



Operation Desert Thunder and the Force FA Headquarters

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On 23 February 1998, the colors of the 3d Infantry Division (Mechanized) Artillery (Div Arty), Fort Stewart, Georgia, were unfurled in the Kuwaiti Theater of Operations (KTO). This was the first time since 1951 that the Div Arty colors were unfurled in an active theater.

Due to a unique set of circumstances, the Div Arty found itself deployed as the force Field Artillery (FFA) headquarters for the coalition task force (CTF). The CTF was a task force representing several coalition partners and our sister services. This article provides details of the composition and rationale for the formation of the FFA and several lessons learned during Operation Desert Thunder.

The genesis of this deployment was the impasse between the UN chemical and biological inspection teams and Saddam Hussein's Iraqi regime. Saddam Hussein continued to obstruct UN inspection teams in their search for evidence of Iraqi chemical and biological weapons programs. He used these inspections in an attempt to gain international support to lift economic sanctions imposed in the aftermath of the 1991 Gulf War.

Unfortunately for Hussein, he underestimated UN resolve and the result was the deployment of the CTF, including elements of the 3d Division.

Composition and Rationale for FFA. Initial planning indicated that there was a real probability that US Army, USMC, Kuwait and at least one other country would send artillery units to counter the threat posed by Iraq. It was evident that there was a need for a FFA headquarters to coordinate the fires of all coalition artillery units.

The initial command and control structure called for the commander of the 3d Infantry Division to serve as the land component commander. Because the initial troop list also called for the 3d Infantry Division to send a divisional command and control (C²) element in addition to a brigade combat team (BCT), it naturally fell to the 3d Div Arty to provide the FFA. As the division was to be the largest ground force component, the Div Arty was clearly the best C² structure to simplify control of all fire support assets in theater.

Central Command (CENTCOM) at MacDill AFB, Florida, also directed a deep strike capability be included in the CTF. As such, division planners included other units from the Div Arty: A Battery, 13th Field Artillery (Multiple-Launch Rocket Systems, or MLRS), and two Q-37 radar sections from A Battery, 39th Field Artillery, a target acquisition battery (TAB). The FFA then had the capability of acquiring targets and returning deep, accurate, timely fires.

Additionally, one of the division's attack helicopter battalions and its brigade headquarters were included in the deployment. This ensured the CTF commander had deep suppression of enemy air defenses (SEAD) and deep strike capabilities.

Factors that affected the composition of the FFA included the lack of equipment in Army pre-positioned stockage (APS) and the need to maintain a viable Div Arty headquarters at Fort Stewart. The APS in Kuwait did not include any equipment for headquarters elements above the brigade level. This resulted in the Div Arty's having to plan and deploy with all the equipment it needed.

This equipment was designated as "to accompany troops" (TAT). Because this TAT would be competing for space on critical strategic air lift assets, planning concentrated on keeping the FFA headquarters as small as possible while still maintaining a deep strike, counterfire and coordination capability.

Only one BCT—including the 1st Battalion, 41st Field Artillery (1-41 FA), its habitual direct support (DS) artillery battalion—was part of the initial troop list, which meant that two-thirds of the Div Arty units would not deploy.

The package developed required only one C-5 and two C-141 aircraft. It consisted of 73 personnel representing the operations and intelligence sections (O&I), target production center (TPC), communications section, meteorological section, survey section and liaison sections. (See Figure 1.) All sections were manned to conduct continuous operations.

Headquarters. The Div Arty commander and his driver comprised the headquarters section. The equipment from the headquarters section consisted of the Div Arty commander's high-mobility multipurpose wheeled vehicle (HMMWV).

The Div Arty commander, as the FFA commander, had to be prepared to control the fires of one US Army Paladin battalion (1-41 FA), a US Army MLRS battery (A/13 FA), two Kuwaiti M109A2 artillery battalions, a Kuwaiti Smerch 9A52 battalion, a USMC M198 battery (R Battery, 5th Battalion, 11th Marines from Los Flores, California), our target acquisition systems and any other coalition artillery assets that might be in the theater.

O&I Section. O&I consisted of 30 soldiers: eight officers, 13 NCOs and nine soldiers. The section was the mainstay of C² operations. The Div Arty S3, assistant S3 and operations sergeant major deployed, leaving the Div Arty

training officer and NCO to run the day-to-day operations at Fort Stewart.

The S2, S2 NCO and order of battle analyst deployed with the FFA to provide intelligence support. (A third soldier was left to run day-to-day operations at Fort Stewart.) All members of the fire control element (FCE) deployed with the FFA to control the fires of all coalition partners as the mission dictated. This robust crew also facilitated manning the tactical operations center (TOC) for 24-hour operations.

In addition to the organic Div Arty sections, an engineer liaison officer (LNO) and air defense team with a forward area air defense command, control, communications and information (FAADC³I) device were part of the O&I section. These LNO sections were essential during our Battle Command Training Program (BCTP) Warfighter exercises and proved just as critical on this real-world deployment.

Having the engineer LNO paid big dividends by his ensuring our radar

assets were protected with survivability positions. He also assisted in constructing the life support area, to include flooring for tents, latrines and shower facilities. The engineer LNO must be part of any FFA package that deploys.

The air defense team brought its FAADC³I to give the FFA early air defense warning. The FFA was linked to the entire theater air defense early warning network. Again, this team is a critical asset and should be part of any deployment package.

In addition, we took drivers from the Div Arty's headquarters and headquarters battery (HHB) with the specific skills the FFA needed. The drivers doubled as medics, commo soldiers and mechanics, giving the FFA additional support capabilities.

The O&I section deployed with two of the three organic M923 5-ton expando vans. These vans each towed a generator to run the communication systems. The jump TOC's and S3's HMMWVs also were part of the FFA package.

A conscious effort was made to ensure that at least two M-249 squad automatic weapons were deployed with qualified soldiers. This increased what little organic force protection that was available to the FFA.

Target Production Cell. The entire TPC deployed to complete the Div Arty's counterfire system. This section consisted of six soldiers: one officer, three NCOs and two soldiers. We routinely rehearsed and exercised this cell with our two Q-37 and Q-36 radars, including tracking the Russian manufactured 9A52 Smerch rockets fired from the Kuwaiti rocket battery. During this deployment, the TPC reduced sensor-to-shooter times down to an average of three to four minutes.

Communications Section. The communications section consisted of seven personnel: the Div Arty signal officer (DSO), three NCOs and three soldiers. The Div Arty signal NCO assisted with radio repairs and management of retransmissions assets. Two retrans teams

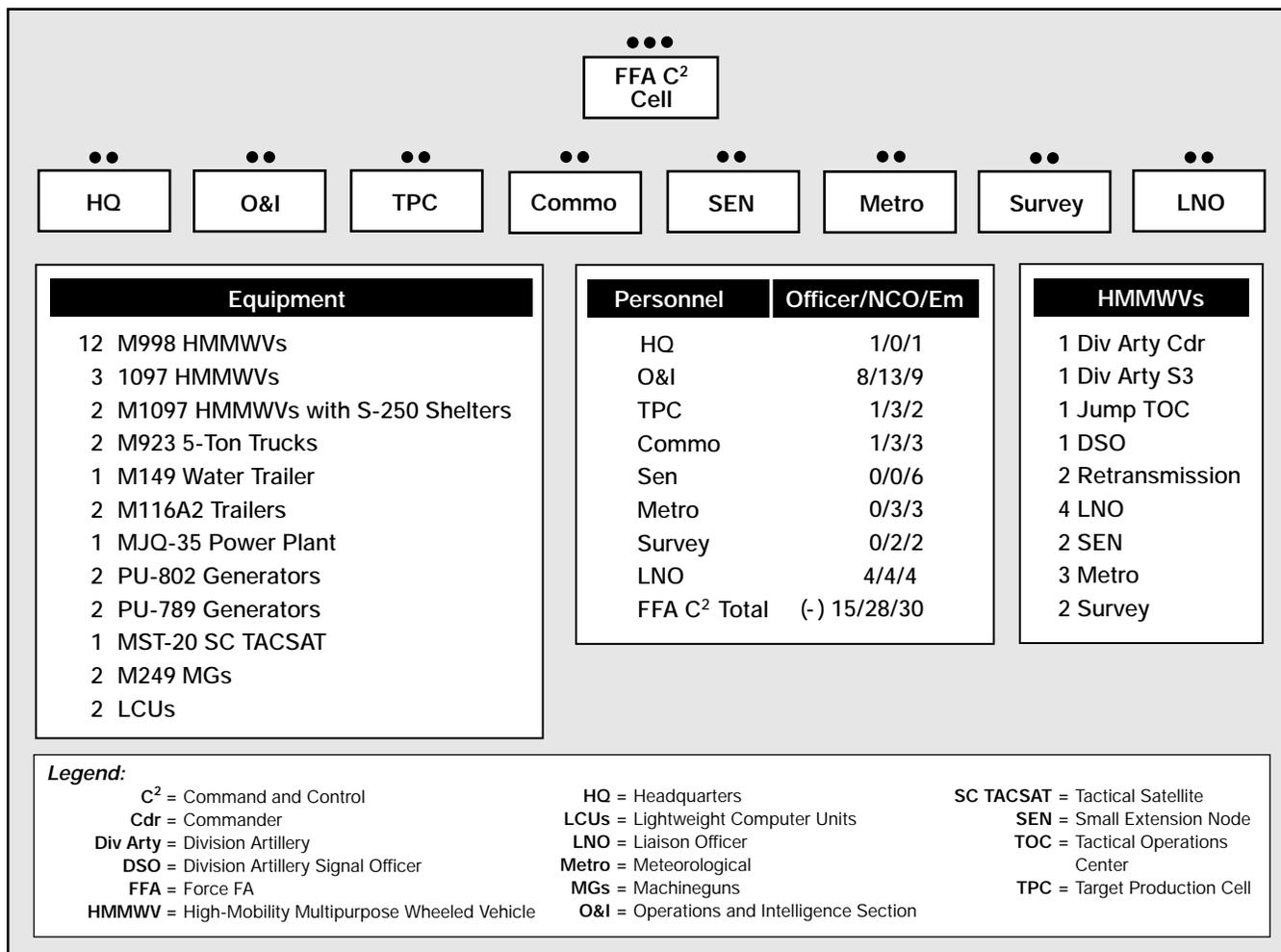


Figure 1: FFA Command and Control Cell- "To Accompany Troops" (TAT) Deployment Package. This package requires one C-5 or one C-17 and two C-141 aircraft to deploy.

deployed to help maintain communications with coalition assets. Each team had an NCO and driver. The final soldier was a communications repairman.

The communications section used three HMMWVs, two as retrans vehicles and one to allow the DSO to position retrans assets. This section was also critical. It worked with a multitude of systems, including communications that ranged from the single-channel ground and airborne radio system (SINCGARS) to satellites and computer automation that ranged from email to the repair of the initial fire support automation system (IFSAS) lightweight computer unit (LCU).

In addition to these organic assets, a small extension node (SEN) from the divisional signal battalion deployed with the FFA to provide communications connectivity to the rest of the assets in theater. The SEN consisted of six personnel, two M1097 HMMWVs with S-250 shelters and two generators to run the system.

Meteorological Section. To increase the effectiveness of fires across the coalition sector, one of the two Div Arty meteorological sections deployed with the FFA. The section was imperative to provide accurate deep MLRS fires. The section provided meteorological support not only for the US units, but also for the Kuwaitis' 155-mm and Smerch fires. Each section consisted of six personnel: three NCOs and three soldiers. Each deployed with all of its equipment to include three HMMWVs, two generators and a trailer.

Survey Section. Two Div Arty survey sections were part of the FFA package. This enabled the FFA to develop a survey plan for all artillery assets in the coalition sector. It also allowed the FFA to have everyone on common survey, thereby increasing the effectiveness of its fires. The survey section consisted of four personnel: two NCOs and two soldiers. The equipment for each section consisted of two HMMWVs with position and azimuth determining systems (PADS).

Liaison Teams. Based on our predeployment mission analysis and lessons learned from Operation Bright Star, an exercise in the Egyptian desert, we recognized the need for LNOs to interface with coalition forces' higher headquarters and all artillery units, so we brought four LNO teams with the FFA. The num-

ber of LNO teams was based on the number of expected coalition partners for the deployment. Each team consisted of three personnel: one officer, one NCO and a driver. Each had a HMMWV with very specific equipment, as listed in Figure 2.

The liaison teams came from 1-10 FA, the DS battalion for the division's 3d Brigade, which was the division ready brigade 3 (DRB3) at the time, and the Div Arty's HHB. Even though this, in effect, stripped the fire support element (FSE) of the DRB3, it was necessary and paid tremendous dividends in the long run.

One LNO team was assigned to the CTF headquarters, which primarily was comprised of personnel from the Army component of CENTCOM's Army Central Command-Kuwait (ARCENT-K). This LNO team kept the FFA apprised of all current planning and facilitated the orders process among all coalition partners.

A second LNO team was assigned to the Kuwaiti Land Force (KLF) Artillery. This was an extremely critical team because of the nuances of the Arabic culture. Arabs traditionally operate by personal relationships more than time constraints, mission requirements, professional skills or anything else. One of the keys to establishing a good working relationship is to establish a good personal relationship. The LNO developed that relationship and enabled the FFA to quickly integrate the KLF Artillery in all planning and orders development. The KLF Artillery sent a reciprocal

liaison team to the FFA headquarters to further facilitate operations between the two units. Time and again, our good relationship with our Kuwaiti allies proved *critical* to our ability to accomplish the mission accomplishment.

The last two LNO teams were reserved for adjacent unit coordination. One team operated with the USMC battery and the other with Kuwaiti maneuver brigades. The LNO teams helped to solve many of the problems associated with coalition warfare and were critical to the success of the FFA. LNO operations set the standard in the Marne Division—the division staff employed our LNOs for numerous key tasks.

Training Focus. Once UN Secretary General Kofi Annan brokered an agreement with Iraq, the deployed troops in the KTO gradually started to shift from posturing for combat operations to maintaining a US presence to deter any Iraqi aggression against Kuwait. With this shift, the 3d Division developed a very challenging and ambitious training plan for deployed forces to help develop future KTO contingency operations plans (OPLANs). The focus also maximized our unique opportunity to train with joint and combined forces for more than four months in a multitude of planning and coordination sessions, staff drills and exercises.

Among the more significant exercises was the Coalition Joint Task Force (CJTF) CPX that included an entire observer/controller (O/C) package and simulations team from the BCTP team and National Simulation Center at Fort Leavenworth, Kansas. This brought all coalition partners together to exercise the contingency OPLAN developed for the defense of Kuwait. It was extremely beneficial for the FFA as we developed and refined tactics, techniques and procedures (TTP) and captured key lessons learned.

During the CJTF CPX, we exercised the C² of all US fire support assets in concert with the Kuwaitis, who had a jump command post (CP) collocated with our FFA CP. This reciprocal liaison structure provided us the greatest flexibility in clearing and providing fires to our coalition partners. We also exercised our deep operations planning and execution cycle with the division FSE by conducting a series of deep attacks.

The "Marne Training Center (MTC) Rotation" was also an excellent exercise. Initially it was designed

1	Mobile Subscriber Radio Terminal (MSRT)
2	OE-254 Antennas
1	Forward Entry Device (FED)
1	Binoculars
1	Night-Vision Goggles
1	Cellular Phone (Purchased Locally by Contracting Agent)
9	5-Gallon Water Cans
4	5-Gallon Fuel Cans
	Division Artillery Tactical Standing Operating Procedures (TACSOP)
	Division Artillery Initial Fire Support Automated System (IFSAS) SOP

Figure 2: LNO Teams. The teams each have one lieutenant, staff sergeant and driver in an M998 HMMWV with two high-powered radios and the equipment listed.

to replicate a National Training Center (NTC) rotation at Fort Irwin, California, for the 1st BCT, which missed its scheduled rotation due to the deployment. But we also used this exercise to administer 1-41 FA *Glory's Guns* its external evaluation (EXEVAL). Although the EXEVAL was not the same as the ones we administer at Fort Stewart, the tough conditions of the Kuwaiti desert and battle rhythm of the three-week exercise provided the battalion a very challenging evaluation. The MTC employed O/Cs from the NTC Operation Group's Tarantula Team and was a resounding success for the maneuver forces and fire supporters alike.

The training culminated with the collective Combined Forces Exercise (CFX) at the end of April. This exercise placed coalition units on the terrain they would occupy in accordance with the Kuwaiti defense OPLAN and that we exercised on the earlier CPX. It was yet another excellent opportunity to train on US-Kuwait interoperability with special emphasis on coordination between adjacent units, passage-of-lines and clearing fires. It also provided the FFA headquarters an opportunity to set-up, operate and move its jump CP over real-world distances and terrain—a definite challenge with the limited resources available in theater. During this exercise we also conducted a mini Interdiction Counterfire Exercise (ICE), employing the joint surveillance and target attack radar system (JSTARS) and the fires of USAF close air support (CAS) aircraft, the Army's Kiowa Warrior and AH-64 Apache helicopters, MLRS and Paladin. We employed these systems along with other intelligence gathering assets from the division as part of a series of deep attacks on actual moving targets in the Udairi Range training area.

In addition, the deployment and re-deployment process provided excellent and scarce training for future contingencies. The FFA had to draw and turn in its APS equipment in Kuwait and develop and modify our own deployment training regulations and standing operating procedures (SOPs).

Lessons Learned. Although we never fired a round in anger in Operation Desert Thunder, we came prepared to do whatever it took to coordinate, clear and provide fires for the CTF and learned many, many lessons in the process. In the following paragraphs, we discuss four of the more significant lessons we learned.

Logistics Support. The FFA relied very heavily on the DS battalion for all forms of administrative and logistical support. While this was an effective solution, in most cases, the FFA headquarters needed its own S1 and S4 representative to send reports to the division and CTF headquarters. Without these representatives designated in the initial plan, we had to take these two officers "out-of-hide."

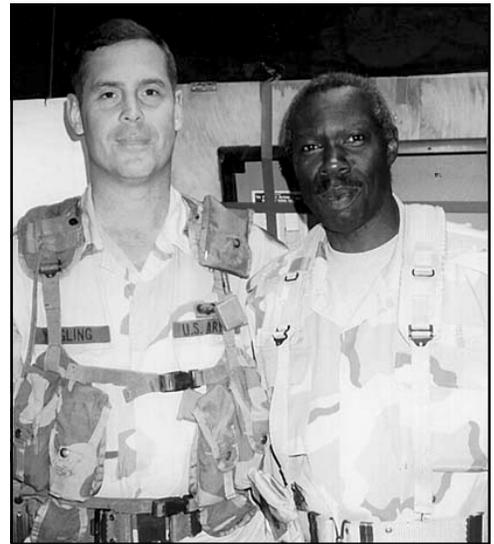
The TAB commander assumed the role of the S4 and the night-shift fire control officer assumed the role of the S1. This work-around allowed us to function and provide the necessary logistics reports. However these two officers would have served the FFA better in their originally intended roles. The FFA headquarters needed its administrative and logistics personnel integrated into all staff operations.

IFSAS/AFATDS Interoperability. The CTF had the advanced FA tactical data system (AFATDS) while the FFA used IFSAS. If the level of command controlling the FA fires has AFATDS, then the systems are reasonably compatible. But if the controlling level of command, in this case the FFA, has IFSAS and AFATDS must interface digitally in subordination, the two systems don't operate together effectively—which caused the FFA significant problems in exchanging information. This was especially critical when attempting to pass Army tactical missile system (ATACMS) time-sensitive target information.

In the constantly moving battlefield, knowledge is power. Knowing where units are and who's moving greatly improves situational awareness. The current lack of an IFSAS-to-AFATDS interface can make critical information hours old.

When the IFSAS-to-AFATDS interface was attempted, the only message we could pass reliably was the plain text message (PTM). SPRT;BGEOM messages that IFSAS understands are compatible if they fall within the IFSAS mapmod; however, AFATDS has a much larger mapmod and many more message formats. Whenever these formats were transmitted, an error resulted, so automated exchanges IFSAS-to-AFATDS didn't work.

There were three solutions to our digital interface problem. The first was to provide the higher headquarters an IFSAS and operator. Based upon the number of



The commander of the KLF Artillery, Brigadier General Sami M. M. Al-Murjan (right) was a US Army War College classmate of the FFA commander, Colonel John A. Yingling.

personnel we deployed with the FFA, this was not a feasible solution.

The second solution was to provide the FFA with an AFATDS. This, again, was not feasible because there weren't enough trained operators. The final, yet not ideal, solution was to execute via voice communications—which we did.

Without establishing digital communications, battlefield awareness and control are greatly reduced. Until AFATDS is fully fielded, the Army will face this problem, and units must seek work-arounds to ensure digital connectivity.

International Military Education and Training (IMET) Program. The majority of international students who attend training in the US are part of the IMET program. The deployment of the 3d Div Arty highlighted the success of this program.

Many high-ranking members of the Kuwaiti military are graduates of US basic and advanced courses and our staff and war colleges. Their understanding of our doctrine and culture facilitated our combined planning and the execution.

It just so happened that the commander of the KLF Artillery, Brigadier General Sami M. M. Al-Murjan was a US Army War College classmate of the FFA commander, Colonel John A. Yingling. As was pointed out earlier, the Arab culture builds upon personal relationships before professional relationships. In this case, the personal relationship was built upon shared experiences at Carlisle Barracks, Pennsylvania. Because of the

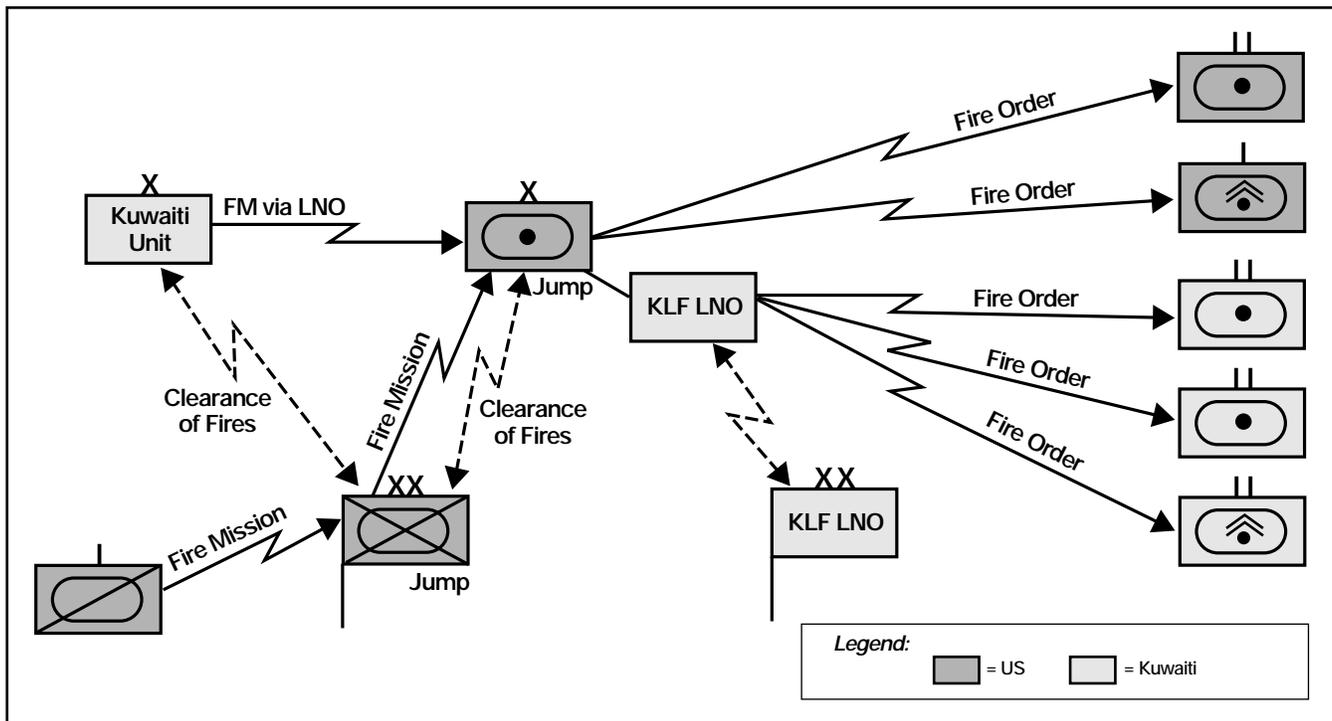


Figure 3 : Kuwaiti Land Force (KLF)- US Fire Mission Processing. The KLF artillery has Jaguar radios that are not compatible with our single-channel ground and airborne radio system (SINCGARS). To clear fires, the coalition forces used reciprocal liaison officers (LNOs).

IMET program, the KLF Artillery and US-led FFA were fully integrated from the beginning.

Clearance of Fires. The KLF Artillery is equipped with Jaguar radio systems from England, which are not compatible with US SINCGARS radios. This presented a problem in clearing fires. We resolved the problem by using reciprocal liaisons, again highlighting the importance of LNOs in coalition operations. (See Figure 3.)

A fire mission received from a Kuwaiti observer was cleared through KLF Artillery channels and then sent to the KLF Artillery LNO collocated with the FFA Headquarters where the final clearance was done. The same process was used for fire missions coming from US observers. The fire mission was cleared through US fire support channels and verified with the KLF Artillery LNO team.

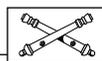
The US FFA FCE issued fire orders to US firing units and the KLF Artillery LNO issued fire orders to Kuwaiti firing units. During the CJTF CPX, there were many opportunities to verify this system. A testament to its success is that we had no fratricides from indirect fires.

On 17 February 1998, the 3d Division was alerted for deployment to Kuwait. In addition to the 1st BCT, elements from the division headquarters, the military intelligence and signal battalions

plus the Div Arty deployed. The entire force package was on the ground in Kuwait within eight days. Within a week of the deployment, UN Secretary Kofi Annan brokered an agreement with Saddam Hussein that allowed UN inspectors unimpeded access to all sites for chemical or biological inspections. Once again, Saddam Hussein backed down in the face of US resolve.

As this article is going final on 17 December, the 3d Div Arty is preparing to deploy as an FFA to Kuwait in Operation Desert Fox following the US-led bombing of Baghdad on 16 December. Saddam Hussein, once again, misjudged the resolve of the US to ensure his compliance with UN inspection requirements. The 3d Infantry Div Arty stands ready to deploy, fight and win in conjunction with its coalition and combined arms brethren.

Our deployment in Operation Desert Thunder taught us a lot and made us better prepared to accomplish the FFA mission, as might be required in future operations. It is our hope that this article might be similarly useful to other FA units as they face missions like the 3d Div Arty's.



Major Thomas I. Eisiminger, Jr., was the Assistant S3 of the 3d Infantry Division (Mechanized) Artillery, Fort Stewart, Georgia,

during Operation Desert Thunder. Currently, he is the S3 for the 1st Battalion, 9th Field Artillery, also in the 3d Division. In addition, he commanded A Battery, 4th Battalion, 41st Field Artillery in the 24th Infantry Division (Mechanized) at Fort Benning, Georgia. During Operations Desert Shield and Storm, he was the Fire Support Officer for the 2d Battalion, 18th Infantry in the 197th Infantry Brigade (Mechanized) (Separate).

Lieutenant Colonel James M. Waring was the 3d Division Artillery S3 during Operation Desert Thunder. Currently, he is the Deputy Fire Support Coordinator for the 1st Infantry Division (Mechanized) in Germany. Among other assignments, he was the Assistant S3 for the 3d Battalion, 320th Field Artillery, 101st Airborne Division (Air Assault) in the Gulf during Operation Desert Storm, the same battalion in which he had commanded a battery; he later served as the Operations Officer for the 101st Division Artillery.

Colonel John A. Yingling commanded the 3d Infantry Division (Mechanized) Artillery during Operation Desert Thunder. He is now the Director of the Fire Support and Combined Arms Operations Department at the Field Artillery School, Fort Sill, Oklahoma. He also commanded the 7th Battalion, 8th Field Artillery, part of the 25th Infantry Division (Light) at Schofield Barracks, Hawaii, and served as a Joint Staff Officer in the National Military Command Center at the Pentagon, among other assignments.