T4	7	14	16	16	2.75in Rocket	4	7	8	10	12
155mm Copperhead	6	8	14	12	16	5.56mm	4	8	14	10	16
105mm Arty	4	8	14	10	10	7.62mm	4	8	14	10	16
40mm MK 19	6	8	14	10	10	.50 cal	3	6	12	10	14
TOW	4	6	6	8	8	Rkt Mtr MICLIC	4	10	18	10	18
Dragon	4	6	6	8	8	MICLIC	0	3	5	4	6
Stinger	4	6	6	8	8	60mm Mortar	4	8	14	10	14
AT-4/Viper	4	8	14	10	16	81mm Mortar	4	8	14	10	16
25mm	4	6	8	16	16	120mm Mortar	5	10	14	10	14
M21 Mine	4	8	14	10	16	Volcano Honeycomb	4	8	14	8	16

Table 8-9d Vehicle Stinger Missile Carrying Capacities		Table 8-9e Ammunition Transportation Capabilities					
# of Missiles	MOOR	120mm Mortar Bo					
	6	Nomenclature	Capacity	Boxes	Rounds		
M113	6	Trailer 3/4 Ton	1,500 lbs	18	37		
M35	30	Trailer 1 1/2 Ton	3,000 lbs	37	75		
M923	42	Trailer M997 10 Ton	20,000 lbs	250	500		
M978	72	Trailer 22 Ton	30,000 lbs	375	750		
M101/M105	18/22	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

Table 8-10, Figure 1 Aviation Ammunition Breakdown Times							
		Hellf	ire	Rockets		Cannon	
Break	Breakdown 1 min/1		in/1	1 min/ 4		1 min/ 100	
Time		missile			unds	rounds	
Table Aviat	Table 8-10, Figure 2 Aviation Ammunition Loading Times						
	HELLI	FIRE	Rocket		30MM/	30MM w/ side	
		Pods			.50cal	loader	
1 PAX	N//	A 20-40 mi		n	N/A	20 min	
2 PAX	10-20	min	10-20 min		30 min	15 min	
3 PAX	5-10 min		min 5-10 min		25 min	15 min	

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.

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. 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 down loads

- 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.


Chapter 9 Aviation

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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 think 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 will require Senior Aviation Trainer approval and will remain south of the 98 Northing unless waived or changed by the Senior Aviation Trainer.

9-2 Radio Procedures.

- 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 Commo. Aircraft operating without OC/T escort (normally single ship) will return along their ingress route until commo 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, land, 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 commo with the OC/T is lost, the flight <u>must</u> reestablish commo 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 Eagle TAFF or OPFOR/COB 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 Mode 3 code 4000, 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 Combat Aviation Brigade S6."

<u>9-3 TESS.</u>

- 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. <u>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 TESS 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 TESS 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.</u>
- 2. Aircraft Instrumentation. All aircraft must have an operational TESS B 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. All aircraft with the Counter Missile Warning System (CMWS) will ensure it is operational.
 - 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. Probability of Kill (PK) is 80% for Hellfire on all vehicles, 75% for Rockets on trucks and unarmored vehicles with 75% mobility kills only for BMP/OSVs. 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. If part of a formation flight, the aircraft will continue on until it arrives at the next intended landing point. 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 Eagle 07. Crewmembers need to maintain positive control of sensitive items and equipment. An OC/T must be present before the crew attempts to start evading.
 - 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." Those aircrew members, who are in an off-duty status for fighter management, even if they are sleeping, are still required to don their protective mask.
- 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, but still conducting fighter management, he or she will then 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 Operations Group and 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 G3 Air (Eagle 7T). This PRCC is responsible for the coordination of assets within the Division's Area of Operations, to include, but not limited to Division PR Assets (e.g. Pathfinder unit, Aerial Reaction Force (ARF), Focused Targeting Force (FTF), etc.) as well as assets available through the Joint Personnel Recovery Coordination Center.

9-8 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. At a minimum, the OC/T will call up launch and recovery times and UAS location every 500 meters or 10 minutes.
 - a. Prepared Shadow 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 Shadow 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 Shadow 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 UAS team is responsible for player-positioning the UAS crew and air vehicle while in flight. At a minimum, the OC/T will call up launch and recovery times and UAS location every 500 meters or 10 minutes.
- 2. UAS "Lives". A UAS is considered "killed" if the system is assessed to ADA fire or if the system lands / crashes in an area where it cannot be competitively recovered. For example, if a Pointer UAS is on its return leg and crashes 1km from the UAS team and the team is able to recover the UAS competitively (without being killed by RTU) then the UAS is still alive and may be launched again with no "life" lost. However, if the pointer crashes 5 km from the UAS team behind RTU lines and has to be administratively recovered (OPFOR LNO, OC/T recovery, etc.) it is assessed as a kill and the OPFOR must use a new life to launch the UAS again.
- 3. UAS Replacements.
 - a. When any UAS is assessed as destroyed by ADA or other means, the unit may opt to either launch an immediate follow-on mission with a new air vehicle or cease UAS operations until they've addressed the ADA threat. Considering multiple factors, MICO and UAS OC/Ts will adjudicate the "killed" 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" outside of the reconnaissance area with its payload caged (pilots window). The penalty box time will be equivalent to the amount of time it takes to conduct preflight procedures and launch a new aircraft. Once the mission is complete and the aircraft is recovered, that specific aircraft will be out of play until reconstitution paperwork is complete and 8 hours has elapsed from the time of initial kill.
 - 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 land as soon as safely possible. Once the mission is complete and the aircraft is recovered, that specific aircraft will be out of play until reconstitution paperwork is complete and 8 hours has elapsed from the time of initial kill.
 - b. Other UAS systems. Replacement time will be based on the average time to prepare, launch, and fly another AV to the target area (not less than 30 minutes). Systems for which sufficient data does not exist to determine this "average" time will return to base, land, and re-launch IAW all established procedures for that system. T-UASs are not subject to this restriction. Once the RAVEN that was shot down has landed, the unit may launch the replacement T-UASs.
- 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, one 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.
- Helicopters. Day OPFOR air assaults are to be flown by or escorted by LUH-72 VISMOD to provide visual recognition of an OPFOR air assault. LUH-72 VISMOD 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. Static Load Training. All Soldiers conducting air assault operations or air movement operations will conduct static load training prior to mission execution. Static load training will consist of aircraft entry and exit procedures, location and use of emergency equipment, and emergency egress procedures in case of a forced landing. The ground maneuver unit OC/T will verify through the rotational unit chain of command that all Soldiers have completed this training prior to conducting the air assault/air movement operation. Each Soldier is required to receive the static load training on each aircraft type only once per rotation.
- 6. Division Early Warning Net. DTOC provides both RTU and OPFOR tracking information on respective Division Early Warning (DEW) nets. Additional instructions are in Chapter 16-2-3.
- 7. Air assault lifts are competitive. Lifts may go to separate LZs provided that the LZ has been coordinated through the DTOC 24 hrs prior to ensure OC/T coverage at the various LZs. OPFOR may designate 1 Primary and up to 3 Alternate LZs. OC/Ts will cover on all LZs to ensure adequate coverage. OPFOR may change from the Primary to any of the Alternate LZs enroute.
- 8. Out of Sector Air Assault Operations. In general, the RTU will receive spot reports of MTIs, penetration, and engagements by the adjacent unit and of the HIND squadron turning into the rotational unit sector.

9. 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.

- 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, <u>Special Forces Air</u> <u>Operations</u>.
- 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/08 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 Quartering 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.

- 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.

- General. The purpose of 52ID Airspace Control is to enable <u>safe</u> and <u>realistic</u> 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, 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.
- 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 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. All ROZs submitted to 52ID and Desert Radio must be circular. The unit will notify Desert Radio immediately of all accidents or incidents to include precautionary landings. The unit must call Desert Radio 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 and 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. UAS Airspace is controlled in conjunction with the Chief of Intelligence (W2) in the DTOC as the central point of contact for all Live, 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, Chapter 3, Section 3-1. The ROZ Box system is depicted in Figure 9-13b. 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 REQUE	EST PROCEDURES (TRAINING)
RTU	OCT
□CO/TRP submits request to activate a SUAS ROZ to BAE	
□BN/SQD submits request to activate a ROZ to BAE	□Line Team OCT confirms receipt at BAE □Line Team OCT contacts AC2 with: - ROZ Number - Operator name
□BAE de-conflicts and submits for BCT; AC2 receives BCT training request	□AC2: - Verifies operator is trained - Verifies if the ROZ box conflicts with any ACAs or RTEs on the ACO - Verifies weather and appropriate risk management has been completed □ If there is a conflict with planned ACMs, Eagle Team Field Grade Officer approves or denies ROZ □AC2: Once approved or if there are no conflicts, notifies Desert Radio AC2 provides line team OCT with Channel/LOC and announces that the ROZ is active
□BAE activates airspace, alerts airspace users	
□BN/SQD advised of	
□CO/TRP receives approval and channel locator	□Line Team OCT: - Provides operator with the channel/LOC - Confirms launch/recovery grid is inside the ROZ - Informs AC2 of wheels up/down times
DSUAS LAUNCHES	

Table 9-13



SMALL UAS AIRSPACE REQUEST PROCEDURES (TRAINING)



Figure 9-13a

NTC ROZ Box System	
Nomenclature for ROZ Box Name: BLUFOR – RAVEN CIVILIAN – GHOST OPFOR – COMPASS	
Units must use the ROZ Boxes for small UAS	
Small UAS must launch and recover within requested ROZ	
Units may submit any number of ROZ Boxes on the Unit Airspace Plan	
 Two ROZ Boxes may be active for any Immediate ROZ requests; However, unit can activate up to 4 ROZ boxes in preplanned airspace 	
 If a manned airspace control measure and a ROZ Box conflict, Eagle Team Field Grade ensures deconfliction plan 	
Variable Height Antennas (VHAs) must be called up to AC2 by the OC/T	
 Black Hornet, SBS, UAS may be operated up to 50' in urban environments without a ROZ request 	

Figure 9-13b

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:

1) POC for the requesting unit, 2) Requesting unit call sign and frequency, 3) Control measure dimensions with grid, 4) DTG for ACMR, and 5) Task and Purpose. 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.

- c. Any UAS request submitted after 1200L will be considered an immediate request.
- d. All Aircraft Operators (AOs) must receive the NTC G3 Safety briefing and the AC2Weather briefing prior to conducting any tactical operations.
- e. 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.
- f. Asset Baselines. The unit must allocate its UAS resources to reflect what is available and fully mission capable.
- g. 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.)
- h. 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.

- i. Requested frequencies must be coordinated and emitters tested prior to flight operations. UAS will not operate until this is complete.
- j. If the UAS asset is controlled and maintained above the BDE level, the Division G2 is the controlling authority for all UAS operations.
- k. 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.
- I. 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.
- m. 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.
- n. 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.

v. 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.

vi. DESRAD will provide the UAS operators an updated briefing of weather and any applicable restrictions.

9-14 Close Air Support (CAS).

 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.

- 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
 - I. 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 LIVE CAS Final Control/ Target Marking Requirements		
CAS TGT	TAC (Terminal Attack 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
 - a. Restrictions. 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 Common Missile Warning System, and 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. Fort Irwin Cantonment Area/Main Post Helipad (MPH). 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. 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 inflight 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 will NOT operate or land at BLAAF unless there is an emergency requiring a roll on/running landing. If the emergency requires use of BLAAF, the aircrew 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 Tiefort Mt. and minimize risk in case of weapon discharge. When using runway 31, if possible turn the aircraft toward Tiefort Mt. prior to shutting down.

9-16 Aviation.

- 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. Airmobile Operations. Soldiers being transported and aircrews must be trained in conducting airmobile operations. Soldiers loading, riding and departing aircraft must follow instructions from the aircraft pilot or crew chief (FM 90-4). For personnel to ride in aircraft without troop seats FORSCOM approval is required.
- 5. 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.
- 6. 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."
- 7. Weather Limitations. All UAS operations must adhere to the specific weather limitations outlined in the UAS operations manual and AR 95-1, UAS Flight Regulations. This includes but is not limited to winds, precipitation, icing, turbulence, and cloud cover. All 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 or AR 95-1.
- 8. 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).
 - a. 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.

<u>10-5</u> 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

a. Requests for PSYOP mass messaging, regardless of dissemination means, will be requested by the RTU and an approved CONOP will be posted to the 52nd 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.

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-D+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 decease 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.
 - 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:

Name: Last, First, MI Troop/ Town 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.
- 9. 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.
- 10. 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.
- 11. 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 pogey 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.

- 12. 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.
- 13. 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.
- 14. 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.
- 15. 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.
- 16. 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.
- 17. Evidence Collection. A minimum of one OC/T is required to cover down on the operation.

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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.

- 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.
- 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. 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).

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

- 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.

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

- 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

3. 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.

1. 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.

- 1. The duration of persistent agent effectiveness is 24 hours.
- 2. 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.
- 3. Rotational Unit Soldiers not in MOPP gear at time of attack and only wearing mask <u>MUST</u> conduct immediate decontamination within 30 minutes of becoming contaminated <u>BEFORE</u> 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.

- 1. Duration of non-persistent agent effectiveness is 2 hours.
- 2. 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.

- 1. 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. Vulture 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. ATMP is responsible for loading the ASIP radios with the current load set/SOI received from the OPS GRP Vulture 30 team. After ATMP has loaded the ASIP radios a cut sheet is developed and posted in the Radio Room and given to the TOCNET FSR. ATMP will load all available ASIP radios with the RTUs 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 ATMP will ensure communications with the RTU is kept before and after the COMSEC changeover has occurred. TOCNET. After ATMP has loaded the ASIP radios and handed the cut sheet to the TOCNET FSR the FSR will load the TOCNET system.
- 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 Vulture 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 Operations Group Chief of Communications, Vulture 02A.

- 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.

unacceptable risk is incurred for the Observer Controller Communicaton System during rotation.	Timeline: H- 4:00
Mission: Provide alternate communications in the event of RCS failure or degraded conditions using FM frequency radios.	Warruir TOC issues CONPLAN instructions and sets H Hour Teams receive pre-established Commo Card with SOI
Concept of Operation: 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- 1:45 DTOC executes COMMEX wit OCCPs H- 1:00 DTOC SOMMEX is a final state of a COC/T
Tasks:	to execute without RCS radios
Vulture Issue SOI – OPS GRP CMD net and 2x nets for each team	H-Hour All OC/Ts are equipped with ASIP radio Comms
Warrior • Issue CONPLAN INSTR • Conduct FM comms rehearsal	
Lizard 30 • Issue FM nets each rotation	
 Coordinating Instructions: 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 	

- 1. Firefly and PPK keys.
 - a. RTU. RTU must provide their own firefly and PPK keys.
 - b. Other. 52ID NETOPS is responsible for all COMSEC for SNAP terminals, the 52ID JNN, Lanin-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.

1. 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.
- 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 1st 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.
- 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 INTERFERNCE 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 roleplayers 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.

Air Electromagnetic Attack						
RTU Requests AEA Warrior EWC validates requirement RTU JCA						
EW Battle drill called over RCS CMD Net RTU informed Emergency AEA request is supported						
EW Strike Order is in effect						
OPFOR TAFF receives and issues STOP- USE order Pale Horse receives Non-Use order Warrior EWO simulates platform ES and provides tipoff through JCATS/DCGS to RTU BH ceases comms on specified equipment or frequency Pale Horse ensures BH Compliance of Non Use Compliance of Non Use						
RTU calls cease buzzer						
Warrior EWCC (acting as AEA Platform) confirms Cease Buzzer						
EW Strike Order called complete over KCS CMD Net						
OPFOR TAFF notified EW FX complete EW FX complete						
BH resumes comms on specified equipment or frequency						

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 11th 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 11th 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 11th 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 11th 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. 11th 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 11th ACR.
 - f. Jammer operators will maintain constant communications with an appropriately trained OC/T or 11th 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 11th ACR EWO/NCO. The Space Officer, EWO, or designated 11th 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
 - a. 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:
 - i. JBC-P/JCR denial via the Mission Command Support Center (MCSC) against any unit.

- All JBC-P/JCR denial requests are coordinated through the MCSC.
- 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.
- Following completion of the JBC-P/JCR denial window, the MCSC re-commissions all affected transceivers to return to normal operating mode.
- ii. Replicated TACSAT denial against OPFOR via the PTP 700 Microwave Line-of-Sight Transceivers or LTE Flyaway Kit.
- 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.
- 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.
- iii. TACSAT denial via the Regional Hub Node (RHN) and/or the Wideband SATCOM Operations Control Center (WSOC)
- Operations Group Space Officer or EWO coordinates with Lizard 30 to disrupt RTU SATCOM during select convergence windows in support of RTU training objectives.
- 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.
- Execution of WAIS serves to meet simultaneous 53rd 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.
- b. 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:
 - i. 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.
 - ii. 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.
 - iii. Upon request of 11th ACR. Approval of 11th ACR SATCOM denial is contingent on several criteria:

- Requests must be submitted to higher headquarters NLT 72 hours prior to execution.
- Effects must be nested within OPFOR higher headquarters' scheme of maneuver.
- Effects must ultimately support RTU training objectives.
- 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.
- 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
- 14-8 Vehicle Operation
- 14-9 UXOs Found in the Training Area
- 14-10 Ammunition
- 14-11 Laser Device Operations
- 14-12 Carbon Monoxide Poisoning, Toxic Smoke, and Fumes
- 14-13 Serious Accident/Emergency Situation Procedures
- 14-14 Serious Incident Reports
- 14-15 Off-Limits Areas
- 14-16 MEDEVAC Procedures
- 14-17 RCS S.O.S. Procedures

14-1 Rotational Unit Safety Officers (RSO).

- 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.

- 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.
- 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).

- 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.

 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 Training Speed Limits in the Training Area						
Normal Daytime Conditions						
Road Type	Wheeled Vehicles	Track Vehicles	Convoy Operations			
Improved Roads	35	25	20			
Unimproved Trails	25	20	15			
Limited Visibility Conditions						
Road Type	Wheeled Vehicles	Track Vehicles	Convoy Operations			
Improved Roads	25	20	15			
Unimproved Trails	20	15	10			
Cross-Country	10	10	5			

- 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. Rollover and Fire Drills. 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-ofcommand 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 ordinance. 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.
- 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.

<u>14-14</u> <u>Serious Incident Reports.</u> 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 Off-Limits Areas.

- 1. General. Refer to Chapter 5.
- 2. The following areas are off-limits to all rotational unit personnel, equipment, and activities in the Live-Fire area of operations:
 - a. No Fire Areas. 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. Dry Lake Beds. Drinkwater Lake (NV424283), No Name Lake (NV473218), Nelson Lake (NV204208), Red Pass Lake (NK583028), Leach Lake Area (North of E-W Grid NV33).
 - c. 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.
 - d. Targetry. Target pits and demolition pits are off limits.
 - e. Marked Sites. 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.

14-16 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				
МІА	FOB MIAMI / NAJALABAN HELIPAD	11S NV 58821 05396				
МРН	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						
	PRIMARY: SINCGARS SECONDARY: RCS CONTINGENCY: PHONE SC / PT 38.900 to Range Operations Group 295 to Range Operations 380-760-3878 OR 3673					
LINE	ITEM					
1	Location of Pickup Site					
2	Radio Frequency, Call Sign, Suffix					
3	No of Patients by Precedence		2			
	A = Urgent, B = Urgent-Surg, C = Priority, D = Routine, E =Convenience					
Special Equipment Needed						
1	A = None, B = Hoist, C = Extraction equipment, D = Ventilator					
-	No of Patients by Type					
5	5 L = Litter, A = Ambulatory					
6	Number and type of Wound, Injury,Illness					
_ _	Method of Marking Pickup Site					
Ľ	A = Panels, B = Pyrotechnic signal, C = Smoke Signal, D = None, E = Other					
	Patient Nationality and Status					
°	A = US military, B = US civilian, C = Non-US mil, D = Non-US civilian, E = EPW					
	Terrain Description (Peacetime)					
9	9 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)					
	MIST= Mechanism, Injuries, Signs, Treatment					
	Mechanism - (What caused the injury)					
-	Injuries - (What are the casualties injuries)					
	Signs - Blood Pressure					
10	Pulse					
	Respirations					
	SPO2 (Pulse Ox)					
	Treatment Given to include Medications					

14-17 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 a 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. Localreproduction of this publication "IS AUTHORIZED".

JUNE 2023 (FY23)

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 actually 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.
- Unit's 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- This Annex focuses on this step.
 - 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 owns the onus of communicating 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 re-enforced.

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.
- 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 battle phases deconflicted against Platoon and Higher Headquarters' AARs.

<u>A-6</u> 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.

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National Training Center EXOP, ANNEX B LIVE FIRE EXERCISE

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JUNE 2023 (FY23)

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. DA PAM 385-63 (Range Safety), April 2014
- 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. Governing Regulations. Live Fire exercises (LFX) at the NTC are tactical operations conducted IAW the NTC EXCON OPORD, AR 385-63, DA PAM 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 IAW DA PAM 385-63 for all weapon systems during LFX training. Operations Group provides rotational units with deviations from DA PAM 385-63 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.
 - a. NTC Deviations
 - i. <u>Range Marking Deviation:</u> 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.

- ii. <u>Impact Area Deviation:</u> Allows RTU, OC/Ts, and approved contractors/visitors to move and maneuver through the LFX impact area where dud-producing munitions have impacted before the conduct of surface clearance. This deviation also allows RTU to conduct controlled digging in temporary and surface-cleared inactive impact areas IAW further guidance from the Sidewinder Team.
- iii. <u>MICLIC SDZ Deviation:</u> 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.
- iv. <u>Dynamic Entry and DES Deviation:</u> 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.
- v. <u>Overhead Fires for Reduced Range Practice Rocket (RRPR) Deviation:</u> Allows for the reduction of Exclusion Area I from 2500 meters to 1000 meters and the occupation of Exclusion Area II (overhead fire) by unprotected personnel for the Reduced Range Practice Rockets (RRPR) fired by Multiple Launch Rocket System (MLRS) and High Mobility Artillery Rocket System (HIMARS).
- vi. GMLR SDZ Deviation (Suspended since 1 OCT 18*)
- vii. <u>Artillery SDZ Deviation</u>: 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.
- viii. <u>Excalibur Deviation:</u> Reduces the 1:1,000,000 probability SDZ to 1:3,500 probability. SDZ data is provided by Program Manager Combat Ammunition Systems (PM CAS) for each firing point and target. This deviation does not currently allow for overhead fire.
- ix. <u>Dry Fire Rehearsal Deviation:</u> Allows an Active Duty RTU to forego a "dry run" rehearsal before execution. This deviation does not apply to Army National Guard (ARNG) RTU. OPS GRP enables the immediate transition to LFX by establishing baseline qualification of company CALFEX (for Active Duty units) at home station, observing the previous ten days' force-on-force training, and ensuring all echelons execute a combined arms rehearsal incorporating SDZs and control measures. ARNG BCTs will conduct a full, mounted rehearsal before the execution of LFX.
- x. <u>Cone SDZ and 15-Degree Flanking Fire Deviation:</u> 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 is required to allow realistic training with suppression elements and to build confidence while shooting in proximity to maneuvering forces. Conduct of 15degree LFX is restricted to urban objectives included in the West to East LFX scenario.

- xi. <u>Brazier Breach Deviation:</u> 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 16 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.
- xii. <u>Bangalore Breach Deviation</u>: 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 to build confidence while conducting dismounted wire breaches on objectives.
- 2. 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.
- 3. LFX Team Mission. 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.

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 predeployment 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 FORSCOMdirected 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.
- iv. Reserve Component 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.
- b. Mortar Training Requirements.
 - i. 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 B1certified Squad Leader assigned to it.
- c. Air Defense
 - i. Qualification Memorandum. Units intending to employ Avengers or MANPADS will submit a qualification memorandum to the Dragon Team documenting the crews, by name, who have completed the required qualification events IAW TC 3-01.18.
 - 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,

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.
- e. Attack/Cavalry Helicopter Crew Training.
 - i. Aerial Gunnery Training Requirements. Individuals will be aerial gunnery qualified IAW TC 3-04.3, Combat Aviation Gunnery, Table VI and IX within twelve months. Table VI cannot
be waivered, but Table IX can be waivered with approval from the Commander of Operations Group.

- 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 door gunners shall be qualified GT VI within the previous 12 months, and Pilots-in-Command shall be qualified GT II within the previous 12 months IAW TC 3-04.3 Aviation Gunnery. No waivers authorized.

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 unitlevel 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, 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 for LFAST/Zero (D-7) and Class V for FA Calibration (RSOI 3).
 - d. RTU will execute Class V distribution ISO the unit LFAST/Zero and FA Calibration timelines.
 - e. LFAST/Zero will occur at the Dragon's Claw (IVO OP 1) SDZ site from D-6 through D-1, unless completed beforehand. For West to East rotations, Dragon's Breath is an authorized area for LFAST/Zero.
 - f. The RTU is responsible for establishing TCPs ISO LFAST/Zero.
 - g. 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.
 - h. The RTU BCT Master Gunner will submit LFAST/Zero completion numbers to Dragon 40 at 1600 daily until complete.

- i. FA Calibration will occur in the Big Sandy calibration SDZ (IVO OP 1) on RSOI 4, unless otherwise specified in NTC EXCON higher headquarters orders.
- j. 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.
- k. The RTU is responsible for establishing TCPs ISO FA calibration.
- I. If required, LFAST/Zero and FA Calibration can be conducted simultaneously on RSOI 4 from the two respective firing points.
- m. 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, on TD 10/11.
- n. 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.
- 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, applicable weapon system regulations, and the NTC EXOP. Additional topics include LFAST/Zero requirements and coordination, machine gun optics, availability of ranges, and EXOP live fire waiver requirements. Unit Master Gunners and representatives from attachments will be prepared to discuss specific dismounted Infantry Battle Drills (e.g., Enter and Clear a Room, Enter a Trench to Secure a Foothold, etc. In addition, but not limited to, qualifications on the TOW, AT-4, Javelin, Stinger, Hand Grenades, mortar systems, claymore, and observers by organization. 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.
 - 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 1500 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. The DRAW will include specific controls for identified hazards during live fire operations and be authorized by the leader that holds the level of authority associated with the level of risk. Multiservice and multinational units will provide their equivalent Deliberate Risk Assessment Worksheet with the appropriate level of authority required by the Multiservice/Multinational Unit.
- 5. Personal Protective Equipment (PPE). Required PPE for all Soldiers conducting live fire training or operating in the live fire area as per DA PAM 385-63, CH 2, TBL 2-2. 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 helmet, APEL-approved eye protection, gloves, and hearing protection, as required. Per FORSCOM Regulation 350-50-1, CTA 50-900 body armor with Department of Defense (DOD) approved serviceable plates are required for conducting live-fire training or operating in the Live-Fire area. Multiservice/Multinational units will use the approved PPE directed by their service. The RTU senior commander will manage and approve risks of varying types of ballistic plates and their serviceability. 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. Team 07s are the approval authority for deviations for OC/Ts.
- 6. MILES. All vehicle and personnel MILES systems will be functional IOT participate in live fire operations. 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 DA PAM 385-63. This restriction includes MILES systems. Vehicle crews and personnel will react to MILES kills or effects identical to force-on-force operations.
 - a. 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

- General. The FoF period (TD 1-9) allows the RTU to conduct BCT-level combined operations and refine established SOPs, tactics, techniques, and procedures. It also allows OPS GRP OC/Ts to observe RTU unitlevel proficiency at echelon. 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. With the agreement of the RTU Senior Trainer, the COG retains decision authority to direct changes in the RTU LFX scenario before and throughout LFX.
- 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

- General. 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 expressly stated within an associated training publication.
- 2. 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.
- 3. Unit-level LFX Planning:
 - a. A Dragon field-grade officer 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 Primaries will support Maneuver Battalions and Cavalry Squadron MDMP and CARs ICW partnered OC/T Teams IAW published unit timelines.
- c. A Dragon Senior NCO 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.
- 4. 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
 - viii. Company Walk-Through/Rehearsals for 15-degree OBJs for any element executing a 15 degree Urban Objective
 - 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. Minimum PPE standards are as follows: body armor with approved DOD-issued plates that are certified for live-fire operations (plates labeled "Not for Live Fire" or "For Training Only" will not be used), ballistic helmet, APEL-approved eye protection, gloves, and hearing protection as required.
 - 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.
- 5. 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.
- 6. 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.

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

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

<u>MLRS.</u> 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.

<u>Claymore/Demo.</u> 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.

<u>Claymore/Demo.</u> 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.

<u>Live Stinger or Hellfire Missiles.</u> 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.

<u>Lasers.</u> 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.

<u>Field Artillery and Mortars.</u> 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. Electrical arm switches are on Safe or Stand-by.

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.

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.

<u>Check Fire Freeze.</u> (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.

<u>Cease Loading.</u> (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.

- 7. 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. <u>ALL</u> 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) 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.
- v. Each target has a unique silhouette and is covered with a distinct pattern of reverse polarity thermal paper. Examples of these silhouettes are:



BTR

Tank



Truck



BMP



BRDM



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. These targets are designed to drop or fall following center-chest hits with small arms. Soldiers clearing the trench or urban objective will immediately pull down and move aside any target that fall on its own, ensuring no standing targets behind the dismounted front line of troops (FLOT). Any noncombatant targets present should also be pulled down, even if not engaged. In live fire, never move past a target that is still standing.

- 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 reengage. 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 ZuluTAC 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 white star cluster, 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.
- 8. Movement and Maneuver
 - a. Mounted Operations.
 - i. Only weapons with a functional turret or platform stabilization system may fire on the move (M1, M2, 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. Vehicle direct-fire weapons, including MILES, are not authorized to fire overhead of troops per DA PAM 385-63.

- v. 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.
- vi. 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.
 - 1. 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.
 - 2. PPE Requirements. All personnel will wear gloves, hearing protection, eye protection, helmet, and body armor (DOD-approved plates).
 - 3. 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.
 - 4. 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.
 - 5. Weapons Firing Inside of Trenches/Bunkers. 5.56mm, 9mm, and 12 ga. (or below, nonslug 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.
 - 6. 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.

- c. Urban Operations (UO).
 - i. 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.
 - 1. 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.
 - 2. During rehearsals, unit leaders at all levels will specifically emphasize muzzle awareness, safety/selector control, trigger finger discipline, and weapons control statuses.
 - 3. 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.
 - ii. 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.
 - 1. Ballistic breaching. Individuals will be qualified with their weapons and demonstrate proficiency in the task during rehearsals (as certified by an OC/T).
 - 2. 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. Defensive Operations.
 - i. Mark all dug-in fighting positions with <u>three stakes</u> (Illustration 3-10, Figure 2). The center stake serves as the driver's reference stake. Two stakes serve as the left and right sector limiting stakes.
 - ii. All fighting positions not dug in require <u>five stakes</u> (Illustrations 3-10 Figure 1). The two additional stakes mark the left side of the vehicle's position.

iii. All stakes will be marked to allow visibility during day and night operations (night operations require the use of chemlights). Additional stakes can raise markers into the vehicle commander and crew's vision.



- iv. All unoccupied dug-in vehicle positions will be marked with stakes at all four corners and visible during daylight and night operations (night operations require chemlights) to prevent vehicle rollovers.
- v. Crews will physically identify all the limiting and sector stakes, and vehicle commanders will ensure that all crewmembers understand the difference between the driver's limiting stake and the vehicle's sector stakes.
- vi. The rotational unit will inspect the left and right limits of every position. To fire from a position, the crew will proof the position with their covering OC/T.
- vii. If any limiting stake or night visual aid is knocked down or repositioned during execution, the covering OC/T team may direct the crew to cease firing and clear all weapon systems. Do not repair a marking while the unit is engaging the enemy. Stakes do not negate the vehicle commander's responsibility to control fires. The vehicle commander is responsible for positively identifying a target and clearing gun-target lines (GTL) before engaging. If a deliberate infantry fighting position is to be dug in or built, it will be IAW GAT 07-06-001 FIGHTING POSITION CONSTRUCTION INFANTRY LEADER'S REFERENCE CARD (Reference ATP 3-21.8 and TC 3-21.75.
- viii. Hasty positions may be dug into the ground, and natural materials may be used to create natural cover and concealment toward the front of the fighting position, but no overhead cover is required due to material limitations. Proper construction materials should be requested to build the fighting position to the standard as directed above. Individual Soldier and crew-served firing positions will include sector-limit stakes.
- ix. Brigade Reserve/Security Force. There is no requirement to stake in the Brigade Reserve fighting positions during the BCT defense. The Brigade Reserve will conduct a full force rehearsal of the movement into position and conduct coordination with adjacent units. Before establishing the security zone forward of the primary BP, security forces will rehearse displacement from the security zone, and coordination with rearward units will be conducted.
- e. 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 grenaderooms 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.
 - 1. 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.
 - 2. 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 dudded trench section and reenter the trench at the next leg to continue clearing.
 - 3. 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.
 - 4. Securing of Dud. Unit guards will remain in place at the site of the DUD until directed to leave by an OC/T. Unit, and at least one covering OC/T, will remain in place until EOD has cleared the DUD.

- f. 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. 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 DA PAM 385-63. The TOW will execute hulk and bunker engagements only to avoid reducing the risk of dud production.
- g. 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.
- 9. 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:
 - 1. Accurate Target Location and Size
 - 2. Accurate Firing Unit Location
 - 3. Accurate Weapon and Ammunition Information
 - 4. Accurate Meteorological Information
 - 5. Accurate Computational Procedures
- 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.
- e. Mortar indirect fires, to include MILES, are not authorized to fire overhead of troops per DA PAM 385-63.
- 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 through 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 certified observer or a 13 Series OC/T. Radar observed counterfire is authorized during live-fire when rehearsed with certified/qualified radar sections and approved by the COG with input from Wolf and Dragon 07. All other fires require an observer team with an OC/T to observe every indirect round fired. Radar can only be utilized as an independent observer when observing counterfire missions under the direct supervision of a radar OC/T with guidance from Dragon Team. UAS and aerial observers may be utilized as long as a trained observer is viewing the feed/target from the ground control station, or the pilot has qualified on calls for fire during their qualification tables.
 - ii. Communications. Voice communications will 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. Warrior Fires will clear all indirect fires for Artillery and Dragon Fires for Mortars 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.

<u>System</u>	<u>High Angle</u>	Low Angle	Direct Lay
60 mm	350m	N/A	150m
81 mm	500m	N/A	200m
120 mm	800m	N/A	N/A
105 mm	650m	600m	N/A
155 mm	1000m	800m	N/A
MLRS/HIMARS	N/A	2000m	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. 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)

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.

- v. 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 selflocate 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.
 - 2. XO's minimum quadrant elevation will be determined for all charges fired.
 - 3. 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.
 - 4. Time settings and variable time fuses are authorized in live fire. Any personnel in Area A or C will be protected per DA PAM 385-63.
 - 5. Each howitzer section chief has the final responsibility for safe firing.
 - 6. Misfires will be handled IAW the appropriate TM.
 - 7. No overhead fires in a direct fire mode. Direct fire is authorized on hulk targets only. Refer to paragraph g. for additional information.
 - 8. Cannon firing batteries may execute self-illumination, killer junior, and emergency fire mission engagements upon the Senior Live Fire Trainer's approval.
 - 9. 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, DA PAM 385-63, the NTC EXOP, or applicable technical manuals.
 - i. The battery/platoon senior OC/T will shut down a firing unit for:
 - 1. Failing to conduct pre-fire checks properly. A common error is not completing bore sight requirements specified in the weapon technical manual.
 - 2. Failing to conduct secondary independent checks.

- 3. Failing to meet minimum manning requirements when firing.
- 4. Personnel in the recoil path of weapon.
- 5. Personnel failing to wear a ballistic helmet inside howitzer.
- 6. Conducting an improper crew drill.
- 7. 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).
- 8. "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:
 - 1. Conduct secondary independent checks.
 - 2. Issue proper fire commands.
 - 3. Maintain positive control of the FDC section and firing on the gunline.
 - 4. Have up-to-date maneuver graphics, air corridors, and FSCMs posted.
 - 5. Perform grid and altitude location checks for each mission.
 - 6. Ensuring the effects of fires for the initial mission and the subsequent adjustments do not violate FSCMs or boundaries.
 - 7. 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 affected 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 Commander, Operations Group 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 DA PAM 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.
 - iii. Fighting positions will be to standard before Soldiers can fire from them. After the battery chainof-command reviews all fighting positions, the battery commander will point out each fighting position that he expects to fire from to the senior battery OC/T. Sectors of fire will be clearly defined and marked.
- I. Plan and Use of Self-Illumination. Plan and Use of Self-Illumination. Range to fuse function must be no less than 500 meters from friendly troops. Range to canister impact must be no less than 1,000 meters from friendly troops. Self-illumination targets must be pre-planned. The battery must select an observer per unit TACSOP and he must have eyes on the pre-planned illumination target to adjust.
- m. Killer Junior. 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 the Senior Fire Support Trainer, Wolf 07.
- n. 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 DA PAM 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 toimpact will comply with howitzer Minimum Safe Distance (MSD).
 - iv. Rocket-Assisted Projectile (RAP). Rocket-on firing requires a clear zone short of the target area in case the rocket motor fails to function. 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 M913 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 M549A1 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. The MSD for the RRPR round is 2,000 meters.
- o. 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 groundmounted 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. 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. 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. Overhead Fires. No overhead fires of mortars IAW DA PAM 385-63.
- vii. RTU Units arrive to NTC with updated TULSA gun cards to verify that tubes are serviceable.
- p. 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 unite will emplace NFAs in the AFATDS over all OP locations. The size of the NFA is IAW the unit's SOP.
 - iii. Unmanned Aerial Systems (UAS) and Full-Motion Video (FMV). A qualified observer may use UAS and FMV to observe fires. Ravens and Pumas are NOT authorized systems to observe fires due totheir inability to self-locate and the degree of inaccuracy in their respective optics to identify the intended target correctly.
 - iv. Night Operations. Observer teams must utilize observation systems equipped with thermal 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.

10. Protection.

- a. General. Rotational unit counter-mobility effort turns, blocks, fixes, and disrupts enemy formations, mobility corridors, and tempo. The rotational unit survivability effort provides enhanced protection to equipment, personnel, command nodes, and logistical support areas. When properly employed, counter mobility and survivability effort provides an advantageous advantage to friendly forces. The Senior Sidewinder or Live Fire Trainer approves any simulated engineer activities or effects.
- b. Administrative.
 - i. Reports. Rotational units will submit the following engineer reports to the NTC EXCON higher headquarters DTOC during operations:
 - 1. Obstacle intention (obstacle overlay and obstacle matrix) before emplacing any obstacle.

- 2. Obstacle initiation and completion progress (minimum every 25%).
- ii. Execution. All engineer and engineer-related activities are conducted IAW this NTC EXOP, OPORDs, TACSOPs, and in compliance with established procedures and Army regulations.
- iii. Recovery. Rotational units may emplace mobility, counter-mobility, or survivability positions as per the following criteria:
 - 1. The emplacing unit is responsible for the remediation of obstacle effort (wire, AVD), fighting positions (Javelin, IFP, VFP), protective positions (VPP), and berm.
 - 2. Units will remove all Class IV obstacle and marking materials, clear all weapon systems, and conduct Class V turn-in when CTM is called on TD 14 as directed by the Senior Live Fire Trainer.
- c. Obstacle Effects.
 - i. Enemy Targetry:
 - 1. 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.
 - 2. 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.
- d. 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 ZuluTAC Target Control Center to ensure that simulated enemy forces react according to physical obstacles in CTC-IS.
- e. Employment of Mines
 - i. Treat all mines as real (e.g., transporting, handling, emplacing, and explosive capabilities). In the event of improper procedures, Engineer OC/Ts have the authority to adjudicate RTU as a fratricide.
 - ii. Scatterable Minefields (SCATMINE): ADAM/RAAM SCATMINE allocated per the NTC EXCON higher headquarters order will be replicated by OC/T line teams at the time of deployment. Rotational units may employ scatterable mines with MOPMS, Gator, and Volcano systems, provided all equipment is operational and the unit has training mines (replicated by blue blocks). OC/Ts will replicate deployment with smoke (any color) and grenade simulator only during hours of visibility.
- f. Use of Demolitions.
 - i. Demolition includes the following: detonating cord, TNT, military dynamite, C-4, cratering charges, shape charges, Bangalore torpedoes, live charges, blasting caps, and expedient demolitions.
 - ii. 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. The time fuse will not be cut and the RTU will conduct no test burns.

- iii. 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.
- iv. Surface Danger Zone (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 DA PAM 385-63 Range Safety, TM 3-34.82 Explosives and Demolitions, and NTC deviations.
- v. Inspection Post-Detonation. The Engineer OC/T is the first to inspect the demolition site after the charge(s) have detonated.
- vi. 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.
- vii. Urban Breaching. Breaching plans will be coordinated in advance with the covering OC/T Team and approved through the covering Dragon Team OC/T. Unnecessary or disproportionate structural damage may result in the rotational unit 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 have conducted home station familiarization on the weapon system and 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.
 - 2. 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.
 - 3. Mechanical Breaching. Coordinated with the covering OC/T team and approved through the Dragon Team OC/T.
- g. 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.
- h. 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, M9 ACE, 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 1500 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.
- i. 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.
- j. Survivability Positions.
 - i. Evaluation. 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.
- k. 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.
- I. Marking. All fighting positions will be marked IAW Section B-4, Paragraph 3 of this document.
- m. IED and UXO Reduction.
 - 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.
- vi. 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:
 - 1. Standard name-line of Soldier. DTG of EOCA course graduation and EOCA Course number (copy of EOCA certificate on-hand with HQ).
 - 2. DTG of latest demolitions certification/recertification (will be within six months of the end of scheduled NTC rotation).
 - 3. DTG of robotics familiarization/certification, specifically addressing robotics system employment procedures and demolitions utilization/placement.
- n. Capabilities and limitations for EOCA reduction of UXO / IEDs:
 - i. 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 personnel are not authorized to reduce the following mines, munitions, UXOs, and charges:
 - 1. EFPs or Shaped Charge Munitions.
 - 2. Items over 155mm Military Grade Munitions.
 - 3. Chemical, Biological, Radiological, and Nuclear (CBRN) munitions.
 - 4. "Daisy chained" items.
 - 5. Suicide bombers or VBIEDs.
 - 6. Homemade Explosives (HME) with a net weight greater than 50 LBS
 - ii. 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.
- o. 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 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.

11. Sustainment.

- a. Ammunition.
 - i. Live Ammunition Download Responsibility. Accountability, movement, safeguards, and handling of live ammunition are the rotational unit's responsibility per unit SOP and regulations. After completing live fire operations, the rotational unit's commander will certify in writing that all live ammunition is removed from all vehicles, weapons systems, and personnel.
 - ii. Ammunition Cross-Level. Ammunition cross-level or transfer from catastrophic kills is not authorized. Ammunition may be cross-leveled from vehicles determined as firepower/mobility kills or vehicles with real-world maintenance faults.
 - iii. 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.

12. Rotary Wing and UAS Operations.

- a. Live Hellfire. Units desiring to conduct Live Hellfire training while at the NTC will contact Eagle 03/03A/08 NLT D-60. Units will provide missiles from their home station STRAC allocation. Units will provide Eagle 03/03A/08 with their Hellfire missile shoot concept NLT RSOI 01.
- b. Training Requirements to Complete at Home Station. The following is a list of training prerequisites, by echelon, before arrival to NTC:
 - i. AH Gunnery Training Requirements: Individuals will be aerial gunnery qualified IAW TC-3-04.3, Combat Aviation Gunnery, and Table VI within twelve months.
 - ii. Utility and Cargo Helicopter Door gunners will be qualified IAW TC 3.04.3. The Commander, Operations Group (COG) will consider waivers on a case-by-case basis.

- iii. 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.
- iv. UAS Gunnery Training Requirements. 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.
- v. 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.
- c. Briefings: To conduct an air assault during the BCT LFX, the following rotational training unit and OC Team personnel (or their designated representative) will attend the following meetings and rehearsals: * Denotes minimum required attendees to the large chart outlining who is required for the briefings under section B-8.3. Reference ATP 3-04.1.
- 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. Body armor/Air Warrior armor with SAPI plates.
 - ii. Aircrew members will carry ACH on board their aircraft.
 - iii. APEL-approved eye protection and hearing protection.
 - iv. All aircrew members wear full NOMEX uniform and approved flight boots.
 - v. 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.
 - 1. One aircraft within the flight, within R2502, will monitor desert Radio.
 - 2. 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 fires.
 - Harmonization. RTU Aviation will conduct harmonization on TD10 vic. Arrowhead (Dragon's Wing). Request to conduct harmonization on a different TD must be coordinated through Zulu TAC.
 - 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 OC/T Team Senior Aviation Trainer and Dragon Team Senior Live Fire Trainer.
- 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. The senior aviation trainer 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. The senior aviation trainer is the only individual who authorizes the resumption of training.

13. Close Air Support.

- a. Control. A qualified Joint Terminal Attack Controller (JTAC) or Forward Air Controller (FAC-A) will use Type 1 Control procedures for all live fire CAS engagements. The Commander of the NTC EXCON higher headquarters may authorize Type 2 or Type 3 Control after consulting with Raven 07. A Raven OC/T will be present for all live fire CAS engagements. Note: All CAS procedures will be compliant with AFI 11-214 Air-To-Ground Joint Live Fire Exercise Procedures pending the following further restrictions:
 - i. CAS targets within 5,000 meters of personnel will be associated with a visual mark. Marks at NTC are limited to the following:
 - 1. 2.75-inch WP / HE / SP / TP or JSLIST rockets. TP rockets require multiple releases.
 - 2. 20mm, 25mm 30mm guns TP / HEI
 - 3. 60mm, 81mm, 120mm MTR, 105mm, 155mm HE / WP / ILA / SMK
 - 4. 120mm TPCSDS, HEAT-TP-T
 - 5. FAC-A delivered BDU-33 / MK-76
 - 6. VDL Capture
 - 7. Smoke grenades delivered from RW (hand tossed)
 - 8. 50 Cal
 - 9. 40mm grenades delivered by MK-19
 - 10. AT4 84mm
 - 11. 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:
 - 1. FLOT and other friendly forces (COLTS, Scouts, TACs, etc.)
 - 2. Fire Support Coordination Measures
 - 3. Artillery and mortar locations/gun target lines
 - 4. 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. (reword)
- 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. The minimum safe distances for bombing and strafing for fixed and rotary win 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.

- 14. Intelligence
 - a. Coverage. All MI assets will be equipped with an operational MIC vest (if dismounted), vehicle MILES, or under the immediate control of an OC/T while operating in the Live Fire area forward of the LD or in the main defensive area. No unit is authorized forward of the FLOT without OC/T coverage.
 - b. Documents. No simulated EPW operations in live fire.
 - c. 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.
 - d. Long Range Surveillance Detachment (LRSD) Operations. LRSD operations in Live Fire are planned by the NTC EXCON higher headquarters DTOC. Units can request DIV LRSD to observe indirect fire and CAS missions.
- 15. Electronic Attack (EA) / Electronic Warfare (EW) Operations.
 - a. Overview. Electronic warfare (EW) operations follow the established procedures used during Force-on Force operations with the following exceptions:
 - i. Imitative Communication Deception (ICD) is not authorized during live fire operations.
 - ii. 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.
 - iii. 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. Electronic Warfare Support (ES) is authorized if conducting pre-coordinated lanes.
 - iv. 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.
 - v. Ghost CEMA elements and W2 SIGINT elements will assist Dragon in the location and set-up of emitters during LFX. No reset of emitters will occur while in "fit to fight" status.
 - vi. 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.
 - vii. 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.
 - viii. 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.
 - ix. 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.



National Training Center EXOP, ANNEX D DIVISION LEVEL PROCEDURES

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

JUNE 2023 (FY23)

Annex D Division Level Procedures (Live and Constructive Operations)

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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 andthe application of military judgement for a "reasonable" solution.

Operations Group encourages all training participants to read this Annex carefully to understand process and procedures for unique events during execution.

This Annex is not all inclusive, or designed to be, but will, based on the exercise, be updated prior to execution 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 require a 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 Itraining prior to entering the training area.
- b. Exceptions will be made for those OC/Ts or Subject Matter Experts whose primary place of duty (asdefined by role or responsibility) is outside the designated training area.

3. <u>Higher Headquarters</u>. 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 instructionsfor 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:
 - 1) Integrated into the VII Corps HICOM (inside or near Building 990)
 - 2) As a HQ element in the cantonment area
 - 3) 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 approvalby VII Corps prior to dissemination of any intelligence products/information. See VII Corps SOP for additional requirements.
- b. <u>EXCON Internal Battle Rhythm Events</u>. At a minimum, the following events will occur in accordance with published timelines. The purpose of these meetings are to synchronize operations within Operations Group, identify additional support requirements, make adjustments to the exercise basedon 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. <u>HICOM Battle Rhythm Events</u>. 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 intelligencesystems including DCGS-A, Trojan, TGS, and CIDNE. Refer to Chapter 2 for additional procedural responsibilities.
- 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 located in G2, VII Corps, and are available to assist rotational unit G2 section with DCGS-Adata integration and Tactical Entity Database (TED) replication with the Corps G2 intelligence fusion server (IFS) located in bldg. 990.

<u>D-3</u> <u>Maneuver</u>. Refer to Chapter 3, Maneuver, when adjudicating live elements operating within the definedtraining area.

- 1. EXCON maintains the responsibility of preventing the interaction between constructive and live direct firesystems, 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 thetraining 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 prohibitsmovement of elements that may result in direct fire contact. Sustainment operations that require themovement 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 thetraining 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 mismanagementof 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. EXCON-Forward Personnel and/or OC/T coordinate with lifted unit and aviation unit Work Cells to determine what equipment/personnel and be lifted and the number of aircraft required. This informationwill mirror what is normally provided in an Air Mission Brief (AMB) (for AASLT).
- 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 createair 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.
- Once A/C depart the LZ (or overfly the DZ), ground units will MAGIC MOVE to LZ/DZ according to manifestand 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 loses will not be adjudicated until after A/C adjudication is complete.

D-5 Rotary Wing Aviation

- 1. Constructive rotary wing aviation (attack or reconnaissance) may not enter the designated training areato engage live OPFOR (may conduct R3P at designated locations).
- 2. Constructive rotary wing aviation (heavy or medium lift) may be used to conduct resupply, transport equipment, and/or personnel to the Division Support Area (if within the designated training area), but nofurther forward. Movements must be within the capabilities of the aircraft and approved by EXCON- Forward Personnel and EXCON Aviation Cell.
- 3. Constructive rotary wing aviation may not be used as an observation or targeting platform against liveOPFOR.

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 armamentsavailable 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)

- 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 Purposeby 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 appropriatelevel of BDA can be induced through the EXCON OPFOR Cell. Any BDA from any non-coordinated attackswill 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 CONOPsor 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.
 - a. SOF SR teams will receive a once-a-day MAGIC RESUPPLY of Class I (food and water) due toextensive 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 attackswill 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 fieldartillery 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

taskorganization 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 predetermined 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 requirementsto 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
 - (1) During a designated phase, in accordance with the approved scenario design, the OPFOR cannot be reduced below 50% aggregate strength as a result of the effects of Training Audience field artillery during a designated period. 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)
 - (2) 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.
 - (3) EXCON INTEL Cell will make necessary changes to intelligence estimates through the VIICorps (HICOM) G2 for distribution to the Training Audience.
 - ii. OPFOR fires against the Training Audience
 - (1) 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 againstlive Training Audience in the designated Training Area.
 - (2) The live Training Audience cannot be reduced below 50% aggregate strength as a result of the effects of OPFOR field artillery during a designated period. Key systems are at the discretion of the Team Senior Trainer, in accordance with exercise design and training objectives.
 - (3) EXCON MANEUVER TEAM Cells will assist OC/Ts to promptly, and properly, resurrect theappropriate systems within the designated training area.
- e. Live to Constructive.
 - i. Training Audience fires against OPFOR

- (1) During a designated phase, in accordance with the approved scenario design, the OPFOR cannot be reduced below 50% aggregate strength as a result of the effects of Training Audience field artillery during a designated period. Key systems are at the discretion of the Exercise Director, or designated representative, in accordance with exercise design and training objectives.
- (2) 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.
- (3) EXCON INTEL Cell will make necessary changes to intelligence estimates through the VIICorps (HICOM) G2 for distribution to the Training Audience.
- ii. OPFOR fires against the Training Audience
 - (1) 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 againstlive Training Audience in the designated Training Area.
 - (2) The live Training Audience cannot be reduced below 50% aggregate strength as a result of the effects of OPFOR field artillery during a designated. Key systems are at the discretion of the Team Senior Trainer, in accordance with exercise design and training objectives.
 - (3) EXCON MANEUVER TEAM Cells will assist OC/Ts to promptly, and properly, resurrect theappropriate 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.

<u>D-9</u> 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 wingassets, 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.
- Constructive fixed wing aviation may not be used in (above) the designated live training area without prior coordination through the EXCON FIXED WING Cell to properly replicate aircraft signature and determine success against live air defense threats in the area. Constructive fixed wing Close Air Support will not be permitted against live OPFOR in the close fight under any circumstances.
- 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.
- e. The Training Audience, live or constructive, cannot be reduced below 50% aggregate strength as a result of the effects of OPFOR fixed wing aviation during a designated period in accordance with the approved scenario design. Key live systems are at the discretion of the Team Senior Trainer, in accordance with exercise design and training objectives.
- f. During a designated period of time, in accordance with the approved scenario design, live or constructive OPFOR, cannot decrease below 66% aggregate strength as a result of the effects of fixed wing aviation supporting the Training Audience. Key systems are at the discretion of the Exercise Director, or designated representative, in accordance with exercise design and training objectives.

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

- 1. VII Corps (HICOM) vs. EXCON Command and Control.
 - a. 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. Includingfires, AC2, ASOC section, and CFACC replication, the Warrior TOC tracks live airspace usage. WarriorTOC 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 FireTraining 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 shoulderof 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 theNTC 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 unitis 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 uniqueChannel and Locator to that UAS.
 - d. The OC/T on ground, after receiving approval from Warrior AC2, ensures the SUAS operator remainswithin 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 TrainingAudience 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 Locatorcode 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-levelrotations will operate under a 72-hour ACO/ATO timeline.

	H-72	H-48	H-24	H-Hour	H+24	H+48	H+72
DA DA	AOD + JIPTL ASRs due 1200 Initial UAP A Due 1200	MAAP Production Final UAP A 1200	ATO A Published 1800 ACO A Published 1800	FLY	Assess		
	ATO B	AOD + JIPTL ASRs due 1200 Initial UAP B Due 1200	MAAP Production Final UAP B 1200	ATO B Published 1800 ACO B Published 1800	FLY	Assess	
		ATO C	AOD + JIPTL ASRs due 1200 Initial UAP C Due 1200	MAAP Production Final UAP C 1200	ATO C Published 1800 ACO C Published 1800	FLY	Assess

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 anddynamically deconflict airspace.

D-11 Reconstitution

- 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 routedthrough 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 betransported with WIA or un-injured personnel.
 - iii. There is a minimum EIGHT (8) hour processing time between the approval of the reconstitutionpacket 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 airmovement (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 willbe immediately reconstituted.
 - vii. VII Corps (HICOM) G1 maintains responsibility for tracking Live Personnel Reconstitution Packetsand 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) toAnnex 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 beginmovement 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 Packetsand 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 AudienceG4 (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 nolonger 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 submitprioritized 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) willbe 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 ReconstitutionPackets 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 thereconstitution packet by the VII Corps (HICOM) G4 and the availability of the equipment fortransfer to the Training Audience.
 - iii. Once approved, Constructive HETs must move from designated location in Corps Support Area tothe 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 theVII 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 DecisionBoard.
 - iv. Once approved, VII Corps (HICOM) G4 will notify Training Audience of synchronized time for livesupply 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 theCSA 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 constructivetransportation. Movement of paper CL V forward of the DSA is conducted via live ground or air movement no 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 issubject 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 theVII 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 DecisionBoard.
 - 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, areapproximately 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 withavailable equipment.
- 3. Casualty Procedures
 - a. Live Casualty Assessments (TESS). Refer to Chapter 8, Sustainment, Section 8-3, for casualty careprocedures. 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 rotationTroop 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 reportingpurposes.
 - ii. VII Corps (HICOM) SURGEON maintains responsibility for tracking Constructive

CasualtyAssessments 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 916th Support Brigade. (The ONLY requests sent directly to the 916th Support Brigade SOC are for field services, toinclude trash trailers and human waste bins. Field services support is a capability unique to 916th 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, is approved, coordinated by the VII Corps (HICOM) G4 for action.
 - c. 916th Sustainment Brigade activities may replicate distribution points or a constructive unit. The rolewill be determined by the VII Corps (HICOM) G4 to meet the exercise design requirements.

<u>D-13</u> <u>Chemical, Biological, Radiological, and Nuclear (CBRN)</u>. 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 preplanned 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 predetermined throughoperations 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 timeeach 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 changeslocation while being decontaminated.
 - b. EXCON-Personnel Forward Actions: Report completion of decontamination event to EXCON andprovide assessments to appropriate OC/T Team.

Mission	Organization	Mission Coverage	Water Required (gallons)	Decontaminate (Ibs STB)	Time (Minutes)		
		Personnel Decontami	ination				
MOPP Gear Exchange	Affected Unit	40 PAX	40	0	30		
Detailed Troop Decontamination	Affected Unit	40 PAX 318 600 4					
		Equipment Decontam	ination				
		Each large vehicle will take	approximately	200 gallons of water a	nd 15 minutes.		
Operational	Battalion PDDE or	Armored Platoon (4 - M1/M2)	800	0	60		
Decontamination Squad		Each small vehicle will take approximately 150 gallons of water and 12 minutes.					
		Wheeled Platoon (10 HMMWV)	1500	0	120		
	Light Decontamination Platoon	1 vehicle	450	50	96		
Detailed		4 vehicles	1800	200	156 ¹		
Decontamination	Heavy Decontamination Platoon	1 vehicle	450	50	90		
		10 vehicles	4500	500	210 ²		
		Area Decontamina	tion				
Terrain Decontamination	Heavy Decontamination Platoon	100 m X 30 m area	1500	300	40		
¹ First vehicle will ta ² Time is based on an additional 15 mi Legend: HMMWV high mot Ibs pounds m meter	ake approximately 96 r 2-lanes as shown in Fi nutes. bility multipurpose whe	ninutes to process, each suc gure D-14. First pair of vehicl eled vehicle PAX PDDE STB	cessive vehicle v es will take 90 m passengers power driven super tropical	will take an additional inutes, each succession decontamination equip bleach	20 min. ve pair will take pment		

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

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

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

<u>D-14</u> <u>Air Defense.</u> Refer to Chapter 6, Air Defense, when adjudicating live elements operating within the definedtraining area.

- 1. VII Corps (HICOM) ADA Cell will establish Corps-level protection priorities and allocate airdefensesystems 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 if executed by live or constructive systems, for the Training Unit.

a. EXCON-Forward Personnel will contact EXCON ADA Cell with issues or concerns regarding adjudication in the constructive environment. EXCON ADA Cell will recommend adjudication coursesof action, if required, to the Exercise Director, or designated representative based on scenario designor 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 ofaction 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, toinclude 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.

<u>D-16</u> <u>Cyberspace Electromagnetic Activities (CEMA) / Space Operations</u>. Refer to Chapter 13, Cyberspace Electromagnetic Activities (CEMA) / Space Operations, when conducting applicable activities within the definedtraining 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 approvedscenario 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 inrelation to exercise design and training objectives.
 - c. If approved, EXCON CEMA Cell will coordinate for action. If not approved, EXCON CEMA Cell willnotify 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 impactResponse 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 inWARSIM/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, VIICorps (HICOM) will notify Training Audience of reason for no action.
- d. EXCON CEMA Cell will notify OPFOR Cell that EW effects are occurring, relevant informationregarding 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 thebattlefield. 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		Populto	
Open	Urban	Results	
Terrain	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 BLUFOR	

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

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

Length of Engagement		Posulte		
Open Terrain	Urban Terrain	Results		
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		

Length of Engagement		Results
Open Terrain	Urban Terrain	
2 hours	4 hours	Provide limited usable INTEL that can be used by BLUFOR
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, ifrequired.
- 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 BLUFOR unit.
- h. For a Division rotation, non-lethal effects in the information environment will be adjudicationbeginning on D-14.

D-18 Psychological Operations

- 1. The following describes the constructive effects of Psychological Operations unit interaction with OPFORunits 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 mustaddress 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 tointended engagement.
 - c. Air missions (leaflet drop or loudspeaker) must be flown or artillery missions to deliver leaflets mustbe 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 120-150 degree area with a maximum range of 1800 meters (terrain and conditions dependent). This dispersion area will remain in effect forthe 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 StrengthWell- equipped and trainedModerately well-equipped and trainedSevere equipment and training shortage				
80 - 100%	7%	10%	12%	8%
70 - 79%	10%	12%	15%	9%
< 70%	12%	14%	17%	10%

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

D-19 Underground Facilities

- 1. The use of underground facilities (UGFs) and hardened artillery sites (HARTs) must be determined priorto the start of the exercise, in accordance with scenario design and training objectives. As part of the VIICorps (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 gress 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 usewith 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 tomoderate single-room clearance, corridor length limited (maximum 50 meters).
 - ii. Moderate: Maximum of four complex intersections, squad or lesser mobility corridors, small tomoderate multiple-room clearance, corridor length moderate (maximum 100 meters).
 - iii. High: At least five complex intersections, greater than squad sized mobility corridors, large-roomclearance 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, ormaterials.
 - ii. C/B/R/N/E: Confirmed presence of chemical/biological/radiological/nuclear weapons, agents, ormaterials.
 - iii. m/M: Suspected/confirmed presence of two or more chemical/biological/radiological/nuclearweapons, agents, or materials.
- 3. Detection, Destruction, or Seizing of UGF:
 - a. EXCON-Forward Personnel will assist work cell BSWS operators in properly identifying UGF/HARTicon 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 seize, 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 secure, BLUFOR will continue to operate in competitive environment with no

manualadjudication.

- d. EXCON Intelligence Cell must be able to provide appropriate information/intelligence gathered ifBLUFOR 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 roundsHE, 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 foruse and the size of the occupying unit. OPFOR units will MAGIC MOVE at the corresponding time and echelon within 500m of the UGF.

Table D 40 C	NU
LICE Egroop	CO
minutes)	BA

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

6. Artillery systems must competitively move from a hardened artillery site (HART) to its firing positionbefore 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 thescenario 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 maneuverfor 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 actionwithin 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
- I. 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

CAO:	15-Jun-20		20-10 Exercise	Battle Rhythm		Version 10
TIME		HICOM/EXCON		110	STANDARD TACTICAL BATTLE RHYT	нм
0000			ATO EXECUTION (0001-2359)			
				GI/SI SYNC		
0100				PROTECTION WG	TACTICAL DECEPTION WG	CP NODE SYNC
0200						
0300						
0400			INTSUM PUBLISH			
0500				SUSTAINMENT W/S		
				SUSTAINMENT WO	FIRES BHO	
0600	INTEL SYNC			FRAGO PUBLISH		
	INTEESING					
0700	COLLECTION MGMT WG	EXCON HUDDLE 🙀 🚖 🚖				
		NET CALL 🍪				
0800	BATTLE UP	DATE BRIEF		AIRSPACE WG	SHIFT CHANGE	
0900	AIRSPACE WG		SCENARIO SYNC 😽	ASSESSMENT W.G	INTEL SYNC	
			OPFOR SYNC			
1000			MESL SYNC	COLLECTION MGMT SYNC	NON-LETHAL WG	MISSION APPROVAL BRIEF
1100						
1200	OPS/INTEL SYNC		ASR SUBMISSION (72HR OUT)	TARGETING WORKING GROUP		
4200			EXCON			
1300	NON-LETHAL WG		AIRSPACESTINC			
1400						
1400	TARGETING WG	EXERCISE DIRECTOR		CHOPS OPDATE	WARNO PUBLISH	
1500			GREEN FLAG-W ATO INPLIT			
1500	SUSTAINMENT WG	BRIEF	GREEKTERG-WATCHINGT	c	OMMANDERS UPDATE ASSESSMEN	т
1600						
			RED/BLUE FW SYNC	MOVEMENT REVIEW BOARD		
1700					G6 SYNC	
	COMMANDER	S UPDATE BRIEF				
1800		EXCON HUDDLE	CONSOLIDATED ATO PUBLISH			
		NET CALL 🚳		TARGETING DECISION BOARD		
1900		EXCON				
		WFF SYNC DECISION BOARD				
2000				PLANS UPDATE		
				OPS SYNC		
2100						LEGEND
						HICOM + RTU
2200						EXCON ONLY
						EXCON W/HICOM REPS
2300						HICOM
			FRAGORD PUBLISH			1 ID INTERNAL

D-22 HICOM/EXCON Battle Rhythm

D-23 EXCON Battle Rhythm Event 7-Minute Drills

Putpeter Information Guidance Synchronize live and constructive rotational OC/T teams; disseminate guidance to OC/T Erequency: Twice Daily Duration 1 hour	Decision Action events; gather feedback from teams	Attendees Staff Proponent: EXCO Chair: Exercise Director Members (RCS): See N As Applicable: ??	IN – Warrier 3C (OL01) let Call Sequence, Next Slide
PACE P: RCS A: SVOIP C: DCS Connect NIPR VOIP Dail-In C: DCS Connect NIPR VOIP Dail-In E: Face to Face at Room 204, Bidg 990			
Agenda • See next Slide	Impsufa • Se next Slide		Outgests Guidance from OL01

	a Director Dr	Drief	PDATED AS OF: 20200604	HICOM	EXCON
	se Director Pr	e-brief		***	*
Purpose Information Guidance De	ACTION ACTION	Attendees			
Small group pre-brief to COG on status of the exerci-	ise, focused on RTU	Staff Proponent: Lizard	13		
TSIS Del SI.		Chair: Exercise Director (Outlaw 01)		
Erequency Daily, 1400		Small Group (In-Person)	Senior Mentor, Lead 6, Out	aw 01, Outla	w 40,
Duration 30 minutes		Ramrod 99, Warrior 3, Liz	and 09		
Location CCR, Bidg 990 w/ OC/T Leads on MST	eams via Call Phone	Large Group (Distribute DTAC OC/T Lead, 1D SA OC/T Lead, 1D SB OC/T	I): DMAIN OC/T Lead (MCTF VCP OC/T Lead, 1 DIVARTY (Lead, 1-4 CAV OC/T Lead (C)	^o Ops Grp Cl DC/T Lead, 1 Jobra 07)	DL). I CAB
PALE P: Face to Face at CCP. Bids 899		As Applicable:			
F. Face to Face at CCR, Biog 590 A: MS Teams via Cell Phone or Desktop App (NIPF C: E: 	0				
Agenda	Inputs		Outputs		
 Executive-level discussion 	 No formal inputs 		 Guidance from Senior M Director 	/entor/Exerci	se
6/16/2020 EXCON U	NCLASSIFIED // FOR OFFI	CIAL USE ONLY // EXERCI	ISE The Jayhawk	Corps!!!	4

	se Director B	u vief	PDATED AS OF: 20200614	HICOM	EXCON
	Se Director Bi	IEI		* * *	*
Purpose Information Guidance D	ACTION ACTION	Attendees			
EXCON brief to Exercise Director on status of the e	ixercise covering actions	Staff Proponent: Warrior	03		
and observations along all Warlighting Functions.		Chain Francis - Dimeter i	Distance Diffe		
		Chair: Exercise Director (Outlaw 01)		
Erequency Daily, 1500		Small Group (In-Person)	Senior Mentor, Lead 6, Outl	aw 01, Outlas	w 40,
Duration 1 hour		Warrior 3, Vulture 07			150
		Large Group (Distributed	 bud-s, cos, ci, z, s, 4, : HCOM/EXCON Primaries 	. ENG. PRO	10) F. G8.
Location Room 204, Bidg 990		G9)	•		
PACE		As Applicable:			
P: In Person at Room 204, Bido 990					
A: In Person at Room 139, Bldg 990 distributed ow	ar SVOIP Phone Bridge				
C:					
E.					
Agenda	inputs		Outputs		
 Rotation Training Objectives Review 	Assessments by WE/Er	arus Area			
 Previous EXDIR Guidance * 			 OPFOR next 24 hrs 		
Decision points for EXDIR Distinguished Matters			 MESL Injects next 48 		
 EXCON Update 			 Any Scenario changes 	\$	
 Simulation Status" (V07/L30) 					
 Exercise Weather* (SWO) SWODECCE (Dept.) 					
OPFOR (BH03)					
 HICOM 					
 Corps Intel Update (LD9) 					
 Corps Fires Update (WUV) CEACC/ Corps ALO Update (BIIT) 					
 Corps DCG-M Update (B07) 					
 SOTF-G Update[®] (S07) 					
MESL Focus					
 Consolidated Exercise Recommendations 					
EXDIR Guidance/ Decision					
6/15/2020 EXCON U	NCLASSIFIED #FOR OFFI	CIAL USE ONLY // EXERCI	ISE The Jayhawk	CorpsIII	5

		U	PDATED AS OF: 20200604	HICOM	EXCON
EXCON Scenar	10 Sync				*
Purpose INFORMATION GUIDANCE DE	ACTION ACTION	Attendees			
Synchronize live and constructive rotational events;	modify OE as required to	Staff Proponent: EXCOM	I – Warrior 3		
scheve bry hanning objectives		Chair: Warrior 3			
Erequency Daily, 0800 PST		Members: EXCON - Lizz	ard 09. Vulture 07. Warrior 27.	Warrior 3A,	Scorpion
Duration 30 Minutes		7T, Wrangler rep, OPFOR	t. HICOM: G3 rep		,
Location Room 139, Bido 990		As Applicable:			
PACE					
P: In-Person A:					
G					
E					
Agenda	Inputs		Outputs		
 >24hrs, CUOPS, gaine-ga Next 95 has 51/065 hasherteen 	 Exercise Director Guida EVCON WE Desision 	ance Read Guidanas	Scenario Design Chang Blue (2011, Net	es osiacioaost :	uniter)
 Next 72 hrs, FUOPS, develop 	 WORKING DOCUMEN 	(T: 20-10	 Red 	errardjacerti i	maj
 Next 48 hrs, CUOPS/FUOPS, refine Next 24 hrs, CUOPS, validate 	Synchronization Matrix	c	 Green 		
 Discussed is relation to: 			EXCON Guidance to OE	508 Suno	
Blue – 11D			Guidance to ME	SL Sync	
 Blue – VII Corps, 21ID, 35ID, 70 MEB 			 Guidance to FW 	/ Sync	
 Red – OPFOR 			HICOM INTSUM:		
Green – ATR, CIVPOP			 FRAGOs 		
 MESLs (key events) 					
6/15/2020 EXCON Warrior 3 LTC Sargent U	NCLASSIFIED // FOR OFFI	CIAL USE ONLY // EXERC	ISE The Jayhawk	Corps!//	6

		u	PDATED AS OF: 20200604	HICOM	EXCON
EXCON OPFOR	RSync				
Purpose Information Guidance De	CISION ACTION	Attendees			
Synchronize live and constructive OPFOR actions;	modify OPFOR SoM as	Staff Proponent: Lizard 0	9		
required to properly achieve DIV Training Objectives	1	Chair: Blackhorse 6			
Frequency Daily, 0900 PST		E	Marries 2 Marries 22 Lines	1.7. Lineard 76	5. It is seen at
Department 20 Million to a		09, Vulture Team	Warnor 3, Warnor 3G, Lizan	1.5, Lizard S	5, LIZ300
Durause 30 Minutes		Large Course (Distributed	h. Disabisasa C. Disabisasa i		
Location Room 204, Bidg 990		Cell, Blue/Red Air White C	ell DIC	DEFICIN Res	portse
PACE	As Applicable: Senior Tra	iner as available / required			
P: In Person A: In Person (Small Group) + CPOF Ventrillo OPFC C: E:					
Agenda	Inputs		Outputs		
 Review Senior Trainer guidance and training objectives for next 24 hours 	• TBP		OPFOR SoM Live adjust OPFOR SoM Construct?	tments (Next re adjustmer	t 24) ntsi (Next
 Review OPFOR targeting priorities / planned Soll for next next 24 hours 			24)		
 Review planned MESLs that impact OPFOR and Solv 					
Review current disposition J composition J strength (constructive and live); discuss any required adjustments in COFMs, timeline for critical events, etc. Review any concerns by WF: Intelligence Movement & Maneuver Fires Sustainment Protection Command & Control					
6/15/2020 EXCON Lizard 09 U	NCLASSIFIED // FOR OFFI	CIAL USE ONLY // EXERCI	se The Jayhawk (Corps!!!	7

		U	PDATED AS OF: 20200604	HICOM	EXCON
	sync				
Purpose Information Guidance Dev	CISION ACTION	Attendees			
Synchronize constructive MESL Injects; modify MES	3L Injects	Staff Proponent: Lizard (19		
		Chair: Lizard 09			
Frequency Daily, 1000 PST		Email Group (In Berron)	Warrier 2 Warrier 27 Lines	d 7. Hernod 26	Linnard
Duration 1 hour	Small stroup (in Person): Warner 3, Warner 3C, Lizard 3, Lizard 39, Lizard 39, Lizard 30, Vulture Team, Warner 71, Bronce 71, HICOM Rep from each WF.				
Location Room 139, Bldg 990		Large Group (Distributed	il:		
PACE		As Applicable:			
P: Face to Face at Room 139, Bidg 990 A: NIPR VOIP Dail-In C: DCS Connect / Skype for Business E:					
Agenda	Inputs		Outputs		
 Review previous 24 hour MESL impacts / required follow up 	Planned MESL events 1	by WIF	MESL adjustments (Nex MESL execution decisio	t 24/48/72) ns (Next 24)	
 Review follow Senior trainer guidance / training objectives that require MESL injects for next 24 hours 					
Review planned MESLs for next 24 hours (by WF) Intelligence Movement & Maneuver Fires Sustainment Protection					
Command & Control					
 Discuss probable MESL requirements for next 48/72 hrs 					
6/15/2020 EXCON Scorpion TAFF UI	NCLASSIFIED // FOR OFFI	CIAL USE ONLY // EXERCI	SE The Jayhawk	CorpsIII	8

EXCON Airspace	Working Group
INFORMATION GUIDANCE DECISION ACTION Purpose • To approve the Live-NTC ACO (Red, White, Blue) • • To understand Live assets in play • • Frequency: Daily, 1230 • • Duration: 30 Minutes EXCON • • Location: EXCON Meeting Room (Room 139, Bidg 990) • PACE • • • P: In-Person A: MS Teams • • C: CPOF/Ventrillo • • •	 <u>Staff Proponent</u>; EXCON Airspace Element <u>Chair</u>: Warrior 03, Warrior 03N, Eagle 3T <u>Small Group (In-Person)</u>: Raven 07, Raven 03, Eagle 07, Eagle 03, Warrior 27, Dragon 02 (Zulu TAC OIC), Blackhorse G3 AIR, Blackhorse UAS, Warrior 02 <u>Large Group (Distributed</u>): DESRAD, Blackhorse G3 Air, Blackhorse UAS, 2916th S3, VIP UH-60 rep, Sokol Rep, NTC Protocol
Agenda Yesterday's ACO (As necessary) Airspace /Safety Violations Coaching Necessary to DIV JAGIC Today's ACO Review (5 mins) Live FW operations Live RW operations Live UAS (8H + GE) operations Live VIP operations Live Solid operations Live Solid operations Live Solid operations Live Solid operations Live Fires / Constructive Fires affecting Scenario Potential Conflicts / Contingencies Tomorrow's ACO Review (+24) (10 mins) Same as above Output: Approved LIVE-NTC ACO	Briefing Responsibilities • Warrior • Pending VIP Missions • Baven • Live and Virtual FWActivities • Eagle • Live RW Activities • Live TWAS/GE Activities • Warrior 09 • Live GE activities • Blackhorse G3 Air • UAS Activities • Sokol Activities

EXCON Airspace	e 7-Minute Drill	HICOM	EXCON
Incommon Guidance DECision Action Purpose: • Share information across the DTOC • Enable CDR to understand Airspace Operations Erequency: O(O, at least twice daily • • Duration: 7-minutes • Execution: • Execution: EXCON DTOC floor • P: In-Person on DTOC floor •	Ongoing Operations: Live FW operations (Blackbird) • Current Live RW operations (Eagle 3T) • Current Live UAS (BH + GE) (Eagle 3T) • Current Live VIP/Sokol operations (Eagle 3T) • Current Live VIP/Sokol operations (Eagle 3T) • Current Live Fires (Warrior 27) • Gurrent Live Fires •OR•Constructive Fires (Warrior 27) • Current		
Agenda: Live FW operations (Blackbird) • Current • Next 24 Live RW operations (Eagle 3T) • Current • Next 24 Live UAS (BH + GE) (Eagle 3T) • Current • Next 24 Live VIP/Sokol operations (Eagle 3T) • Current • Next 24 Live Fires (Warrior 27) • Current • Next 24 Live Fires • OR - Constructive Fires (Warrior 27) • Current • Next 24 Live Fires • OR - Constructive Fires (Warrior 27) • Current	Next 24: Live FW operations (Blackbird) • Next 24 Live RW operations (Eagle 3T) • Next 24 Live UAS (BH + GE) (Eagle 3T) • Next 24 Live VIP/Solid operations (Eagle 3T) • Next 24 Live Fines (Warrior 27) • Next 24 Live Fines (Warrior 27) • Next 24 Live Fines •OR+Constructive Fines (Warrior 27) • Next 24	V1.0	6/15/2020

Purpose increasement currow Attern Synchronize and execute Blue and Red Air Live and Constructive Fixed Wing sorties for VII Corps and RTU Division Stat Erequency Daily, 1630 PST Stat Duration 30 minutes Cha Lesation Room 139, Bidg 990 Larg P: DCS Connect (NPR) A: Skype for Business (NPR) As A C: SVOIP for Voice, E-mail Distro for Stides/EXMAT Exactise Director Guidance As a Agenda Assessment Last 24 ATD Exactise Director Guidance EXCON WF Decision Board Assessment Last 24 ATD Last 24 Mission Results (Asset Not 24 Next 24 ATO Execution	endees iff <u>Proponent</u> : EXCON – Warrier 3 alt: Warrier 3 alt <u>Group (In-Person)</u> : Warrier 3, Lizard 09, Warrier 27, Raven, Lizard MA ig <u>e Group (Distributed)</u> : Blua/Red Air White Cell OIC
Agenda Assessment Last 24 ATO Next 24 ATO Execution EXCON WF Decision Board Last 24 Mission Results (Asse	Applicable: N/A
JFACC apportionment JFLCC allocation WI Corps distribution Draft ATO Live Constructive	d Guidance

	nchronizat	on Decision B	Oard	HICOM	EXCON
Purpose Information Guidance D	ACTION ACTION	Attendees			
EXCON brief to Exercise Director on status of the o	xercise covering actions	Staff Proponent: Warrio	r 03		
and observations along all Warlighting Functions.		Chain Francisco Dimeter	(D. 4) 04)		
Francisco Fields 45.52		Citati: Exercise Director	(outaw of)		
Frequency Daily, 1500		Small Group (In-Person	EXCON Warrior 3, Vulture 0	17	
Duration 1 hour		HICOM Primaries (DOG-	M, DCG-8, CO8, G1, 2, 3, 4, 5	5, 6, FSCOOI	RD)
Location Room 204, Bidg 990		Large Group (Distribute G9)	d): HICOM/EXCON Primaries	, ENG, PRO	т, св,
PACE		As Applicable:			
P:In Person at Room 204, Bidg 990 A:In Person at Room 139, Bidg 990 distributed ov C: E:	ar SVOIP Phone Bridge				
Agenda	Inputs		Outputs		
 Rotation Training Objectives Review Bravious EXDIR Guidance * 	Assessments by W	F/Focus Area	00500		
 Decision points for EXDIR 			 MESL Injects next 48 		
Distinguished Visitors* SY2ON Underte			 Any Scenario changes 	5	
 Simulation Status" (V07/L30) 					
 Exercise Weather* (SWO) 					
 SIMOPFOR (B02(a)/B09(a)) OPFOR (BH03) 					
 HICOM 					
Corps Intel Update (L09) Corps Elege Lipdate (MUT)					
CEACC/ Corps ALO Update (R07)					
Corps DCG-M Update (B07)					
 SOIP-3 Update (S07) Corps DCG-S Update (GM07) 					
MESL Focus					
Consolidated Exercise Recommendations EXDIR Guidance/ Decision					
6/15/2020 EXCON	NCLASSIFIED // FOR C	FFICIAL USE ONLY // EXERC	ISE The Jayhawk	CorpsIII	12

D-24 VII Corps (HICOM) Battle Rhythm Event 7-Minute Drills

Commanders L	Jpdate Brief -	- 7-Minute Dr	PDATED AS OF: 20200520	HICOM	EXCON
Purpose increasion outputs of an essessment of cur upcoming events and decisions in the short-range p hours) Erequency Daily, 1700 Duration 1 Hour Location VI Corps Main CP and Distributed PACE P: CPOF / Ventrillo A: Transverse and Sharepoint for slides C: SVOP Bridge and SharePoint for slides C: SVOP Bridge and SharePoint for slides B: FP OCS and SharePoint for slides B: FP or TACSAT and SharePoint for slides B: FP or Sand SharePoint for slides B: FP or F	ACTION ACTION Part operations and review lanning horizon (<24 ms Check (15 min prior) Call (5 min prior)	Attendees Staff Proponent: G33 CL Chair: CG, VII Corps (Se Members: CCSM, DCG-1 G39 IO, G3 AMD, G3 AW SURG, G5, G6, PROT CL IG, KM, PAO, SEC COOP EXCON: Exercise Directo As Applicable: Attachme	JOPS, VII Corps nior Trainer) M, DCG-S, COS, G1, G2, ISR MS, G3 FM, G3 SPACE, FIRES 4F, CBRN, ENG, PMO, G7, G P, SJA, MSC CDRs M, EXCON Staff, OC/Ts as red ants, Interagency Representativ	, SWO, G3, (, ALO, EWO B, G9, CEM4 quired ves	333, G35, G4, , CHAP,
Agenda	Inputs • Updated Running Estim • Updated Situation Temp • Updated operational gostio • Significant activities last • Commander's Critical In (CCIR) • Decision Support Matrix	tatas slate (SITTEMP) splits, friendly unit n t 24 hours formation Requirements < (DSM)	Dutputa • Commander's decisions • Fragmentary order, as r	and guidanc	4
6/15/2020 VII Corps G33 U	NCLASSIFIED // FOR OFFI	CIAL USE ONLY // EXERC	ISE The Jayhawk	Corps!//	3

Construction management workung Group / -Minute Drin Dipole Review, prioritize, coordinate, and validate asset allocations to enable the Commander's decision making Attandes Expansing Daily 1300 Mathematical Status Mathematical	Collection Man	agamant	Mar	king Crown	IPDATED AS OF: 20200521 HICOM	EXCON
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Ensquency: Dely, 1300 Small Group (Description in integrated on the integr	Commander's decision making			Chair: Collection Manage	w/Collection Tech	
Exception Simal Group (In-Person): G2 Ope, G3 FUOPS, ACE Section Laads, SWD, Fire, ISRL0, STO, CEMA, TAIS, Protection, ID, ALO Excetion Building 990 Room 139 Large Group (Distributed): Subordinate Command Collection Managers PACE P: CPOF / Ventrillo A: Transverse and SharePoint for slides Simal Group (In-Person): G2 Ope, G3 FUOPS, ACE Section Laads, SWD, Fire, ISRL0, STO, CEMA, TAIS, Protection, ID, ALO EXCE P: CPOF / Ventrillo A: Applicable: N/A A: Transverse and SharePoint for slides E: M or TACSAT and SharePoint for slides E::: RCS and SharePoint for slides CG's Priorities • Provide Corps Collection Sync Matrix for ATD-3 CG's Priorities • Roview curver to remy situation for BEA • Roview curver to remy situation (BEA • Roview curver to remy situation (BEA • Roview curver to collection plan (BF2 hours out) • Roview wx offect to Collection satests Carvert and projected friendly oparations • Roview wx offects to Collection satests • Ureather Updata • Validated collection requirements to higher echelons (AOC) • Division CM Update • Provide Ubtion requirements to higher echelons (AOC) • Intelligence/collection gaps • Division CM Update • Provide Ubtion requirements to higher echelons (AOC) • Nortimated collection requirements to higher echelons (AOC) • Division CM Update • Roview collection plan (harces requirements to higher approval) </td <td>Erequency, Doily 1300</td> <td></td> <td></td> <td>sinan- concourt manage</td> <td></td> <td></td>	Erequency, Doily 1300			sinan- concourt manage		
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Distance and Strategiont for sides CS SVOP Bridge and SharePoint for sides EE RCS and SharePoint for sides Aganda • Corps CM Update • Provide Corps Collection Sync Matrix for ATO+3 • Review Collection Priorities • Review Collection plan (48-72 hours out) • Provide Update • Provide Division collection req for ATO+3 • Provide update ANAI ist to nest with Corps afforts • Provide update ANAI ist to nest with Corps afforts • Provide update ANAI ist to nest with Corps afforts • Review collection plan (172-96 hours out) • Review collec	P: CPOF / Ventrillo					
E: FM or TADŠAT and SharePoint for slides Exc:S and SharePoint for slides Agenda Imputs Outputs • Provide Corps CM Update • CG's Priorities • CG's Priorities • Current and projected energy situation of BDA • Validated collection plan for the next 48-72 • Review PRI and Collection Priorities • Collection asset status • Collection asset status • Proposed 72-95 hour collection plan • Proposed 96-hour collection plan for the next 48-72 • Review current energy situation / BDA • Review collection plan (48-72 hours out) • Proposed 72-95 hour collection plan • Proposed 72-95 hour collection plan • Review asset status (organic, theater, National) • Provide Update • Proposed 72-95 hour collection plans • Intelligence/collection gaps • Division collection req for AT0+3 • Provide Update • Intelligence/collection gaps • Intelligence/collection gaps • Provide Update • Provide Update • Provide Update • Intelligence/collection gaps • Intelligence/collection gaps • Closeau • Review collection plan changes (needs approval) • Subcord 72-96 hours out) • Review collection plan (72-96 hours out) • Review collection plan (72-96 hours out) • Division collection plan (72-96 hours out) • Review collection plan (72-96 hours out) • Review collectio	C: SVDIP Bridge and SharePoint for slides					
EEE: RCIS and SharePoint for slides Agenda Impats Outpute • Corps CM Update • CG's Priorities • Current and projected energy situation wit EDA, Current and projected friendly operations • Validated collection plan for the next 48-72 hours • Review Current energy situation / EDA, Review current store of collection Assets • Validated collection plan for the next 48-72 hours • Review current energy situation / EDA, Review collection plan (48-72 hours out) • Proposed 72-95 hour collection plan • Proposed 72-95 hour collection plan • Review asset status (organic, theater, National) • Provide updated MAI ist to nest with Corp efforts • Intelligence/collection gaps • Intelligence/collection gaps • Provide updated MAI ist to nest with Corp efforts • Provide updated MAI ist to nest with Corps (needs approval) • Provide updated collection plan (72-96 hours out) • Review collection plan (72-96 hours out) • Review collection plan (72-96 hours out) • Review collection plan (72-96 hours out) • WICLASSUFIED // FOR OFFICIAL USE ONLY // EXERCISE * The Jayhawk Corps!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	E: FM or TACSAT and SharePoint for slides					
Aganda Ingate Outgate • Corps CM Update • CG's Priorities • CG's Priorities • Provide Corps Collection Sync Matrix for ATO+3 • CG's Priorities • Current and projected friendly operations • Review PR and Collection Priorities • Collection asset status • Collection plan (8+72 hours out) • Review collection plan (8+72 hours out) • Collection plan • Proposed 72-96 hour collection plan • Review wx effects to Collection Assets • Weather Update • Nominated collection requirements to higher • Review wx effects to Collection req for ATO+3 • Intelligence/collection gaps • Nominated collection requirements to higher • Provide Update • Provide Update • Intelligence/collection gaps • Nominated collection requirements to higher • Provide Update • Provide Update • Intelligence/collection gaps • Nominated collection requirements to higher • Provide Updated NAI list to rest with Corps efforts • Present concerns / issues • Intelligence/collection gaps • Review collection plan changes (needs approval) • Review collection plan (72-96 hours out) • WICASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE The Jayhawk Corps!!!!	EE: RCS and SharePoint for slides					
 CCrypt CM Update CCrypt CM Update CCrypt Collection Sync Matrix for ATO+3 Review Collection Sync Matrix for Review collection plan (48-72 hours cult Collection asset status Collection Assets Review collection for Ato+72 hours cult Subordinate unt collection plans Intelligence/collection gaps Intelligence/collection gaps Intelligence/collection gaps Nominated collection plan (ACC) Nominated collection requirements to higher echelons (ACC) Nominated collection requirements to higher echelons (ACC) Nominated collection requirements to higher echelons (ACC) Nominated collection for ATO+3 Provide updated NAI list to nest with Corps efforts Previde updated NAI list to nest with Corps efforts Review collection plan changes (needs approval) Discuss / waldate collection plan (72-96 hours out) WICLASSUFIED // FOR OFFICIAL USE ONLY // EXERCISE The Jayhawk Corps!!!! Motical Close of the collection plan (72-96 None collection plan (72-96 None collection plan (72-96 None collection plan (72-96<td>Agenda</td><td>Inputs</td><td></td><td></td><td>Outputs</td><td></td>	Agenda	Inputs			Outputs	
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National) National) Division CM Update Provide update NAI list to read for ATD+3 Provide updated NAI list to nest with Carpe efforts Present concerns / lissues Closeout Review collection plan changes (needs approval) Divisions / validate collection plan (72-96 hours out) VII Corps G2 LTC Dever UWCLAS SUFIED // FOR OFFICIAL USE ONLY // EXERCISE The Jayhawk Corps/!// 6	 Review asset status (organic, theater, 	 Intelligence/col 	lection ga	aps		
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Present concerns / issues Closeout Review collection plan changes (needs approval) Discuss / validate collection plan (72-96 hours out) 6/15/2020 VII Corps G2 LTC Dever UNCLASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE The Jayhawk Corps/// 6	 Provide updated NAI list to nest with 					
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Review collection plan changes (needs approval) Discuss / validate collection plan (72-95 hours out) UNCLASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE The Jayhawk Corps!// 6	 Closeout 	1			1	
O Discuss / validate collection plan (72-96 hours out) 6/15/2020 VII Corps G2 LTC Driver UNCLASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE The JayhawR Corps/// 6	 Review collection plan changes (needs anormal) 					
hours out) I 6/15/2020 VII Corps G2 LTC Dever UNCLASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE The Jayhawk Corps/// 6	 Discuss / validate collection plan (72-96 	1			1	
6/15/2020 VII Corps G2 LTC Dever UNCLASSIFIED // FOR OFFICIAL USE ONLY // EXERCISE The Jayhawk Corps/// 6	hours out)	1			1	
	6/15/2020 VII Corps G2 LTC Dever	INCLASSIFIED // FI	OR OFFI	CIAL USE ONLY // EXERC	ISE The Jayhawk Corps!!!	6

			IPDATED AS OF: 20200520	HICOM	EXCON
Targeting Worl	king Group – I	-Minute Dril			
PUTPORE INFORMATION GUIDANCE D	ECISION ACTION	Attendees			
Synchronize targeting activities in order to ensure the nested with Commander's priorities and JTF Object	target engagements remain tives.	Staff Proponent: VII Cor	ps Targeting Officer, VII Corps	FSCOORD	
		Chair: VI Corps FSCOO	RD CIR		
Erequency Daily, 1400		Small Group (In-Person)	: G2, G33 CUOPS, G35 FUO	PS, G3 AVN	G5
Duration 1 Hour		Plans, Fires, TACP, SJA,	Warrior 3, Warrior 27		
Location Building 990 Room 139		Large Group (Distribute PMO, SOJTF LNO, Subo	∰: G3 Space, G6, G9, CEMA, rdinate LNOs	ENG, KMI	SO, PAO,
PACE		As Applicable: 1D FSC FAB. 31 FAB FSCOORDS	OORD, 21 ID FSCOORD, 35 II	D FSCOORD), 18
P: CPOP / Ventilia A: Transverse and Sharepoint for slides C: SVOP Bridge and SharePoint for slides E: FM or TACSAT and SharePoint for slides EE: RCS and SharePoint for slides			-		
Agenda	Inputs		Outputs		
 Review Commander's Targeting Guidance Review Combat Assessments (Last 24) 	 Commander's targeting Energy SITEMP/latest a 	guidance ssessment/proposed	 Recommended Target S Recommended Target F 	Sets next 72 F Refinements 1	hours for next 48
hours)	target sets	and a second second	hours ATO	la minationa d	
 Review/Approval of Coordinated Target List 	Assessment Last 24 not Component SoM	urs	 Recommended Target P hours ATO 	iominations 1	or next /2
 /Target Nomination List /Air Support Request Review ISR Collection Plan 	 CTL/TNL/ASR Nominati ISR Collection Concept 	ans	 Recommended Scheme Maneuver next 48/72 	of Fires and	
Capabilities Analysis DMG Supervise	Effects sync matrix Running Estimates		 Recommended ISR Coll Brinkling 	ection Plan a	and
• Two summary	 Running Estimates 		 Recommended Al and C 	AS Allocatio	ens.
			 Recommended Changes 	a to HPTL	
6/15/2020 VII Corps Fires MAJ Nemec II	INCLASSIFIED // FOR OFFI	CIAL USE ONLY // EXERC	ISE The Jayhawk (Corps!//	7

			PDATED AS OF: 20200520	HICOM	EXCON
Airspace Work	ing Group –	/-Minute Drill			
Purpose Inscreammon Gutowacc Del To facilitate and synchronize contributions from all the airspace collective tasks at Corps and DIV-level Energian collective tasks at Corps and DIV-level Exequency Daily, 0900 Duration 30 Minutes HICON / 30 Minutes EXCON Location VII Corps Main CP Floor (Room 139, Bill PACE P: CPOF / Ventrillo P: CPOF / Ventrillo A Transverse and Sharepoint for sides C: SVDIP Bridge and SharePoint for sides E: FM or TACSAT and SharePoint for sides E: FM or TACSAT SharePoint for sides	scraon xcnon the elements that perform dg 990)	Attendees Staff Proponent: G3, VII Chair: Aispace Officer, G Small Group [In-Person AMD, G5 Plans, Fires, T2 CAB LNO, TAIS operate Large Group [Distribute: ENG, IO/MISO, PAD, PM As Applicable: Subordin Blackhorse UAS, Blackd	Corps Corps (; G2, G33, CUOPS, G35, FUO CP/ALO, Warrior 3, Vulture, V r , CEMA rep, SWO (); G3 Space, G4, G9, CADE (), SOJTF, LNO, Subordinate ate CMD - JAGIC Chief / SAD horse G3 Air (EXCON: only)	PS, G3 AVN Varior 27, B , CBRNE, CE , NOs, UAS I , FAB, DIVA	I, AE, Itonico 27 EMA, LINO RTY, CAB
EE: RCS and SharePoint for slides Agenda Same Agenda for HICON, then EXCON Last Executed ACO (5 mins) Airspace /Safety Violations Courrent ACO ACIN Review (10mins) Friendly GSOM ADA UAS, RW CASIA Potential Conflicts / Contingencies Upcoming ACO Review (+24) (5 mins) Same as above Build the next UAP(+48) (10 mins) FC's Airspace Guidance. Corps ACMs to be included Guidance to DIV for UAP Requirements Builds on briefs requirements Builds on briefs requirements Builds on briefs requirements Builds on briefs requirements COMPACTIONE	Ingests	nce. y of ASRs quired) s: sets (G2) tets (Fires Cell) sets (ADA Cell) d Airspace Boundaries (G3) tFR, FARPs, ACs, and CAB LNO) ures delegated to Division CMs (Red) (EXCON) (Red/Blue) (EXCON)	Quitouts UNE-NTC ADD Red/Wh Corps UAP for submissi ADC/BCD Replicated) () Exercise Blue ACO (H)	ta/Blus (EXC on to BCD(A HICON) CON)	con) oc (r

		UPDA	ATED AS OF: 20200520	HICOM	EXCON
Non-Lethal Eff	ects work	ng Group - /-Mini	ute Drill		
Purpose increasion guranet or To coordinate, synchronize and find solutions to op- mission objectives and end states through the user related capabilities Erequency Daily, 1300 Duration 1 Hour Location VII Corps Main CP Floor PACE P: CPCF / Ventrillo A: Transverse and Sharepoint for slides C: SVDIP Bridge and SharePoint for slides E: FM or TACSAT and SharePoint for slides	actional problem sets of non-lethal / informat	Attendees Staff Proponent: G39, VII Co Chair: G39 Small Group (In-Person): G3 OPSEC, SPEC & SPACE, FIF Large Group (Distributed): 1 As Applicable: Attachments,	xps 2, G33, G35, SUA, G5, G9 RES, SEC COOP, CHAP, OGA, MSC G39s , Interagency Representati	, CEMA, MIS SOF REP Was	0, PAO,
EE ROS and Sharke-out for stokes Agenda Due Outs from previous NLE WG IRC's Assets Available / Task Organization Intel Assessment / Enemy Situation Update (G2) Friendly Durrent Situation Update (G33) IE Assessment Update (G39) Future Plans Update +72 hours (G35) Review Current Nessaging and Taking Points (PACMISO) Target Nominations (+72 hours) Dynamic Targets (24-48 hours) SE Hour Guidance NLE Assessments Review New Dues Outs	Inputs CDR's Objective IRC Running Es Enemy Situation Friendly Situation IE Situation Inputs from other Media Analysis / Target Audience	Intent and End State nate (Assets Available, etc.) WGs entiment Trends nalysis	Algorith NLE Target Nominations Refined NLE Concept of NLE Synchronization M FRAGO Input (Tasks to Recommended PRs RFIs / RFF / RFS Measures of Effectivene Performance Collection Requirements Updated Battle Drills	Talking Point 1 Support atrix Subordinate ss and Meas a ISO MoE	s Units) ures of

Sustainment S	vnc V	Norking	Group - 7-Mi	PDATED AS OF: 20200521	HICOM	EXCON
Sustainment S	ync v	VOIKING	Group-7-Mi			
Purpose INFORMATION Guidance Designation Synchronize Corps Logistics efforts with Corps / Thisustainment priorities ICW the ESC and sustainment The sustainment priorities ICW the ESC and sustainment Erequency Daily Duration 1 hour Location VII Corps SACP PACE P: CPOF/Ventrillo A: Transverse for voice and SharePoint for slides 2: Face to Face at the SACP (Room 139, Bidg 990) Limited audience Limited audience 3.000 (Room 139, Bidg 990)	ciaon eater operative it enablers w/ Phone	Action ational and Link to FRKS) –	Attendees Staff Proponent: G4 OP Chair: ACoS G4, VII Corp Small Group (In-Person) Large Group (Distribute: As Applicable: LNOs fro	S ps (r G4, G1, G3, PROT, ENG, S d): DIV G4a, SPOs m MSCs, Attachments, Interaç	URG Jancy Repres	ientatives
Agenda Opening Remarks – G4 Due Outs Review DVL LOGOCPs Combat Power – OR Issues, fleet below 90% Sustainment Mobility Assessment Mobility Assessment Supply Assessment Supply Assessment Surgeon Assessment Distribution Matrix Review	Inputs Plann Asse priorit Impac Synch Theat	ting Efforts soments, current a iss cts on current open hronization of read ter requests for sup	nd projected readiness ations iness challenges across pport	Outputs Recommended changes priorities of effort, FRAG etc. Combat Power forecast Recommended changes commotilies Recommendations to Se Board	and updates OS, Safety 1 for next 24-7 to priority fo istainment D	i to Vlassages, 2 hours r lecision
6/15/2020 VII Corps G4 CPT Wilcox U	NCLASSI	FIED // FOR OFFI	CIAL USE ONLY // EXERC	ISE The Jayhawk (Corps!!!	10



National Training Center EXOP, ANNEX E CATASTROPHIC AND DAMAGED VEHICLE RECONSTITUTION

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

JUNE 2023 (FY23)

Annex E Catastrophic and Damaged Vehicle Reconstitution

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

E-1 Overview.

- The rotational training unit 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.
- <u>E-2</u> Vehicle and Equipment Reconstitution Cards



SBDA-M88A1/A2	UNIT: BUMPER	#: SE	3DA - M113 Variants 🚎	UNIT:	BUMPER #:
MOBILITY FAULT: Hub & arm ASSY damaged PARTS REQ D: Hub & arm ASSY (#1) TIME REQ D: 2.6 hours REPAIR START: REPAIR END: MOBILITY FAULT: Spade destroyed PARTS REQ D: 5pade ASSY TIME REQ D: 1.0 hour REPAIR START: REPAIR END: OC CALLSIGN: DTG I	MOBILITY FAULT: Transmission will not shift PARIS REQ'D: Control ASSY, transmission TIME REQ'D: 3.0 hours REPAIR START: REPAIR END: MOBILITY FAULT: Comp. idler arm cracked PARIS REQ'D: Comp. idler arm ASSY TIME REQ'D: 5.0 hours REPAIR START: REPAIR START: REPAIR END: DAMAGED:		MOBILITY IT: R/S final drive damaged IS REQ'D: K/S final drive E REQ'D: 4.0 hours PAIR START: PAIR END: MOBILITY IT: Generator INOP IS REQ'D: Generator, engine E REQ'D: 1.5 hours PAIR START: PAIR START: PAIR END: CALLSIGN: DTC	FIREPOWE FAULT: 50 calber: PARTS REQ'D: 50 cal MG TIME REQ'D: 2.0 hours REPAIR START: REPAIR END: MOBILITY FAULT: Hub ASS' TIME REQ'D: 5.0 hours REPAIR START: REPAIR START: REPAIR END: G DAMAGED:	CATASTROPHIC
SBDA-M88A1/A2	UNIT: BUMPER	#: SE	3DA -M113 Variants 備	UNIT:	BUMPER #:
MOBILITY FAULT: Hub & arm ASSY damaged PARTS REQ D: Hub & arm ASSY damaged TIME REQ D: 2.6 hours REPAIR START: REPAIR END: MOBILITY FAULT: PARTS REQ D: Spade destroyed PARTS REQ D: 10 hour REPAIR START:	MOBILITY FAULT: Transmission will not shift TIME REQ'D: Control ASSY, transmission TIME REQ'D: 3.0 hours REPAIR START:		MOBILITY IT: R/S final drive damaged IS REQ'D: R/S final drive REQ'D: 4.0 hours PAIR START: PAIR END: MOBILITY IT: Generator INOP TS REQ'D: Generator, engine E REQ'D: 1.5 hours PAIR START: PAIR START:	With the second seco	CATASTROPHIC
REPAIREND:	REPAIR END:	RE	PAIR END:	REPAIR END:	0
	UNIT: BUMPER # MOBILITY FAULT: Radiator damaged PARTS REQ'D: Radiator ASSY TIME REQ'D: 4.0 hours REPAIR START: REPAIR END: HMMWV VARIANT MOBILITY FAULT: Chassis wiring hamess REPAIR START: REPAIR START: REPAIR START: REPAIR END: AMAGED: UNIT: BUMPER #	CATASTROPHIC	CALLSIGN: DTO CALLSIGN: FUELER DA OFTODO FUELTANKER MOBILITY T: Front Aske damaged S REQD: Aske ASSY REQD: Ask Assy AIR START: AIR END: DTC Rear Aske damaged S REQD: 3.0 Hours PAIR START: PAIR END: CALLSIGN: DTG	G DAMAGED: UNIT: B M978 FUEL TANK MOBILITY FAULT: Fuel Tank d PARTS REQ'D: Fuel Tank TIME REQ'D: 5.0 Hours REPAIR START: REPAIR END: M969 TANKER MOBILITY FAULT: rear thes unse PARTS REQ'D: 3.0 Hours REPAIR START: REPAIR START: REPAIR END: DAMAGED:	UMPER #: CER CATASTROPHIC rviceable ORG MANY rviceable ORG MANY
HMMWV VARIANT	HMMWV VARIANT	SB	DA 00 00 FUELER	UNIT: B	UMPER #:
AUDELLITY FAULT: L'S tire unserviceable PARTS REQ D: L'S tire TIME REQ D: 1.0 hours REPAIR START: REPAIR END: HUMMWY VARIANT	AUDELLET Radiator damaged PARTS REQ'D: A.0 hours REPAIR START: REPAIR START: REPAIR END:	CATASTI REP	M978 FUEL TANKER MOBILITY T: Front Axle damaged IS REQ'D: Axle ASSY REQ'D: 4.0 Hours AIR START:	M978 FUEL TANK MOBILITY FAULT: Fuel Tank FAULT: Fuel Tank TIME REQ D: 5.0 Hours REPAIR START:	

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SBDA	MTVUNIT: BUMP	ER #:	SBDA	s UNIT: BU	MPER #:
MTV/LMTV MOBILITY FAULT: Front Axle damaged PARTS REQ'D: Axle ASSY TIME REQ'D: 2.6 Hours REPAIR START: REPAIR START: FAULT: L'S Wheel, Hub & Tee TIME REQ'D: J.0 Hours REPAIR START: REPAIR START: REPAIR START: REPAIR START:	MTV/LMTV MOBILITY FAULT: Radiator Damaged PARIS REQ D: Radiator ASSY TIME REQ D: 4.3 Hours REPAIR START: REPAIR END: MTV/LMTV PARIS REQ D: 4.5 Hours REPAIR START: REPAIR START: REPAIR END:		HIMARS MOBILITY FAULT: Front Ade damaged PARTS REQ'D: Ade ASSY TIME REQ'D: 6 Hours REPAIR START: REPAIR END: HIMARS FILEPOWER FAULT: W19/W20 Cable destroye PARTS REQ'D: Cable TIME REQ'D: 6 Hours REPAIR START: REPAIR START: REPAIR END:	HIMARS MOBILITY FAULT: Engine Damage PARTS REQ D: 24 Hours REPAIR START: REPAIR START: REPAIR END: HIMARS FIREPOWER FAULT: Hydraulic Cable DARTS REQ'D: 12 Hours REPAIR START: REPAIR START: REPAIR END:	CATASTROPHIC
OC CALLSIGN: D1	G DAMAGED:		OC CALLSIGN: DT	G DAMAGED:	OC COPY
SBDA WIVIM	TV UNIT: BUMP	ER #:	SBDA	UNIT: BU!	MPER #:
MTV/LMTV MOBILITY FAULT: Front Asle damaged PARTS REQ'D: Asle ASSY TIME REQ'D: 2.6 Hours REPAIR START:	MTV/LMTV MOBILITY FAULT: Radiator Damaged PARTS REQ'D: Radiator ASSY TIME REQ'D: 4.3 Hours REPAIR START: REPAIR END: MTV/LMTV MOBILITY FAULT: Chasis wiring Hamess TIME REQ'D: 4.5 Hours REPAIR START: REPAIR START: REPAIR END:	CATASTROPHIC	HIMARS MOBILITY FAULT: Front Axie damaged PARTS REQ'D: Axie ASSY TIME REQ'D: 6 Hours REPAIR START: REPAIR END: HIMARS FIREPOWER FAULT: W19/W20 Cable destroye PARTS REQ'D: 6 Hours REPAIR START: REPAIR START: REPAIR START: REPAIR START:	HIMARS MOBILITY FAULT: Engine Damage PARTS REQTD: Engine ASSY TIME REQTD: 24 Hours REPAIR START: REPAIR END: HIMARS FAULT: Hydraulic Cable TAULT: Hydraulic Cable TIME REQ'D: 12 Hours REPAIR START: REPAIR END:	CATASTROPHIC
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BDA	UNIT: BUMPER #		SBDA HEMITY UNIT HEMITY CARGO MOBILITY AULT: Fuel Tank destroyed ARTS REQ'D: Fuel Tank destroyed ARTS REQ'D: Fuel Tank destroyed ARTS REQ'D: Fuel Tank ASSY TIME REQ D: 5.0 hours REPAIR START: REPAIR MOBILITY REPAIR START: AULT: R.S Tires Unserviceable MOBILITY ARTS REQ'D: AULT: R.S Tires INME REQ'D: 2.0 Hours REPAIR START: REPAIR START: CALLT: R.S Tires INME REQ'D: 2.0 Hours REPAIR START: REPAIR START CC CALLSIGN: DTG DAMAGE	E BUMPER #: HEMTT CARGO MOBILITY REQTD: Radiator ASSY REQTD: 4.0 hours IR START: IR END: Rear tires unserviceable REQTD: 2.0 Hours UR START: IR END: C Rear tires unserviceable REQTD: 2.0 Hours IR START: IR END: C REART: IR END: C REART: C	CATASTROPHIC
BDA 00 000 -LHS/PLS	UNIT: BUMPER	*: 5	SBDA 00 00 FAMILY UNIT	: BUMPER #:	
MI120 LHS MOBILITY MULT: Fiel Tark destroyed MITS REQ'D: Fuel Tark ASSY ME REQ'D: 5.0 hores EPAIR START: EPAIR END: MI075 PLS MOBILITY AULT: RS Tres Unserviceable MOBILITY AULT: RS Tres Unserviceable EPAIR START: EPAIR START: EPAIR START: EPAIR START: EPAIR START:	M1120 LHS MOBILITY FAULT: Radiator Damaged PARTS REQ D: Radiator ASSY TIME REQ D: Addiator ASSY TIME REQ D: 4.0 hours REPAIR START: REPAIR END: M1076 PLS Trailer MOBILITY FAULT: reat ites unserviceable PARTS REQ D: ites TIME REQ D: 2.0 Hours REPAIR START: REPAIR START: REPAIR END:	CATASTROPHIC	HEMTT CARGO MOBILITY AULT: Fuel Tank Destroyed ARTS REQT: Fuel Tank ASSY TIME REQT: 5.0 hours REPAIR START: REPAIR START: AULT: BOOM INOP PARTS REQT: Hodraik Line REPAIR START: BOOM INOP PARTS REQT: Hodraik Line REPAIR START: REPAIR START: REPAIR START: REPAIR START: REPAIR START:	HEMITI CARGO MOBILITY Radiator Damaged REQ'D: Radiator ASSY REQ'D: 4.0 hours IR START: IR END: HEMAT TRAILER MOBILITY Rear Tires Unserviceable REQ'D: tires Unserviceable REQ'D: 2.0 Hours	CATASTROPHIC
C CALLSIGN: DTG D	AMAGED:	RTU COPY (C CALLSIGN: DTG DAMAG	GED:	ATT CONV

SBDA 🛹 .radar		UNIT: BUMPER #:
RADAR FIREPOWER FAULT: Severed Power Cable PARTS REQ'D: Power Cable TIME REQ'D: 0.25 Hours REPAIR START	ORG MAINT	RADAR FIREPOWER FAULT: Flat Tire Antenna Trailer PARTS REQ'D: Tire TDME REQ'D: 3 Hours: Q37 REPAIR START: PERAIR ENT::
REPAIREND: RADAR FIREPOWER FAULT: Blown Circuit Card PARTS REQ'D. Circuit Card TIME REQ'D. Q36/Q37 Only 1 Hour REPAIR START:	ORG MAINT	RADAR FIREPOWER FAULT: Strapel to Azimuth Encoder TIME REQ'D: Azimuth Encoder TIME REQ'D: 4 Hours REPAIR START:
REPAIR END:		REPAIR END:
OC CALLSIGN: DTO	3 D	DAMAGED:
SBDA 🚧 🐺 radar		UNIT: BUMPER #:
FAULT: Severed Power Cable PARTS REQ'D: Power Cable TIME REQ'D: 0.25 Hours REPAIR START:	ORG MAINT	RADAR FIREPOWER FAULT: Flat Tire Amerina Trailer PARTS REQ'D: Tire Amerina Trailer TIME REQ'D: 950/930.5 Hours; Q37 3 Hours REPAIR START:
REPAIR END: RADAR FIREPOWER FAULT: Blown Circuit Card PARTS REQ:D: Circuit Card TIME REQ:D: Circuit Card TIME REQ:D: Q36/Q37 Only 1 Hour REPAIR START:	ORG MAINT	REPAIR END: RADAR FIREPOWER FAULT: Shraped to Azimuth Encoder TIME REQ'D: Azimuth Encoder TIME REQ'D: 4 Hours REPAIR START:
REPAIR END:		REPAIR END:
SBDA STRYKER STRYKER FAULE Four Ade damaged	R U ORG MAI	UNIT: BUMPER #:
PARTS REQ'D: Axie ASSY TIME REQ'D: 6 Hours REPAIR START:	TI I	PARTS REQ'D: Wheel TIME REQ'D: 0.75 Hours REPAIR START: REPAIR END:
STRYKER FIREPOWER FAULT: Breech Damage PARTS REQ'D: Breech TIME REQ'D: 2 Hows REPAIR START:	ORG MAINT	STRYKER MOBILITY FAULT: Crade Dumage PARTS REQT: Crade TIME REQT: SHows REPAIR START:
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SBDA STRYKER MOBILITY FAULT: Front Aide damaged PARTS REQ D: Aide ASSY TIME REQ'D: 6 Hours REPAIR START:	R I ORG MAINT	UNIT: BUMPER #: STRYKER MOBILITY FAULT: Wheel Damage PARTS REQ/D: Wheel TIME REQ/D: 0.75 Hours REPAIR START:
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SBDA 💉	M777 UNI	E: BUM	PER #:
M777 MOBILITY FAULT: Lunette Broken PARTS REQ'D: Lunette TIME REQ'D: 0.25 Hours REPAIR START: REPAIR END:	FAULI PARTS TIME I REPA	M777 MOBILITY REQ'D: Wheel REQ'D: 0.75 Hours IIR START: UR END:	CATAS
AULT: Breech Damage PARTS REQ'D: Breech TIME REQ'D: 2 Hores REPAIR START:	FAULT PARTS TIME REP.	M777 FIREPOWER Cradle Damage REQ'D: Cradle REQ'D: \$ Hours IIR START:	ORG MANT
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OC CALLSIGN: SBDA M777 MOBILITY FAULT: Lunette Broken PARTS REQ'D: U.25 Hours REPAIR START: REPAIR END: M777 FIREPOWER FAULT: Berech Damage PARTS REQ'D: Breech TIME REQ'D: 2 Hours	MTTT UNIT OCC DATA FAULT PARTS TIME REPA COC DATA FAULT PARTS TIME FAULT FAULT FAULT FAULT FAULT	GED: M777 MOBILITY Wheel Damage REQD: 0.75 Hours HR START: HR END: M777 FIREPOWER Cradle Damage REQD: Cradle REQD: S Hours	PER #: ORE MAEY ORE MAEY
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SBDA-M109A6	UNIT: BUMPER	#:
FIREPOWER FAULT: Hyd. Pump unserviceable PARTS REQ'D: Hyd. Pump TIME REQ'D: 2.1 hours REPAIR START: REPAIR END:	MOBILITY FAULT Final drive unserviceable PARTS REQ'D. Final drive TIME REQ'D. 5.5 hours REPAIR START: REPAIR END:	CATAS
FIREPOWER FAULT: Unable to elevate gan tube FAULT: Unable to elevate gan t	MOBILITY FAULT: Oil pump uncerviceable PARTS REQ'D: Oil pump assembly TIME REQ'D: 6.3 hours REPAIR START: REPAIR END:	FROPHIC
OC CALLSIGN: DTG D	AMAGED:	OC COPY
SBDA-M109A6	UNIT: BUMPER	#:
SBDA-M109A6	UNIT: BUMPER MOBILITY FAULT: Find drive unserviceable PARTS REQ'D: Find drive TIME REQ'D: 5.5 hours REPAIR START:	
SBDA-M109A6 FIREPOWER FAULI: Hyd. Pump unservicesble FAULI: Hyd. Pump TIME REQ'D: Hyd. Pump TIME REQ'D: 2.1 hours REPAIR START: REPAIR END: FIREPOWER FAULT: Unable to elevate gan tube FAULT: Elevation Cyfinder TIME REQ'D: 2.3 hours REPAIR START: REPAIR END:	UNIT: BUMPER ADDREEDED ADDREEDE ADDR	

SBDA-M992 FAASV	UNIT: BUMPER #	:
FIREPOWER FAULT: 50 calber mount destroyed PARTS REQ'D: 20 hours REP.AIR START: REP.AIR START: REP.AIR END:	MOBILITY FAULT: Oi pump unservice able PARTS REQ'D: Oi pump assembly TIME REQ'D: 6.3 hours REPAIR START: REPAIR END:	CATAST
MOBILITY FAULT: Hub ASSY damaged PARTS REQ/D: Hub ASSY, track TIME REQ/D: 5.0 hours REPAIR START; REPAIR END;	AULT: Transmission will not shift PARTS REQ'D: Control ASSY, transmission TIME REQ'D: 3.0 hours REPAIR START: REPAIR END:	ROPHIC
OC CALLSIGN: DTG D	AMAGED:	OC COPY
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SBDA- M992 FAASV 卢	UNIT: BUMPER #	:
SBDA- M992 FAASV	UNIT: BUMPER # AULT: Ol pump userviceable PARTS REQ'D: Ol pump assembly TIME REQ'D: 6.3 hours REPAIR START: REPAIR END:	
SBDA- M992 FAASV	UNIT: BUMPER #	CATASTROPHIC

SBDA Generator	UNIT: BUMPER #:
FIREPOWER FAULT: SHRAPNEL IN ENGINE FAULT: SHRAPNEL IN ENGINE TIME REQ'D: NEW ENGINE REPAIR START:	MOBILITY FAULT: TRAILER TIRES DAMAGE PARTS REQ D: NEW WHEEL & TIRE TIME REQ D: 1 HRS REPAIR START:
REPAIREND: FIREPOWER FAULT: FUEL INJECTION PUMP PARTS REQ'D: NEW PUMP TIME REQ'D: 4 HRS REPAIR START: REPAIR START: REPAIR END: 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	REPAIR END: STROPHIC MOBILITY PARTS REQ'D: FAULT: LANDING LEG DAMAGE PARTS REQ'D: 2 HRS REPAIR START: REPAIR START: REPAIR END: REPAIR END:
OC CALLSIGN: DTG 1	DAMAGED: OC COPY
SBDA Generator	UNIT: BUMPER #:
SBDA Generator	UNIT: BUMPER #:
SBDA Generator FAULT: SHRAPNEL IN ENGINE PARTS REO'D: NEW ENGINE TIME REQ'D: 9 HRS REPAIR START: REPAIR END: FIREPOWER FAULT: FUEL INJECTION PUMP PARTS REQ'D: NEW PUMP TIME REQ'D: 4 HRS REPAIR START: REPAIR END:	UNIT: BUMPER #: MOBILITY FAULT TRAILER TIRES DAMAGE PARTS REQ'D: HMRS REPAIR START: REPAIR END: MOBILITY FAULT: LANDING LEG DAMAGE PARTS REQ'D: LANDING LEG ASSY TIME REQ'D: LANDING LEG ASSY REPAIR START: REPAIR START: REPAIR END: