

TA Success and Challenges in Bosnia

Editor's Note: Our direct support (DS) FA battalions in Bosnia each is organized as a "mini-division artillery" with assets for independent operations, including its own target acquisition (TA) battery.

We read your recent targeting/counterfire [January-February] issue with great interest. We are the Counterfire Officer and Targeting NCO of C Battery, 333d FA (TA), which is attached to 2-3 FA Battalion DS to the Ready First Combat Team, 1st Armored Division. Our battery is deployed to Kime Base near Dubrave, Bosnia-Herzegovina. We would like to pass on some lessons learned from our experience in stability operations. First, some things that have worked.

We are attached to a DS FA battalion, which obviously is not standard practice. We first linked up with 2-3 FA in October 1995 at Grafenwoehr [Germany]. It was as if we had always worked together. We had the advantage of having a specially modified HMMWV [high-mobility multipurpose wheeled vehicle] ambulance equipped with an IFSAS [initial fire support automation system], SINCGARS [single-channel ground and airborne radio system], generator and lighting equipment. It was a matter of hooking up tentage and running WD-1 to the battalion fire direction center's [FDC's] IFSAS. We were in business as "Gunner Radar" in a matter of 20 minutes.

The IFSAS/SINCGARS combination has proven effective. Our digital communications are almost flawless. We do almost all operations digitally; we receive and process targets, control the radar by receiving FM:OBCOs and sending searches and zones. We have set up our MOI [message of interest] files to automatically send radar data and targets to the brigade fire support element [FSE]. IFSAS is everything manual operation is not: fast, accurate and automatic.

Our command, control and communications procedures worked as trained. C/333 FA and the 1st Armored Div Arty [division artillery] have been preparing for a deployment such as Bosnia for three years. The procedures developed during successive Grafenwoehr/CMTC [Com-

bat Maneuver Training Center, Hohenfels] rotations have proven valid. Our current clearing procedures were developed during the October-November 1995 pre-deployment train-up and are valid. CMTC was an invaluable training tool. A majority of the lessons learned have proven useful with few exceptions.

The S3, S2, target production section [TPS] and the radar warrant officers (WOs) have separate but equally important jobs in counterfire. The S3 and S2 determine what's to be covered and in what priority. The TPS determines, in general terms, the scheme of coverage. The radar WO converts the tactical requirements into a specific technical solution for his position or notifies the TPS that the site is not suitable.

Here are a few of the challenges we encountered:

- *Stability operations place restrictions on positioning radars.* Force protection and land availability place severe limitations on radar coverage. Radars must be in a secure position; there are a limited number of secure bases, which are in high demand. The amount of clutter (buildings, tents, guard towers, motor parks, etc.) severely limit which way we can orient each radar. Each radar's coverage capability must be closely tracked to allow the maximum flexibility in radar coverage. Additionally, base camp construction must be closely monitored to see what effects new construction will have on the radars. It is critical that the radar WO be consulted. He should lead or accompany reconnaissance to ensure the area is suitable for the planned radar primary azimuth. Failure to do this may lead to a radar position with limited coverage.

- *At the CMTC, one of the WOs was bumped from the leaders' reconnaissance and the radar section ended up with a +/- 300-mil search sector. Had he gone on the reconnaissance, we could have adjusted our plans. This also has proved to be the case in Bosnia.*

- *False acquisitions have been a problem.* These are radar-generated targets that are not mortar, artillery or rockets. We pick up many helicopters. We understand "a fix" is in the works for this. Because we do not have good screening crests, we also pick up cars on the MSR

[main supply routes] that are tracked by side/gain lobes.

When we arrived in Croatia around New Year's Eve, we picked up more than 300 acquisitions of "celebratory fire." (Many locals are armed and enjoy firing their AK-47s into the air to celebrate.) A work-around for this is to extend the minimum range of the Q-36 out to 2,000 meters.

The problem is deciding what is a valid target. We are in the reverse position of where we should be—we have to prove or disprove each target. Each target has to be analyzed to see if it can be ruled out as an aircraft, ground clutter or small arms. We soon learned that "IFR" does not mean "instrument flight rules" but rather "I Fly Roads." Targets along MSRs and power lines are probably helicopters.

Battle tracking is important. The brigade FSE can confirm where air operations are being conducted—close coordination with the FSE is essential. Targets within one to two kilometers of a Q-36 are probably vehicles. Our concern is that we'll miss a real target by ruling it out as something else. None of the field manuals or technical manuals warned us about these problems.

- *Only the ATI:CDR acquisition message has the impact predict feature—unlike FM:CFF which does not.* In our environment, each target must be distinct and have an impact predict. For instance, the Croats shooting at each other would not elicit much interest from us. On the other hand, Croats shooting at Serbs across the ZOS [zone of security] is a treaty violation and would get a lot of people very interested. The only way we can see this is from an ATI:CDR that has the weapons location and impact predict. We use ATI Mode 1 in the IFSAS and turn off "location averaging" in the radar. This keeps the systems from combining targets. Each target must be distinctive and as accurate as possible.

- *Target numbers need close management.* We have to zero the target block frequently. Task Force Eagle gave us 500 target numbers. Radars must be checked periodically, especially after initialization, to ensure targets are not lost. We have developed a form containing all the data a radar needs to re-initialize, including primary azimuth, target block and zone data.

- *Zones have not proved useful in stability operations.* Censor zones [CZ] do not

work as described in *FM 6-121 Tactics, Techniques and Procedures for Field Artillery Target Acquisition*. Low-angle artillery fire may be fired from under a CZ and still be tracked. We decided to track friendly and hostile fires because the clearing process is very thorough and lengthy.

We no longer are using critical friendly zones. CFZs generate a FM:CFF, which does not have an impact predict field. This would cause us to get the impact predict from the radar by voice. This extensive workaround does not merit the priority FM:CFF message.

An acknowledgment of a primary azimuth (SPRT:SEARCH) or of zones (SPRT:FILTER) does not mean the radar received the message in a useable form. Voice or digital verification of the radar entering the data is necessary.

• *IFSAS drops leading zeros from data.* This is merely an inconvenience with target grids. The zeros dropped by the meteorological (TA) message makes the message unusable to the Firefinder radars. The IFSAS ATMS field [Met station pressure] needs to be changed to 999 mb [millibars] if the value is 1,000 mb or greater. IFSAS sends the ATMS as _5 instead of 005. Adding zeros doesn't work.

• *IFSAS [Version 1.15] works well but is optimized for neither stability operations nor counterfire.* It was designed to be a battalion FDC and does that well. Hopefully the AFATDS [advanced Field Artillery tactical data system] will be optimized to handle Firefinder radars. [The brigade, corps and division (BCD) Version of IFSAS currently handles Fire-

finder.] Using the IFSAS [1.15] for counterfire requires extensive workarounds.

• *Continuous operations is a challenge.* One problem with CMTC rotations is their short duration. We have been in theater more than 90 days, and the strain of continuous operations has begun to show in shortcomings in our maintenance and logistics plans in a way that never could have at the CMTC.

Even with high-priority call-ins, repair parts are slow to arrive in theater. We were forced to develop a maintenance program to support the 24-hour cueing of radars. The radars were not designed to be cued for such long durations. Three maintenance schedules were developed. Schedule "A" allows the radars to go off-line in sequence for two hours of maintenance daily. Schedule "B" allows for one-half hour of maintenance for each radar before a mission and one-half hour of maintenance after the mission is complete. From time to time, all radars are required to be on-line; Schedule B is used for these cases. Schedule "C" is used once a week to allow one radar 12 hours of maintenance. During Schedule C, the radar can run all the radar tests and conduct monthly PMCS [preventive maintenance checks and services].

• *Logistics is a challenge for our TA battery [TAB].* Each TAB should have a battery operations center (BOC) to handle the logistics needs of the battery. The battery should use both the TAB command net and A/L [administrative/logistics] net. The TAB command net needs to be reserved for operational traffic. The TPS is

staffed by 13Fs who are not trained to process logistics requests. The radar platoon sergeant is uniquely capable of handling the radar-specific logistics and should run the radar logistics program with the maintenance NCO.

In our theater, we are fortunate to have several TABs supporting one division. There has been considerable cross-leveling of needed parts. The 1st Armored Division Artillery has coordinated our sharing parts. Each TAB must have 100 percent of its mandatory parts list before being deployed. Failure to do so will lead to excessive radar down-time while waiting for the parts to arrive.

Fuel for the radar systems was a problem before the logistics system in theater matured. TABs do not have their own POL [petroleum, oils and lubricants] support and must rely on the unit they support for fuel. Radars must be refueled every other day (at least) because their generators use a lot of fuel in 24-hour operations. Our Q-37 uses more than 200 gallons a day when cueing continuously. It is important that the radar can carry three days' of fuel in case the tanker can-not make the every-other-day delivery.

Firefinder is a powerful tool for both the artillery and maneuver commander. We hope these lessons learned will help others make the most out of the radar.

2LT Richard J. Brunner, FA

Counterfire Officer

SFC Scott E. Rogers, Targeting NCO

C/333 FA, 2-3 FA

Kime Base, Bosnia-Herzegovina

Responses to "TTP for Winning the Counterfire Fight"

Rather than being "TTP for Winning the Counterfire Fight," [by Chief Warrent Officer Two Keith A. Derrick and Captain Davis L. Butler, which appeared in the January-February edition] the article might more accurately be titled "TTP for the Counterfire Fight at the NTC" [National Training Center, Fort Irwin, California]. No training environment can perfectly replicate a real battlefield; therefore, we must carefully discern between "NTCisms," or gamesmanship, and usable tactics, techniques or procedures [TTP]. I discuss a few important areas the authors may have failed to discern in this article.

• *Doctrinal Placement of the FA Targeting Technician.* The doctrinal place for the

FA targeting technician (formerly called the radar technician) to fight is at the radar site. The authors had the targeting technician fight from the DS battalion TOC. During their rotation, the authors did not bring a Q-36 Firefinder radar to the NTC. We replicated a notional radar in order to support the unit. In this scenario, the targeting technician only had to select the radar's site, provide survey, move, track and report active radar zones. Therefore, the unit used the targeting technician as a targeting officer in the TOC and stated in the article this was his place of duty.

During a subsequent rotation, this misuse of the targeting technician was corrected. The unit used the targeting technician with the radar and used an FA brigade

liaison officer at the DS battalion TOC in the role they had used the targeting technician. The targeting technician's place of duty is with the radar, and the targeting officer works in the brigade FSE.

• *Brigade Radar Authority.* Next, the brigade does not tell the Div Arty [division artillery] how and when to fight the DAG [Soviet divisional army group] counterfire duel. The authors seem to imply that is their role in the statement "the S2 gives the Div Arty a specific time for the coverage (AN/TPQ-37, NLT _____)."

• *Cueing Time.* Lastly, we plan radar cue time to support the concept of fires that supports the scheme of maneuver. We answer the questions: When do I need to fire counterfire? When will the enemy open up with his Phase I fires? What effect can I expect them to have on my forces? What volume of acquisitions can the system (radar TOC) effectively manage?