



ADAM/BAE keys to success at National Training Center

By Capt. Abbey Carter

When BCTs create strict firewalls following enemy cyber attacks, cells frequently spend significant periods of time troubleshooting self-inflicted losses of service.

Spc. Brise Gilbert assigned to A Battery, 1st Battalion, 204th Air Defense Artillery Regiment, inspects the horizon while providing perimeter security for the battalion May 30, 2017, at the National Training Center, Fort Irwin, Calif. (Spc. Justin Humphreys/Mississippi National Guard)

I have served at the National Training Center for nearly two years. I first worked as the division air defense officer and now work as a brigade-level observer coach/trainer (OC/T). The leadership in rotational unit air defense airspace management/brigade aviation element (ADAM/BAE) cells often ask my team what they can do to best prepare for NTC. Below are descriptions of common challenges ADAM/BAE cells face at NTC and suggestions for meeting these challenges in an effective manner.

Plan for mission command node transitions

During NTC rotations, most ADAM/BAE cells competently manage airspace and conduct air defense operations from the brigade combat team's (BCT's) main command post, formerly known as the tactical operation center. However, transitions between mission command nodes pose problems for many units. ADAM/BAE cells frequently fail to identify personnel who will conduct operations from the BCT's tactical command post, or TAC, and additionally fail to identify the equipment that these individuals will utilize. When the main command post of an unprepared unit jumps and the TAC "has the fight," air defense and airspace management capabilities are significantly degraded or nonexistent.

Consider the following in developing a plan for TAC operations and mission command node transitions:

- Is the individual slated to lead ADAM/BAE operations at the TAC self-starting, motivated and capable of advocating for cell concerns with the BCT's most senior leadership in a tactically sound, effective manner?
- Will the TAC move with a tactical internet capability that will enable the use of an air picture on a Tactical Airspace Integration System (TAIS) or Air and Missile Defense Workstation (AMDWS) through Joint Range Extension Application Protocol C?
- If not, is the individual at the TAC trained and proficient in analog tracking methodologies?
- Are very high frequency radio nets clearly identified for air defense and airspace management?
- Are VHF radio operations clearly understood and rehearsed?
- Is there a redundant communications plan in place at the TAC that effectively utilizes different backbones? For example, Transverse and Voice Over



Staff Sgt. Christopher Reeves, the team chief for A Battery, 1st Battalion, 204th Air Defense Artillery Regiment, discusses plans with Spc. Brise Gilbert, his fellow gunner for the Avenger Air Defense System, while training at the National Training Center, May 29, 2017, at Fort Irwin, Calif. (Spc. Justin Humphreys/Mississippi National Guard)

Secure IP both use the tactical internet backbone, and should not be used in the same primary alternate contingency emergency plan.

- What is the plan to validate and exercise equipment at the TAC prior to roll-out?

By addressing these concerns, ADAM/BAE leadership can ensure that the BCT's ability to clear air for Fires, disseminate local air defense warnings, and manage rotary wing and unmanned aerial system (UAS) air operations remain seamless as the main command post repositions. Training and Evaluation Outline 71-BDE-5201 addresses mission command node transitions and TAC requirements in great detail.

Educate UAS request procedures, seek buy-in from leadership

Many ADAM/BAE cells struggle with incorrect or incomplete requests for UAS operations from subordinate units. Common shortcomings include incorrect center grids, untrained operators and excessively large operational radiuses requested. Addressing these deficiencies significantly eats into the time of ADAM/BAE operators, causes stress and frustration and additionally decreases the amount of time UAS platforms fly in support of BCT operations. The majority of UAS program managers educate maneuver battalions in appropriate UAS procedures prior to NTC rotations,

and utilize a simple and clear process. However, without continual leadership emphasis, significant deficiencies often remain. ADAM/BAE cell operators need to clearly articulate to subordinate battalions why shortcomings exist in submitted UAS requests and suggest potential corrections. If significant issues persist, the BCT operations officer is uniquely situated to serve as the "hammer" correcting subordinate units that consistently resist improvement. By educating the brigade S-3 in the UAS process prior to an NTC rotation, and reporting shortcomings to him throughout operations, ADAM/BAE cells can avoid the headaches that come with incorrect requests, and increase the brigade's capabilities.

Ensure functionality of ADAM/BAE “big four” prior to rotation

Command and control and datalink systems are vital to an ADAM/BAE cell’s ability to maintain situational awareness of air defense threats and manage airspace. Unfortunately, an NTC rotation is often the first time an ADAM/BAE cell fully exercises its assigned equipment upon receiving it from reset or redeployment. Although certain challenges are inevitable, an aggressive 140A can greatly mitigate equipment concerns. Verifying Air Defense Systems Integrator software builds, building back-up hard drives, and signing for an additional TAIS from a sister unit are all steps 140As can take to prevent disruptive equipment outages and to enhance capability at a TAC. 140As should take care to build relationships with the brigade S-6 section, and ensure that BCT network managers fully understand the extent of ADAM/BAE-related services.

When BCTs create strict firewalls following enemy cyber attacks, cells frequently spend significant periods of time troubleshooting self-inflicted losses of service. In the event of equipment failures or shortages, units can plan to use the Dynamic Airspace Collaboration Tool internet browser capability to build airspace requests, and utilize Tacview to receive an air picture on most standard laptops. Unquestionably, rotational units struggle the most with utilizing NTC’s radio frequency (RF) Link 16 network. 140As must ensure the functionality of their Multifunctional Information Distribution System (MIDS) radio prior to arrival at NTC. This includes acquiring a MIDS antenna if necessary, obtaining spare MIDS batteries, obtaining appropriate crypto, and verifying systems through successfully entering a local RF network. As NTC replicates a realistic, near-peer threat, redundant information systems become more and more critical to a BCT’s success.

OC/Ts, NTC network operations, and the NTC joint interface control officer will extensively assist units struggling to connect to any Link 16 network. However, even the most extensive support cannot compensate for a lack of preparation or planning.

Prepare for air defense planning, operations prior to rotation

All rotational units at NTC train in air defense planning and operations. Units arriving without live Sentinel radar and/or Avenger support are assigned a construc-

tive Avenger platoon and/or a constructive Sentinel radar at the BCT level. In the absence of air defense battery or platoon leadership, the brigade air defense officer (ADO) conducts all planning related to the employment of air defense assets. NTC is not a “closed book” test. ADOs can and should use the time prior to an NTC rotation to become comfortable with the defense design planning capabilities of the AMDWS. In particular, using Digital Terrain Elevation Data (DTED) maps enables a planner to determine ideal emplacement positions for Sentinel radars and Avengers. Units should contact NTC with any concerns regarding obtaining appropriate DTEDs.

Emplacement concerns are not the only aspect of air defense planning ADOs should address prior to NTC. The most successful units at NTC educate subordinate battalion commanders regarding Avenger capabilities and limitations, retain operational control (OPCON) of air defense assets at the brigade level, and extensively coach combined arms for air defense. Retaining OPCON of air defense assets at the brigade level ensures that weapons systems are emplaced on the battlefield to effectively defend identified assets on the brigade’s defended asset list. Air defense planners consider employment guidelines such as early engagement and defense in depth when emplacing weapons systems. This enables multiple air defense engagements of a hostile air threat before it has negatively affected defended assets.

When maneuver battalions without a thorough understanding of these guidelines are granted OPCON of air defense weapons systems, there is a tendency to emplace the systems directly on top of friendly formations as a kind of protective “woobie.” The emplacement of air defense systems directly on top of friendly forces limits engagements of hostile threats to “revenge shots” following the release of enemy ordnance or completion of other hostile effects. Rather than delegating command support relationships, units should integrate maneuver battalions into air defense operations through continually emphasizing combined arms for air defense.

Maneuver direct fire capabilities can significantly bridge gaps in air defense system coverage. Correct employment of passive air defense measures such as camouflage, glare elimination and dispersion significantly reduces a unit’s susceptibility to at-

tack by enemy air or artillery. Army Techniques Publication 3-01.8, “Techniques for Combined Arms for Air Defense,” addresses these concepts in detail.

Design, implement an effective cell battle rhythm

Even the most tactically proficient cells cannot operate for extended periods of time without an effective battle rhythm. To quote the current commander of Operations Group, NTC is designed to exhaust individual Soldiers and teams alike so that “the hardest day they face will be in the desert.”

By Training Day 3, OC/Ts can readily identify teams that have implemented effective work/rest cycles, and teams that have not. In building a battle rhythm, cells should identify planning meetings and key military decision-making process events that require leadership attendance. Strong officer and noncommissioned officer leadership and continual assessment of battle rhythm events is necessary throughout the entire course of a rotation. Units can build on the experiences and lessons of past field exercises in determining an initial battle rhythm for an NTC rotation.

The aforementioned recommendations are not intended to dictate any one approved solution to a tactical problem, but rather to identify aspects of ADAM/BAE cell operations that require thorough forethought and planning. Although NTC rotations are difficult, they should not be feared or dreaded. All members of Operations Group are fully committed to helping every unit learn and grow. OC/Ts and staff members will do everything in their power to aid units in this process. The only goal is for units to leave NTC better trained and prepared for combat operations than prior to rotation.

If you will be a member of an ADAM/BAE cell in an upcoming NTC rotation, don’t hesitate to reach out to the Operations Group ADAM/BAE OC/T team with concerns or questions.

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