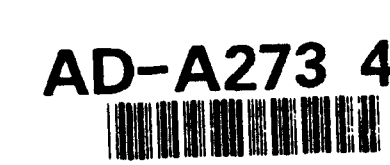

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INTELLIGENCE AND ELECTRONIC WARFARE (IEW) STREAMLINING PROJECT

Volume III

Reference Documentation (Part 3)

September 1, 1992

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	1 Sep 92	INTERIM

4. TITLE AND SUBTITLE

Intelligence and Electronic Warfare (IEW) Streamlining Project, Volume III, Reference Documentation (Part 3)

5. FUNDING NUMBERS

C OPM-91-2964
PR 02T02K

6. AUTHOR(S)

David P. Nicholas (co-compiler), Robert E. Klebo (co-compiler)

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

BDM International, Inc., 825 Diligence Drive, Suite 200, Newport News, VA 23606

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

U.S. Army Communications-Electronics Command Intelligence Materiel Management Center (USACIMMC), ATTN: SELIM-IEW, Vint Hill Farms Station, Warrenton, VA 22186-5277

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

Prepared under contract with U.S. Office of Personnel Management, Office of Employee Development Policy and Programs, Training Assistance and Organizational Development Division

12a. DISTRIBUTION/AVAILABILITY STATEMENT

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

Purpose of study was to recommend improvements in logistics support for Army intelligence and electronic warfare (IEW) equipment. Report analyzes existing sustainment system and recommends a number of systemic improvements to integrate and streamline the sustainment of IEW materiel. The recommended objective concept includes centralized control of regional sustainment assets (including contracts providing sustainment) under Army Materiel Command; organizational changes to integrate soldier, civilian, and contract resources; improved distribution and control of spares; improved deployment capability; and provisions to enhance technology transfer between contractors, civilians, and soldiers.

The IEW Streamlining Study Sustainment Analysis Report consists of four volumes, some multipart. Volume IV, which is classified, may be obtained from the Defense Technical Information Center, Cameron Station, Bldg. 5, ATTN: Acquisition-OCP, Alexandria, VA 22304-6145. Study documents are as follows:

- Volume I, Sustainment Analysis Report, revised 30 Oct 92
- Volume II, Directives and Related Study Documents, revised 18 Nov 92
- Volume III, Reference Documentation (Part 1), 1 Sep 92
- Volume III, Reference Documentation (Part 2), 1 Sep 92
- Volume III, Reference Documentation (Part 3), 1 Sep 92
- Volume III, Reference Documentation (Part 4), 1 Sep 92
- Volume III, Reference Documentation (Part 5), 18 Nov 92
- Volume IV, Systems Sustainment (Part 1)(classified), 1 Sep 92
- Volume IV, Systems Sustainment (Part 2)(classified), 1 Sep 92

14. SUBJECT TERMS

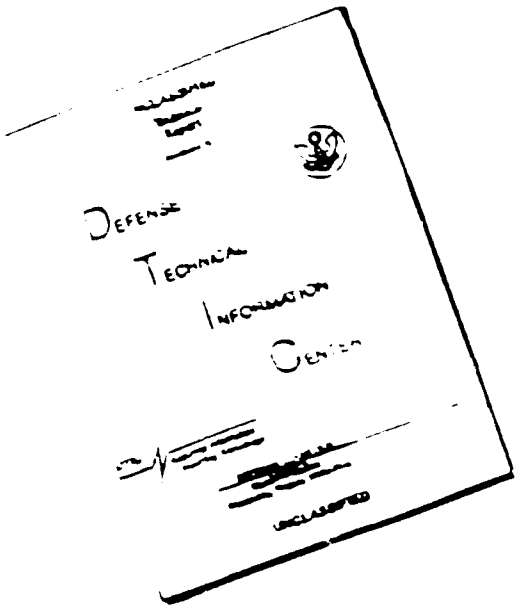
intelligence and electronic warfare (IEW)
sustainment
low density
materiel
maintenance
nondevelopmental item (NDI)

15. NUMBER OF PAGES 215

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED	UL

DISCLAIMER NOTICE



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U.S. Office of Personnel Management
Office of Employee Development Policy and Programs
Training Assistance and Organizational Development Division

Project Title: Logistics Support
Work Order: 7064-002
Project Code: 02T02K

September 1, 1992

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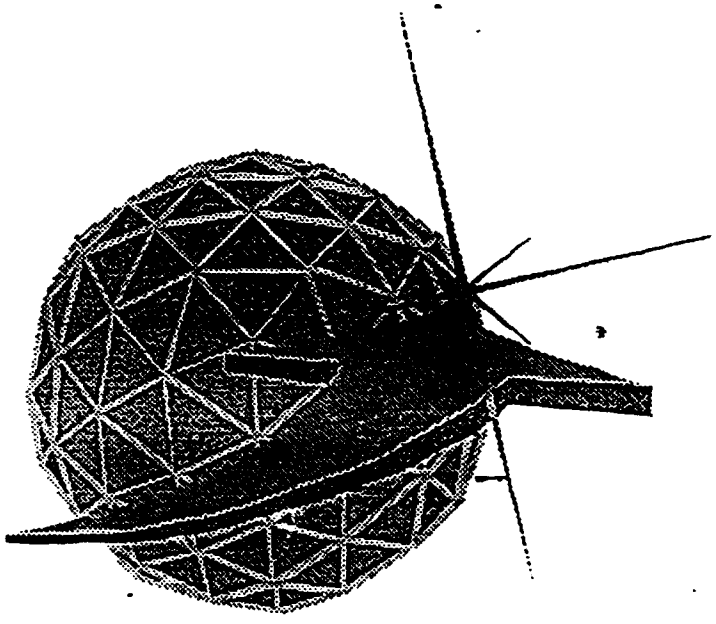
Strategic Logistics Agency Paper, undated, Subj: Integrated Sustainment Maintenance Concept

INTEGRATED SUSTAINMENT MAINTENANCE CONCEPT



U.S. Army

Deputy Chief of Staff for Logistics

Director of Supply and Maintenance

Strategic Logistics Agency

INTEGRATED SUSTAINMENT MAINTENANCE CONCEPT

INTRODUCTION

This paper describes a concept for evolving the sustainment portion of the Army's maintenance mission to meet the challenges of the logistics environment of the future.

The most important force driving the need for modernized sustaining maintenance is Air/Land Operations (ALO). The maintenance concept for ALO is based on the need to support a high tech force on a battlefield characterized by large operations areas and nonlinear front lines. A flexible, responsive maintenance system is required to provide this support.

The Integrated Sustainment Maintenance (ISM) concept emerged from a review of the current logistics systems designed to support the Army into the 21st century.

Emerging ALO doctrine and ODS experience demonstrate the need for a sustaining maintenance system that can respond rapidly to a full range of combat missions from high intensity conflict to contingency operations such as Granada and Panama.

The US Army Strategic Logistics Agency (SLA) under direction of the ODCSLOG assembled a study team to develop a sustaining maintenance concept that would meet the Army's future needs.

Concept development efforts are based on the supositions that the Army would be operating high tech weaponry, with reduced resources, a smaller CONUS based force, and in an era of regionalized conflicts requiring rapid deployment. Numerous details will need to be addressed before the concept can be validated and implemented.

Overview of Current System

Figure 1 portrays the organizational architecture for sustainment maintenance in the U.S. Army. Management controls over the resources represented in this array are currently fragmented. Within AMC, DESCOM controls organic sustaining maintenance resources, while the commodity- oriented MSCs control contractor resources. Active Component GS maintenance resources are managed by FORSCOM and other MACOMs. Reserve component and DOL GS capabilities are controlled by FORSCOM, the Army Reserve, and the National Guard Bureau.

Under the Total Force concept, the Army has concentrated over 80% of its deployable GS maintenance manpower in Reserve Component (Army Reserve and National Guard) units.

The Guard and Reserves often train on second line

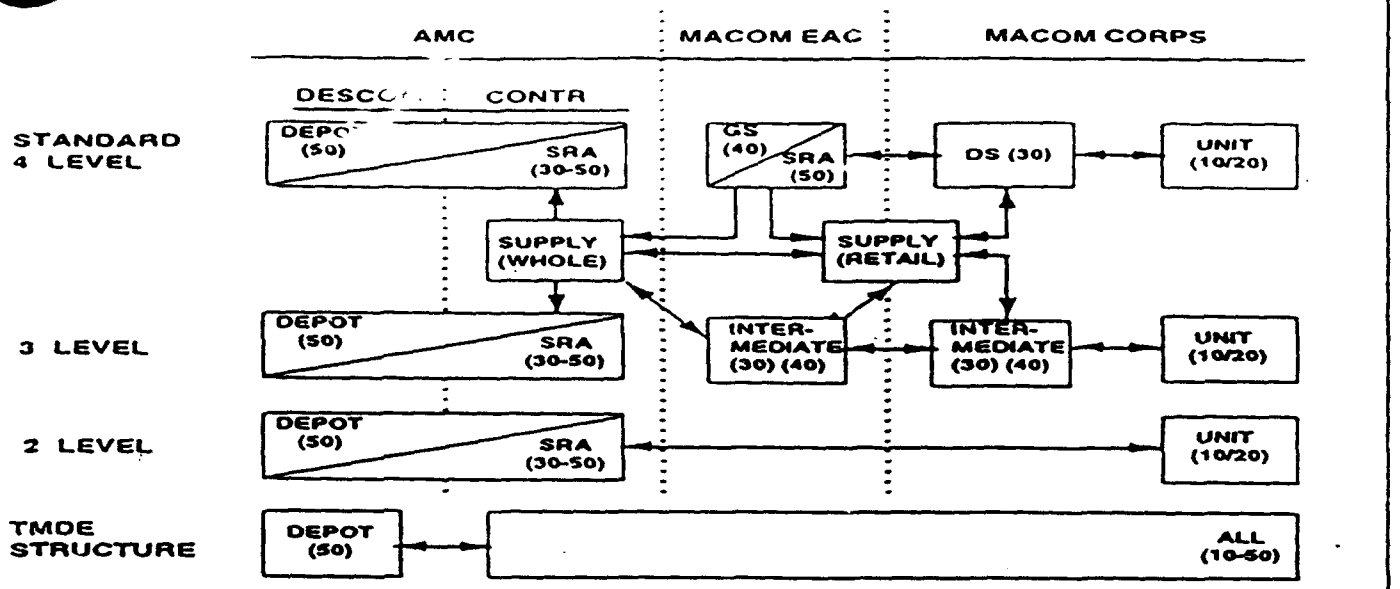


Figure 1

equipment. Reserve Component maintenance personnel often do not have the experience they need to repair the first line equipment they are expected to support when they are mobilized. Required training in Reserve Component units does not match the mobilization mission of the unit as demonstrated by recent experience during ODS.

Much of the peacetime GS capability is provided by Army installation DOLs, which are not, doctrinally, deployable assets.

LESSONS LEARNED FROM ODS

ODS was a very successful operation. In many ways it was representative of the types of operations the Army will be required to carry out in the future. Therefore, although it was successful, it demonstrated the gap between the current maintenance system and the needs of the future. Figure 2 illustrates the sustainment maintenance structure used in SWA. Modernizing sustaining maintenance should include corrections to the current system problems so that future requirements similar to ODS can be met more effectively and efficiently. Some of the major challenges of ODS are summarized below:

One of the obstacles to the rapid response required by ODS was the many parallel management chains involved in sustainment maintenance. This structure required extensive coordination to field the sustaining maintenance capability required in ODS. A combination of active, reserve component, government civilian and contractor resources was required to meet the needs of the theater commander. Once in place, some portions of this system continued to experience difficulties which can be traced to gaps between the supply, maintenance and transportation systems and the communications/automation systems that link them together.

A major challenge was the lack of rapidly deployable sustaining maintenance capabilities. DESCOM and contractor resources were used to fill the gap, but it took time to make this happen.

There were delays in deploying RC sustainment maintenance units to ODS, some of which were caused by political considerations. Other delays resulted from lack of unified control over the various elements in the Army's maintenance infrastructure. Extensive coordination was required among AMC, FORSCOM, other MACOMs, NGB and OCAR to determine the best way to meet the sustainment maintenance needs of the deploying forces. Full integration was never achieved during ODS.

ODS revealed shortfalls in the RC GS maintenance unit ability to maintain front-line combat systems. Many of these units do not train on first line equipment and were, therefore, not ready to immediately support the weapons systems used in ODS. There

also were mismatches between the assigned missions of RC maintenance units and the missions they needed to carry out in ODS. Mission mismatches and training shortfalls applied to both active and reserve GS units.

Evolving Army Missions, Warfighting Doctrine and Sustainment Doctrine

The most important force driving the need for modernized sustaining maintenance is Air/Land Operations (ALO). The maintenance concept contained in ALO is illustrated in Figure 3. This concept is based on the need to support a high tech force, on a battlefield characterized by large operations areas and nonlinear front lines. A flexible, responsive maintenance system is required to provide this support. Only combat repairs that can be made quickly will be carried out in the battle zone. These repairs will be made by maintenance forces attached to the maneuver units. Most field maintenance capabilities will be concentrated above the division level and located in the dispersal area. These capabilities comprise the forward maintenance support. The primary mission of these units is to repair broken or battle damaged equipment and get it back to the combat units. They also provide reinforcing support to combat repair units in the battle zone and reconstitution area.

Sustaining maintenance is focused on reconstituting the combat forces. These capabilities generally are assigned at echelons above corps and provide 40 and 50 level maintenance capabilities. Sustaining maintenance capabilities support reconstitution by repairing end items, or Shop Replaceable Unit, Line Replaceable Unit and returning them to the front line units, or by making major repairs equivalent to overhaul to feed the supply pipeline. These activities can be conducted in the logistics areas in the combat theater or at fixed installations outside the theater of operations.

The changes to the Battlefield Maintenance System (BMS), described in Air/Land Operations, focus on the combat repair and forward maintenance support portions of the system. Major doctrinal changes are proposed, such as concentrating maintenance support at the Division level and combining the 20 and 30 level maintenance activities. The new BMS concept does not address the sustaining maintenance portion of the system. A sustaining maintenance system is needed to complement the changes being made to the other levels of the system. Developing this complimentary sustaining maintenance system is the primary goal of this concept.

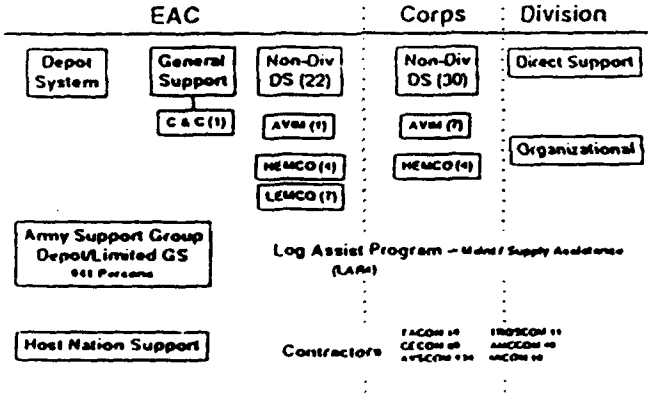


Figure 2

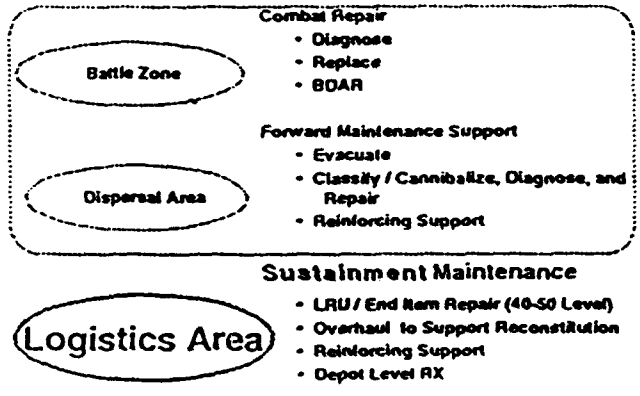


Figure 3

Budget and Other Constraints

A new sustaining maintenance concept must deal with the realities of shrinking DoD budgets. If past experience is a good indicator, force structure reductions will hit support forces harder than combat units. The Defense Management Review Decision process already has taken credit for billions of dollars of savings from streamlining activities that have

not yet been put in place. A new sustaining maintenance system must provide more support with a proportionally smaller fraction of the Army's budget.

Getting Started

The approach taken to define requirements for change and structure the change process began with an SLA team assembled under ODCSLOG. The Team looked at the current system to identify problems and things that work well. They obtained current briefings on other major initiatives related to ISM; and paid special attention to A/L Operations, Battlefield Maintenance System, and logistics process improvements being pursued by SLA and AMC's VISION 2000. Finally, the Team reviewed as much as possible of what occurred in ODS -- both the successes and the glitches; talked to NGB and OCAR because of their key roles in operating the sustaining maintenance system; and used this information to describe the desired characteristics of the new system.

The following guidance shaped development of the concept.

(1) That the concepts in Air-Land Operational doctrine and projections of future force/support requirements are accurate.

(2) That current maintenance concepts do not provide the best basis for developing logistics support systems/tools . . . against an ALO backdrop.

(3) That current systems are based on high intensity European conflict and are out of step with CONUS based RDF concepts.

(4) That the team should strive for a solution that was as innovative as possible and captured the essence of the lessons learned from ODS.

The team used a "Clean Sheet" approach to seek a solution that is as close as possible to the "ideal", not constrained by current ways of doing business. We are looking for a "seamless system" which satisfies, equally well, wartime and peacetime requirements and meshes with, but is not dependent on, the Battlefield Maintenance System being developed by TRADOC.

DESCRIPTION OF THE INTEGRATED SUSTAINMENT MAINTENANCE CONCEPT

Under the ISM concept, a unified command and control structure will be put in place for all sustainment maintenance above Direct Support. An Integrated Sustainment Maintenance Manager (ISMM) will be responsible for providing all sustainment maintenance capabilities required by field units, in garrison and when deployed to support any operational need arising from the Army's global force projection mission. The ISMM will control all of the personnel, equipment, and facilities required to carry out the sustaining maintenance mission. This includes direct management responsibility for Active component GS maintenance units not assigned at the division or corps level; the portions of the DOLs that carry out GS maintenance in peacetime; the organic depots; and contractors carrying out maintenance activities under national maintenance contracts. The ISMM will influence Reserve Component GS maintenance units by taking the lead for training and mission assignments for these units; and take the lead for recommending activation of these units.

The ISSM has the authority to build support packages based on sustainment requirements in the right combination to meet needs specified by weapons system managers in the field. The customer determines WHAT needs to be done, the ISMM determines HOW to do it and provides the best mix of capabilities.

Functions of the Integrated Sustainment Maintenance Manager (ISSM)

The primary responsibility of the Single Manager for Sustainment Maintenance is to anticipate the needs for sustainment maintenance capabilities and build these capabilities. These resources include active and reserve GS units, government civilians and contractors. The ISMM controls these resources

and uses them to provide sustainment maintenance services to his customers.

The ISMM is the focal point for developing the sustainment maintenance input for contingency plans to support future operations. When these plans are activated, the ISMM will be the focal point for the field commander to obtain the sustainment maintenance capabilities needed to support the operation as depicted in Figure 4.

The ISMM is the maintenance advocate throughout the concurrent engineering process for developing new equipment. The ISMM will have a key role in ILS planning for new systems and concur in the maintenance concept for these systems. As the focal point for sustainment maintenance activities within the Army, the ISMM is in an excellent position to recommend sustainment maintenance policy. Establishing policy will remain the responsibility of DCSLOG/DCSOPS, but the ISMM will be the implementor.

The ISMM manages the sustaining maintenance function to provide the maximum level of support service possible for the available budget.

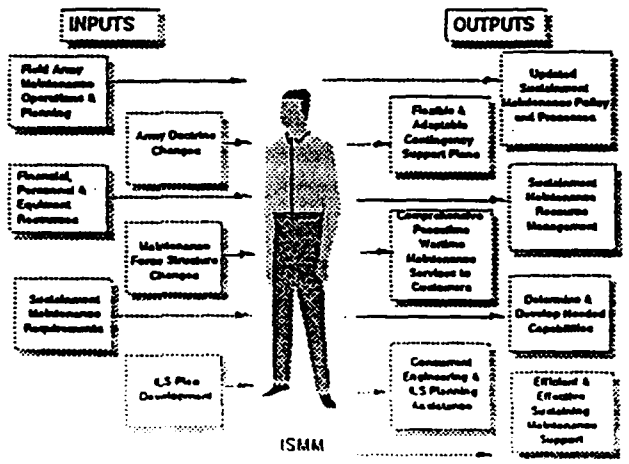


Figure 4

Concept of Operations in Wartime/Mobilization

The Theater Commander determines wartime and mobilization requirements and transmits them to the ISMM. The ISMM determines the mix of resources needed to meet the requirements and assigns these resources to the theater commander. Most of these resources would be assigned to theater maintenance activities located in the logistics area of the theater. If requested by the theater commander, the ISMM can provide reinforcing teams or special repair capabilities to augment combat repair or forward support capabilities. Assigned resources fall under the OPCON of the theater commander for the duration of the operation. The ISMM maintains management responsibility for these resources. He is responsible for training, providing replacements for maintenance equipment or personnel lost in battle, adjusting workload and forces as needed to meet changing requirements and coordinating with sustainment maintenance assets at fixed installations. The ISSM has access to fixed assets, such as depots, and uses these assets to provide reconstituting support. This mission will require the utilization of DOL resources as part of the building blocks necessary for force tailoring. This concept applies to major peacetime theaters of operation such as Europe, Korea or Panama.

Concept of Operations in Peacetime

The ISMM, again, tailors his response to provide the sustainment maintenance support required. The ISMM serves two major customers in peacetime: the FORSCOM installation and division commanders who require GS level support in garrison, and the National Maintenance Point/National Inventory Control Point who utilize depot/SRA sustainment maintenance support to make major modifications to equipment and overhaul equipment to feed the supply chain.

It is expected that the ISMM would use a variety of resources to meet the sustaining maintenance needs of units in garrison. In addition to tailored maintenance units that would be assigned to installations, the ISMM develops regional support centers or similar concepts to provide support more efficiently. A major change from the current system is that NMPs would no longer place and manage National Maintenance Contracts and contractor sustaining

maintenance support. The NMP (or WSM/PM as appropriate) would specify his requirements to the ISMM who determines how best to meet these requirements using contractor, active/reserve GS, depot and other government civilian resources.

Organizational Concept

It is most logical for the Single Manger to report to the AMC Commander. Reviews of AMC's VISION 2000 organizational concept indicates that the ISMM could be integrated with the proposed Industrial Operations Command which AMC plans to activate.

Industrial operations management includes the day to day operation of the organic depots and other government owned facilities performing sustaining maintenance. (Figure 5)

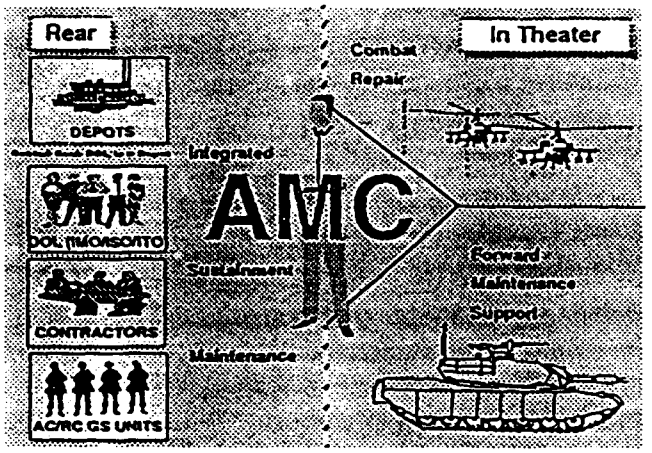


Figure 5

The entire Test Measurement and Diagnostic Equipment structure will be assigned to the ISMM. In fact, the organizational structure for managing TMDE is an existing model for how the Single Manager concept would work. This concept can be thought of as applying the TMDE model to all sustaining maintenance in the Army.

Relationship with the Reserve Component

The ISMM will provide all sustainment maintenance required to support an operation, such as ODS. This includes determination of which Reserve Component sustainment maintenance capabilities are needed and when they are needed to support the operation. The ISMM originates mobilization requests for Reserve Component sustainment maintenance units, in accordance with standing contingency plans developed by FORSCOM/ OCAR and NGB chains of command in cooperation with the ISMM.

The ISMM would be responsible for developing and maintaining the Army's sustainment maintenance capabilities, to include training and recommending mission assignments and equipment allocations for Army Reserve and National Guard sustainment maintenance units. (Figure 6)

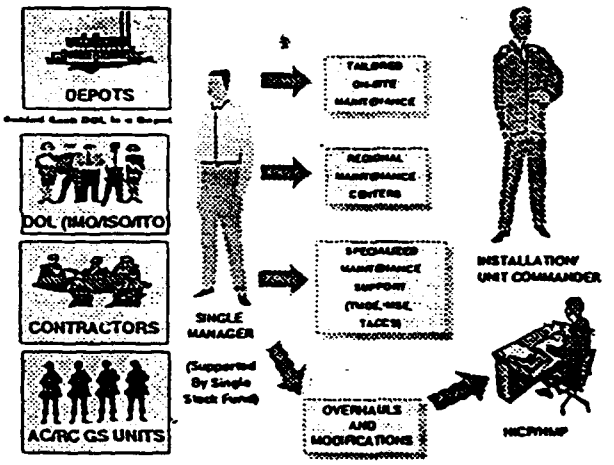


Figure 6

It is anticipated that, over time, the ISMM may recommend changes in the mix between Active and Reserve Component sustainment maintenance units, and may align the missions of these units to meet the Army's evolving sustainment maintenance needs. These recommendations would be made by the ISMM to assure that Reserve and National Guard sustainment maintenance units are a viable and ready part of the Integrated Sustainment Maintenance Plan.

The ISMM will play an active role in training Reserve Component sustainment maintenance units. The ISMM works with the Reserve and Guard chains of command to identify training requirements for these units and to develop and administer

methods to track the ability of each unit to carry out its mission. It is expected that the ISMM will provide training opportunities for these units at depots, contractor operated maintenance activities, DOLs, active GS units or other maintenance activities, as needed, to fulfill their role in the integrated sustainment maintenance system. (Figure 7)

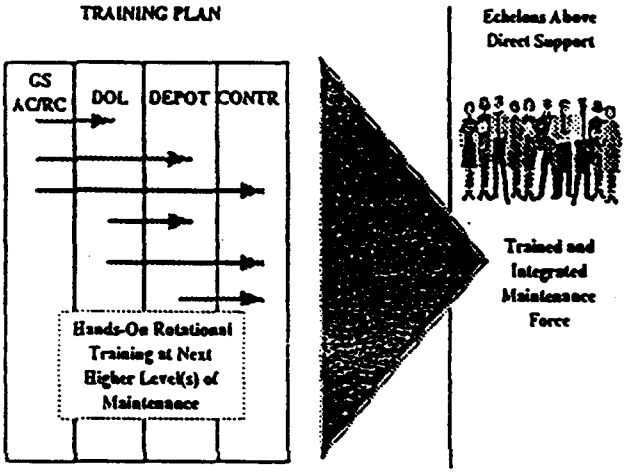


Figure 7

IMPLEMENTATION

Review and Approval

Because of the major implications of this concept, it may require Secretary of the Army approval. It will also require extensive coordination with TRADOC, FORSCOM, AMC, DCSOPS and the ASA (Installations and Logistics). Once approval is obtained, implementation can be initiated by appointing the single manager and a core management team. This team could proceed to develop detailed implementation plans and initiate the policy and management changes that will be required to fully implement the concept. (Figure 8) Transition to the new concept works best when done in stages. The first stage could transition a major commodity to the new concept (e.g. commo/electronics). Any anomalies in the implementation plans could then be worked out with the remaining commodities transitioned over a period of perhaps several years.

Figure 8

Proof of Principle

A proof of principle demonstration will provide information needed by the Army leadership to make decisions to implement the concept. It will also identify any refinements that should be made when the concept is fully implemented.

The proof of principle must test all major features of the concept. An example of a test that could accomplish this is outlined in the following paragraphs.

Appoint a test team leader with extensive wholesale and retail maintenance experience. During the test, the team leader will function as a surrogate for the ISMM. The team leader will be provided with staff support, communications equipment, ADP network capabilities and other resources required to effectively carry out the test under the auspices of the DCSLOG to assure objectivity. Conduct the test in conjunction with a major exercise such as a deployment to the National Training Center.

Initiate the test six to eight months prior to the major exercise. This phase would test peacetime sustainment maintenance support under the ISM concept. During this phase, assign management of a depot, appropriate GS resources, contractor maintenance activities and Reserve and National Guard units to the test team leader. These resources would be managed by the test team leader to provide sustainment maintenance to a CONUS activity, such as a major portion of a Corps in garrison.

During preparation for the exercise, the test team

leader would be assigned responsibility for configuring resources to support the exercise. He would prepare the portions of the Op Plan that describe deployment and operation of the sustainment resources under his control. This would evaluate the centralized planning aspects of the concept.

During the exercise, the test team leader would deploy resources and operate them to provide the sustainment maintenance capabilities needed by a major element of the deployed force. This would evaluate the command and control aspects of the concept under simulated wartime conditions and determine how well the sustainment resources provided under this concept met the needs of the deployed force.

Upon completion of the test, all units assigned to the test team leader would be returned to their parent units. An independent evaluation report will be prepared providing an overall assessment of the concept.

Resolution of Implementation Issues

There are many implementation issues that will have to be resolved in transitioning to the new concept. This is not business as usual. It represents a major change in sustaining maintenance policy and doctrine requiring major changes in the way the Army manages its maintenance operations. To be successful, it will require that performance expectations for ma .gers be modified.

The best people in the sustainment system will need to be assigned to successfully implement this concept. They must have built in credibility, be good transition managers and have demonstrated good customer relationships. The management positions must be given appropriate civilian grades and officer ranks to attract and retain the best people and provide the impetus for successful implementation.

Many details remain to be worked out:

- One major detail is management of GS resources assigned at the corps and division level.
- A mechanism to establish direct linkage with the reserve component needs to be established so the ISMM can directly influence the missions and training assignments for reserve component maintenance units.
- Putting all of the depots and contractor resources under one management system may change the current mix of these resources in the sustaining maintenance force. The ISSM will have full visibility of the needs, capabilities, and costs of these resources and will be able to develop a mix that provides the best capability for the available money.
- The management infrastructure necessary to support ISM operations will require access to a variety of data sources including operational plans, weapons systems (major item system maps), TPFDL/TAEDP/DAMPL data, as well as required communication and automation support to develop a comprehensive ISM operations center. There will also be data sources required that do not now exist such as composite DOL tools, skills capabilities files, defense contractor capability files; etc. These will be used to construct automated relational data bases associating capabilities to weapons systems (or operations plan) by GS Unit, DOL, depot or contractor as a prerequisite to force tailoring.
- Many political obstacles will have to be overcome as well as many financial and accounting implications to be worked out to control and allocate sustaining maintenance costs among the customers. Unless fairly resolved, these financial issues can become major obstacles to implementing this concept.

An improved sustaining maintenance system is only part of the solution to the Army's logistics modernization needs. A totally seamless logistics system is needed. The ISM concept is a first step taken to coordinate improvements to the supply, maintenance, transportation and communications systems, which will have to work together to achieve the desired results. The logistics process improvements being implemented through several other SLA initiatives are a key part of the overall necessary improvements. The ISM concept will only be partially successful without these improvements in logistics processes and support systems.

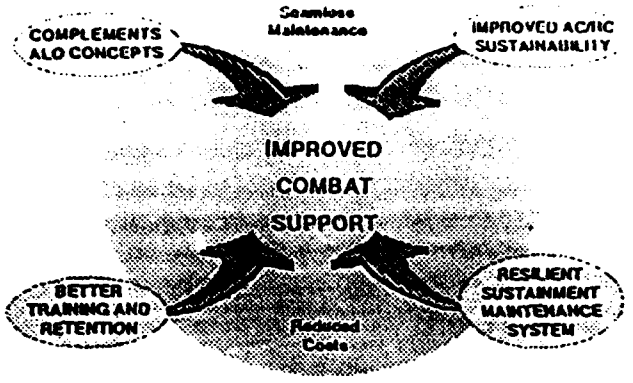


Figure 9

BENEFITS OF INTEGRATED SUSTAINMENT MAINTENANCE

Although many details remain to be unresolved, we feel that this concept would provide major benefits to the Army. The concept provides a seamless coordinated, tailored sustainment structure which complements the battlefield maintenance system laid out in ALO. The ISM concept provides a streamlined management structure and the opportunity to make decisions from a "Total Army" perspective, thereby reducing costs and improving service. Placing all sustaining maintenance resources under one management structure also provides the opportunity to create maintenance career paths and improve the development and retention of key maintenance skills. It also provides the opportunity to tie the Reserve Component directly into the training maintenance system, providing them with essential missions and meaningful training opportunities.

Together this creates a resilient sustaining maintenance system, one that can respond efficiently to today's needs and adopt to tomorrow's changing requirements. (Figure 9)

Appendix J

CASCOM Memo, 12 Mar 92, Subj: Logistics Support Group Concept

DEPARTMENT OF THE ARMY
UNITED STATES ARMY COMBINED ARMS SUPPORT COMMAND
AND FORT LEE
FORT LEE, VIRGINIA 23801-6000

REPLY TO
ATTENTION OF

ATCL-CLE

12 MAR 1992

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Logistics Support Group Concept

1. During Operation Desert Storm (ODS), the U.S. Army Materiel Command (AMC) established a TDA organization (Army Support Group) in Saudi Arabia. The Army Support Group consisted of DA civilians, the majority from AMC; contractors, both U.S. and allied; military with unique skills; and reserve component TOE organizations. This diverse work force was easily tailored to meet the logistics needs of the theater. The support group performed such functions as: component repair up to depot level; special projects such as modifying 743 M1A1 tanks prior to initiation of hostilities; redistribution of serviceable and unserviceable secondary items; equipment retrograde; repair and provision of components to support the repairable exchange program; and oversight and administration of contracts for forward repair activities.

2. The success of the Army Support Group in ODS and AMC's involvement in Operation Urgent Fury and Operation Just Cause identified a need to formalize a TDA organization that can be easily tailored to meet the logistics needs of the theater. Therefore, we, in conjunction with AMC, initiated this effort to develop a concept, organization, and doctrine for a Logistics Support Group to support the theater commander. The functions the Army Support Group performed were examined during the development of the enclosed concept. This examination identified other functions that should be placed under the control of the support group. The functions added to the Logistics Support Group are:

a. Aviation logistics, the AVCRAD would be part of the support group and support the theater aviation maintenance program.

b. Munitions, the focal point for safety, serviceability, limited renovation, security, and retrograde.

c. Test, measurement, and diagnostic equipment, the TMDE battalion would be part of the support group.

d. Automation logistics assistance, to provide software support to units having CSS STAMIS, SDS, SIDPERS, and TAMMIS.

ATCL-CLE
SUBJECT: Logistics Support Group Concept

e. Field assistance in science and technology, to provide the theater with a link to the technology base and RDTE resources.

f. Logistics assistance program, to provide the commanders with technical guidance on weapons systems to resolve logistics problems.

g. Army Oil Analysis Program, the focal point for scheduling standards and reports. Enclosure 1 contains the concept for this all encompassing organization.

3. Request you review this concept and provide your comments NLT 15 May 92. If you identify an obstacle that must be overcome prior to the approval of this concept, provide a proposed solution and a point of contact so this obstacle can be resolved.

4. Our action officer is Mr. John Cecelic, DSN 687-1342/1906.

FOR THE COMMANDER:

JOHN B. TIER, III
Colonel, TC
Director, Concepts and Doctrine

Encl
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16 Mar 92

LOGISTICS SUPPORT GROUP

FOREWORD: To provide the theater with a tailorable logistics command and control headquarters. The headquarters can be constructed to oversee any logistical function. The work force can be provided by either a table of organization and equipment (TOE) unit, table of distribution and allowance (TDA), and contractor personnel or any combination of these. The logistics support group concept is in support of both the combat service support (CSS) and echelon above corps (EAC) enabling concepts.

REFERENCES:

FM 1-500, Army Aviation Maintenance
FM 9-6, Ammunition Service in the Theater of Operations
FM 29-19, Repair Parts Supply for a Theater of Operations
FM 29-27, Calibration and Repair Service in a Theater of Operations
FM 43-20, General Support Maintenance Operations
FM 54-23, Materiel Management Center, Corps Support Command
FM 100-10, Combat Service Support
FM 100-16, Support Operations: Echelon Above Corps
FM 700-80, Logistics

ABBREVIATIONS: See Appendix A.

GENERAL: To propose an organizational unit to manage forward deployed theater sustaining base assets. The unit consists of modular easily deployed organizations having multifunctional capabilities to meet force requirements, until sufficient active or mobilized TOE forces are deployed to the theater.

a. THE FORCE. Power projection is a prerequisite to support the Army's mission of providing land forces to deter aggression, and when required, fight decisive land battles and win. Forces employed in a theater of operations must be sustained in the most expeditious manner with the least cost while achieving a high degree of efficiency and effectiveness.

1) Theater logistics support requires integration of a

variety of logistical units. This support is historically and doctrinally provided in a mature theater by materiel management and movements control organizations; command and control organizations - theater army area command (TAACOM)/corps support command (COSCOM) and logistics groups or brigades - with an associated mix of transportation and general support maintenance and supply companies. These organizations provide the management, command and control, and the skills and expertise to receive, store, issue, move, distribute, maintain, evacuate, and dispose of materiel and equipment.

2) Army forces must be tailored to optimize deployment, employment, and sustainment. Key logistics missions include materiel management and readiness of critical weapon systems.

3) The theater army materiel management center manages the command maintenance program and all classes of supply, less medical supplies (class VIII). This organization is historically deployed in increments but must manage all items, initially it may not be able to provide the intense management that high dollar - high tech - low density items require. Management and the other functions (receipt, storage, issue, and maintenance) associated with these select items must be supported by the current automated materiel management systems.

4) Under current doctrine, maintenance functions are performed by TOE organizations, whose individuals may not be able to maintain the required level of skills and expertise. The lack of skills and expertise reflects the philosophy of rotation of individuals through a unit and the inherent turbulence this causes. The current assignment policy may not permit sufficient time for individuals to become trained on a specified system before they are transferred to a new unit. Within reserve component units, the time for training must include soldier skills which may limit the amount of time that is available for training within technical areas. Also within the technical area the latest items in the force may not be available for their training use. During Operation Desert Shield/Storm, on average it took 30 days from the date a reserve unit was mobilized until it was identified as ready for deployment. Though management

activities or elements of these activities may be deployed early into the theater, the general support (GS) maintenance and supply companies that provide theater level capabilities historically are not deployed to a theater in the early stage of development.

5) Further, within a theater there are various US Army Materiel Command (AMC) funded contractors operating in support of the theater mission. These contractors' efforts must be orchestrated to ensure the support provided is based on the priority prescribed by the theater army (TA)/corps commander. Controlling contractor activity directly from the commodity commands of AMC or Defense Logistics Agency (DLA) is communication dependent and not time sensitive.

6) The aviation logistics; test measurement and diagnostic equipment (TMDE); Army oil analysis program (AOAP); maintenance of logistical software systems; field assistance in science and technology (FAST); logistics assistance program; and munitions missions must be accomplished early in theater buildup. There is a need for a centralized command and control of these functions within the theater.

b. ORGANIZATION. A concept to achieve the full potential in future operations requires that logistics be proactive, tailorable, streamlined, and improved. The logistics mission requires a flexible early deploying organization that has a work force easily tailored to meet logistics requirements. An organization that could meet this varied and ever-changing mission is a TDA civilian oriented LOGISTICS SUPPORT GROUP (LSG). By establishing a mobilization TDA with the majority of positions being battle rostered from other TDA activities, it would be possible to have the LSG available to support and accompany combat-ready forces in their power projection role. (Mobilization procedures are discussed in Appendix B). The battle rostered emergency essential civilians would be provided by DLA, AMC, USA Combined Arms Command (CASCOM), Soldier Support Center (SSC), (USA) Health Care System Support Agency (HCSSA) headquarters, and their respective subordinate activities. As the theater matures and TOE units are in place and functioning, this TDA structure would be adjusted to meet new work requirements.

c. THREAT. The LSG must be able to operate in any threat environment. However, the LSG has very low mobility and must be protected from any threat which would require a Level II response force to repel or defeat, tactical ballistic missiles, and enemy air. Aside from the limited number of military personnel assigned, the vast majority of LSG personnel would only be equipped with small arms, if authorized by the theater commander, and the individuals chose to be equipped and trained in the use of the small arm. Civilian personnel assigned or attached to the LSG (Department of Defense (DOD) civilians and contractor) are considered noncombatants under the terms of the Geneva Convention.

LIMITATIONS: When deployed into a theater of operations, the LSG provides limited depot-level type logistics support on an interim basis, primarily from the communication zone (COMMZ) portion of the theater of operations. The LSG does not replace capabilities provided by other TOE organizations in the force structure. The host nation in which this organization operates, must agree to accept this predominately civilian (both DOD and contractor) staffed organization. Paragraph C4455 of the Joint Travel Regulation outlines conditions in which civilian employees can be placed in a temporary duty status in excess of six months. The employment of civilians in support of the mission of the LSG meets these requirements.

OPERATIONAL CONCEPT:

a. GENERAL. This concept discusses command, control, and relationships; management, storage, and distribution of high tech - high dollar - low density items; maintenance for select track, wheeled, and stationary equipment; the distribution/ redistribution of class I, II, III package, IV, V, select VII, and IX; GS and depot-level maintenance for select wheeled, track, and stationary equipment; repair of designated items in support of the repairable exchange program; maintenance of munitions and aircraft; administration of contracts for forward repair activities; Army Oil Analysis Program; maintenance of logistical automated systems; monitoring the TMDE program; and special program requirements.

b. COMMAND and CONTROL. Headquarters and headquarters detachment performs command and control functions through relationships with higher, supported, and subordinate organizations. The command relationship of the LSG within the theater will have the LSG under the operational control (OPCON) of the senior logistics headquarters, with technical lines tying back to elements of DLA, AMC, CASCOM, SSC, and HCSSA. The TDA will be maintained by AMC. OPCON will permit the senior logistics commander to identify force requirements (by providing the missions that need to be accomplished) and assign tasks and priorities. Personnel will be provided by the LSG, both civilian and military, and by TOE organizations attached to the theater. Logistics support, to include life support, for the operation of the LSG will be the responsibility of the LSG. The internal organization and functions of the LSG is in Appendix C.

c. MATERIEL MANAGEMENT. Materiel management (stock control and production, planning, and control) is divided into two segments: those functions in support of select high dollar - high tech - low density items and the items that support the limited depot/general support maintenance program. Materiel management as it relates to supply and maintenance will be discussed in ensuing paragraphs. The materiel management function, stock control and production, planning, and control may be performed by a reserve component GS maintenance company that is dedicated to AMC for contingency operations.

d. SUPPLY.

1) The LSG becomes a multicommodity storage location forward deployed in the theater of operations. Select high dollar - high tech - low density items that are critical in supporting the theater mission and are identified by the theater army materiel management center (TAMMC) will be coordinated with AMC's major subordinate commands and their NICPs to have a designated quantity transferred to the LSG for storage. The logistics support group's management (stock control) responsibilities and authority will be restricted to only those high dollar - high tech - low density items identified by the TAMMC. From the customer's perspective, there will be no

identifiable change as requisitions would still flow from the direct support (DS) customer to the TAMMC. Materiel release orders would be either electronically or manually transferred to the LSG for the select high dollar - high tech - low density items. Requisitions to the continental United States (CONUS) NICP would be from the TAMMC to the NICP. Those items the CONUS NICP wants to pre-position in the theater will be under the physical control of the LSG. Release of these items will be from the CONUS NICP to the TAMMC. The TAMMC will direct the LSG to release the stocks and arrange for their movement.

2) The requirements for those supplies (repair program stocks) that are unique to the repair of end items, components, or components that are part of the repairable exchange program and are NOT authorized to be requisitioned by any other organization in the theater will be determined by the LSG. The LSG will request these items directly upon the TAMMC.

3) The multicommodity storage activity is responsible for performing wholesale supply operations (receive, store, issue, move, distribute, maintain, evacuate, and dispose) for high dollar - high tech - low density items for theater critical weapon systems. It provides supply support to the limited depot component repair maintenance lines, performs retrograde/ redistribution of selected supply class items, and technical assistance. Capabilities include documentation, identification, classification, receipt, storage, protection, security, care and preservation in storage, issuing as directed, packaging and packing, shipping and handling, field returns/retrograde, disposal of unneeded materiel, and supply related technical assistance to using activities.

4) Receipt, storage, and issue of theater managed high dollar - high tech - low density items requisitioned upon the wholesale system will be the responsibility of the Supply Division of the LSG. These intensely managed items will be issued based on priorities established by the theater commander and promulgated by the TAMMC. Those items in support of the repair and return to the supply system or the repairable exchange program are also the responsibility of the Supply Division

(Appendix C). This organization will have to work closely with the distribution system to ensure the supplies continue to be visible in the total distribution system, for onward movement of materiel that is released to authorized customers in the theater, or back into the worldwide wholesale system. These supplies must be visible in the total distribution system.

5) Retrograde/redistribution occurs when assets managed by the TAMMC are identified as no longer required. TAMMC will direct turn-in of these items to the LSG. The LSG will receive, inspect, classify, record to wholesale or theater accountable records, and store or ship in accordance with preloaded automated disposition instructions, TAMMC instructions or NICP directions. The condition code of these returned items has been or will be determined and the necessary action, be it repair, return to the supply system, or shipment to a Defense Reutilization Marketing Office (DRMO) will be taken. If end items are determined to be uneconomically repairable, the usable components will be removed for future utilization and the remainder of the item will be turned into a reutilization activity.

6) The LSG can provide personnel and supplies to support the unit regeneration mission.

e. MAINTENANCE.

1) The LSG Maintenance Division performs designated limited depot level/GS maintenance activity responsible for the repair, modification, alteration, modernization, overhaul, reclamation of subassemblies, components of end items, and depot level repairables (DLR), and technical assistance to using activities. Capabilities include flexible modular commodity/weapon system oriented teams such as, but not limited to, track, wheel, construction vehicles and equipment, armaments and small arms, chemical, quartermaster, communications and electronics, communications security/intelligence electronic warfare, radar/digital, and missile equipment. It will perform the required production, planning, and control procedures to support the TAMMC developed maintenance program.

2) The primary focus of the Maintenance Division would be to perform the repair functions needed to return items to the

supply system or in support of the repairable exchange program. Much of the repair required is at the GS/depot-level. The repair of the high dollar - high tech - low density items or items to be repaired and returned to the supply system usually requires skills that are not in abundance in military units. The establishment of this repair capability could be either as teams that operate in one location or by teams dispatched to the unit needing assistance or a combination of these two. If GS maintenance companies have been identified to perform the required repairs, they will be workloaded by the LSG.

3) The LSG can provide personnel and supplies to support the theater regeneration program.

f. AVIATION LOGISTICS. A theater aviation maintenance program (TAMP) will be established to perform maintenance support above aviation intermediate maintenance (AVIM) or depot maintenance. The LSG Aviation Logistics Division will be the depot level activity responsible for performing maintenance in support of the theater aviation maintenance program. The division is responsible for maintenance operations, parts provisioning operations, and technical assistance. It provides the theater with maintenance and limited depot-level repair of aircraft, their engines and components, installs modification work orders, on-site technical assistance through use of engineers, logistics assistance representatives, and contract field service representatives, as well as armament support and engineering support for nonstandard repairs. Maximum emphasis is to fix forward to ease the pressure on extended maintenance and supply pipelines.

1) Maintenance operations may be configured into base, and forward elements, with the base element providing the bulk of special high-technology repair and aviation intensive management items (AIMI) support. Depot maintenance will involve primarily contractor operated limited assembly lines to overhaul and perform major battle damage repair which requires contractor support to accomplish the repair. Special repair activities to support target acquisition and designation sight/pilot night vision sensors; integrated helmet and display sight systems;

mast-mounted sights; and selected armament and communications-electronic items would also be located at the base location.

2) Maintenance support above AVIM may be provided in theater by an aviation classification repair activity depot (AVCRAD). The AVCRAD is capable of deploying to the theater and supporting the TAMP by providing select depot-level support, to include backup AVIM maintenance support, classifying and repairing components, engines, and similar items for return to theater supply pipeline, and serves as the terminal point for shipment of aircraft in and out of the theater.

g. MUNITIONS. The Munitions Division in the LSG serves as the focal point to provide technical, logistical, training, and other specialized services for theater ammunition functions. Technical, logistical, and training emphasis would include ammunition: safety, movement, storage, maintenance, recovery and supply, and serviceability. Quality assurance assistance is provided by quality assurance specialists (ammunition surveillance) (QASAS). QASAS personnel provide technical and logistical assistance to ammunition units in theater for management of product/quality assurance, and quality control operations.

h. AUTOMATION SOFTWARE SUPPORT. Standard Army Management Information System (STAMIS) support to all logistics units will be centralized within the LSG. The Automation Logistics Assistance Division in the LSG serves as the focal point for logistics software management. Its personnel receive, distribute, and implement change packages. The division provides unit level technical assistance, system troubleshooting and software replacement. This mission may be taken over by a designated area/corps support group when it becomes operational. Possible customers who may require automation software support are listed in Appendix D.

i. CONTRACTING. The Procurement Contracting Support Division performs contracting activities that provide a source for critically required supplies and services for the LSG and oversight of contracting officers' representatives (COR) monitoring contractor forward repair activities (FRA).

1) This division establishes contractual relationships in accordance with the Federal Acquisition Regulation (FAR) and all applicable supplements and other applicable policies and instructions to provide specific supplies and services. Contracting needed to support the repair/maintenance mission of the LSG will be supported by the division, as well as local purchase and leasing to the LSG and units or activities supported.

2) Civilian industry contractor support, using a weapon system approach, is managed by the major subordinate commands (MSC) within AMC. This will require a unique command and control line as the contracting officer in all likelihood will be at a CONUS based commodity command. However, each contracting officer will have an individual in the theater to oversee his contractor operations. The division's role is to affect "command and control" over the various contractor operated activities in the theater through the COR and to provide administrative services to the CORs as well as coordinating work load based on theater priorities. The theater contractor support includes FRA (a weapon system or commodity oriented specialized maintenance or repair activity); contractor field service representatives (CFSR) assigned to specific operational units; supply and logistics specialists to assist in distributing critical repair parts; and operations and maintenance personnel for new equipment fielding of prototype systems.

j. TEST, MEASUREMENT, and DIAGNOSTIC EQUIPMENT. The theater coordinating office for TMDE will be assigned to the LSG. The program will be conducted in accordance with AR 750-25. In general, TMDE support will be provided by area TMDE support teams (ATST) for all general purpose and selected special purpose TMDE support on a divisional or geographic area support basis.

k. QUALITY ASSURANCE. The Quality Assurance (QA) Division of the LSG performs the QA functions for various commodity/weapon system repair lines established by the Maintenance Division. QA may include, but is not limited to, track, wheel, and construction vehicle and equipment, armaments and small arms, quartermaster and chemical, communications and electronics,

communications/intelligence, digital/radar, and missile equipment.

1. FIELD ASSISTANCE in SCIENCE and TECHNOLOGY. The FAST Office assigned to the LSG provides a conduit to link the theater with the technology base and other research, development, test, and evaluation (RDTE) resources to provide useful and tangible assistance in interim materiel modifications and operational suggestions and battle damage assessment and repair.

1) AMC advisors provide direct in-theater advice on equipment operating in theater based on the environment and hostile enemy actions. The FAST office coordinates delivery of urgently needed equipment and identifies new requirements to AMC laboratories and centers for solution.

2) Battle damage assessment teams (BDAT) provide on-site support and collection of information, such as munitions ballistic effects on armored vehicles, for use in the improvement and design of US weapon systems.

m. LOGISTICS ASSISTANCE PROGRAM. The Logistics Assistance Office (LAO) chief will be part of the LSG. The goal of the logistics assistance program (LAP) activity is to improve materiel readiness. Through a worldwide network of AMC LAO, LAP personnel provide the LSG with the capability to provide on-site technical assistance to user's of AMC fielded equipment in theater. Emphasis is on solving day-to-day problems in supply and maintenance matters. LAP personnel deploy and remain with assisted forces and can operate as far forward as mission, enemy, terrain, and troops dictate. LAP support is tailored and composed of an LAO chief and logistics assistance representatives (LAR) based on equipment types, densities, and requirements of the supported force. LAR can be provided by AMC, DLA, or TRADOC.

n. ARMY OIL ANALYSIS PROGRAM. The senior AOAP member in the theater will be located with the LSG and serve as the chief of the Army Oil Analysis Division. This division will coordinate oil sampling procedures within the theater, to include laboratory support. Designated laboratories will test oil samples and provide the results to the Army Oil Analysis Division of the LSG. This division will distribute test results along with

recommendations to the supported units. Equipment items that will be sampled will be provided by AMC headquarters based on TB 43-0210 and TB 55-6650-300-15, and coordination with the theater and supported commander.

o. REAR DETACHMENT. This detachment will be CONUS based and provide backup support to the LSG. The rear detachment will interface with other CONUS based commands or installations. They would perform those type of functions which could not be performed or coordinated by the LSG organization located in the theater of operations.

p. FORCE RECONSTITUTION. Reconstitution of the force will require an extensive reallocation of resources and skills within the LSG. It must be able to receive, identify, determine disposition, maintain accountability, store, prepare for shipment, and arrange for movement to the port or a theater storage location for class I, II, III (package), IV, V, VI, VII, and IX items. Some of these functions can be performed by augmenting LSG personnel, TOE units, or contractor personnel. These personnel could be under the command and control of the LSG or a unit could be given a specific mission to support the LSG. Items requiring repair may be repaired by the LSG, a contractor within the theater, or sent out of the theater to a repair facility. These decisions are METT-T driven. The TAMMC identifies the items requiring redistribution instructions and the owning unit will be responsible for arranging transportation of these items to a site identified by the LSG. These units, if directed, would also perform any other functions in support of this reconstitution mission.

q. LIFE SUPPORT. The LSG is capable of providing a variety of life support/base operations to itself and unit assigned or attached. The Plans and Operations Division performs overhead and housekeeping support for the LSG. The support includes, but is not limited to, personnel and administrative services, security, support operations, communications, training, and NBC matters. This division also performs all logistics matters for the group to include responsibility for accountability of equipment, transportation support, billeting, internal supply,

food service, and unit-level maintenance. Billeting and food service are normally provided by contract.

The LSG facilities requirements include electrical power, water, sanitation, and communications for:

1) 200,000 square feet of covered storage

2) 150,000 square feet of maintenance facilities with overhead lifts and maintenance pits.

3) 400,000 square feet of hardstand capable of withstanding tracked vehicle movement.

4) 50,000 square feet of office and administrative space.

5) Facilities to house and mess up to 1,400 personnel.

r. COMMUNICATIONS. This capability includes directing and controlling the installation, operations, and maintenance of communications-electronics (C-E) equipment for all means of fixed and mobile communications and automated data processing systems. Communications capabilities of the LSG must be integrated into the theater communications architecture, and tied to the theater communication net. Communications and ADP systems include:

1) Dedicated satellite communication link.

2) PC based software and communications packages with STU III digital link interface.

3) ADP interface with CONUS wholesale system.

4) Internal and external C-E operations with a combination of technical radios and cellular/mobile telephones.

APPENDIX A

ABBREVIATIONS/ACRONYMS

AIMI - aviation intensive management items
AMC - (US) Army Materiel Command
AOAP - (US) Army Oil Analysis Program
ASG - area support group
ATST - area TMDE support teams
AVCRAD - aviation classification repair activity depot
AVIM - aviation intermediate maintenance

BDAT -battle damage assessment team

CASCOM - (USA) Combined Arms Support Command
C-E - communications-electronics
CFSR - contractor field service representatives
comm - communication
COMSEC - communication security
COMMZ - communications zone
const - construction
CONUS - continental United States
COR - contracting officer representative
COSCOM - corps support command
CSG - corps support group
CSS - combat service support

DLA - Defense Logistics Agency
DLR - depot level reparables
DOD - Department of Defense
DRMO - Defense Reutilization Marketing Office
DS - direct support

E-E - emergency essential
EAC - echelon above corps
equip - equipment

FAR - Federal Acquisition Regulation
FAST - field assistance in science and technology
FRA - forward repair activity

GS - general support

HCSSA - Health Care System Support Agency

IEW - intelligence, electronic warfare

LAO - logistics assistance office
LAP - logistics assistance program
LAR - logistics assistance representatives
LSG - logistics support group

MMC - materiel management center
MSC - major subordinate command

NBC - nuclear, biological and chemical
NICP - nation inventory control point

OPCON - operational control

QA - quality assurance
QASAS - quality assurance specialists (ammunition surveillance)
QM - quartermaster

RDTE - research, development, test, and evaluation
rep - representative

SDS - standard depot system
SIDPERS - Standard installation/division personnel system
SSC - (USA) Soldier Support Center
STAMIS - standard Army management information system
STU - secure telephone unit

TA - theater army
TAACOM - theater army area command
TAMP - theater aviation maintenance program
TDA - table of distribution and allowance
TMDE - test, measurement, diagnostic equipment
TAMMC - theater army materiel management center
TAMMIS - theater army medical materiel information system
TOE - table organization and equipment
TRADOC - (USA) Training and Doctrine Command

APPENDIX B

TDA MANAGEMENT PROCEDURES

PREMOBILIZATION:

Critical positions must be identified as emergency essential civilian spaces on the TDA of current AMC, DLA, and CASCOM organizations. As the E-E program only supports managers/ critical skill employees and not technicians, there must also be a program in place to fill the nonmanager requirements. This procedure must identify the additional civilian and military personnel required and a possible source for these personnel. To facilitate mobilization, the TDA must identify the required special tools, test equipment, communications, computers, and ancillary ADP equipment. This equipment should be procured and staged at designated depot(s) and earmarked in advance for use by the LSG. To facilitate rapid deployment, prepositioned requisitions for new technology equipment and/or additional surge equipment will be prepared and kept current. Proper planning for deployment and storage of some items will permit rapid movement of only that amount of equipment required to support a specific contingency operation. Individual tool boxes should be deployed with the repair technicians.

Automation support will be provided by current Army in the field command and control, maintenance, and supply systems. In addition to the required software, the appropriate computer hardware to operate the systems is also required. The Plans and Operations Division of the LSG must identify and have staged all of the equipment necessary to set up and establish a dedicated satellite communications link with a predesignated CONUS mainframe computer to effect supply/maintenance operations and other communications requirements. The timely establishment of dedicated communications, as the LSG arrives in theater, is essential to the operations of the organization.

MOBILIZATION:

Upon notification of mobilization, coordination must be made with Personnel Command to immediately designate a central command select primary or alternate colonel with 91 or 92 specialty as commander of the LSG. Normally, an active depot commander in AMC will receive the assignment to command the LSG, with AMC acting to replace the depot commander. The civilian executive assistant or deputy should be in the grade of GM-14 and should have been already identified as a E-E civilian space.

Personnel needed over and above the E-E civilians should now be recruited, identified, processed, passport requested, health screening completed, and made part of the LSG in accordance with prior established procedures. The planning cell of the LSG must go to the headquarters of the designated command control element, e.g., Central Command (CENTCOM), to assist in logistics support planning, assess requirements, and insert the Logistics Support Group onto the TPFDL. Concurrently, AMC (DESCOM or the Industrial Operations Command) will activate a rear planning cell to coordinate with the designated command element, DLA, CASCOM, and mobilize the LSG. This rear detachment should be composed of personnel, supply, maintenance, and transportation specialists capable of effecting the coordination necessary to recruit, mobilize, and deploy the LSG. The rear detachment would continue in existence for the duration of the operations as a central focal point for mission planning and resourcing of the LSG. The detachment will be the focal point for the coordination and execution of requirements placed upon them from the wholesale logistics community. The vacancies caused in various locations by the deployment of personnel will be overcome by overtime, temporary hire, and/or contract support.

APPENDIX C

ORGANIZATION, MISSION and FUNCTIONS

5

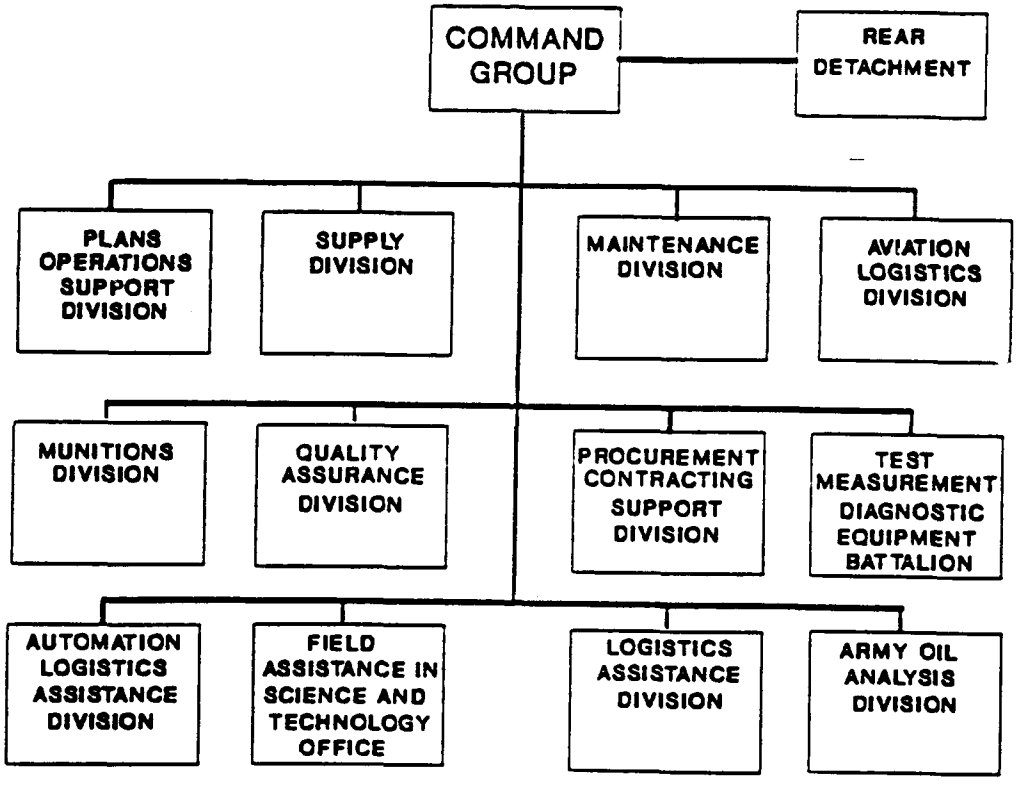
Organization, mission, and functions of the Logistics Support Group are contained within this appendix.

COMMAND GROUP

FUNCTIONS

The functions of the Command Group are to establish command and control over the Logistics Support Group. The commander will also be the focal point to interface with the theater-level, supported, and subordinate organization planners and executors and the wholesale system for on-the-ground requirements. The commander is the senior representative of DLA, AMC, and CASCOM.

ORGANIZATION

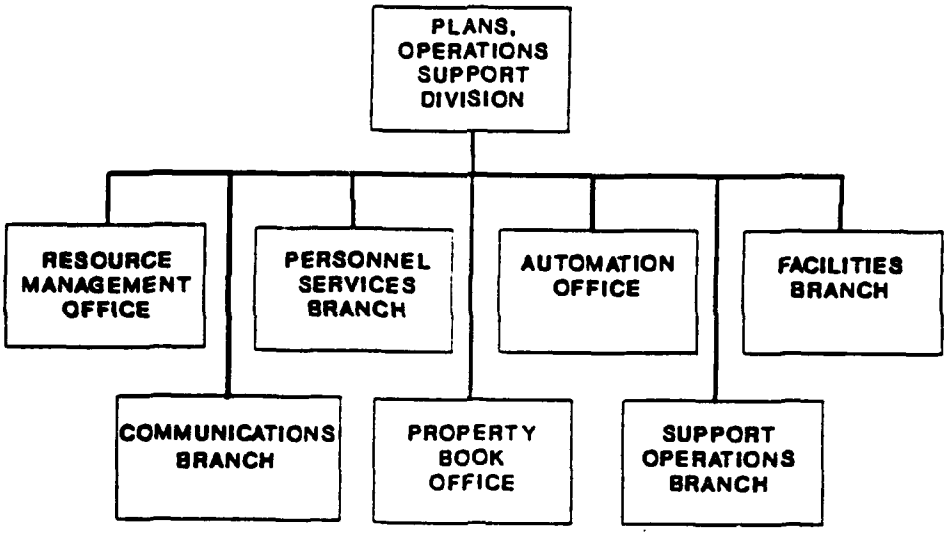


PLANS, OPERATIONS AND SUPPORT DIVISION

FUNCTIONS

The functions of the Plans, Operations and Support Division are to provide life support and base operations to the LSG headquarters and attached or assigned units and activities. This includes personnel and administrative services, internal control and security, support operations, internal movement control and external movement coordination, budget and resources management, communications and ADP operations, training, and NBC matters. This division also performs all logistics matters for the LSG to include responsibility for accountability of equipment, billeting/housing and work facilities, internal unit level maintenance and supply, and food service.

ORGANIZATION

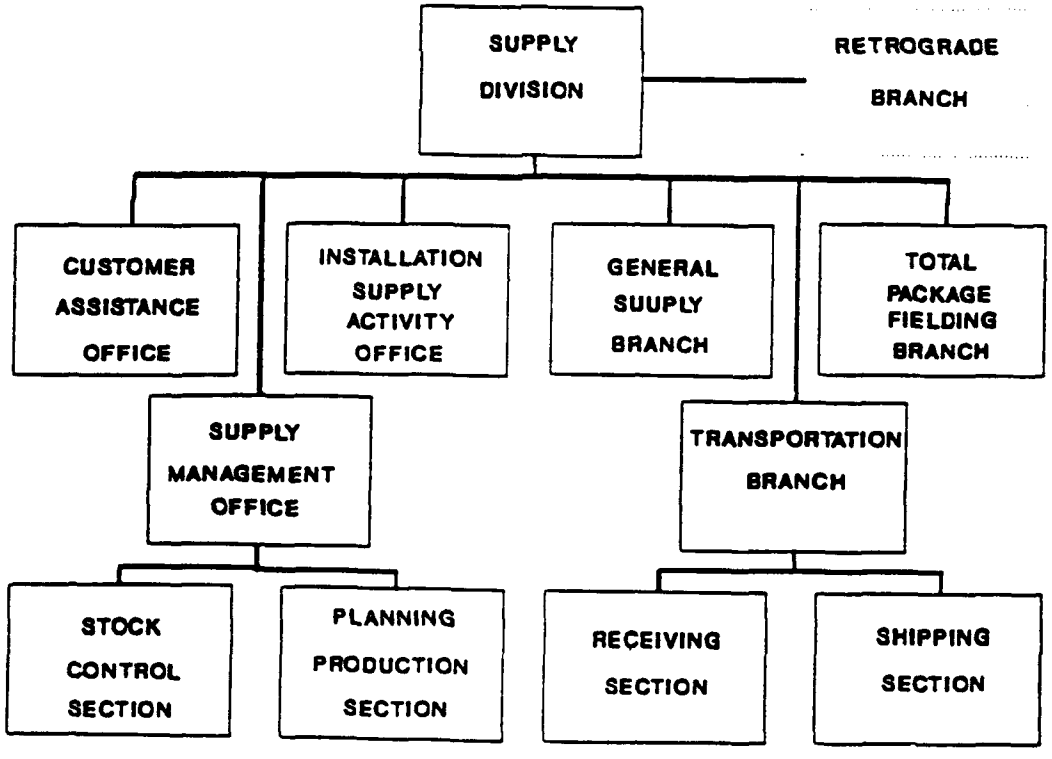


SUPPLY DIVISION

FUNCTIONS

The functions of the Supply Division are to support all mission-related supply functions (wholesale repairable exchange for high dollar - high tech - low density items for theater critical weapon systems, supply support to limited depot-level maintenance lines and redistribution/retrograde operations). The division wi: establish liaison and will coordinate with the MMC to determine requirements and effect interface with the retail customer pipeline for designated items of supply. The division will be linked to CONUS wholesale inventory managers (NICPs) via Standard Depot System (SDS). Interface with DLA will be essential to assure direct support is provided.

ORGANIZATION

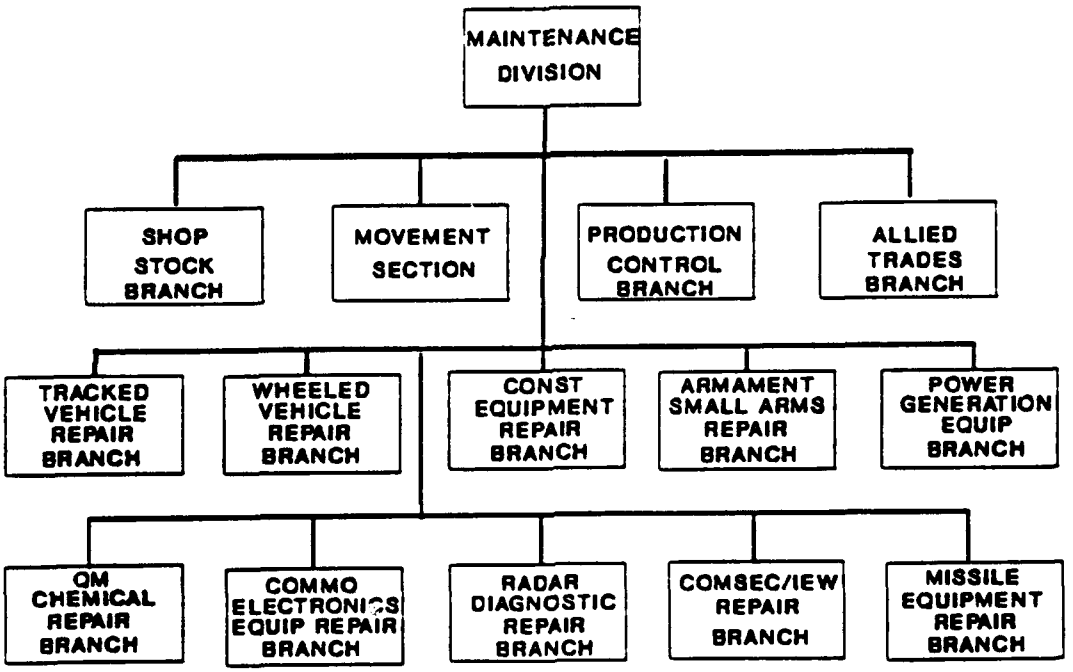


MAINTENANCE DIVISION

FUNCTIONS

The functions of the Maintenance Division are to effect maintenance management planning and production control in support of the weapon system repair mission, which includes modification, alteration, modernization, overhaul, reclamation of subassemblies and components of end items. It will interface with the MMC to obtain requirements as a baseline to call forward requisite repair teams (from AMC depots, contractor operated forward repair activities, or from active/reserve component units). The division must also be able to conduct a limited amount of off-site missions without detracting from the primary mission.

ORGANIZATION

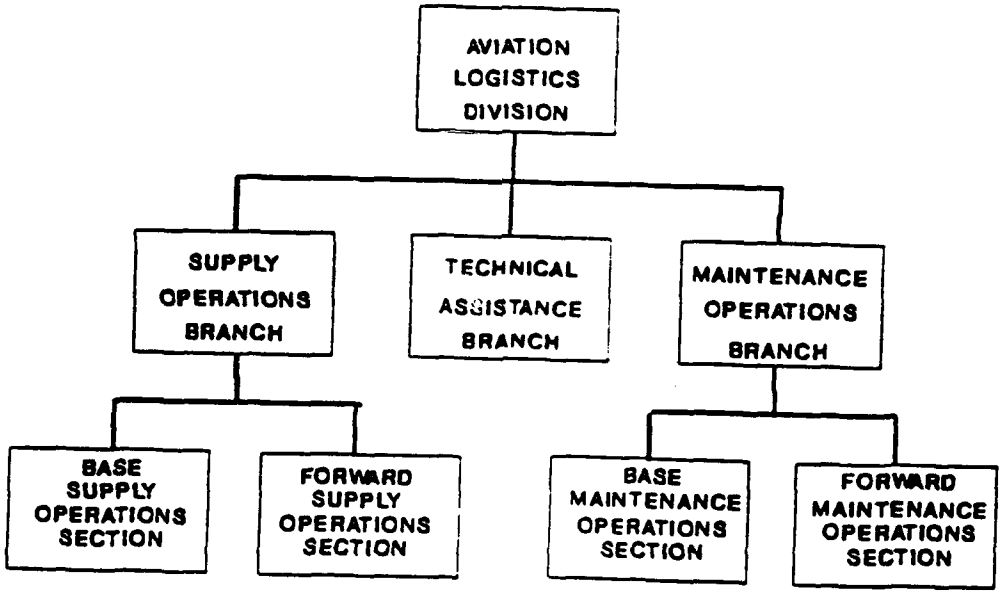


AVIATION LOGISTICS DIVISION

FUNCTIONS

The functions of the Aviation Logistics Division are to manage the theater aviation maintenance program, to include maintenance operations, parts provisioning and technical assistance. The division is responsible for repair (up to limited depot level) of aircraft and aviation components. The TAMP supports deployed aviation forces with collection, classification, and retrograde processing of unserviceable aircraft and aviation components beyond unit capability to repair, and for serviceable field returns. Maintenance capabilities will be organized on a modular basis, by specific aircraft/system, and deployed sequentially as theater requirements develop. Maximum use will be made of the reserve component Aviation Classification and Repair Activity Depots and the mobilization AVCRAD control element for both staffing and management.

ORGANIZATION

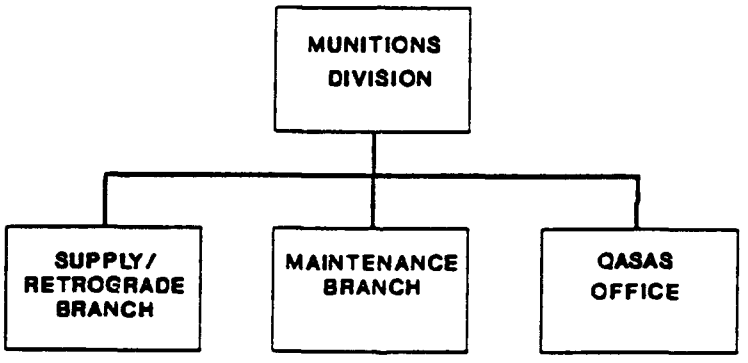


MUNITIONS LOGISTICS DIVISION

FUNCTIONS

The functions of the Munitions Logistics Division are to be the focal point/coordination activity for safety, serviceability, surveillance, limited renovation, security, and retrograde support for theater ammunition stocks. This dividion manages AMC depot resources, supervising and directing the efforts of one or more ammunition supply company, which may be supplemented as required by QASAS and ammunition specialists from AMC depots.

ORGANIZATION

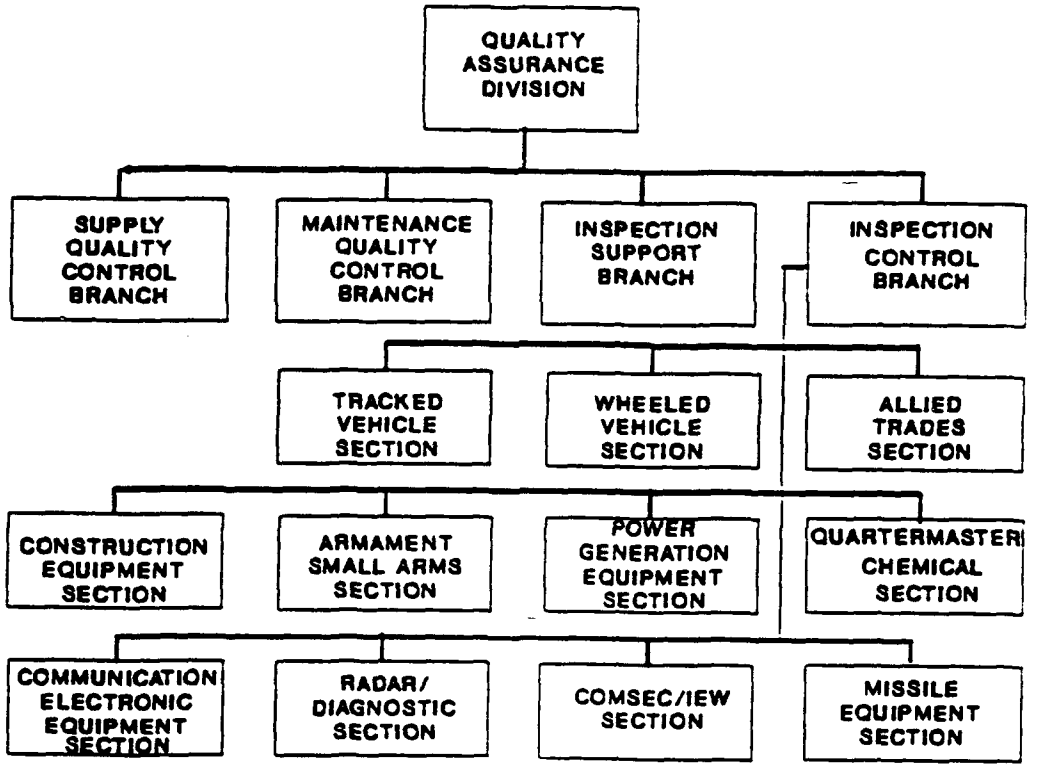


QUALITY ASSURANCE DIVISION

FUNCTIONS

The function of the Quality Assurance Division is to provide technical and logistical quality assurance assistance to operational elements of the LSG. This is the execution of functional responsibilities for management of product/quality assurance and quality control operations.

ORGANIZATION

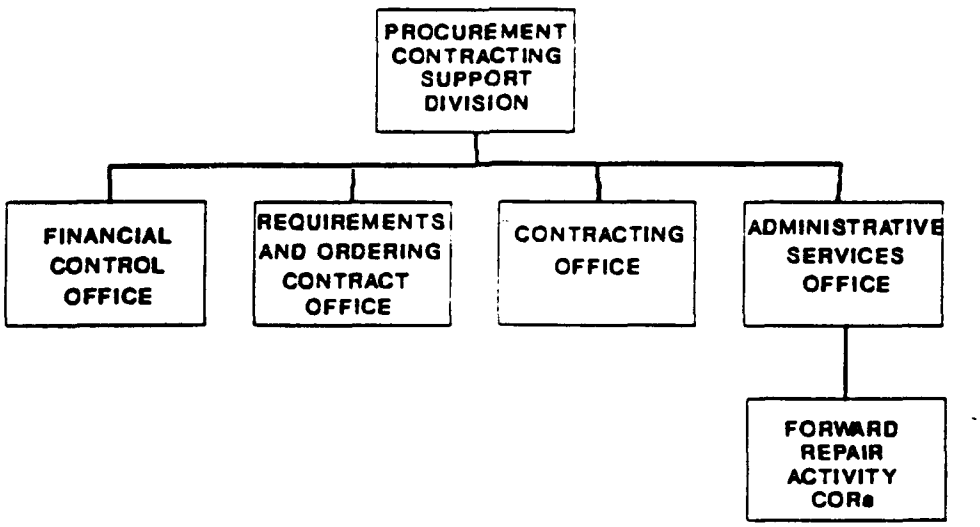


PROCUREMENT/CONTRACTING SUPPORT DIVISION

FUNCTIONS

The functions the Procurement and Contracting Support Division are to perform local contracting activities (contracting, lease and local purchase) that provide a source of critically required supplies and services in support of units, teams, or activities assigned or attached to the LSG. The division effects oversight of the various forward repair activities in theater that are contractor operated. The commodity oriented teams within this division will be primary interface between the theater logistics planners and executors and the CORs for each FRA for the requirements and capabilities in support of theater readiness. The division provides administrative support to the CORs and coordinates work load based on theater priorities. This division assures that all procurement is in accordance with the Federal Acquisition Regulation.

ORGANIZATION

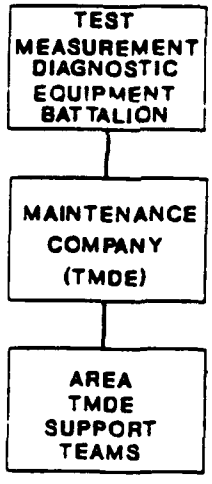


TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT BATTALION

FUNCTIONS

The functions of the TMDE battalion are to maintain command and control of US Army TMDE Support Group company(s) and its subordinate teams in the theater of operations. The battalion maximizes use of TMDE support equipment and personnel to meet theater mission requirements. The TMDE company's ATST provide general purpose and selected special purpose TMDE on a divisional or geographic area support basis. The battalion responds to theater support requirements and priorities through the LSG. This battalion coordinates with its parent organization, USATSG, on equipment, personnel and technical matters as required.

ORGANIZATION

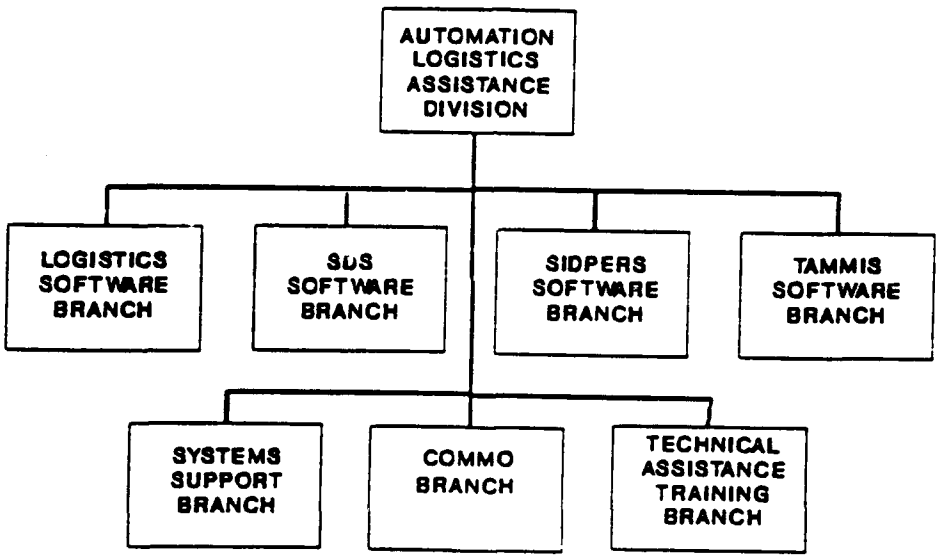


AUTOMATION LOGISTICS ASSISTANCE DIVISION

FUNCTIONS

The functions of the Automation Logistics Assistance Division are to provide CSS STAMIS support to any unit requiring assistance. The division is responsible for receipt, distribution, implementation, retrieval, and disposal of CSS software packages, as well as providing CSS software technical assistance, system troubleshooting, and replacement of software. The division conducts unit level system support, sustainment training, and integrates data bases for new units.

ORGANIZATION

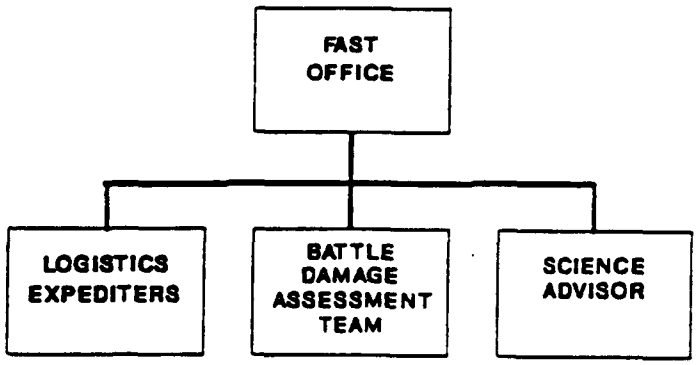


FIELD ASSISTANCE IN SCIENCE AND TECHNOLOGY

FUNCTIONS

The functions of the FAST office are to provide a conduit to link the theater commander with the technology base and other RDTE resources. The FAST office can provide useful and tangible assistance in developing and implementing interim materiel modifications, operational suggestions, and battle damage assessment and repair strategies to improve firepower, lethality, survivability, and support of theater forces and their equipment.

ORGANIZATION



LOGISTICS ASSISTANCE DIVISION

FUNCTIONS

The functions of the logistics assistance program are to provide commanders with the technical guidance necessary to resolve logistics problems in supply, maintenance, logistics personnel training, logistics organization and doctrine, which have an adverse impact upon materiel readiness. This support is provided by the attached commodity oriented logistics assistance representatives (LAR) at corps, COSCOM, division, and separate unit level, and on a geographic basis for echelons above corps. The chief of the logistics assistance program provides logistics intelligence feedback through the LSG to HQ AMC.

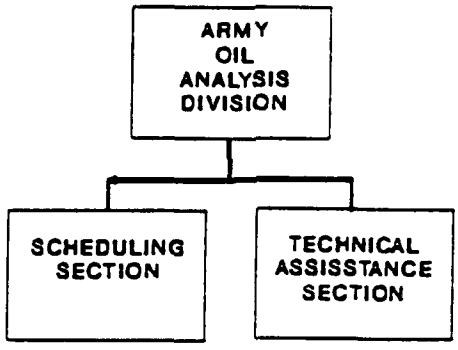
ORGANIZATION

ARMY OIL ANALYSIS DIVISION

FUNCTIONS

The functions of the Army Oil Analysis Division are to be the focal point/coordination activity for oil sampling of designated Army equipment and laboratory support. Equipment items that will be sampled and their frequency will coordinated with the supported commander and headquarters AMC. Sampling results will be passed from the laboratory through the Army Oil Analysis Division, who will further distribute the results to concerned units.

ORGANIZATION

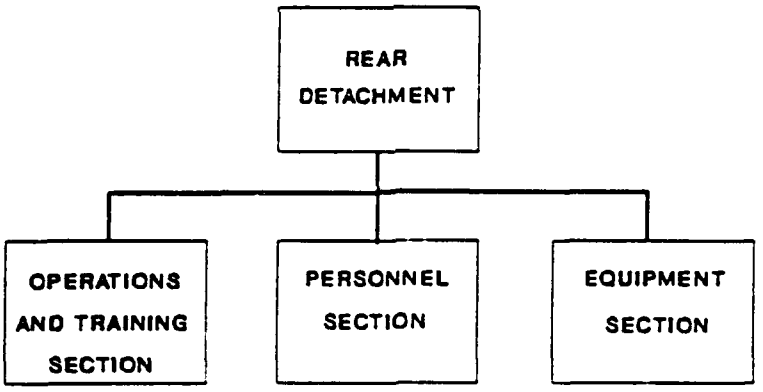


REAR DETACHMENT

FUNCTIONS

The functions of the rear detachment are to provide backup support to the LSG when it is deployed and interface with CONUS commodity commands or installations on matters that cannot be performed or coordinated by the LSG organizations or activities located in the theater of operations. Coordinates and validates personnel and equipment to be called forward. Incorporates the LSG into planning and requirements process, maintains the mobilization TDA, coordinates policy issues and changes that effect the LSG prior to and during deployment, develop OPLANS, and coordinates training of LSG personnel.

ORGANIZATION



APPENDIX D

AUTOMATION ASSISTANCE CUSTOMERS

The following is a list of EAC units that have CSS software that may require support from the LSG. This does not include any corps or divisional units that may require assistance.

HQ, Theater Army
TAMMC
TAMCA
Petroleum Group
Engineer Command
Transportation Command
Psychological Operations Command
Personnel Command
Finance Command
Special Ammunition Brigade
Air Defense Artillery Command
Missile Brigade
Military Intelligence Brigade
Theater Signal Command (Army)
TAACOM
TAACOM, MMC
Area Support Group

APPENDIX E

DOCTRINE, TRAINING, LEADER DEVELOPMENT, ORGANIZATION, AND MATERIEL IMPACTS

E-1. Doctrine. The primary manual which will reflect the LSG concept is FM 100-16, Support Operations: Echelon Above Corps. Other manuals that will require change include:

FM 1-500 Army Aviation Maintenance
FM 9-6 Ammunition Service in the Theater of Operations
FM 10-27 General Supply in a Theater of Operations
FM 29-19 Repair Parts Supply for a Theater of Operations
FM 29-27 Calibration and Repair Service in a Theater of Operations
FM 43-20 General Support Maintenance Support Operations
FM 54-23 Materiel Management Center, Corps Support Command
FM 54-40 Area Support Group
FM 63-3 Corps Support Command
FM 63-4 Theater Army Area Command
FM 100-10 Combat Service Support
FM 100-16 Support Operations: Echelon Above Corps
FM 700-80 Logistics

E-2. Training. There will be no Mission Training Program developed for the LSG. The LSG is a TDA organization.

E-3. Leader Development. Existing resident training (OBC/OAC/LEDC/C&GSC) will need to be modified slightly.

E-4. Organization. The LSG will be staffed primarily by Battle Rostered personnel from existing TDAs. There will a small number (three to five individuals) assigned to the TDA to perform the administrative functions required to ensure the organization will be deployable upon mobilization.

E-5. Materiel. Since no new systems are being developed to

accomplish the LSG mission, no major materiel impacts are contemplated. Equipment required will be identified and provided by TDA organizations.

Appendix K

Battelle Paper, 19 Mar 92, Subj: Forward Repair Activity (FRA) Pilot Program Implementation Plan

19 March 1992

FORWARD REPAIR ACTIVITY (FRA) PILOT PROGRAM IMPLEMENTATION PLAN

PREPARED BY: BATTELLE
Mike Miller
W. Larry Dandridge

Approved by:----------
HQ, Army Material Command
HQ, Depot System Command

Encl 11

PROPONENT

The following Individuals are the Executive and Action Level personnel responsible for FRA policy, planning, and Total Army implementation:

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FORWARD REPAIR ACTIVITY (FRA)
PILOT PROGRAM IMPLEMENTATION PLAN

TABLE OF CONTENTS

Forward Repair Activity (FRA)
Pilot Program Implementation Plan

SEC I. Purpose. This plan establishes requirements and responsibilities for U.S. Army transition to, and implementation of, Forward Repair Activities (FRA). It is the generic blueprint for Depot System Command (DESCOM), the AMC Executive Agent, to use in: finalizing plans; assembling the resources (funding, people, facilities, equipment, etc); submitting policy revision recommendations; establishing the pilot DADCSLOG sanctioned FRA program; conducting a cost benefit analysis of FRA's; institutionalizing and standardizing the FRA concept, organization, staffing, and procedures; and expanding the pilot FRA into a system of FRA's based on Army peacetime and contingency needs. The approach taken must incorporate lessons learned from Operations Desert Shield/Storm, accommodate force restructuring, and provide more cost effective support. FRA add cost ATE save

SEC II. Scope. The overall scope of this plan is Total Army implementation of FRA capabilities for high-tech weapon systems and equipment, in CONUS and OCONUS, in peace and in war. The attendant planning; resources; selection of items for repair; policy revision recommendations; site selection; cost benefit analysis; and standardization of concepts, organizational structure staffing levels, and procedures resulting from this FRA Pilot Program will be based on the concept of operations and other guidance in this plan.

SEC III. Objective.

1. One objective of the FRA Pilot Program is to standardize as much as feasible the FRA business practices, while at the same time keeping the following essential core characteristics:

a. of a forward based, highly responsive, rapidly deployable, flexible, skill heavy, equipment light, limited depot and intermediate level backup repair activities.

b. that take maximum advantage of expedited transportation, simple and clear procedures, rapid repair turn around time, and expedited turn-in, request and issue capability for critical, high-tech components/equipment. In short, the goal is to institutionalize the business practices for FRAs to provide tailored, rapid response to critical and dynamic needs to sustain maximum readiness against expected OPTEMPO of the region or theater of operations supported.

2. Another objective is cost reduction/minimization through: decreasing second destination costs and in-route damage/loss by moving repair capabilities closer to the point of failure. reducing "pipeline" buys of spare modules and Operational Readiness Float (ORF). locate closer to customer utilizing Government facilities on post camps or stations. establish and

expand regional support programs. prioritize capitalization in skills, not equipment and facilities. improve visibility and accountability of low density/high dollar components. reduce and assist in the expeditious resolution of Quality Deficiency Reports (QDRS) and warranty claims on items the FRA is repairing.

SEC IV. Background.

1. The Army is relying on high-tech weapon systems to achieve a technical advantage over their adversaries. These weapons systems have high-tech components that can be pulled and replaced, but not repaired in forward areas.

2. The Forward Repair Activity (FRA) operational concept evolved from studies conducted by the Rand Arroyo Center to improve combat capability through alternate support structures. These studies contained two important considerations.

a. "First, that the Army must either increase logistic structures responsiveness and flexibility or invest large amounts in inventories to preclude losses in combat capability."

b. "Second, that responsive maintenance structures will require development and implementation of decision support tools to recommend what items to fix first and where to distribute them."

3. To responsively sustain weapon systems in peace and war, the Army has been placing select, limited depot level and intermediate backup repair in forward areas. One example is the successful Target Acquisition Designation Sight/Pilot Night Vision Sensor (TADS/PNVS) "Special Repair Activities" established by the PM Apache. Keys to the success of those operations include positioning repair capabilities closer to the using units and expediting repair and transportation to reduce costly pipeline requirements while improving readiness. Army leadership has directed the successes gained from the TADS/PNVS (SRA) repair activities be exported to other weapon systems.

4. Initial efforts to expand this operational concept to other high-tech components of the Apache were diverted to support Operation Desert Shield/Storm (ODS). Sustainment needs during ODS prompted the Army Material Command (AMC) community to establish limited-depot level repair capability for selected high-tech equipment in Southwest Asia on an ad hoc basis.

5. Operation Desert Storm underscored the need to standardize policies, procedures, and management structures to facilitate forward repair support and/or deployment during future contingency operations. The FRA concept will provide a standardized structure to support select, critical components from high-tech weapon systems during peace and war. This structure will be responsive to: weapon system orientation; work-loading from multiple sources; MACOM mission requirements

contingency operation requirements; and integrating various sources of repair. (Organic, contractor or a Mix)

6. The Strategic Logistics Agency is sponsoring an Army-wide forum to develop the doctrine, policies, and implementation planning needed to establish FRA capabilities. Single weapon system capability will be established during Fiscal Year (FY) 92/93. Follow-on phases will expand this structure to other locations and eventually to other weapon systems/equipment.

SEC V. Broad Concept of Operations.

1. General:

a. During peace and contingency operations:

FRAs are envisioned to provide regional, forward deployed, limited Depot level and intermediate backup repair capabilities. An FRA supports multiple weapon systems and equipment critical to the customers (stateside or Theater Commander's) mission. FRA stocks are limited, but visible to the National Inventory Control Point (Item Manager) and can be moved rapidly via dependable, expedited transportation to another FRA, Depot, factory or customer within 24 hours. Small, equipment light, skill heavy and very mobile, the FRA could be ready to deploy to a combat theater within seven days of notification. FRAs are envisioned to be incrementally deployable. FRAs are incorporated into Time Phased Force Deployment Data (TPFDD) and included on the Time Phased Force Deployment Lists (TPFDLs). Serial Number tracking can be reported to the NICP on an as required basis by the FRAs.

b. During Contingency Operations: When deployed, FRAs are normally based behind Corps rear boundaries. However, temporary areas of operations can range laterally and forward, depending on the tactical situation and discretion of the Theater Commander.

2. Items Repaired. FRAs should provide regional, forward deployed limited depot level, and intermediate level backup repair for select critical items (envisioned to be in most cases high-tech, high dollar electronic, electro-mechanical, or electro-optical line or shop replaceable units (LRUs/SRUs). However, the decision of what will be repaired in each FRA is tailored to the needs of the region; the availability of spares; the cube, weight classification, and other characteristics of the item; and the capability and responsiveness of the other alternative repair facilities. A draft, sample selection criteria worksheet for items to be repaired by FRAs is attached at Appendix C.

3. Personnel: Peace and Contingency.

a. An FRA is skill heavy and equipment light. Highly trained and experienced military, civil service, or contractor personnel would staff the FRA's peacetime and contingency TDAs. Based on the mission, any combination of military, civil service,

or contractor personnel could make up the FRA workforce. However, according to Desert Storm lessons learned, a DOD logistician that could also be dual or triple hatted as a repair technician, leader, and Contracting Officers Technical Representative (COTR) or Technical Representative (TR) should manage the FRA. — ? what about 35?

b. In principal, an FRA may have any number of contractor, military, and civil service personnel assigned, all of whom are formally designated mission essential and deployable.

4. Location (Peace and Contingency) Ideally the FRA is regionally located near Intermediate Level Customers, and utilizing government facilities whenever feasible. During contingency operations, the FRA is normally based behind the CORPS rear boundaries. However, the bottom line on location is based on Turn Around Time (TAT) capabilities not distance. FRAs must be located to survive in war and be able to provide timely, flexible, and dependable service under all scenarios.

5. Mission (Peace and Contingency) The FRA has three Missions:

a. Improve Availability. Reduce turn-around-time (TAT). Decrease evacuations from the region serviced. Retain and enhance the Theater Commander's control of critical components, systems/equipment during repair. Accommodate rapid changes in repair priorities. Reduce No-Evidence-Of-Failure (NEOF) pass back, turbulence in Line Replaceable Units/Shop Replaceable Units (LRU/SRUs) stockage and subsequent misallocation of components. Rapidly process critical Quality Deficiency Reports (QDR's), publication changes (DA-2028s), and modification requests (Modification Work Orders, etc).

b. Enhance Logistics Communications. Provide Weapon Systems Managers (WSMs) and item managers real time asset visibility over serviceable and unserviceable items. Provide Installation/Theater Commanders responsive limited depot/GS backup maintenance and supply support. Provide, where practical, co-located presence with supported Material Management Center (MMC). Develop, in concert with MSCs, Weapon System Manager's (WSM'S), and Installation/Theater Commanders, responsive deployment concepts and the resulting contingency planning support plans.

c. Facilitate Integration. Interface with and complement Total Army and related local logistics initiatives. Where value is added, integrate into daily operations current and emerging activities of: Integrated Sustainment Maintenance (ISM), Total Asset Visibility (TAV), Readiness Based Maintenance (RBM), Single Stock Fund (SSF), Stock Funding of Depot Level Reparables (SFDLR), Objective Supply Capability (OSC), Regional Maintenance Centers (RMCs), Logistics Assistance Office/Logistics

Assistance Representatives (LAO/LAR) and others as required for FRA mission accomplishment.

6. Policy. FRAs perform limited Depot and intermediate Level backup repairs only. They are not a Specialized Repair Activity (SRA), per AR 750-1. SRAs are Intermediate Level Organizations (GS/AVIM) with specified authority, requested by Major Commands MACOMS and approved by DA ODSLOG, to perform limited depot level repairs on select components. Conversely, an FRA is a Depot Level Organization (an extension of the depot level repair capability located forward of the prime repair site) under the auspices of the Depot System Command (DESCOM), per AR 750-2. An informal vernacular has been applied to some contractor logistics support (CLS) entities wherein they are referenced as Special Repair Activities ("SRA"s). Such designation has no formal sanction in current Army doctrine or policy.

7. Command and Control (C&C)

DESCOM's draft Contingency Depot Operations Concept Plan states that the Army Material Command (AMC)/ Depot System Command (DESCOM) Contingency, Operations Support Group, Procurement and Contracting Division's primary role is to provide command and control over the various FRAs in the theater. Commodity oriented teams from the Contingency Support Group will be the primary interface between the theater logistics planners and the Contracting Officers Technical Representative (COTR) for each FRA for requirements and capabilities in support of theater readiness. Those teams will provide workload guidance to each of the FRA COTRs and the MSCs Contracting Officer (KO) on contract modifications suggested to enhance operational support to the theater.

SEC VI. Plan Of Action.

1. Phase I (Planning for Pilot FRA Startup): The following actions will be completed in Phase I:

Action	Suspense Date
a. Publish draft FRA Pilot Program Implementation Plan.	2nd QTR FY 92 (Jan, Feb, Mar 92)
b. DESCOM appoints FRA action team and develops coordinated and detailed implementation plan that addresses the parameters in this FRA implementation plan.	3rd QTR FY 92 (Apr, May, Jun 92)
c. DESCOM selects in coordination	4th QTR FY 92

with AMC, MSC'S and MACOMS, the Pilot FRA site and weapon system(s) to be supported and begins to identify authorized stockage and bench stocks.	(Jul, Aug, Sep 92)
d. ~~DESCOM~~ HQ AMC publishes finalized, coordinated, and specific FRA Pilot Program Implementation Plan, TDAs, and business policies and procedures. FRA Action Team approved by HQ AMC	4th QTR FY 92 (July, Aug, Sep 92)
e. ~~DESCOM~~ FRAAT submits recommended changes to DA Policy based on work thus far (AR 750-1?2, etc).	4th QTR FY 92 (Jul, Aug, Sep 92)
f. ~~DESCOM~~ FRAAT identifies and processes resources (facility, personnel; communications and information systems, transportation; power equipment; tools; Test, Measurement, Diagnostic Equipment (TMDE); stocks; and other necessary resources) to open Pilot FRA	4th QTR FY 92 (Jul, Aug, Sep 92)

2. <u>Phase II (Initial Operational Capability)</u> the following Actions will be completed in Phase II

SC involvement ... modification ... support contracts!

Action	Suspense Date
a. DESCOM stations the Manager and advance party at Pilot Site and begins setting up facility, info systems, admin, work, stockage, supply procedures, receiving and shipping procedures, as necessary with the host installation customers and other agencies as necessary.	4th QTR FY 92 (Jul, Aug, Sep 92) will need COTR or ACOR authority, need to get COR and legal involved. coordinated w/ COL Phillips
b. DESCOM completes on-site installation of equipment, tools, power, TMDE, commo, and information systems, and other required support.	4th QTR FY 92 (Jul, Aug, Sep 92)
c. DESCOM opens pilot FRA for business and begins selection process for future FRA site locations.	1st QTR FY 93 (Oct, Nov, Dec 92)
d. DESCOM plans for pilot FRA to participate in the Single Stock Fund (SSF)/Integrated Sustainment	3rdQ92 -- 4Q93 Apr 92 -- Sep 93
e. DESCOM with SLA assistance completes Cost Benefit Analysis/Economic Analysis	4th QTR FY 93 (Jul, Aug, Sep 93)

are all these milestone dates doable... delete dates-all! insert TBD

of Pilot FRA.
Need decision here on FRA success.

f. DESCOM expands operations to other locations	4th Qtr FY 93 (Jul, Aug, Sep 93)

3. Phase III (Expand Multi Weapon System, Multi Item Operations to other sites) The following actions will be completed in Phase III.

Action	Suspense Date
a. DESCOM opens other multi-weapon system multi-item FRAs at other sites and refines TDA and business practices based on lessons learned.	4th QTR FY 93 (Jul, Aug, Sep 93)
b. DESCOM submits further recommended changes to DA Policy, TM'S, FM's, AR's and other publications as necessary based on experience to date.	4th QTR FY 93 (Jul, Aug, Sep 93)
c. DESCOM submits final FRA Concept of Operations and Business Practices Plan to HQAMC for coordination and approval.	4th QTR FY 93 (Jul, Aug, Sep 93)
d. HQAMC submits final FRA Concept of Operations to .	1st QTR FY 94 (Oct, Nov, Dec 93)
d. HQAMC will obtain necessary approval of FRA Concept of Operations and Business Practices and return to DESCOM.	

4. Phase IV Complete FRA Program: The following actions will be completed in Phase IV:

Action	Suspense Date
a. DESCOM continues to open FRAs until all planned FRAs are opened and operating.	1993-1995
b. DA, DCSLOG, SLA approves DESCOM'S final "Concept of Operations and Business Practice Plan"	2nd QTR Fy 94 (Jan, Feb, Mar)
c. DESCOM completes installation of all programmed FRA'S.	4th QTR 95 (Jul, Aug, Sep)
d. DESCOM publishes After Action Report, Lessons Learned Report.	4th QTR 95 (Jul, Aug, Sep)

SEC VII: Site Management and Responsibilities. As a minimum the following areas of site management must be addressed in the final DESCOM implementation plan and the internal SOP'S of all FRA's.

1. Management Team Composition: Final management team composition is a DESCOM decision based on: the concept of operations guidance in this plan, the specific needs of each FRA, the workloading of that FRA, the number and grades of personnel assigned, and other variables associated with a particular FRA. There is no requirement to standardize FRA management team composition on FRA's. However, the management team composition for the Pilot FRA and the TDA needs to be identified no later than the end of Sep 1992. The following should be considered during the DESCOM management team composition decision process:

a. Strong background and expertise in depot level repair and shop operations for the items or type items being repaired at that FRA.

b. Experience with Contract Management.

c. Meets all requirements for, and will accept Mission Essential (ME) designation if applicable.

d. Familiarity with TMDE used in that FRA.

e. Conversant on selected maintenance and supply management procedures and information systems.

f. Knowledgeable of military customer needs and maintenance organizations, doctrine programs, and procedures.

g. Familiar with DESCOM/AMC organizations and support relationships.

h. Willing to locate on-site at the FRA

i. Appropriate security clearances for the mission and systems supported.

j. Skilled in use of automated information systems (MIS) used in the FRA operations.

k. Capable of managing workload accomplishments to meet weapon system availability objectives.

l. Knowledgeable and skilled in Army financial management program operations.

2. Location of Management Team: The FRA management team will need to be located on site at the Forward Repair Activity.

3. Interface with Contractor Employees:

a. The FRA addresses the need for a viable and deployable command and control mechanism for contractor augmentation and support for selected Depot level reparables. The FRA structure is being developed to provide a total weapon system focus wherein line and shop replaceable modules (LRM/SRM's) are managed within the context of maximizing the full mission capabilities of reportable systems and essential non-reportable items. The FRA complements the weapon system management (WSM) role of AMC's Major Subordinate Commands (MSC's)

by permitting their direct control of contracts while simultaneously providing an on-site Contracting Officer's technical Representative (COTR) that can support multiple contracts. The on-site COTR serves as a tool to assist customers and MSCs alike in fully integrating repair activity, by weapon system, in both peacetime and combat scenarios.

b. The final decision on how management interfaces with contractor personnel should be based on the concept of operations in this plan and the numerous variables associated with the local FRA. There is no requirement to standardize the interface with contractor employees. An FRA chief who is a dual or triple hatted Non-Commissioned Officer (NCO) warrant officer, commissioned officer, or civil servant with either a COTR, or technical representative (TR) appointment could be used. It is almost certain however, that either the FRA Chief or one of the management team (if more than one manager is necessary) would need to be a COTR, or TR.

4. Interface with Customers: In general FRAs will interface with general support units for ground items and Aviation Intermediate Maintenance units for aviation items. However, exact relationships will depend on theater or regional (customer) needs and the Army supply procedures for the items being supported by the FRA. The bottom line result of each FRA contact with customers should be characterized by a quick repair or issue (ideally each transaction would be a walk through transaction that takes only minutes) that occurs without red-tape and with assistance as the theme throughout the transaction.

5. Weapons System Orientation: The FRA's main objective is to provide tailored, forward located, limited depot level and GS backup repair that maximizes supported weapon system availability. FRA management and FRA system performance standards must reflect this objective. DESCOM should tie FRA, management, FRA worker, and FRA system performance standards and ratings to supported weapon system availability requirements set by DA.

6. Ensure Accountability: FRA management is required to maintain accountability of work-in-process (WIP), stocks, personnel, finances, libraries, files, equipment, vehicles, facilities, and other assets assigned to accomplish its mission. DESCOM should tailor the procedures, forms, and other business practices to support the FRA mission using current or emerging Standard Army Systems. However, the overall goal of FRA business practice should be to work out an arrangement that does not delay repairs or return items and issues to customers. The FRA rule should be "If the paper work, computer inputs, or other system requirements will delay the customer - change the system to where the customer is not delayed."

7. Management Responsibilities: FRA managers will be responsible to their customers, employees, DESCOM, AMC, MSCs, KO, the host nation when stationed outside the U.S., the host installation, other services if supporting joint service customers and systems, and DLA. All of these responsibilities should be clarified and spelled out in the DESCOM final coordinated FRA implementation plan and business procedures for both peace and contingency (war, international disasters, etc.) operations. These responsibilities should include as a minimum the leadership, training, accountability, and contracting responsibilities of the FRA Managers.

8. Chain of Command: DESCOM's final decision on who the FRA manager reports to in peacetime and war should be based on the concept of operations in this document, the customers needs, current doctrine and the other variables (e.Integrated Sustainment Maintenance, (etc) associated with the FRA operations. Current ISM concept calls for in theater FRAs to be under the command and control of the ISM Manager in peace and under operational control (OPCON) to the theater commander in a contingency operation.

9. Final Concept of Operations: DESCOM's final concept of operations and business practices will be developed during the Pilot Program implementation. The final concept of operations and business practices should address as a minimum:

a. What will be done at the FRA ?
b. Why things are done at the FRA.
c. Who will do things at the FRA?
d. When things will be done at the FRA?
e. Where things will be done in the FRA?
f. What, Why, Who, When, and Where things will be done in support of the FRA by others (customers, DESCOM, theater MMCs, ISM Manager, AMC commodity commands, theater commands, etc).

VIII. Automatic Data Processing (ADP).

1. Although simplification should be the first priority of the FRA concept of operations and business practices, some ADP support is envisioned as necessary for the FRAs. During the FRA Pilot Program implementation, DESCOM needs to chair a coordinated review (with AMC MSCs) to review/evaluate available and evolving Standard Army Management Information Systems (STAMIS) and, if necessary non-standard systems, to determine the minimum ADP required to support FRAs. If non-standard systems are selected for FRA use, those non-standard systems should become part of the Standard Army Management Information System (STAMIS) as quickly as possible.

2. DESCOM'S MIS review will need to identify all hardware, software, power, communications, training, ADP maintenance support, source data vs remote user and spares needed to support

an FRA. The review should also spell out who will have access to the systems (contractors, government, etc) and what special staffing and support will be needed by the FRA.

3. During the Pilot implementation DESCOM needs to develop a clear plan for FRA work to continue without interruption in the event of partial or total ADP support interruption. Telephones (commercial, autovon, etc.) radios, facsimile, satellite support, copier, computer (hardware & software), and other ADP support should be addressed in the ADP section of DESCOM's final coordinated FRA plan.

IX. Obtaining Resources (Funding, Personnel, Facilities, Equipment, and Other Support).

1. DESCOM, early in Phase I, needs to identify and procure the resources that are needed to set up the pilot FRA. Funding; personnel; facility (lease, buy, rent, upgrade, etc.) equipment; furniture, folding chairs, plywood and saw horses for the mobility/deployable package furniture, work stands, and shelf units); power (perhaps generators for deployability package) and grounding (Electro-Magnetic Discharge), requirements and phones; passports; parking; computer (hardware and software); phones; Test, Measurement and Diagnostic Equipment (TMDE); Depot Maintenance Plant Equipment (DMPE); calibration, facsimile; nuclear, chemical, biological (NBC) masks and other protective equipment required by DoD Instruction 3020.37 "Continuation of Essential DoD Contractor Services during crises"; vehicles; tools; and everything else needed for an FRA should be addressed in the implementation plan developed by DESCOM; validated, slotted and funded by HQAMC; and approved by DA DCSLOG.

2. DESCOM also needs to finalize any required Memorandums of Understandings (MOUs), Inter Service Support Agreements (ISSAs), and other support agreements necessary for the pilot FRA and future FRAs.

X. Accountability Procedures.

1. The two primary goals of FRA accountability procedures are:

a. To provide the customer a serviceable LRU/SRU within the shortest possible time: (preferably within minutes of the receipt of the funded, validated requisition/request).

b. To keep track of assets (funds, credits, serial numbered items, turn-ins, issues, evacuations, warranty items and claims, stock, equipment, Deficient/Defective material files, publications, essential documents and assigned personnel.

2. Must Track Issues, Receipts, Charges, and Credits:

In peace and during contingency operations the FRA will need to track and provide the MSC Item managers and Weapons System Managers visibility of all issues and receipts.

a. Procedures for customer crediting for unserviceable DLRs turn-ins, billing for issues and costing for application of necessary surcharges must be specifically identified, institutionalized, and used for the pilot and follow-on FRAs.

b. Property records and financial accounting should be maintained, even in a streamlined operation like FRAs and even during the stress and otherwise confusing atmosphere of a contingency operation. The goal is to never turn down or delay a customer, even if the customer does not know the procedures and paper work. If he has over extended his budget during a contingency, issue anyway on credit.

3. LRU/SRU Stockage: In principal FRAs should stock at least one of every LRU, SRU, and part that it is authorized to support. This is to allow the FRA the opportunity to rapidly issue an item in exchange for an unserviceable asset. Exception to this could include not stocking low demand (e.g., non-stock) items that may be repaired by an FRA.

4. Asset Visibility:

a. Ideally, 1) the customer should always know what serviceable assets are in the FRA and 2) the Item manager would always know where all serviceable and unserviceable assets are worldwide. Total Asset Visibility (TAV) is still in the prototype stage, but if and when TAV is implemented Army wide, the FRA could use TAV to accomplish number 2, the FRA visibility of overall assets worldwide. However, until TAV comes on board, DESCOM and industry should team together to come up with a method to accomplish Asset Visibility for the items supported in the FRAs.

b. Customers need to know what is on-the-shelf and serviceable in the FRA so that they can make the best decision on when to remove an unserviceable for evacuation to the FRA. There are many times, especially during contingencies, deployments, exercises, and periods of high threat/risk that the unit commander (customer) will wisely elect to keep a partial mission capable (PMC) system flyable and/or fightable and defer the maintenance until the battle is won or risk is reduced. This is especially true if a serviceable asset is not on hand at the FRA.

5. Quality Deficiency Reports (QDR): During DESCOM's Pilot FRA Implementation, procedures need to be institutionalized to handle Quality Deficiency Reports (QDRs) during peacetime and contingencies.

a. During peacetime, FRAs should generate QDRs and handle QDR exhibits in accordance with current regulatory guidance. They should also investigate QDRs, as requested by MSCs, for repairs performed.

b. However contingency operations may require the Army to suspend the holding of nonconforming materiel/QDR exhibits for short supply items. Thought will also have to be given to what customers should do with QDR exhibits of items the FRA is supporting. Lessons learned dictate that customers should not bypass FRAs during any contingency.

6. Warranty Items: AMC and DESCOM will also need to institutionalize FRA business practices for warranty items. In peace, warranty claims should have a high priority and during contingency operations they may have to be recorded and take a back seat until the emergency is over if the Army has not made other arrangements during procurement. In the long run, new contracts with warranties should be written and existing contracts should be modified to fairly deal with contingencies (give credit to government for doing warranty work, reimbursing the government after hostilities, etc.). DESCOM needs to address both the FRA peacetime and contingency practices for Warranty items. During the Pilot program development, the warranty issue must be addressed regarding FRA repaired items.

7. Align With Other Initiatives: FRA operating procedures should be aligned with the emerging Contingency Depot concept, FORSCOM's Regional Maintenance Centers (RMCs) and other emerging support initiatives. The FRA management program will also incorporate applicable portions of Readiness Based Maintenance (RBM), Total Asset Visibility (TAV) and other associated initiatives evolving from the Army's total review of Standard Army Management Information system (STAMIS). It is recognized that full alignment with the STAMIS may not be quickly achieved, however, basic procedures must be identified to access existing STAMIS and facilitate future STAMIS upgrades/modifications for FRA operations. Minimum areas that should be addressed follow:

- Standardized Supply, maintenance and accountability procedures which are deployable and align with the Contingency Depot effort.

- Provisional TDA development which accommodates Contingency Depot structure during both peacetime and periods of mobilization.

- MIS procedures which will draw upon changes in current STAMIS to accommodate Readiness Based Maintenance (RBM as fielded), Total Asset Visibility (TAV) and other related efforts which impact both wholesale and retail supply and maintenance structures.

- Incorporate Reserve Component (RC) requirements into the FRA management structure/MIS to include assumption of related missions/functions at mobilization ("Roundout" and related activities).

XI. Selection Process of Items to be FRA Supported.

1. DESCOM needs to establish an FRA item candidate identification and selection process. The goal of FRAs is to provide what the customer needs to keep his equipment and warriors ready. Although high tech, high cost electronics appear to be the most likely initial candidates- a low cost, short supply, lower tech item (even a Z coded/throw away) may be temporarily repaired by FRAs if it is a show stopper, high priority item that is not readily available (out of production, etc.).

2. It is anticipated that what is repaired by the FRA will change over time and may change rapidly during contingency operations. Depending on where the FRA deploys from and to, during which season, and what mission the customer has, will also play in the selection process. To identify user/MSC FRA nominees the following generic "first screening" criteria should be applied:

a. Mission Capability Driver: directly affects Full Mission Capability (FMC) of reportable end item(s) or is a mission essential component of nonreportable systems/equipment.

b. Component is already supported by a Specialized Repair Activity (IAW AR 750-1, Maintenance Code "1") or some similar arrangement whereby depot level repairs (Maintenance Code "D") are accomplished forward (down to Divisional or installation level).

c. Electronic or electro-mechanical/optical line Replaceable/Shop Replaceable Module (LRM/SRM) which is hand transportable or can be moved by expedited surface or air means (e.g., Fed Ex/UPS).

d. Hi-tech system/equipment subassembly.

e. Repair requires depot level specialized skills, procedures, test equipment, tools, repair parts and/or data which cannot be provided in a cost effective or responsive manner by other maintenance levels.

f. Required TMDE and tools are not bulky "in-plant" configuration (i.e., are mobile) and can be emplaced in a field activity requiring approximately 1000-7000 square feet of workspace.

g. Contracted Logistics Support (CLS) contemplated or in place for life of system/equipment.

h. Hi-cost (determined by NICP based on: spares buyout, vendor selection, proprietary considerations, back order profile, demand history, LAO recommendations, Program & Project Product Manager (PM) input, and readiness reporting comments).

3. DESCOM needs to determine:

a. How MSCs/users will provide DESCOM the results of the first screening (i.e., via App C).

b. How to coordinate with MSCs to finalize items to be repaired in the FRA.

c. When organically repaired items will be repaired at the forward site or at the prime depot.

XII. Contingency Support.

1. DESCOM needs to identify common structured and disciplined contingency support instructions for all FRAs that address:

a. Mission Essential (ME) - designation for employees.

b. FRA relationships to AMC/DESCOM Support Group, Contingency Depot, Theater Command, host installation, FORSCOM, Host nation, and other entities. These relationships need to be identified and clarified before, during and after deployment and during redeployment.

c. Time Phased Force Deployment List (TPFDL) application and assignment.

d. Identification of potential/assigned aerial and sea port of debarkation.

e. Secure communications FRA to CONUS, FRA to Factory, and FRA to others in theater (STUIII, etc.).

f. Possible home base for Contractor Furnished Service Representatives (CFSRs) and Contractor Technical Representatives further found in the theater.

g. Passports, noncombatant designation, Geneva convention cards, U.S. Government Identification Cards, U.S. Government blanket travel orders, administrative support, messing, physical security, medical, lodging, transport, inclusion in local embassy emergency notification plans, and contract to-to-war clauses.

h. Security clearances and hard copy proof.

i. Protective equipment (NBC, insect, etc.).

j. Hand carry, deploy with personal tool boxes and personal protective gear (MOPP/Mask, etc).

k. Contingency spares package, tools package, TMDE package, hazardous material package, equipment package, vehicle package, packing materials package, technical library package, etc.

l. OPCON/Attachment procedures to include all necessary in theater support requirements.

m. Policy and procedural changes.

n. Predetermined, initial in-theater site selection.

o. Training of civilians for life in theater, under Combat conditions; military terminology & communications authority of military commanders etc.

2. AMC and DESCOM will assure that appropriate contract/ contract clauses are executed for contractual support that would be required for contingency operations.

XIII. Policy and Procedural Changes.

1. Although FRA is not a new concept and was used in Desert Storm and other contingency operations, this FRA Pilot Program for Implementation is one vehicle the Army intends to use to institutionalize and standardize as much as possible a real preplanned, coordinated, integrated, responsive, and cost

effective FRA system for peace and contingency operations. DESCOM's challenge during this pilot initiative is to come up with structured and disciplined, yet flexible approach for FRAs in the Army.

2. This means DESCOM must develop and submit policy and procedural changes to current maintenance, supply, transport personnel, and services doctrine, policy, and procedures as they are developed throughout this pilot program.

3. Some items nominated for FRA support may currently be repaired by organic sources. When it is in the best interest of the Army to have these items repaired at the prime depot, DESCOM will develop organic procedures that emulate the responsive methods to be employed by the FRA (i.e., use of expedited transportation, rapid repair turn around time, and expedited turn-in, request and issue capability).

XIV. Standard Operating Procedures (SOP)

DESCOM should publish an FRA SOP for the pilot FRA and continue to refine a DESCOM level FRA SOP for all future FRAs to follow during this pilot program. Each FRA will need to tailor the DESCOM FRA SOP depending on the variables associated with its operations.

XV. Evaluation Criteria

The effectiveness of Forward Repair Activity capabilities will need to be evaluated. Specifically, the initial operational capability and initial multiple weapon system site will need to be closely evaluated for improvements/"fine-tuning" needed prior to expanding each of these capabilities. The following criteria should be considered for conducting these evaluations: customer satisfaction, weapon system availability objectives, repair backlog, costs of doing business and identifiable savings, effectiveness of management interfaces with "customer" and AMC community managers, and planning for deployability.

Appendix L

INSCOM Trip Report, undated, Subj: Summary Report of Temporary Duty Travel (TDY) to Saudi Arabia

IALOG/IAIM-TEL (600d)

MEMORANDUM THRU DCSLOG

FOR COFS

SUBJECT: Summary Report of Temporary Duty Travel (TDY) to Saudi Arabia

1. Persons performing TDY.

Mr. Thomas D. Hope - IAIM-TEL

Mr. Ronald A. Altman - IALOG

2. Purpose of TDY. To provide assistance for mission support functional areas, to include logistics and communications/ automation, and to document lessons learned.

3. Commands visited. 513th MI Brigade (Bde); ARCENT; 1188th Air Force (AF) Calibration Laboratory, Riyadh; 715th S/S Company; Special Repair Activity (SRA), Riyadh; and the 6th Signal Command.

4. Date of departure. 14 Feb 91. Date of return. 26 Feb 91.

5. Findings.

a. TROJAN

(1) Observations

(a) System reliability, sustainability, and user satisfaction is high. Installation and maintenance personnel are responding exceptionally well to new and rapidly changing user requirements.

(b) VCAT serving the TROJAN Spirit system at KKMC is located in an area which causes considerable RFI interference and reduces the effective power available for the satellite link.

(c) The TROJAN maintenance support facility has been established at KKMC, and although limited transportation is available, this facility will provide direct support to units that are deployed forward.

(d) Twelve, CMF 33 personnel (TROJAN maintenance support personnel) arrived from Sinop, Turkey. These personnel were highly motivated and within 72 hours they were trained and ready to be deployed forward.

(e) Configuration management and standard installation practices for power and signal cable distribution need to be employed.

(f) Several TROJAN Spirit systems got deployed forward without required hand receipt.

(g) Briefings by the 513th and ARCENT G2 staff identified concerns in the follow-on support for the TROJAN Spirit systems within theater. It was requested that an interim logistics support plan be developed by INSCOM representatives and the 513th.

(?) Actions/recommendations.

(a) No action required.

(b) INSCOM representatives provided CWO Stewart (ACOR for TROJAN contract) a proposed plan which would reduce RFI interface. CWO Stewart stated he would coordinate the plan with COL Flynn, G2 office, ARCENT forward.

(c) The 513th and in particular the 201st MI Bn has rendered outstanding assistance in support of the TROJAN Spirit fielding. They have provided both transportation and technical assistance. The unit should be commended for its truly outstanding support and teamwork.

(d) Recommend that the Field Station Sinop soldiers who were sent TDY to maintain TROJAN Spirit be commended. They were eager, willing, and proud to serve.

(e) All configuration changes or modifications that were not documented must be identified and recorded. As priorities permit power and signal cables need to be checked for safe installation practices. It is fully understood at the time of installation that time and resources were not available to record all changes/modifications, nor were required installers available to perform cable installation. Action: TRISA and SIFO.

(f) All TROJAN Spirit systems to include test equipment and tools must be reconciled and subhand receipted soonest. CWO Perez, 513th Maintenance Officer is currently in the process of completing a reconciliation. Action: 513th.

(g) An interim TROJAN Spirit logistics support plan was developed and approved during our visit. Lack of transportation for forward support is a major concern. Again, the 513th offered to provide whatever assistance they could to resolve this issue. In order to sustain high availability in the units deployed forward the support personnel must have transportation support. Units using the system should be willing to provide some transportation assistance; however, the most reliable method would be to provide dedicated tactical vehicles to the support personnel. Action: ARCENT with assistance from the 513th must implement a short term fix for the immediate transportation problem. HQ INSCOM DCSLOG must continue to pursue a permanent fix for this support issue.

b. Logistics (general).

(1) Observations

(a) During discussions with the ARCENT, G2 Forward (COL Flynn), he stated that he was completely satisfied with IEW support being provided by the 513th and that he was particularly pleased by the performance of the TROJAN system.

(b) All the 513th personnel contacted at KKMC were highly motivated and enthusiastic about their mission in the theater forward support location.

(c) A visit to the 1188th AF Calibration Laboratory disclosed that facilities, equipment, and technicians required to provide calibration and maintenance support to the 513th units are available. However, it was observed that the 1188th lacks Army technical bulletins and calibration standards in order to perform the required calibrations.

(d) Discussion with the 513th S4 and the G4 revealed that numerous logistics support problems which impact upon the 513th mission are the result of inadequate transportation and supply support systems both in theater and CONUS.

(e) Visit to the 715th S/S Company (Reserve Unit) disclosed lack of automation and physical security in their operations area creates an environment which lends itself to loss of accountability and pilferage of stored materials.

(f) Currently there is no ASTW-XT or AT repair support in theater; however, if parts were available, the 201st MI Bn, CE maintenance personnel could effectively perform repairs.

(g) The 201st MI Bn and the 204th MI Bn motor pool and electronic maintenance personnel demonstrated outstanding performance, capability, and resourcefulness in executing their assigned mission. Team work between the 201st and the 204th logistics personnel appears to be outstanding.

(2) Actions/recommendations.

(a) No action required.

(b) Units within the 513th need to reconcile calibration support requirements with the 1188th AF Calibration Laboratory. The 1188th must advise the 513th on requirements for Army technical bulletins and calibration standards. All requirements for technical bulletins and calibration standards should be reported to HQ INSCOM, DCSLOG who in turn will assist in obtaining the required documentation.

(c) Discussed both transportation and supply breakdown problems with the G4 at Riyadh. The problems are not peculiar to the 513th. The logistics channels in theater are making progress in breaking some of the log jams. The 513th continues to structure with the G4 to resolve the logistics problems.

(d) During our visit to the G4's office we expressed concern over the lack of physical security and accountability that was observed during our visit to the 715th S/S Company. The G4 stated that he was aware of the problems and was taking action to provide better physical security; however, he would not be able to provide any assistance in automation/accountability problems. This Reserve Unit was not prepared to provide required support. The G4 indicated that this would be included in lessons learned.

(e) Recommend the 201st request exception to the present ASTW support policy which would allow the unit to requisition required repair parts.

(f) No comment required.

c. CE Maintenance Issues.

(1) Observations

(a) The 201st received (33 each) R-2174 receivers less power cables and manuals. Also the Read Only Memory (ROM) will have to be changed before it can be used in the AN/TRR-27A system.

(b) SFC Wheeler (ECOM technical assistance representative) is providing outstanding hands on assistance on both B16 and B46 items. He has required clearance and responded to all calls for assistance.

(c) Software problems still exist on the AN/TRR-27A production model. The printer software never has worked properly. The LAN configuration keeps dropping out and system continually requires rebooting. The contractor and C2SW representative was unable to repair the problem. Status on the fix has not been provided by C2SW.

(d) Problems on the FRAIR system was collected and recorded by C2SW representative. Unit has not been informed of planned corrective actions.

(e) The 201st is having problems ordering AN/TRR-27A parts. The AN/TRR-27A parts manuals in particular need updating.

(f) The AN/TRR's-27A are having high failure rates on the hard disk drive.

(g) The AN/TRD-23 can copy single sideband transmissions; however, the CPLATH system is much easier and quicker to tune and operate.

(2) Actions/recommendations.

(a) HQ INSCOM, DCSLOG was informed of the problem and is taking immediate action to have the cables and manuals forwarded. C2SW has an ongoing action to upgrade software to include ROM's on the 2174 receivers.

(b) Recommend the 513th recognize SFC Wheeler for his responsive support.

(c) C2SW is aware of the problems and are taking corrective action to correct the software problems.

(d) HQ INSCOM, DCSLOG will request C2SW to inform the 513th of ongoing corrective actions for the FRAIR system.

(e) C2SW is currently upgrading the AN/TRR-27A manuals.

(f) Recommend that the 201st start gathering data on the failure rate. Advised maintenance officer that head failure normally has a direct correlation with dirt and heat. Recommend frequent cleaning and close monitoring of the temperature.

(g) Recommend HQ INSCOM, DCSLOG continue efforts to modify the two AN/TRD-23 systems which are currently at the contractors site being tested. Would not recommend any additional modifications until the two modified have been field tested. Further recommend DCSOPS decide on a standard HF/DF intercept systems, i.e., TRACKFINDER, CPLATH, or AN/TRD-23.

d. Special Repair Activity (SRA).

(1) Observations

(a) Discussion with CPT Steve Wagner, SRA Team Leader (Riyadh) and an on-site visit of the SRA facility revealed the following:

- The Riyadh SRA facility does not have any form of communication.

- None of the contractor personnel assigned at Riyadh had security clearances that would allow them access to our units.

- No test equipment nor mock-ups to accomplish quality assurance after repair was available at the Riyadh factory.

- The primary function being performed at the Riyadh facility was packing, wrapping, and evacuation of equipment to rear echelon for repair.

- Concept of operation, internal and external procedures were not provided to the customer.

- SRA sites were not identified. Was not able to locate the SRA at KKMC.

- The SRA at both Riyadh and KKMC provide little, if any, supplemental technical support beyond what is already available within the 513th.

- The 201st loaned an ASTW to the SRA at Riyadh. During our visit at the activity it was noted that it was not installed nor had it ever been used.

(2) Actions/recommendations.

(a) HQ INSCOM, DCSLOG will host a meeting with AMC to advise them of the shortfalls in the SRA program. The SRA program has little or no value to intelligence units without properly cleared personnel. In addition, these personnel must be equipped with the necessary TMDE, technical background, required communications, and the customer must be provided some sort of procedures on how the system works and where the units are located.

(b) Recommend that any further or future IEW support that IMMC proposes to provide be thoroughly coordinated with HQ INSCOM prior to implementation.

e. TRACKFINDER.

(1) Observations: Overall performance of the TRACKFINDER system is marginal at best.

(2) Actions/recommendations: TRACKFINDER must be carefully reviewed to determine its continuance as a standard IEW system.

f. CPLATH.

(1) Observations

(a) CPLATH direction finding system is performing exceptionally well. To date the system has been reliable, accurate, and user friendly.

(b) The CPLATH system lacks the required logistics support to sustain its continued operations.

(2) Actions/recommendations.

(a) No action required.

(b) Controlled cannibalization must be established in order to sustain the current mission. The German manufacturer of this system can no longer provide support to this system.

g. 138th Aerial Exploitation Battalion (AEB).

(1) Observations

(a) On-board IEW systems (in particular ESL, DF processing equipment) lacks supportability, i.e., documentation, spare parts and training base.

(b) Modifications have been performed on the IEW equipment and on-board cabling which are not documented.

(c) Obsolete TMDE and age of DF processing equipment seriously inhibit the ability to perform effective maintenance.

(d) Lack of previously provided contractor support by Harris Corporation has limited impact. The cause for the low readiness availability of the IEW systems is caused by reasons stated above.

(e) BASI Corporation is providing timely support on mission aircraft.

(f) The 138th maintenance and supply personnel are highly motivated, cognizant of the problems defined, but are frustrated by the breakdown in the supply and maintenance support systems.

(2) Actions/recommendations.

(a) The DF mission equipment and associated antennas require replacement with supportable state-of-the-art equipment. As a minimal recommend USAFORSCOM perform an analysis for replacement of the DF mission equipment. Further, recommend DCSOPS review the contributors of the system during Operation DESERT STORM to determine the worth of its continuance.

(b) Action must be taken to document all changes not recorded and configuration control must also be maintained. Action: 138th AEB and USAFORSCOM.

(c) The unit must get into the TMDE Force Modernization program in order to stay current with TMDE upgrades. Action: 138th AEB and USAFORSCOM.

(d) If the military technicians currently assigned were provided the required test equipment, training, documentation, repair parts, etc., they could perform the required maintenance and repair without contract support. Recommend a review be made to determine what added capability a contractor provides vice skills and capabilities of military technicians currently assigned. Action: 138th AEB and USAFORSCOM.

(e) DCSLOG representatives obtained information on all requisitions having impact on the 138th AEB mission. These requisitions will be reconciled and status provided.

g. SANDCRAB

(1) Observations: Visit to the SANDCRAB HF jamming location (SANDCRAB I) demonstrated that this system is highly reliable and performing exceptionally well. This is credited in a large part to the high morale and proficiency of the system operators.

(2) No action required.

RONALD A. ALTMAN
ADCSLOG

Appendix M

BDM International Inc. MFR, 27 Apr 92, Subj: Trip Report - Fort Hood, TX, 6-7 April 1992

BDM INTERNATIONAL, INC.

MEMORANDUM FOR RECORD 27 April 1992

SUBJECT: Trip Report - Fort Hood, TX, 6-7 April, 1992

1. Purpose. This document highlights items of interest surfaced during above visits to the CECOM IEW Logistics Assistance Representative (LAR); members of the 312th Military Intelligence Battalion, the 504th Military Intelligence Brigade, and the 15th Military Intelligence Battalion (Aerial Exploitation); and elements of the 159th Maintenance Detachment (GS) and the 263d Light Equipment Maintenance Company (LEMCO).

2. Personnel traveling

Mr. Riddle, CIMMC
SFC Lawrence, CIMMC
Mr. Klebo, BDM International
Mr. Nusbaum, BDM International

3. Personnel contacted (see attached list of attendees)

4. Discussion. During the visits various areas of concern and information were discussed. Based on use of the IEW Streamlining Questionnaire, significant items of interest which were surfaced are discussed below. For interpretation of Source Codes, see attached list.

a. Visit with CECOM LAR (6 Apr 92)

(1) The IEW Streamlining Team met with Mr. John Luke, CECOM LAR, Ft. Hood, around 0745 hrs in his office. Mr. Luke was the IEW maintenance warrant for the 124th Military Intelligence Battalion from Ft. Stewart during Desert Shield/Desert Storm (DS/S). Mr. Luke stated that, based on his observations, the more a unit or operator used a piece of equipment, the more reliable the equipment's operational rate. His impression was that token or routine operation of IEW-specific equipment was more damaging than extensive and prolonged use. Prior to DS/S most equipment use had been during routine maintenance operations.

Source Code: H4/I/0

(2) The low density of IEW systems and repair parts prevents the cost-effective stockage of PLI-backup stocks in a direct support (DS) Authorized Stockage List (ASL); this situation emphasizes the value of the unit-to-GSU stovepipe for the stockage of high cost IEW items.

Source Code: H4/I/0; H5/S/7

b. Maintenance

(1) Towed 30KW generators became major problems during DS/S. Maintaining the generators for their day-to-day operation was challenging enough, but a more substantial problem was towing the generators' trailer across the desert floor. The problem seems to lie in the tires and rims. The tires, unsuited for a desert environment, seemed to wear exceedingly fast and caused the trailer to swerve in the sand. Letting air out of the tires assisted in this problem but caused considerable drag upon the mover, thus inhibiting an already slow vehicle's ability to keep up.

Source Code: H5/S/3,7

(2) Though not specifically addressed by this study, there was widespread concern with the TACJAM's M1015 and, in particular, its 60KW internal generator. Attendees voiced the opinion that the generator is cumbersome, unreliable, antiquated, and misconfigured for the system. It was routinely inoperable and caused the system to be inoperable for readiness standards. The Battalion Commander and maintenance personnel supported the use of the FOX, a Marine Corps wheeled carrier, for the TACJAM system, thus eliminating the tracked vehicle. Most negative comments concerned reliability, maintainability, and the vehicle's ability to keep up with the supported unit vehicles.

Source Code: H5/S/2,3,7; H4/I/0

(3) Unit command and maintenance personnel want DS, GS, and limited Depot maintenance responsibilities, capabilities, and resources placed at the lowest level, preferably within their area of control. Unit commanders and most echelons of unit maintenance and supply personnel want maintenance capability as far forward as possible, within the unit if possible. Five of seven units stated this specifically. Their rationale includes a myriad of reasons from distances to and from higher echelon maintenance sites to having the existing knowledge on hand. All units also stated that the resources required of these maintenance assets must also come with the authorization and capability. Required resources are personnel, equipment (especially TMDE), and mission funds. Most units felt that the Army as a whole underestimates the ability of military IEW repairers to troubleshoot more complex problems and only allows them to "swap boxes."

Source Code: H9/M,I,T/2,3,5; H6/O,M/3,5; H7/T,M,I/2

(4) Minimum maintenance documentation for fielded IEW systems equipment should include an applicable, useable schematic, a block diagram depicting the interrelationships between components, and the ability to check every circuit card

assembly (CCA) at DS level. A full set of developmental technical manuals is not required for adequate support as long as a newly fielded item is accompanied by a materiel fielding plan (MFP) and/or integrated logistics support plan (ILSP). In addition, government-produced maintenance schematics, flow charts, and Technical Manuals for IEW systems need to be better integrated. Five of seven units noted that flow charts in TMs are of minimal value in their daily work. Schematics in many cases are incomplete and poorly integrated with other complementary components. There was general high regard for commercially produced technical manuals and references.

Source Code: H9/M,I,T/2,3,5; H6/O,M/3,5

(5) Contractors provide value-added support in a theater. Visit participants' attitudes toward contractor maintenance and supply support during DS/S were primarily positive. There was little negative comment about contractor support except in unique instances. One of these instances was the literal dropping in the desert of an inoperative TCAC by a contractor without a prime mover, training, or contractor support of any kind. Generally though, contractors received high marks for effectiveness and reliability before, during, and after DS/S. Strengths revolved around the flexibility and cooperativeness of the individual contractors who, in many cases, went beyond their contractual responsibilities to assist units. Contractors should be dispersed if dispersion would lead to increased responsiveness; otherwise, contractors should have adequate communications and mobility to permit timely response to distant customers.

Source Code: H9/T,M,I,U/3,2; H8/T,O,I/3,4,7; H4/I/O; H6/T,M,I/S,T,O,/6,3,5; H5/S/2,3,7

(6) There should be far more contractor training, assistance, and monitoring of soldiers repairing contracted IEW equipment than presently exists. Four of seven units interviewed stated that the system would work far better if contractors were required to formally train, mentor, and assist unit maintenance personnel in fulfilling contractual obligations than under several of the closed door contract systems in which the repair of system equipment is done totally by contractor personnel. This action will lessen the dependence on contractor support in a hostile environment.

Source Code: H5/I,M,O/3; H9/T,M,I,U/3,2

(7) There appears to be disagreement among units as to the validity of reported operational readiness, particularly during DS/S. There were instances among at least two of seven interviewed units where personnel stated that systems were reported operational when, by strict definition, they were not. There were several examples noted, one of a vehicle with an

inoperative prime mover being towed around the battlefield and another whose power generation unit was inoperative, requiring it to share another vehicle's power. Both systems, according to unit personnel, were reported as operational (it was not determined whether the systems were reported as Fully Mission Capable or Partially Mission Capable).

Source Code: H5/M,I/5

(8) Units do not feel they possess adequate TMDE to accomplish their missions. In addition, several units felt that the EQUATE Test Program Set is too large, unwieldy, and unresponsive to tactical requirements of the MI mission. System users said that they either didn't have them or didn't routinely use them due to their bulkiness, lack of mobility, and lack of user-friendliness.

Source Code: H6/T,M,I/T,O,/3,5; H5/M/2,3; H4/I/0

c. Command and Control

(1) The majority of maintainers believed that the ground maintenance mission of their unit matched that which they performed in DS/S. The exceptions fell in the areas of C-E, aviation, and IEW systems logistics. Aviation systems had virtually total contractual support which allowed for far more flexibility than the C-E/IEW systems. Of seven IEW maintenance and supply related units interviewed, four did not know to whom they were responsible (attached) at some time during DS/S. Some units were supported by different units after deployment; there was little indication that demand history from the peacetime support unit was transferred to the wartime support unit. Three of seven units were unfamiliar with or unable to perform evacuation. One unit did not receive any Class IX parts. One unit apparently was structered to do IEW repair work though their doctrinal mission did not include such duties. Often units knew what unit was supposed to provide support, but the support unit proved difficult to contact, locate, or visit.

Source Code: H9/M,T,I/5,2,3; H8/C,M,T,L,I/3,5,7; H7/T,I/3; H6/C,T,M,I; H5/C,T,M,I/5,7,3,2

(2) There are fielding problems with new systems. Units are routinely fielded new systems prior to authorization in MTOE and subsequent resource allocation. One system in particular which was mentioned was the TCAC and the allocations which went with it. Removal of old/replaced systems routinely takes with them an inordinate portion of personnel and equipment. The removal of IEW systems such as the MSQ-103 from an inventory routinely removes resources such as manpower and TMDE, which are allocated by TOE against that piece of equipment and others. The results are the

weakening of an already sparse support structure and the capability to maintain other systems.

Source Code: H5/C,T,M,I/5,7,3,2

(3) Sites such as Fort Hood are routinely selected as test sites for IEW systems, and these tests consume unresourced logistical assets of the unit. Due to Ft. Hood's electronic environment, the installation is often used to test IEW systems. Just as routinely, MI unit personnel, equipment, and logistical support elements are tasked to provide support to the tests. This situation normally results in unit expenditures of repair parts, personnel time, and disruption of mission operations and training. This expenditure is sometimes reimbursed but very rarely to the degree expended. This situation weakens the already weak support resources available to the unit.

Source Code: H4/I/0; H5/C,T,I/5,7,3,2

d. Training

(1) When questioned about LAR support, there was discussion concerning the perception that individuals are being designated and trained as IEW LARs with no prior IEW experience. Units do not feel that it is possible to "grow" an IEW LAR in such fashion. Expertise with the systems involved requires substantial experience in the applicable systems which cannot be taught in a formal environment.

Source Code: H6/T,M,I/5; H4/I/0; H9/M,T,I/5,3

(2) Graduates of IEW equipment repairer MOS-producing schools are too generically trained. Too much emphasis is placed on graduates being "On the Job Trained (OJT)." Unit maintenance personnel believe, almost unanimously, that graduates of the C-E and IEW Maintenance MOS-producing schools are too generally trained on too wide a spectrum of materiel, some of which lacks relevance to daily operation. Training utilizes irrelevant mockup equipment and is not specific enough in troubleshooting down to CCA level. MOS 33-series need more training in the basics - test, measurement, and diagnostic equipment (TMDE), antenna theory, wave propagation, and proper soldering techniques. Units believe that mechanics should be school-trained to go into the black boxes, troubleshoot, and replace (or even repair) CCAs. In other regards, the schoolhouse appears to rely far too heavily on unit OJT.

Source Code: H5/T,M,I/5,3,2; H6/T,M,I/5; H8/M,I,O/3,5; H9/M,I,T/3,2

(3) Virtually all units were critical of the lack of school training for the 60K generator mechanics and operators. They

stated that formal training for 60KW generator for mechanics, IEW maintainers, and operators is virtually non-existent. In particular, units were disturbed that this lack of training was a primary contributor to system downtime. Both applicable units felt that the downtime they incurred on tactical systems was due, more often than not, to deficiencies of non-IEW equipment, such as power generation and automotive. One unit stated that their estimate of the causes of routine downtime was 70% power generation, 20% automotive, and 5% IEW systems. A great deal of the work being done on these generators is hit or miss or not done at all.

Source Code: H9/T,M,I,/3,2; H6/T,M,I/S,T,O,/6,3,5; H5/S/2,3,7; H4/I/O

e. Supply/Transportation/Distribution

(1) There seemed to be no standardized system of tie downs particularly for the MSQ-103. In several cases the tie downs were either not available, had been lost, or did not fit the system. The unit fabricated several from other tie down or strapping systems, but the results were of marginal value, particularly in DS/S.

Source Code: H5/M,S/3,2

(2) Section supervisors stated that one of the greatest assets which they had available during DS/S was the innovation of their personnel at all levels in obtaining, producing, or fabricating whatever material was required to accomplish the mission. This comment applied to stories of extremely inexpensive fabrication of air conditioner installation kits for RATT huts to bartering with the civilian populace.

Source Code: H5/T,O,M/2,3,5; H6/T,I/3; H8/O/M/3,4

(3) The Class IX supply system is the single biggest problem in IEW equipment sustainment. The Class IX intra-theater distribution system did not function well; units sustained themselves with stocks that they brought with them (including stocks borrowed from non-deploying units) or with stocks that they cross-leveled among themselves. One means of alleviating this problem was to expand stovepiping actions. IEW unit maintenance personnel believe that the very nature of IEW systems supply and maintenance requires "stovepiping" and that its low density, criticality, and long leadtime requirement justifies bypassing the standard Army system. It was felt that this solution was more cost effective and far more efficient.

Source Code: H5/U,M,I/3,5; H9/M,I/2,3,5; H4/I,A/O

(4) Most of the units questioned the placement of Special Repair Activities (SRAs) during DS/S. They felt that SRAs should be dispersed so as to put them closer to the center of mass of the customer units and that dispersion in several locations along with a GS maintenance detachment had several benefits such as, if a customer unit lost track of their primary support GS detachment/SRA, that unit could often receive support from another GS detachment/SRA. In this regard, based on the locations of the detachments/SRAs, an evacuation/resupply channel could be set up between these locations.

Source Code: H5/M,I/5,3,2; H9/I,M/3,5; H7/I,M/3

(5) Units feel that they are grossly under-authorized for vehicle movement of maintenance/logistic assets, particularly in the areas of resupply and evacuation. Five of seven units felt that they were authorized far fewer vehicles than are actually required for the mission they were assigned. Units were routinely required to shuttle-move TOE equipment to forward locations and overload vehicles in an attempt to save manpower and effort. Two units were required to make supply runs to locations 7-8 hours away in several instances using the unit/team/detachment's only organic vehicle. In two instances, when asked what effect this lack of movement capability had upon the evacuation of unserviceable, repairable items, both units stated that the parts were either buried or left in place.

Source Code: H9/S,M,I/3,2; H5/C,T,I,M/7,3,5; H6/S,O/6,3

(6) Most supply actions within the IEW equipment channels require inordinately long leadtimes, are high dollar, and have great potential for being lost within the system. Virtually all units stated that, due to the low density of IEW parts, stockage is frequently non-existent at maintenance levels. In addition, due to the small physical size, supporting unit personnel's unfamiliarity with IEW repair parts, and lack of quantity of these parts, such as cards, many parts are routinely misordered, misdirected, or generally ignored. This situation was particularly true of several National Guard support units. The use of the Rainbow SRA stickers for many of these parts was a particular help in DS/S, but the system as a whole does not work effectively.

Source Code: H5/M,I/5,3,2; H6/I/3; H9/M,I/3,2

Summary.

Substantial effort was expended by the IEW Streamlining Team, the LAR, and the units involved in the discussions documented above. It was obvious to all in attendance that the units are concerned by the present logistical system in place to support IEW systems. The discussions were extremely candid and

in-depth. Considerable material was discussed of which no small portion was not directly applicable to the objectives of the team but needs to be heard. IEW units want their problems surfaced. There is no doubt that there are challenges to be met in the maintenance and supply of IEW systems and that the units, by their participation in these interviews, have a great potential for assisting the team in providing the solutions to the observations noted.

Our challenge as team members will be to cull the objective material from the non-objective, and to ensure that the non-objective is effectively transmitted to those with applicable responsibility. In accomplishing our goal towards the study's objectives, we must also remember to assist the units in surfacing any challenges which affect the system as a whole.

David P. Nicholas

DAVID P.NICHOLAS
Project Manager
BDM International

3 Atchs

List of Attendees

IEW Streamlining Team Site Visit

to

Fort Hood, Texas

CECOM Logistics Assistance Representatives
6-7 April 1992

Mr. John Luke, IEW
Mr. George Eder, Aviation Systems

312th Military Intelligence Battalion
1400-1900 hrs, 6 April 1992

LTC McFarland, Commander, 312th MI Battalion
CPT Edmonds, Commander, A/312th MI Battalion
CPT Blevins, Commander, HHC, 312th MI Battalion
CW2 Readhead, Battalion Maintenance Technician
CW2 Owens, C-E/IEW Maintenance Technician
SFC Reams, HF Section Chief, LRSD, 312th MI Bn
SSG Mercer, Trailblazer Squad Leader, C/312th MI Bn
SSG Sedillo, IEW Countermeasures Set Team Leader, C/312th MI Bn
SGT Lyman, Trailblazer Team Leader, C/312 MI Bn
SGT Linscott, Trailblazer Team Member, A/312th MI Bn
SGT Huage, Trailblazer Team Member, A/312th MI Bn
SGT Loetterle, Team Leader, AN/TRQ 32, A/312 MI Bn

504th Military Intelligence Brigade
0900-1200 hrs, 7 April 1992

LTC Jamison, Deputy Brigade Commander, 504th MI Bde
MAJ Levin, Executive Officer, 163rd MI Bn
CW2 Swalboski, OIC, ETUT/THMT Section, A/303rd MI Bn
CW2 Jackman, OIC, EPDS, B/303rd MI Bn
CW2 Clemmons, Chief, III Corps TCAE, B/303rd MI Bn
SFC Falk, NCOIC, ETUT/THMT Section, A/303rd MI Bn
SSG Green, Operations Sergeant, ETUT/THMT Section, A/303rd MI Bn
SSG Gates, NCOIC, C-E Section, HHS, 163rd MI Bn
SSG Scott, NCOIC, COMSEC Maintenance, HHD/504th MI Bde

15th Military Intelligence Battalion (Aerial Exploitation)
1300-1800 hours, 7 April 1992

CPT Mark Ochocki, S-4, HHC/15th MI Bn
SSG Bagley, Aviation Maintenance NCO, HHC/15th MI Bn
CW2 Williams, Aircraft Maintenance Technician, A/15th MI Bn
CW2 Huerta Nuniz, Platoon Leader, C-E Platoon, A/15th MI Bn
CW2 McPherson, OIC/IGRV, B/15th MI Bn
SFC Cain, C-E Systems Technician, B/15th MI Bn
SSG Knotts, IEW Technician, 159th Maintenance Detachment (GS)
SGT Garrett, Team Leader, 159th Maintenance Detachment (GS)
SGT Marsh, TMDE Technician, 159th Maintenance Detachment (GS)

Source Codes Explanation

The source codes used to identify sources of information obtained during site visits are explained below. Each code is comprised of three parts. The first part uses a letter followed by a number. The letter denotes the installation visited such as "H" for Fort Hood. The number randomly refers to one of the units visited during that trip. The second set of codes refers to the area of specialty or position of the respondent. An example is "M,O" referring to observations from a Maintenance Section Leader. The final set of codes refers to the rank of the individual; e.g., "5" would be an observation given by a Warrant Officer in the grade of WO1 or WO2. The codes below are for use during the site visit to Fort Hood.

Unit Code	Individual	Rank
H9 - 159th Maint Det	C - Commander	1 - General Officer
H8 - 15th MI Bn (AE)	S - Staff Member	0 - Civilian
H7 - 263d LEMCO	T - Technician	2 - E5-below
H6 - 504th MI Bde	L - Team Leader	3 - E6-E9
H5 - 312th MI Bn	O - Section Leader	4 - W3-W4
H4 - Civilian/LAR	U - Supply	5 - W1-W2
	M - Maintenance	6 - O1-O3
	I - IEW	7 - O4-O6
	A - Aviation	

IEW STREAMLINING TEAM SITE VISIT

CONTRACTOR SUPPORT SURVEY

SYSTEMS LIST	CONTRACTOR	LEVEL	QUALITY RATING
OV-1D	GRUMMAN	Unit, limited depot	4
TRQ-32 Normal	MANTECH	SRA/GS	4*
(DS/S)	MANTECH	SRA/GS	1**
TLQ-17 Normal	MANTECH	SRA/GS	4*
(DS/S)	MANTECH	SRA/GS	3-4
QUICKFIX	MANTECH	SRA/GS	4
HAWKEYE	MYSTEC	GS	2
THMT	Classified	ALL	4
EPDS	Classified	ALL	4
ETUT	Classified	ALL	4
TACJAM	MANTECH	ALL	4
TCAC Normal	GE	ALL	4
(DS/S)	GE	ALL	1**
TSQ-138 Normal	MANTECH	SRA	3
(DS/S)	MANTECH	SRA	3

* denotes average of two unit ratings.

** denotes an instance where unit stated that the personality of the contractor was the primary problem and not the contract itself.

Appendix N

CIMMC MFR, 15 May 92, Subj: Visit to Fort Hood SRA

MEMORANDUM FOR RECORD

SUBJECT: Visit to Fort Hood SRA

15 MAY 1992

1. The purpose of this MFR is to document key elements of information obtained from the TDY/Visit to the Mantech SRA at Fort Hood, 23 Apr 92.

2. Reviewed the Maintenance Flows developed by BDM (encl 1) from the previous visit to the units at Fort Hood. Each Unit/System was reviewed and the following clarification/correction was provided:

a. 312th Military Intelligence Battalion

(1) All boxes with "Forward Maint Team" - these "Teams" are out of the DS Unit.

(2) All boxes with "CE Maint" - this is the DS Unit.

(3) All boxes with "SRA (159th and Contract)" - for Maint Flow purposes, should be two (2) boxes, first one 159th GS then the SRA Contractor. Even though the 159th and the SRA Contractor are co-located at Ft Hood and were co-located most of the time during DS/S; the proper maintenance flow is from DS unit to GS Det then to the SRA. It is recognized that GS Det is more or less a passing action, the flow is through them.

(4) TEAMMATE - Last box should be changed from "DEPOT (SAAD)" to "OEM (e.g. Magnavox/Grid)"

(5) TEAMMATE during DS/S - the Rainbow SRA in SWA forwarded defective items (not repairable in SWA) to SRA (Mantech) at VHFS for forwarding to OEMs.

(6) TRAFFICJAM before DS/S - any LRU/SRU that could not be repaired by SRA was returned through 159th GS to the 602nd SSA for return to Depot/SAAD. NOTE: SRA/Mantech doesn't recall not being able to fix any LRU/SRU.

(7) TRAFFICJAM during DS/S - the Rainbow SRA in SWA forwarded defective items (not repairable in SWA) to SRA (Mantech) at VHFS for forwarding to Depot/SAAD.

(8) TRAFFICJAM after DS/S - any LRU/SRU that cannot be repaired by SRA is returned through 159th GS to 263rd SSA for return to Depot/SAAD.

(9) QUICKFIX before DS/S - any LRU/SRU that could not be repaired by SRA was returned through 159th GS to the 602nd SSA for return to Depot/SAAD.

(10) QUICKFIX during DS/S - the Rainbow SRA in SWA forwarded defective (non-repairable in SWA) items to SRA (Mantech) at VHFS for forwarding to Depot/SAAD.

(11) QUICKFIX after DS/S - any LRU/SRU that cannot be repaired by SRA is returned through 159th GS to 263rd SSA for return to Depot/SAAD.

(12) TRAILBLAZER before DS/S - only the 3 LRUs common with TACJAM were forwarded from DS through GS to SRA. All others were repaired at DS or (ARI) Automatic Return Item to Depot/SAAD. Also, any of these 3 LRUs/SRUs not repaired by SRA was returned through 159th GS to 602nd SSA for return to Depot/SAAD.

(13) TRAILBLAZER during DS/S - all LRUs were forwarded to SRA for repair, not just the 3 common LRU to TACJAM. Also, the Rainbow SRA in SWA forwarded defective items (not repairable in SWA) to SRA (Mantech) at VHFS for forwarding to Depot/SAAD.

(14) TRAILBLAZER after DS/S - only the 3 LRUs common to TACJAM are forwarded from DS through GS to SRA. All others are repaired at DS or ARI to SAAD. Any of these 3 LRUs/SRUs not repaired by SRA is returned through 159th GS to 263rd SSA for return to Depot/SAAD.

b. 504th Military Intelligence Brigade (incl 163rd MI/303rd MI)

(1) TEAMMATE - last box "Before, During and After DS/S" should be changed from "DEPOT" to "OEM Contractor."

(2) TEAMMATE - Before, During and After DS/S - center box "159 Maint Det (GS/SRA)" should be 2 boxes - "159th GS DET" and "SRA/CONTRACTOR" - DS Unit to GS Det then to the SRA.

(3) FAISS during DS/S - Rainbow SRA served as Expeditor/Shipper for defective items (LRUs/SRUs) incoming and outgoing, through the SRA at VHFS.

c. 15th Military Intelligence Brigade (Aviation)

(1) GUARDRAIL V - during DS/S - Rainbow SRA shipped/received LRUs/SRUs, etc, to/from the SRA at VHFS.

(2) QUICKLOOK - During DS/S - Rainbow SRA shipped/ received LRUs/SRUs, etc, to/from the SRA at VHFS.

d. 159th Maintenance Detachment

(1) Before/After - AN/MSQ-103, AN/TRQ-32 (TEAMMATE) and TACJAM flow from 159th Maint Det to SRA. From SRA to OEM (special cases), e.g., AN/TRQ-32 items to Magnavox and Grid.

(2) Before/After - Goldwing, FAISS, AN/PRD-11, OG-181 flow from 159th Maint Det to Depot (FORSCOM-J2-Contractor/Ft Gillam). Exception - Goldwing Satellite/Rossie parts were shipped by 159th direct to Frank Greenhall, Inc, in New York.

(3) Before - 159th Maint Det ordered Class IX parts through the 602nd SSA.

(4) During - flow is correct for all systems (IEW).

e. 263rd Light Maintenance Company (SSA)

(1) During DS/S - delete box "SSA" between UNIT and 263rd LM Co as the 263rd is SSA. Add SSA in box with 263rd.

(2) After DS/S - flow should be same as during DS/S as it is functional. Only 33Ts (Maintenance) no longer functional as 33Ts are detailed to the 159th Maint Det.

3. The following additional info was obtained from the SRA Site Chief, Mr. Jack Humflect, and Tech, Mr. Mat Ford.

a. How are Class IX items ordered/flows?

IEW Unique and General -

Before DS/S - through the 602nd SSA
During DS/S - through the SSA in SWA through DOL in Garrison at Ft. Hood.
After DS/S - initially through the 159th Maint Det then through the 263rd SSA.
Now - through VHFS M&S Directorate

b. How does SRA capture demand history - automated or manual for repair parts used and repair time by system?

Manually for both - Work Orders are logged in and recorded/tracked on DBase III Plus.

c. How does Work Request flow?

The SRA receives Work Order from the 159th Maint Det and SRA generates new Work Order for tracking and returns copy of new one and old one to the 159th.

d. SSG Simonis, NCOIC of the 159th Maint Det, joined Mantech and I for part of the discussion including the flows addressed in paragraph 2. Neither SSG Simonis or the SRA Site Chief understood under ASFDLR how items (LRUs/SRUs) would be handled, e.g., Mantech requisition through SSA or return to 159th to requisition/turn in for replacement.

NOTE: Subsequent to this meeting, it has been determined that if the SRA cannot repair a LRU/SRU, it is returned to the 159th for them to requisition replacement/return for credit.

e. Perceptions from SRA on 33Ts ability to repair boxes - what would be needed (trng, hardware, etc)?

Older/Senior Seasoned 33Ts have the knowledge and ability - new 33Ts do not. Requirements - hardware as in Hot Mock-Ups/Test Sets. Also, the breakout boxes developed/built by Mantech would make it easier for the 33Ts but is not essential. With more senior/seasoned 33Ts, they could maintain the standard/USACIMMC systems.

f. What does SRA repair, e.g., special boxes made in-house?

The SRA repairs the USACIMMC Systems and the Test Sets/Break-out boxes, etc, fabricated by SRA. These Test Sets/Break-put boxes are very simple and easily maintained. The 33Ts could maintain.

g. What is relationship between SRA and GS (work/training)?

The SRA Reps and SSG Simonis stated that the working relationship is excellent. They work together, sharing info/knowledge, etc. No formalized process in place. Informal working/training relationship. Tried formal training for 3 weeks in Sep 90, e.g., required POI/Lesson Plans, etc; however, time intensive/not within contract; therefore informal/OJT training only will be provided under current contract. SRA and GS co-located and work very well together. Problem is availability of 33Ts to work/train with the SRA.

h. Units supported? Process for tech assist to Units? How often?

Units supported by the SRA are listed on encl 2. Units supported as identified by the 159th MI Det are listed on encl 3.

The process for tech assist is - usually calls from the DS Unit; occasionally the unit calls the GS/159th. Sometimes the GS will send reps with the SRA reps but personnel availability is the major problem.

Average one time per month, SRA gets call for tech assist. SRA Contract units every 2 to 3 weeks.

i. What percentage of boxes received from Units that are good?

Initially, approximately 40% were good. Now about 20-25% of LRUs received by SRA are either no failure or only require minor adjustment/alignment that should be done by DS. However, TMs do not address the adjustment/alignment.

j. Work flow (from/to whom) paper trail (include to Magnavox) and repair parts?

Hardware is received from GS Unit. SRA either Direct Exchanges replacement or repair and return the item to GS who returns it to the Unit. SRA returns repaired items to GS in one to three days if parts are on hand.

Same process for OEM (e.g. Magnavox) - Item SRA to OEM and return to SRA. Average under 60 days. The bill goes to Mantech in Gainesville, VA.

Paper trail and repair parts process has been addressed previously in this document.

k. Desert Shield/Storm experiences?

The SRA #3 needed equipment (e.g. TMDE, Test Sets, etc) to do the job. Without the required equipment, it was not much more than equipment handles/expeditors.

Non NSN'd items, SRA sends to home office, Gainesville, VA, as Standard Army Supply System can't/won't handle non NSN items.

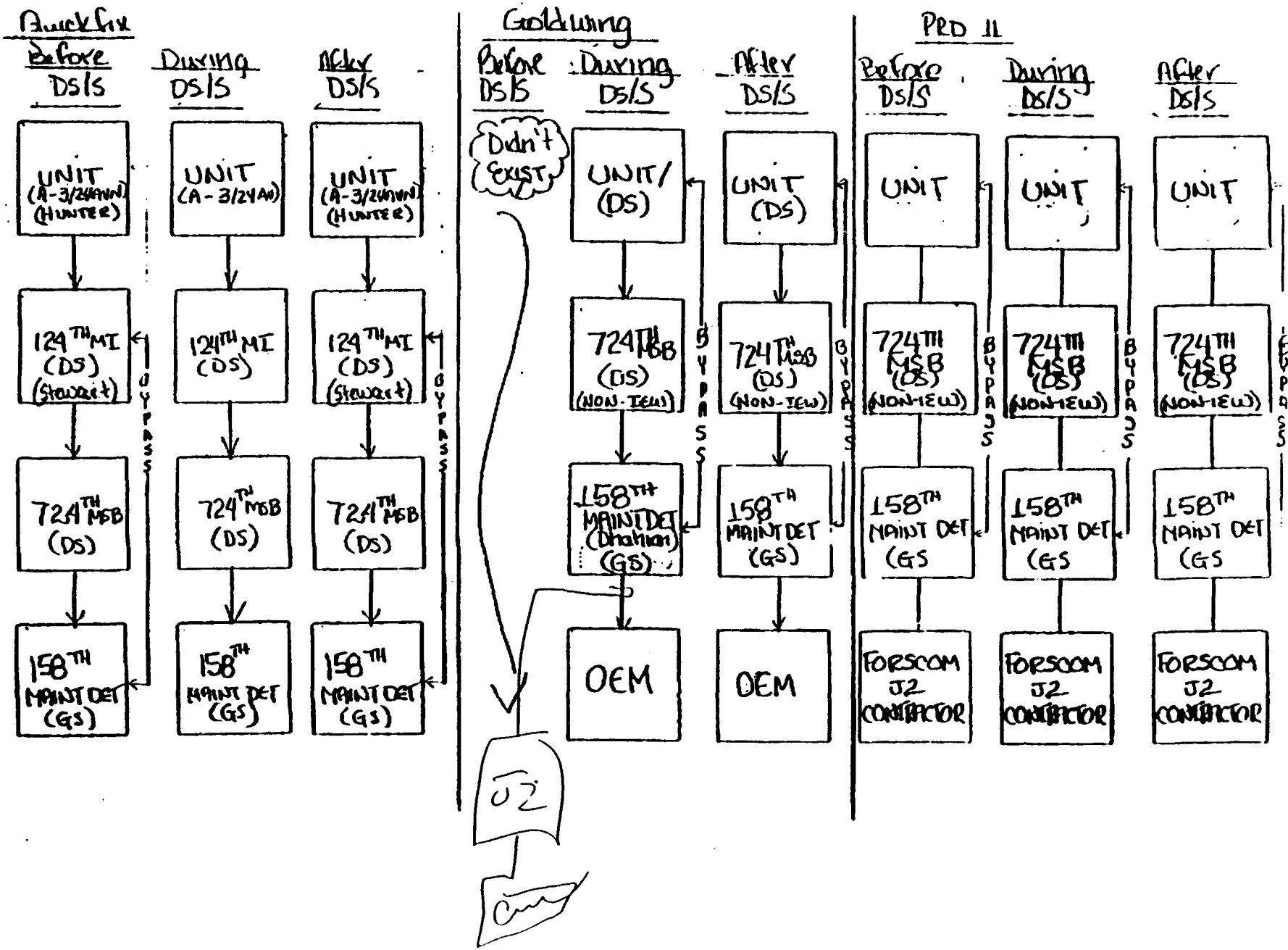
4. It should also be noted that the NCOIC of the 159th GS Det stated that even if USACIMMC provided everything that is required for them (159th GS) to support/maintain the Standard (USACIMMC) Systems, they could not support these systems. This is due to the fact that the 159th soldiers are fully employed supporting the FORSCOM NDI Systems that have not had BOIP/QQPRI completed.

5. POC for this memorandum is the undersigned.

Ralph D Riddle

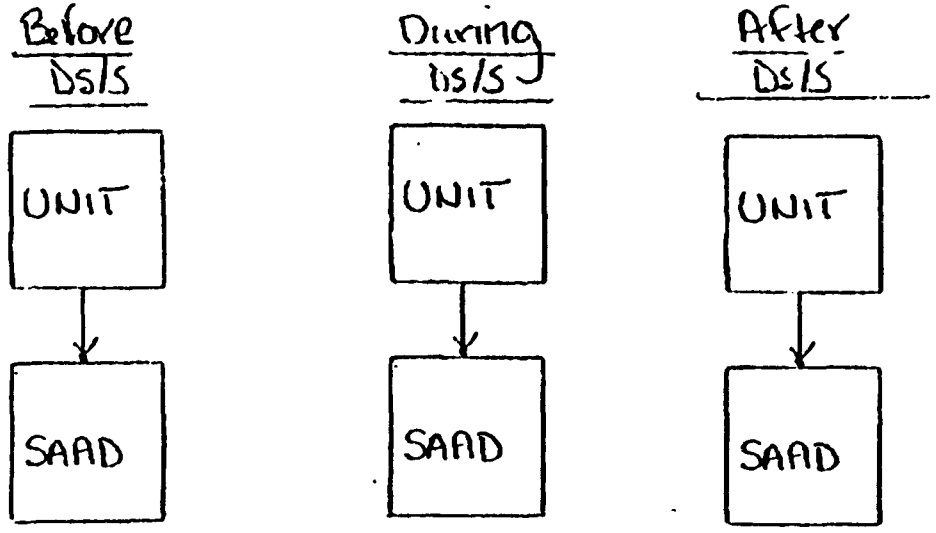
RALPH D. RIDDLE
Chairman, IEW Sustainment
Streamlining Study

124th Military Intelligence Battalion Maintenance Flows (Con't)



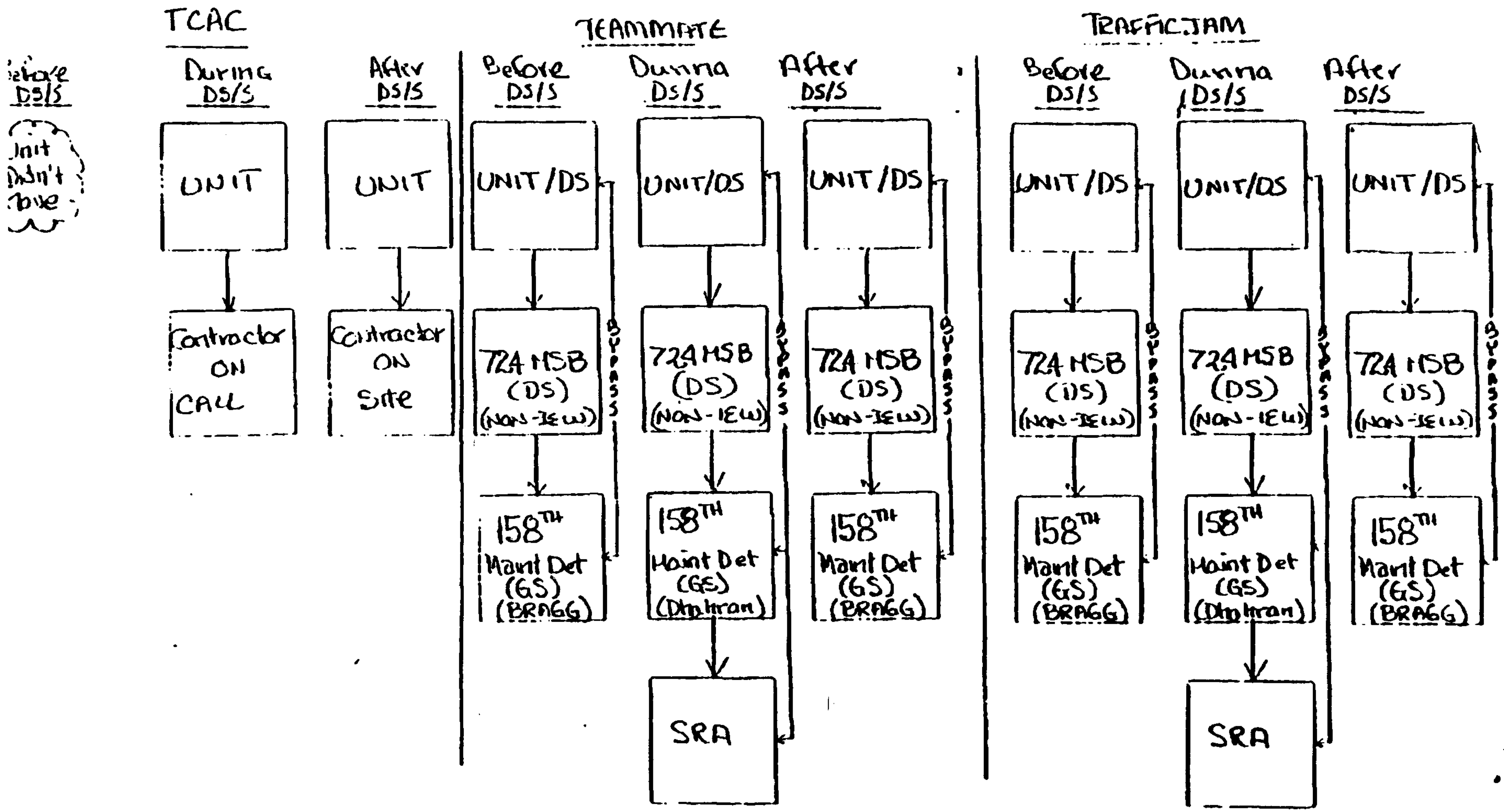
124th Military Intelligence Battalion Maintenance Flow (Con't)

Trailblazer



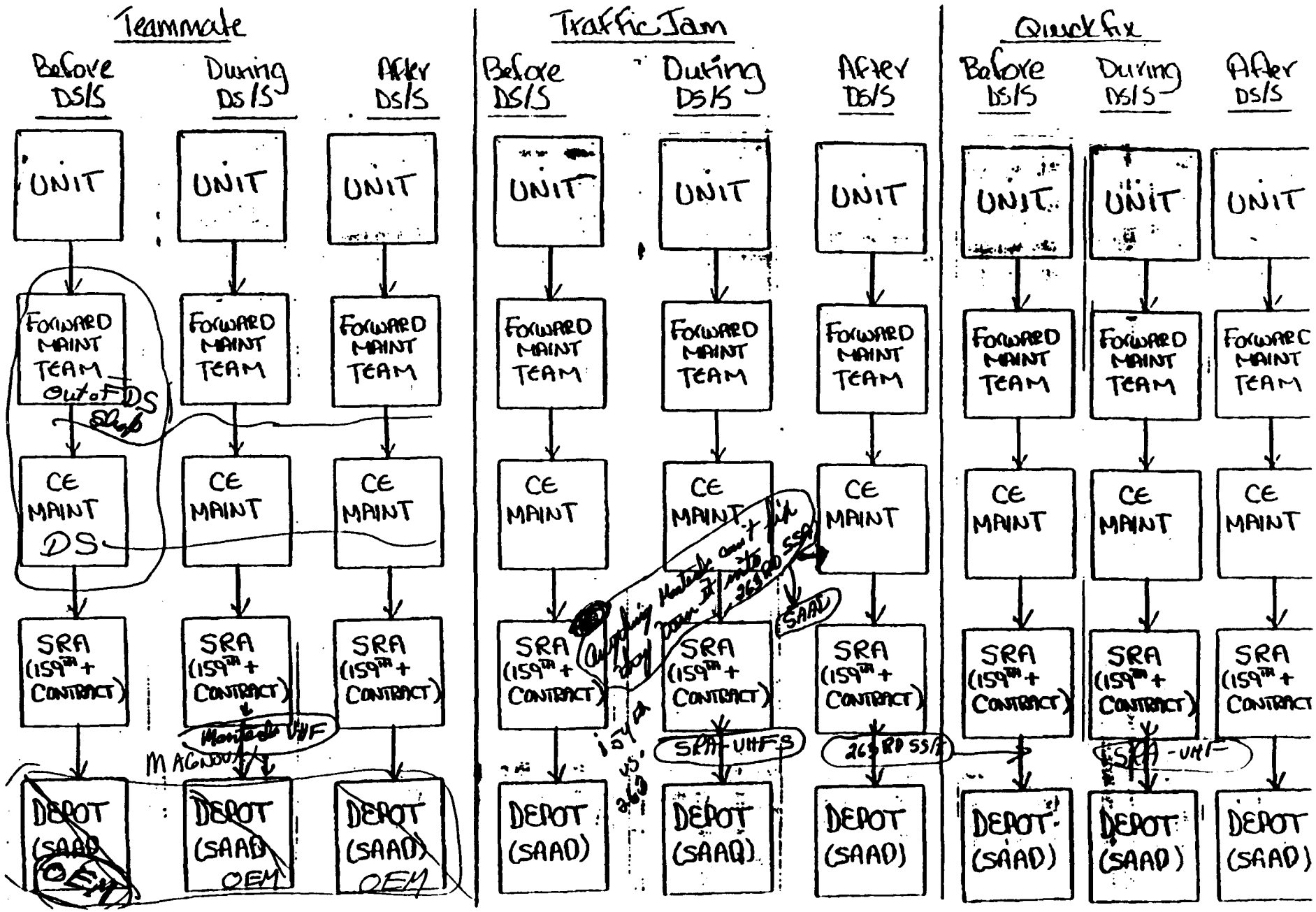
1/12

124TH Military Intelligence Battalion Maintenance Flows



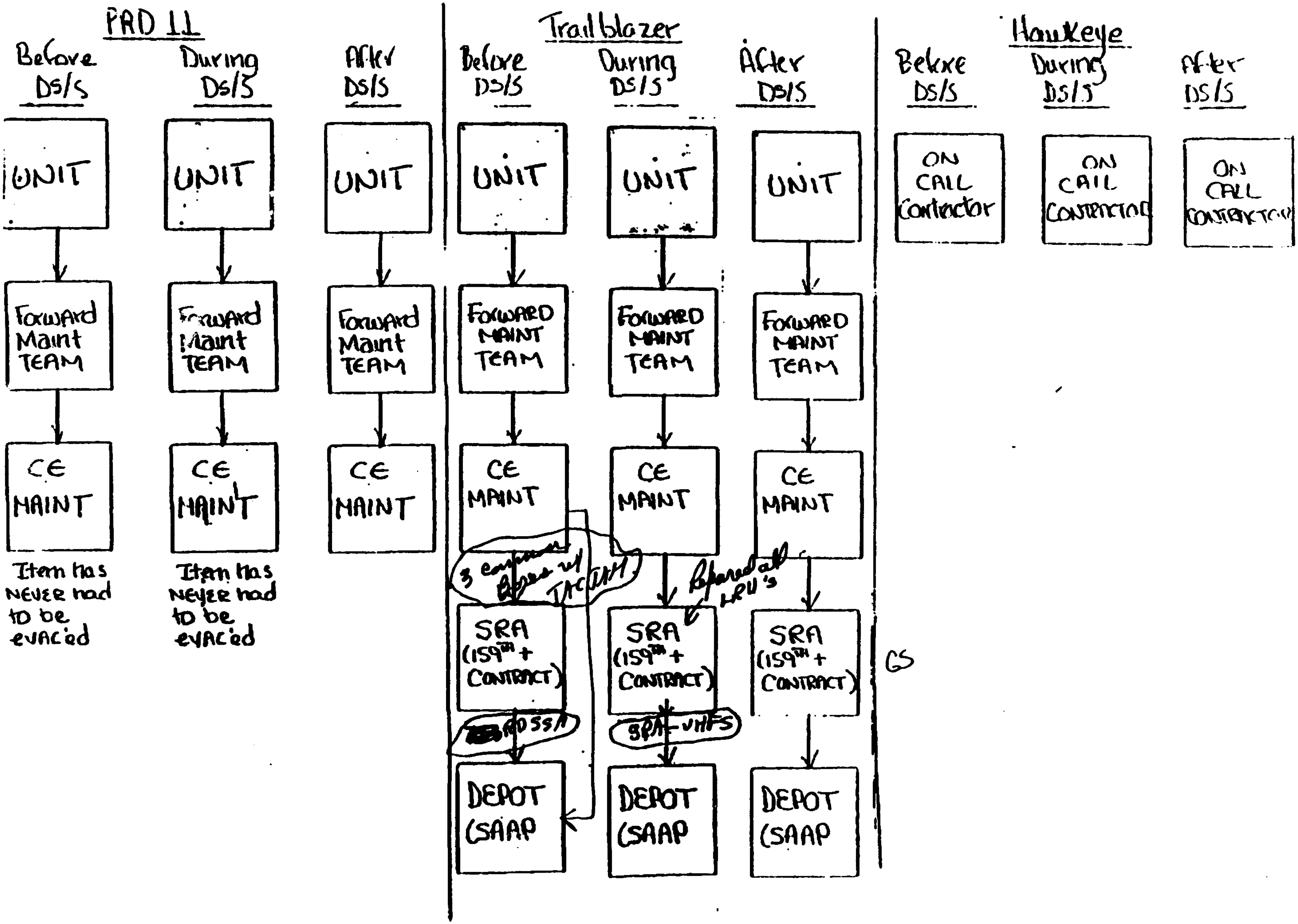
312th Military Intelligence Battalion
Maintenance Flows

4/12



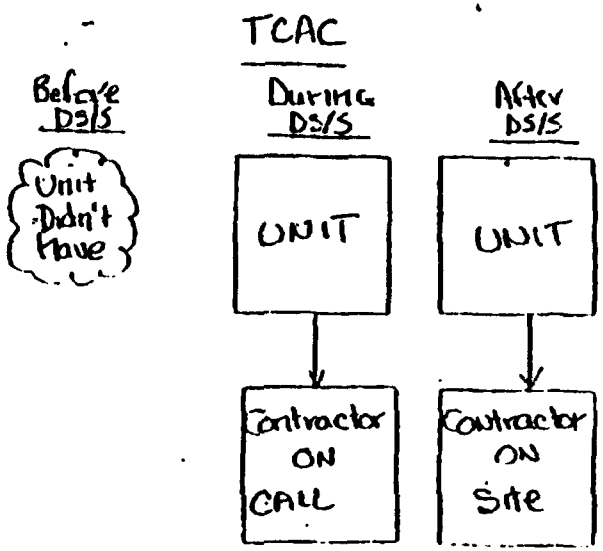
5/12

312th Military Intelligence Battalion Maintenance Flows

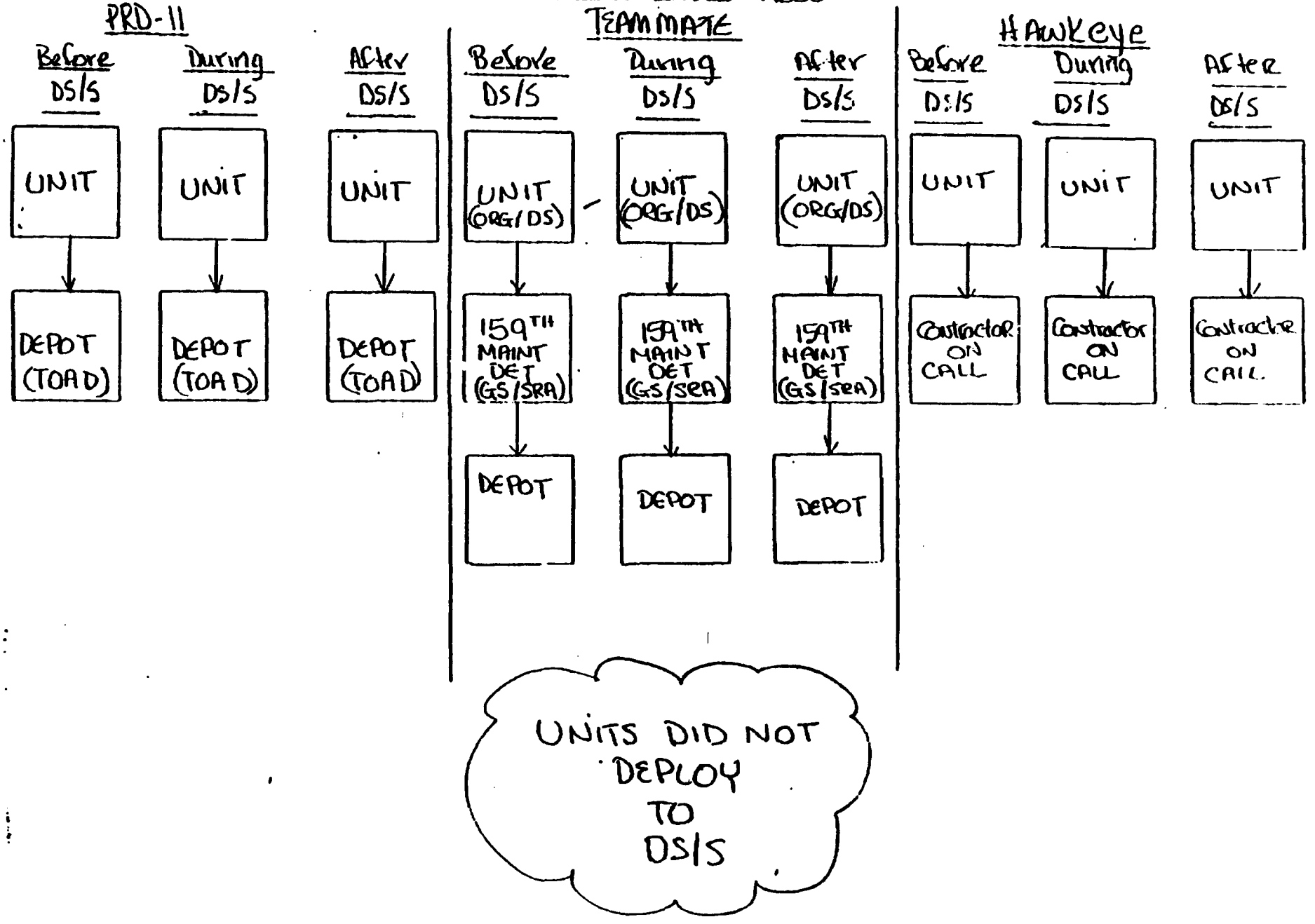


32nd Military Intelligence Battalion Maintenance Flows

6/17

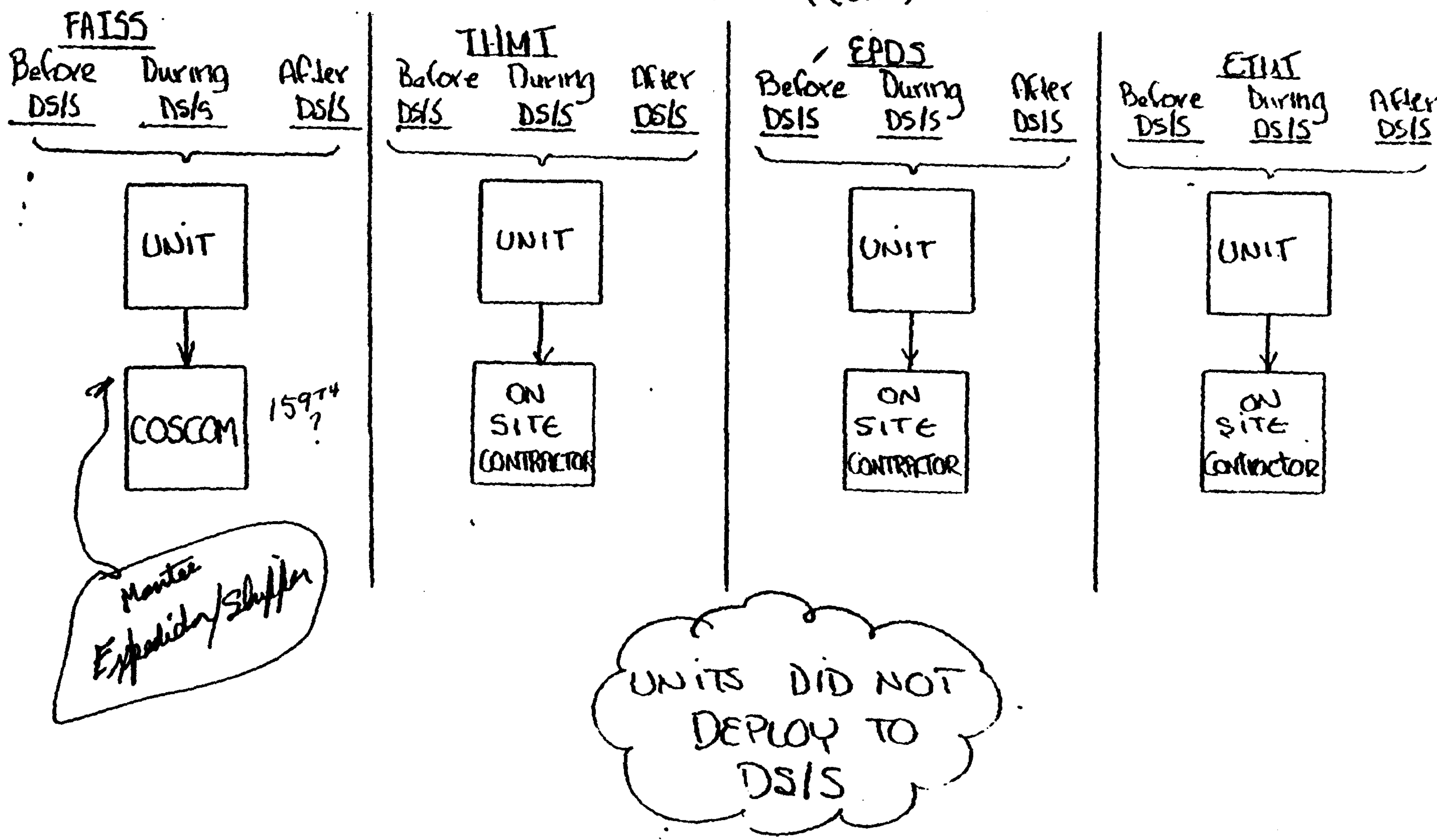


504th Military Intelligence Brigade (Incl 163rd MI / 303rd MI Bns) 1/1c
Maintenance Flow



8/12

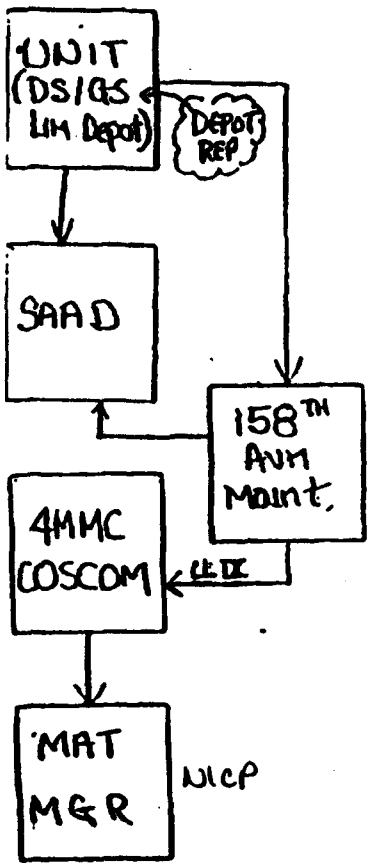
504TH Military Intelligence Brigade (Incl 163RD MI / 303RD MI Bns)
Maintenance Flow (Con't)



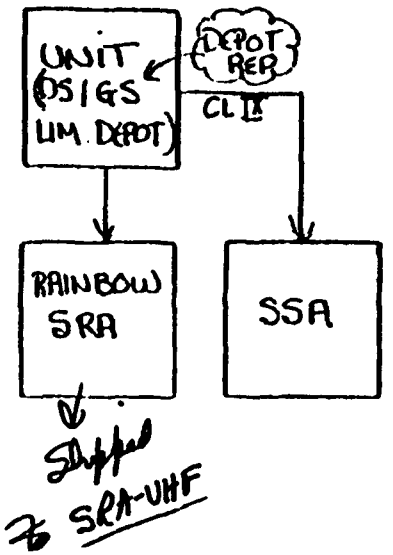
15TH Military Intelligence Brigade (Aviation)
Maintenance Flow

Guardrail V

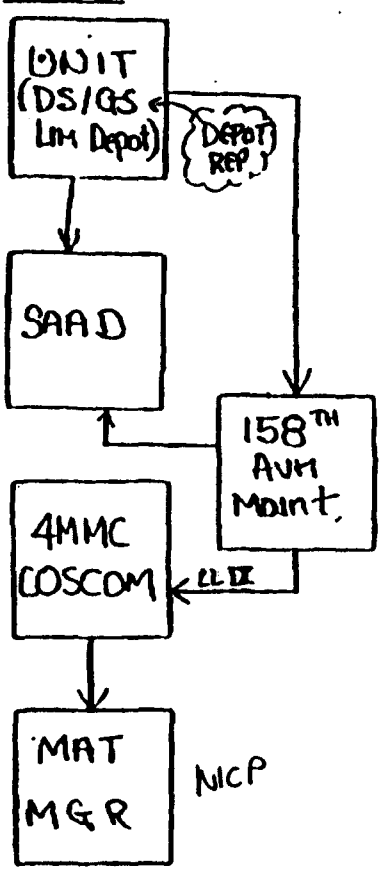
Before DS/S



During DS/S

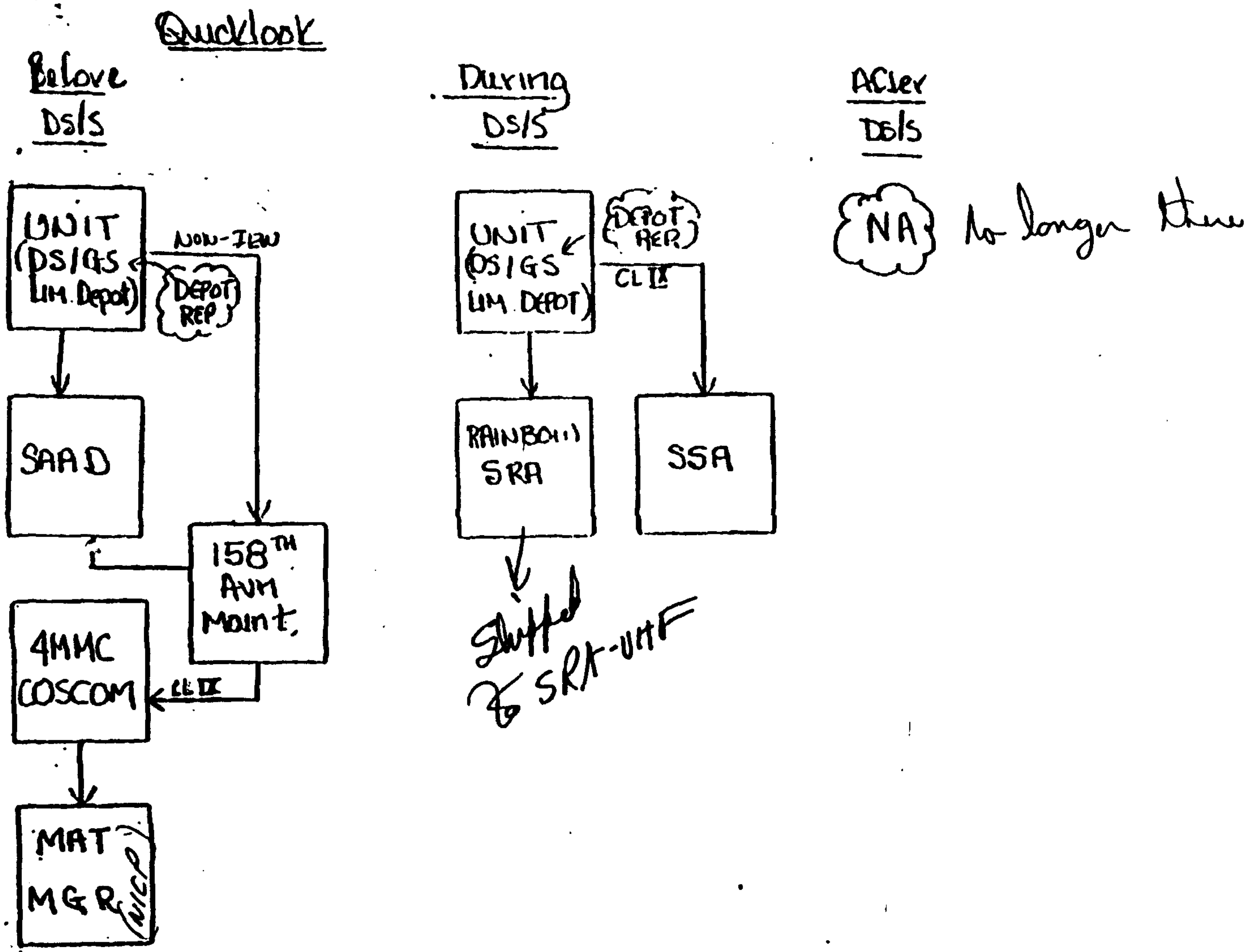


After DSS



10/12

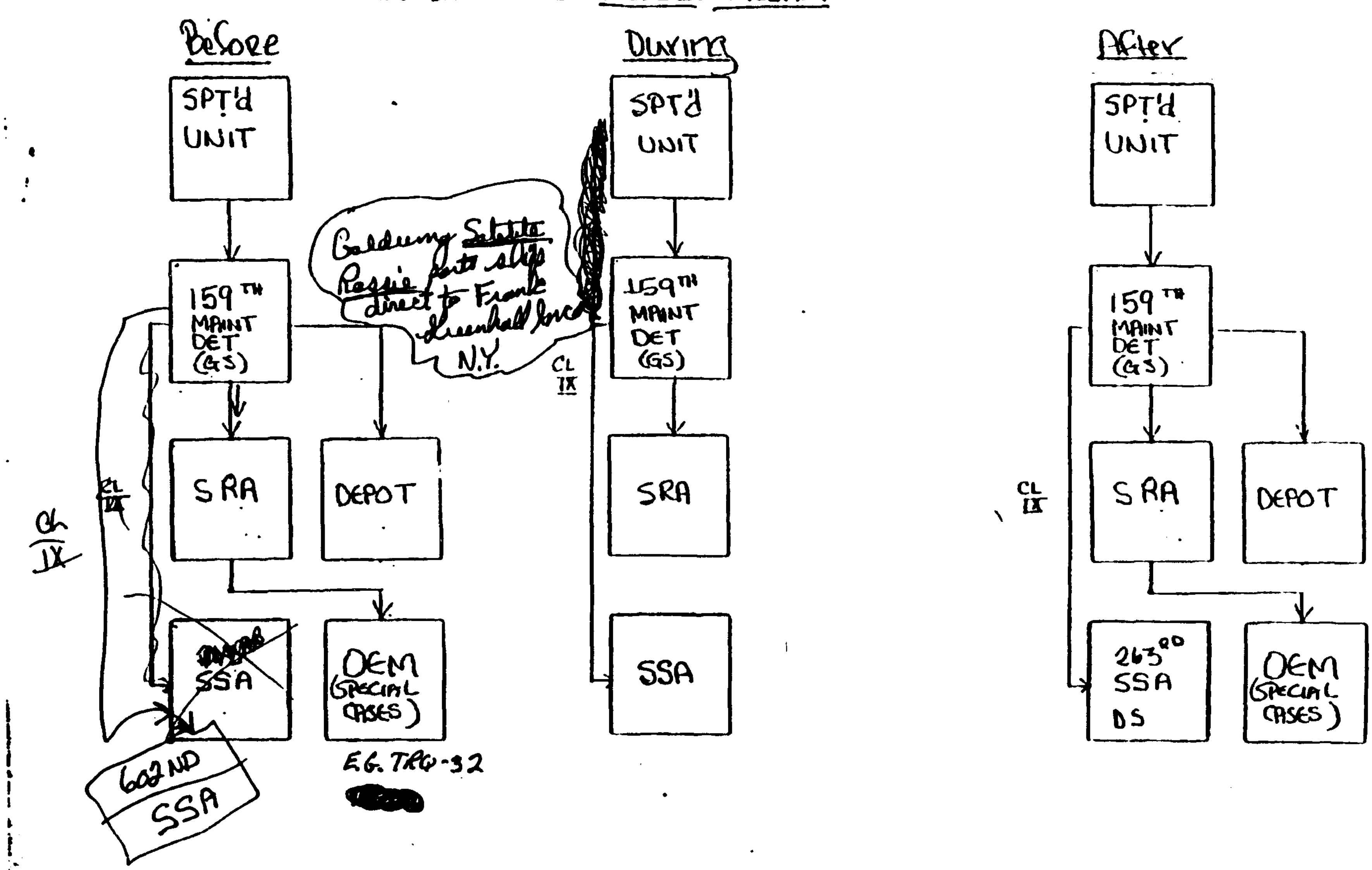
15TH Military Intelligence Brigade (Aviation) Maintenance Flow (Con't)



11/12

159TH MAINT Detachment

Responsible for GS repair of <u>MSQ 103</u>, Goldwing, FAISS, PRD 11, UG 181, ~~Team mates~~; <u>TRQ 32</u>, <u>TACJAM</u>

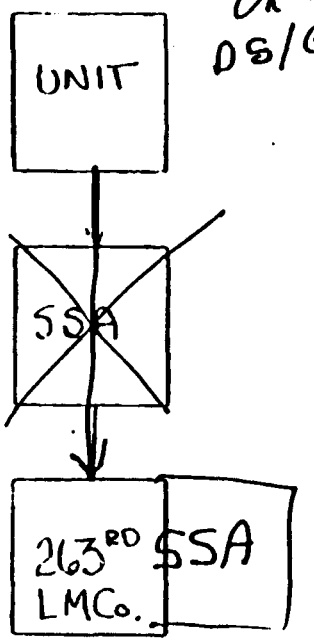


263rd Light Maintenance Company

Before DS/S

Stationed in ELISAUR

During DS/S



ORG DS/GS

After DS/S

~~No longer functional~~ only Maint 33T's

Everything else E.G. SSA is functional

MANTECH FIELD ENGINEERING
FORT HOOD, SRA

	UIC	DODDAC
FT. BLISS, TEXAS 79916		
66th MI CO. CEWI 3/3 ACR.....	WGY5AA	W80YHY
W01 O'DELL AVN - 978-1364		
LT. KRINGS AVN - 978-8955		
COMM. (915) 568-8955		
HHT 4-3 ACR QF PLT.....		
SSG SIMS AVN - 978-9074		
SGT. WURTH AVN - 978-9074		
SFC PERRY (NCOIC C & E SHOP) COMM. (915) 568-9074		
FT. CARSON, COLORADO 80913		
104th MI BN.....	WH64AA	W80YKG
PFC MILLER AVN - 691-2242 C&E SHOP		
AVN - 691-4257		
COMM. (719) 579-2242		
D. CO. 4TH CA BN.....		W81GNF
SSG HERRON AVN - 691-2451		
SPEC. LEO AVN - 691-2451		
COMM. (719) 579-2451		
FT. HOOD, TEXAS 76545		
312th MI BN.....	WH62T0	W80RNY
W01 OWENS AVN - 737-3231		
COMM. (817) 287-3231		
163rd MI BN.....	WHJDT0	W45CID
SGT KINNON AVN - 738-9122		
SGT BRACKEL COMM. (817) 288-9122/9696		
D CO. 227 AVN REG.....		
SFC REED AVN - 738-1222		
SGT STALEY COMM. (817) 288-1222		
FT. HUACHUCA, ARIZONA 85613		
D. CO. 304th MI BN.....	W4N8AA	W803A4
SFC LARSON AVN - 821-5686/2979		
SGT WELCH " "		
CW2 MCCUTCHEN AVN - 821-3647		
COMM. (602) 533-3647		
E. CO. 304th MI BN.....	WIE805	
SGT COBB AVN - 879-2801/2019		
COMM. (602) 533-2801		

FT. POLK, LOUISIANA 71459

105th MI BN.....WANQAA W8000A
W01 SALLEE AVN - 863-4554/1862
COMM. (318) 531-6481/6325

5th AVN. REGT.....WAX8AA
SGT MOTT AVN - 863-1873
CW2 CLIFTON COMM. (318) 531-1873/1870 EXT. 127

FT. RILEY, KANSAS 66442

101st MI BN CEWI EM.....WH63AA W8YKK
SSG WILSON AVN - 856-9506
CW2 CHAMPION COMM. (913) 239-9506

4-1st AVN.....WDUYAA W800A8
SSG STEPHENS AVN - 856-6651
LT. TILLAR COMM. (913) 6651/3653

159TH MT DET
CUSTOMERS

163rd MI BN - III CORP
312TH MI BN - 1ST CD
101ST MI BN - 1ST ID
104TH MI BN - 4TH ID
105TH MI BN - 5TH ID
112TH MI BN - TRADOC
111TH MI BN - TRADOC
66TH MI CO - 3rd ACR
62 - 1ST CD
62 - 1ST, 4TH, 5TH ID
62 - 3rd ACR
62 - III CORP

RESERVE UNIT CUSTOMERS

CTF - AUSTIN, TX
304TH ASA BN - S TEXAS
594TH MI BN - C TEXAS
CTF - SAN ANTONIO, TX
314TH MI BN - MICH
138TH MI BN - ILL
135TA MI BN - KS
5TH WEATHER SQD - CR
5TH WEATHER WING - CR

ENCL 3

Appendix O

BDM MFR, 22 May 92, Subj: Trip Report, Visit to CASCOM, 1 May 1992

BDM

MEMORANDUM FOR RECORD May 22, 1992

SUBJECT: Trip Report, Visit to CASCOM, 1 May 1992

1. Purpose. To report the results of a visit held on 1 May 1992 at Fort Lee, VA, to coordinate CASCOM support to the IEW Streamlining Study.

2. Personnel attending.

a. CPT Michael Grossi, USAIC, Ft. Huachuca

b. SFC Richard Lawrence, CIMMC

c. David Nicholas, BDM International

d. David Condit, JB Systems Engineering Support Co.

3. Personnel contacted.

a. MAJ Michael Fehn, Concepts & Doctrine Dir, CASCOM

b. Mr. G. T. Dilday, Logistics Doctrine Div, CASCOM

c. Mr. D. Utton, Logistics Automation Dir, CASCOM

d. Mr. McCreary, Force Development and Evaluation Dir, CASCOM

e. Mr. Krievs, BOIP Branch, FD&E Dir, CASCOM

4. Discussion.

a. MAJ Fehn escorted study team personnel to the "incubation room" and provided an update on current CASCOM initiatives to improve battlefield logistics. He furnished a point of contact listing and briefing graphics on several logistics functions; i.e., FIX, SUSTAIN, and ARM.

b. Study team members met Mr. Dilday and Mr. Utton, who provided information on the functions of their sections. Mr. Dilday is chief of the Logistics Doctrine Division of the Concepts & Doctrine Directorate, and Mr. Utton is in the Logtech and Hardware Branch of the Logistics Automation Directorate.

c. CPT Grossi obtained several copies of the CASCOM Staff Directory for study team members.

d. Team members then visited Mssrs. McCreary and Krievs to initiate contact with the Directorate that develops all Combat Service Support TOEs and BOIPs (less medical TOEs and BOIPs).

David P. Nicholas
Project Manager
BDM International, Inc.

Appendix P

BDM MFR, 1 Jun 92, Subj: Trip Report - Fort Campbell, KY, 19 May 1992

BDM

MEMORANDUM FOR RECORD June 1, 1992

SUBJECT: Trip Report - Fort Campbell, KY, 19 May 1992

1. The purpose of this memorandum is to highlight items of interest to the IEW Streamlining Project identified during above visit to the CECOM IEW Logistics Assistance Representative (LAR) and members of the 311th Military Intelligence (MI) Battalion, Ft. Campbell, KY.

2. The following personnel comprised the IEW Streamlining Project team which visited Fort Campbell:

Mr. Riddle, CIMMC
Mr. Serrentino, FORSCOM
SFC Lawrence, CIMMC
Mr. Nicholas, BDM International
Mr. Nusbaum, BDM International

3. Personnel Contacted (see attached list of attendees)

4. Discussion. During the visits various areas of concern and information were discussed. Based on use of the IEW Streamlining Questionnaire, some items of interest were surfaced which are discussed below.

a. Visit with CECOM LAR

(1) The IEW Streamlining Team met with Mr. Richard Van Blarcum, IEW LAR, at 7:45, 19 May 1992, in his office. Mr. Van Blarcum's experience has been primarily in supply and not IEW systems. He did not deploy to Desert Shield/Desert Storm (DS/S) with the Division.

(2) Mr. Van Blarcum stated that one of his primary concerns regarding the MI Battalion was its ability to communicate during the May-Oct 92 period due to the fact that the unit was being required to turn in its RATT equipment and was not being issued MSE equipment until Oct 92.

Source Code: C4/R/0 (see attached list of source codes)

b. Maintenance

(1) The unit commander and maintenance personnel want DS, GS, and limited depot responsibilities, capabilities, and resources placed at the lowest level, preferably within their area of control. Unit commander and the maintenance warrant want

maintenance capability as far forward as possible, within the unit if possible. The unit cannot count on higher maintenance support based on their unique mission and due to such reasons as the distances to and from higher echelon maintenance sites and the units perceived existing capability to accomplish tasks above their MAC limitations. The unit also stated that the resources required of these maintenance assets must also come with the capability. These are personnel, equipment, and mission funds. The 311th MI Bn agreed with previously visited units' comments that the system as a whole underestimates the ability of the IEW repairers to troubleshoot more complex problems.

Source Code: C5/C,T/7,5

(2) The unit was not in a good maintenance posture or operational rate prior to DS/S. The unit's C-rating was at level 2-3. During DS/S the C-rating was C-1 and has remained at this level. The commander attributes this improvement to lessons learned from DS/S. The battalion has applied those lessons to their maintenance procedures in the form of updated maintenance SOPs, unit training, and professional development of officers and NCOs. The FORSCOM representative was quick to point out that no FORSCOM units "got well" at DS/S.

Source Code: C5/C,T/7,5; C4/R/O

(3) The divisional Maintenance Assistance and Instruction Team (MAIT) is being phased out due to cost and personnel reductions. Though this action does not directly impact on IEW sustainment, the MAIT was an asset which had the means and legitimacy to circumvent obstacles in resolving maintenance challenges. The 311th utilized the team on numerous occasions to troubleshoot maintenance and logistics procedural problems. The MAIT's demise will increase the burden placed on the maintenance assets of the battalion and on the LAR.

Source Code: C5/C,T/7,5

(4) The 311th stated that there was very little actual repair done by the 158th Maintenance Detachment (GS) during DS/S and that most of the interaction between the two units involved the swapping of parts or LRUs. This small level of actual repair work was caused in part by the 311th's ability to repair above MAC levels, the long turnaround time, and the four- to five-hour travel time to and from the 158th. In contrast to the comments of other surveyed units, the 311th stated that they experienced only minor problems in locating their SRA.

Source Code: C5/C,T/7,5

(5) The low density of IEW systems and their repair parts prevents the cost-effective stockage of PLL-backup stocks in a DS

Authorized Stockage List (ASL); this situation strengthens the value of the unit-to-GSU stovepipe for the resupply of high cost items.

Source Code: C5/C,T/7,5

(6) The AN/TLQ-17A was the most reliable of the IEW systems which the battalion took to DS/S. This system maintained the highest operational rate of the IEW equipment and had a relatively low turnaround time on part replacement and contractor support. Before, during, and after DS/S, the unit boxes up the applicable part along with its paperwork and sends the part directly to the contractor.

Source Code: C5/T/5

(7) The 311th agreed with other units surveyed that the EQUATE Test Set is too large, unwieldy, and unresponsive to tactical requirements of the 311th's mission. It rarely is available, is not suited to the air assault mission of the unit, and is not a user friendly system. The unit wants a lightweight, cheaper, more man-packable system. The unit commander stated that "the EQUATE can't fix anything."

Source Code: C5/C,T/7,5

(8) The 311th believes that there should be minimal or no stovepiping of the supply system. The consensus of the unit seemed to be that, if the system needed to be stovepiped, then the MI community, at least at the tactical level, did not need the piece of equipment. The unit felt that the solution to low density sustainment lies in the streamlining of the Army supply and repair system, not the further complication of it. The commander suggested the procurement of cheaper systems, such as the AR 3000 scanner, which can be thrown away upon becoming inoperable.

Source Code: C5/C,T/7,5

(9) Maintenance personnel fill is presently at 100% and was at 100% before and during DS/S. The unit's perceived problem is the lack of availability during peacetime operations to such external requirements as post support, individual training, and unit extra duties.

Source Code: C5/T/5

(10) The unit stated that it had far more TMDE than they could haul or use. The majority of this TMDE came from past test programs. A movement has begun within the division to streamline TOE and MTOE within the next fiscal year will help alleviate this problem in the near future.

Source Code: C5/T/5

(11) There was little or no evacuation of unserviceables from the unit during DS/S. The unit had to guard or haul unserviceable items around the battlefield. The unit stated this situation was due to the fact that support units were not set up to receive unserviceables and would not accept the equipment. In several cases the unit received the unrepaired unserviceables at home station after its return from DS/S.

Source Code: C5/C/7

c. Training

(1) The 311th agreed with other units surveyed that graduates of IEW equipment repairer MOS-producing schools are too generically trained. The unit's maintenance warrant felt that too much emphasis is placed on graduates being "On-the-Job Trained (OJT)" at the receiving unit. This situation was particularly true of the 33-series repairers who need more training on system-specific skills and on getting into boxes for repair. MOS 33-series repairers need more training in basic test, measurement, and diagnostic equipment (TMDE). Graduates of Communications-Electronics and IEW maintenance MOS-producing schools are too generally trained on too wide a spectrum of materiel, much of which lacks relevance to daily operation. Training is not specific enough in troubleshooting down to circuit card level. The unit believes that repairers should be school-trained to go into the "black boxes," troubleshoot, and replace cards. New maintenance personnel generally cannot read flow charts and/or schematics. Generator repairers (MOS 52D) are uniformly surprised at the number and type of different generation systems within the unit. Repairers are not trained on many of these systems. Generally, the more experienced mechanics, those who were OJT'd in the unit, were better prepared.

Source Code: C5/C,T/7,5

(2) The unit feels they are very proactive in conducting maintenance and logistical familiarization training at all levels of the battalion. The commander feels that this training is critical in maintaining the high operational rate which the 311th enjoys. Officers are required to make a semi-annual maintenance "terrain walk" with the commander and to become familiar with all aspects of maintenance within the battalion. At the soldier and NCO level this training is accomplished through daily motorpool

activities, NCO professional development, and "Sergeant's time."

Source Code: C5/C,T/7,5

(3) The 311th agreed with other surveyed units that there should be contractor integrated training, assistance, and the monitoring of soldiers repairing contracted IEW equipment on a far larger scale. The maintenance warrant stated that the system would work more effectively if contractors formally trained and assisted unit maintenance personnel while fulfilling contractual obligations. This arrangement would lessen the dependence on contractor support in a hostile environment.

Source Code: C5/C,T/7,5

d. Command/Control

(1) The commander and maintenance warrant believed that the unit performed its operational and maintenance mission in line with doctrine. They both stated that there was flexibility within the system which they utilized effectively. The unit seemed steadfast in their opinion that there should be no reason for variation from the standard maintenance and supply system.

Source Code: C5/C,T/7,5

(2) The unit is using quantities of captured Iraqi IEW and communications equipment to augment their MTOE authorizations. These pieces of British-, French-, and Russian-made equipment are deemed, in many cases, superior to the U.S.-made equipment which the unit is authorized. The unit faces problems in securing repairs and parts for these systems, especially the RaCal systems, but felt that the repairing of these systems, either through local purchase or unit innovation, is not greatly different than required of the U.S.-made systems.

Source Code: C5/C,T,S/7,5

(3) IEW equipment repair faces major funding problems for the unit. The unit's requested budget for the year, a large part of which was maintenance oriented, was approved at 60% of the amount requested. The commander felt that repair of "non-killer" systems will now receive second or third priority within tactical units due to their high cost and the lack of understanding by higher decision makers of the unique and peculiar problems of IEW equipment repair and sustainment.

Source Code: C5/C,T,S/7,5

(4) The 311th believes that reserve component augmentation maintenance elements should be affiliated in peacetime with the

unit they would support upon mobilization and be mobilized with that affiliated unit.

Source Code: C5/C,T,S/7,5

(5) The commander recommended that the team visit an exceptional reserve component (RC) unit (147th MI) and one of the more ordinary units (138th MI) in order to fully understand the scope of how far out of synchronization the RC MI units are with the active forces, particularly in the IEW maintenance functions. Mr. Serrentino, the FORSCOM representative, stated that he would check into the possibility of the team's visiting at least one of these units.

Source Code: C5/C,T,S/7,5; C4/R/0

(6) The commander does not utilize the AN/TRQ-32 and did not use it in DS/S because it cannot be sling-loaded. He questions the authorization to units of equipment which actually hinders rather than helps the unit's mission capability.

Source Code: C5/C/7; C4/R/0

e. Supply

(1) Publication accounts during DS/S were a major problem. Though the unit requested priority for their change of address for DS/S, all pubs went to home station. The forwarding process by the home station elements was either very slow or did not occur.

Source Code: C5/C,T/7,5

(2) As with other units surveyed, the unit contends that allocated monies go to the "shooting systems" with the "non-shooters," such as MI units, receiving second or third priority. This situation presents an acute logistics challenge due to the high cost of parts' replacement and often results in additional down time on systems which inherently have long turnaround times. Any supply action within the IEW equipment channels requires inordinately long leadtime, is high dollar, and has great potential for being lost within the system. The unit also stated that, due to the low density of IEW parts, stockage is frequently non-existent at maintenance levels.

Source Code: C5/C,T/7,5

(3) The unit felt that there are bureaucratic problems within the supply system and used as an example their problems in getting the system to allow the use of higher cost batteries such as the 5598 versus the 4386. The 5598, the higher cost battery, is required for use in training in the unit due to its high life

expectancy. The 4386, a far cheaper battery, would require three times the number and weight to be carried. Weight is a primary concern of this manpacked unit. Utilizing the 4386 would save money but would not be the standard battery used in combat and only adds a burden to the individual carrying the batteries.

Source Code: C5/C,T/7,5

(4) Contrary to other units surveyed, the unit felt that the movement of class IX to and from their unit went well, and they believe this fact to be indicative of their correct use of existing standard operating procedures.

Source Code: C5/C,T/7,5

(5) Contractors received good marks from the 311th (see attached survey results). The unit believed that contractors did provide value-added support. Visited participants' attitudes toward contractor maintenance and supply support during DS/S was primarily positive. Generally, contractors received high marks for reliability before, during, and after DS/S. Strengths included the flexibility and cooperativeness of individual contractors who, in many cases, went beyond their contractual responsibilities to assist units.

Source Code: C5/C,T/7,5

(6) The 311th maintains stocks of LRUs on their Shop Stock List rather than on their Prescribed Load List (PLL).

Source Code: C5/T/7

5. Summary

a. Attached are system flowcharts depicting support relationships for the IEW systems in the 311th MI Bn.

b. The visit to the 311th MI Bn was an extremely positive one and, to some degree, contradicted other unit visits in that the unit supports primary use of the Army maintenance and supply system as it presently exists and downplays the importance of stovepiping. Members of the unit were very proud of the achievements of their unit during DS/S and their discussions reflected this attitude.

c. The unit, in line with its mission requirements and capabilities, does not support the authorization or issuance to any unit of any system which entails onerous sustainment or transport requirements. These systems are more of a burden than an asset, and the 311th refuses to take these systems to the field.

d. A cause for concern is the lack of standard structure of the unit visits thus far. Though the efforts put forth by the units have been excellent, there have been no two units which have provided the same type or number of individuals to be interviewed. Some units have provided over twenty personnel, while some have provided as few as five. The validity of the effort of the team visits depends on the data being derived from a standard baseline, and, at present, this baseline does not exist. The team needs to look at this challenge and determine the best solution.

David P Nicholas

DAVID P. NICHOLAS
Project Manager
BDM International, Inc.

4 Atchs

Attachment 1

List of Attendees

IEW Streamlining Team Site Visit

to

Fort Campbell, Kentucky

Logistics Assistance Representatives
7:35-7:55, 19 May 1992

Mr. Richard Van Blarcum, IEW

311th Military Intelligence Battalion (AA)
8:00-2:00, 19 May 1992

LTC Riccardelli, Commander

MAJ Meinke, Executive Officer

1LT Rinscon, C & E Platoon Leader

1LT Wright, Battalion Motor Officer

WO1 Rickey, Battalion IEW Technician

Attachment 2

IEW STREAMLINING TEAM

Source Codes Explanation

The source codes used to identify sources of information obtained during site visits is explained below. Each code is comprised of three parts. The first part uses a letter followed by a number. The letter denotes the installation visited such as "H" equating to Fort Campbell. The number randomly refers to one of the units visited during that trip. The second set of codes refers to the area of specialty or position of the respondent. An example is "M,O" referring to observations from a Maintenance Section Leader. The final set of codes refers to the rank of the individual; i.e., "5" would be an observation given by a Warrant Officer in the grade of WO1 or CW2. The codes below are for use during the site visit to Fort Campbell.

Unit Code	Individual	Rank
C4 - Civilian/LAR	C - Commander	2 - E1-E5
C5 - 311 MI Bn (AA)	S - Staff Member	4 - W3-W4
	T - Technician	5 - W1-W2
	O - Section Leader	6 - O1-O4
	U - Supply	7 - O4-O6
	M - Maintenance	0 - Civilian
	I - IEW	
	R - MACOM representative	

Attachment 3

IEW STREAMLINING TEAM SITE VISIT

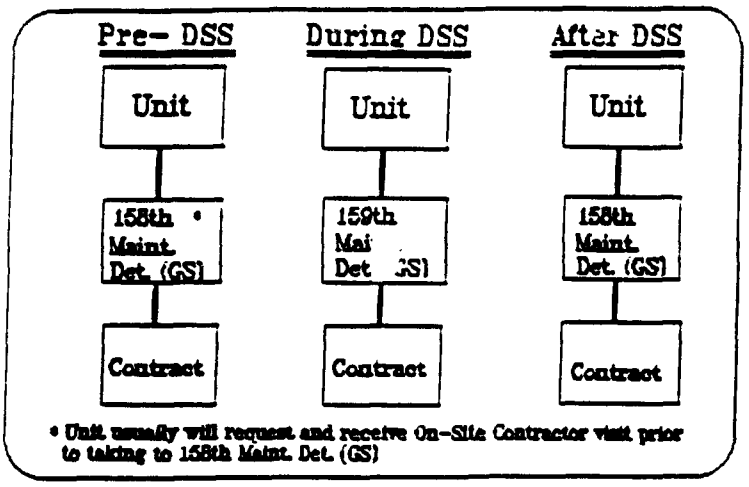
CONTRACTOR SUPPORT SURVEY

311th Military Intelligence Battalion (AA)

SYSTEMS LIST	CONTRACTOR	LEVEL	QUALITY RATING
TRQ-32 Normal	MANTECH	SRA/GS	3+
(DS/S)	MANTECH	SRA/GS	3+
TLQ-17 Normal	MANTECH	SRA/GS	3+
(DS/S)	MANTECH	SRA/GS	3
QUICKFIX	MANTECH	SRA/GS	3+
(DS/S)	MANTECH	SRA/GS	3+
TROJAN SPIRIT	TRISA	SRA/GS	3+
(DS/S)	TRISA	SRA/GS	3+

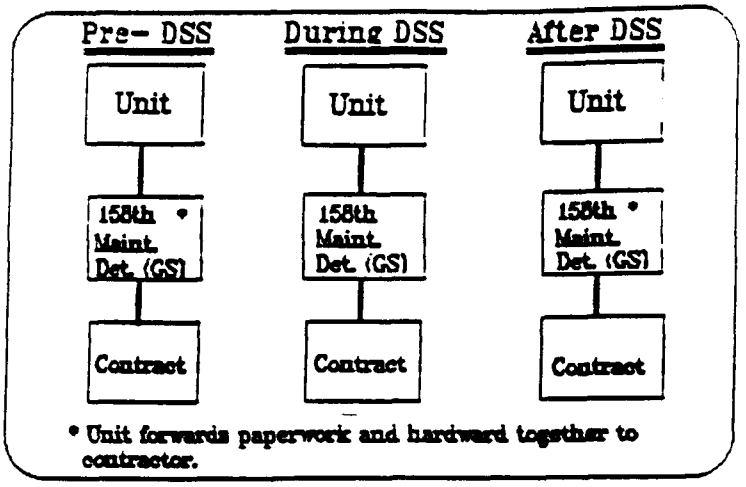
311th Military Intelligence Battalion (AA) System Maintenance Flows

AN/TRQ- 32 TEAMMATE



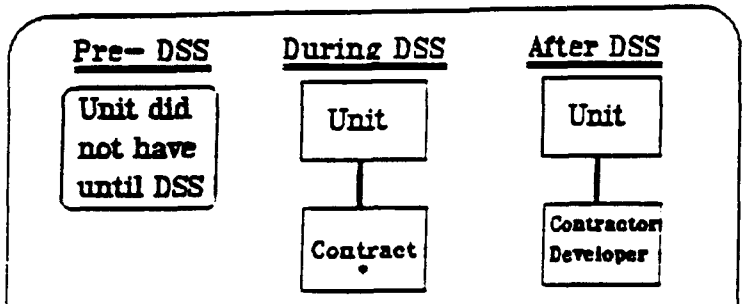
* Unit usually will request and receive On-Site Contractor visit prior to taking to 158th Maint. Det. (GS)

AN/TLQ- 17A TRAFFICJAM



* Unit forwards paperwork and hardward together to contractor.

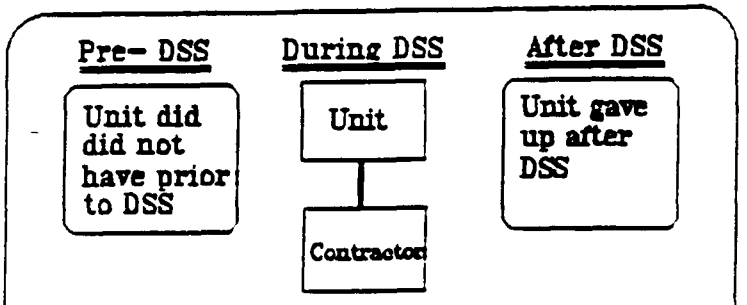
AN/TSQ-130 TCAC



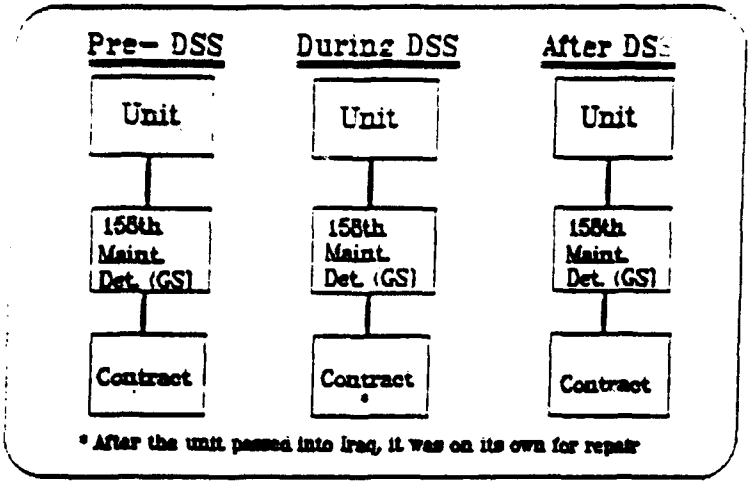
The data link for the TSQ 175. TCAC was fielded while at DSS.

* System became inoperable during DSS and never came up.

TROJAN SPIRIT

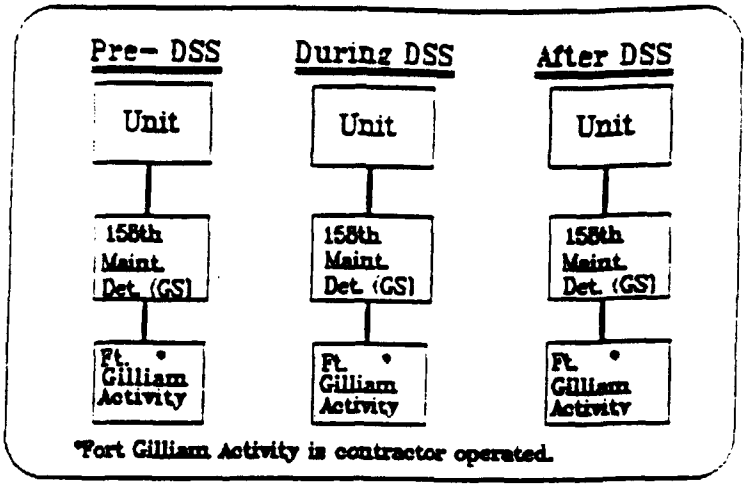


AN/ALQ- 151
QUICKFIX



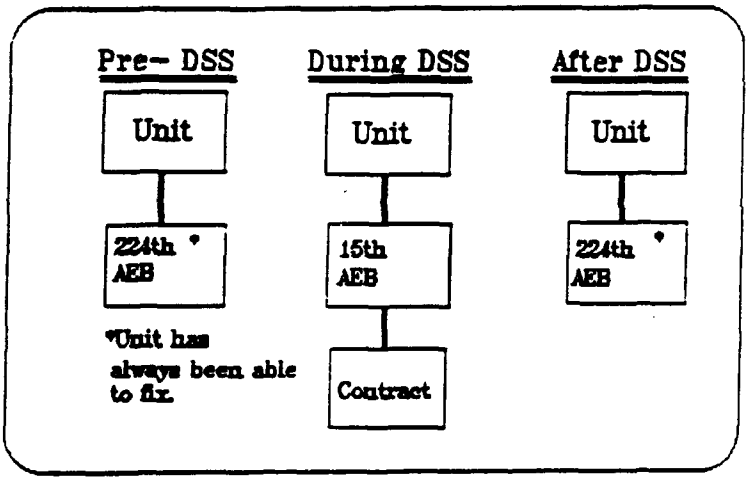
* After the unit passed into Iraq, it was on its own for repair

AN/GRQ- 27
GOLDWING



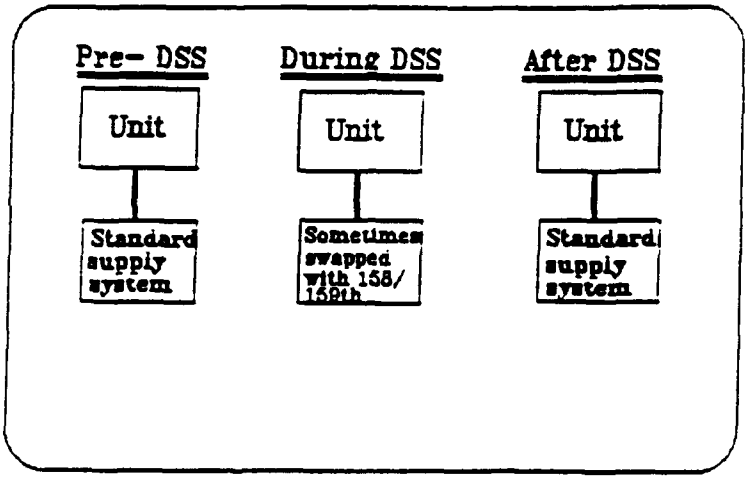
*Fort Gilliam Activity is contractor operated.

CTT



*Unit has always been able to fix.

AN/PRD- 11



Appendix Q

BDM MFR, 2 Jun 92, Subj: Trip Report, Ft. Devens, MA, May 18-20, 1992

BDM

MEMORANDUM FOR RECORD June 2, 1992

SUBJECT: Trip Report, Ft. Devens, MA, May 18-20, 1992

1. Mr. Robert Klebo of BDM accompanied Mr. Dennis Dutton and Mr. Glenn Taillie of IMMC, on a visit to the United States Army Intelligence School Devens (ISD), Fort Devens, Massachusetts, on May 19, 1992.

2. The purpose of the trip was to identify, document, and discuss the program of instruction for the 33-series Career Management Field (CMF).

3. Mr. Bob St. James, Maintenance Training Directorate (MTD), acted as host during the day.

4. Colonel Quinlan, ISD Deputy Commander, welcomed the IEW Streamlining personnel and briefly discussed the School's goals and role in the maintenance of the Intelligence and Electronic Warfare (IEW) systems. Key points he mentioned were:

a. MTD has developed and is using the Basic Electronic Maintenance Trainer (BEMT). ISD provided a briefing and demonstration of the BEMT later that afternoon.

b. MTD has developed a training program for SUN computer maintenance in conjunction with the Air Force and Navy and has implemented it at the School . ISD wants executive agency and proponency for SUN maintenance training for all services. ISD provided a tour of the SUN facility and a demonstration later that afternoon.

c. The Army must continue to train and use the 33-series Military Occupational Specialties (MOS) or allow ISD to take over all electronics maintenance training for the Army.

d. Separate operators and maintainers are required on all IEW systems, including the newest ones still under development.

5. Mr. Dennis Dutton briefed the assembled group (see enclosed attendance roster) on the overview of the Intelligence and Electronic Warfare Battlefield Sustainment Study. MAJ Korzeniowski, Chief of New Systems and Training Office, strongly recommended that the All Source Analysis System (ASAS) be added to the list of systems being examined by the study.

6. Mr. Bernard Foley, Director of Training and Doctrine (DOTD), presented a briefing on the Systems Approach to Training (SAT). The goal of the SAT is to train to the requirements of the field. Mr. Foley provided an extract from the *Human Resources Management & Development Handbook* Chapter 97, "Designing Training Systems"

(enclosed). There was a short discussion on training development. The normal time line for development of a course is three years, but course have been developed in a year or less.

7. Mr. Larry Devereaux, Chief of TENCAP systems, DOTD, briefed the System Training Plan (STRAP). STRAP can be produced for any system, including non-developmental items (NDI). The problem has been that the STRAP has often never been requested for NDI. In developmental systems the STRAP is required to be submitted at Milestone Decision I. Mr. Devereaux mentioned that contractor training development had a very poor track record. Mr. Foley had stated this observation earlier. Mr. Foley said he was referring to the Original Equipment Manufacturers (OEM). As an example he cited the problems that ISD was having with the Joint Surveillance Imagery Processing System (JSIPS) in Germany. After an initial review of training material developed by the OEM, ISD recommended many changes and improvements to meet the requirements. At the next review, nothing had been changed. ISD then sent a task force to Europe to work with the contractors to revise and redevelop the training so that the fielding would not be delayed.

8. Mr. Frank Smith, Directorate of Evaluation and Standards (DOES) briefed the Graduate Follow-Up Program (see enclosed briefing graphics). The program involves sending out carefully designed surveys to every graduate of ISD. The latest survey was for the 33T MOS for graduates from June 1988 through July 1990. The data are still raw, but a significant finding is that the Built-in Test (BIT) of the current equipment was successful in isolating the equipment fault only 45% of the time. Traditional manual methods were 70% successful. This observation underscores the need for the maintenance technician at the unit level, since operators depend solely on the BIT for fault isolation. Discussion during the briefing with CW4 Jones disclosed that current doctrine is the problem in the type and scope of training for 33T MOS. The Integrated Logistics Support Plans (ILSP) for the current IEW systems greatly influenced the current curriculum.

9. Ms. Sally Murray presented the Course Design for Electronic Warfare (EW)/Intercept Tactical Systems Repairer, 102-33T10. This latest revision increases the course from 32 weeks 1 day to 35 weeks 1 day (see enclosed chart). The significant changes are Basic Electronics Training (BET) is increased from 91 days to 100 days; Tactical Common Equipment Theory is reduced from 15 to 13 days; 12 days of AN/MLQ-34 TACJAM Maintenance Training are deleted; and 20 days of Computer Systems Fundamentals have been added. This last course is using the Sun Sparc Workstations and the Reduced Instruction Set Computing (RISC) architecture which is being incorporated into the TACJAM-A based Common Sensor Systems. Ms Murray also provided a list of 33T critical tasks and the current 33T Soldier's Manual and Trainer's Guide, STP

34-33T14-SM-TG, February 1991, and the latest proposed changes to the 102-33R10 Electronic Warfare (EW)/Intercept Aviation Systems Repairer (see enclosed chart).

10. Discussion with SSG Murphy (33R) included the proposal that the Maintenance Concept for IEW must be changed to a two-level system. Depot level must be 100% provisioned with both boxes (LRU) and cards (CCA). CW4 Jones stated that the GS (General Support Detachments) is "broke." Organic maintenance capability up to GS level must be incorporated at the Military Intelligence Battalion level. He tracked a part in Germany which travelled 700 kilometers in 66 days just to get GS level (SRA) support. CW4 Jones posed the questions to be answered by the study: What is the attrition rate of LRU's? How many are lost by having to be moved around in supply channels which are not used to handling them? Also, under Stock Funding of Depot Level Reparables (SFDLR) the MI Bn could cost from $6 million to $30 million depending on credit for returned reparables.

11. Interview with CW4 Jones, Chief Instructor of the IEW Maintenance Warrant Officer Course. His most significant point was that the part-number requisition system in Europe (CW4 Jones was assigned to the 108th MI Bn) does not work. He "never got a part-number requisition filled in over four years at the 108th." Manual handling is not done because it is too difficult and time consuming. In the automated databases, the part number items could not be identified, and therefore requisitions were returned to the originator. CW4 Jones would return to the SSA and have them enter the data into their database, then resubmit the requisition. The action was then rejected from the next level up. He kept climbing up the ladder in this fashion by entering the data in the next rung's database until he could go no farther in Europe. When the units cleaned out their databases, deleting low demand items, the part numbers were purged, and he had to start over. [Perhaps a top down loading of the databases could solve this problem.] CW4 Jones believes that every MI unit needs direct MILSTRIP access to National Inventory Control Points (NICPs). CW4 Jones suggested that Signal Corps may have similar sustainment problems with Multiple Subscriber Equipment (MSE).

12. The team toured the MTD facility and the BEMT in particular. Mr. St. James says that ISD would like proponency for all Army Basic Electronic Maintenance Training, using its BEMT and future upgrades.

David P. Nicholas
Project Manager
BDM International, Inc.

Enclosures:
1. Attendance Roster
2. Briefing Slides: Graduate Follow-up Program
3. Present and proposed 102-33T10 Course
4. Present and proposed 102-33R10 Course

19 May 1992 IEW Sustainment Study Briefing

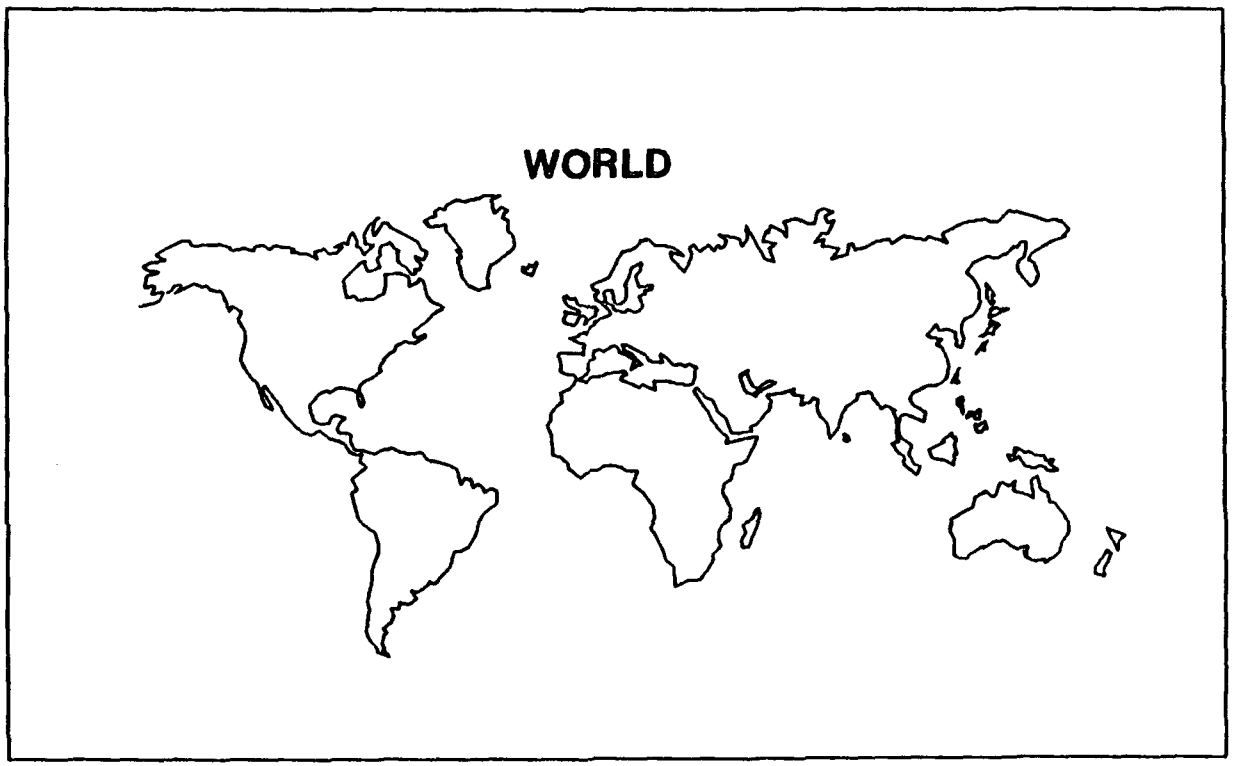
Attendance Roster

NAME	OFFICE	TELEPHONE
Glenn Taillie	USACIMMC, SELIM-IEW	(703) 349-6122 DSN 229-6122
Dennis Dutton	USACIMMC, SELIM-IEW	(703) 349-6122 DSN 229-6122
Robert Klebo	BDM International	(804) 596-6843 FAX 596-6852
MAJ Joe Sparks	Dir, MTD, USAISD	DSN 256-2508
Bob St. James	MTD, USAISD	DSN 256-2508
SSG Barry Austin	Office of Chief, MI-Devens	DSN 256-2179/3897
Francis W. Smith	DOES, USAISD	DSN 256-2297
MAJ Wayne Mastin	Chief, Training Design & Development, USAISD	DSN 256-2571
Sally Murray	Education Specialist/ Training Design	DSN 256-2555
MAJ Charles Korzeniowski	Chief, New Systems & Training Office	DSN 256-3402/2948
CW2 Hammond		
Larry Devereaux		
CW4 Jones	Chief Instructor, Warrant Officer Training, MTD	DSN 256-3681

Enclosure 1

FRANK SMITH
DOES

GRADUATE FOLLOW-UP PROGRAM



PURPOSE

TO GATHER FIELD DATA REGARDING THE QUALITY OF GRADUATES AND THE USE OF TRAINING AND DOCTRINE PUBLICATIONS.

OBJECTIVES

- TO DETERMINE IF THE SCHOOL'S GRADUATES ARE PREPARED FOR THEIR FIELD ASSIGNMENTS.
- TO DETERMINE THE USAGE RATE FOR STP AND ETM.
- TO DETERMINE THE LEVEL OF DISSEMINATION FOR MOS AND RELATED DOCTRINAL PUBLICATIONS.

DESCRIPTION OF SURVEY PROGRAM

* MAIL-AWAY QUESTIONNAIRES BASED ON TRAINED CRITICAL TASKS & BACKGROUND VARIABLES
* SURVEY INCLUDES OPPORTUNITIES FOR NARRATIVE RESPONSES
* GRADUATES ASKED ABOUT CRITICAL TASKS
* SUPERVISORS ASKED ABOUT GRADUATE'S PROFICIENCY

ANALYSIS

- CONSISTENCY OF SURVEY RESPONSES BETWEEN GRADUATES AND SUPERVISORS.
- CONSISTENCY OF SURVEY RESPONSES BETWEEN UPPER AND LOWER 1/3 OF GRADUATES.
- CONSISTENCY OF SURVEY RESPONSES BETWEEN UNIT TYPES AND BETWEEN DUTY POSITIONS.

REPORTING

- BIANNUAL TREND REPORTS BY COURSE.
- ANNUAL REPORT BY MOS WHICH COMBINES ALL DATA FROM INTERNAL AND EXTERNAL SOURCES.

GRADUATE FOLLOW-UP SURVEY DATA
(33T)

SURVEY DATA CHARACTERISTICS

- TOTAL SURVEYS SENT OUT = 364
- RETURN RATE = 77%
- SAMPLING ERROR = LESS THAN $\pm$3%

COMPOSITION OF WORK

- 36% TROUBLESHOOTING SYSTEMS
- 32% PREVENTIVE MAINTENANCE
- 10% ALIGNMENT OF SYSTEMS
- 09% TROUBLESHOOTING END ITEMS
- 07% TROUBLESHOOTING PCB
- 06% ALIGNMENT OF END ITEMS

TROUBLESHOOTING SUCCESS RATE

- 45% USING BIT/BITE
- 70% USING CONVENTIONAL METHOD

COURSE STRENGTHS

- ADHERE TO SAFETY REGS
- TROUBLESHOOT AN/MLQ-34
- TROUBLESHOOT TX TT1439/MLQ-34

COURSE WEAKNESSES

- TROUBLESHOOT C-11845/TRQ-32(V)
- TROUBLESHOOT AN/TRQ-32(V)
- TROUBLESHOOT AN/TSQ-138
- PREPARE DA 2404
- PREPARE DA 2407

COMMENTS

- SUPERVISORS REPORT THAT MANY TASKS TRAINED SUPPORT HEAVY DIV AND EXCLUDE MANPORTABLE EQUIPMENT SUCH AS THE PRD-10 AND PRD-11.

- SUPERVISORS NOTE THAT OJT ON THE AN/FSQ-144 IS TIME CONSUMING AND FOR SOME GRADS OVERWHELMING.

COMMENTS (CONT)

- THE MOST COMMON REQUEST AMONG 33T GRADS WAS FOR THE COURSE TO DEVOTE MORE TIME TO INSTRUCTION IN THE PREPARATION OF FORMS REQUIRED IN MAINTENANCE WORK.

CONCLUSION

- ANALYSIS OF THE 33T DATA CONTINUES
- PRELIMINARY FINDINGS HAVE NOT BEEN COORDINATED WITH SCHOOL STAFF

Sally Muncy

102-33T10 PRESENT LENGTH: 32wld (1[illegible]d)

BET	TACCOM	SAMS-1	OG-181/VRC MAINT	AN/TRQ-32(V)2 MAINT	AN/MLQ-34 MAINT	AN/TSQ-138 MAINT	AN/TSQ-138 TIDE	FTX
91d	15d	3d	6d	9d	12d	13d	7d	5d

102-33T10 PROPOSED LENGTH: 35wld (176d)

BET	TACCOM	COMPUTER SYSTEM FUND.	SAMS-1	OG-181/VRC MAINT	AN/TRQ-32(V)2 MAINT	AN/TSQ-138 MAINT	AN/TSQ-138 TIDE	FTX
100d	13d	20d	3d	6d	9d	13d	7d	5d

SUN
SPARC NS
THMT
HAWKEYE

32 wld

[illegible]

102-33R10: 38w0d (190d), CAD Length 42w3d (213)

BET	TAC COMMON	QF	GRCS
91d	15d	24d	60d

102-33R10: 36w0d (180d)

BET	TAC COMMON	QF	GRCS
91d	15d	24d	50d

102-33R10: 41w2d (207d)

BET	TAC COMMON	QF	SUN OR P/E	GRCS
100d	13d	24d	20d	50d

Appendix R

BDM MFR, 18 Jun 92, Subj: Trip Report - Fort Bragg, NC, June 16, 1992

BDM

MEMORANDUM FOR RECORD June 18, 1992

SUBJECT: Trip Report - Fort Bragg, NC, June 16, 1992

1. The purpose of this memorandum is to highlight items of interest to the IEW Streamlining Project identified during above visit to the members of the 313th Military Intelligence Battalion (ABN), 519th Military Intelligence Battalion (ABN), 319th Military Intelligence Battalion (ABN),and the 158th Maintenance Detachment (GS) on June 16, 1992 and with members of the 313th Military Intelligence Battalion and ManTech Incorporated on June 17.

2. The following personnel comprised the IEW Streamlining Project team which visited Fort Bragg:

Mr. Ralph Riddle, CIMMC
Mr. Glenn Taillie, CIMMC
Mr. Richard Serrentino, FORSCOM
Mr. David Greenwalt, FORSCOM
Mr. Charles Nusbaum, BDM International

3. Personnel Contacted (see attached list of attendees)

4. Discussion. During the visits various areas of concern and information were discussed. Based on use of the IEW Streamlining questionnaire, some items of interest were surfaced which are discussed below.

a. CECOM LAR. Due to other scheduled events, the CECOM LAR, Mr. Marshburn, was unable to attend the meetings with the above units.

b. Maintenance

(1) Personnel of all three of the units visited stated that the IEW specific equipment was responsible for only 15-20% of the downtime of the unit's equipment. The balance was due to prime mover and power generation equipment.

Source Code: C5,6/S7,T6/7,U6

(2) In contrast to other unit visits, the personnel of all of the visited units stated that the DA Form 2406 was being correctly and accurately done before, during and after Desert Shield/Storm (DS/S). There was some discussion by one unit as to "soft" deadline criteria, which allowed the commander greater flexibility to determine his operational capabilities on a daily basis during DS/S, but all agreed that this discretion was not routinely or haphazardly used. There was little doubt that some

minor bending of the rules took place, but all participants were adamant that the DA Form 2406 correctly reflected the units status and was properly maintained.

Source Code: C5,6/S7,T6/7,U6

(3) The 519th estimated their operational readiness rates before DS/S as 66%, during DS/S as 92%, and currently as 99%. Data for the other units was unavailable.

Source Code: C6/S6,U2

(4) The GOLDWING system was considered useless by one unit and very good by another unit. The difference arose concerning the GOLDWING's apparent inability to be safely airdropped, operated, and maintained. One unit stated that, due to the size, lack of combat hardening, and TMDE, the system provided little communications and was more of a burden than an asset. The other unit, a corps asset, did not routinely airdrop the equipment, did not have inordinate problems with GOLDWING, and did not displace quite as often. The unit thought the system was effective.

Source Code: C5,6/S7,T6/7,U6

(5) As with all military intelligence units visited to date, budgetary allocations are a primary challenge to the effective maintenance and operations of the unit. The 313th MI Battalion (ABN) received a $335K budget for FY 92. This amount was allocated against a $510K requirement. The unit at the time of this visit was $75K overspent with one more quarter left in the FY. The unit felt that the cause of this shortfall was due to the higher priority given to combat systems, unforecasted mission events, and unreceived credits for turn-in of reparable items (approximately $507K) which the unit will not receive even should the funds come back to the division. The units believe that they cannot effectively operate under the present priorities for resources or the monetary credit for materiel return procedures.

Source Code: C5,6/S7,6,T6/7,U6

(6) The 313th MI Battalion does not believe that it has enough TMDE to adequately maintain its equipment in the combat configuration at which it is organized. The battalion must provide three contact teams across the divisional front, yet only possesses one set of TMDE. Though the unit does not require three complete sets, it does require multiple issue of some commonly used items such as multimeters. The 519th professed a desire for more up-to-date, state-of-the-art, and more compact test equipment, but did not have a problem with the amount which they presently have on hand.

Source Code: C6/S6,U2

(7) There is little knowledge of the equipment or maintenance of the Long Range Surveillance Detachment (LRSD), which is on the MI Battalion TOE. The detachment is physically located with the air cavalry squadron, operationally answers to the G2/G3, and possesses a myriad of communication equipment. Some of the common items are maintained by the divisional signal battalion, and it was believed that the system-unique equipment, such as the burst transmission equipment, is stovepiped directly to a contractor. The team was unable to determine a conclusive answer as the LRSD unit was at a field location.

Source Code: C5,6/S7,6,T6/7,U6

(8) The 313th stated that there was very little actual repair done by the 158th Maintenance Detachment (GS) during DS/S, and that most of the interaction between the two units involved the swapping of parts or LRUs. This small level of actual repair work was caused in part by the 313th's ability to repair above MAC levels, the long turn-around time, and the four- to eight-hour travel time to and from the 158th.

Source Code: C5/S7,T6, U6

(9) There was a wide disparity between the two military intelligence battalion's IEW maintenance personnel fills. The 313th's before and during DS/S fill percentage was approximately 75% with an availability of 75% benchtime during a given work day. Its present status is about 150% with a 90% benchtime. The 519th is substantially different. Its pre-DS/S fill percentage was 60% with 90% benchtime availability. During DS/S, its fill rose slightly from 60% to approximately 66%, but benchtime availability fell to 80%. Its present level of fill is approximately 58% with 55% benchtime availability. The 158th's fill followed the same general fill curve as other visited units. Before DS/S the unit was at 80% fill with 30% workbench availability, during DS/S the unit was at approximately 110% fill with 80% benchtime availability, and currently is at 80% fill with 20% benchtime availability.

Source Code: C5,6,7/S7,6,5,T6/7,U6

(10) Units stated that their primary maintenance concerns involved the following:

(a) The turnaround on TLQ-17A transmitters and the TSQ-138 Trailblazer repair was excessive. Unit stated that there are not enough R123/124 receivers in the supply system which, in turn, causes inordinate turnaround times for repairing or replacing receiver components.

(b) Neither unit believed that it had enough LRU spares.

(c) There is a system-wide shortage of the components of the speed control actualization group, causing an increase in repair turnaround time of the AN/TRQ-32.

(d) All units interviewed believed that they did not possess enough repair parts to accomplish their mission.

(e) One of the units stated that the only power generation problems they faced during DS/S were the maintenance and repair of the 1KW Honda generators which supported the GOLDWING system.

(f) A serious problem with the repair of the PRD-10 is that even minor repair of the panel requires turn-in of the panel which is in system-wide short supply. The unit has had a front panel on order for over one year.

(g) Though not within the purview of the study, the a unit stated that there is a problem procuring REMBASS code programmer cables due to the short supply within the system. The 313th has a REMBASS system which has been down for 200 days awaiting the cable.

Source Code: C5,6,7/S7,6,T6/7,U6

(11) There was disagreement between the two divisional MI battalions as to whether the units' missions were consistent with doctrine. One unit believed that it generally followed the doctrinal maintenance procedures and was able perform its maintenance mission in line with that guidance. The other battalion did not believe that it was able to perform its doctrinal mission due to the lack of TMDE and maintenance equipment to include dedicated transport. Both units believed that they successfully accomplished their maintenance mission through varying degrees of innovation and limited bypass of standard, garrison procedures.

Source Code: C5,6,7/S7,6,T6/7,U6

(12) The 313th and the 519th agreed with other surveyed units that there should be contractor integrated training, assistance, and the monitoring of soldiers repairing contracted IEW equipment on a far larger scale. The attendees agreed that the system would work more effectively if contractors formally trained and assisted unit maintenance personnel while fulfilling contractual obligations. This arrangement would lessen the dependence on contractor support in a hostile environment.

Source Code: C5,6/S7,6,T6/7,U6,U2

(13) The two MI battalions visited were lukewarm to the idea of having DS, GS, and limited depot responsibilities, capabilities, and resources placed within their area of control. Though they appeared to approve of the concept, they were concerned about their transport capability based on their airborne mission. Though the unit cannot count on higher maintenance support because of their airborne mission, they also do not have confidence in their ability to haul the added TMDE and related equipment that would be required to adequately assume the GS and limited depot mission forward. There was a desire to allow 33-series MOS unit repairers to go into black boxes and repair down to circuit board level.

Source Code: C5,6/S7,6,T6/7,U6,U2

(14) Both MI battalions believed that the low density of IEW systems and their repair parts prevents the cost-effective stockage of PLL-backup stocks in a DS Authorized Stockage List (ASL). This situation strengthens the value of the unit-to-GSU stovepipe for the resupply of high cost items.

Source Code: C5,6/S7,6,T6/7,U6,U2

(15) Both MI battalions indicated that documentation for maintenance and supply functions was adequate except for NDI equipment. There was a problem obtaining PRD-10/11 and DRAGONFIX manuals. Though it was generally agreed that there were some problems with schematics, maintenance allocation charts, parts manuals, and the procedural interface between series of manuals, both battalions also agreed that these problems were being worked out and would take care of themselves in time. The units also believed that standard military documentation was more useful to unit repairers than contractor documentation due to the level of narrative and assumed prior knowledge. The general consensus of minimal required documentation for a fielded system was that it required -10, -20, -20P, and operator manuals in addition to a materiel fielding plan.

Source Code: C5,6/S7,6,T6/7,U6,U2

(16) In discussions with ManTech, it was noted by Mr. Farmer that 15.8 percent of all materiel sent to him for repair contained no evidence of fault (NEOF) and that the majority of these NEOF items come from two of the supported locations. Of the supported systems, military and NDI, eighty percent of the benchtime expended is toward NDI repair. Their total work order load last year was 840 averaging 70 per month. In addition, Mr. Farmer's shop makes an average of two training site visits a month. There is no GS shop participation in these visits.

Source Code: C4/I0

(17) Contrary to other divisional units visited, the 313th does not have any problems with controlled substitution of its IEW helicopters. Though they have little in-garrison relationship with the helicopters, the unit has had no operational problems with the aircraft and knows of no inordinate use of the helicopters as "hangar queens."

Source Code: C5/S7,T6,U6

c. Training

(1) There was a distinct difference between the three units interviewed as to their assessment concerning the quality of formal training of the IEW maintainers which they receive. The 313th stated (as with most units previously interviewed) that the 33-series soldier they receive is too generically trained and that too much emphasis is placed on graduates being "on-the-job trained" at the receiving unit. According to the units, MOS 33-series repairers need more training in basic test, measurement, and diagnostic equipment, and components of the PRD-10/11. In addition,the units felt that repairers should be school-trained to go into the black boxes, troubleshoot, and replace cards. Two of the three units felt that the 33-series repairers trained in the system of 7-10 years ago (a troubleshooter) was superior to the current repairer. The 158th believed that the 33-series repairer they receive today is adequately prepared and can do most of the jobs assigned to him. Though the 158th representative agreed that there is not enough training on non-developmental items (NDI), he did believe that TRADOC is working to improve the program of instruction of the 33-series MOS and that these problems will be worked out. The representative further believed that though the 33-series MOS lacks tactical competence, he is taught excellent technical and theoretical skills. This opinion differs from the opinions expressed during all other unit visits.

Source Code: C5,6/S7,6,T6/7,U6,U2

(2) Discussion with Mr. Farmer, ManTech, supported other unit comments. He stated that, in his experience, the quality of training of the 33-series MOS has dropped dramatically over the past 5-7 years. He believed that substantive amounts of time expended on system problems are substantially related to the lack of training and repairer errors. In addition he felt that operators did not have enough maintenance training on their systems and, in particular, preventive maintenance checks and services (PMCS) procedures.

Source Code: C4/I0

d. Command and Control

(1) All units agreed that support relationships were clearly defined at all levels within the support structure from the smallest unit level forward. Such definition is accomplished through a series of Letters of Agreement (LOA), Letters of Understanding (LOU), Memorandums of Understanding (MOU), and field, garrison and maintenance Standard Operating Procedures (SOP). All units categorically stated that they had excellent working relationships with all levels of the maintenance and supply structure within XVIII Airborne Corps and in particular with ManTech.

Source Code: C5,6/S7,6,T6/7,U6,U2

(2) The previous CECOM LAR and the LAO did not receive good comments by any of the units visited. The outgoing CECOM LAR apparently did little to assist the unit in any manner either in coordination, expertise, or site visitation. This opinion applied before, during, and after DS/S. Units either had negative comments concerning the individual or did not know who he was, indicating a lack of LAR involvement. Those units which had comments stated that it was a personality or attitude problem with the individual concerned and not necessarily the LAR program. Though not as negative in comment, units expressed a low opinion of the LAO for generally the same rationale.

Source Code: C5,6/S7,6,T6/7,U6

(3) As with other units surveyed, the units contend that allocated monies go to the combat systems with the "non-shooters," such as MI units, receiving second or third priority. Any supply action within the IEW equipment channels requires inordinately long leadtime, are high dollar, and have great potential for being lost within the system.

e. Supply

(1) The units did not have major problems with the distribution system during DS/S. A concern expressed was that the pickup points had a first-in/first-out policy which ignored unit priority. This contradiction to standard distribution doctrine prevented forward-positioned units from receiving critical parts in a timely manner.

Source Code: C5,6/S7,6,T6/7,U6,U2

(2) There was very little evacuation of unserviceables from the unit during DS/S. The unit had to guard or haul unserviceable items around the battlefield.

Source Code: C5/S6,T6/7,U6

(3) During DS/S the primary supply problem which the units faced was too much supply in too short a period. The units were overwhelmed: they did not necessarily receive the required materiel or that which was ordered but did receive large volumes of materiel which they had to transport, store and guard. The Rainbow decals helped alleviate the problem to some degree on IEW parts. The units felt that the movement of class IX to and from their units went well, and they believe this fact to be indicative of their correct use of existing standard operating procedures.

Source Code: C5,6/S6,T6/7,U6,U2

(4) Units experienced a shortage of all types of batteries and, in particular, 5590s and 5598s.

Source Code: C6/S6,T6/7,U6,U2

(5) As with other units, contractors, and, in particular, ManTech, received good marks from all units (see attached survey results). The units believed that contractors provided value-added support. Participants' attitudes toward contractor maintenance and supply support during DS/S were very favorable. Contractors received high marks for reliability before, during, and after DS/S. Strengths included the flexibility and cooperativeness of individual contractors who, in many cases, went beyond their contractual responsibilities to assist units.

Source Code: C5,6/S7,6,T6/7,U6,U2

(6) One unit stated that the "supply system for IEW is not broken--don't fix it. B46 works well, especially ManTech and all contractor support." Another unit stated that the Army should do away with all stockfunding for IEW systems and create a unique system which will support IEW's unique role. The general consensus was that, if the system is to be fixed, it should be made more user friendly, less fragmented, and more automated.

Source Code: C5,6/S7,6,T6/7,U6,U2

5. Summary

a. Attached are system maintenance flowcharts depicting support relationships for IEW systems in the 313th and 519th MI Battalions. The 319th MI Battalion's data was unavailable.

b. It was apparent that the quality of the maintenance support in these units was greatly influenced by the personalities and internal unit policies involved within the military, the LAR, and contracted support. Where cooperation, energy, and the desire to fix the system existed, support went

well and smoothly. Where egos, defensiveness, and bureaucratic self-importance were evident, systems did not get fixed, and only animosity and maintenance isolation occurred.

c. As our visits continue, it is becoming more evident that few absolute maintenance and supply problem trends exist. Due in part to the wide disparity of operational missions of the units visited, dissimilarity in the mix of unit participants, and variations of equipment used by the units, substantive contradictions are occurring. The only means of solving this dilemma is the continued visitation to substantially more MI units, to include Reserve Components, and to standardize, to the greatest degree possible, the personnel interviewed.

d. The visits to the 313th and 519th MI Battalions were extremely positive and, to some degree, contradicted other unit visits in that the units supported primary use of the Army maintenance and supply system as it presently exists and downplayed the importance of stovepiping. Members of the units were very proud of the units' achievements during DS/S, and their discussions reflected this attitude.

David P Nicholas

DAVID P. NICHOLAS
Project Manager
BDM International, Inc.

4 Atchs

Attachment 1

List of Attendees

IEW Streamlining Team Site Visit

to

Fort Bragg, North Carolina

313th Military Intelligence Battalion (ABN)

8:00- 10:00, 19 May 1992

MAJ Kem, Executive Officer

CPT White, Battalion S-4

1LT Lubiak, Battalion Motor Officer

WO2 Fagen, Battalion IEW Maintenance Technician

SSG Streib, Battalion IEW Shop Foreman

519th Military Intelligence Battalion (ABN)
319th Military Intelligence Battalion (ABN)
158th Maintenance Detachment (GS)

1330- 17:00, 19 May 1992

1LT Gonzales, Signal Officer, 519th MI Bn

1LT Payne, C Company Commander, 519th MI Bn

SSG Webster, S4, 319th MI Bn

WO1 Blue, Shop Officer, 158th Maint Det (GS)

MSG Herman, XVIII Corps G-4, C-E Maintenance

MSG Lunsford, XVIII Corps G-4, C-E Maintenance

Mr. Wayne Farmer, ManTech

Attachment 2

IEW STREAMLINING TEAM

Source Codes Explanation

The source codes used to identify sources of information obtained during site visits is explained below. Each code is comprised of three parts. The first part uses a letter followed by a number. The letter denotes the installation visited such as "H" equating to Fort Bragg. The number randomly refers to one of the units visited during that trip. The second set of codes refers to the area of specialty or position of the respondent. An example is "M,O" referring to observations from a Maintenance Section Leader. The final set of codes refers to the rank of the individual; i.e., "5" would be an observation given by a Warrant Officer in the grade of WO1 or CW2. The codes below are for use during the site visit to Fort Bragg.

Unit Code	Individual	Rank
C4 - Civilian/LAR	C - Commander	2 - E1-E5
C5 - 313 MI Bn (ABN)		
C6 - 519 MI Bn (ABN)	S - Staff Member	4 - W3-W4
C7 - 158th Maint Det		
	T - Technician	5 - W1-W2
	O - Section Leader	6 - O1-O4
	U - Supply	7 - O4-O6
	M - Maintenance	0 - Civilian
	I - IEW	
	R - MACOM representative	

Attachment 3

IEW STREAMLINING TEAM SITE VISIT

CONTRACTOR SUPPORT SURVEY

313th Military Intelligence Battalion (ABN)

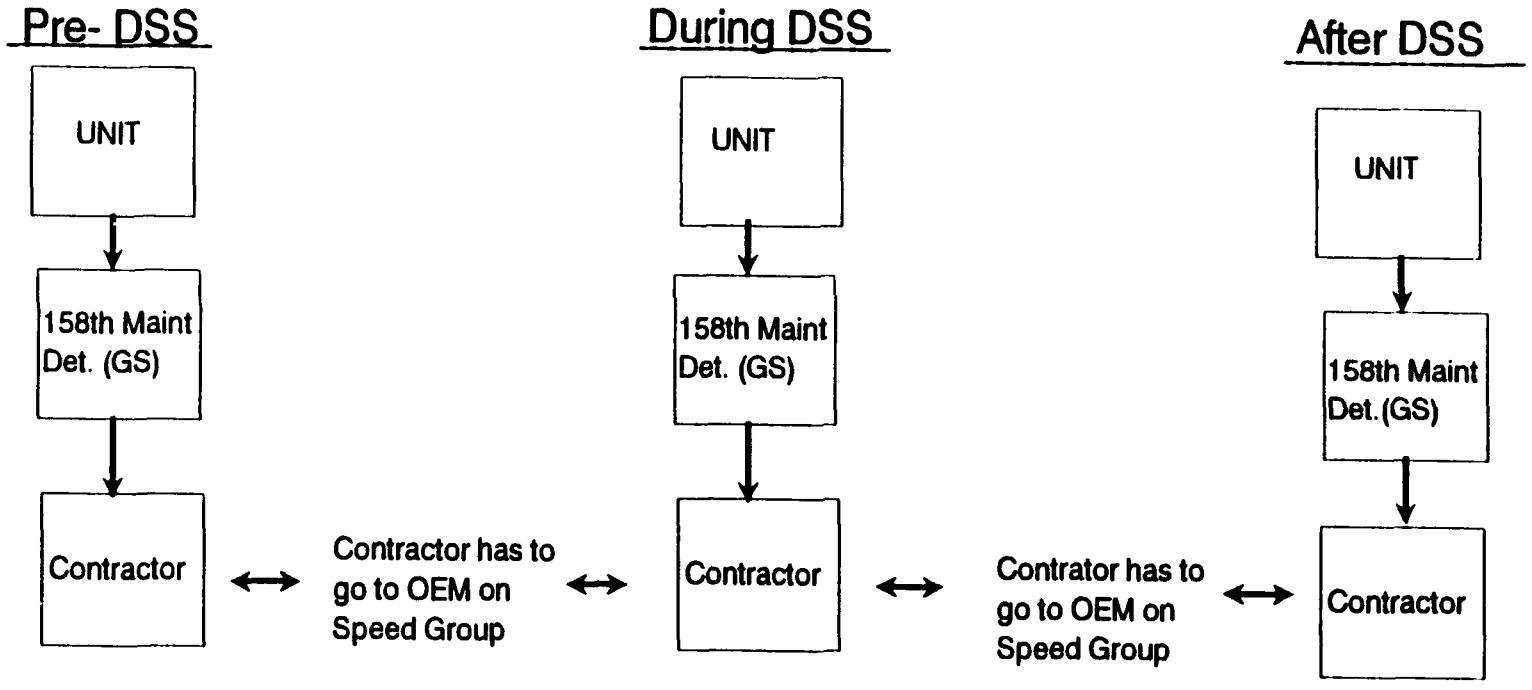
(519th and 319th Military Intelligence Battalions (ABN) data unavailable)

SYSTEMS LIST	CONTRACTOR	LEVEL	QUALITY RATING
TRQ-32 Normal	ManTech	SRA/GS	4
(DS/S)	ManTech	SRA/GS	4
TLQ-17 Normal	ManTech	SRA/GS	4
(DS/S)	ManTech	SRA/GS	4
PRD-11 Normal	ManTech	SRA/GS	4
(DS/S)	ManTech	SRA/GS	4
QUICKFIX	ManTech	SRA/GS	4
(DS/S)	ManTech	SRA/GS	4
DRAGONFIX	ManTech	SRA/GS	4
(DS/S)	ManTech	SRA/GS	4

MAINTENANCE FLOWS

313th Military Intelligence Battalion (ABN)

AN/TRQ- 32 TEAMMATE



AN/TLQ- 17A TRAFFICJAM

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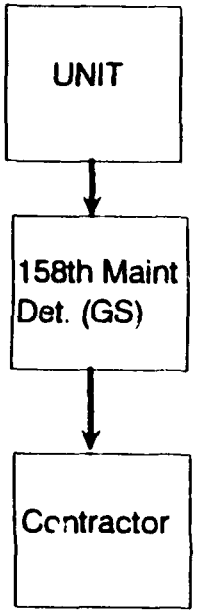

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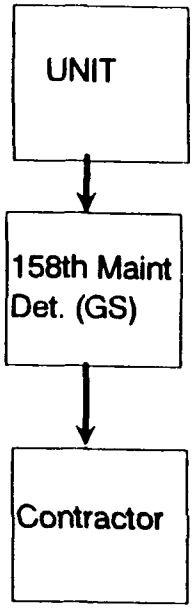

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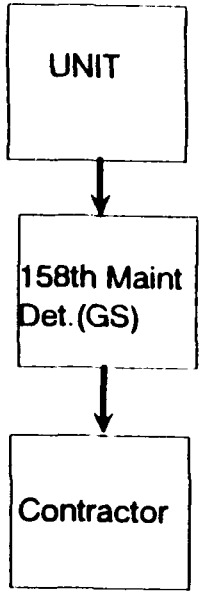
After DSS



FAISS

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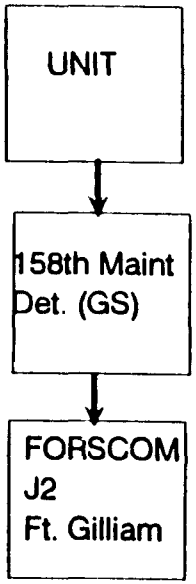

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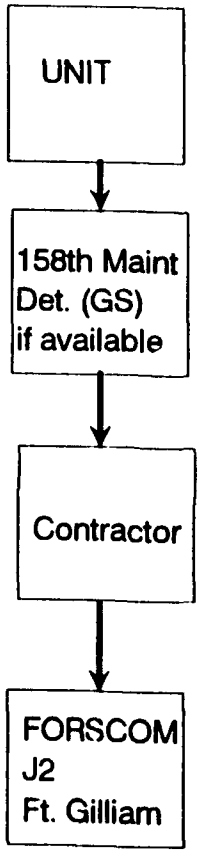

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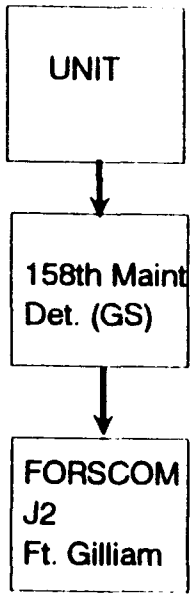
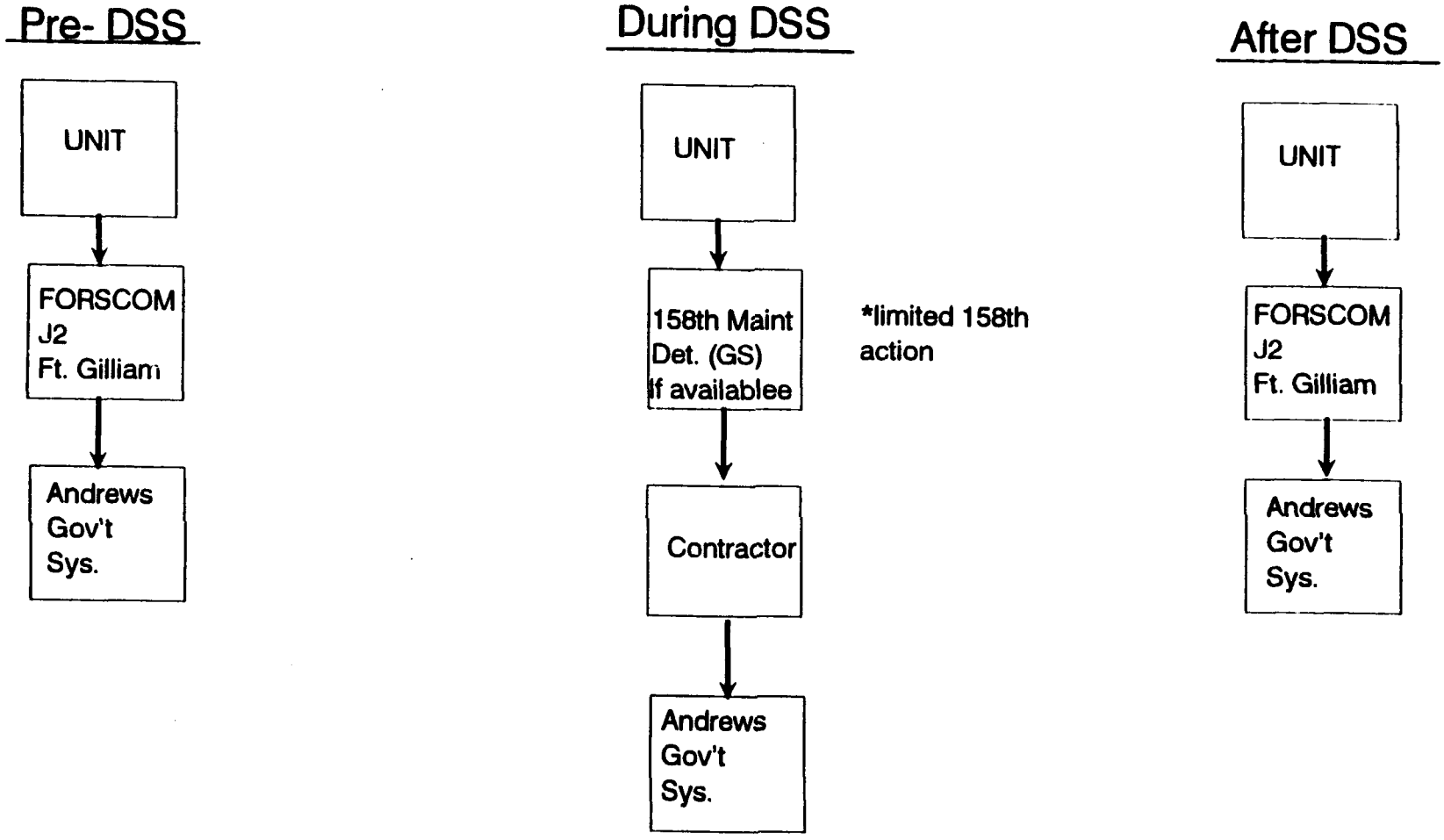
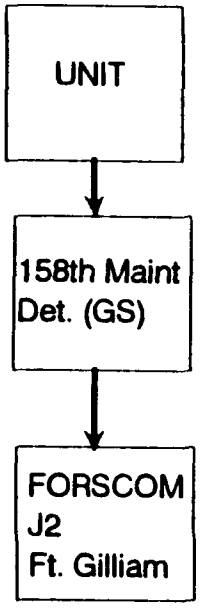


AN/TSQ- 164 DRAGONFIX



AN/GRQ- 27 Goldwing

Pre- DSS



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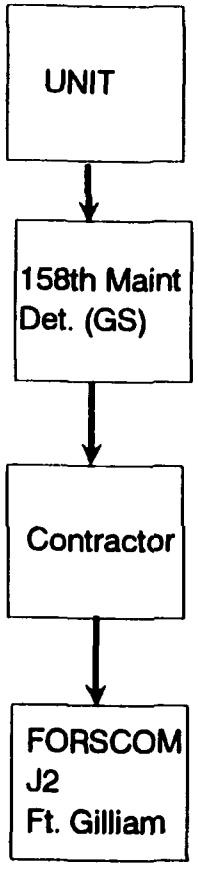

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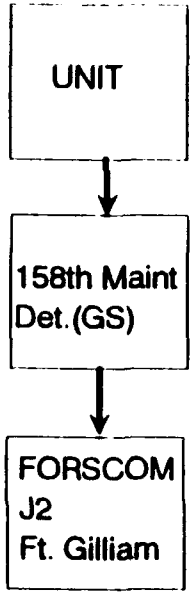

AN/ULQ 19

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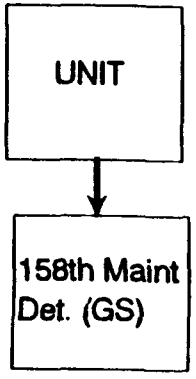

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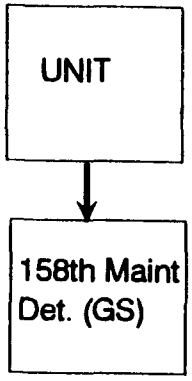

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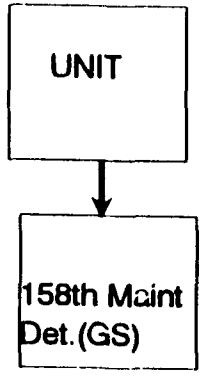

AN/TLQ- 17A TRAFFICJAM

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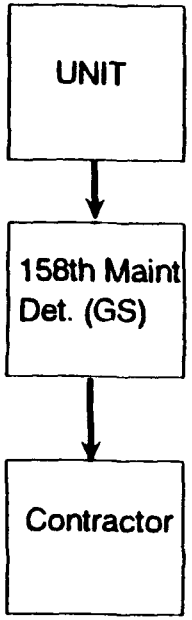

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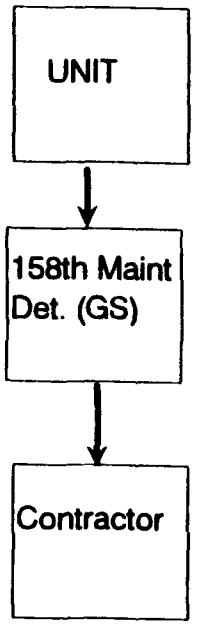

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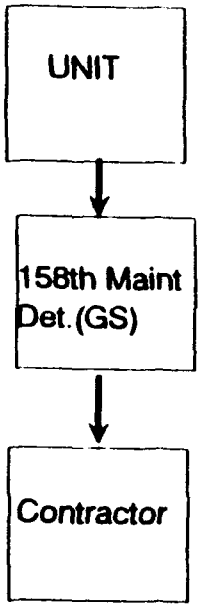

AN/PRD11

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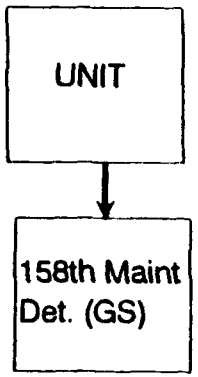

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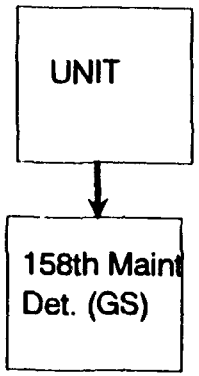

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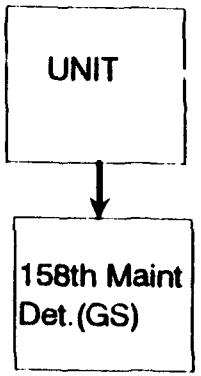


Appendix S

BDM MFR, 19 Aug 92, Subj: Trip Report, Germany, July 11-18, 1992

MEMORANDUM FOR RECORD August 19, 1992

SUBJECT: Trip Report, Germany, July 11-18, 1992

1. Mr. Robert Klebo of BDM International, INC, accompanied Mr. Ralph Riddle and MSG Richard Lawrence of Communications-Electronics Command (CECOM) Intelligence Materiel Management Center (CIMMC), on a visit to various units in United States Army Europe (USAREUR) and United States Army Intelligence and Security Command (INSCOM) in Germany, July 13-17, 1992. (LTC Carter, Deputy Director of CIMMC, Ms. Kathy Morgan, and Mr. Phil Dorn, while on a separate schedule, accompanied the Study Team to some of the site visits.)

2. The purpose of the trip was to collect data for use in the Intelligence and Electronic Warfare (IEW) Battlefield Sustainment Streamlining Study from U.S. Army Military Intelligence (MI) Units in Germany. The trip had been planned since March to visit as many of the USAREUR and INSCOM units as possible. The CECOM Logistics Assistance Office (LAO) from Headquarters (HQ), AMC Europe in Seckenheim hosted the visit. CW2 Larry Hill and SFC John Wheeler, CECOM Logistics Assistance Representatives (LARs) for Europe, accompanied the team on all the site visits.

a. The units visited were the CECOM LAO Europe in Seckenheim, the 511th MI Company (Co), the 501st MI Battalion (Bn) in Dexheim, the 66th MI Brigade (Bde) and 204th MI Bn in Augsburg, the General Support Center Pirmasens (GSCP), the CIMMC Special Repair Activity (SRA) operated by Management Technologies (ManTech) in Pirmasens, the 200th Theater Army Materiel Management Center (TAMMC) in Zweibrücken, and the Office of the Deputy Chief of Staff for Logistics (ODCSLOG) at HQ USAREUR in Heidelberg.

b. The following units were not visited: the 205th MI Bde in Frankfurt, the 165th MI Bn (Tactical Exploitation Bn (TEB)) in Darmstadt, the 302nd MI Bn (Operations (OPS)) in Frankfurt, the 1st MI Bn (Aerial Exploitation Bn (AEB)) in Wiesbaden, and the 103rd MI Bn (CEWI) in Würzburg. The commander and executive officer of the 205th MI Bde had a conflict with the team's schedule (they had to play in the USAREUR Golf Tournament). The 165th and 302nd MI Bns chose not to participate (no further explanation was offered). The 1st MI Bn agreed to see the team, but only in Wiesbaden before 3 p.m. The team was in Frankfurt when they were told this at 2:30 p.m. The 103rd MI Bn was on a field training exercise near Fulda. The LARs went to the field site identified by the 103rd MI Bn, but apparently, the unit had moved. Further attempts to find the unit were unsuccessful.

c. On the whole the itinerary for the team's visit to Germany was, at best, inadequate. Only three of seven user units were available for interviews which had been planned. The team was not able to gather data on sustainment support of the

GUARDRAIL Common Sensor (GRCS) (1st MI Bn) or the Electronic Processing and Dissemination System (EPDS) (302nd MI Bn).

3. **511th MI Co.** The team travelled to Fulda on Monday, July 13, to visit the 511th MI Co. of the 11th Armored Cavalry Regiment (ACR). The majority of the unit were on a field training exercise; however, the senior IEW maintenance personnel participated in the meeting. Present were Mr. Klebo, Mr. Riddle, and SFC Lawrence of the study team; CW3 Hill and SFC Wheeler of the LAO; SSG Timothy Shields, NCOIC of the Communications and Electronics (C&E) maintenance section, SGT George Egan, and SPC Timothy Wyckoff. SGT Shields is a Radio Repairer (MOS 29E). SGT Egan and SPC Wyckoff are IEW Tactical Systems Repairers (MOS 33T). During Operations DESERT SHIELD and DESERT STORM (ODS), SGT Egan was assigned to the 511th MI Bn (207th MI Bde, VII Corps) and was deployed with a company team attached to the 502nd MI Co, 2nd ACR. SPC Wyckoff remained in Fulda when the 511th MI Co deployed to Kuwait after the cease fire. No IEW equipment was taken on the deployment, but the unit used equipment already in Kuwait.

a. Equipment. The 511th MI Co has the following equipment:

ITEM	Quantity pre-ODS	Quantity ODS	Quantity post-ODS
AN/TLQ-17A(V)3 TRAFFICJAM	2	2	4
AN/ALQ-151(V)2 QUICKFIX IIB[1]	3	3	4
AN/UYK-71A MICROFIX[2]	1	1	1
AN/TRQ-32(V)2 TEAMMATE	2	2	3
AN/MLQ-34 TACJAM[3]	2	2	2
OG-181 PIRANHA[3]	2	2	2
AN/TRQ-30 MANPACK[3]	2	2	2
AN/TSC-116 ICTT[3]	1	1	1

Notes:

1. QUICKFIX is assigned to S Troop, 4th Squadron, 11th ACR, but is operationally controlled (OPCON) by the 511th MI Co for IEW missions.
2. MICROFIX is packed away in boxes and resides in the supply room of the company. It is not used.
3. This item is not on the IEW Streamlining Study list of equipment.

b. ODS Support Issues

(1) Maintenance Personnel Data. The unit is authorized four 33T and one IEW Equipment Technician (MOS 353A) warrant officer.

	Fill	Available
Pre-ODS	80% (0x353A,4x33T)	60%
ODS	100% (1x353A,4x33T)	60% (Fulda) 90% (Kuwait)
Current	100% (0x353A,5x33T)	80%

(2) Fill and availability of maintenance personnel. There were no problems during ODS or the deployment to Kuwait. SGT Egan said the 511th MI Bn had extra personnel.

(3) Doctrinal Mission. SGT Egan and SPC Wyckoff did a large amount of maintenance work that would normally have been done at a higher level.

(4) Training. SGT Egan was not trained well on the TEAMMATE. He had never seen an AN/TRQ-32(V)2 until he arrived at the 511th MI Co. (The (V)2 has not officially been released, but the modification has been accomplished in most USAREUR units.) Training on the TRAILBLAZER and TACJAM was good.

(5) Support Relationships. SGT Egan used the Rainbow Special Repair Activity (SRA) run by ManTech at King Khalid Military City (KKMC). The SRA performed a full technical inspection and repair of the 511th MI Bn's IEW equipment during ODS. The IEW maintenance section of the 263rd Light Equipment Maintenance Company (LEMCO) was used as a turn-in point for unserviceable reparables. Support definition was only vocal; no documentation establishing the relationships was available. For the 511th MI Co, there was no change from the normal peacetime support relationships.

(6) Improvised Support. The 511th MI Bn, rather than turning in the W33 Cable Assembly for the TEAMMATE when it became unserviceable, diagnosed the problem and ran an external wire to repair the cable. Had the unit maintenance personnel not repaired the cable, the system would have been non-mission capable for the duration on the war. Maintenance personnel also cleaned the RF switch on the TACJAM to restore it to service.

(7) Major maintenance issue. SGT Egan reported that approximately 10% of Line Replaceable Units (LRUs) received from the supply system were bad. This situation caused the unit to reorder the LRU and turn in the one just received. The R-2144

Receiver was seen as a particular problem because it had to be returned to the Navy for repair.

(8) Major supply issue. The length of time for Class IX parts to arrive was excessive. The first requisitions required over two months from submission to receipt.

(9) Distribution. The 511th MI Bn maintenance personnel had to travel an average of two hours each way to the next level of maintenance. Class IX and unserviceable equipment were moved to and from the 511th MI Bn by organic battalion vehicles and personnel. Unserviceable LRUs were taken to the 263rd LEMCO.

c. Current Support Issues

(1) Training. During the last two years, 33T coming out of the school at Ft. Devens have not been adequately trained to perform the mission expected of them. More electronic theory and maintenance theory need to be taught. Each 33T needs at least an orientation on each IEW system in the field. Additional training in how to use Technical Manuals is needed. The system and organization of the manuals from the -10 through the -14&P, and the contents of each section need to be taught.

(2) Maintenance and Supply Support. The TEAMMATE and TRAFFICJAM systems have the best working maintenance structure. Identification of the fault is faster than other systems because of the reliability of the Built-in Test/Built-in Test Equipment (BIT/BITE). The worst problems are with the TACJAM because of many multiple faults. This situation causes isolation to the bad component to be very difficult. Often good LRUs are replaced because they "might" be the problem. The worst supply structure is with the TRAFFICJAM since the inoperative LRUs have to go through the normal Army supply system, specifically, the regimental supply support activity (SSA). This location has been a black hole for the 511th MI Co. Parts go in but never return. Requisitions go in and are cancelled. GSCP is supposed to repair the equipment but has not yet assumed responsibility, even though the CIMMC SRA no longer has the maintenance contract for the TRAFFICJAM. The TEAMMATE is supported by going directly to the CIMMC SRA at Pirmasens, although the doctrinal channel is to go to the 548th LEMCO at Hanau. The 548th LEMCO does not repair any IEW equipment and does not have the organic means to transport equipment to the SRA.

(3) Biggest Single Problem with IEW Support. The 511th MI Co feels their biggest problem is the supply system for Class IX parts. Although they perform all procedures correctly in turning in inoperable parts and requisitions to the regimental SSA, the unit has not received an IEW Class IX part on an active requisition since April 1992. SSG Shields feels that the

solution to the unit's IEW maintenance and supply problems lies in the integration of the two functions into one organization through which all IEW actions could be processed. Such service could be accomplished at the GS level with an organization similar to the, now defunct, 8911th Maintenance Det (a German labor service unit, which was previously located with the 548th LEMCO in Hanau), which seemed to solve most of the unit's problems previously. The unit feels that the existence of so many different support structures is confusing and counter-productive to unit readiness.

(4) Contractor Field Support. Contracted field support could best be integrated with organic support by on-site contractor representatives for new systems and integrated contractor/military support at the GS level. The GS support should be capable of assisting the unit personnel via telephone, and, if that doesn't solve the problem, the GS support should be capable of coming to the unit (contact team) to assist the organic military personnel. This structure should be used both in peacetime and during contingency operations.

(5) Logistics Assistance. In the opinion of all present, the IEW LAR, SFC Wheeler, provides tremendous support to the unit. He is responsive to all the unit's needs and helps increase the unit's materiel readiness by solving supply and maintenance problems and performing liaison among the various support units. The only improvement would be to add more LARs to help more and decrease the workload on SFC Wheeler. SFC Wheeler deployed to Southwest Asia (SWA) during ODS, but continuous support was provided directly by the SRA and the LAO in Seckenheim.

(6) Support References. The Reparables Management List (RML) from 200th TAMMC is used to determine who provides support for each item. Telephone calls to the various support units are used to determine who provides support on other items. No one supports the OG-181 Piranha.

(7) Nondevelopmental Items (NDI). The OG-181 Piranha is the only NDI system the unit owns. The system was supported by the GS element at the 263rd LEMCO, but has not been supported since that unit left Germany. NDI could be supported by training organic 33Ts via New Equipment Training Teams (NETT) or school training and by support from a GS level maintenance organization.

(8) Mission Knowledge. The maintainers in the unit gain an understanding of the unit's mission through on-the-job training (OJT) with the unit's operators. The maintainers learn to operate the equipment and learn the basic mission purpose for each system. The maintainers do not understand the overall structure of the IEW system and how the unit's systems fit into the IEW architecture. Training in the interrelationships of the

various IEW systems would definitely be of benefit in diagnosing interoperability problems. This training would be best accomplished during Advanced Individual Training (AIT) at the Intelligence School.

d. Support Structure (General)

(1) Maintenance Support. The 511th MI Co performs organizational IEW maintenance for itself and direct support (DS) IEW maintenance for itself and the QUICKFIX (QF) Platoon (Plt), S Troop, 4/11 ACR. Doctrinally the unit is supposed to receive GS support from the 548th LEMCO, but all the 548th does is to verify that the parts or modules are unserviceable. The unit now bypasses the 548th LEMCO to go to GSCP or the SRA. GS IEW maintenance is generally performed by GSCP; however, GSCP will not accept any maintenance actions. GSCP will accept inoperable parts as a supply action if the paperwork has been completed through the normal supply chain (i.e., 200th TAMMC). The unit wants GSCP to accept work directly from the unit on a work order.

(2) Supply Support. The unit generates Class IX requests using its SAMS-1. The requests are transferred via floppy disk to the SARSS at the regimental SSA of the Combat Support Squadron. Non-operational parts are transported to the SSA for evacuation to the European Redistribution Facility (ERF) at Hanau, or, in special directed cases, to the Redistribution Processing Point (RPP) in Kaiserslautern. Thus far, parts which have been turned-in to the SSA for evacuation are lost somewhere between the SSA and the ERF/RPP. The unit feels that the regimental SSA is nonresponsive to MI needs. Problems with the SSA include cancelling of requisitions which TAMMC says are still open and valid, misplacing of incoming IEW parts because they are too large or the SSA personnel were unable to identify them, and apparent misrouting of unserviceable reparable parts to unknown destinations. The ERF/RPP forwards the parts to either GSCP or the appropriate depot. The paper trail is from the unit to the SSA to the Regimental Materiel Management Center (RMMC) to the Corps Materiel Management Center (CMMC) to the TAMMC, which sends the Materiel Release Order (MRO) to GSCP or forwards the requisition to the National Inventory Control Point (NICP), as appropriate. The NICP sends the MRO to the appropriate depot (see enclosure 1, DX-CE Transition to Reparable Management).

e. System Specific Support Flows

(1) AN/TLQ-17 TRAFFICJAM

UNIT --> SSA (CSS/11ACR) --> GSCP

(2) AN/ALQ-151 QUICKFIX IIB

(TRAFFICJAM Common LRU):
UNIT (QF Plt) --> UNIT (511 MI Co) --> SSA --> GSCP -->Depot

(ANTENNA Item): UNIT (QF Plt) --> UNIT (511 MI Co) --> SRA

(3) AN/TRQ-32(V)2

(Maintenance action): UNIT --> SRA

(Supply action): UNIT --> SSA

f. Contractor Support

System	Contractor	Level (DS/GS/SRA)	Rating (1 - 4) (Low - High)
TEAMMATE	ManTech	SRA	4
TRAFFICJAM			
QUICKFIX			
TROJAN[4]	ManTech	TRISA[5]	3[6]

Notes:

4. TROJAN fixed facility at the 511th MI Co garrison. This system is not part of the IEW Streamlining Study.
5. TRISA = TROJAN Intermediate Support Activity, a separate contract from the CIMMC SRAs.
6. A 3 rating because the contractor is often slow in coming to the unit to fix a system failure.

g. Personnel Interviewed

(1) SSG Timothy M. Shield
511th MI Co
Unit 20806
APO AE 09146
DSN 321-3480
Commercial 0661-86-480
MOS 29E30

NCOIC, Communications & Electronics (C&E) Section
Did not deploy to ODS.

(2) SGT George F. Egan
511th MI Co
Unit 20806
APO AE 09146
DSN 321-3480
Commercial 0661-86-480
MOS 33T20

IEW Repairer

Deployed with the 511th MI Bn, 207th MI Bde, VII Corps, and was attached to 502nd MI Co, 2 ACR during ODS

(3) SPC Timothy R. Wyckoff DSN 321-3480
Commercial 0661-86-480

511th MI Co MOS 33T10
Unit 20806
APO AE 09146

IEW Repairer
Did not deploy with 511th MI Co during the 11 ACR mission to Kuwait. Is the only remaining NET trained TROJAN maintenance person.

4. **200th TAMMC.** The team visited the 200th TAMMC at Kreuzberg Kasern in Zweibrucken on the morning of July 14, 1992. LTC Carter, Mr. Dorn, and Ms. Morgan had had a meeting with BG MacFarlin, commander of the TAMMC, earlier that morning. LTC Grover Gibson, Chief of CECOM division and Mr. Wise hosted the three previously mentioned personnel, Mr. Riddle, MSG Lawrence, Mr. Klebo, CW3 Hill, and SFC Wheeler in a general discussion of IEW support in the European theater. LTC Carter had just arrived at his new job within the previous couple of weeks. Some highlights of the discussion were--

a. Repair locations for reparable items will not be made known at the SSA level; the items are supposed to be sent to the next higher level of supply support.

b. Screening of reparables for GSCP repair is done at the ERF site before the items are processed to the ERF accountability records.

c. No "D" (depot) or "L" (SRA) coded items are to be repaired in USAREUR. The GS level activities only validate the condition code. The reason stated was that USAREUR is only funded for items coded for GS level repair. "D" and "L" codes are for depot level repair.

d. Maintenance Allocation Charts (MAC) are one of the driving factors on where repair will occur.

e. Mr. Wise felt that the problems encountered by the 511th MI Co (see paragraph 3 above) may be caused by a lack of experience of the personnel at the regimental SSA and especially with the DS4 system in use.

5. **GSCP.** The entire group proceeded to GSCP for a visit from 1:00 to 3:00 p.m., July 14, 1992. The meeting was hosted by Mr. Spurling, deputy commander of GSCP, and CW3 Etheridge, the senior

maintenance technician. Highlights of discussion included the following:

a. GSCP only works on the AN/TLQ-17A TRAFFICJAM. The biggest problem they have is getting parts for the TRAFFICJAM. (Note: USAREUR is the only Major Command (MACOM) which has transitioned the sustainment maintenance of the TRAFFICJAM to organic units from the CIMMC SRA ManTech contract.) Because of the low density of TRAFFICJAM and the especially low demand for GS support for the system, GSCP, TAMMC, and USAREUR ODCSLOG are considering dropping any support for the system. Mr. Spurling explained that GSCP is operated like a depot but only does GS work. Limited depot repair to be performed at GS must be identified by the Program Manager (PM) of the system. GSCP will not do maintenance above GS level. GSCP cannot afford to maintain a staff of technicians with such a low workload.

b. Items not listed on the USAREUR Theater Parts List (TPL) are automatically evacuated to the Continental United States (CONUS). Thus some of the parts from MI units may have been sent back to CONUS from the SSA or the ERF without the unit's knowledge.

c. GSCP will not accept items or work orders brought directly to them by a unit. All work is job-ordered by the TAMMC. GSCP will not support IEW equipment as long as the separate contract with ManTech exists. Mr. Spurling feels that GSCP could perform the same work at a lower cost. He stated that the loaded rate for GSCP is $30.00 per hour. He also stated that GSCP will not work-load the CIMMC SRA.

d. The military personnel (approximately four 33Ts) of the 548th LEMCO were offered to be attached to GSCP to perform work there. The offer was declined by GSCP with the rationale that the military personnel would not be available for working "on the bench" enough of the time to make it worthwhile. Mr. Spurling says that the 39Bs he has assigned to GSCP are not available for work enough to be effective. Distractors include mandatory military training and required nonmission work details.

6. **CIMMC SRA.** The group visited the CIMMC SRA in Pirmasens at 3:30 on July 14, 1992. Mr. Gordon L. McCormick, the ManTech site chief, hosted the visit. Discussion highlights were as follows:

a. GSCP was work-loading the SRA with about two hundred work orders per month until April 1992, the effective date of Stock Funding of Depot Level Reparables (SFDLR). Since April the SRA has received four work orders from GSCP.

b. The SRA would accept the 33Ts from the 548th LEMCO to work in their facility.

c. Demand data for IEW parts and maintenance is kept on a database at the SRA and supplied to the COBRO Sample Data Collection Project.

d. The SRA accepts high priority work orders directly from MI units.

7. **501st MI Bn.** The group visited the 501st MI Bn at Dexheim on July 15, 1992. The visit was hosted by SSG Scott Cottrell, NCOIC of the C&E Section, who was with the unit in SWA during ODS. Also present from the unit were SPC Felix Robertson, SPC Keith Sanderlin, SPC Christopher Roberts, and SPC Richard Mingus, who was with the 511th MI Bn, 207th MI Bde, VII Corps, in SWA during ODS. The 501st MI Bn is the redesignated 108th MI Bn which was located at Wildflecken and subordinate to the deactivated 8th Infantry Division. The other personnel were either in the 108th MI Bn or other units which did not deploy to SWA.

a. Equipment. The 501st MI Bn has the following equipment:

ITEM	Quantity pre-ODS	Quantity ODS	Quantity post-ODS
AN/TLQ-17A(V)3 TRAFFICJAM	3	3	3
AN/ALQ-151(V)2 QUICKFIX IIB[7]	3	3	4
AN/TRQ-32(V)2 TEAMMATE	3	3	3
AN/TSQ-138 TRAILBLAZER	5	5	5
AN/TSQ-130 TCAC	2	2	2

Note:

7. QUICKFIX is assigned to the 1st Armored Division (AD) aviation brigade, but is OPCON to the 501th MI Bn for IEW missions.

b. ODS Support Issues

(1) Maintenance Personnel Data. The unit is authorized eleven 33Ts and one 353A. The following data refers to the former 108th MI Bn, which did not deploy to ODS:

	Fill	Available
Pre-ODS	90%	60%
ODS	90%	0%
Current	92% (1x353A,10x33T)	75%

(2) Personnel Problems. (108th MI Bn): No 33Ts performed any maintenance functions during ODS. Personnel were used for other duties. Duty time was devoted to such things as escort duty, guard duty, Commanders Programs, and Junior Leadership Development.

(3) Unit Mission. (108th MI Bn): The unit's mission was not consistent with doctrine, since no one was used in a maintenance role.

(4) Training. Training, especially on specific systems, was felt to be inadequate and unrealistic.

(5) Support Relationships. Support relationships were undefined. In SWA SPC Mingus (511th MI Bn) had to go looking for support units. He found the 263rd LEMCO in KKMC and used it as a Direct Exchange (DX) point for unserviceable IEW equipment.

(6) Improvised Support. SSG Cottrell related that in SWA units brought their LORAN Global Positioning Systems (GPS) to the MI Bn for repair, even though it was not an MI system. He noted that the most common problem was a burnt coil on a card in the GPS. Since he had no replacement part and could not get support, he began using nonfunctioning "Walkman" radios as sources for the parts. He would rebuild the coils and repair the GPS.

(7) Supply. Class IX supply was nonexistent.

(8) Distribution. Representative distances travelled for maintenance support were 30 to 50 miles, or two hours by road to pick up or evacuate parts. Air movement via Chinook or QUICKFIX aircraft was used between KKMC and the forward positions in Iraq.

c. Current Support Issues

(1) Support Structure. The unit felt that, if the proper test equipment were provided, the IEW maintenance mission could be performed more efficiently if the section were part of the 708th Main Support Bn (MSB), 1st AD. (The 501st MI Bn is located on the same garrison as the 708th MSB now. There seems to be a very good relationship between the two units.) It was felt that, in a pure maintenance unit, less duty time is spent on "non-bench" activities, such as transportation of the equipment, and non-maintenance duties.

(2) Maintenance Documentation. The 33Ts would like engineering designs on all IEW systems; otherwise, they require the -34&P manuals for maintenance documentation.

(3) Supply Documentation. Minimum supply documentation would be the -34&P manuals and National Stock Numbers (NSN) for all parts.

(4) Automation Interfaces. The unit has SAMS operated by a 76C.

(5) School Training. System troubleshooting (fault isolation) is inadequately taught. Maintenance and supply paperwork needs to be taught in the school course. More theory training should be included in the curriculum, with only familiarization and peculiarities of specific systems taught. The 33Ts feel that better general training in electronics (i.e., more in-depth theory training) would prepare the 33T to work on unfamiliar equipment, whereas system specific training only prepares one to work on those systems covered.

(6) Maintenance Structures. The AN/TLQ-17A(V)3 TRAFFICJAM is easiest system to work on. There are only three components, and they are very easy to troubleshoot. The worst systems for maintenance are the AN/TRQ-32 TEAMMATE, the AN/MLQ-34 TACJAM, and the AN/TSQ-138 TRAILBLAZER antenna subsystem. There are power problems, and tracing faults and troubleshooting are difficult to do.

(7) Supply Structures. The worst supply structure is for the R-2144 Receiver used in the TRAILBLAZER, TEAMMATE, and TACJAM. The unit has had an open requisition for an R-2144 for one of its TEAMMATEs for over a year. The spare R-2144 from the TRAILBLAZER has been used to make the TEAMMATE mission-capable.

(8) Biggest Single Problem with IEW Support. The unit feels their biggest problem is the supply system, especially Class IX and spares. The sparing scheme for IEW LRUs has been one set of spare LRUs for each system type in the unit. This scheme causes high failure LRUs to be underspared and low or no failure LRUs to be overspared. Even though sample data collection can now determine the correct failure rates of LRUs, the sparing rationale has never been changed. The unit does not have enough of some LRUs and must allocate scarce transportation space to unneeded, low failure LRUs. The 501st MI Bn advocates the development of a "mandatory parts list" for each system which would be derived from actual demand data.

(9) Contractor Field Support. The unit currently is support by contracted field support for AN/TSQ-130 TCAC and for Sample Data Collection. No changes to that support are required.

(10) Logistics Assistance. The unit identified its LAR as Mr. O. J. Bustamante, but those personnel present had only seen him one time. His support was rated as 3 (out of 4 maximum). He was described as responsive to the unit's supply

needs. The unit felt that the Army could improve LAR support by providing technical maintenance assistance and by giving the LARs spares. (The personnel present did not have a clear idea of the purpose of the LAR program nor of the responsibilities of the LAO.)

(11) Support References. The unit uses the RML to determine maintenance support, except for high priority maintenance, which they obtain from the SRA.

d. Support Structure (General)

(1) Maintenance Support. The 501st MI Bn performs organizational and DS IEW maintenance for itself. The unit evacuates routine maintenance actions to the 708th MSB SSA which transports the parts to the ERF at Hanau. High priority actions are taken directly to CIMMC SRA in Pirmasens. The unit has no direct interface with the 548th LEMCO or GSCP. The unit uses ULLS and SAMS to generate work orders. TRAILBLAZER is diagnosed using the Test Interface Device Equipment (TIDE) at the unit. No TRAILBLAZER LRU has ever been evacuated from the unit in the memory of those present. The AN/TSQ-130 Technical Control and Analysis Center (TCAC) is maintained by an on-site civilian contractor.

(2) Supply Support. The unit generates Class IX requests using SAMS-1, which are transferred to the 708th MSB SARSS using floppy disks. After the implementation of SFDLR in April 1992, the unit turned in a truckload of both unserviceable and unneeded IEW spares to the 708th MSB, which took the parts to the ERF in Hanau. The ERF cannot locate the parts nor provide a status on them. This situation caused a loss of faith in the entire standard Army supply system.

e. System Specific Support Flows

(1) TRAFFICJAM/TEAMMATE/TRAILBLAZER

(Routine Priority): UNIT --> SSA --> ERF

(High Priority): UNIT --> SRA

(2) TCAC

ON SITE CONTRACTOR SUPPORT

(3) TRAILBLAZER

UNIT --> TIDE --> SSA

f. Contractor Support.

System	Contractor	Level (DS/GS/SRA)	Rating (1 - 4) (Low - High)
TEAMMATE	ManTech	SRA	4
TRAFFICJAM	ManTech	SRA	4
TCAC	General Electric	Unit-Depot	Unevaluated[8]

Note:

8. The unit maintenance personnel have not had enough contact with the contractor to formulate an evaluation.

g. Personnel Interviewed

(1) SSG Scott Cottrell — Commercial 06133-69-870
MOS 33T3O

HHC, 501st MI Bn
CMR 406, Box 1287
APO AE 09110

NCOIC, C&E Section
Deployed with the old 501st MI Bn to ODS

(2) SPC Felix Robertson — Commercial 06133-69-779
MOS 33T1O

HHC, 501st MI Bn
CMR 406, Box 1215
APO AE 09110

IEW Systems Repairer
Did not deploy to ODS

(3) SPC Keith Sanderlin — Commercial 06133-69-779
MOS 33T1O

HHC, 501st MI Bn
CMR 406, Box 1225
APO AE 09110

IEW Systems Repairer
Did not deploy to ODS

(4) SPC Christopher Roberts — Commercial 06133-69-779
MOS 33T1O

HHC, 501st MI Bn
CMR 406, Box 1410
APO AE 09110

IEW Systems Repairer
Did not deploy to ODS

(5) SPC Richard Mingus — Commercial 06133-69-779
MOS 33T10

HHC, 501st MI Bn
CMR 406, Box 1208
APO AE 09110

IEW Systems Repairer
Deployed with 511th MI Bn, 207th MI Bde, VII Corps to ODS

8. **204th MI Bn and 66th MI Bde.** The IEW team visited the 204th MI Bn and 66th MI Bde at Augsburg at Flak and Reese Kaserns on July 16, 1992. Mr. Riddle and LTC Carter had a short meeting with LTC Alexander, commander of the 204th MI Bn, and visited the TRACKWOLF facility on Flak Kasern. Mr. Klebo and SFC Lawrence interviewed SFC Rodney Long, IEW Maintenance NCO, S4, 66th MI Bde, and CW2 David Fitzpatrick, Signal Maintenance Officer-in-Charge (OIC), 204th MI Bn. Although SFC Long did not deploy to SWA, he prepared his subordinate units to deploy and arranged for sustainment support of those units. CW2 Fitzpatrick deployed with the 204th to ODS. The units in Augsburg are in a state of flux due to the reduction of forces and consolidation of units in Germany. All of the maneuver and service support units have been moved from Augsburg. This situation leaves the 204th MI Bn and the 66th MI Bde (which recently moved from Munich) without normal DS maintenance and supply support. Therefore, there has been a moratorium placed on any maintenance or supply requests for IEW systems. The situation has the attention of USAREUR ODCSLOG and is being resolved, albeit probably not to the satisfaction of the units in Augsburg. The 204th will move to Gabligen Kasern (site of the U.S. Army Field Station) in the near future.

a. Equipment. The 204th MI Bn is an Echelon Above Corps (EAC) unit supporting the theater with the following equipment:

ITEM	Quantity pre-ODS	Quantity ODS	Quantity post-ODS
AN/TLQ-17A(V)3 with OE-317 SANDCRAB	0	2	2
AN/TRR-27A OUTS Receivers[9]	3	3	3
OW-108/TSQ-134(V) ETUT[10]	1	1	1
AN/UYK-71A MICROFIX[11]	4	4	4
AN/TSQ-152 TRACKWOLF	1	1	1
HAWKEYE	1	1	1
UIES[12]	1	1	1

Notes:

9. Of the three systems, one is a prototype and two are production versions.
10. The Enhanced Tactical User Terminal (ETUT) is located at the Joint Intelligence Center (JIC) in Heidelberg and is not supported by the 204th MI Bn.
11. The four MICROFIX are not used. They have been packed and prepared for turn-in.
12. Although the Unit Imagery Exploitation System (UIES) is not on the IEW Streamlining Study list, it is the predecessor to the Imagery Production and Disseminating System (IPDS), which is on the list.

b. ODS Support Issues

(1) Maintenance Personnel Data. The unit is authorized 30 signal maintenance personnel and one 353A.

	Fill	Available
Pre-ODS	98%	30%
ODS	95%	100%
Current	70%	30%

(2) Fill and availability of maintenance personnel. Personnel had to travel for days at a time to pick up or evacuate parts to support units.

(3) Support Relationships. No documentation for support relationships existed. The National Guard support unit could not provide IEW support. SRA III in Riyadh provided only turn-in support.

(4) ODS versus Peacetime Support. Only the ETUT was supported the same way; i.e., on-site contractor. The AN/TRR-27A was supported only by organic unit maintenance, even though there was no documentation.

(5) Improvised Support. The air conditioner unit in the SANDCRAB had to be rebuilt, and some of the components bypassed. The entire power distribution system for the AN/TRR-27A was rebuilt.

(6) Major Maintenance Issues. Software maintenance for the AN/TRR-27A was a major problem. A unit fix to the software which was working well in the system was destroyed by Mr. Kim Riffe of the Center for Software Support (CSW) and replaced by the original software, which still had the problem. The standard Army generators failed very often, and no trained maintenance personnel were available to fix them. The Army Space Program Office (ASPO) equipment had new precision generators which did not fail during the entire deployment.

(7) Major Supply Issues. No one had enough Class IX parts or spares. The Agency Standard Terminal Workstations (ASTW) and the Watkins Johnson receivers were impossible to support. There was no inventory or distribution control on the supply elements at Riyadh. The only Class IX received during CDS was through the INSCOM stovepipe.

(8) Distribution. Maintenance personnel had to travel up to 600 miles to pick up or evacuate parts to the next support level. The reserve unit SSA would not accept any Class IX requests which had to use a part number. Only requests containing identified NSNs would be accepted. The unit picked up parts in Riyadh and searched through the receiving yard in Dhahran to find parts. Unserviceable IEW parts were evacuated to SRA I; signal parts were evacuated to the DESCOM depot at Dhahran.

c. Current Support Issues

(1) Support Structure. CW2 Fitzpatrick felt that IEW equipment support should be closer to the Army standard maintenance support structure. A unit cannot deploy without the Army standard system. A maintenance unit can function better with a maintenance-pure mission. In an operational unit the maintenance mission is secondary and is often relegated to a low priority. SFC Long disagreed. He felt that IEW maintenance is unique and should remain at the unit.

(2) Maintenance Documentation. The Materiel Fielding Plan (MFP) and the Integrated Logistics Support Plan (ILSP) must be completed and ensure that theater support is available.

(3) Supply Documentation. At a minimum supply documentation must include disposition instructions for all old, replaced equipment, including all peripherals; information on the Authorized Stockage List (ASL) size and dimensions of spares; and an MPL.

(4) Automation Interfaces. The unit uses ULLS and SAMS-1. One 29S and one 33T were trained on the ULLS and SAMS-1 via NETT in May and July 1992.

(5) School Training. The following subjects need to be taught or emphasized in the 33T school training: Test equipment operation and maintenance; self-confidence; more technique and theory; theory at a system level; block diagram analysis; how to use a field manual, with circuit diagrams - not flow charts; mission training; and RS-232 protocol.

(6) Maintenance Structures. The best maintenance structure is the straight pipeline of the ASPO systems. The worst maintenance structure is that for the ASTW. CIMMC ships via postal system, with a one year turn-around time.

(7) Biggest Single Problem with IEW Support. Modification Tables of Organization and Equipment (MTOE) is the biggest problem. Because personnel authorization is tied to the equipment, obsolete equipment is maintained on the MTOE. This requires that the peripheral equipment and all the unused Test Measurement and Diagnostic Equipment (TMDE) and tool boxes be kept. The AN/TYK-11 Transcription System is an example of this problem.

(8) Contractor Field Support. CW2 Fitzpatrick and SFC Long both feel that there should be no dependency on contractor support. They believe it would take soldiers about 45-60 days to OJT on each system now supported by contractors. Initial contractor support during fielding may be required but should be transitioned to organic military support, with the contractor providing the training, as soon as possible. Permanent contractor support should only be used in rear areas.

(9) Logistics Assistance. The LAR who supports the Augsburg area is SFC Hartman. She provides needed assistance to the units and adds value to the unit's materiel readiness. The units rate her a "3" (out of "4" maximum) for the assistance she provides. The Army could improve LAR support by giving them special access to documentation, especially technical manuals and commercial manuals for some equipment. There was no LAR support before ODS. During ODS it was realized that a LAR was needed in Augsburg, so a LAR was permanently assigned to support the EAC units.

(10) Support References. The units use institutional knowledge and INSCOM Regulation 750-1. Each system has different references. The ASTW uses the ILSP.

(11) Nondevelopmental Items. NDI can be handled best in theater by allowing units to maintain them down to piece-part repair. The unit must be able to buy parts locally.

(12) Mission Knowledge. Those interviewed did not feel that the unit maintainers understood the operational mission very well. Mission knowledge is needed to allow the maintainers to improvise solutions to maintenance problems and continue the mission. Training should be provided at AIT. The training should consist of an overview of all the IEW systems, the interaction of the systems, and the mission of each system. The training should relate the impact of maintenance on the overall mission.

d. Support Structure (General). The 204th MI Bn performs organizational and DS maintenance for itself on IEW systems. The unit generates supply requests for Class IX parts using its SAMS-1. Currently the requests stop here because there is no supporting SSA or MMC for the units in Augsburg. This situation is being resolved. The hardware flow will be to an SSA either in Nürnberg or Augsburg and the paperwork flow to the 19th CMMC/3d Corps Support Command (COSCOM). The future SSA will evacuate the hardware to the ERF or RPP.

e. System Specific Support Flows

(1) AN/TRR-27A OUTS Receiver System (except ASTW)

Hardware: UNIT --> SSA --> ERF/RPP
Paperwork: UNIT --> CMMC --> TAMMC

(2) ASTW

Software: No support
OUTS: UNIT --> USPS --> CIMMC
Hard Disk: UNIT --> DCS --> CIMMC SSO

(3) ETUT (Located at JIC)

On-Site Contractor Support

(4) AN/TLQ-17A(V)3 SANDCRAB (Brand new, being fielded)

UNIT --> SSA --> GSCP or
UNIT --> Fielding Team --> GSCP

(5) HAWKEYE

UNIT (operator) --> Contractor

(6) UIES

(Satellite Communications): UNIT --> MSA V --> OEM
(Equipment/Display Vans): On-site Contractor
(Receiving Locations): UNIT --> OEM

(7) TRACKWOLF

(Standard): UNIT --> Contractor (TCI) --> (if NRTS) UNIT --> ManTech SRA Augsburg (has set of spares) --> OEM

(TSAS Subsystem): UNIT (has set of spares) --> Visiting contractor (SRA cannot repair - no facilities; OEM will not repair because equipment has been reconfigured.)

(Software): UNIT --> TCI (contractor can restore software) --> CIMMC (software repair only in CONUS)

f. Contractor Support. Contractor support was not evaluated.

g. Personnel Interviewed

(1) SFC Rodney Long DSN: 434-7210
Commercial 049 821 488 7210
MOS 33T4O

HHC, 66th MI Bde
IAGPE-IO-MM
APO AE 09157

IEW Maintenance NCO
Responsible for the deployment and sustainment of USAREUR EAC units to ODS.

(2) CW2 David Fitzpatrick DSN: 434-4478
Commercial 049 821 449 4478
MOS 353A

HHC, 204th MI Bn
Unit 25005, Box 1254
APO AE 09178

IEW Systems Technician
Deployed to ODS with 201st MI Bn as the collection site maintenance officer.

9. **HQ USAREUR, ODCSLOG.** The study team, LTC Carter, and the CECOM LARs visited MAJ Marr of COL Metzger's office at the ODCSLOG in Heidelberg at 10:30 a.m. on July 17, 1992. MAJ Marr was aware of the peculiar problems of IEW support, but did state that IEW is a very small portion of the USAREUR logistics picture. Low density, low profile, and the IEW tradition of stovepipe support, as well as the mystique of classified hardware, has resulted in the hands-off attitude of logistics officers and systems in the Army. MAJ Marr did make the following points:

a. USAREUR believes it can protect the IEW classified equipment during retrograde through standard Army system.

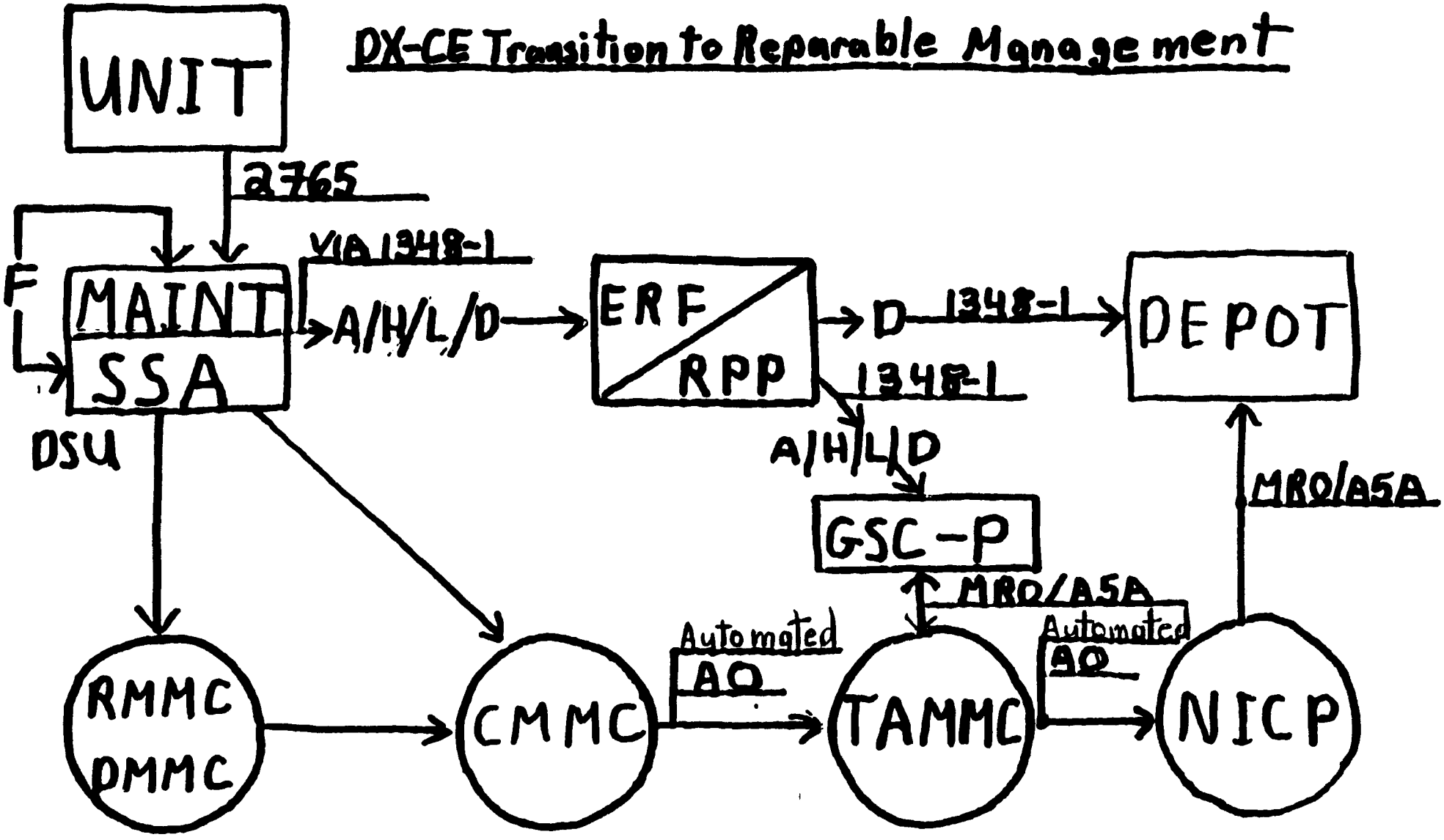
b. The 200th TAMMC controls all stock funds. It uses Defense Management Review Decision (DMRD) 904 for guidance for stock funding of reparables. It has established the Turn-in Priority Items List (TPIL) for use by its DS4 systems at all levels to determine funding. Presently the TAMMC will pay for reparables with recoverability codes of "D," "L," and "H;" units will pay for items coded "F," "O," and "Z." TAMMC expects one half of reparable funding to come from OPTEMPO funds and one half from the return credit for reparables from the Materiel Readiness Commands (MRC). TAMMC applies its own document number to all "D" and "L" coded items leaving the theater. This procedure ensures that all stock fund credits are returned to the control of 200th TAMMC, but inhibits the originating units from tracking the turn-in of unserviceable items.

c. There was a discussion of the "black hole of the ERF." MAJ Marr suggested that the items which are lost may really be at the ERF or the RPP, where 1600 MILVANS loaded with materiel are sitting, or the items were evacuated to CONUS because of the recoverability coding. The LAO has accepted the responsibility of investigating the "black hole."

d. ODCSLOG was not aware that the SRA at Pirmasens was fully funded at least through fiscal year (FY) 1992. He agreed that GSCP should work-load the SRA with all items it is contracted to repair.

David P. Nicholas
David P. Nicholas
Project Manager
BDM International, Inc.

Enclosures:
1. Flow chart - DX-CE Transition to Reparable Management
2. List of IEW Abbreviations


DX-CE Transition to Reparable Management
UNIT
2765
F
MAINT
SSA
DSU
VIA 1348-1
A/H/L/D
ERF
RPP
D 1348-1
DEPOT
1348-1
A/H/L/D
GSC-P
MRO/A5A
MRO/A5A
RMMC
DMMC
CMMC
Automated
AO
TAMMC
Automated
AO
NICP

List of IEW Abbreviations

ACR	Armored Cavalry Regiment
AEB	Aerial Exploitation Battalion
AIT	Advanced Individual Training
ASPO	Army Space Programs Office
ASTW	Agency Standard Terminal Workstation
Bde	Brigade
BIT/BITE	Built-in-Test/Built-in-Test Equipment
Bn	Battalion
C&E	Communications and Electronics
CECOM	Communications and Electronics Command
CEWI	Combat Electronic Warfare Intelligence
CIMMC	CECOM Intelligence Materiel Management Center
CMMC	Corps Materiel Management Center
Co	Company
CONUS	Continental United States
DCS	Defense Courier System
DESCOM	Depot System Command
DMRD	Defense Management Review Decision
DSN	Defense Speech Network
DX	Direct Exchange
EAC	Echelon-above-corps
EPDS	Electronic Processing and Dissemination System
ETUT	Enhanced Tactical User's Terminal
FY	Fiscal Year
GPS	Global Positioning System
GRCS	GUARDRAIL Common Sensor
GSCP	General Support Center Pirmasens
HQ	Headquarters
IEW	Intelligence and Electronic Warfare
ILSP	Integrated Logistics Support Plan
INSCOM	Intelligence and Security Command
KKMC	King Khalid Military City
LAO	Logistics Assistance Office
LAR	Logistics Assistance Representative
LEMCO	Light Equipment Maintenance Company
LRU	Line Replaceable Unit
MAC	Maintenance Allocation Chart
MACOM	Major Army Command
ManTech	Management Technologies
MFP	Materiel Fielding Plan
MI	Military Intelligence
MOS	Military Occupational Specialty
MOS 33T	IEW Ground Systems Repairer
MOS 29E	Signal Repairer
MOS 353A	IEW Equipment Technician (Warrant Officer)
MPL	Mandatory Parts List
MRC	Materiel Readiness Command
MRO	Materiel Release Order
MSA-V	Materiel Support Activity - Vint Hill Farms Station
MTOE	Modification Table Of Organization and Equipment
NDI	Nondevelopmental Item

NICP . . .	National Inventory Control Point
NRTS . . .	Not Reparable This Station
NSN	National Stock Number
ODCSLOG . .	Office of the Deputy Chief of Staff for Logistics
ODS	Operations DESERT SHIELD/DESERT STORM
OEM	Original Equipment Manufacturer
OJT	On-the-Job Training
OPS	Operations
Plt	Platoon
PM	Program/Product/Project Manager
QF	QUICKFIX
RML	Reparables Management List
RMMC . . .	Regimental Materiel Management Center
RPP	Redistribution Processing Point
SAMS . . .	Standard Army Maintenance System
SFDLR . . .	Stock Funding of Depot Level Reparables
SRA	Special Repair Activity
SSA	Supply Support Activity
SSO	Special Security Officer
SWA	Southwest Asia
TAMMC . . .	Theater Army Materiel Management Center
TEB	Tactical Exploitation Battalion
TPIL . . .	Turn-in Priority Items List
TRISA . . .	TROJAN Intermediate Support Activity
UIES . . .	Unit Imagery Exploitation System
ULLS . . .	Unit Level Logistics System
USAREUR . .	United States Army Europe
USPS . . .	United States Postal Service

SELIM-IEW

MEMORANDUM FOR RECORD

SUBJECT: Trip Report to USAREUR, 11-18 Jul 1992.

1. The IEW Battlefield Sustainment Streamlining Study Team visited MI units and activities that provide sustainment support for IEW equipment located in USAREUR.

2. Units/Activities visited: The following is a list of units and activities visited by the IEW Battlefield Sustainment Study Teams;

511th MI Co, Fulda, Ge
200th TAMMC, Zweibrucken, Ge
General Service Company - Pirmasens (GSC-P), Pirmasens, Ge
CIMMC SRA, Pirmasens, Ge
501st MI BN, Dexheim, Ge
66th MI BDE, Augsburg, Ge
204th MI Bn, Augsburg, Ge
DCSLOG, Hq USAREUR, Heidelburg, GE

3. Observations/Highlights of Data Collected:

a. 511th MI Co;
* 11th CSS SSA support seems non responsive to MI needs

* 548th LEMCO (GS Det) does not provide GS repair, only validate material is unserviceable

* Unit feels GSC-P should accept work directly from unit on work order.

b. 200TH TAMMC;
* Reparable items will not be loaded at the SSA level to identify the repair location, only that the item will be sent to the next higher level of supply support

* Screening of reparable for GSC-P repair is done at the ERF site. This is done before the items are processed to the ERF accountable records

* No D or L coded items are to be repaired in USAREUR. GS level activities only validates condition code. Reason stated was USAREUR is only funded for items coded GS level repair. D and L codes are for Depot level.

* MAC charts are one of the driving factors on where repair will occur

c. GSC-P;
* Only TLQ-17A work done
* Getting parts for TLQ-17A is biggest problem
* TAMMC/DCSLOG looking at dropping sustainment maintenance on TLQ-17A due to low demands
* Demand support important factor for items on Reparable Management Program

d. CIMMC SRA - Pirmasens
* GSC-P was work-loading about two hundred work orders per month up until April and since then , have received four work orders
* SRA accepts only high priority work request directly from the units.

e. 501st MI Bn;
* Low on spares for some of the IEW systems
* Unserviceable spares turned into SSA can not be currently located. SFC Wheeler is working the issue
* Due to the above two comments, unit goes directly to SRA for repairs
* Part number request biggest problem

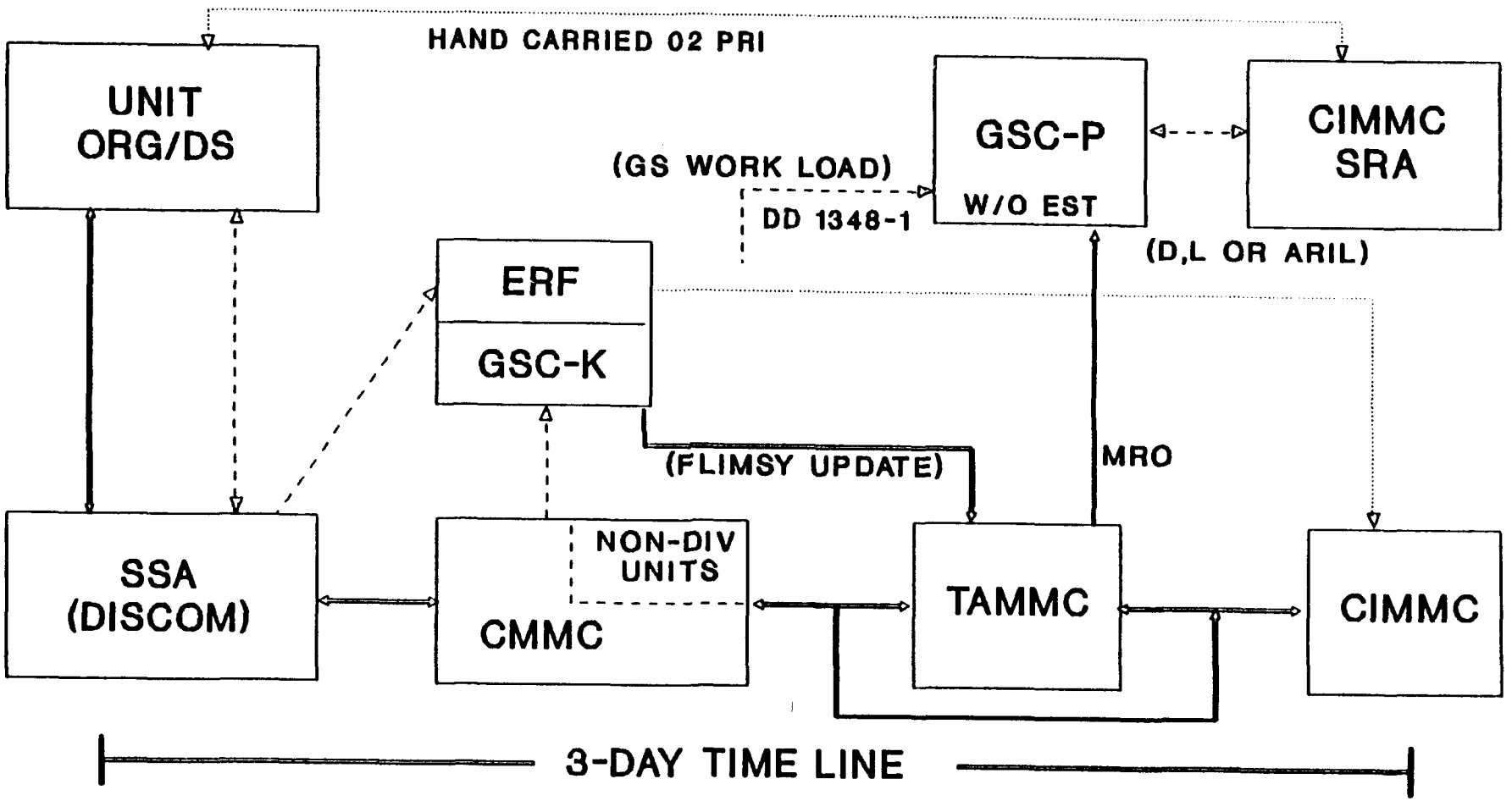
f. 66th MI BDE and 204th MI Bn;
* "ASTW" has long lead time for repair. AVG turn around time is 4-6 months
* Authorized three 76C's, currently none assigned
* Support activity deactivating. New support activity not identified yet. Maybe Nurnburg which is approx. 3-4 hours away

g. USAREUR DCSLOG;
* 200th TAMMC controls stock funds
* 200th TAMMC overlays their own document number to all D or L coded items leaving the theater. This is to insure that all credits for stock fund dollars are returned to the control of 200th TAMMC
* SSA turn in document numbers do not go out of the theater. This makes it hard to track unserviceables

4. Recommendations: AMC-Europe IEW LAR's took on the task to locate and then track the spares that were turned in by the 501st MI Bn. USAREUR also stated that they would assist in locating the spares. USAREUR DCSLOG was not fully aware that the CIMMC SRA at Pirmasens was fully front end funded . DCSLOG stated that items that the SRA is contracted to repair would be work-loaded to them.

5. The offical Trip Report for the IEW Battlefield Sustainment Streanlining Study is parpared by the contractor, BDM International,INC. The offical trip report will contain all data and comments collected for the study.

CURRENT IEW SUSTAINMENT (EUROPE)



ERF - EUROPEAN REDIST. FACILITY (DIVISION UNITS);
2 FACILITIES DESCOM OPERATES

GSC - GENERAL SUPPORT CENTER (CORPS UNITS); 21st TEAM OPERATED

HDW FLOW FROM DIV SSA TO GSC-P APPROX. 35-75 DAYS

REQ FLOW ——▷

HDW FLOW - - - - - - - - ▷

UPDATED 07/92

STOCKAGE OF SPARES

SPARES / PLL AT BATTALION
OPTION #1

PRO's

* READY ACCESS TO SPARES
* USE CURRENT ASSETS
* NO LABOR COST FOR REPAIRS
* SPARES STAY WITH UNIT

CON's

* ASL UMBRELLIAS PLL/SHOP STOC
* COSTLY TO BUY ADDITIONAL SPARES
* REQUIRES REGULATION CHANGES TO HAVE SPARES AT BN
* DOES NOT CAPTURE DEMAND DAT
* BN TURN IN/REQUEST NRTS ITEM
* BN PROVIDES OWN MOVEMENT OF SPARES

STOCKAGE OF SPARES

SPARES AT SSA - PLL AT BN

OPTION #2

PRO"S

* USES CURRENT SPARES FROM BN
* CAPTURES DEMAND DATA
* SSA REORDERS/TURN IN WASHOUT
* SSA MOVES ASL

CON's

* NO READY ACCESS TO SPARES
* MUST WAIT FOR WORK ORDER FROM SSA TO REPAIR SPARES
* UNIT PLL TURN IN/REQUEST SPARES

SPARES AT SSA, HIGH FAILURE SPARES LOCATED AT BN

OPTION #3

SAME AS OPTION #2 PLUS

* READY ACCESS TO SPARES
* CAN START WORK BEFORE WORK ORDER IS GENERATED
* UNIT PLL TURN IN/REQUEST SPARES
* BN PROVIDES MOVEMENT OF SPARE
* BN MUST ESTABLISH SUPPORT AGREEMENT