

ISSUE: Ammunition Planning and Ammunition Management

DISCUSSION: Ammunition planning, management, and triggers are a systemic weakness throughout firing batteries during NTC rotations. Firing batteries struggle with the process of identifying ammunition requirements based on battery essential field artillery tasks (EFATs) and the battalion scheme of maneuver. Without a clear picture of requirements, commanders are unable to fully develop their ammunition plan during their mission analysis and orders development. Commanders, typically unsure of where and when they will move, cannot determine which charges and munitions they need during each phase of the battle. Likewise, poorly addressed essential field artillery tasks leave commanders without specifics needed for their planning. Batteries do not analyze the mission in enough detail to establish the proper turret loads. The turret loads need to be established by the Battery Commander, Platoon Leaders, Platoon Sergeants and Fire Direction Officers using the EFATs, range to targets, and movement planning. Because commanders do not identify their ammunition requirements they cannot inform battalion that they are short on required munitions to accomplish the tasks. Additionally, commanders have difficulty in tracking and managing the ammunition that is on their guns, FAASVs, and PLS. COS's fail to properly maintain DA 4513's, update their AFCS ammunition inventory, and cross talk with FDC personnel. Once firing begins, the batteries quickly lose track of ammunition quantities on hand and the FDC'S often cannot track ammunition expenditures. This loss of tracking proper ammunition expenditures causes a battery to run out of ammunition. Without a firm grasp of ammunition expenditures the batteries could not trigger ammunition resupply at appropriate times.

RECOMMENDATION: Ammunition management begins with the receipt of the battalion FASP. Based on the briefed scheme of fires and EFATs the commander must begin identifying his ammunition requirements. His first step should be an analysis of the scheme of fires in relation to his ground movement plan. By looking at those missions battalion expects him to shoot and where he will be on the battlefield, he can determine the type and number of rounds and powders needed to support the mission. An example of this process follows. Assume the following are missions that battalion plans to shoot:

AC 7118	NK 414973	Battery 6	DPICM:	36 DPICM
AC 7120	NK 385952	Battery 12	DPICM:	72 DPICM
AC 7125	NK 417928	Battery 1	SMC:	6 SMC (Build only)
AC 7130	NK 367954	Battery 12	DPICM:	72 DPICM
AC 7133	NK 387962	Battery 6	DPICM:	36 DPICM
AC 7137	NK 390942	Battery 6	DPICM:	36 DPICM
AC 7147	NK 371918	Battery 12	HEA:	72 HEA

By quickly adding up the mission totals, based on the scheme of fires the commander finds that he will need 252 DPICM, 6 SMC, and 72 HEA. *Typically, most battalions require double the planned ammunition for each target. Target location error, requests for additional fires, and missed triggers often result in repeating missions. One technique is to determine the number of rounds required by the scheme of fires and then double them. Thus the battery commander could*

interpolate a requirement for 504 DPICM, 12 SMC, and 144 HEA. This technique gives the commander a minimum number for planning. Additionally, it can focus him in planning for contingencies. The majority of munitions for this example are DPICM. This can key him to go heavy on DPICM for additional targets of opportunity. Essential Field Artillery Tasks will also influence his planning numbers for anticipated requirements. EFATs such as smoke, copperhead, and FASCAM will generate additional ammunition requirements. A thorough examination of what battalion intends his battery to shoot will generate a fairly accurate ammunition planning number.

The next step is to identify the range from the firing position to the target. This will determine the charges needed to shoot the required missions. With a detailed execution matrix the commander can easily identify where he will be when shooting each mission. The fire direction officers (FDOs) should determine which charges they need. The commander can then determine the powder requirements and take into account any supply or ammunition restrictions, which influence the powders available. With these two steps accomplished the battery commander will have a sound analysis of his ammunition requirements for the upcoming fight. He must then examine what ammunition he has available and identify any deficiencies or requirements. The earlier he identifies his requirements to battalion the more likely the ammunition will be available for the fight.

After determining his requirements the battery commander must develop a standardized turret and FAASV load. A standardized load ensures that each platoon is ready to fire the anticipated missions. Platoon specific EFATs, such as copperhead raids or a platoon sustaining a smoke screen, can affect platoon ammunition loads. Based on the mission analysis, the commander will decide if the guns will shoot off their turrets, FAASVs, or off the ground. If there is a high ground threat the commander may have his FAASVs in over watch away from the guns. This will require a turret load tailored to shooting the missions without FAASV resupply. A low ground threat may have the guns mated or partially mated with their FAASVs. Here a turret load may focus on requirements during emergency missions or during EFATs planned for later in the fight. The bottom line on developing a turret load is that it should allow the gun to accomplish specific EFATs without need of resupply or when the FAASVs or PLS are not available. Once the commander has identified what munitions to carry on the gun and FAASV, he can address the PLS load. His requirements may mean sending the current PLS back to battalion to get a different configuration or to pick up additional projectiles and powders.

Having done mission analysis and determining what ammunition the battery will need and when, the commander should look at what triggers he'll need to stay in the fight. He should base the triggers on EFATs and anticipated ammunition expenditures. Commanders should develop specific triggers by numbers and type of rounds. Percentages are useful in providing guidance for platoon leadership; however, the platoon leadership needs to take the percentages and break them down into specific numbers for sections to track. For triggers to be effective the entire chain of command must understand them. For example, if the trigger to resupply the gun from the FAASV is the use of 10 DPICM, the chief of section (COS) and the ammunition team chief (ATC) must both know the number. During the fight the COS can call the FAASV forward without waiting for the command once he reaches his trigger. Likewise develop specific triggers

for the FAASVs to resupply at the PLS. Ensure inclusion of these triggers in the battery OPORD.

The final step is tracking ammunition during the fight. There is no one person who tracks all the ammunition. Leaders throughout the platoons and battery must be aware of what ammunition is on hand and what has been expended. This allows for quick response when meeting triggers and little confusion during resupply. COS and ATC track ammunition using 4513s and updating the AFCS. This allows the FDC to pull the information from the AFCS as needed to report ammunition status digitally to the BN FDC and digitally to the Battery Operations Center (BOC). The BOC can then track ammunition expenditures and keep the battery leadership and BN TOC/ALOC informed on ammunition status. Platoon sergeants monitor the guns and FAASVs to ensure proper response to ammunition triggers. The battery commander tracks the overall status to determine when he needs additional ammunition from battalion. The end result will be a battery that will not fail during its essential field artillery tasks due to a lack of the proper ammunition.