OPERATION IRAQI FREEDOM (OIF):
LESSONS LEARNED

<u>G-1</u>
Topic: **Automated Personnel Tracking**

Discussion: Tracking personnel accountability and providing timely answers is critical. There are numerous databases and websites being used by various sources and levels of command, but creating and maintaining this is a timely and manpower intensive duplication of effort. It's also confusing when one system may be updated before another, i.e.: tracking the movement of patients from one echelon of care or hospital site to another. At times patients were double counted when the gaining hospital would pick them up before the previous site deleted them; or neither would account for them, with the losing site deleting before the gaining site picked them up.

Recommendation: A common personnel tracking system with a multitude of capabilities needs to be available down to the lowest levels. These capabilities must include access to all personal data, collective numbers by unit down to the fire team or attachment level, ability to move data as the scheme of maneuver changes from one gaining command to another, automatic generation of PCRs, SIRs, JPERSTATS, and Awards; and inclusion of logic for analysis of impact due to loses, gains and requirements, i.e.: what unit to tap for individual personnel augmentation taskers based on available pool covering the time period required. Absolutely imperative operations and administration begin speaking the same language. A personnel tracker needs to be created that captures physical location (Blue Force Tracker?) and personal admin (SRB, OQR) collectively to assess manpower and accountability issues of each command.

Topic: **Administrative Troop to Task/Need for Additional Reserve Support**

Discussion: While additional augmentation could have provided more timely preparation of Personal Casualty Reports (PCR/SIRs) and Awards within the Division Administration Center, as well as a 24-hour capability at three major sites (Division Main, Division Administration Center (DAC), and Division Rear at Camp Pendleton), the post-war requirements for garrison type administrative support were not anticipated or planned for. The associated requirements as we maneuvered to an administrative role versus an operational role far exceeded the G-1s ability to provide the type of quality and timely replies required.

Recommendation: Reserve augmentation within the G-1 was critical. Additional reserve augmentation to support short-term post-war requirements is needed. It is imperative that additional "contingency" billets be added to the T/O with a footnote that they would only be required for post-war support.

Topic: **Mail Distribution**

Discussion: Numerous issues arose in relation to mail. Timely and accurate distribution during, and especially after the hostilities met with many challenges. The ability for the mail to find their requisite units and adapt to the rapid change in attachments while not perfect, was admirable. The ability to keep the flow forward during retrograde needs to be improved.

Recommendation: More training and emphasis at all levels needs to be placed

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on the mail distribution process, specifically, what additional requirements are levied upon our units for request, transporting and delivering mail. While not perfect, it would be helpful to at least be aware of the mail process and challenges prior to deployment, with communicating that down to the most junior Marine. While they might not be happy, they will at least know what to expect. There also needs to be more emphasis on mail in the Administrative SOP, as well as provide better training and guidance to the Regimental and Separate Battalion Adjutants.

Topic: Division Administration Center (DAC)

Discussion: The challenge of integrating reach back support in an operational environment was answered with the establishment of the DAC. While no doctrine or formal SOP yet exists for reach-back administration or consolidation, the concept employed as envisioned by the Commanding General was a success. While not "consolidated" the co-location of efforts amongst the Regimental and Separate Bn Administration Centers, as well as 2d and 4th Marine Division resources may have actually worked better then consolidation itself.

Recommendation: Make this SOP! Incorporate and begin to train in this direction starting with initial MOS schools. Additional integration of Adjutant training or personnel could only add to the success realized. This concept must be immediately integrated with all operational training exercises as well as simultaneously providing real world support.

Topic: Hospital Liaison Support

Discussion: The ability to track Marines/Sailors is impossible without accurate information from each hospital site.

Recommendation: During OEF/OIF, hospital liaisons were put in place by MEF, with augmentation from each MSC. It would have been beneficial if liaisons were identified prior to deployment so that they would have a chance to develop procedures and train before being required to execute. They also need resources to better execute their mission: mainly laptops and cell phones. Ultimately adding liaisons as "c" coded billets to the T/O, or creating reserve IMA billets is ideal.

Topic: Handling In-Theater Casualties as They Return to Duty

Discussion: Most Marines/Sailors released from the hospitals that are fit for duty were returned to the DSA. Unfortunately most of them did not have their 782/MOPP gear (other than trousers), uniforms, and weapon. This makes it difficult to provide them with an appropriate level of protection, as well as protection during the return trip to their unit.

Recommendation: Recommend that the Division maintain a supply of war-gear drawn from the FSSG. Recommend this pool be located at the DSA for those Marines being returned from MEDEVAC.

Topic: Training In Administrative Procedures

Discussion: There is a critical the need to train to and refine doctrinal procedures for administration during War. While the daily administrative requirements were met as required, there were many occasions when challenges were presented that could have been easily overcome with common procedures

having been established and exercised.

Recommendation: The execution of administrative requirements mostly in a combat environment can be resolved through adequate doctrinal publications and training. This not only applies to the administrative community but down to small unit leadership so that they can be better prepared to not only resolve but foresee an administrative problem before it arises, for example: proper casualty reporting. A well-prepared SOP combined with advanced MOS schools and integrated CSS exercises should cover areas that are not handled in a peacetime environment. Recommended the following topics be addressed in doctrinal publications and exercised by Administrators as well as Commanders:

- Casualty Reporting
- Mail Processes and Procedures
- Fitrep Matrix/Guidance
- Awards Guidance
- Emergency Leave/Red Cross Notification Procedures
- Post-War/Administrative Operations Requirements
- RSO&I Procedures and Requirements
- Procedures for Handling Casualties for In-Theater Return to Duty
- Casualty Estimate Models (though a new model needs to be developed since the actual casualties realized only reflected about 10% of that forecasted using the current HQMC model)
- Reporting of accurate information with regards to casualties.

Topic: Personal Administration Inclusion into the Pre-deployment Brief

Discussion: Marines' personal admin change when they deploy, therefore raising many questions and concerns while deployed. Many personal admin issues that normally arise on deployments can be prevented through proper education before being deployed.

Recommendation: To prevent this undue stress, inclusion of an administrative portion during the Pre-deployment Brief is necessary to begin training Marines and building their confidence that the Marine Corps will continue to take care of their Administrative needs while deployed. Topics to be covered are: Pay and entitlements in theater, personal admin, emergency leave procedures, reenlistments, promotions, and casualty tracking and reporting.

Topic: Personnel Casualty Report (PCR) Procedures

Discussion: Meeting the reporting timelines required by higher headquarters was often impossible. Most casualties occur in the heat of battle and therefore communications is either limited or at least reduced.

Recommendation: While obtaining information from the field is still challenging, PCR processing via naval message should be replaced with a "real-time" reporting and viewing capability.   This will ensure that information can be updated and viewed by authorized users and allow everyone in the PCR process to view the information as changes occur. A web enabled program that is part of a single Class "A" system can be updated by authorized users for real-time reporting and viewing. This will enable viewers at different locations to view PCR information (or some information) in a real-time environment as status or update changes occur. It should also have the capability to automatically populate the personal information required that is resident and certified within MCTFSS.

Topic: **Casualty Tracking**

Discussion: Tracking casualties was challenging from day one. With the DASC not owning airspace until we crossed the LD, lower level units having the ability to transport their own routine patients, incomplete information forwarded by units, lack of personal information reported through the MEDEVAC chain, consolidating information, and gaining a common picture of "what happened" grew even more difficult when we crossed the LD.

Recommendation: Create an integrated reporting system that meets the needs of the Army, Navy and Marine Corps. Establish strict procedures with regards to obtaining casualty information and passing information in a timely manner.

Topic: **Reserve Attachments**

Discussion: Reserve Marines and units showed up in theater without MEF and attaching units knowing they were in route. Some Reserve units arrived in theater without being properly mobilized, assessed, and pay and entitlements started.

Recommendation: That Marine Forces Reserve, in coordination with Headquarters, U.S. Marine Corps, publish a detailed LOI for the mobilized Reserve units to follow prior to issuing mobilization orders, and distribute that down to the Gaining Force Commander (GFC). Most Reserve units do not have the adequate administrative knowledge and, without a detailed LOI, will not be able to properly activate and mobilize their Marines and units. Also, request that MFR work closely with the GFC and have the proper endorsements that carry the Marine from his Reserve unit to the Command he will be assigned to.

G-2
Topic: **Lack of Organic Aerial Collection at Division and Regiment**

Discussion: After crossing the Line of departure, the Division received very little actionable intelligence from external intelligence organizations. The Division had to assemble a coherent picture from what it could collect with organic and DS assets alone.

The nature of the battlefield, the extreme distances, high operational tempo and lack of a coherent response from a conventional enemy all made it difficult for an external agency to know what was tactically relevant and required by the GCE commander. The byzantine collections process inhibited our ability to get timely responses to combat requirements with the exception of assets organic to or DS to the Division. This made the Division almost exclusively reliant on organic or DS collection assets. The Division found the enemy by running into them, much as forces have done since the beginning of warfare. The Pioneer worked great when the bureaucracy between the VMU and the Division G-2 could be negotiated, but the lack of a habitual relationship and adequate rehearsal time limited our ability to do so. A superb example of a successful UAV system was the Dragoneye, which was fielded to selected Battalions and allowed to collect against the commander's priorities, locations, and schedule without interference from higher headquarters.

On a fluid high tempo battlefield, a highly centralized collections bureaucracy is too slow and cumbersome to be tactically relevant. The best

possible employment option is to push more assets in DS to the lowest tactical level and increase available organic collections.

Recommendation: Procure scalable family of tactical intelligence collection platforms, both ground and air, and make them organic to the Division and Regimental intelligence shops. Empower the lower echelons and decentralize the collection process.

Topic: **Provision for Trojan Spirit at the Regimental Level**

Discussion: Intelligence units down to Regimental Level absolutely could not have achieved their intelligence mission without the independent trojan spirit system. With the Trojan and its JWICS and SIPR access, the RCT S-2s and Division CPs had the ability to be self-sufficient in intelligence analysis.

With organic communications paths alone, Regimental S-2s would not have gotten the intelligence support they needed. The Trojan Spirit systems were a godsend. They provided access to the daily CFLCC briefs, NIMA products, IESS and external collections products, etc. These were all critical to the Division and RCT collections shops to keep their situational awareness and provide tactically relevant intelligence tailored to their commander's requirements. TS also allowed access to real time SIGINT reporting through AMHS, and monitor Zircon chat. The TS systems also provided an all-weather, all-distance telephone link that was used frequently to pass critical time-sensitive intelligence to RCT commanders when other communications links were unreliable or otherwise unavailable.

Organic Regimental Communication assets cannot provide enough bandwidth to support all the data requirements and have no JWICS capability. The Division requires this capability at both its Forward and Main CPs, and the RCTs require access as well.

Recommendation: Provide Regiments with organic or planned Trojan Spirit capability down to Regimental level.

Topic: **JSTARS Common Ground Station**

Discussion: The presence of a JSTARS CGS at the Division had a tremendous positive effect for integrating this information into a comprehensive intelligence picture. The ability for the Div G-2 and Army CGS operators to work side-by-side allowed us to use the system in unconventional ways with tremendous tactically useful results. There was a critical requirement to monitor the potential movements of these enemy divisions in order to allow the 1st Marine Division move deep into the enemy battle space quickly.

No other collection asset provided the wide area all weather coverage of the battle space that the JSTARS did with the MTI radar. Critical to our ability to use the capabilities of the JSTARS was the interface provided by the JSTARS Common Ground Station. The equipment allowed us to interact in real time with the collection platform and focus on our critical requirements and process the collection data into usable and actionable intelligence products. The soldiers who operated the system proved equally as critical as the equipment in processing, interpreting and translating operational requirements to the collection platform. Because they were close to the point of decision, these JSTARS operators shared the sense of urgency and 'can-do' attitude. They worked aggressively to find ways to answer questions

instead of deflect them. When other platforms failed or were unavailable the CGS JSTARS combination ensured that we were not blind on the battlefield. JSTARS showed us enemy traffic over allegedly "no go" terrain, gave us estimated speeds of advance for our own forces by evaluating enemy speeds over that terrain, proved which bridges supported traffic, etc.

The Marine Corps needs to invest the JSTARS MTI system and trained operators for provision down to the Division level.

Recommendation: The Marine Corps needs to invest in the development of doctrine to request and employ the JSTARS MTI system. Need to acquire CGS systems and trained operators for provision down to the Division level with appropriate adjustment to the Division T/O and T/E.

Topic: **Instant Text Messaging Capability for Intelligence I&W**

Discussion: Intelligence professionals at all levels were crippled in their ability to provide timely intelligence of a time-sensitive nature due to communications challenges. Newly fielded systems like Iridium pagers and Blue Force Trackers have the ability to do limited instant text messaging.

There is currently no way to reliably pass data down to the Battalion level or to the Regiment while on the move. There are times it took days for email messages to reach Div/Regiments due to server queues or some such. Although on the surface a communications issue, the impact on timely, actionable intelligence is severe. Chat rooms were not much better at RCT level.

There is no secure, quick, reliable way to pass I&W to Regiments and Battalions

Recommendation: Need to procure and field a reliable, secure responsive Intelligence System that allows text messaging for Intelligence I&W. For example, there may be merit in fielding an Iridium pager text messaging capability as an Intelligence system. This would provide a significant enhancement to I&W capabilities.

Topic: **Lack of Tactical Intelligence Collection at Division and Regiment**

Discussion: Generally, the state of the Marine Corps' tactical intelligence collection capability is well behind the state of the art. Maneuver units have limited ability to see over the next hill, around the next corner, or inside the next building.

Supporting intelligence collectors (VMU, P-3AIP, ATARS, Theater and National level assets) were great for developing deep targets, subject to the prioritization of higher headquarters (Division and higher.) Navigating the labyrinth of collection tasking processes proved too difficult in most cases to get reporting on Division targets, and certainly for Battalion-level collections. For the amount of money spent on an ATARS POD, could be handsomely equipped with a suite of motion sensors, digital imaging equipment with zoom lenses, laser range finders, small UAVs, thermal imagers, robotic sensors and other tactically focused intelligence collectors.

The Marine Corps has a tremendous void in its intelligence collection capabilities at the echelon that needs it the most.

Recommendation: Procure scalable family of tactical intelligence collection platforms, both ground and air, and make them organic to the Division and Regimental intelligence shops. Integrate them into an intelligence collections toolkit and make it the TO weapon for a Battalion S-2. Follow the model of the Radio Battalion Modifications program as an acquisition strategy. This program maintains modern equipment at tactical units by buying non-developmental systems and fielding them.

Topic: Topographic Support

Discussion: The Division's organic topographic detachment, particularly when combined with the Division's imagery interpretation section, was a critical enabler, able to produce critical operational graphics and other topographic products for the tactical users on very short notice.

The Division has a great capability to analyze and develop specialized and focused maps and topographic products to tactical user specifications. This organic capability resulted in DAILY operational impacts, as every mission generated requirements for specially tailored products. These were produced quickly and professionally by the two 0261s in the Division and their DTAMS machine. Outsourcing these quick-draw requirements was not an option. Although the plotter system allowed limited quantity production, it was not capable of copying products not already digitalized or producing products in volume. A division has an insatiable appetite for a large volume of paper map and imagery products to support Marines down to the lowest tactical level. Prestaging of off the shelf NIMA products will never be adequate to support division and MSC requirements particularly in a dynamic environment and a battlespace the size of that experienced in Iraq. Additionally, higher headquarters and theater level depots proved themselves incapable of either timely high volume production or shipping products from existing stocks to support the tactical user.

The Division G2 needs an industrial grade capability to both copy existing hard copy and digital topographic products and produce them in sufficient quantities to support a Division. At a minimum a capability to produce 1000 standard map size products a day is required to support Division combat operations

Recommendation: Purchase and field above capability.

Topic: Operations with P3/AIP

Discussion: The P-3 AIP provides a tremendous I&W collection capability, provided the supporting unit has a rider on board to direct employment of the sensor to meet the tactical needs of the ground user.

P-3AIP was of immense utility for the collection of intelligence in the immediate fight for the maneuver elements. This should be a platform of choice for surveillance of engaged friendly forces, route recon, and disposition of enemy forces soon to be engaged. Issues with platform communications, employment of the platform in high-risk areas, and limitations on the resolution of the EO/IR sensor were present. The Squadron liaison at the MEF seemed to be of less use than a ground representative on the aircraft. Competing collections requirements were a constant challenge. The tasking and platform management for this sensor were very complex, and only overcome by direct action by the Division to put its own full-time representative at the squadron. Coupled with the aggressive can-do spirit of

TF-57 sailors. We had a great capability in the P-3 with our Division "eyes officer" (a full colonel) embarked and reporting to us directly on the ground.

The P-3 provides great I&W capability. A ground representative on the airplane is a must. The collections bureaucracy associated with officially tasking this platform never did work, but personal relationships between the Division and the squadron made it happen every time.

Recommendation: This should continue to be the asset of choice by Maritime Fleet Marine Forces for surveillance in the close and immediate fight. Crypto for UHF radio communication from aircraft LNOs to ground force must be coordinated daily to include alternate communication pathways for secure and non-secure communication. A data dump for intentions of friendly forces must be conducted prior to launch and a focus of enemy and route collection must be coordinated. Close coordination with the DASC and the G-3 Air Shop must be conducted in future operations to ensure proper coverage of the battle-space and adherence to an ATO that coincides with friendly maneuver.

Topic: Inadequacy of Trojan Lite for Division Operations

Discussion: The criticality of Trojan Spirit systems to provide dedicated JWICS bandwidth to divisions on the battlefield is well documented. However, the high tempo and rapid movement requirements a robust and mobile and self contained system.

The Trojan Spirit Lite provided to the Division Main COC for OIF functioned reasonably well once the initial growing pains were worked out but its requirements for external power, extra lift, excessive set up time and its general fragility created a significant operational burden and during Division combat operations. The Trojan 'Lite' actually places a much larger burden on the supported unit than the TS II. Which comes self contained and can tow its own generator.

Ironically, the Trojan 'Lite' system is anything but. The system appears adequate for stationary operations where power and environmental control requirements can be met, but it is not suitable for mobile ground combat operations.

Recommendation: In the future tactical operations where there is an expectation of repeated displacement should be supported with a Trojan Spirit II self contained mobile system vice the more cumbersome Trojan Spirit Lite.

Topic: Training Opportunities for Intelligence Support

Discussion: The 1st Marine Division G2 did not have an opportunity to train with different Intelligence Support units before we deployed. Also, did not have units attach early enough to allow training while deployed before war began.

Did not have sufficient opportunity to train with various intelligence support agencies (VMU, HUMINT Co., Radio Battalion, Force Recon, SEALS) before deployment. During our training evolutions we do not have access to any of these assets, but were expected to quickly and seamlessly integrate them during combat operations. This did not go as smoothly as it could have had there been some habitual relationships in place. Our exercises do not script these assets well, nor do they force us to plan for them.

Canned training scenarios do not provide adequate training for the use of MEF collections assets. Face to face training is required to build solid understanding of tasking and employment issues. We do not learn how to task, plan for, support, employ, communicate and analyze reports from these assets.

Recommendation: All assets need to be integrated into garrison training as well as combat operations. Habitual relationships must be created and maintained, best sponsored at MEF level. Scenarios need to be robust and force us to plan and use these assets properly. Intelligence feeds need to accurately reflect reporting to provide realistic training for Intelligence analysts.

Topic: HUMINT Representation on Division and Regimental Staffs

Discussion: The 1st Marine Division G2 did not have sufficient HUMINT Representation at the Division Staff level and there was no HUMINT representation at the Regimental staff level. The HUMINT reps provided did yeoman's work trying to keep up with the tremendous demand, but were stretched thin.

The HUMINT capabilities provided to the Division were incredibly valuable and highly effective. There is a definite need to have HUMINT representation down to RCT level. The planning, support, analysis and employment of assets are dependent on knowledgeable representatives advising the commanders and staff. HUMINT assets were frequently improperly employed, inadequately tasked and supported at the Tactical level. There was insufficient HUMINT expertise at the staff level to do the planning in support of the unit's mission. There is also a lack of personnel to do analysis, it was not being done and pushed down from higher, and there was no one to do it at the unit level. Having a staff HUMINT officer at the Division level for planning and preparation phases of the operation would also be of great assistance.

There needs to be staff representation at all levels for HUMINT. There needs to be a limited analysis capability down at the Regimental Level.

Recommendation: Provide an Analysis and control cell down to the Division and Regimental Level, proportionate to the requirement. Ensure the expertise exists in the team to provide planning support to the commander and Analysis support for the supported S-2.

Topic: Visual Air Reconnaissance (VAR) Effectiveness was Marginal

Discussion: Despite heavy focus and planning for Visual Aerial Reconnaissance (VAR) and numerous attempts to request support during the war, the actual output of the process was disappointing.

The G-2, 3d MAW produced an outstanding VAR plan and methodology. In execution, however, it was clear that the Wing operators and aircrew did not have an appreciation for how important their efforts were in driving the Division's efforts and saving lives. More training and rehearsals of this concept would likely improve the collections. This should be routine for aircrews to assist the GCE by providing much-needed aerial perspective. The DASC could have facilitated ad-hoc VAR requests on an individual sortie basis, by ensuring collection of the VAR NAIs based on their knowledge of an aircraft's position in the battlespace. An entire intelligence function was

left out by the DASC and its capabilities to route conventional air platforms over areas of interest in the Division battle-space.

Understanding and advocacy for GCE requirements greatly diminishes outside the shouting radius of the GCE commander. More work has to be done to institutionalize the VAR process in the MAGTF in order for it to live up to its potential.

Recommendation: Doctrine needs to be formalized, habitual air ground relationships developed and maintained and the VAR process should be exercised through CAX and other MEF level exercises until it is an expected and well-understood battlefield function.

Topic: **Lack of National Imagery Support**

Discussion: The 1st Marine Division G2 did not have current, high-resolution, National imagery support during preparation or combat phases of the Operation. Baseline CIB was the only tool available to the Division – and used to great success- but was dated and incomplete. There were no successful National Imagery ad-hoc collections in support of the Division for the entire war.

Unlike the MEU, the Division did not have access to an organic TEG-E to download and exploit National Imagery. This was a weakness during planning, but a critical vulnerability during combat operations. There were issues with bandwidth, exploitation, and processes that caused this state of affairs, but the bottom line was no successful ad-hoc National imagery exploitation products during the entire war. The Intelligence Battalion was unable to provide this service to the Division due to bandwidth and personnel constraints. Once the Division crossed the line of departure, contact with the Intelligence Battalion was sporadic, and even this avenue was closed. It was frustrating to be desperate for current high-resolution imagery of Safwan Town (for example) and unable to receive it in response to a tactical unit's request, only to see perfect imagery appear in an NGIC assessment only days later. There was a broken link in this chain.

The only National imagery available to the Division was the 1m Controlled Imagery Base (CIB), and most of the Division's intelligence effort was based on products we built using this as a baseline. The NIMA provided Controlled Imagery Base (CIB1), though coverage area was large, did not provide the resolution required for detailed tactical planning. Some of the baseline coverage provided was also dated and misrepresented some areas that had changed over the last year.

If National level imagery products are to be of use to the tactical (Battalion) commander, the capability to request and follow through on National imagery collections must reside at lower echelons. The collections management hierarchy must be flattened. The Division must have the ability to download and exploit imagery organically, much like the MEU does now. Reliance on an external agency to anticipate requirements, know what is important to the supported commander, and be a full partner in the intelligence effort is not realistic. Division should never enter planning or combat operations without complete baseline imagery coverage at no worse than 1m resolution. Baseline imagery must be reasonably current and have high enough resolution to be able to identify tactical terrain. It must also be geo-rectified and include elevation data to be used for thorough terrain analysis to support operational planning.

Recommendation: Field an organic imagery exploitation capability to the Division so it can be self-sufficient. Division G2 must also anticipate those specific areas where it will need high-resolution baseline imagery, and have a mechanism to obtain recently collected baseline imagery at less than 1m resolution. Stand up of a special Division advocacy cell for imagery collections may help focus the collections hierarchy on meeting tactical requirements.

Topic: **Information Inundation Vice "Smart Push"**

Discussion: Intelligence sections at all levels were inundated with information and data that had little bearing on their mission or Intelligence requirements. Information was not disseminated based on a proactive evaluation of what supported commanders needed, it was just disseminated. There seemed to be little thought to tailoring information to specific MSCs or develop products that directly anticipated an MSC requirement.

The concept of "smart push" (providing only the information, data, and intelligence that could support a given mission) was not used. It seemed that all data, information, and products were being pushed through overburdened communications paths with little thought to who needed what and when they needed it. The burden of sifting through tremendous amounts of raw data fell to each MSCs already overburdened intelligence section. Often, the MSC was forced to retrieve relevant collections report directly from producing agencies or review the IOC journal to find relevant collections.

Intelligence support to subordinate elements must be tailored to their current and anticipated future requirements. Too much time and bandwidth is wasted by employing the "information inundation" method.

Recommendation: This applies to every echelon of command. Intelligence personnel at all levels, especially those in leadership positions must be in-tune with subordinate intelligence requirements, and guide a proactive effort to anticipate these requirements. Supporting intelligence agencies must proactively SEEK to know what their supported units require and seek to fill those requirements. This is a mindset and leadership issue, not a technical one.

Topic: **Battle Tracking and Common Tactical Picture Management**

Discussion: The 1st Marine Division G2 created its own Common Tactical Picture by producing periodic overlays with the assessed enemy situation. The data on MIDB was often untrustworthy. Other track management systems did not appear to function at all.

There were a number of technical and management issues with the CTP. Perhaps more significantly, the enemy did not conform to our expectation of a conventional line and block organization for combat. Since there was little confidence in the automated CTP databases based on exercise experience, the Division created its own methodology of disseminating C2PC overlays every 2-3 hours with the current assessed enemy picture. The Division deliberately chose a periodic quality-controlled product over real-time erroneous information. This process also was flexible enough to handle the non-standard nature of the enemy. The CTP architecture management responsibility has been largely abdicated to contractors. Although they are a talented and dedicated bunch, the fact that this process has to be contracted out is

indicative of the fact that it is not usable by operational commanders in its current configuration. Track management seems to work well to track enemy airplanes or submarines, but is not flexible enough to reflect ground organization for combat at tactically usable levels. Trying to use the CTP 'hammer' on a problem that is not a 'nail' creates training and credibility issues at lower echelons.

There seems to be little functionality for the COP/Common tactical picture as currently managed.

Recommendation: Need to revamp system and TTPs for CTP management, to include getting commanders back in the driver's seat. CTP as currently practiced is useful at Division and higher only, and a secondary mechanism, such as the overlay system used during 1MARDIV during combat, is required. Need the ability to customize for different enemy models or to create symbols to track incidents and events

Topic: Cumbersome Collections Bureaucracy

Discussion: OIF presented the intelligence community with unprecedented robust collection architecture to support combat operations. Unfortunately it also presented the community and more specifically the tactical user with the equally unprecedented cumbersome collection bureaucracy.

The existing hierarchical collections architecture, particularly for imagery requirements, is wildly impractical and does not lend itself to providing timely support to combat operations. Requesting imagery coverage required the use of a user-unfriendly PRISM system that was not readily accessible and provided the submitter of requests no feed back or other means of determining if his requirements were going to be met. There was no visible correlation between the submission of collections requests and actual collections conducted, nor does the current architecture provide any practical way to receive the results of user requested collections from national or theater collection assets without conducting extensive and time consuming database searches. The unwieldy nature of the automated system was further complicated by the need to work through multiple command layers in order to get tasking to a collection asset. All of this made for a collection management system that was too slow and cumbersome to provide meaningful support to the warfighter particularly once operations had begun. This is not a technical issue, it is a human issue. The byzantine labyrinth concocted to filter OUT collections requirements posed administrative hurdles too high for tactical users to leap.

With few exceptions, such as the national support provided by NIMA, no meaningful or actionable imagery support to the GCE was provided by any collection asset not either attached to the Division or organic to it.

Recommendation: Streamline collection request architecture. Modify existing PRISM system to provide automatic feedback to imagery collection requests and automatically route results of collections to requestors. Push more collection assets in direct support to maneuver units and field more and better tactical collections systems. Provide advocacy for MSC requirements at MEF and higher levels.

Topic: Adequacy of HUMINT Key Personalities Database

Discussion: OIF presented the intelligence community with an extremely robust collection architecture. There was near comprehensive IMINT, MASINT and SIGINT coverage of the battle space, but there was very little HUMINT available to provide insight into the human dimension of the battlefield.

Advances in technology and the mature collection environment in the theater made for a great profusion of intelligence on the enemy. We had an unprecedented level of resolution on the disposition of enemy equipment and near instant warning of activation of electronic systems or artillery fires. In many cases we maintained virtual surveillance of selected enemy forces. But, in spite of these capabilities we remained largely ignorant of the intentions of enemy commanders. While we were able to point with some certainty where their armor and artillery were deployed, we were largely in the dark as to what they meant to do with it. This shortcoming was especially critical as much of the war plan was either based on or keyed to specific enemy responses. When the enemy "failed" to act in accordance with common military practice, we were caught flat-footed because we failed to accurately anticipate the unconventional response. This was primarily due to a dearth of HUMINT on the enemy leadership. In trying to map out the opposition's reactions we were largely relegated to OSINT sources and rank speculation based on our own perceptions of the battlefield to make our assessments. There was no available intelligence on the opposition commander's personalities, educations, decision-making styles or previous experiences. Lacking this information we were left with guessing what we would do in their place. This met with predictable results. In an effort to bridge the gap we did create an understudy program. Each Corps and Division Commander was assigned to a Marine Officer. The understudy then attempted to learn as much as possible about "his" commander i.e. his training, history, decision making tendencies etc. This met with some success, but was limited to the amount of Intelligence and Open source information available.

Our technical dominance has made us overly reliant on technical and quantifiable intelligence collections means. There is institutional failure to account for the most critical dimension of the battlefield, the human one. As we saw demonstrated in OIF the human aspect of the battle can be more important than the material one. Success on future battlefields requires that commensurate efforts be made to know the commander's mind as well as the disposition of his forces.

Recommendation: Focus national collection and analysis efforts on the idiosyncrasies of enemy leadership and work to build a national database that goes beyond basic biographical data to in depth assessments on how potential enemy commanders think and behave. Information about Foreign Military Training curriculums and how this may influence their decision-making should be included.

Topic: **Lack of Common Ground Station to Receive Video feeds from Collection Assets**

Discussion: The 1st Marine Division G2 did not have a common system that allowed for the reception of video feeds from collection assets.

Each system that provides a video feed has its own unique ground station to allow you to receive it. For example we used GBS to get Video news feeds, TCDL for video from P3 AIP, RRS to receive Pioneer Video feeds. Each new system brings a new capability and a new piece of equipment to support the reception of video from it. Each of these has a space, set-up and

maintenance requirement that comes with it also. So as you add these you require more space, more people who know how to use each different system, different parts requirements and a different contractor to support each different system.

In order to be effective and relevant for a Marine Division, there needs to be one common means to get video from collection assets. The ability to employ separate, unique systems that are not compatible in the high-speed tactical environment of the Division does not exist. There is not a platoon of systems people here to constantly set-up, monitor, tweak, troubleshoot, repair and maintain this ever multiplying family of ground stations. The Marine Corps needs one system that can be set-up and maintained by organic personnel that will provide all of the video downlink capability for the Division. It is not possible to maintain the knowledge and proficiency with numerous systems that would allow them to function at this level.

Recommendation: Marine Corps must procure a single system that will provide video capability for the Division. One option is the elusive Common Ground Station, a system that provides a capability for multiple feeds from all types of platforms. Another option is to provide a system that allows the video to be available over the SIPR net. Live and archived Video could be provided via the SIPR as live streaming video or downloaded clips. There would have to be enough dedicated bandwidth provided to the G-2 to allow viewing and downloading of multiple feeds at the same time, in real time.

G-3
Topic: **Light Armored Regiment And Battalion Organic to the Marine Division**

Discussion: During OIF, nimble, hard-hitting LAR units proved themselves highly versatile and employable across the spectrum:
- In advance guard, screening, covering force missions
- Put together under the ADC, three LAR Battalions executed a 150 mile attack beyond Baghdad to Tikrit and Bayji
- Dominating in stabilization operations.

They can be the most lethal, versatile force on the battlefield if we:
- Add the best FAC suite equipment available
- Add an assault gun/120mm mortar.

We should also consider use of the Army Stryker vehicle to defray R&D costs/lower unit cost.

Recommendation: 7th Marines become an LAV Regiment to work in cooperation with a DS towed artillery battalion and tank battalion. One independent LAR Battalion remains to source MEUs and provide the Division Commander with his own GS LAR capability.

Topic: **Use of Reconnaissance Battalion in a Non-doctrinal Role**

Discussion: The Division used the 1st Recon Battalion in non-doctrinal roles during OIF. The Battalion was provided enough mobility assets to become a separate maneuver unit and be attached to one of the Regimental Combat Teams. They were used as a battalion to screen the Division's flank, as an attack force to capture the Qalat Sikar airfield, a blocking force in Al Kut, and a raid force in Baqubah. These different mission capabilities provided

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versatility to the Division and Regimental Commanders and were a tremendous force multiplier.

Recommendation: Rewrite the mission statement of the Division's Reconnaissance Battalion to include the non-doctrinal roles performed in OIF.

Topic: **AC-130**

Discussion: In OIF, distances between the Forward Line of Troops (FLOT) and Wing Forward Operating Bases (FOB) were such that the Wing found it difficult to support the CAS requirement with assets with significant FLIR capability and sufficient time on station. The AV-8B with the lightning pod has a significant FLIR capability, but usually had just 15-20 minutes of time on-station, which could be extended with tanker support. Once the target was located the Harrier only has the ability to drop 500 pound or 1000 pound bombs (it can strafe with a limited number of rounds if a gun pod is mounted). By contrast, the AC-130 has the capability to loiter in excess of 6 hours and combines a first-rate sensor suite, including unequalled FLIR capability, with an impressive and scaleable array of armament: 105mm howitzer, 2x 20mm (or 25mm) chain guns, and 40mm cannon.

In future as in recent conflicts, the Marine Corps will fight in a permissive airborne threat environment because the coalition has secured air supremacy early. In this environment, the Marine Corps needs an organic AC-130 capability. Current USMC C-130 maintenance capability, both at the "O" Level (Operations) and "I" Level (Intermediate), does not extend to maintenance of some AC-130 avionics and ELINT equipment, so an upgrade to capability would be required. However, the cost and increased burden on C-130 maintenance support would easily be justified by the overwhelming combat capability the AC-130 brings to the fight.

Recommendation: With the introduction of the C-130J, buy two of the admittedly expensive AC-130 variants in order to enhance MAGTF firepower.

Topic: **M16A4 with ACOG Sight**

Discussion: The M16A4 with an ACOG sight is an extremely accurate weapon and a combat and confidence multiplier. On the first day of use, a PFC made two 1,300-yard hits on a man-sized target with the weapon system. In the hands of experienced expert shooters, this weapon was used very effectively on the battlefield.

Recommendation: That every expert rifleman be issued the M16A4 with ACOG sight as his T/O weapon.

Topic: **M4 as Replacement for the Service Pistol**

Discussion: To increase firepower in the Division, the M-4 Carbine should replace the pistol as the T/E weapon for many pistol bearers in the Division. Durability and maintenance challenges must be corrected as a prerequisite for the M-4s use. If durability issues can be resolved, the M4 would be an excellent replacement for the 9mm pistol.

Recommendation: After correcting the identified durability and maintenance deficiencies, the M4 replace selected 9mm pistols in the Division.

Topic: **Understudy Program**

Discussion: The Division established understudies to research key Iraqi Division and Corps commanders to provide the Staff information upon which they could plan. The understudies worked with the G-2 to find classified and unclassified sources of information and performed internet searches to uncover other information. They would brief the Commander and Staff on all actionable intelligence obtained to assist in the planning process. The understudy would be assigned to the Red Cell as a well-informed adversary during wargaming because of the insight he developed on each Iraqi general. From the wargaming activities, the Staff had an idea of what the enemy would do because the understudy led the enemy action. The understudy provided updates as the Division began the dynamic execution phase. The same concept has been used during security and stabilization operations for the Iraqi cities the Division is established in. An understudy is assigned to each city and visits the city two to three times a week working with the city's Marine Battalion. The understudy gathers information for the Staff and provides updates, amplification, and direct links to sources of information that enhances routine reporting. The Staff can then act on the actionable intelligence be it to plan coordinated attacks or assist in providing fuel or medical supplies to the city.

Recommendation: The Marine Corps assign all intelligence officers as understudies for key enemy personnel. HQMC Intelligence would establish this program with input from the GCE.

Topic: Importance of Commander's Intent and All Hands Briefs

Discussion: One of the highlights emerging from Operation Iraqi Freedom is how the 1st Marine Division understood the Commanding General's intent. Starting with the Division Staff and drilling down to each Lance Corporal and PFC, they all knew the Commander's Intent. The Commanding General personally briefed all units after taking command of the Division on his intent for the upcoming war. The Division's motto: No better friend, No worse enemy, was made clear to every member of the Division. The Division Staff reinforced and expanded the message by preparing a predeployment brief that included information from all the warfighting functional areas. The predeployment brief was also presented to the Division units and attachments from the 2nd Marine Division.

Recommendation: That Commander's Intent be presented directly, unfiltered, to every Marine, Sailor and Soldier in the Division.

Topic: Decontamination Capability in the Division

Discussion: During the planning phase for offensive operations in Iraq, it became apparent that the Division had insufficient decontamination capability to free us from contamination without siphoning off combat capability. The doctrine for NBC decontamination states that the NBC section needs augmentation from combat engineers, motor transport, and other Division elements. We assigned this task to 3rd AA Battalion along with the additional task of traffic management control. The Division NBC Platoon augmented the battalion to provide expertise and support. Decontamination sites were placed by water sources because the Division does not have the organic capability to transport the volume of water necessary to conduct decontamination operations.

Recommendation: 3rd AA Battalion Adopt the doctrinal roles of operational

decontamination and traffic management and control. The Division possesses a more robust capability, in both personnel and equipment, to achieve the ability to conduct decontamination at the rate of one company per hour. CSS assets should be tasked with providing the water for the decontamination site to keep the location independent of local water sources.

Topic: Training for System Operators

Discussion: Enlisted Marine operators are not currently trained to the level needed to support the hardware and software that run our current tactical systems in a sustained combat environment. Contracted technician support is required to supplement Marine operators.

Recommendation: Formally train Marine system operators and technicians by MOS and assign them to headquarters' COCs in the quantity needed to operate each system 24 hours a day. These skills should be included in formal MOS training, and not left as collateral training after unit assignment.

Topic: Quickfire Procedure

Discussion. Prior to Operation Iraqi Freedom (OIF), 1st Marine Division developed and rehearsed a procedure to more effectively employ Marine Air in a reactive counterfire role. Combat operations validated our procedure as a baseline TTP, with variations introduced or improvised as required to adapt to conditions on the battlefield.

The Quickfire TTP integrated manual and automated fire support coordination methods in a combined arms attack on enemy indirect fire weapon systems. Counterbattery/countermortar radar (Q-37 and Q-46) sections automatically processed sensings and sent artillery target intelligence to the Target Processing Center (TPC) in the 11th Marines Combat Operations Center (COC). In the TPC, the Regimental S-2, Radar Officer, and S-3 participated in a manual vetting process that fused intelligence and target attack guidance/prioritization with information from sources such as "Snowstorm" alarms and shell reports (SHELLREPs). The TPC passed selected targets to the Regimental Fire Direction Section, which ordered the attack of the target using the Advanced Field Artillery Tactical Data System (AFATDS). By setting the correct guidances in AFATDS and deselecting intervention points, the Fire Direction Section could process the target and send the mission down to a firing unit without further human intervention. Once selected by the TPC for attack, the target typically reached the gunline in less than two minutes. Thus, artillery could engage the target while aircraft pushed from the CAS stack or were diverted from other missions.

The challenge of integrating counterbattery radar with CAS aircraft remained the link between sensor and shooter. To appropriately source and deconflict aircraft, the TPC passed target data to the Direct Air Support Center (DASC) and to the Division Fire Support Coordination Center (FSCC), rather than directly to the aircraft. To ensure redundant lines of communication and expedite target processing, an Air Support Liaison Team (ASLT) was assigned to the 11th Marines COC. The ASLT formed the critical link between the counterfire headquarters and the DASC, using a dedicated tactical phone line.

Upon completion of firing the artillery fire mission, the ASLT notified the DASC, which directed the aircraft to press its attack on the target. In general, Type 3 CAS procedures applied. The aircraft reported its pilot report (PIREP) to the DASC, which passed it along to the ASLT. This chain of

events completed the targeting cycle (Decide-Detect-Deliver-Assess) in 10 to 15 minutes until a final battle damage assessment (BDA) could be completed.

Recommendation: Continue to develop and train in the employment of quickfire procedures in partnership with the 3rd MAW.

Topic: **UAV Employment in a Target Acquisition Role**

Discussion: 1st Marine Division successfully employed the Pioneer Unmanned Aerial Vehicle (UAV) in the role of fire support sensor. Success in this area was limited only by competition with the UAV's primary mission as a collections asset.

The UAV proved to be a very valuable observer, facilitating the proactive attack of enemy high payoff targets. It's ability to loiter on station and "adjust" fires real time ensured desired effects on target and provided real time Battle Damage Assessment (BDA). In what may have been the best example of the Division's employment of the UAV in the aerial observer role, the Division Target Information Officer coordinated with G-2 Collections to have the UAV confirm the locations of the Division's preplanned targets for one of the artillery preparations on G-day. The mission flew within 2 hours of fire support plan execution and four targets in the plan were refined. UAV was again overhead as the preparation was fired before being re-tasked in Direct Support (DS) of one of the Regimental Combat Teams (RCTs). While the UAV was still in DS of the Division, the TIO was able to observe secondary explosions confirming the destruction of at least one of the targets in the fire plan.

The UAV was not employed to refine preplanned targets prior to the execution of subsequent fire support plans, largely due to competing requirements for employment of the asset. To employ the UAV effectively as a fire support acquisition platform requires dedicated UAV sorties. OIF experience argues for a robust capability that can provide 24-hour coverage to both the Division and one Regimental Combat Team (RCT) (the Main Effort).

Tactics, techniques, and procedures (TTPs) for the employment of UAVs as a fire support sensor have not been formalized. The Division's experience in OIF suggests that:

- The TIO should be the interface between Fires and the UAV payload operator. The payload operator is the observer.
- Remote Receive Terminals (RRTs) are required at both the Division and RCT.
- A direct communications link is required between TIO and UAV payload operator. In OIF, this was accomplished using internet chat.

Recommendation: As the Marine Corps acquires a replacement for the Pioneer UAV, it should buy enough systems to dedicate platforms to target acquisitions as well as to collections. In the interim, I MEF should support training opportunities that allow the Division to integrate UAV into live fire training and afford VMU's payload operators opportunities to adjust fires onto targets.

Topic: **Battlespace Geometry/Zone Management**

Discussion: OIF experience demonstrated that zone management must be a collaborative effort between fires and maneuver. Operational planning must produce battlefield geometry that 'works', and orders transition must

incorporate Tactics, Techniques, and Procedures (TTPs) to verifiably ensure that Major Subordinate Elements (MSEs) receive, understand, and implement their zones of responsibility. The solution is a Fires Planning SNCO at the Division Fire Support Coordination Center (FSCC).

As the Division rapidly advanced to Baghdad, fragmentary orders were often given verbally, backed up by written documents that at times reached the Division combat operations center (COC) staff and MSEs only hours before execution. This was a friction point for the Division FSCC, which had to build, disseminate, and verify receipt of battlefield geometry to permit the coordination of fires in support of the scheme of maneuver. The task required 3 hours to accomplish under the best of circumstances but was frequently complicated by a number of factors:

- Incompatibility between G3 Plans products produced using Command and Control Personal Computer (C2PC), and Advanced Field Artillery Tactical Data System (AFATDS), the FSCC's tool for execution.
- Differences between fires- and maneuver-oriented concepts of battlespace deconfliction: i.e. maneuver needs linear boundaries between adjacent units; fires needs two-dimensional zones that clearly assign responsibility for coordinating air- and surface-delivered fires throughout the entire Division area of operations (AO).
- Confusion caused by multiple versions of C2PC overlay files or human error in the preparation of planning products.
- The requirement to pass coordination measures grid by grid over radio voice nets, tactical phone or other communication means to units incapable of receiving digital AFATDS communications or SIPRNET email (the principle reason it took a minimum of 3 hours).
- The requirement to fight the current fight while preparing for future operations (the FSCC only had enough Marines to operate one AFATDS, which was used to coordinate fires and process fire missions as well as to manage the target list and build fire support plans, zones and fire support geometry for the coming phase of operations).

Recommendation: The solution is add a Fires Planning SNCO to the T/O of the FSCC. Unlike the Assistant Fire Support Coordinator (AFSC), who participates in planning but also supervises the current fight, the Fires Planning SNCO would be a full-time planner. While advising and assisting the G3 Plans Section, the Fires Planning SNCO would ensure that battlefield geometry and planning products were compatible with automated fire support systems and fire support coordination methods.

Topic: Digital Systems/Falconview/IOS/C2PC Utilization

Discussion: Falcon View is a non-doctrinal software application that uses a 1-meter Controlled Image Base and NIMA produced digital mapping products. It also has functions that allow for the production of enemy situation overlays, Modified Combined Obstacles Overlays, and other overlays that enhance visualization of the battle space. Though the imagery is dated and not necessarily suitable for assessments of the current situation, it provides the user with enough detail and is current enough for a preliminary evaluation. The software does have a few shortfalls. It does not have a LAT/LONG to MGRS conversion tool and the labeling and manipulation of icons is not as functional as that found in C2PC. In all other aspects, it is much easier to use than C2PC or IAS and the overlays constructed over 1M CIB were more meaningful to the commander than the typical overlay/map combination.

Recommendation: The Marine Corps should adopt Falcon View as a doctrinal maneuver/intelligence tool at all echelons. They should continue to develop and modify its functionality and improve its interoperability with C2PC. In addition, they should continue to acquire the latest possible imagery to the greatest level of detail available.

Topic: **Calibration and Boresighting MPS Ammunition**

Discussion: 1st Marine Division used approximately six percent of the artillery ammunition allocation from the MPS ships for calibration. This is not a small impact to the overall allocation. Additionally, Marines had to scrounge equipment used in the process (cheese cloth, wood frame, etc.).

Recommendation: Calibration and bore sight ammunition for artillery, tanks, and light armored vehicles needs to be included in the MPS LFORM allocation. Units should designate the same ammunition stocks (ammunition lots) for calibration, bore sighting, and combat. This ensures consistency in the ballistic characteristics and confidence in the bore sight or calibration. Additionally, bore sight targeting materials (cheese cloth, wood frame, etc.) should be included in the MPS stocks where possible. Units should account for these items during embarkation to ensure their availability.

Topic: **Dud Producing munitions**

Discussion: The use of dud-producing munitions such as DPICM incurs a penalty, restricting our maneuver and follow-on operations in areas after their use. Marines were killed or seriously injured after encounters with dud munitions. After combat operations ceased, the duds continued to be a danger during civil-military operations, both to Marines and civilians. The use of dud producing munitions must be carefully considered in light of the penalty that will have to be paid later.

Recommendation: The use of DPICM needs to be carefully considered in its employment. A better round needs to be developed that does not have a 2-4% dud rate.

Topic: **Need for GLTD IIs for Forward Air Controllers**

Discussion: Forward Air Controllers (FACs) rely heavily on GPS devices to locate enemy positions and call in fire against targets. The Modular Universal Laser Equipment (MULE) is the Marine Corps' program of record for target location and laser designation, but the system is antiquated, cumbersome and unreliable. Meanwhile, its replacement is not available. In the interim, the MEUs and ANGLICOs have had access to some off-the-shelf technology (e.g. SOFLAM), but the mainstream Marine Corps—-Battalion and Company FACs — have had no way to make up for the deficit. For OIF, the Division received 19 Ground Laser Target Designator (GLTD) II systems, which allow the FAC to measure the accurate range to a target and to laze it for LGB employment. In some cases, the systems reached the FAC just hours before crossing the LD. These systems proved invaluable, easy to use, and reliable. The fact that the Marine Corps leased these systems for combat operations validates the requirement for an interim lightweight, durable laser range-finding and designation capability. The system must be fielded in time for units to train with it and in sufficient quantity to equip every FAC or Fire Support Team (FIST).

Recommendation: As an incremental step in the acquisition of the Target Locator Designator Handoff System (TLDHS), the Marine Corps should purchase GLTD IIs in quantities to equip all Division air controllers.

Topic: **The MEF Deliberate Targeting Cycle**

Discussion: During OIF the 72-hour deliberate targeting process did not keep pace with the dynamics of the battlefield. The key reason was due to the fact that the planning to execution cycle was too long and the process did not react quickly enough to changes in the scheme of maneuver. As a result, the AI shaping effort often did not focus on the enemy forces I MEF would actually fight in 48 hours.[1] Another factor that caused the 72-hour targeting cycle to lag execution was the speed of which the Division executed their scheme of maneuver. This speed of execution was never really appreciated or understood by the MEF future planners. Hence the maneuver briefs provided at the targeting boards and other forums were typically lagging by at least 24 hours (sometimes 48 hours.) Finally, the Synchronization Working Group conducted each evening did not sufficiently address changes in the SOM as we attempted to validate the Prioritized Target List (PTL). The expectation at the SWG was that the SOM and the results of the Intelligence collections effort would drive the validation /update of the PTL.[2] If this was the purpose and intent of the SWG, it never really happened.

Recommendation: Shorten the 72-hour Targeting Cycle. Pushing the targeting planning cycle closer to execution will help keep the PTL more current and relevant during ATO execution.[3] Require the MSC Liaison Officers to brief their respective schemes of maneuver in detail at all of the Targeting forums vice the MEF Future Operations planner. The LNOs through their constant dialogue with their G3 and FSCs have the most current information /changes. Ensure the SOM is thoroughly reviewed at the SWG. Allow and require the MSC LNOs to more fully discuss their respective SOMs in order to help validate and update the PTL. Based on changes in the SOM, new target nominations may need to be added to the PTL that were not approved on the Battle Field Shaping Matrix (BSM)(briefed 48-72 hours earlier), but clearly need to be serviced / shaped to facilitate the future SOM. (It is recommended that FFC and or G3 be empowered to approve these type changes outside of the Targeting Board to ensure the process remains flexible/current.) These and other necessary changes would then be transmitted to the MAW to ensure the DS ATO is as accurate as it can be and synched with the SOM prior to execution.

Topic: **Target Tracking And Assessment**

Discussion: Target tracking and assessment was extremely difficult during OIF. There was no reliable and responsive process or means to determine whether Air Interdiction (AI) targets on the PTL were serviced and successfully attacked during and after ATO execution. The impact was that targeting personnel/LNOs could not consistently and reliably provide the

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[1] The initial analysis conducted by C.N.A. (Apr 03) indicated the close fight could not be predicted 48-72 hours in advance and that shaping often did not focus on the primary objective laid out in the targeting process.
[2] Intelligence collections are discussed in another topic.
[3] A plan to implement a 48 hour Targeting cycle was approved by the DCG on 23 Apr 03. Also the real key to ensuring the PTL remains relevant and accurate is contingent on the efficacy of the intelligence collections effort, which is addressed in a separate topic.

necessary feedback to MSC commanders that their AI target nominations were being serviced or not. Further, there was no consistent or reliable method for the MSCs and Force Fires to track their target nominations on the DS ATO. Ostensibly due to system constraints, TBMCS would not accept the MEF Target Reference Number from the PTL. Hence when the ATO was published there was no easy way to associate the target reference number (TRN) with the assigned aircraft mission number on the ATO. The customer would have to cull through the ATO searching for other data elements like BE number, location or target description that matched the TRN. Often the ATO did not consistently list the BE numbers, locations and/or target descriptions.

Recommendation: Create a process and system solution that enables the Force Fires team and MSCs to better track target nominations and monitor / assess the efficacy of the DS ATO AI execution.[1] The system constraint and inability of TBMCS to accept and record a MEF TRNs needs to be corrected. If this system issue can't be corrected then an alternative consideration is to allow the MEF to assign aircraft mission numbers from a block of pre-designated mission numbers. These mission numbers would link each target number on the PTL and would serve as the common data element that all levels could track and monitor, from target nomination through assessment.

Topic: Kill Boxes

Discussion: The Killbox Interdiction (KI) reference grid is a geographical reference system established by the Combined Forces Air Component Commander (CFACC), which divides the CENTCOM AO into a checkerboard of killboxes thirty minutes of longitude by thirty minutes of latitude on a side. During OIF, many of the Division's FACs used killboxes and killbox corners as geographic references for CAS to supplement the Airspace Control Plan (ACP) and Special Operating Instructions (SPINS) of the ATO. They found that the published initial points (IPs) were frequently not sufficient to deconflict aircraft routes with surface fires. IPs in other killboxes were often too far away given the limits of UHF communications between the ground FAC and the aircraft.

Recommendation: Air planners should designate multiple IPs and rotary wing control points in each kill box. The airspace control plan should allow the flexibility for Air Officers and FACs to plan their own hasty control measures.

Topic: Fractures of the M198 Travel Lock

Discussion: The Travel Lock for an M198 prevents stress on the hydraulic system. If it is not working correctly or fails, it could affect the accuracy of the gun. Fractures of the travel lock for the M198 have been an issue for a very long time. In fact, the travel lock is designed to fail under certain conditions. Normally, the fractures are welded and the gun is placed back in service. However, the issue has worsened since the Division began towing the M198 with the new MTVR. The fractures are spreading to the hinges and on to the cradle and the barrel itself. These types of fractures

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[1] Towards the end of the war, 3MAW apparently developed an electronic database to record MISREPs and make the information more available to customers. This may improve the ability of customers to determine whether their target nominations were serviced or not, but there still needs to be a method to better track and account for each specific target nominations.

require at least 48 hours to correct, during which time the gun cannot be used. During analysis, the Division has observed two contributing factors to the problem. First, a normal pressure reading for the M198's tires during off road driving should be 85 psi. In many cases, the tire pressure was found to be around 110 psi. This causes the M198 to bounce a lot. Second, the new MTVR has a different feel than the old 5-ton trucks. Drivers tend to forget about the loads that they are pulling. This leads the drivers to exceed the maximum 15-kph speed limit when pulling the M198 off the hardball road.

Recommendation: The Division has found three ways to address this issue. First, the tire pressure must be checked frequently to ensure that it is at 85 psi. Next, drivers must get more experience pulling the M198 with the new MTVR so that they can get the feel of it. Supervisors must ensure that the drivers are maintaining the MTVR's speed below 15 KPH.   Finally, the Division has come up with an alternative to welding the fractures. The Division will place thick, aluminum banding material around the fractured hinges. This should take the stress off of the hinges and prevent the cracks from spreading to the cradle or the barrel.

Topic: Liaison Officers

Discussion: Liaison officers (LNOs) from the Division to adjacent units can be extremely effective if prepared properly. They must have direct access to the Commanding General and have an intimate knowledge of his intent and the operation plans. They must be considered the personal representative of the Commanding General. The LNOs need to be equipped with proper communications equipment, computers, and vehicle assets. LNOs who are not so empowered quickly are identified as ineffectual and become a logistical burden for the supported unit.

Recommendation: All Division liaison officers be equipped and prepared to serve as the personal representative of the Commanding General. They must be provided communications and computer assets, operation plans and logistic support to be self-sufficient, effective, liaisons.

G-4
Topic: Lightening the Logistics Load

Discussion: During the planning phase, the concept that speed equals success drove logistics preparations for combat. In supporting an aggressive scheme of maneuver over extended and lightly defended lines of communication, the logistics system had to be heavy enough to provide essential support but light enough to keep pace with high velocity operations. Unconstrained by doctrinaire approaches, planners set out with a blank slate to develop a concept of operations facilitated by smaller staffs, taking up less lift, and occupying the smallest footprint that could still support the fluid pace of operations. The Division Commanding General accepted the risk that units would operate at times with less than three days supply of food, fuel and ammunition, and the likelihood that CSS Marines would have to fight their way up, past by-passed units, to resupply the Division's trains. The 1st Force Service Support Group (1st FSSG) planners concurred. The end state was a light, lean and lethal organization that could fight and win on a logistics-light diet.

Some of the actions taken in response to Log Light planning:

- Since the IPB led the Division to decide to cross the LD wearing a MOPP suit a further decision was to only carry one additional set of utilities vice two.
- No black sleeping bags crossed the LD.
- No Cots were carried.
- The Division was prepared to go to 1 MRE per day.
- All assets (personnel and equipment) had to be self-mobile or have dedicated lift, there would be no "shuttling".
- Funnel for every four Marines to ensure no water was wasted filling canteens and camel backs from water cans.
- Reduction in staff manning with more reliance on reach back capability.
- More reliance upon aerial resupply (primarily helicopter resupply).
- Pre-built ammo re-supply packages.
- Fully embedded CSS capability into the Division.
- Procured, fielded and provided training with fuel test kits that would allow units to use captured Iraqi fuel sources. This proved to be valuable training as the Division bought and seized Iraqi fuel in Baghdad.
- From gypsyrack.com, we found an inexpensive rack that could attach to a HMMWV and more than doubled the vehicle's fuel capacity. We purchased over 2,000 of these, one for every HMMWV in the Division.
- Hung *Flexcells* on M1A1 tanks and *FAST* fuel storage devices on AAVs to provide commanders with increased range and decreased reliance on combat trains.

Recommendation: Continue to refine processes such as the Assault Support Request (ASR), the reach back staff integration and culminating point analysis process. Facilitate and exercise Logistics planning across the MAGTF to more fully integrate and compliment each organization's organic capability in the overall logistics support plan for operations.

Topic: **Transportation of Supplies**

Discussion: The unprecedented length of the MEF's LOCs placed a strain on line haul assets. Despite augmentation with host nation and some theater line haul assets, few trucks were available to move to Division anything other than Classes I, III, and V. Other large organizations displaced at critical times during the Division's advance, diverting line haul assets to support their movement, exacerbating the impacts of long LOCs. As a result, when in rare pauses, the Division had few repair parts available to conduct maintenance. Had increased levels of supplies been delivered to Division in advance of the movement of these organizations, line haul assets could have been diverted without impacting the Division's sustainment and maintenance efforts. MEF logistics planning should have minimized the requirement to relocate large organizations or supply points until main effort units have been provided sufficient stocks to perform the full spectrum of their mission even in times of reduced line haul.

Recommendation: The delivery and build up of adequate sustainment to main effort units should have been a pre-condition to the displacement of other organizations. Alternatively, had some trucks been dedicated to move Class IX, the availability of repair parts would have improved significantly.

Topic: **CSS Organizations Deployed to the Theater Too Late**

Discussion: There was inadequate time for the MLC to set up a field warehouse, work out systems problems and fill supply pipelines with requisitions. MPF enablers arrived after the offload of MPF started. The

LFSP had limited direct support CSS capability in theater to provide life support to arriving forces. War reserve sustainment blocks that would normally have been activated with the announcement of a C-day were not activated and sustaining stocks did not arrive in sufficient time. This was directly attributable to the deployment by Request For Forces (RFF) methodology, rather than by the sequence established in the preplanned TPFDD.

Recommendation: Deploy CSS enablers early in the deployment sequence regardless of the method of deployment. Change procedures to permit the build up and deployment of War Reserve sustainment blocks as soon as forces begin to deploy and do not tie their release to the announcement of a C-day, but rather to the commencement of force deployment.

Topic: Packaging and Labeling

Discussion: Despite the dispersed nature of Division units across the battlefield, repair parts were often packaged in large "multipacks" with many parts for multiple units placed into a single box and container. This required additional handling at various nodes to redistribute parts, delaying their delivery. No automated method of labeling was provided on either multipacks or individual parts. As parts arrived, supply clerks would have to open paper shipping labels to identify the intended unit. As a result many shipping labels were lost and parts were unable to be delivered to their intended destination. There was limited to no visibility of convoys and their loads in any automated format. Blue Force Tracker was used extensively to identify individual units and can be expanded to add in-transit asset visibility to the Common Operational Picture (COP).

Recommendation: That procedures for properly labeling and packaging repair parts in a deployed environment be developed and practiced in garrison.

Topic: Push of General Supply Items

Discussion: Many items of supply beyond Classes I, III, and V were "pushed" to Division units in an attempt to provide improved quality of life and otherwise augment CSS capabilities. However many of these items were viewed as "general property" not requiring expedited handling and were not marked for a specific unit. In many cases as this pushed materiel proceeded through the distribution pipeline, many handling activities helped themselves to the items. Many of the most of the desirable items were never delivered to the units furthest in front.

Recommendation: All items shipped forward should be packaged and labeled for delivery to specific units so that it is understood that the items are not available to everyone in the distribution chain. Packaging should be sufficient to deter theft. In the case of highly desirable items (uniforms, boots, supplemental rations) items should be containerized and locked.

Topic: Multiple Handling of Supplies

Discussion: Once supplies are loaded on a truck, the truck should proceed all the way to the final destination if at all possible. Downloading supplies for the purpose of changing trucks almost always added at least an entire day to the order ship time, and more often than not, added weeks, or resulted in loss or theft. Under the best of circumstances, changing trucks takes hours and should be avoided at all costs. In many instances, owing to the poor packaging and the in-transit damage to pallets, supplies were lost

or destroyed in the process. It is impossible to exaggerate the net effect that trans-loading supplies from truck to truck had in delaying supply support.

Recommendation: Minimize the loading and off-loading of supplies from truck to truck. Supplies should travel from point of origin to destination with little or no handling in between.

Topic: **Items not stocked by the SMU/ISSA**

Discussion: There was a shortage of consumable items across the board for Class II and Class III (P) items and Class IX. In the case of Class II and Class III (P), one of the basic problems was that these items were not managed by the SMU/ISSA in garrison. Consequently, they were overlooked by the SMU/ISSA when computing requirements. The SMU/ISSA did not have usage data to use to project requirements. Individual clothing and equipment (uniforms, boots, sleeping bags, helmets, MOLLE packs, etc.) were not brought to the theater in sufficient quantities to support the demand. However, the support for clothing and equipment was never adequate; for packaged POLS, the support required enormous efforts to obtain. This was also true of self-service type items such as toner cartridges for printers, Chem-Lights, trash bags, and toilet paper. Not only were these self-service items not stocked but there was no concept to provide this support at all.

Recommendation: Deployed stockage levels should be established and initial sustainment stocks procured by the MEF for items not normally stocked by operating force supply agencies in garrison.

Topic: **Automated Data Support for Supplies**

Discussion: There is no such thing as a supply system in the Marine Corps. I MEF uses SASSY and ATLASS I. II MEF uses ATLASS II. Blount Island Command uses another supply system for MPF equipment. The field warehouse system used by MLC at the start of the operation had to be scrapped because of its inability to perform. None of these systems provide an interface with an intransit visibility system at either the operational or tactical level. The supply system architecture planned for use during Operation Iraqi Freedom was a "work-around" combination of systems and methods. The work-around never permitted visibility at the Battalion level of a requisition from inception to receipt. Problems were directly attributable to the incompatibility of these systems, lack of training in their use, lack of a standard method of passing supply requisitions from MEF units through an MLC, lack of a dedicated logistics communications architecture, and the lack of an interface with an in-transit visibility system. In general, the supply officers were not familiar with the system. Although they were familiar with using ATLASS I to induct requisitions, they did not understand how their requisitions were being handled by the supporting CSSBs and MLC. Due to an absence of NIPRNET connectivity at the Battalion level there was no means for Battalion Supply Officers to pass requisitions and get the feedback data necessary for their management and by exception reports. As a result, they lost faith in the processes established, started using workarounds and gave up on any type of established supply management.

Recommendation: That the Marine Corps field a deployable supply system.

Topic: **ATLASS I and Iridium Phones**

Discussion: ATLASS I, the PC based supply requisitioning system, proved to be a very useful tool. It is a stand-alone system that runs on a regular laptop computer. It does not require a LAN for connectivity. It passes small text files that require very little communications bandwidth. An Iridium phone can pass requisitions to an FTP web site, and reports and status can be downloaded the same way. This simple procedure made it possible to pass requisitions from anywhere on the battlefield. This capability was greatly limited in the Division by the lack of Iridium phones. Iridium phones were not fielded to Division units out of concern for passing information in an unclassified medium. This concern could be greatly reduced if "data only" versions of Iridium phones were fielded to supply officers. Supply data is unclassified yet would still require certain OPSEC rules be followed.

Recommendation: Retain a simple PC based requisitioning system (ATLASS I or a similar product) and field "data only" Iridium phones to all battalion supply officers.

Topic: Location of CSS Units on the Battlefield

Discussion: Another reason that supply support of Class IX was poor is because the CSSBs had difficulty keeping track of units on the battlefield, particularly when there were reorganizations of the Regimental Combat Teams.

Recommendation: That improved methods of tracking the location of units be made available to all nodes in the supply distribution chain. Blue Force Tracker may be an acceptable solution.

Topic: Lift of Engineer Heavy Equipment

Discussion: The terrain and type of movement involving heavy equipment while in the Southwest Asia theater further exemplifies the need for a more durable, all-terrain, flatbed trailer, vice the present 870 series. The present trailer is not conducive to reliable, safe transportation of engineer heavy equipment assets in all terrains expected while conducting military operations.

Recommendation: The procurement of a replacement to, or the modification of the existing 870 trailer should be pursued. The new version should include the incorporation of an adjustable multi-axle, large knobby-tire design, capable of safely manageable speeds and maneuverability both on and off-road.

G-6
Topic: Communications T/E And T/O of the Marine Division

Discussion: The Division communications T/E modernization the last decade has weeded out obsolete equipment and injected more reliable digital equipment (SINCGARS, TACSAT, Telephone Switches). Yet despite the modernization of some equipment the Marine Infantry Division is still using a "Vietnam Era" T/E in that all units are heavily dependent on Line of Sight Communications equipment for coverage of only about 20 miles or so vice the equipment needed for communicators to support maneuver warfare over greater distances. Additionally, the quantity of equipment replaced has not been 1 for 1 in all cases. This has made Division units "to do more with less" while at the same time maneuver warfare has called for the Marine Division to move farther and faster exceeding the pace of communications equipment fielding to keep up. An additional concern is the reduction of communicators

within the Division over the years leaving fewer communicators to install, operate, and maintain (IOM) all types of communications equipment despite not being school trained to IOM the equipment (i.e. Data Systems, TACSAT Radios). Some new equipment has also shown to be less capable than the equipment it replaced (i.e. power out and distance coverage for SINCGARS Line-Of-Site Radios is less than the equipment it replaced). High power HF equipment has not changed in 20 years and desperately needs to be modernized. A High power HF on the move capability needs to be fielded. UHF Tactical Satellite radios are key to battlefield command and control providing a secure voice and data capability over extended distances. To support maneuver warfare that requires units to move quickly over long distances, TACSAT Radios allow commanders the opportunity to seize and maintain momentum without concern for losing LOS communications or limitations of current HF radio mobility. When combined with the vehicular mounted OS-302 antenna, TACSAT capability significantly enhances command and control and needs to be fielded throughout the Marine Division in significantly more numbers than they currently are.

MRC Vehicles of all types are of primary concern. During Operation Iraqi Freedom the 1st Marine Division required augmentation of 26 MRC vehicles from the Command Element of the two MPSRONs that were only allocated after extensive negotiations at the RSO&I conference. 4th Marine Division Communications Company augmented the Division with over 250 Marines and an additional 18 MRC vehicles.

To adequately support a Division Support Area, a Division Main CP, a Division Forward CP, a Division Jump CP, a minimum of 2 retransmission teams, and multiple liaison officer requirements the 1st Marine Division required the full Division T/E with significant augmentation from 2 MPSRONs and the 4th Marine Division Communications Company. The same shortfalls existed at the Regiment and Battalion levels as well. The Division and each MSC deployed a Fly-In or Sail-In Echelon with their full T/E of MRC vehicles and a duplicate allowance of their T/E from MPSRON for 2 of the 3 RCTs. Hence the 1st Marine Division MRC vehicle communications assets were augmented at levels of 100% to 150% above T/E for Operation Iraqi Freedom.

Recommendation:
- Conduct a complete review of each Division T/E major communication end items such as MRC vehicles and TACSAT Radios down to the Battalion level.
- A 50% T/E increase of AN/MRC-145's for each Infantry/Artillery Battalion.
- A 100% T/E increase of AN/MRC-145s for each Regiment and the Division Communications Company.
- Replace all AN/PRC-104's and AN/PRC-138A & B with AN/PRC-150's and increase the Infantry Battalion allowance by 100%.
- Develop and field a replacement for the HF Radio AN/MRC-138's with a new vehicular HF radio vehicle (compatible with AN/PRC-150) that can operate while on the move.
- A 100% T/E increase of AN/MRC-138's for each of the Infantry, Artillery and Separate Battalions.
- A 60% T/E increase of MRC-138's for Regimental Headquarters.
- A 50% T/E increase of MRC-138's for the Division Communications Company.
- Establish a T/E of 5 UHF TACSAT radios for each Infantry Battalion, each Artillery Battalion, and for the Division AAV Battalion.
- A 100% T/E increase of UHF TACSAT for Regimental Headquarters, the Division Reconnaissance Battalion, the Tank Battalion, and the LAR Battalions

- Establish T/E of 2 OS-302 vehicle mounted antennas for each Regiment, Infantry Battalion, Artillery Battalion, separate Battalion and the Division Communications Company to enable TACSAT use will on the move.

Topic: **Blue Force Tracker vs. Mobile Data Automated Communications Terminal**

Discussion: During Operation Iraqi Freedom the 1st Marine Division used two distinct systems for Position Location Information (PLI). The MDACT program being fielded by MARCORSYSCOM was advanced to distribute over 319 MDACTs throughout the 1st Marine Division. The MDACT requires the line-of-sight transmission path provided by EPLRS radios and in order to function properly a significant amount of communications engineering is required to support radio channel spacing and IP addressing requirements. The MDACT/EPLRS system requires extensive operator and network engineer training to function properly. The BFT is a U.S. Army program that was advanced by CFLCC, V Corps, and I MEF to field 104 BFTs to the 1st Marine Division in order for CFLCC/V Corps to maintain PLI for Marine Units since the MDACT and BFT are not compatible systems. The BFT uses a commercial L Band Satellite communication system that is managed by the US Army for the user and is basically an install and operate system but extensive behind the scenes coordination was required by the Army to make the BFT addressing and functioning transparent to the Marines of the 1st Marine Division. Operator training for the BFT is simplistic and the system is very operator friendly. Additionally the BFT provides a larger throughput capability for free text or formatted messages to any BFT throughout the world via satellite connection and the 1st Marine Division Marines found this capability very useful to maintain PLI and data text messaging "on the move" from the Division to RCT to Battalion Command Posts. For the 1st Marine Division, BFT was the overwhelming system of choice.

Recommendation: That MCSC disestablish the MDACT program and establish a joint BFT program with the US Army that could support worldwide PLI for the Marine Corps from the MEU to the MEF. The new joint BFT program office needs to also establish a dismounted version of the BFT for Infantry use (a similar concept to the Dismounted Data Automated Communication Terminal - DDACT).

Topic: **Use Of Voice Over IP "Fish Eye" Conference Calling**

Discussion: Conference Calls occurred two times per day throughout the most of the deployment for Operation Iraqi Freedom but were eventually cut down to 1 per day during Phase IV B Operations. Use of commercial videophones and video teleconferencing suites of equipment has become more the norm than the exception for both the Division Main and Forward CPs. Despite receiving the new equipment just prior to deploying, and having limited training opportunities, it functioned very well. The Voice Over IP Phone was used far more than the video teleconferencing suite and provided reliable voice teleconferencing service for up to nine Flag Officers and their Staffs simultaneously. Since the "Fish Eye's" transmission path was via dedicated SIPRNET bandwidth, it allowed for reliable connectivity for hundreds of miles in support of the geographically separated CPs. This new technology set a new standard for supporting Commander and Staff interaction. Flag Officers ability to simultaneously interact with each other and the MEF Commanding General was an invaluable tool for coordinating efforts, efficiently allocating scarce resources, and providing an open forum for passing Commander's Intent to senior, adjacent, and supporting Commanders when necessary.

Recommendation: Research for the best commercial products that can operate in a tactical environment needs to be conducted and the best possible systems procured to support this capability not only at the Division Headquarters level but also at the Regimental and Separate Battalion Level. Compatibility with deployable SIPRNET and Tactical Telephone Networks will be key for future successful conference calling capabilities.

Topic: **Personal Role Radios (PRRs)**

Discussion: The idea for the procurement of PRRs for the 1st Marine Division was to support the Marine Infantryman in the urban fight expected in Iraqi cities and especially for any fighting required in Baghdad. Commanders at all levels called for a reliable, lightweight, and durable radio that could be fielded rapidly in support of the Marines of the 1st Marine Division. The British-made PRR was the radio recommended by the Infantry Battalion Commanders and the Division G-6. This radio provides a headset that fits under a helmet and a rifle-mounted push to talk system to easily operate the radio even during a firefight. The PRR radio is designed to be a low probability of intercept and detection with a range of 500 meters to support Marines at the tactical level, especially for communications within the Infantry Squad and Platoon. The PRRs were especially effective in urban areas but were also widely used for security force operations, and convoy support. The Division received and distributed 3443 PRRs throughout the Division to include 2nd Marine Division attachments. This system received the universal acclaim of the Marines who used them.

Recommendation: That PRRs be issued to each Marine Infantryman in each Infantry Battalion and Regiment of the Marine Division. There should be no attempts to "add on" to the PRR by any program manager. The PRRs are to be used for the "last 500 meters" by Marines up close and personal with the enemy. No requirement for increased range nor for crypto needs to be pursued. The radio should be procured and used especially by the Infantry Marines within each Infantry Division.

Topic: **Iridium Phones**

Discussion: The 1st Marine Division G-6 began the procurement of IRIDIUM Telephones (at approximately $4000 per phone to include the secure sleeve) in the summer of 02. Initially 6 IRIDIUM phones were procured to support the CG, ADC, 1st, 5th, 7th, and 11th Marine Commanding Officers. Over the next several months many more phones were procured to the point that the 1st Marine Division (Rein) had 77 IRIDIUM Phones in use to support of the Division. These phones were instrumental in augmenting tactical communication support. At times, due to the limitations of tactical equipment not being able to operate on the move (i.e. SMART-T, UHF TACSAT, and HF Radio Communications), IRIDIUM phones and Blue Force Tracker were the only available means of communications until units stopped and had the time to set up their tactical communications equipment.

Recommendation: All IRIDIUM Phones procured by the Division Commands should have locally assigned TAMCNs for accounting on a CMR and with the EKMS Custodian (due to secure sleeves). Commands will be responsible for coordinating funding support for the monthly reoccurring costs or for suspending phone services not required to support training operations. The IRIDIUM Phones and the Secure Sleeves need to be maintained within the Division Commands for future use as required. IRIDIUM Pagers (also procured by the Division) were used for text messages during Operation Iraqi Freedom.

In the future the Division will use IRIDIUM Pagers to receive off-line encrypted brevity code text messages via NIPRNET messaging. This will provide yet another means of secure communications for the Division to pass along Commanders Intent down to at least the Regiment and Battalion Level – a capability that will be trained to in future.

Topic: HF Radio, Tactical Satellite Radio, and VIASAT Radio Operator Training

Discussion: Radio operators require constant hands-on training to ensure their proficiency level does not degrade. Weekly HF Radio, Tactical Satellite (TACSAT) Radio training was initiated within the Division to provide all units a training regimen to maintain and improve all radio operators proficiency. These radio operator responsibilities were included in the training from equipment installation, operations set-up, cryptographic fill requirements, NET ID configuration, antenna placement, and the use of field expedient antennas. Significant improvements were seen after several weeks in all areas mentioned above and ultimately contributed to the successful use of HF and TACSAT communications during Operation Iraqi Freedom.

Recommendation: Continue HF and TACSAT training and begin weekly VIASAT data transfer training. VIASAT was a new capability that was invaluable during Operation Iraqi Freedom, despite the Division Marines not having trained on VIASAT prior to deploying. Follow-on training will continue to emphasize individual radio operator skill proficiency and to develop opportunities for staff participation in the training so that sections "adopt the radio net" and take ownership of it. For example, the G-2 will own the Division Intel Nets and 11th Marines will own the Fires Nets. Finally, radio operator training needs to be conducted while simulating an NBC environment in order to identify areas for improvement in communications techniques while in a MOPP 4 condition.

Medical
Topic: Inadequate Pre-Limited Technical Inspection (LTI) of Authorized Medical Allowance Lists (AMALs)

Discussion: In anticipation of deployment, the Division CG directed the LTI of all Division AMALs by their assigned units in October 2002. Due to a lack of specific assignment by MEDLOG of AMALS to specific units, the same AMAL was often LTI'd by multiple units. This led to inaccurate and inflated readiness reports. Once specific AMAL assignments were made and accurate inventories conducted, readiness improved.

Recommendation: Quarterly LTI of 635/636 AMALs specifically assigned to units will ensure 635/636 AMALs are combat ready. Quarterly AMAL attainment status reports should be forwarded to Division Surgeon for review and action.

Topic: 699 AMAL (Authorized Medical Allowance Lists) and Failure of Line Item Re-supply

Discussion: 699 AMALs (Sick Call Blocks) have been discontinued. Since 635/636 AMALs were designed to support combat operations, these AMALS contain limited sick call supplies. Prior to them being discontinued, 699 AMALs augmented 635/636 AMALs. Routine sick call supplies were rapidly depleted when the Division was waiting to cross the LD. Line item re-supply was touted as the method to obtain sick call supplies. However, line item re-

supply completely broke down and failed to provide required medical supplies to frontline BASs before and during combat. Supply warehouses were not set up as units flowed into theatre. Supply requests were forwarded back, where they could also not be filled. This resulted in the loss of tracking by units. An open purchase of sick call supplies was initiated, but units crossed the LD before these could be distributed. Units never received these supplies. As combat began, supply lines were long. This made it difficult to track unit supplies in the log train/RRPs. The necessary focus on ammo, food, and fuel resulted in a lower priority for Class VIII during the hostilities. S4 officers at the battalion level reported no visibility on delivery of any class VIII items. Innovative class VIII push blocks were created just prior to crossing the LD, but there were not enough of these to sustain the Division. Division units were forced to scavenge for class VIII supplies from other Navy and Army medical units.

Recommendations: The 699 AMAL or a replacement sick call block must be reinstated. If Line Item Re-supply is used, a more robust supply database must be available to manage supply stocks, using scanning technology to track orders from point of origin to supply points and ultimately to the customer. Class VIII push blocks may provide a solution in future fast moving campaigns that require long logistical tails to support, but the 699 AMAL materials must be available for units to conduct sick call in the field.

Topic: Direct Support of Shock Trauma Platoon (STP)/Forward Resuscitative Surgical Section (FRSS)

Discussion: STPs were designed to provide level I plus care. FRSSs were created to move definitive surgical care forward in the battlefield supporting rapid maneuver warfare. Combining these in direct support of Division units saved lives. STPs were utilized by Battalion Surgeons to augment their care. Physicians quickly developed working relationships with each other. Trained emergency physicians provided a convenient, respected consultant to battalion medical officers, which will be further enhanced with updated equipment that was not received during this war. FRSSs provided emergent surgical treatment and stabilization when and where it was needed. Air medical evacuation rounded out the emergency medical system by ensuring that whenever possible wounded Marines and Sailors were usually transported to definitive care within the "Golden Hour" of trauma.

Recommendation: STPs/FRSSs in direct support of Division units needs to be continued and enhanced.

Topic: Regimental Recuperation Center (RRC)

Discussion: Prior to deployment, the Division CG directed Regimental Commanders to organize RRCs to manage combat stress reactions. No combat stress casualties would be sent beyond the regimental level. Psychiatrists were requested to provide triage and definitive disposition. When this augmentation request was denied, Psychiatric Technicians were drawn from Medical Augmentation Platform (MAP) personnel. They were trained by the Division Psychiatrist to assist in the management of the RRC. Few psychiatrists were found to have adequate knowledge, training, or experience to successfully practice operational psychiatry while deployed and in garrison. Three Combat Stress Platoons (CSPs), each consisting of one psychiatrist, two psychologists and three psychiatric technicians, were in theatre, but, as anticipated by Division, the CSPs were not used by 1st MARDIV because of rapid troop movement and long logistical tails. They were

logistically too far to the rear and their concept of management conflicted with previous lessons learned. During combat, none of the Regiments utilized tenting and supplies designated for the RRC. Only a few mild combat stress reactions were reported, and these were usually dealt with at battalion level. This conflict proved that combat stress management must be moved forward on the battlefield. If CSPs are retained, they must be dramatically restructured to be capable of deploying in close proximity to fast moving supported units. Otherwise, they will not be accessible to combat troops. CSPs assigned to be in direct support of Division units would likely be as successful as Forward Resuscitative Surgical Section (FRSS) managing trauma. An integrated combat stress management plan must incorporate battalion and regimental resources.

Recommendation: Adopt, standardize, and integrate RRCs into the management of and training for combat stress reactions in Marine combat units. Psychiatrists should be assigned at the regimental level to perform triage and definitive disposition. Regimental Psychiatric Technicians should also be included in Division T/O.

Topic: Combat Aidsman Course

Discussion: The Combat Aidsman Course was adapted from the United States Army Combat Lifesaver Course. The Combat Aidsman Course was designed to provide advanced first aid training specifically tailored to the needs of Marines in Division. The Division CG mandated at least one Combat Aidsman per squad. Advanced First Aid Kits (AFAKs) were to be preferentially issued to the Marines who had completed this training. Unfortunately, these were not distributed to Division units.

Recommendation: Continue and refine the Combat Aidsman Course in Division. Standardize and adopt across GCE units.

Public Affairs
Topic: Embedded Media

Discussion: On 10 March 03, the Division PA section met with the 80 reporters assigned to "embed" within tactical units of the 1st Marine Division. We met them at the Hilton Hotel in Kuwait City and began the media RSOI that focused on welcoming the media and setting the conditions for fair and balanced reporting of the Division's combat operations. Prior to RSOI, the PA Team expressed to the unit commanders, Marines and Sailors that the media is an entirely winnable constituency. Media were not to be "escorted," they were to be "adopted" and made members of the Division family. This subtle difference framed the Division's desired approach to interactions between Marines and the media and resulted in quick assimilation of journalists into the ranks, rapidly establishing strong bonds. Likewise, the media agreed to established ground rules and honored them.

Embedding media assisted our mission accomplishment in several ways:
- The presence of embedded media significantly reduced the Iraqi ability to conduct a propaganda campaign. The Iraqi claims that the Coalition forces were "roasting their stomachs at the gates (of Baghdad) and committing suicide" rather than face the mighty Iraqi Army were quickly dispelled when CNN broadcasted live from 3d ID inside Saddam's Presidential Palace in downtown Baghdad. The constant saturation of reporting from media in the field served witness to the facts of this campaign, highlighting the chaotic nature of the battlefield and the regime's blatant disregard for

the Law Of War and the Geneva Convention. The media reported on the Fedayeen's many cowardly acts: hiding behind women and children while shooting at Marines, using mosques, hospitals and schools to store ammunition and weapons, and terrorizing the Iraqi public. The Division was able to establish a firm link between the regime and international terrorism by taking CBS, NBC and CNN to a grade school used as a Fedayeen suicide bomb vest training site and storage facility uncovered by 1/7 in central Baghdad. The presence of the media also assisted in deflating false allegations of war crimes.

- Embedding promoted bonding between the military and the media. Sharing austere living conditions, danger and loss, journalistic desires of impartiality gave way to human nature. This was evident in the sensitive way the embedded media reported on our wounded and dead and respected the ground rules for reporting. Unembedded, unilateral journalists routinely released information jeopardizing OPSEC and frequently misreported errors in fact. Embedded media were able to clarify their understanding of events with the participants before releasing their story to the world. Additionally, the trust built between the Marines and the media enabled unprecedented access and brought the lives of the individual Marine and Sailor into the living rooms of the world on a daily basis. This enabled our story to be told in a very personal, humanistic way. To the viewers and readers, the 1st Marine Division was not an anonymous killing machine, it was an 18 year-old Marine from Anywhere, USA.

- Embedding media kept the family members and friends of the Division back home in CONUS informed. This is the first time in history where media could report "live" so close to the action. Concerned family members were able to receive daily updates on their loved ones by following their unit in the press. Many family members used the reporters to pass e-mails to their Marines and Sailors and vice versa. The media also allowed the Marines to use their satellite and cellular (in Kuwait) phones to communicate with family back home. This improved the morale of our Marines and family members alike. Without the embedded media, the Division's PA section would not have been able to accomplish its internal information mission to keep our Marines and family members informed. The Division PA section deployed with only one digital camera. The cameras, video cameras and laptops ordered by HQMC/PA for the Division in the Fall of 2002 did not arrive from MARCORPSYSCOM to the Division until one week after the suspense of combat operations in Baghdad (April 20). This lack of organic PA equipment prohibited the production of stories and photos for internal use (e.g., base paper, usmc.mil website, and Marines Magazine).

Embedded media served as a lens to focus the world's attention on the Division's combat story, favorable or not. When things went well, they were reported as such. When the reporter was confused about events, however, they reported skewed or inaccurate information. In the few instances when things went badly, the media reported on the killing of civilians, and in one case, the killing of Andrew Lloyd, a unilateral ITN reporter from the UK who died in a clash between the Division and Fedayeen.

Caveat: Before we as a collective military society congratulate ourselves on the "overwhelming success" of the embed program, we need to pause and remember that we were both good and lucky. We achieved victory quickly and were successful in keeping our casualties low. We took great pains to limit collateral damage and this paid off in the court of public opinion. The media brings the spotlight to our stage for good and ill. What would have

been the headlines if the Coalition lost a battalion of infantrymen in a chemical attack? What if there was more nationalistic spirit in the hearts of the people of Iraq and a majority of the population fought us block-by-block? This is evidenced by the "Chicken Little" reporting in the media when the Division and 3d ID paused in the attack up Highways 1, 8 and 9. Visions of Vietnam danced in reporters' heads. According to many pundits in the press we were bogged down, stopped cold by the Fedayeen. Nothing could have been further than the truth. The myth was quickly dispelled by our success against the Ba'ath Party and paramilitary fighters, but never forget how quickly the press jumped on the bandwagon of doom and gloom.

Recommendation: The media embed program in this campaign worked well for both the military and the media. The media received unprecedented access, and the Marine Corps was able to get its story to the American and International publics as never before. In this instance, embedding media was a limited success for the Division. This paradigm should not be blindly followed and a thorough risk-benefit analysis must be conducted before embedding media in this same fashion for future combat operations.

Topic: **Media Vehicles on the Battlefield**

Discussion: The decision not to allow embedded television media to use their own vehicles on the battlefield placed an additional logistical burden on subordinate units, hampered the media's ability to report and limited live media coverage of 1st Marine Division on international and national TV.

In the fall of 2002, Kirk Spitzer from CBS News visited the Division at Camp Pendleton. Kirk vetted the idea of using a 4-wheel-drive HMMWV, hard-wired for satellite transmission to broadcast TV reports while accompanying Division units in combat. The Division immediately saw the value in his proposal - both to CBS and the Marine Corps. Such a vehicle would allow the media to transmit stories "live on the fly" and would alleviate one of our units from having to transport a four-man camera crew and the associated (10) 7-cube equivalents of media equipment. The hard-wired vehicle also allowed the media to set up for transmission within 15 minutes. Without the vehicle, the setup would take two hours. The hard-wired satellite equipment enables the media to produce a higher quality news product. Instead of seeing the reporter's head in a shaky videophone, the world public was able to view high quality live and near-real time footage of combat operations.

Many more TV media agencies contacted the Division to express the same desires, and the Division PAO detailed a point paper that was sent through command channels to appeal the OASD ban on media vehicles on the battlefield.

During the Divisions preparations for combat, many media agencies visited the Division's units on short term embeds and day trips and used their vehicles to transmit from the field. Without exception, the tactical unit commanders thought the media vehicles were a workable, realistic and beneficial asset to TV coverage of the Division's anticipated combat operations.

While the Division awaited OSD's decision on the status of vehicles, Marines and embedded media alike continued to plan for the coverage of combat operations and requisite unit support.

On the day prior to the Division's crossing of the Line Of Departure, the Division received direction to remove all media vehicles from the battlefield.

After the onset of hostilities, some media agencies eventually rejoined their vehicles to their embedded media while some did not. The media that had the use of transmission vehicles were able to acquire and file a better product and consequently made the news far more often than their colleagues who did not have access to such vehicles and had to unpack and set up their satellite dishes at every stop - if there was time. The rapid pace of the Division's advance, in many cases, did not permit enough time for the media without vehicles to set up their satellite equipment.

CNN's embed with the US Army's 3d Battalion, 7th Infantry Regiment is a classic example. The US Army allowed CNN to retain the use of their satellite capable vehicle and as a result, live reports from 3d Infantry Division appeared with greater frequency during the first two weeks of the war.

Recommendation: The media vehicles on the battlefield that belonged to the embedded media did not pose any significant logistical or security problems. The Division did experience significant problems with the unilateral media vehicles on the battlefield cutting into convoys and getting in between enemy and friendly units during firefights, in one instance resulting in the death and injuries of the unilateral reporters. Allowing embedded TV media to use their own vehicles benefits both the Division and the reporters logistically, increases the media's capability to tell our story, and could potentially reduce the number of unilateral vehicles on the battlefield in future conflicts.

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SJA
Topic: Reportable Incident Assessment Team (RIAT)

Discussion: The RIAT was created to provide the Commanding General with "ground truth" regarding serious incidents, ranging from friendly fire shootings to war crimes perpetrated by one side or the other. The intention was to put together a small, internally sourced team that could report to an incident site, quickly assess the situation, preserve evidence, and help the Commanding General to decide whether additional investigation and reporting to higher headquarters were required. In addition, the team would afford the Commanding General with a means to counteract media backlash.

The RIAT was developed, organized and staffed by the Staff Judge Advocate, Lieutenant Colonel J. R. Ewers. He produced the RIAT SOP and identified the key billet holders. Designed as a task organized unit depending upon the situation, the RIAT core team consisted of the SJA as team leader; the Division Public Affairs Officer; combat cameraman; and the Division Surgeon. Depending upon the nature of the incident, additional members would possibly include criminal investigators from Naval Criminal Investigative Service (NCIS); an NBC specialist; a civil affairs officer and an interpreter. Security and communications capability were also integral parts of the effort.

The RIAT investigated over eight separate incidents during the deployment. In each instance, the information obtained provided critical situational

awareness to the Commanding General. In one instance, within hours of the initial report, NCIS documented and preserved evidence of an explosives supply cache located in a school, and moments later the Public Affairs Officer was guiding television media crews through the location, providing the American public with first-hand knowledge of the callous nature of the former regime.

Recommendation: Retain and refine the RIAT concept at the Division level. The RIAT was an effective tool when it was able to respond within the first 24 hours of a reported incident. After 24 hours, the ability to survey and preserve the scene was greatly degraded, significantly reducing the effectiveness of the team's assessment. As more time passes, it becomes much more difficult to establish ground truth. The initial scene often contains key items of physical evidence that will either corroborate or undermine a witness' recitation of the events. In order to be more responsive, future RIATs will need at least two dedicated vehicles, fully equipped with communications equipment and the ability to "self-secure", perhaps like the military police's hardback HMMWVs. Too many scenes became tainted during the lag time spent locating sufficient lift and coordinating escort and security for the team. Air support was a viable option, but the ASR system is not responsive enough to support the normal incident, which is an unplanned event that requires a reaction from the team. In addition, the Division Main should be staffed with two Judge Advocates. Based on distances between units and the number of witnesses involved, the RIAT would often be in the field for two to three days. Legal issues did not cease to develop during that time, but while the SJA was conducting his assessment, no one was available to advise the Commanding General or commanders on emerging situations. Added depth in the SJA section would allow one judge advocate to conduct a RIAT,

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while the other remains with the Main to address developing legal issues.

Topic: Governate Support Team Judge Advocates

Discussion: In order to support the Battalion Task Force Commanders, I MEF directed the FSSG to provide seven Marine Corps judge advocates to serve on the BTF staffs. The original plan called for the judge advocates to serve as part of the overall governate support teams, which would include various subject matter experts. Depending upon the condition of the governate's local Iraqi legal system, the primary role for the judge advocate was to serve as the commander's in-house magistrate, conducting hearings to determine whether to detain Iraqi citizens for violations of Iraqi law.

Unfortunately, the governate support teams were not assembled prior to the start of Phase IVB operations in our areas, and MEF decided to abandon the governate support team concept. However, the MEF SJA had already identified the supporting judge advocates and sent them to the Division SJA for assignment. After consultation with the BTF commanders and their operations officers, judge advocates were attached to the command elements to assist in their day-to-day operations. These judge advocates quickly became valuable members of the BTF staffs, providing legal advice on routine legal issues such as non-judicial punishment and investigations, to conducting assessments of the local legal system, rehabilitating court buildings, empowering the

local bar associations to elect judges and eradicating the oppressive sections of the Iraqi legal code. In almost all cases, the local legal systems were dormant, not non-existent. By cleaning up the courthouses, providing some security for the judges and court personnel, ensuring that personnel were paid, and conducting open elections for judges, the BTFs were able to quickly turn most Iraqi criminal violations over to Iraqi authorities for disposition, reducing the command's role in Iraqi internal matters. In addition, many of these officers filled other key roles for the commander; for example, the judge advocate assigned to 3d Battalion, 5th Marines was also tasked with rehabilitating local schools in the Ad Diwaniyah governate, and became the "voice" of the command through bi-weekly television broadcasts. With the arrival of the Army's governate support teams, the judge advocates began to turnover with their counterparts.

Recommendation: Create a judge advocate billet for humanitarian assistance operations. At a minimum, the judge advocate needs to have basic knowledge of military justice issues, law of war principles, rules of engagement directives, and fiscal law rules. Furthermore, each one of these judge advocates should produce after action reports for use by the recently developed Basic Officer Legal Training (BOLT) at Naval Justice School, to help refine the course curriculum to ensure that even an entry-level judge advocate could step into a position like this and immediately contribute to the commander's mission. Despite the last-minute, adhoc approach and little guidance from ORHA, emplacing Marine judge advocates in each governate paid significant dividends for our commanders.   These MAGTF officers provided critical assistance by assessing and re-instituting the legal systems in their respective governates. This enhanced local security efforts, by ensuring that criminals captured by newly instituted Iraqi police forces would have a system to process them and hold them accountable. Finally, this was a tremendous opportunity for young judge advocates to experience operational law issues first hand, at the ground level. Each has a new appreciation for the pressures and capabilities our young Marines experience each day, which will make them better advisers and counsel in the future.