



From the COMMANDANT'S desk

As I settle into my responsibilities as the 50th Commandant of the U.S. Army Field Artillery School and Chief of the Field Artillery, I want to let you know I have enjoyed traveling around the AO and getting an in-depth perspective on where we stand as a school and branch.

We are on the right glide path to modernizing the Field Artillery. Through experimentation and analysis in Total Army Analysis (TAA) 14-18, we have updated the Field Artillery Force structure. As published in the recent Army Structure (ARSTRUC) memorandum, we will have 18 Fires Brigades, eight of which will be located in the Army National Guard. We will have 61 Fires Battalions, of which 28 will be in the Army National Guard.

In this edition, you will see an updated Warfighting Forum schedule {Page 2}. During these WfFs we'll be discussing some of the force structure changes coming up in TAA 15-19 and beyond. I highly encourage all Commanders to participate in these important discussions.

The end state is clear on

force structure and leader development; we must have a versatile, operational force that is ready and prepared for Decisive Action as a part of a Joint and Combined Arms Team, and we must create competent and confident 21st Century Joint Fires professionals. To be globally responsive and regionally engaged we have to organize and sustain as one, train and develop as one, so we can employ as one. The Field Artillery will continue to contribute to unified land operations by massing fires in space and time on single or multiple targets with precision, near-precision, and area fire capabilities.

As fire supporters, we must increase our precision munitions expertise; but, more importantly, we need to reestablish confidence across the combined arms team through realistic training using surface-to-surface indirect fires, including Excalibur, GMLR, PGK and Precision Mortar Rounds.

This will ensure we have the fire support expertise and experience required to support the maneuver commander, whatever his requirements are.

On {Page 4} there is an article

detailing how the 212th Fires Brigade (FiB) and the 1st Armored Division (AD) conducted Excalibur live fire training at home-station. The live fire training was a significant confidence booster for the combined arms team. It helped validate all aspects of precision fires training.

On a closing note, I have published my initial priorities and strategy which can be read by logging into FKN at

<https://www.us.army.mil/suite/doc/40842670>.

If you haven't already done so, I invite you to log on and read this important document. It will give you insight of where I intend to take the branch and school.

Open communications and realistic training will remain a key ingredient to successfully facing the challenges of the future, and continuing to build a Field Artillery force that remains, "The King of Battle."

*King of Battle!
Fires Strong!*

COL(P) Chris F. Bentley

Purpose: Founded in 2011, the *Redleg Update* provides past and present Field Artillery leaders with a monthly update of informational highlights to assist in their individual, collective and professional training efforts, as well as report on activities occurring throughout the Field Artillery community.

Official Distribution: The *Redleg Update* is distributed by the Commandant of the U.S. Army Field Artillery to key members of the Field Artillery chain of command across the U.S. Army. Past and current editions are also archived on FKN @

<https://www.us.army.mil/suite/files/34549741>

Chris F. Bentley

Chris Bentley
COL (P), FA
Commandant,
United States Army Field Artillery School

RFIs, Notes, and Notices: To submit a Request for Information (RFI), please email the POC listed below. The FA Commandant's Office will acknowledge receipt of RFIs within 24 hours and will attempt to provide an answer within 72 hours.

Points of Contact: We appreciate those who have provided announcements, notices, articles and lessons learned.

Additionally, if you have a story of interest or wish to initiate a discussion on any topic or issue facing the Field Artillery community, contact Mr. John Folland, (580) 558-0831, or the editor of the *Redleg Update*, Ms. Sharon McBride, Field Artillery STRATCOM officer, (580) 558-0836.

Hot Link Legend:

Green = Open Source on WWW

Red = CAC Card enabled
on AKO/FKN

2013 Red Book

Last call for unit input

This is the last call to submit your unit's annual achievements for the 2013 Red Book.

The Red Book is used to inform the Fires community of what our Fires Soldiers have accomplished over the past year and what their future missions are. A unit's submission should capture significant events such as deployments, training events, etc, over the past year, from 2012 through 2013.

Submissions are published on a "first-come, first-served" basis and are limited to 250 words or less. Additional in-



formation and guidance can be found on the Fires Bulletin website, <http://sill-www.army.mil/firesbulletin@us.army>. Or call 580-442-5121/6806, or DSN 639-5121/6806.

Warfighting Forums

The Field Artillery Warfighting Forums offer an opportunity for communication, collaboration, and coordination of the Army's Fires Brigades, SBCT, ABCT and IBCT Fires Battalions, Div/Corps Chiefs of Fires and the CTCs.

IBCT WfF - (FA Breakout Session) - 16OCT13 10:00-11:30 (NIPR)

<https://connect.dco.dod.mil/ibctfabnwff>

ABCT WfF - (FA Breakout Session) - 23OCT13 10:00-11:30 (SIPR)

<https://connect.dco.dod.mil/hbctfabnwff>

DIV/Coprs Fires WfF - 24OCT13 10:00-11:30 (NIPR)

<https://connect.dco.dod.mil/divcorpsfireswff>

IBCT WfF - 06NOV13 10:00-11:30 (SIPR)

<https://connect.dco.dod.mil/ibctfabnwff>

Excalibur Home-Station Live Fire Training

By LTC Gary C. Leroux, MAJ
Aaron VanAlstine and
SFC CliftonBlowe

Recently, the 212th Fires Brigade (FiB) and the 1st Armored Division (AD) proved that Excalibur live fire training can be conducted at home-station and that it has significant training value.

The Fort Bliss fires team of the 212th FiB and the 1st AD conducted months of planning to execute this multi-echelon training exercise. Execution had a number of challenges and two in particular required significant effort to overcome: (1), the development of the Surface Danger Zone (SDZ); and, (2), the acquisition of Excalibur rounds which are currently restricted to "War Time" use. Nevertheless, the Fort Bliss fires Team was able to overcome these challenges and conducted high value training. The linkages created and strengthened during the preparation and execution of this live fire exercise will pay dividends for not only the Fort Bliss fires team, but for other fires units across the force.

Filling a capability gap

The need for a cannon-fired precision munition was first identified early in Operation Iraqi Freedom (OIF) to fill a capability gap between traditional artillery rounds and precision Air-to-Ground munitions. The XM982 Excalibur Global Positioning System (GPS) guided 155mm round was developed to fill this requirement and by 2007 they were being used. The Excalibur's accuracy and low collateral damage quickly demonstrated the rounds

value in theater. The XM982's cost and its limited production however restricted its use to war time which did not allow units to gain a lot of familiarity with it during home-station training. With the round in a war stock status, only units preparing to deploy to the Central Command (CENTCOM) Area of Responsibility (AOR) have been able to conduct live fire training during pre-deployment rotations at the National Training Center (NTC) in Fort Irwin, Calif. Other opportunities to fire the Excalibur have been restricted to required Testing and Evaluation live fire events including Developmental Testing and Ammunition Lot Acceptance testing that occurs whenever the Army receives a new production lot from the manufacturer.

Live fire training at the NTC is necessary and valuable; however, it is focused on the rotational brigade combat team (BCT) level and below. Opportunities are lost for training and integration at the Fires Brigade and Division level. The 1st Armored Division Commanding General, MG Pittard, decided to change that and directed his staff to develop a Course of Action (COA) that would allow units firing at Fort Bliss to gain the benefits of home-station Excalibur live fire training.

MG Pittard and his staff developed the following mission and intent:

Mission: 1AD fires the XM982 EXCALIBUR Precision Guided Munition on the Fort Bliss Range Complex on 05 DEC 12 IOT demonstrate the 1st Armored Division's capability to support

EXCALIBUR LFX training and to train units and leaders on precision fires.

Key Tasks:

1. Determine Surface Danger Zones that will allow the firing of Excalibur PGM;
2. Conduct an Environmental Impact Study (EIS) and submit any necessary waivers;
3. Update the FT Bliss Range Regulations;
4. Procure ammunition;
5. Coordinate Excalibur NET; and
6. Plan and Execute an Excalibur LFX.

End State: Excalibur LFX conducted on Fort Bliss. Range regulations and catalogue updated to reflect this capability.

The 212th FiB, acting as the Force Field Artillery Headquarters, further developed the COA for this exercise. The 4th Battalion 27th Field Artillery (a Fires battalion assigned to the 2nd Brigade Combat Team 1st AD) was selected as the firing unit. 4-27 FA conducted New Equipment Training (NET) on the XM982 Excalibur munition prior to the live fire exercise. B/4-27 FA provided the firing platoons, 1-35 AR provided the Fire Support Element (FSE), and two Combat Operations Lasing Teams (COLTS) to observe.

The mission and intent for the 212th FiB:

Mission: 212th FiB provides Mission Command by planning, preparing, and executing oversight IOT ensure the successful firing of 2 x Excalibur munitions at FBTX from 30 OCT to 12DEC 12.



Continued on Page 4

Excalibur Training

...continued from Page 4

Purpose: Conduct Excalibur Precision Guided Munition (PGM) LFX on Fort Bliss Ranges IOT enhance the training of Units and Leaders on Precision Fires as well as establish Fort Bliss as an Excalibur PGM-capable Post.

Key Tasks:

1. Conduct exercise consisting of 2 x Excalibur rounds;
2. Establish comms with all player nodes;
3. Develop conditions checklist;
4. ID training locations;
5. Capture lessons learned;
6. ID SMEs/Briefers;
7. Develop task org; and
8. Develop Scenario conditions to execute Excalibur Fire Mission

End State:

The 212th FiB in conjunction with 4-27 FA successfully executes the firing of 2 x Excalibur munitions, destroying two targets. This generates a shared understanding among 1 AD units of the conditions, requirements, and effectiveness of the Excalibur munition. This also increases the reputation of Fort Bliss as a Center of Excellence for Combined Arms Operations.

Developing a Surface Danger Zone

The guidance received from the Division and Brigade commanders was clear but the execution of this operation still remained. First was the development of the Surface Danger Zone (SDZ) that would allow the employment of the Excalibur round on the installation. Because of the round's non-standard trajectory and its ability to glide extended distances, standard 155mm artillery SDZs could not be applied. Working with the Product Manager (PdM) for Excalibur, the Fires Team at Fort Bliss developed an SDZ that while significantly larger than standard SDZs remained within the boundaries of the installation.

The PdM's office, in conjunction with Raytheon Corporation, generated the SDZ using a program called "All Digital Simulations" or ADS. ADS uses a "Monte Carlo" type analysis that applies the MIL STD 882 safety criteria of 1 to 1 million (i.e. only 1 of 1 million rounds fired would impact beyond the area of the SDZ) and examines all Excalibur failure modes including the worse case mode involving post Canard deployment failures. In order to develop an SDZ specific to the training mission additional information was required: Projectile Type and OFS version, Gun and

Target location and altitude, Firing Platform, Quadrant Elevation, Charge, Projectile temperature, charge temperature, air temperature, atmospheric pressure and density, and a annual wind profile of the target area that included up to 75% max wind speed values for the target area.

Using these inputs the ADS program determined the following SDZ:

Although still significantly larger than standard SDZs, the ADS version was small enough to use on the installation and allowed the mission to continue. However, developing the SDZ did not complete all the safety requirements and it was necessary to get a Deviation Request authorizing the SDZ boundaries to contain some personnel and facilities including the observers. With appropriate risk mitigation, the overall danger of the live fire was assessed as "moderate" and the CG's approval authorized the deviation.

Acquiring Ammunition

Another significant challenge to execution was acquiring the ammunition. As War Stockage there are no allocations for the Excalibur in Standards in Training Commission (STRAC) and hence no training rounds were available. Again the PdM provided critical assistance. As previously mentioned when the Army receives a new lot of Excalibur rounds, the PdM's office gets a limited supply to conduct lot acceptance testing and typically (when testing goes well-which is the norm) they do not expend all of the rounds. The remaining supply is usually repurposed to meet emerging requirements but in this case the PdM's office and 1st AD were able to receive authorization from the Army G3 to release two rounds for unit live fire training.

Constructing a suitable target

The final challenge was the development of a suitable target since the impact area lacked any structures suitable for an Excalibur engagement. The solution was to construct a pair of 10x10 buildings in the impact area. Four days before the planned execution date, Fort Bliss Range personnel constructed the two small buildings. Unfortunately, the construction



Continued on Page 5

Excalibur Training

...continued from Page 4

timeline made Target Mensuration impossible because there was not enough time to get the appropriate satellite imagery needed for Mensuration. Contrary to popular belief Mensuration is not required for use of the Excalibur round, however a Target Location Error (TLE) of 10 meters or less is. Mensuration is one method often used down range to achieve this TLE but other methods can achieve the same TLE or lower. In the case of this exercise the TLE requirement was met by the use of the Improved Position and Azimuth Determining System (IPADS) to emplace two Survey Control Points (SCPs) in the target area. The Range Support personnel constructed both of the target buildings over these two SCPs and the grids were passed to the Forward Observers.

The execution phase began with unit movement to the training area. The unit Battery Fire Direction Center (FDC), Battalion FDC, and firing platoons were co-located with the 212th FiB Command Post in a roughly 400 meter box. The Battalion Fire Support Element and observers occupied an observation post approximately 2 km from the target location. A battalion radio retrans element was located inside the SDZ as well to ensure communication to between the battalion FSE and the brigade command post.

Rehearsals

Unit rehearsals were conducted from the observers through the FSE, to the Brigade CP, battalion FDC, battery FDC and firing platoons. The 212th FiB used the rehearsals to complete and validate the execution checklist. The checklist proved to be a valuable tool for controlling the exercise and monitoring its status. For example, the AAR noted that an additional day of rehearsals would have been useful. Also, the additional time would have reinforced lessons learned.

On the day of execution, the 212th FiB used the live fire as an opportunity to educate the entire Fort Bliss Fires community on the value of the Excalibur munition and the advantages of home-station live fire training. An innovative program called the “Fires University” and managed by the 1st AD and Fort Bliss, was used to support this educational opportunity. The Fort Bliss Fires University is a quarterly Fires Soldier Development program that brings fire supporters and maneuver leaders from across Fort Bliss to observe

and participate in fires training. The Excalibur live fire event was a perfect opportunity for incorporation into their quarterly training plan.

The 212th FiB established a CP tent solely for the execution of the Fires University. The CP was equipped with two TV monitors that displayed live video feeds from ground cameras and UAVs. Fire supporters and maneuver leaders from across the installation were flown to the site and presented with the concept of the operation and the capabilities of the Excalibur round. In addition to the exercise viewing, Fires University Soldiers were given to opportunity to observe fire missions in the FDCs, observe crew drills on the gun line, and visit the Observation Point (OP) in between round firings.

Two Successful Excalibur Engagements

The exercise culminated with two successful XM982 Excalibur engagements. The fire missions were executed with digital communications from the observers to the gun line. Both Excalibur rounds functioned within one CEP of the target and would have delivered lethal effects on any enemy forces in the shelters, yet with slight enough damage that both structures could have been repaired. This demonstrated the versatility of the Excalibur in situations where collateral damage is a concern.

The Fort Bliss Fires team from the 212th FiB and 1st AD proved that home-station training of the Excalibur is not only achievable but also highly valuable. The unit gained experience that they could apply in combat operations while informing maneuver leaders and fire supporters on the unique capabilities that the Excalibur munition delivers. They were able to overcome significant challenges in SDZ development, ammunition acquisition, and target location error minimization and through the disciplined application of the five requirements for accurate predicative fire, lethal effects were achieved on the targets. This successful execution of an Excalibur Live Fire event clearly demonstrates the need for and Excalibur training requirement be formally established in the Standards in Training Commission so other units can follow Fort Bliss’s example and execute high quality Excalibur live fire training.

Knox, Hamilton & Gruber



Recognizing the Best Within Our Branch



2013 KHG DEADLINE IS 1 NOV 2013!

Packets must be emailed to the FAPO POC, at jeffrey.s.martin26.mil@mail.mil or mailed to the Field Artillery Proponent Office at Room 278, 730 NW Schimmelpfenning Road, Fort Sill, OK 73503-9035.

For more information and MOI go to the FAPO FKN page at <https://www.us.army.mil/suite/page/586258>

The US Army Field Artillery School today announced the winners of the 2012 awards for excellence within the field artillery branch. The recipients are:

- Knox Award - B Battery, 1st Battalion, 77th Field Artillery in Schweinfurt, Germany
- Hamilton Award - B Battery, 2nd Battalion, 218th Field Artillery with the Oregon Army National Guard
- Gruber Award - Sgt. 1st Class Thomas A. Robinson with 1st Battalion, 377th Field Artillery (Air Assault), 17th Fires Brigade, Joint Base Lewis-McChord, Wash.