Delivering timely Field Artillery fires

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A review of existing doctrine, articles, white papers and earlier Center for Army Lessons Learned (CALL) publications offer detailed references to topics discussed in this article. ATP 3-09.50, *The Field Artillery Cannon Battery*, dated May 2019, defines the hot, warm and cold platoon status. FM 6-50, *Tactics, Techniques and Procedures for the Field Artillery Cannon Battery*, superseded by ATP 3-09.50, defined a hot section as a cannon section designated to maintain full crews at their posts for instant reaction to a fire mission. This technique minimizes reaction time to calls for fire and allows the other sections to accomplish various tasks that must be done during position improvement. This definition provides more direction and expectations than currently found in ATP 3-09.50. Furthermore, the imperative to mass fire support assets in the combined arms fight is discussed in the article “Hunting with Fires: One Armored Brigade Combat Team’s Approach to Killing the Enemy.” FM 3-09, *Field Artillery Operations and Fire Support*, dated April 2014, also discusses the necessity to mass fires as well as when to mass fires.

TC 3-09.8, *Fire Support and Field Artillery Certification and Qualifi-
cation, dated February 2019, Table D-15, provides current counterfire mission processing time standards. The White Paper, “Fire Support Planning for the Brigade and Below,” published Sept. 16, 1998, describes the necessity for wargaming to provide refinements, validate capabilities and synchronize the fires warfighting function. Additional emphasis is placed on understanding munition loads and characteristics. CPT Judith Morgan’s article, “Tactical Field Artillery Munition Management,” discusses planning efforts with the sustainment warfighting function to ensure ammunition resupply is forecasted and delivered in time to support brigade combat team (BCT) operations. CALL Handbook 16-12, Musicians of Mars II, dated April 2016, specifies the need for a detailed PACE plan (an order of precedence list based on primary, alternate, contingency and emergency communication) that is rehearsed to ensure lines of communication are maintained.

While the Field Artillery has made great progress over the last several years to integrate fires into the combined arms fight, Field Artillery battalions continue to struggle to deliver timely fire in support of Infantry BCTs operations at the Joint Readiness Training Center (JRTC). The purpose of this article is to share observations and trends during FY18, focused at the Field Artillery battalion and below, to better understand the issues resulting in a high average for fire mission processing time. Specifically, this article will discuss the average counterfire mission processing times, friction points and recommendations based on best practices observed during 10 rotations at the JRTC.

During FY18, the JRTC focused on counterfire mission processing time data to identify the friction points and where the friction points occur to provide solutions based on observed best practices and observer, coach/trainer experience to reduce fire mission processing time. The figure above depicts the average counterfire mission processing times, from receipt at the battalion fire direction center (FDC) to firing of the first round of a fire mission. This data is the collation from nine decisive-action rotations executed by active component Army and National Guard BCTs at the JRTC. However, the Field Artillery battalions’ ability to deliver timely Field Artillery fires varies widely; some battalions take an average of 14 minutes or longer to process counterfire missions, while others process counterfire missions at an average of eight minutes or less. What immediately stands out from this data is that a great deal of the total fire mission processing time is consumed at the battalion and platoon FDCs.
Why so much time at the FDC?

The three most commonly observed trends that waste time at the battalion FDC are no predetermined fire orders, the battalion FDC not knowing which firing unit is ready to receive the fire mission (hot and cold platoon schedule) and lack of communication between battalion and the firing unit. First, developing a standard fire order based on the Attack Guidance Matrix (AGM) and the JRTC adjudication tables (in accordance with the Joint Munitions Effectiveness Manuals) reduces the total amount of time fire missions stay at battalion FDC before being sent to a firing unit. Outputs from the targeting process, specifically the Targeting Synchronization Matrix, is a clear indicator for how many firing units are required to be in a hot status or when the battalion must mass fires. The battalion S2 and fire direction officer (FDO) must develop a solid understanding of the enemy threat during mission analysis to determine what type of munitions and the quantity needed to achieve desired effects on the enemy. Furthermore, course of action analysis (COA) should not only focus on what enemy combat power remains on the battlefield during each phase of the operation, but also define ammunition resupply triggers. The transition from conceptual to detailed planning is evident once all movements are synchronized in time and space between the forward support company (FSC), the firing units and ammunition consumption rates. Second, a battalion FDC continues to consume more time during fire missions if it does not maintain a good system of which firing units are in a hot status, in position ready to fire, and not moving to another firing position. Battalions consistently struggle to develop and maintain “hot and cold” platoon schedules. While some battalions do not plan for “hot and cold” platoons, others develop unrealistic schedules. I would contend that FDCs and firing units can maintain hot status for no more than four hours. Units that plan a hot status for longer times are destined to exceed fire mission processing time standards. Third, communications that might be relatively easy to maintain in simulation center or in the field during home station training are very difficult to maintain in the complex terrain and competitive environment of the JRTC. At any given time during a rotation, some Advanced Field Artillery Tactical Data System (AFATDS) are communicating over the secret internet protocol router network, some are communicating over frequency modulation radio and some are not communicating at all.

A few additional notes are in order about “hot and cold” platoon schedules. First, we must define what the hot status truly means. During FY18, units reported that they made TC 3-09.08 time standards on approximately 80 percent of the fire missions during Table VI certifications. Moreover, those missions not meeting the time standard are on average less than one minute over the time standard. This is significant because the unit can clearly process fire missions much faster than the average times collected at the JRTC. This is not due to a lack of ability or competency. Field Artillery battalions have already trained to standard and certified that FDCs and howitzer sections can achieve fire mission processing time standards prior to arriving at the JRTC. The FDCs and howitzer sections are in the “three-point stance” during Table VI certification and ready to receive the fire mission.

Second, battalion FDCs fail to develop a detailed schedule for hot and cold units, nor is there a formal process to bring a cold unit to hot status and vice versa. A formal checklist and process that notifies units when they are in a hot status, or relieved of hot status and now in cold status, alleviates confusion among subordinate elements. More importantly, the battalion FDC controls this process and understands which unit to send fire missions to at any given time.

Third, the battalion must consider the maneuver plan and when the battalion is expected to mass fires or prosecute preplanned targets. There will be times when everyone needs to be in a hot status. Understanding these times is crucial to developing the hot and cold schedule. FM 3-09 states that massed fires seek to maximize the effectiveness of the initial volley on the intended target. Massing all available fires enables the maneuver commander to maximize the effect of fires on a target or targets. Massing fires must occur to disrupt enemy formations, support friendly penetration of enemy positions, destroy hasty defenses and prevent massing during counter attacks. Moreover, synchronized and intense fires can cause enemy personnel to lose the will to continue to fight. The friendly scheme of maneuver identifies these decisive points in which Field Artillery battalions are expected to mass fires. Additionally, battalions must determine if there will be a dedicated counterfire battery and how this effects the rotation of hot and cold platoons.

Recent trends observed at the JRTC

Issue 1

Units arrive at the JRTC without a defined system for hot and cold platoons or demonstrate an inability to adhere to the defined system. There is no common understanding of what “HOT” actually means. For example, are personnel expected to be at the ready like Table VI qualification (radiotelephone operator with hand mic to ear, computer operator with fingertips on AFATDS keyboard, section personnel at the howitzer, etc.)? Soldiers are doing good things (security, main-
tenance, rest, training and other priorities of work), but are not truly in a hot posture ready for a fire mission.

**Recommendation 1**

Units can benefit by defining hot and cold platoon status with expectations of each status. Units must develop and track a schedule of planned hot and cold transitions with personnel assigned to manage the plan. Synchronize the schedule during COA analysis in conjunction with survivability moves and alternate position area artillery occupations. Units must maximize time during home station training to refine tactics, techniques and procedures (TTPs) and practice hot and cold TTPs.

**Issue 2**

Units do not develop a checklist to execute formal transfers from hot to cold status. As a result, battalion FDAs are not tracking who is hot and waste time determining who receives the fire mission. Units have been in a hot status for extended periods of time, resulting in personnel asleep or not at their assigned positions for a fire mission.

**Recommendation 2**

Develop a hot/cold standard operating procedures (SOPs) to include change over briefs to mitigate confusion and track the prescribed schedule. Units must define a formal process to bring cold units to the hot status, then relieve hot units to the cold status. Additionally, units must nest transitions from hot to cold status with the tempo of BCT operations to reduce section-level friction while ensuring required assets are available during critical battle periods. Some items to consider include: develop a realistic hot/cold schedule that is sustainable, intelligence reports and friendly scheme of maneuver can depict times to accept risk in the schedule and standardized reporting criteria to ensure the battalion FDC is able to accurately track weapon statuses for howitzers and radars.

**Issue 3**

Units at the JRTC struggle to forecast ammunition expenditure and deliver ammunition in time to support BCT operations. The concept of sustainment lacks detailed planning and is not discussed during COA analysis to develop a feasible plan.

**Recommendation:** Units must know the required number and type of munitions required to achieve the desired effect against the entirety of the enemy formation. Units should know the haul capacity of the FSC and utilize other vehicles and trailers to support resupply operations. Ammunition management cannot be the sole responsibility for either the battalion FDO or the battalion S4. The battalion S3 must supervise ammunition requirements while the battalion XO coordinates with the support operations officer and brigade support area to ensure ammunition is delivered.

**Best Practices**

The Fire Support Division at the JRTC has observed several best practices during FY18. Some units not only improve the delivery of indirect fires, but other warfighting functions as well. For example, units that train on the Global Broadcast System (GBS) at home station are better prepared to use the system at the JRTC. While GBS is used to obtain meteorological data, the S2 can also connect the Distributed Common Ground System—Army to the GBS.

Another best practice observed at the JRTC is maintaining digital communications from battalion to the firing elements. Digital is always faster than shooting degraded and reduces the risk of receiving wrong firing data or having to repeat voice commands. Units with SOPs that define specific standards for maintaining digital communications, with triggers to transfer technical control to another element if battalion does not meet those standards, succeed in avoiding degraded fire missions. Additionally, units that force the target description into the AF-ATDS reduce the total fire mission processing time, as well as maintain fire missions in accordance with the AGM.

Finally, technical rehearsals that integrate sensor-to-shooter establish a solid foundation for ensuring the timely delivery of indirect fires. Battalions that ensure sufficient time is allocated for the technical rehearsal, while integrating all observers, are better prepared for the upcoming operation by validating the fires plan.

**Conclusion**

The Field Artillery Training Strategy guidance prepares units for combat and rotations at a combat training center. The struggle is identifying how best to replicate the same posture as home station training, when executing Field Artillery Tables during live fire and operations in a decisive-action scenario at the JRTC. Field Artillery battalions that create extended periods of time for units in a hot status are more likely to exceed the standard fire mission processing times. Consider these two questions, 1) What is a reasonable amount of time for a unit to truly stay in a hot status? 2) How long can a lineman stay in the three-point stance before false starting (football analogy)? Developing a thorough and disciplined schedule to maintain hot and cold units for extended periods of combat operations is crucial to delivering timely fires.

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