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STUDY REPORT
CAA-SR-89-8

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NATIONAL GUARD LOGISTICS (NGLOG) STUDY

MAY 1989



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PREPARED BY
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19 ABSTRACT (Continue on reverse if necessary and identify by block number) The National Guard Bureau (NGB) has been unable to accurately determine equipment distribution/redistribution requirements to fill Army National Guard (ARNG) units to required readiness levels in accordance with Army-approved force structure guidance. The NGLOG Study analyzed deficiencies in the current NGB equipment distribution/redistribution process and identified corrections/changes to improve the ability of the ARNG to accomplish equipment distribution objectives. It was found that deficiencies in electronic communication throughout the NGB divisions have inhibited mission accomplishment. The automated system for documentation and dissemination is inadequate to support equipment requirements analysis and redistribution. A lack of a central computer data base accessible to all divisions has resulted in increased workload and diminished the accuracy of decisionmaking. The study identified enhancements to the existing Equipment Readiness Process, which will reduce the manual efforts in the equipment distribution/redistribution process. Suggested corrective actions to other identified deficiencies in the NGB equipment allocation process were presented in the study. Point of contact for further information is LTC Gordon Philippovic, AUTOVON 295-5301					
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NATIONAL GUARD LOGISTICS (NGLOG) STUDY

May 1989

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REPLY TO
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US ARMY CONCEPTS ANALYSIS AGENCY
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CSCA-FSR (5-5d)

03 AUG 1989

MEMORANDUM FOR CHIEF, NATIONAL GUARD BUREAU, ATTN: NGB-ARL,
WASHINGTON, DC 20310-2500

SUBJECT: National Guard Logistics (NGLOG) Study

1. Reference Letter, NGB-ARL, 6 January 1989, subject: National Guard Logistics (NGLOG) Study.
2. Subject letter directed the U.S. Army Concepts Analysis Agency (CAA) to conduct a study to analyze the process used by the National Guard Bureau to distribute/ redistribute equipment requirements to fill Army National Guard units to required readiness levels in accordance with the Army-approved force structure guidance.
3. This final report documents the results of our analysis and identifies potential enhancements to the equipment distribution/redistribution process used by the National Guard Bureau.
4. This Agency expresses appreciation to all commands and agencies which have contributed to this study. Questions and/or inquiries should be directed to the Assistant Director, Force Systems Directorate, U.S. Army Concepts Analysis Agency, 8120 Woodmont Avenue, Bethesda, MD 20814-2797, AUTOVON 295-1607.

Encl


E. B. VANDIVER III
Director



**NATIONAL GUARD LOGISTICS
(NGLOG) STUDY**

**STUDY
SUMMARY
CAA-SR-89-8**

THE REASON FOR PERFORMING THE STUDY was to provide an improved process for equipping units of the National Guard in response to force structure changes and readiness objectives.

THE PRINCIPAL FINDINGS of the work reported herein are as follows:

(1) There is insufficient electronic communication (common data access, etc.) throughout the National Guard Bureau (NGB) divisions.

(2) The automated system for establishment and dissemination of documentation is inadequate to support equipment requirements analysis and equipment redistribution.

(3) Lack of a central Equipment Readiness Analysis (ERA) computer data base accessible to all NGB divisions has increased workload and decreased accuracy of decisionmaking.

THE MAIN ASSUMPTIONS of this work are:

(1) Responsibilities of the Chief, NGB, will remain as specified in Army Regulation (AR) 10-5, Organization and Functions, Department of the Army, dated 1 December 1980.

(2) The current force structure identification and allocation process performed in the total Army analysis, as related to the NGB, will remain in effect.

(3) Readiness reporting requirements for the NGB will remain as specified in AR 220-1, dated 30 August 1988.

(4) Director of the Army National Guard (ARNG) will continue his goal of having states maintain equipment onhand within units at readiness levels of C-3 or above.

THE PRINCIPAL LIMITATION of this work is that it examines the equipment allocation process over which the NGB has control, and not those force structure requirements processes that provide input to the NGB.

THE SCOPE OF THE STUDY was to analyze the NGB Equipment Distribution/Redistribution Process, in support of Army force structure decisions, over which the NGB has control.

THE STUDY OBJECTIVES were to:

(1) Identify those deficiencies in the current NGB Equipment Distribution/Redistribution Process which inhibit accurate responses to force structure changes and readiness considerations.

(2) Identify corrections and changes which will improve the ability of the ARNG to better accomplish equipment distribution objectives.

THE BASIC APPROACHES used in this study were to:

(1) Determine all source data inputs to the ERA process.

(2) Determine all required source data necessary to accomplish the ERA mission.

(3) Determine current equipment distribution/redistribution procedures.

(4) Determine problems with procedural and automation practices.

(5) Determine optimal results desired in the equipment allocation process.

(6) Develop procedural changes/improvements to the ERA process.

THE STUDY SPONSOR was the Chief, Logistics Division, National Guard Bureau, who established the objectives and monitored study activities.

THE STUDY EFFORT was directed by LTC Gordon Philippovic, Force Systems Directorate, US Army Concepts Analysis Agency.

COMMENTS AND QUESTIONS may be sent to the Director, US Army Concepts Analysis Agency, ATTN: CSCA-FS, 8120 Woodmont Avenue, Bethesda, Maryland 20814-2797.

Tear-out copies of this synopsis are at back cover.

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NATIONAL GUARD LOGISTICS (NGLOG) STUDY

CHAPTER 1

EXECUTIVE SUMMARY

1-1. **PROBLEM.** The NGB has been unable to accurately determine equipment distribution/redistribution requirements to fill ARNG units to desired readiness levels in accordance with Army-approved force structure guidance.

1-2. **BACKGROUND.** National Guard Bureau (NGB) equipment distribution and redistribution procedures cannot adequately distribute/redistribute equipment to fill Army National Guard (ARNG) units to designated readiness levels. The Chief, NGB, in accordance with Army Regulation (AR) 10-5, is charged with the responsibility for distribution/redistribution of equipment as a result of force structure changes.

1-3. **PURPOSE AND OBJECTIVES**

a. **Purpose.** This study analyzes the current ARNG equipment distribution/redistribution process to identify deficiencies and possible improvements in the process which will facilitate the allocation of equipment to ARNG units to achieve required readiness levels.

b. **Objectives**

(1) Identify those deficiencies in the current NGB equipment distribution/redistribution process which inhibit accurate responses to force structure changes and readiness considerations.

(2) Identify corrections and changes which will improve the ability of the ARNG to better accomplish equipment distribution objectives.

1-4. **SCOPE AND LIMITATIONS**

a. The analysis includes the NGB equipment distribution/redistribution process, in support of Army force structure decisions, over which the NGB has control.

b. Cutoff date for documentation used is 26 September 1988.

c. The study examines the equipment allocation process over which the NGB has control, but does not examine those force structure requirements processes that provide input to the NGB.

d. Study analysis identifies the computer system functional structure needed to correct identified system deficiencies or system improvements.

e. The study considers National Guard units only.

1-5. **TIMEFRAME.** FY 90.

1-6. ASSUMPTIONS

- a. Responsibilities of the Chief, NGB, will remain as specified in AR 10-5, Organization and Functions, Department of the Army, dated 1 September 1986.
- b. The current force structure identification and allocation process performed in the total Army analysis (TAA), as related to the NGB, will remain in effect.
- c. Readiness reporting requirements for the NGB will remain as specified in AR 220-1, dated 30 August 1988.
- d. Director of the ARNG will continue his goal of having states maintain equipment onhand within units at readiness levels of C-3 or above.

1-7. **STUDY APPROACH AND METHODOLOGY.** The basic approach employed in this study was to determine the current process for distributing/redistributing NGB equipment, identify deficiencies in the current process, and develop alternative courses of action to address the deficiencies identified. Figure 1-1 outlines the study methodology.

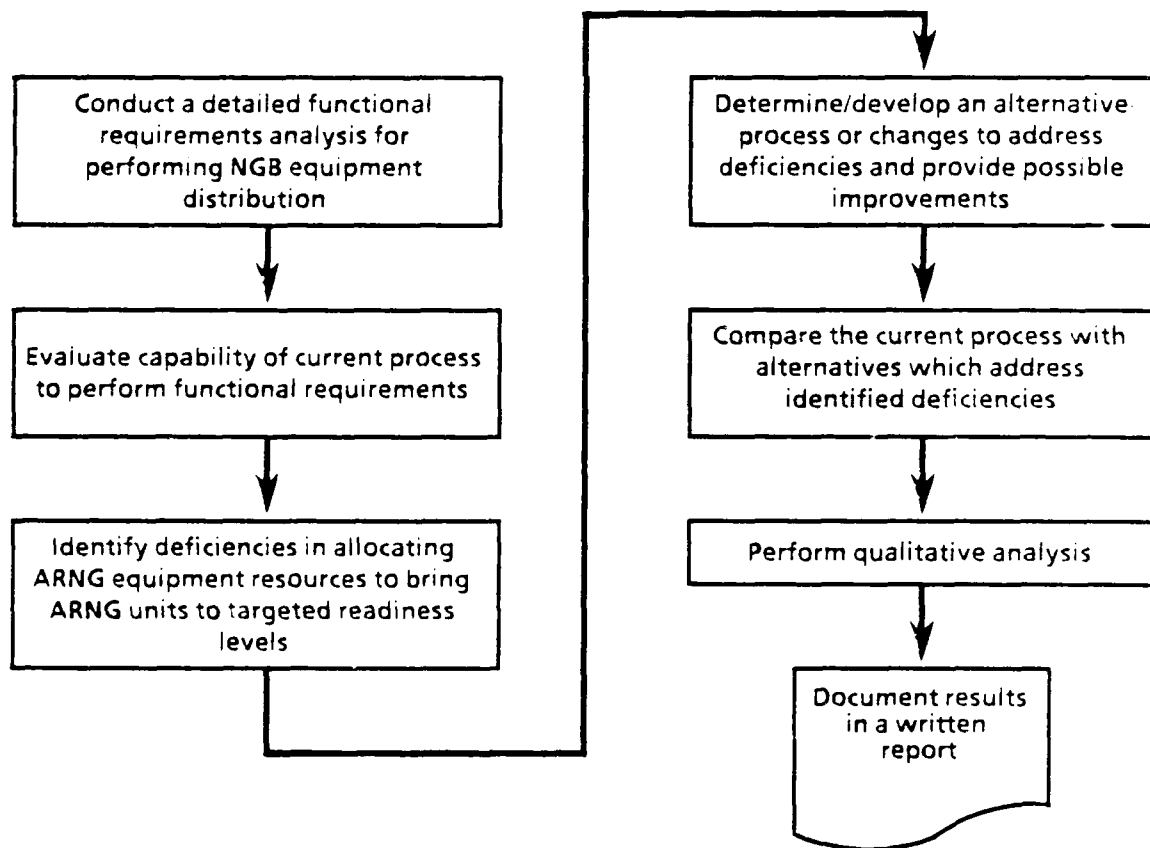


Figure 1-1. Study Methodology

1-8. SUMMARY OF FINDINGS AND OBSERVATIONS

a. **Summary of Essential Elements of Analysis (EEA).** The research was guided by four EEA, as provided by the study directive (Appendix B). Summary answers to these questions are as follows:

(1) **What are the detailed functional requirements for performing NGB equipment requirements distribution?** The many information and data transfers, updates, coordinations, and decisions that must be accomplished accurately and in a timely manner in order to carry out the NGB equipment distribution/redistribution functions constitute the detailed functional requirements for the NGB. The main elements of the NGB functional requirements are the force structure process, documentation, the Equipment Readiness Analysis (ERA), the Unit Status Report (USR), and the Equipment Status Report (ESR). The detailed functional requirements for performing NGB equipment requirements distribution begins with the force structure and documentation process. The Office of the Deputy Chief of Staff for Operations and Plans (ODCSOPS) provides guidance which culminates in the Troop Structure Program disseminated to the states. Appropriate documentation is prepared by the Army Organization and Training (ARO) Division, NGB, and approved by Department of the Army (DA) prior to dissemination. The ERA computer program within the Army Logistics Division (ARL), NGB, is used in determining equipment shortfalls for ARNG units and assists in excess redistribution. Simultaneously, USRs and the ESR are used in determination of equipment distribution recipients.

(2) **Through analysis, does the current system accomplish the required distribution/redistribution of equipment actions? If not, in what ways is it deficient?** The current system does accomplish the required distribution/redistribution actions, but in an inefficient and sometimes ineffective way. Each division accomplishes its portion, using its own derived data, at a great expense of time and manpower and a concomitant lack of needed consistency. There is insufficient electronic communication (common data access, etc.) throughout the NGB divisions [ERA data bases and lack thereof, i.e., USR, ESR, substitutes, Army Modernization Information Memorandum (AMIM) and dedicated procurement equipment packages, and loan equipment]. Further, shortcomings exist in the VTAADS (Vertical--The Army Authorization Documents System) computer document input and retrieval software process. There are also gaps in the dissemination of approved documentation to all agencies involved with the distribution/redistribution process.

(3) **How can the current process be improved?** Several major changes are needed. These include: addition of a common NGB computer data base to allow access from different NGB divisions; upgrade the ERA data base to identify organizations down to the company level; automate the entire USR process; upgrade the ERA data base to include substitute line item numbers (LINS), commanders' in-lieu-of items, the AMIM dedicated procurement, activations/deactivations; addition of a capability within the ERA to allow states to report loan equipment onhand by unit identification code (UIC) and state and Item Managers to run preliminary recommended excess distributions; enforce the monthly state update of the ESR; provide for the electronic transfer of the ESR/USR on a secure line; train ERA users in the use of the Structure Query Language (SQL); implement validation procedures for ARO documents; develop an edit capability for documentation archived in the Information

Management Agency (IMA) mainframe computer; add an NGB capability to determine modification table of organization and equipment (MTOE) changes from basis of issue plan(s) (BOIP).

(4) What are the advantages/disadvantages of the suggested changes to the current system? The suggested changes should result in the following benefits or advantages: decreases in workload processing time and increases in the accuracy of NGB division coordination; standardizes the ERA as the data base for management decisionmaking; provides consistency between NGB and state documentation; distributes excess equipment faster; reduces inventory in motion; improves efficiency of Item Managers, Force Integrators, Documentors, and Readiness Analysts; improves accuracy of ESR, USR, and state excess reporting procedures; reduces time to upgrade ERA data base; improves accuracy of accounting for loan equipment, AMIM and dedicated procurement equipment, and substitutions; provides capability to rapidly project cost and quantity of total ARNG requirements through the use of automation; produces availability of statements of work for programing purposes; provides USPFO greater control of excess management; provides for a central audit trail capability. The major disadvantages associated with changes to the current system include additional costs and time incurred for obtaining dedicated communication lines, computer upgrades at the state level, and intracommunication of Intel computer systems within the NGB; additional costs for contractor support for programing changes and new program establishments; increases personnel requirement by two spaces to accommodate the additional BOIP function in ARL and ARO; additional costs incurred for dedicated state support for documentation analysis, either at NGB or state level.

b. Summary of Key Findings and Observations. Key findings and observations noted in the report include:

(1) The primary finding is that there is insufficient electronic coordination (common data access, etc.) throughout the NGB divisions.

(2) The current automated system for documentation development and dissemination is inadequate to support accurate equipment requirements analysis and redistribution.

(3) A central computer data base accessible to all NGB divisions is needed to reduce the NGB workload and increase the accuracy of decision-making.

(4) Documentors are not using the online document update system at IMA to read and/or correct documents.

(5) The SQL process within the ERA is not being exploited to its full potential.

(6) The Headquarters, Department of the Army (HQDA) classified communication authorization for NGB requires reprioritization in order to provide NGB needed classification communication capabilities.

(7) An automated edit procedure within ERA would eliminate the current manual equipment onhand readiness edit process used by the Army Mobilization and Readiness Division (ARR).

(8) An ESR and USR cross-correlation check is needed on a quarterly basis.

(9) Mandatory equipment status reporting on a monthly basis could reduce the occurrences of unnecessary redistribution actions.

(10) A fully automated audit trail on distributed/redistributed equipment could reduce inventory in motion.

(11) Reliability of the ERA program data base needs improvement in order to provide all divisions a means to answer unit supportability questions.

(12) The ability of NGB to review basis of issue plans is necessary to ensure their incorporation into NGB documents.

(13) Possible cost savings should be generated by the improvement in the distribution/redistribution process.

CHAPTER 2

NATIONAL GUARD BUREAU (NGB)

2-1. **INTRODUCTION.** The purpose of this chapter is to review the organization and functions of the ARNG Directorate and its divisions of all elements involved in the equipment distribution and redistribution process.

2-2. **BACKGROUND.** The NGB is a staff element of the DA Staff and is a major command in accordance with (IAW) AR 310-49 and has the responsibility to allocate resources in support of the 54 states and territories. IAW AR 10-1, the Director, Army National Guard, has been delegated the responsibility of equipping the ARNG units. To accomplish this end, the Chief, Logistics Division, NGB, has been designated as the action agent with the detailed responsibility for the distribution and redistribution of equipment. To ensure commonality of understanding, the following points are highlighted identifying inherent characteristics of the National Guard (NG) which may arise throughout the study.

a. The USPFO is ordered to active duty under the provisions of Section 672d of Title 10, US Code, and is placed by the Chief, NGB, IAW Section 708 of Title 32, US Code, within a state, to administer and account for Federal resources of that state. His responsibilities are similar to those of an Installation Director of Logistics with engineer, comptroller, internal review, and other functions. This USPFO is the action agent for the CNGB, in the state and reports to the CNGB, as well as the state Adjutant General (AG).

b. The Logistics Division, NGB controls all Army equipment which is accounted for by the USPFO of a state. This property can be distributed inter- and intrastate and redistributed without permission of any outside agency. The only exception is the DA controlled items list. Permission must be obtained from HQDA before any redistribution actions are taken on these assets.

c. The NG obtains equipment from several sources to support authorized standard requirement codes/tables of organization and equipment (SRC/TOEs). These sources include DA procurement programs, Congressional funding for dedicated equipment purchases, and purchase of small items from ARNG operating funds. The Logistics Division determines the equipment to be obtained with Congressional funding. Routine requisitioned equipment is procured from the appropriate major subordinate command (MSC) of the US Army Materiel Command (AMC).

d. The NG adheres to all Army regulations unless otherwise specified. It should be noted that in specific instances, entries which pertain to the Reserve Components, of which the NG is an entity, are separately identified in the Army regulation.

e. The NGB is the legal channel of communication between the states' Adjutant Generals and the Secretaries of the Army and the Air Force, as authorized by Title 10 of the US Code.

f. Currently, of \$31B of equipment authorized for units within the National Guard, only \$19B is onhand. Due to changes in force structure, approximately 20 percent of these assets is in motion due to distribution/redistribution actions.

g. The ERA process includes the "Command" and "Field" ERAs. The "Command" ERA is that program used at the NGB level; it applies to management of assets at NGB. The "Field" ERA is a program designed to be used at state level in management of their assets. For purposes of this study, the ERA will mean the Command ERA, as defined above.

h. The ERA process does not include NGB aviation equipment requirements. All aviation-related functions are handled by the Aviation Division, NGB.

2-3. **STRUCTURE.** The structure of the four NGB divisions relative to this study is quoted directly from NGB Organizational Manual (OM) 10-5 to avoid any discrepancies and is presented in Figure 2-1, with each division shown in detail in Figures 2-2 through 2-5 (shown later). Divisional elements relative to this study are identified by an asterisk (*). The source for the structure of each division is shown in Figures 2-2 through 2-5.

a. Information Management Agency (Field Operating Agency (FOA)) (NGB-IMA) - page 72, OM 10-5 (see Figure 2-2).

b. Logistics Division (NGB-ARL) - page 82, OM 10-5 (see Figure 2-3).

c. Organization and Training Division (NGB-ARO) - page 99, OM 10-5 (see Figure 2-4).

d. Mobilization Readiness Division (NGB-ARR) - page 94, OM 10-5 (see Figure 2-5).

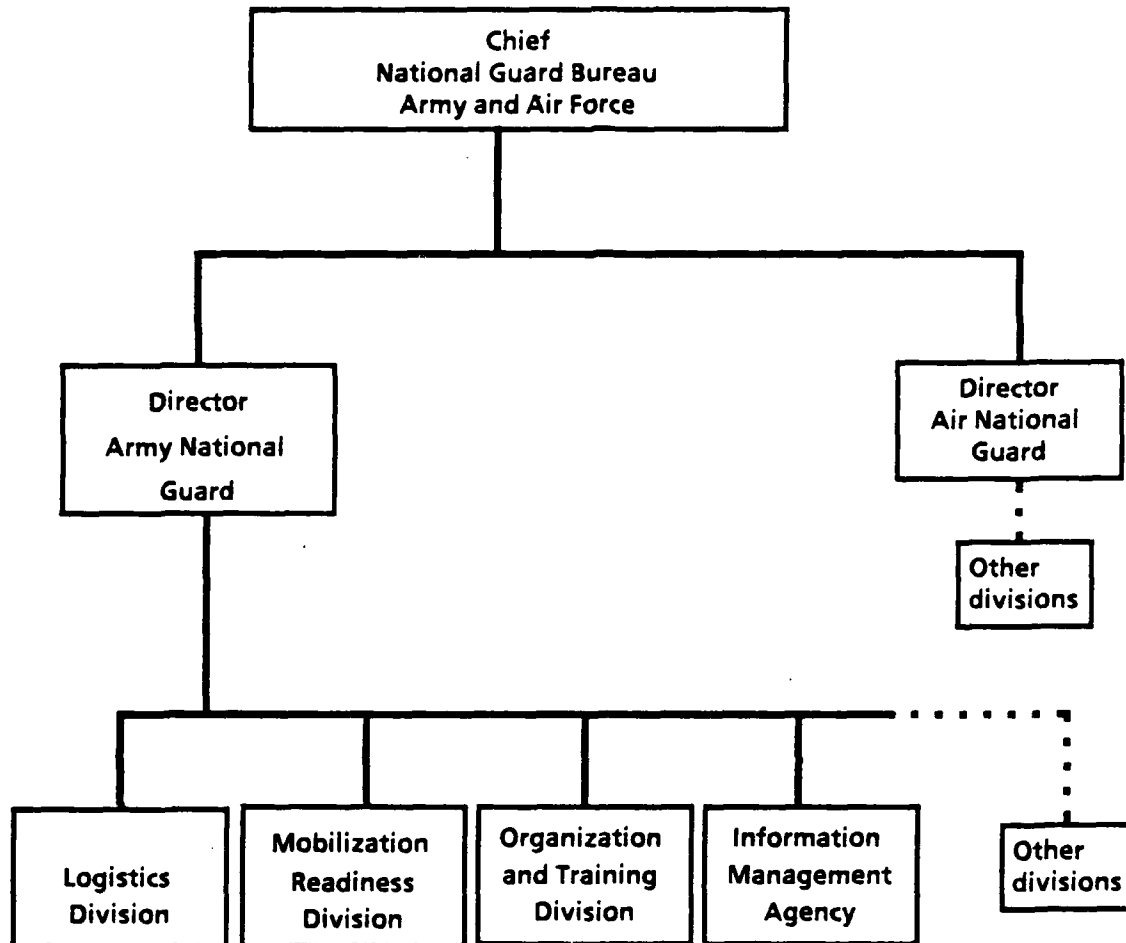


Figure 2-1. NGB Structure

2-4. **MISSION AND FUNCTIONS.** The mission and functions of each of the divisions noted in paragraph 2-3 above are addressed below in connection with application to this study. **Note:** these missions and functions are quoted directly from OM 10-5. Many of the functions listed pertain to more than one NGB division. In some instances, coordination among some or all divisions is required so that an individual division can accomplish its mission. A detailed functional analysis of the four NGB divisions was required to evaluate the capability of the NGB to accomplish the distribution of equipment.

a. **Information Management Agency (FOA) (NGB-IMA).** IMA is a major subordinate division of the Army National Guard Directorate (see Figure 2-2).

Mission: Manage ARNG information management services and maintain a standard automatic data processing (ADP) system for use by all of the ARNG data processing installations (DPI).

Functions:

- (1) Develops, recommends, and implements policies and programs pertaining to the ARNG information management programs.
- (2) Provides technical and administrative direction and coordination for information management for the ARNG.
- (3) Analyzes the services provided by the National Guard Information Management Agency and directs operational changes.
- (4) Performs liaison with public and private agencies to keep current in the ADP field.
- (5) Advises the NGB staff on development of plans and policies to ensure effective information management practices and procedures for the ARNG.
- (6) Recommends application and acquisition of data processing equipment for the ARNG.
- (7) Manages the ADP Management Information System (ARNGMIS).
- (8) Coordinates NGB information and processing requirements with DA, General Services Administration, and other Federal agencies in accordance with current regulations.

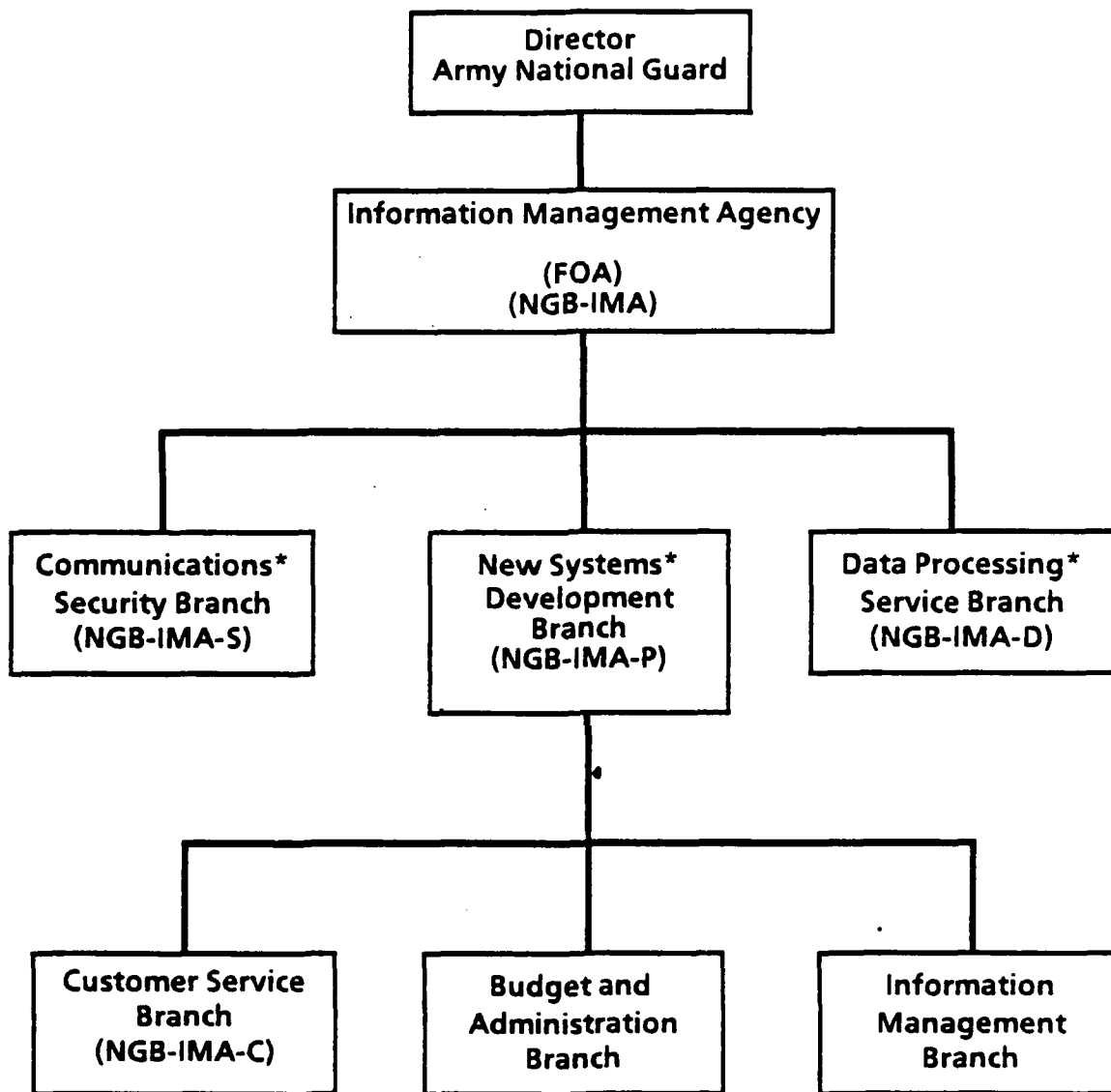


Figure 2-2. Information Management Agency (NGB-IMA)

b. **Logistics Division (NGB-ARL).** The Logistics Division is a major subordinate division of the Army National Guard Directorate (see Figure 2-3).

Mission: To provide the 54 states and territories with logistics support through advice, assistance, guidance, and administration as directed by the Director, Army National Guard.

Functions:

- (1) Administers ARNG logistics system programs.

- (2) Establishes logistics readiness priorities for support of mobilization and premobilization missions.
- (3) Recommends budget and fund allocation for logistics requirements and assists the states in managing logistics support programs.
- (4) Reviews construction criteria and proposed construction for logistics facilities.
- (5) Develops ARNG logistics policy.
- (6) Supervises the ARNG Command Logistics Review Program.
- (7) Supervises ARNG force modernization and administers the ARNG equipment inventory.
- (8) Administers the ARNG Materiel Readiness Reporting System.
- (9) Administers ARNG acquisition program, distribution planning, and equipment inventory.
- (10) Redistributes assets resulting from reorganizations, changes to the Department of the Army Master Priority List (DAMPL) and authorization changes.
- (11) Administers redistribution or return to materiel readiness commands (MRCs) of Reportable Item Control Code (RICC) 1 and 2 items excess to the ARNG (except aviation items).
- (12) Administers item distribution to high priority units in the ARNG.
- (13) Develops policy for distribution/redistribution of ARNG equipment.
- (14) Provides guidance to states for logistics readiness improvement.
- (15) Administers the ARNG ERA.
- (16) Develops ARNG distribution schedules for new items not listed in the Army Modernization Information Memorandum (non-AMIM) as well as for displaced systems from Active Component.
- (17) Acts as primary point of contact (POC) for Army Logistics Division for integrated logistics support (ILS) in fielding new equipment to ARNG.
- (18) Acts as POC for Army Logistics Division for total package/unit materiel fieldings.
- (19) Analyzes logistical capability and coordinates ARNG equipment authorizations in The Army Authorization Documents System (TAADS) documents, to include basis of issue, consolidated change tables, and common tables of allowances.

- (20) Acts as logistics POC for total Army analysis (TAA), Army Logistics Assessment, and USRs.
- (21) Acts as ARNG staff POC for automated logistics systems management.
- (22) Acts as office of primary POC for Army Logistics Division force modernization action. Receives AMIM from the ARNG Force Integration Office and coordinates the Modernization Resource Information Submission (MRIS) within the Army Logistics Division when tasked by the Army Force Integration Office.
- (23) Acts as ARNG POC for the Management of Excess Materiel and Materiel Returns Program and for proposed Military Standard Requisitioning and Issue Procedures/Military Standard Transaction Reporting and Accounting Procedures (MILSTRIP/MILSTRAP) changes to AR 725-50.
- (24) Manages DA and NGB automated supply systems used in ARNG MTOE units/activities.
- (25) Develops, tests, and maintains NGB standard automated supply and maintenance procedures used at state level; develops and maintains NGB logistics programs used by NGB-ARO.
- (26) Monitors logistical automated systems by evaluating engineering change proposals (ECP) and problem reports from ARNG user units and recommends/incorporates changes.
- (27) Prepares and plans for extension of logistical automatic data processing equipment (ADPE) to states; coordinates system plans with NGB-IMA and the US Army Logistics Center (USALOGCEN).
- (28) Coordinates with NGB-IMA to develop and support ARNG special and local program requirements.
- (29) Validates functional system user documentation for logistical automated systems.
- (30) Develops and updates functional system manuals for use in the States.
- (31) Analyzes requirements for automated supply and maintenance systems.
- (32) Develops Continuing Balance System - Expanded (CBS-X) reconciliation schedules for RICC 2 assets onhand at the USPF0 and monitors reports. Coordinates plans with Depot System Command (DESCOM).

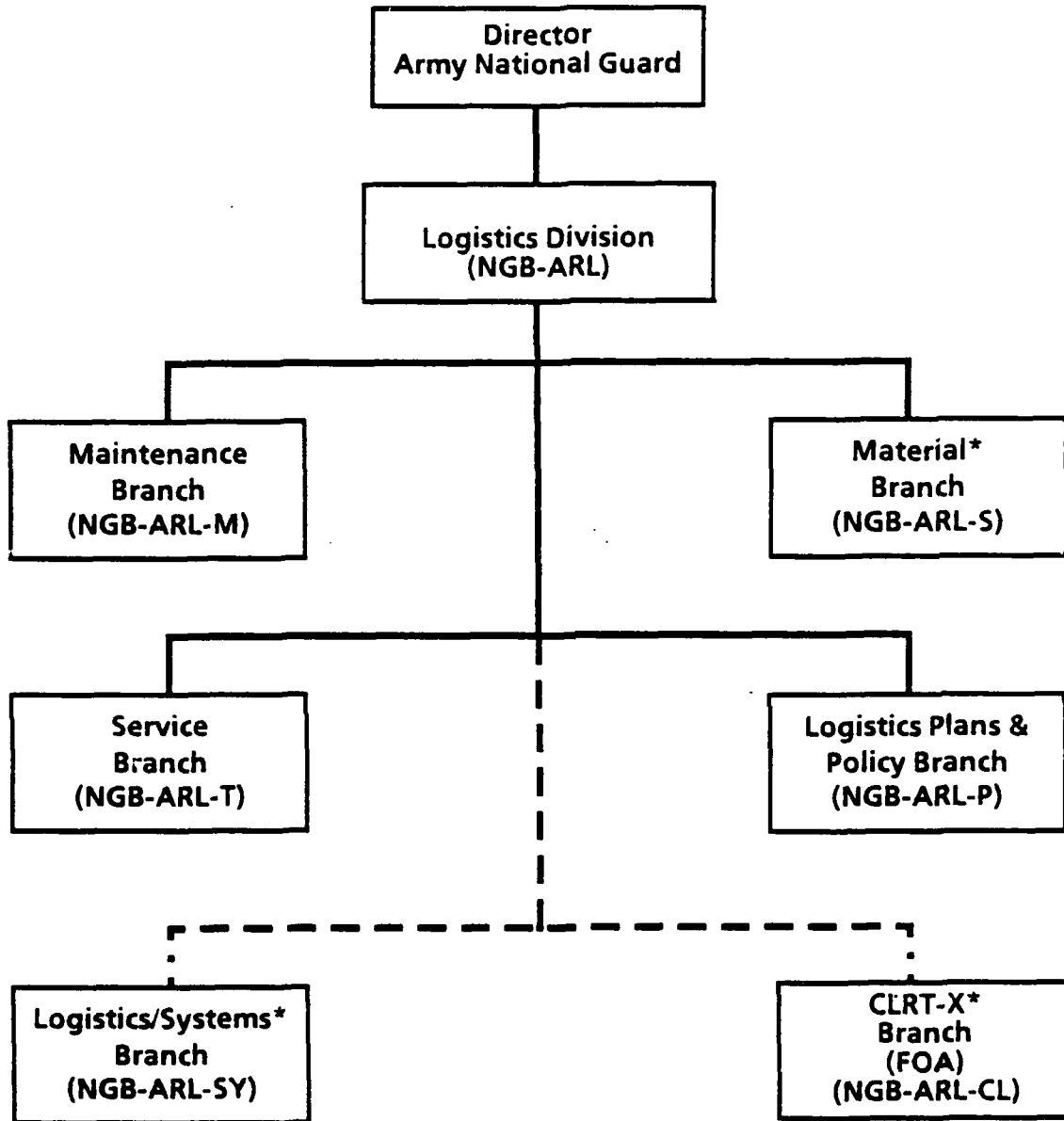


Figure 2-3. Logistics Division (NGB-ARL)

c. **Organization and Training Division (NGB-ARO).** The Organization and Training Division is a major subordinate division of the ARNG Directorate (see Figure 2-4).

Mission: Administers plans, policies, and programs pertaining to the organization, documentation, and maintenance of authorized ARNG structure; education of individuals and training of units.

Functions:

- (1) Coordinates with DA and NGB staffs, and the states and territories programming of the ARNG force structure.
- (2) Manages the ARNG Troop Structure Program.
- (3) Participates as the primary ARNG office in the TAA process.
- (4) Recommends to the Director, Army National Guard (DARNG) the selection of and coordinates the scheduling and training of ARNG units participating in overseas deployment training.
- (5) Recommends funding for and schedules ARNG participation in computer-assisted exercises.
- (6) Reviews BOIP for developing systems.
- (7) Manages the VTAADS.
- (8) Develops, processes, and distributes ARNG unit basic authorization documents showing personnel and equipment requirements and authorizations for both individual ARNG units and entire ARNG force structure.
- (9) Processes changes and revisions in authorization documents.
- (10) Manages ARNG portion of DA BOIP. Reviews BOIP for impact on ARNG MTOE documents and tables of distribution and allowances (TDA).
- (11) Coordinates ARNG issues and actions involved with force integration (FI) throughout the HQDA and NGB staffs.
- (12) Develops, processes, and distributes ARNG Distribution Plans for Army Modernization Equipment as described in the HQDA Force Modernization Master Plan (FMMP) and the AMIM.
- (13) Coordinates actions required for fielding Army modernization equipment to ARNG units.
- (14) Reviews BOIP and TOE and various other documents prepared by HQDA Staff and agencies to assess FI impact on the ARNG.

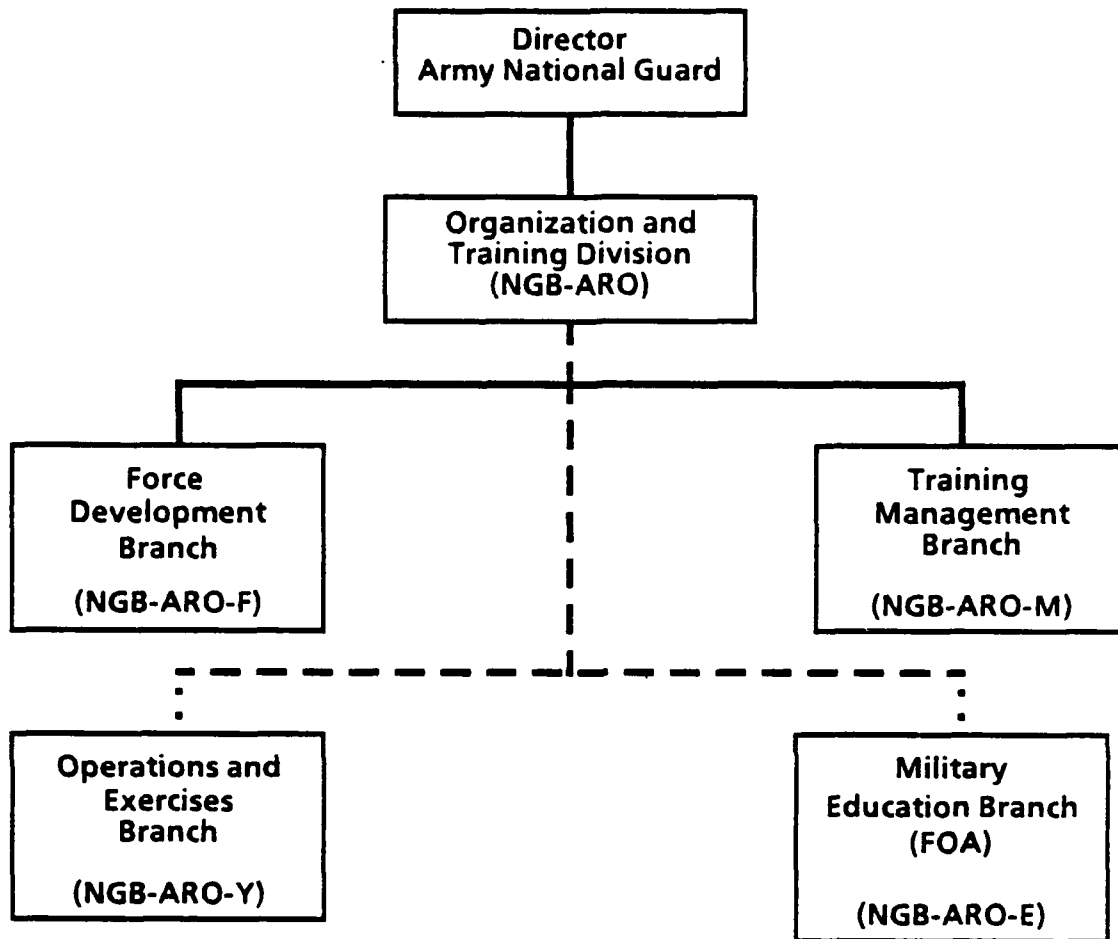


Figure 2-4. Organization and Training Division (NGB-ARO)

d. **Mobilization Readiness Division (NGB-ARR).** The Mobilization Readiness Division is a major subordinate division of the Army National Guard Directorate (see Figure 2-5).

Mission: Develops the ARNG mobilization and readiness policies. Administers the mobilization and deployment exercise program. Monitors and analyzes unit readiness and coordinates readiness related activities. Monitors readiness priorities to be used in resource distribution. Reviews war plans and coordinates missioning of units to support war plans. Administers NGB portion of the HQDA Continuity of Operations Plan (COOP). Develops the ARNG mobilization plan. Coordinates councils/committees related to readiness and mobilization preparedness; sponsors the ARNG Readiness Council.

Functions:

- (1) Monitors the development of Time-Phased Force Deployment Lists (TPFDL).
- (2) Serves as the interface with the DA Deputy Chief of Staff for Operations and Plans (DCSOPS) for the apportionment and missioning of ARNG major units.
- (3) Identifies, in conjunction with the DA Executive Agent, ARNG units to support Army contingencies; coordinates with the Executive Agent in the development of and adjustments to the Army CAPSTONE Program.
- (4) Analyzes USR data and identifies trends. Coordinates readiness factors with NGB Army Directorate divisions and states.
- (5) Prepares and briefs the Quarterly Force Readiness Briefing; coordinates the ARNG Force Readiness Committee meetings.
- (6) Coordinates assignment of DAMPL sequence numbers to ARNG units with HQDA; disseminates DAMPL information to the ARNG Directorate divisions and the states.
- (7) Recommends application of resources in cognizance of established priorities to improve ARNG readiness levels.
- (8) In coordination with the NGB Army Directorate divisions, develops Program Objective Memorandum (POM) input related to readiness enhancement and mission capability of ARNG units. **Note:** the NGB ARNG is referred to as a directorate due to a similar NGB Air National Guard Directorate under the CNGB.
- (9) NGB Army Directorate (see note above) POC for:
 - (a) Mid-Range Force Study.
 - (b) Army Regulation 220-1, Unit Status Reporting.
- (10) Develops POM input related to mobilization issues.
- (11) Administers the ARNG CAPSTONE program.

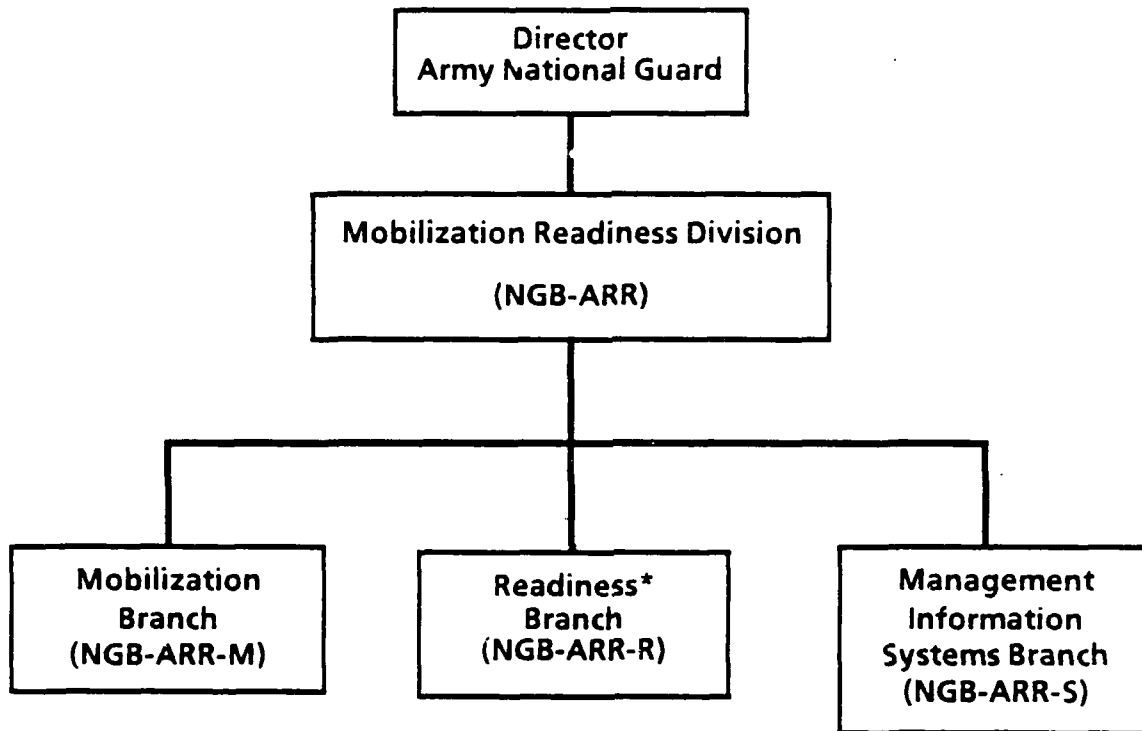


Figure 2-5. Mobilization Readiness Division (NGB-ARR)

2-5. **DIVISIONAL INTERFACE.** The functional requirements for equipment distribution consist of the Force Structure Program, the NGB Troop Structure Program, the ERA Program, and the AR 220-1 USR. These functional requirements can be correlated to one or more of the NGB division functions. Analysis of the organization and functions described indicates that interactions among divisions is necessary, since some of the functions are similar in nature and, in turn, require data and information for their proper execution. Currently, NGB divisions accomplish their missions in a semiautomated manner and do not use a centralized data base. Instead, they use separate systems in the accomplishment of their respective missions. Also, limited electronic networking systems are being used among the divisions.

2-6. **SUMMARY.** This chapter outlined the ARNG Directorate divisions and their specific missions and functions, as quoted from OM 10-5, which affect the NGB distribution and redistribution process. Because there is an overlap in missions and functions, there is an inherent interdependence among ARNG divisions. The main missions of the four divisions that comprise the NGB are as follows:

a. **NGB-IMA.** Manages ARNG information management services and maintains a standard ADP system for use by all of the ARNG DPI.

b. **NGB-ARL.** Provides the 54 states and territories with logistics support through advice, assistance, guidance, and administration as directed by the Director, Army National Guard.

c. **NGB-ARO.** Administers plans, policies, and programs pertaining to the organization, documentation, and maintenance of authorized ARNG structure and provides for education of individuals and training of units.

d. **NGB-ARR.** Develops the Army National Guard mobilization and readiness policies.

CHAPTER 3

SOURCE IDENTIFICATION AND ANALYSIS

3-1. **INTRODUCTION.** This chapter discusses the framework of the study and defines the limitations imposed during the study by operating conditions and the availability of source data.

3-2. **PARAMETERS.** This study focuses on the four principal divisions within the NGB which have impact upon the changes in force structure and the subsequent equipment requirements process. Limitations have been identified to facilitate the study effort required to accomplish the stated objectives. These criteria are outlined below.

a. The divisions considered in the analysis are the Information Management Agency, Logistics Division, Organization and Training Division, and the Mobilization Readiness Division.

b. Cutoff date for documentation used is 26 September 1988.

c. The study examines the equipment allocation process over which the NGB has control, but does not examine those force structure requirements processes that provide input to the NGB.

d. Study analysis identifies computer system structure needed to correct identified deficiencies or improvements.

e. The study looks at NG unit equipment requirements only.

3-3. **SOURCE IDENTIFICATION AND DATA.** The following informational elements were incorporated for review and analysis.

a. Army Modernization Information Memorandum (AMIM).

b. Department of the Army Master Priority List (DAMPL).

c. AR 220-1, Unit Status Reporting (USR), 16 September 1986.

d. Equipment Readiness Analysis (ERA).

e. Force Accounting System (FAS).

f. AR 725-50, Requisition, Receipt, and Issue System, 1 April 1987.

g. Logistics Structure and Composition System (LOGSACS).

h. Modification table of organization and equipment (MTOE).

i. ARNG Troop Structure Program (TSP).

3-4. **ASSUMPTIONS.** The following study assumptions guided the analysis of the NGB equipment distribution/redistribution process.

a. The responsibilities of the CNGB will remain as specified in AR 10-5, Organization and Functions, Department of the Army, dated 1 September 1986.

b. The current force structure identification and allocation process performed in the TAA, as related to the NGB, will remain in effect.

c. Readiness reporting requirements for the NGB will remain as specified in AR 220-1, dated 30 August 1988.

d. The Director of the ARNG will continue his goal of having states maintain equipment onhand within units at readiness levels of C-3 or above.

3-5. PROCESSES AND APPLICATION

a. **Excess Property Management and Reporting.** The following paragraphs describe the documentation and reporting of excess property.

(1) **Documentation of Excess Property.** Under current procedures, equipment from the units is processed through the organizational and direct support maintenance shops where the Vehicle Classification Inspection Report, DA Form 461-5, is prepared. Upon completion of this action, the turn-in document is forwarded to the USPFO. The USPFO has several account codes under which he can pick up this equipment:

- (7) Unreported unserviceable excess assets
- (8) Unreported serviceable excess assets
- (9) Reported serviceable excess assets
- (G) Reported unserviceable excess assets

(2) **Reporting Excess Property.** The USPFO then prepares the customer excess report (FTE customer excess report card) and forwards it along with the appropriate DA Form 461-5, Vehicle Classification Inspection Report, to the Logistics Division (ARL), NGB. Cutoff date for this action is the 15th of each month. The ARL then accumulates these cards and, as of the 20th of the month, forwards them to IMA, which edits the input and prints the excess reports in hard copy and microfiche. This process takes from 5 to 10 days for the excess report function alone. These reports, known as "101 listings," are provided to the Item Manager(s) in ARL who uses the ERA system to accomplish a manual process to direct redistribution of these excesses against MTOE shortages within the ARNG. After the Item Manager reconciles the redistribution of excess equipment, he then has to annotate a second consolidated listing which is reproduced and forwarded by mail to the applicable gaining and losing states. Simultaneously, the Item Manager also prepares a message identifying the equipment, actions, and timeframes allocated to the states to complete the transfer action(s). Item managers then identify equipment which is completely excess to ARNG needs and forwards these FTE cards and vehicle classification inspection reports to the proponent major subordinate command of the Headquarters, US Army Materiel Command, for further action. This excess process flow is shown in Figure 3-1. **Note:** there is a listing of approximately 50-100 items of equipment that are HQDA-controlled. In the case of these items, the FTEs are forwarded

directly from ARL to the major commodity command responsible for providing disposition instructions. The National Guard has no control over the disposition of this materiel.

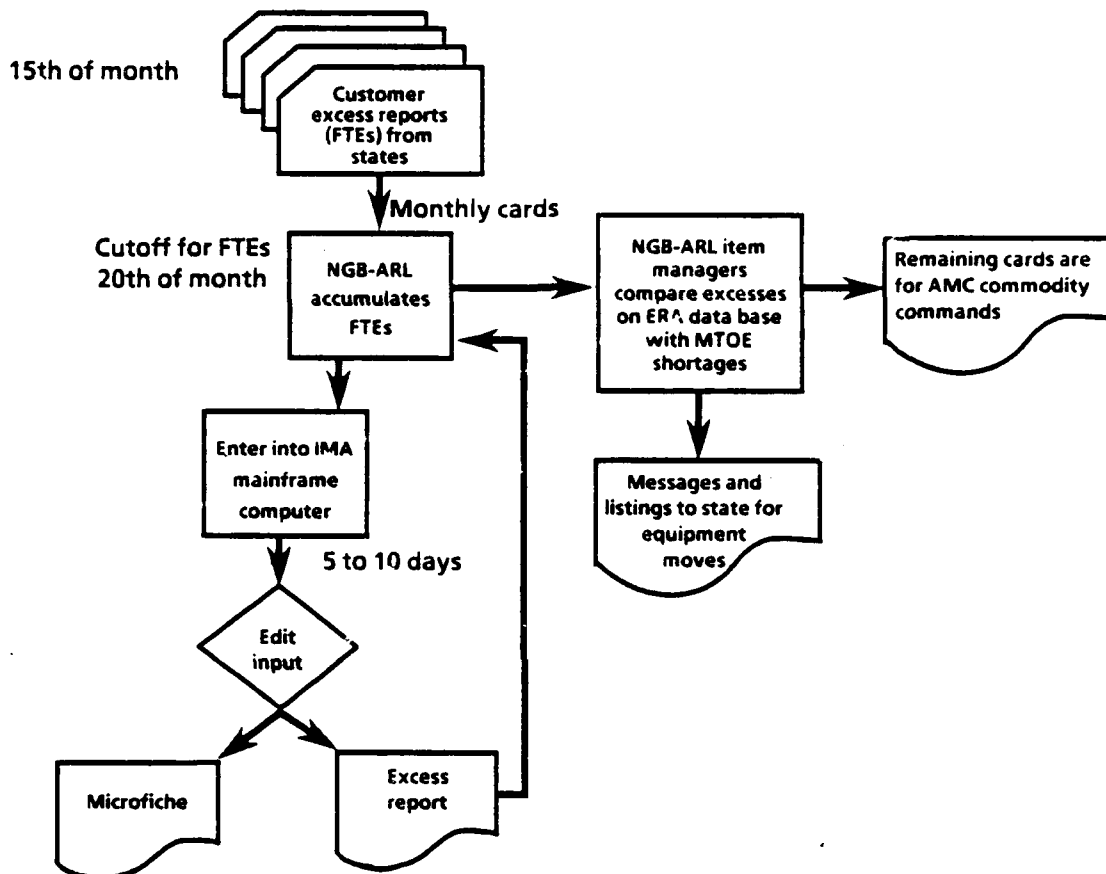


Figure 3-1. Excess Process Flow

b. **Unit Status Report Process.** The USR, DA Form 2715, IAW AR 220-1, is prepared on a quarterly basis by the states and forwarded to the National Guard Bureau, Army Mobilization Readiness Division (ARR). This report is edited/validated prior to submission to the Joint Chiefs of Staff (JCS). JCS furnishes a copy to ODCSOPS, Command and Control Support Agency (DAMO-CCSA). DAMO-CCSA then generates an automated report (G59A) which lists all the units and LINs that do not meet the C-3 equipment onhand readiness criteria. A courtesy copy of this report is provided to ARR. ARR then forwards the updated edited file in increments to ARL for determination of supportability. The Logistics Division, using the ERA program, determines the availability of equipment to support the requirements to upgrade the C-ratings, for equipment onhand (EOH), of units within the ARNG. Note: inconsistencies between documentation in the states' hands and that which is in the IMA data base necessitates ARL to phone states and determine actual equipment shortages and identify excess items, thereby moving equipment between units through the distribution/redistribution process. This process is depicted in Figure 3-2.

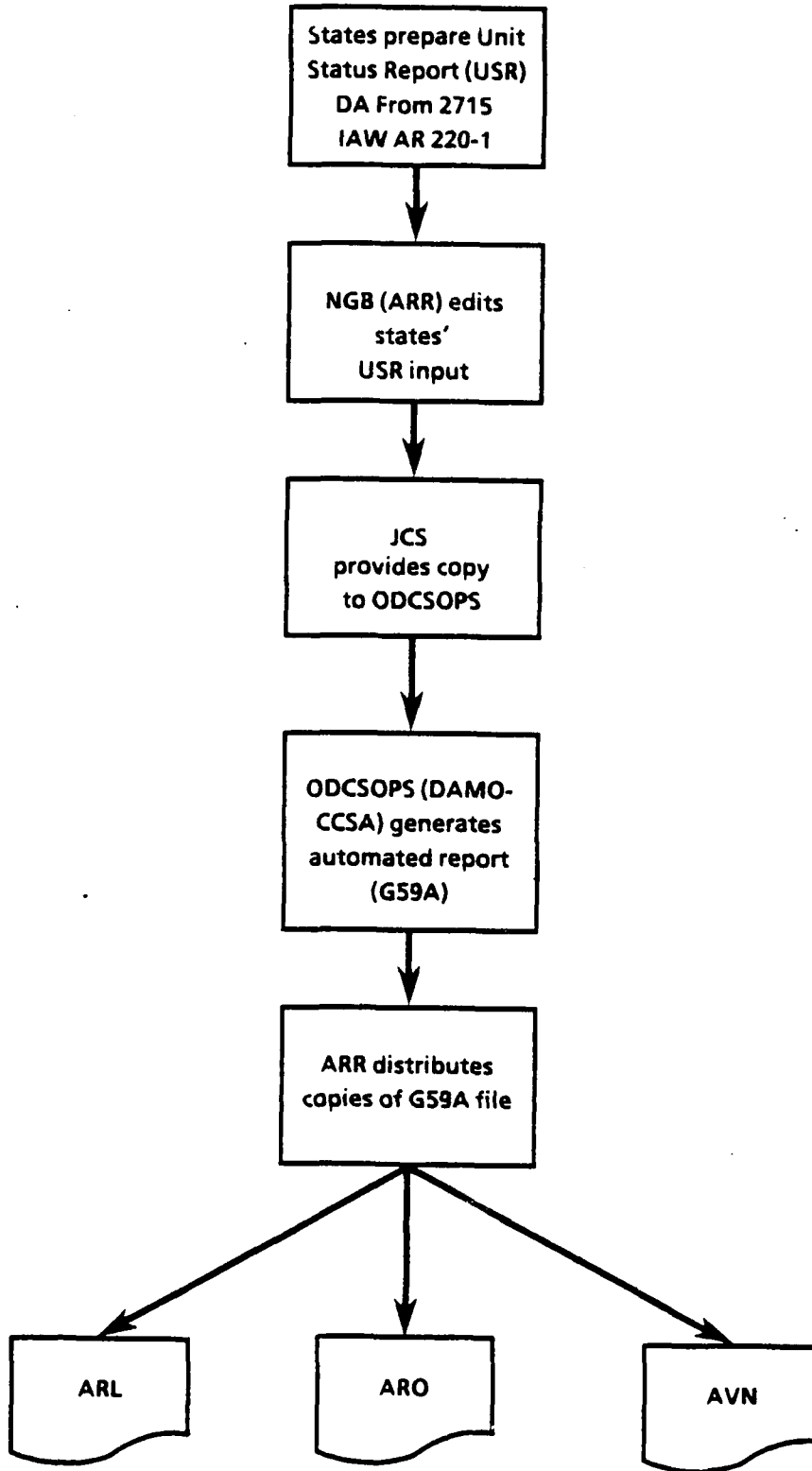


Figure 3-2. Unit Status Report

c. **Force Structure Process.** The NGB receives the updated force structure guidance from ODCSOPS after the TAA process is completed and concurrence between the USAR and NGB has been achieved. The NGB, ARO Division, prepares a Troop Structure Program which is assimilated and distributed to all NGB divisions and states. This program is broken out into three areas:

- (1) Old units allocated to states already.
- (2) New units allocated to states.
- (3) Unslated units.

The states have an opportunity to request that an unslated unit be assigned to their state and provide the ARO Division, NGB, with their desires. The Director, Army National Guard, is the approving authority as to the recipients of the unslated units. This information, after NGB approval, is forwarded to ODCSOPS for DA approval and incorporation into VTAADS. As VTAADS is updated, a copy is provided to IMA. Twice per year the mainframe computer data base is also updated, affecting the NGB force structure, thus impacting on the ARL distribution/redistribution process. The information flow is shown in Figure 3-3.

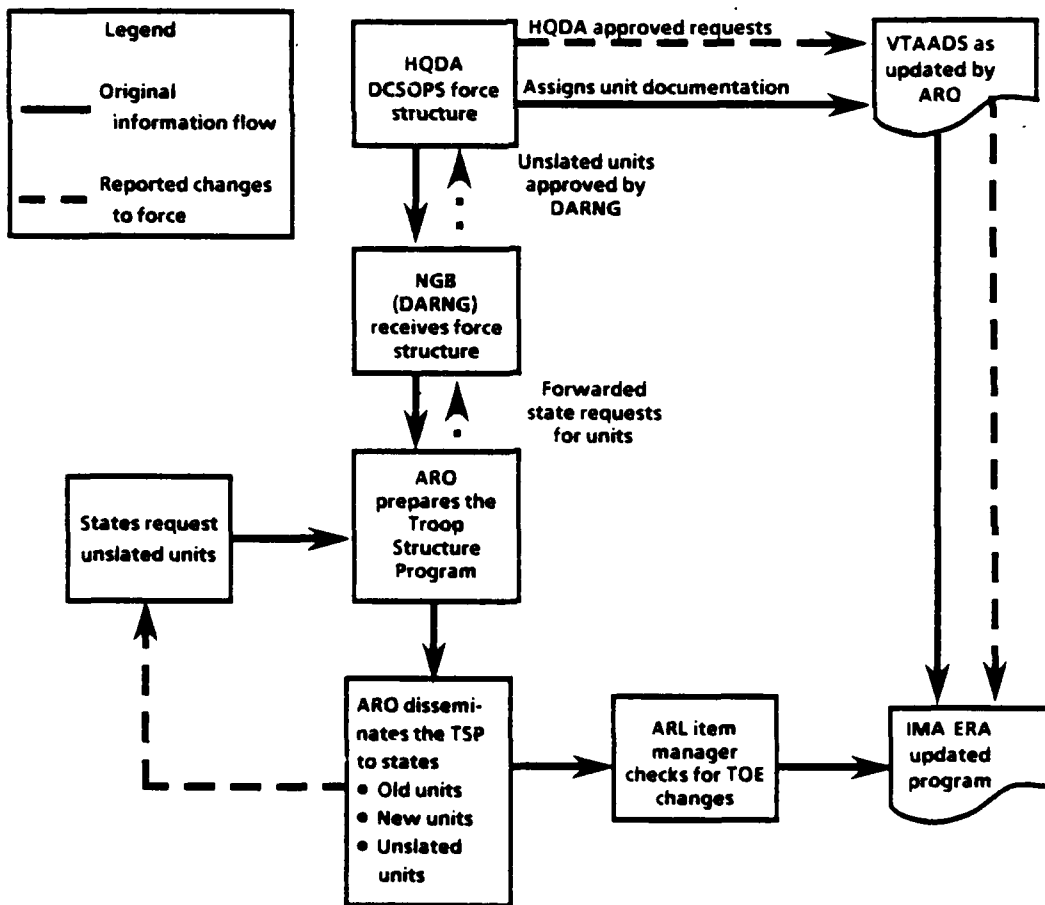


Figure 3-3. Force Structure Process

d. **Documentation Process.** The ODCSOPS, HQDA, assignment of units is incorporated in the ARO Intel computer system as the NGB documented force. Individual unit documentation is made by the ARO Documentors. There is a 24-hour turnaround time for the processing of these developed documents. The Documentors within ARO develop unit documents inclusive of Section I, Mission; Section II, Personnel; and Section III, Equipment. These Documentors, using the Intel computer system, key into the VTAADS IMA mainframe located in Olney, MD. Once the hard copy is prepared at IMA, it is forwarded and reviewed by the ARO Force Integrator, and any changes are then processed by the Documentors. Upon approval by the Force Integrator and Documentor, the units' documents are rerun by IMA on tape and forwarded to HQDA. This places these documents in a lock status until DA approves them. Upon approval, the VTAADS tape is forwarded to the NGB printing plant in Maine. Simultaneously, an advance hard copy is provided to the state Plans, Operations, and Training Officer (POTO). **Note:** states do get involved in the documentation process, specifically if peculiar equipment or requirements exist. Upon receipt of the advance documents, the states review them and provide comment to ARO in case of errors, etc. As previously indicated, the IMA mainframe VTAADS which affects the ERA process is only updated twice per year. Figure 3-4 outlines the above process.

e. **Internal Communications.** Current internal division communication in the NGB is through documentation, verbal dialogue, and limited dialcom. Computerized interface on readiness, documentation, and distribution and redistribution matters is minimal. Current use of dialcom is limited to unclassified material only, inhibiting its use in many readiness areas.

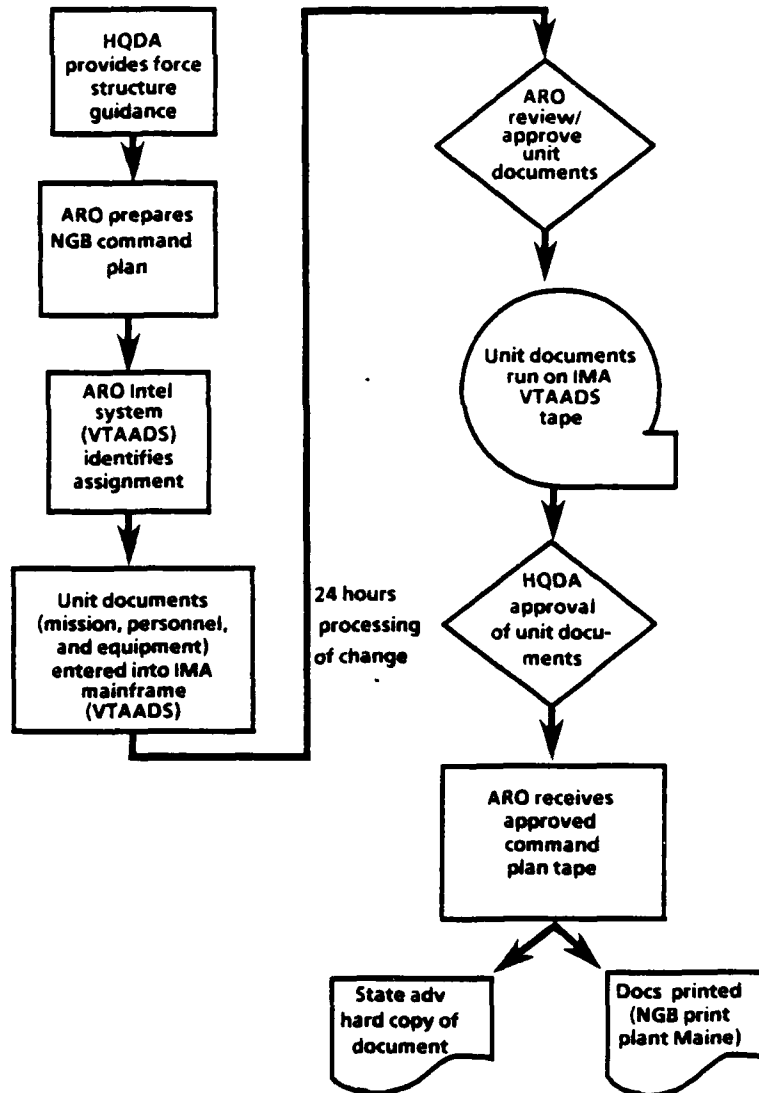


Figure 3-4. Documentation Process

3-6. **SUMMARY.** The TSP is distributed to all NGB divisions and the states after the NGB receives updated force structure guidance from ODCSOPS. Final approval of the TSP by the Director Army National Guard results in MTOE equipment requirements necessary for the distribution/redistribution of equipment. The Logistics Division uses the ERA system to determine the availability of equipment to support the requirements to upgrade readiness levels of ARNG units. Item Managers in ARL use the ERA system to manually redistribute excess equipment.

CHAPTER 4

EQUIPMENT READINESS ANALYSIS PROCESS

4-1. INTRODUCTION AND BACKGROUND. The purpose of this chapter is to outline the evolution of the ERA process and its capabilities, background, limitations, and importance to the entire NG community. The Logistics Division, National Guard Bureau, replaced its totally manual distribution/redistribution system in 1985 with an automated system designed to maximize the ARNG equipment onhand (EOH) readiness for its units. It incorporates the requirements set forth in AR 220-1, Unit Status Reporting, in conjunction with VTAADS and Appendix H, Supply Bulletin (SB) 700-20 (Authorized Substitutions). The purpose of the program is to identify excess and shortfalls and the align equipments among units throughout the 54 states and territories. In 1987, an enhanced corporate ERA program was placed into service, aligning the states with the Logistics Division, National Guard Bureau.

4-2. AUTOMATED PROGRAM. The ERA program requires three computers for its operation. The first is a Zenith 248 microcomputer (or equivalent), which is used as a terminal and display for the menus and output from the ERA program. The second is a connecting computer that links the Zeniths at the National Guard Bureau to the Information Management Agency mainframe in Olney, MD. The last computer is the Information Management Agency mainframe, which runs the program and stores the ERA.

a. A Zenith 248 microcomputer is used by National Guard Bureau Item Managers for the distribution and redistribution of equipment. The computer is used as a dumb terminal for display of information to the user and user responses to queries made by the ERA program.

b. The link computer is also located at the National Guard Bureau, Olney, MD facility, and is used to coordinate the computer link between the National Guard Bureau microcomputers and the Information Management Agency mainframe.

c. The Information Management Agency mainframe is a Sperry 1100 which runs the ERA program and data base. The mainframe also updates the ERA data base monthly from the reports sent by the USPF0s.

d. The ERA program is designed to be used by any Item Manager, through the use of menu screens. The program has a Main Menu with general headings, which can be used to call up submenus for more specific queries about equipment, units, and C-ratings. The following are the Main Menu options in the ERA program:

- Menu 1. Item Manager Process
- 2. Readiness Process
- 3. Structured Query Language
- 4. Query LIN Unique Information
- 5. Query Unit/SRC File Information
- 6. Query Appendix H, SB 700-20 File
- 7. Query State Inventory

4-3. **PROGRAM ANALYSIS.** Figure 4-1 displays each section of the Main Menu and has a corresponding subsection with its own specific menu. Each subsection contains selections which allow the user to access a specific type of information from the ERA data base. The corresponding sections of the ERA program, which are represented on the main menu are explained in detail and will be used as reference for the proposed enhancements to the ERA process.

a. **Item Manager Process.** The Item Manager Menu is used by the Item Manager to find excess, see which states and units have a shortfall, and track equipment that is transferred from one unit to another.

- (1) Verify Excess
- (2) Display UICs that Need LINS
- (3) Track System
- (4) Query Inventory File (same as Main Menu Selection 7)

(1.1) The Item Manager uses this section to determine if a state has a LIN in excess inventory. By inputting the state and LIN which the Item Manager wishes to check, the program will search the data base and output the required, authorized, and onhand quantities of the input LIN. From this information, the Item Manager can make a determination of the excess for that LIN in the state. This can be used in conjunction with the second selection of the menu to find excess LINS either in the state or in other states to fill unit shortfalls.

(1.2) This selection displays LIN shortfalls below C-3 level in all states. The Item Manager inputs the LIN to be queried, and the program prints out a list of the unit identification codes (UICs) by states that are below C-3 for that LIN.

(1.3) The tracking system is used by the Item Manager to follow the movement of equipment from one unit to another. The Item Manager can query a LIN, UIC, or state to find out what equipment is being moved. **Note:** this selection keeps track of only the equipment moved by the National Guard Bureau. It does not track equipment moved by states or new equipment received from other sources such as dedicated procurement, etc.

(1.4) This selection is the same as the Main Menu selection number 7. The submenu which accompanies it will be explained under that section.

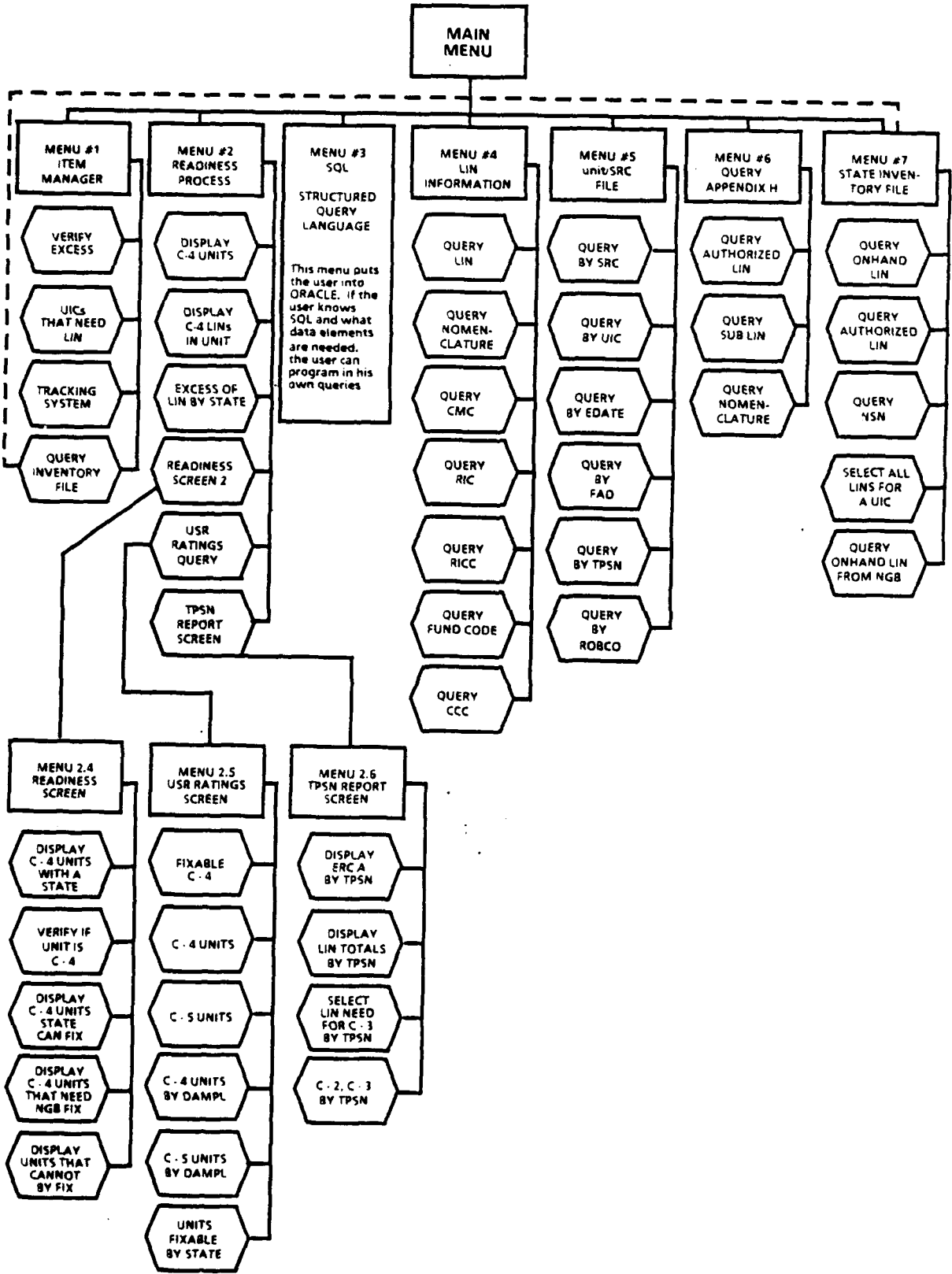


Figure 4-1. ERA Menus and Corresponding Subsections

b. **Readiness Process.** The Readiness Process Menu queries the ERA data base on units with less than a C-3 EOH unit readiness rating. The menu is a more defined version of selection 2 in the Excess Menu. The Readiness Process can be used by the Item Manager to find out more details about a unit which needs a LIN.

- (1) Display C-4 Units
- (2) Display C-4 LINs Within Unit
- (3) Display Potential Excess of LIN by State
- (4) Readiness Screen 2
- (5) USR Rating Queries
- (6) TPSN Report Screen

(2.1) The Item Manager can use this selection to display all of the C-4 units in the National Guard. The program will sort the information in one of three ways: by state, by National Guard sequence number (NGSN), or by UIC. The sorted output includes the state, the UIC, and NGSN.

(2.2) This selection lists the LINs within a UIC which are rated C-4. By inputting a UIC, the Item Manager will receive a list of LINs in the unit which are at the C-4 level and need to be upgraded to the C-3 readiness level. Included in the list will be the amount of equipment available above C-3 within the state to fill (fix) authorization of that LIN.

(2.3) This selection will list the excess, above C-3, for the input LIN by state.

(2.4) Under this selection, a submenu to the Readiness Process is displayed. The submenu has more specific queries for the Readiness Process.

- (1) Display C-4 Units Within a Selected State
- (2) Verify if a Unit is C-4
- (3) Display C-4 Units that State can Fix
- (4) Display C-4 Units that NGB Must Fix
- (5) Display Units that Cannot be Fixed

(2.4.1) From the input of the state, a list of the LINs within the units that are C-4 and contribute to the units C-4 rating can be obtained.

(2.4.2) The Item Manager can check to see if a unit is C-4 with this selection. Input the UIC, and if the unit is C-4, it will be listed on the screen along with the LINs which are C-4 within the units and the minimum needed to fill authorizations of the LIN. If the UIC is C-4, then nothing is displayed.

(2.4.3) This selection will show the Item Manager units which in the input state can be fixed by the excess in the state. The units are listed by the NGSN and UIC with the minimum equipment requirement to raise the unit to the C-3 level.

(2.4.4) This selection will show the Item Manager units which the state alone cannot fix and need the NGB to search excess in other states to

bring the unit up to C-3. The output will display the amount the state can fix and the amount needed from the NGB.

(2.4.5) This selection will display units which cannot be fixed by either the state or NGB. These units cannot be raised to the C-3 level.

(2.5) The USR Rating Screen submenu uses information from the USR to assign the C-rating and display information from the report. The Item Manager can use this submenu to see the information gathered directly from the USR. **Note:** this subsection is not currently used due to its data inaccuracies.

- (1) Fixable C-4 Units
- (2) C-4 Units
- (3) C-5 Units
- (4) C-4 Units by DAMPL
- (5) C-5 Units by DAMPL
- (6) Units Fixable by the State

(2.6) The TPSN report screen provides a link between the UIC and the TPSN. Through the selections on the submenu, information based on TPSN can be displayed.

- (1) Display all Equipment Readiness Code (ERC) 'A' by TPSN
- (2) Display LIN Totals by TPSN
- (3) Select LIN needed for C-3 by TPSN
- (4) C-2, C-3 by TPSN

(2.6.1) This selection will display all ERC A equipment which is under the input TPSN. The output will contain the UIC, LIN, and required, authorized, and onhand quantities.

(2.6.2) The Item Manager will receive a composite list of all the LINS under that TPSN, with required, authorized, and onhand quantities.

(2.6.3) This selection outputs a list of the LINS under the TPSN that do not meet the C-3 rating.

(2.6.4) This selection displays a list of the C-2, C-3 needs for all the LINS, by UIC, in the input TPSN.

c. **Structured Query Language (SQL).** This is the computer language used in creating and running ERA. Menu selection number 3, SQL, allows the user to enter into the ORACLE environment and program in SQL to create specialized queries. This assumes that the user knows SQL, what data is to be extracted, and under what heading the data is stored in the data base. The SQL selection is not easy to use because of the above restrictions. **Note:** this subsection is not currently used because there is a lack of instructions and training on its use.

(6.1) By inputting a LIN to this selection, a list substitute LINS will be displayed.

d. **Query LIN-unique Information.** This selection allows the Item Manager to extract a complete list of information about a LIN. By inputting any piece of information relating to a LIN, a complete list of LINS or information about a single LIN can be obtained.

- (1) Query by LIN
- (2) Query by Nomenclature
- (3) Query by UIC
- (4) Query by RIC
- (5) Query by RICC
- (6) Query by Fund Code
- (7) Query by CCC

By inputting the selected piece of information from the above menu, the Item Manager can get a list of the LINS which have that piece of information or the separate pieces of information can be found for a single LIN.

(4.2) Under the query by nomenclature selection, the Item Manager may input any portion of a LIN's nomenclature and receive a list of LINS which have that word or phrase included in the LIN nomenclature. For example, if the word TRUCK were input, then a list of all the LINS with TRUCK within the nomenclature would be printed out.

e. **Query Unit/SRC File.** This selection allows an Item Manager to see the information relating to a UIC or SRC. The menu allows the Item Manager to input different pieces of information that relate to a UIC or SRC, and the program will display the single UIC or a list of UICs which have the data in common.

- (1) Query by UIC
- (2) Query by SRC
- (3) Query by EDATE
- (4) Query by Unit Name
- (5) Query by FAD
- (6) Query by TPSN
- (7) Query by ROBCO

(5.4) As with the LIN nomenclature, the query for unit name will also take any piece of a name and output a list of UICs with that word or phrase in it name.

f. **Cross-query Appendix H, SB 700-20 File.** This selection is used to display the list of substitute LINS for authorized LINS. This selection can be used to determine a good substitute for LINS which are not in sufficient excess in a state to fill to a C-3 rating. A substitute(s) from the list which has excess can be used in the place of a short LIN.

- (1) Query Authorized LIN
- (2) Query Substitute LIN
- (3) Query Nomenclature

(6.1) By inputting a LIN to this selection, a list of substitute LINS will be displayed.

(6.2) By inputting a LIN to this selection, a list of the LINS for which the input LIN is a substitute will be displayed.

(6.3) This selection can be used to get a list of LINS which have a word or phrase in the nomenclature. The user inputs a word, and the program will search the LIN nomenclature until it finds the word and print out all LINS with the word or phrase included in the nomenclature.

g. Query State Inventory File. This selection allows the Item Manager to see what LINS the state units have onhand and the quantities in which the LINS exist. From this, the Item Manager can get information on where substitutes are being used and display what LINS the units are authorized to have in the inventory.

- (1) Query Onhand LIN by State
- (2) Query Authorized LIN by State
- (3) Query NSN Within a Selected State
- (4) Select all LINS from Selected UIC
- (5) Query by Onhand LIN from the Entire NGB

(7.1) This selection can be used by the Item Manager to see which LIN is onhand in comparison to the authorized LIN. By inputting the state and the onhand LIN, the Item Manager can find which units have the input LIN as a substitute for the authorized LIN.

(7.2) This selection is opposite of the one above. The Item Manager inputs the state and authorized LIN, and the program will output a list of UICs for which this LIN is authorized. The Item Manager can see from this list if the UIC is using a substitute for the authorized LIN.

(7.3) This selection reports the state and UICs which have the input national stock number (NSN) in the inventory of equipment.

(7.4) This selection will report all of the LINS which are listed under the input UIC. This is basically an equipment report for a unit.

(7.5) By inputting a LIN, the Item Manager will receive a list of states and units which have the input LIN in its inventory. Also, the output will provide the authorized, required, and onhand quantities for the LIN.

4-4. SUMMARY. The ERA program is used by the NGB as the primary means for determining the distribution and redistribution of equipment requirement/recommendation for the states. The ERA program is designed to minimize the delay between the reporting of excess and the redistribution process. Current actions still require manual input and output procedures for which improved methods have been researched and are to be presented in Chapter 5.

CHAPTER 5

DEFICIENCIES AND IMPROVEMENTS TO EQUIPMENT READINESS ANALYSIS (ERA)

5-1. **INTRODUCTION.** The purpose of this chapter is to provide a synopsis of the deficiencies identified in the study analysis, including short-term (6 months) and long-term (2 years) possible corrective actions to improve the National Guard equipment distribution/redistribution process to support force structure changes and maintain readiness levels at C-3 or higher.

5-2. **DEFICIENCY ANALYSIS.** Throughout the study it was noted that the electronic inter- and intracommunication throughout the NGB divisions provided some shortcomings to mission accomplishment due to generated requirements and staffing shortages. Toward this end, this study attempts to identify areas that could be improved through the use of automation and existing or contemplated software programs. Figure 5-1 shows the current electronic interfaces between NGB divisions which are not utilized to full potential.

a. There is currently an inadequate communication link among NGB divisions to meet the requirements for support of NGB force structure changes and readiness considerations. Also, an increase in intercommunication between NGB and the states via the dialcom system is required for mission accomplishment.

b. Only ARL uses the ERA program. A major shortcoming is the fact that ARL Item Managers cannot automatically relate excesses in the ARNG system with the ERA program. Further, the computer does not assess the needs versus requirements and prepare distribution spreadsheets incorporating NGSN, DAMPL, and latest arrival dates (LADs), etc., for the Item Managers' approval before dissemination. Several processes will be identified later in this chapter to assist the Item Manager in these functions.

c. Currently, the quarterly USR submitted by the states is not incorporated into the mainframe computer data base with access by ARL's Item Managers through the ERA process. Further, no program exists to correlate the USR with the ESR and to identify what the states have done to distribute/redistribute excesses against their requirements and what items will be true excess at USPFO level for reporting to the NGB.

d. Another area within the ERA causing a problem in providing equipment to the states is in the substitution arena. Currently, the ERA considers only Appendix H, SB 700-20, as the authorized substitution document; however, states have used substitutes and in-lieu-of items which do not appear within this appendix. An automated program which interfaces between ARL's ERA and the states could provide the Item Manager with a view of actual substitutes and in-lieu-of items being used. It would allow NGB to standardize and identify some of the items which are not acceptable for mission accomplishment within specific MTOEs. Further, these substitutions and in-lieu-of items should be addressed in the USR and ESR, which would allow ARL and ARR to review the entire inventory and readiness status.

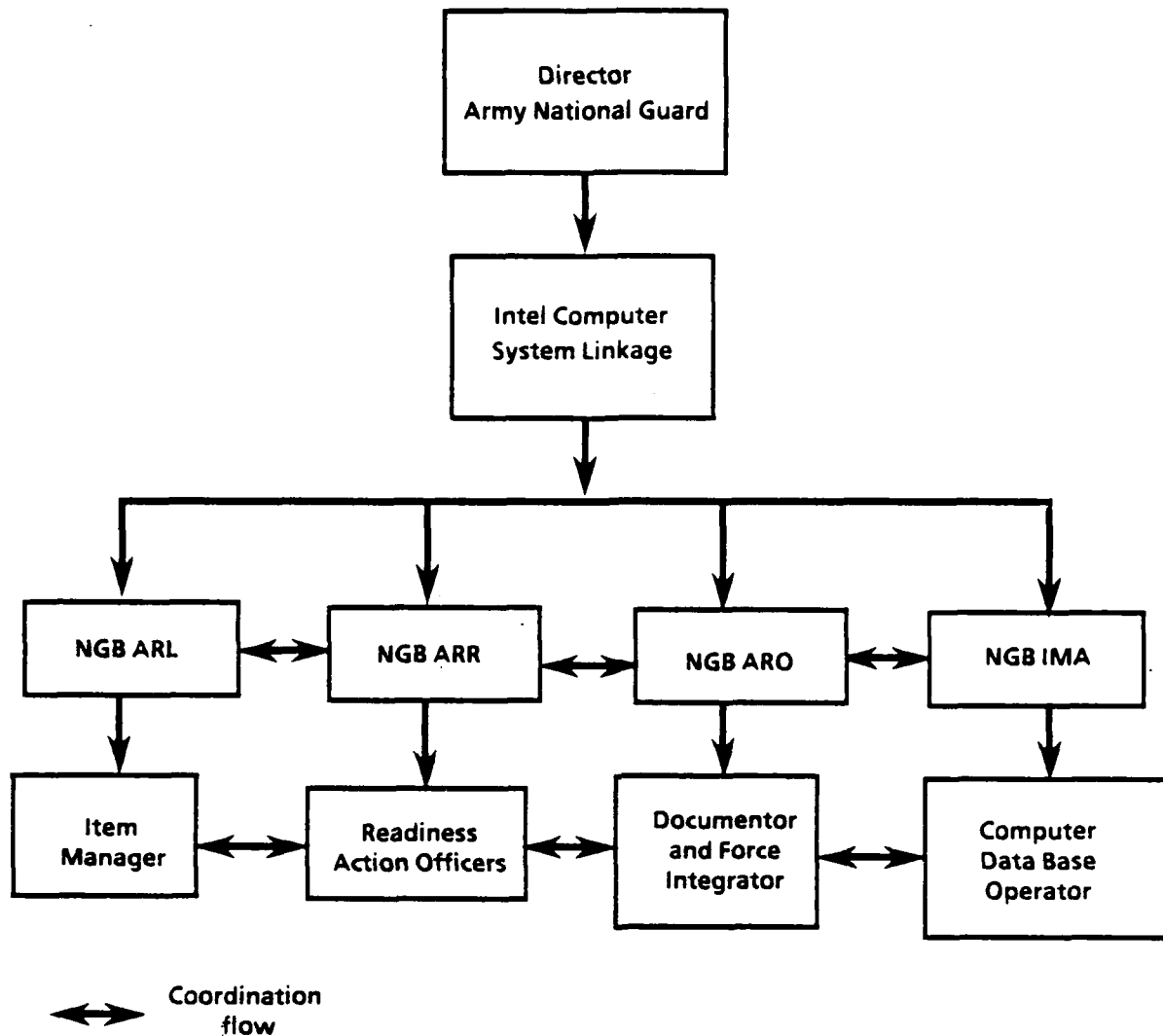


Figure 5-1. Current Electronic Interfaces Between NGB Divisions

e. No menu screen exists within the ERA identifying the units to which AMIM items have been programmed. It should be noted that the AMIM LINS are incorporated into documents being prepared by ARO in coordination with the Force Integrator responsible for equipment plans. The Item Manager could use this developed menu screen to program inbound equipment to a specific unit. This procedure can avoid duplicate equipment shipments. Simultaneously, another menu screen within this section of the ERA can identify equipment scheduled for induction into the ARNG through the dedicated procurement system. The final outcome of this developed menu will allow the ARL to have available a data base containing all new equipment to be fielded available for review and allow for determination of additional needs in the outyears.

f. Several deficiencies were found within the documentation arena during the study, and they are addressed below.

(1) The Documentors within ARO use the VTAADS process within the ARO Intel computer system to develop documentation. The shortcoming in this system is that once documents are built and placed into the mainframe computer at IMA (archived), the Documentors do not have interactive editing capabilities. **Note:** the Active Component is currently under the TAADS-2 System which replaced the VTAADS and allows for retrieval of documents. No firm date has been set for NGB conversion to this system. A suggested improvement is provided later in the chapter.

(2) After the development of a document by ARO Documentors, the Force Integrator reviews the document for any applications within his area of responsibility. Additions and deletions are made to the document in the Intel computer system within ARO and forwarded to the mainframe computer at IMA. Upon receipt of a hard copy, a review is made and documents approved within ARO. This current check and balance process was established due to the increase in force structure changes. The problem with this process is in the application of ancillary items to support major end items of equipment. Previously, the Logistics Division reviewed documents for this purpose, but they were unable to continue this action due to staffing constraints. A suggested solution is provided later in this chapter.

(3) The Documentors within ARO, due to their workload, do not currently use the ERA for viewing availability of equipment to support force structure changes programed in a specific state. ARL is asked each time if a conversion or addition of a unit is supportable. **Note:** availability of equipment to handle classified data within ARO is limited.

(4) The TSP is very time-consuming to prepare and, even though manually input into the PC, is not consolidated nor available for other NGB divisions to view via the mainframe computer. **Note:** any activity must have access to the Force Accounting System (FAS) to obtain information or data from the TSP.

(5) The approved documents are placed on tape via ARO and forwarded to the NGB printing plant in Maine. Simultaneously, a hard copy is provided to the applicable state to initiate equipment and personnel actions in support of the document(s). This procedure presents problems within the ERA process because no immediate update is made to the ERA system, and decisions made by Army Logistics Division Item Managers are based upon different documents. Further, new, deleted, and changed documents influence the distribution/redistribution process. Figure 5-2 depicts the documentation process.

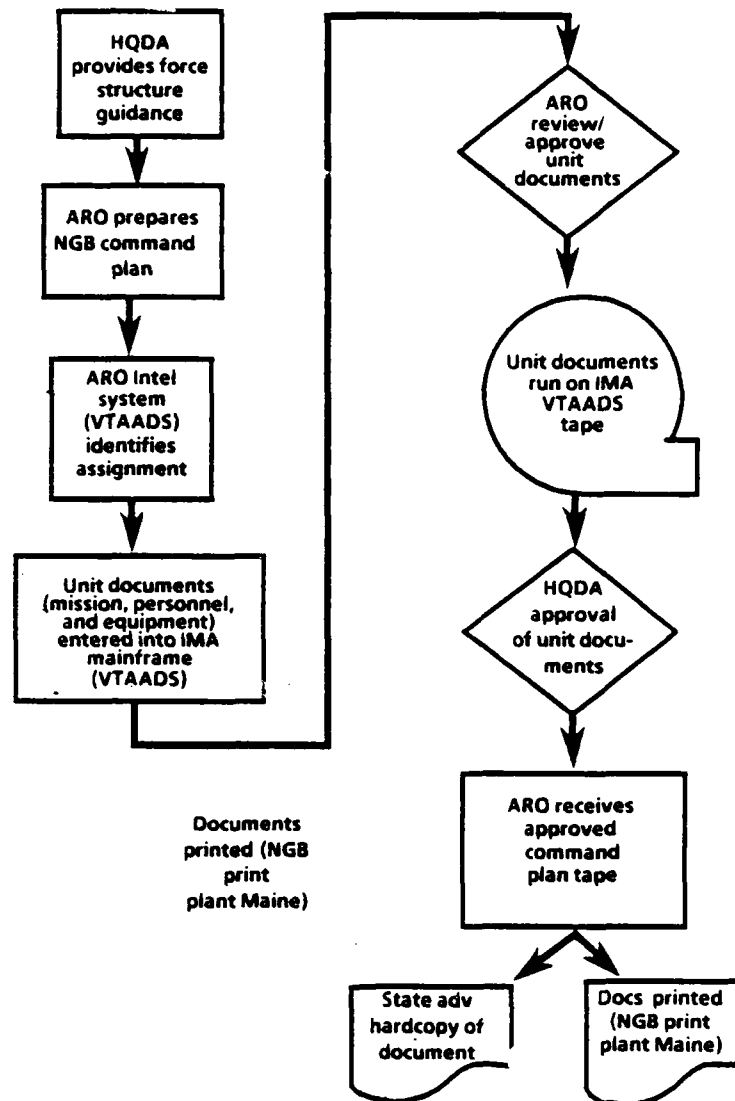


Figure 5-2. Documentation Process

g. The total integration of all processes affecting the ERA requires an up-to-date, onhand asset balance file for equipment within the ARNG. Currently, the ESR is used to provide the Item Manager with a view of this inventory status. The problem with this system is that it does not display timely information on which the Item Manager can make good decisions in the equipment distribution/redistribution process. The states provide this inventory of assets via tape to IMA on a monthly basis; however, if the reporting window is missed, then last month's data is used in the printouts provided to the Logistics Division. Also, the states that failed to meet this window are not identified on the printout, leaving the Item Manager in an untenable situation for good decisionmaking. There is a definite need to correct deficiencies of: (1) lack of reporting on time, (2) automating the reporting process, (3) Item Manager decisionmaking by use of the ERA program, and (4) lack of and improper usage of ERA by ARR during their review of units below C-3 ratings.

h. In the area of loan equipment, the NGB processes a large number of requests for loan of MTOE authorized items. Many of the loan items, once approved and required by ARNG units, are retained by use of the extension process from the HQ AMC major subordinate command and Forces Command (FORSCOM) organizations. During the time that these assets are at the units, they are incorporated into the ESR and not segregated out in the inventory process accessible to the Item Manager. It would be a prudent move to have visibility of these assets by UIC and state via the ERA. The Item Managers could then use this information to address the actual MTOE shortage situation at the time they do the monthly distribution and redistribution process. **Note:** currently, excess distributions are made by the ARL Item Manager without considering loan equipment.

i. The accounting for unit deactivations and impending deactivations is accomplished through ARO. However, even though the states are aware of these actions, through the POTO, there is a deficiency in two areas: (1) the state USPFO is not always kept informed of these actions, thus he does not always have the flexibility to distribute equipment expeditiously and simultaneously reduce the probable excess picture--regulated by the NGB at $\frac{1}{2}$ of 1 percent; and (2) the Logistics Division Item Manager, not knowing of impending deactivations, cannot react to changes in equipment requirements.

j. Currently, a 6-month documentation window is used in the distribution/redistribution process. This is due to the fact that ERA data is limited, and its accuracy over any extended time is questionable. Addressing ESR, USR, AMIM, dedicated procurement, and activation/deactivation of units would allow for an extended window for the Item Manager.

5-3. **PROCESS IMPROVEMENTS/APPLICATIONS.** Due to the long timeframe required to implement some of the study suggestions for improvement/applications to the total NGB ARL ERA process, it was deemed appropriate to identify those process improvements considered readily achievable and those for long-term consideration and/or implementation.

a. Short Term

(1) **Excess Process.** One method to speed up the excess process is to shorten the time needed by the Army Logistics Division of NGB to complete the distribution and redistribution process. This can be accomplished by eliminating the need for the Item Manager to use the 101 excess listing prepared by IMA and manually compare LINS against MTOE shortages. The fix is to have the FTE cards, which are prepared by the USPFO, transceived to IMA and input into the ERA data base within the mainframe computer at IMA. This would allow the Item Manager to use the computer to show shortages and compare FTEs against these requirements. To accomplish this action, the three following enhancements involving ARR and the IMA divisions are necessary.

(a) The first enhancement would allow the Item Manager to use the ERA program and the terminals within ARL to view the total excess availability package. The only additional improvement needed is a card reader for installation at the IMA to read the FTEs and a program to compile the input data into a format usable by the ERA program. Figure 5-3 depicts this process.

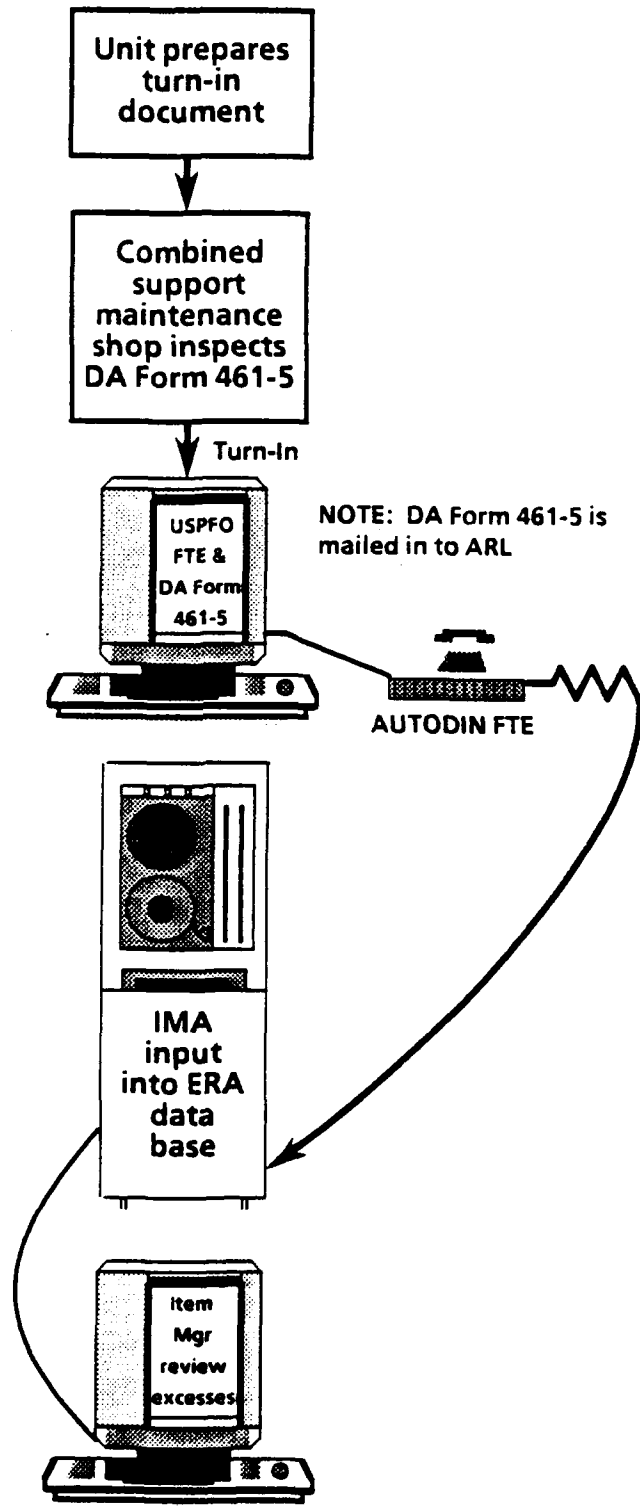


Figure 5-3. Excess Process - First Enhancement

(b) The second enhancement could be accomplished by having ARR edit/validate the state USR report through an automated system instead of the current manual before submission to JCS. Upon receipt of the courtesy copy of the G59A report from DAMO-CCSA, or an appropriate source code, input the information directly into the IMA mainframe. The listing of broken units below C-3 would be available to the ARL Item Manager through the ERA system. This can be accomplished by use of a transfer system from the internal ARR Intel computer to the IMA mainframe computer. A similar system already exists between the Intel computer system in ARO and IMA. Figure 5-4 depicts this process.

(c) The third enhancement would be made directly to the ERA program. It would allow the program to make a preliminary comparison of the excess as provided by FTE cards and the C-rating list below C-3 in EOH, in consonance with AR 220-1, for review by the Item Manager. The Item Manager could then verify and approve the distribution of equipment and send appropriate messages to the states for the accomplishment of the redistribution action. Figure 5-5 depicts this process enhancement.

(d) An immediate improvement to the ERA data base would be the validation of ESR input data available to the Item Manager. Currently, new data is integrated with old data brought forward when states do not report their monthly ESR on time. The establishment of a program that would flag, conspicuously, old data could help eliminate the current adverse impact of old data on the distribution and redistribution process.

(2) **VTAADS Upgrade Process.** A software program that allows the ARO Documentors to review their work without having to wait for a hard copy is currently available. HQ FORSCOM developed and used the On-Line Document Update System (ODUS) which is available to the NGB to provide the front-end capability to VTAADS. This program would have to be loaded into the mainframe computer at IMA. Figure 5-6 portrays document input and output flow.

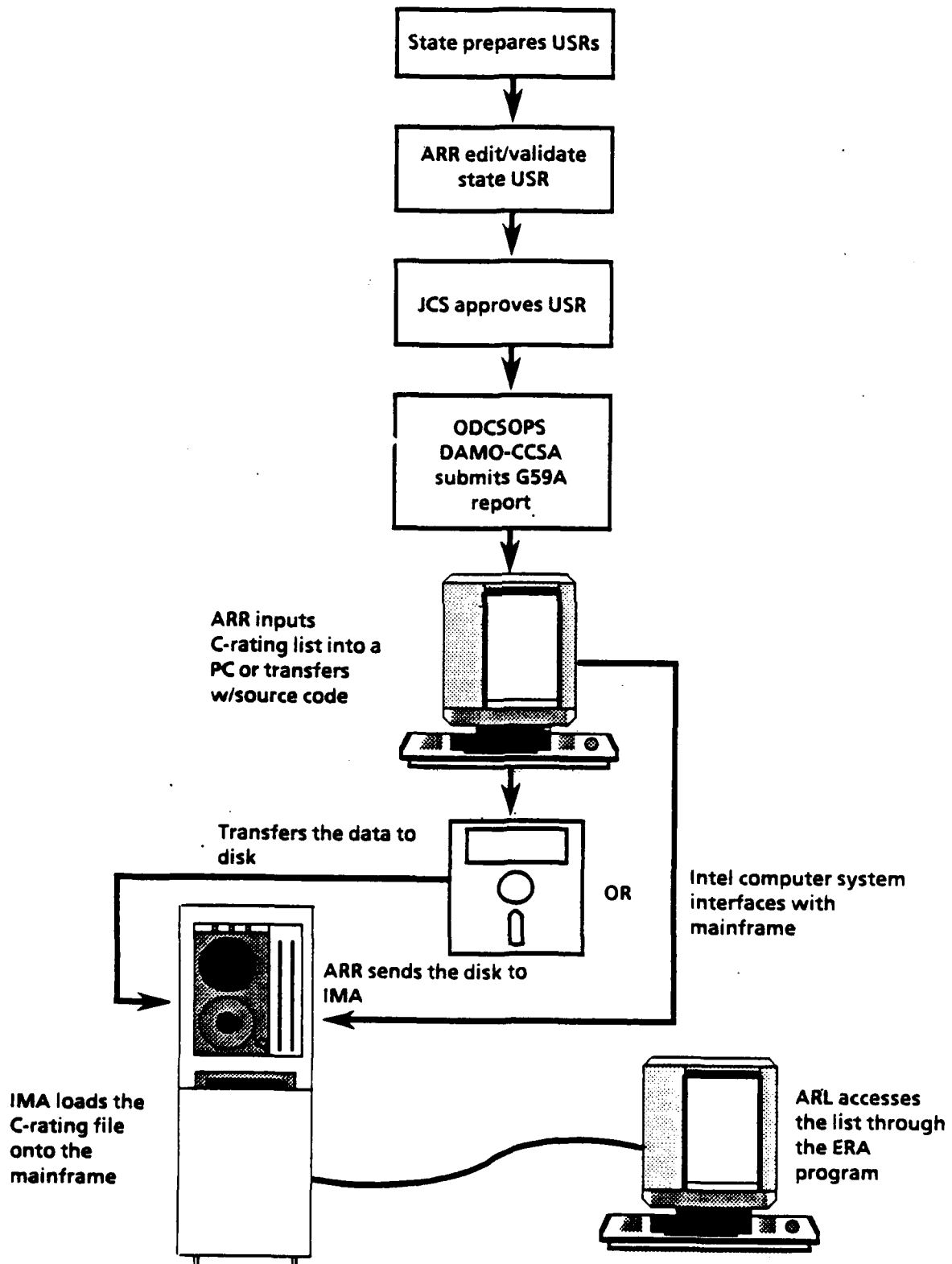


Figure 5-4. Excess Process - Second Enhancement

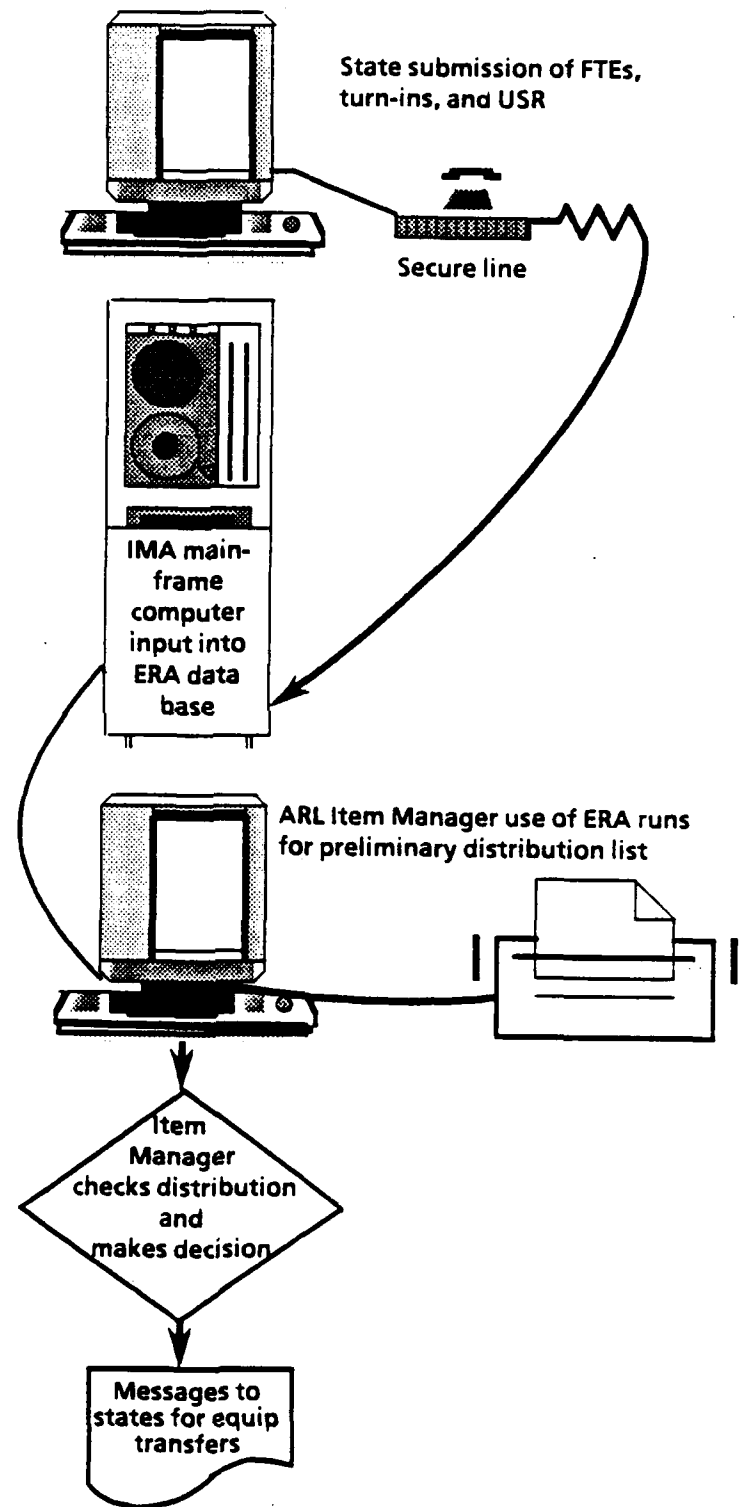


Figure 5-5. Excess Process - Third Enhancement

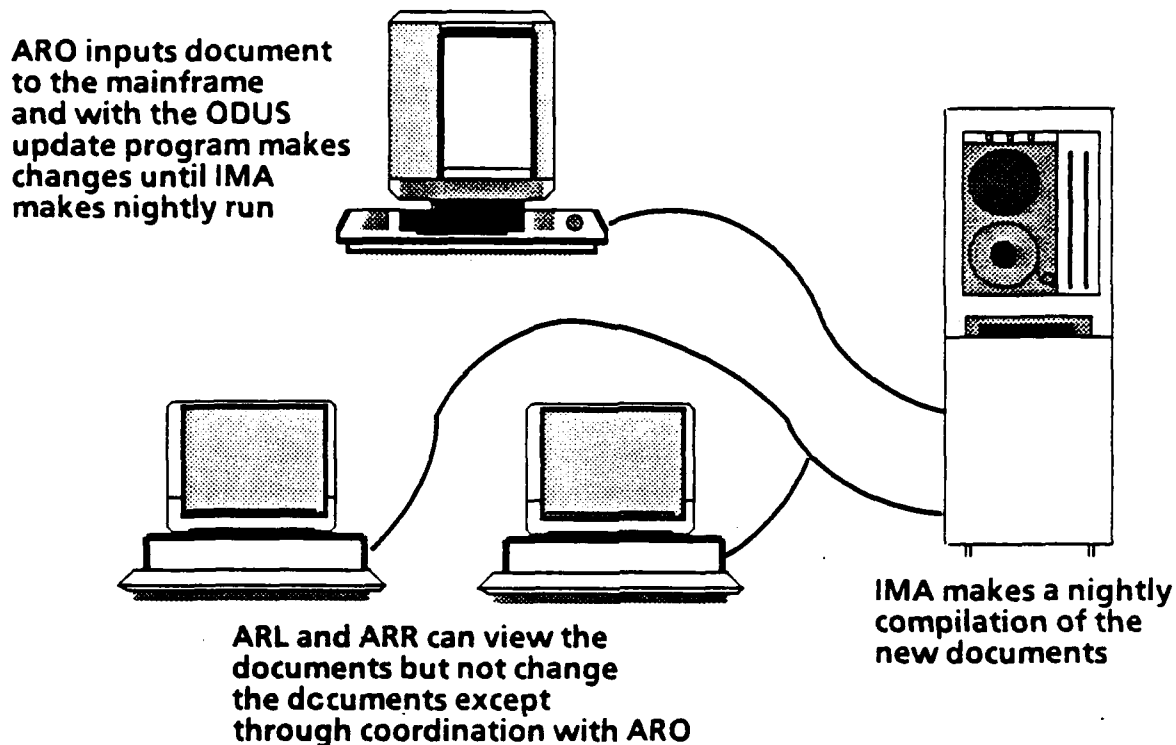


Figure 5-6. VTAADS Upgrade Process

(3) **Document Printing Process.** Current procedures for providing a consolidated tape of documents to the NGB printing plant in Maine should continue. However, the process of providing one hard copy (advance) to the state to which the unit is assigned could be changed by using a PC floppy disk or fiche to save time. IMA should simultaneously update documents within the mainframe computer to which the ERA program has access (see Figure 5-7). This would help ensure that the Item Managers within ARL and other management personnel have current documents upon which to make decisions. This could also help reduce double shipments and problems encountered with states in the distribution/redistribution process.

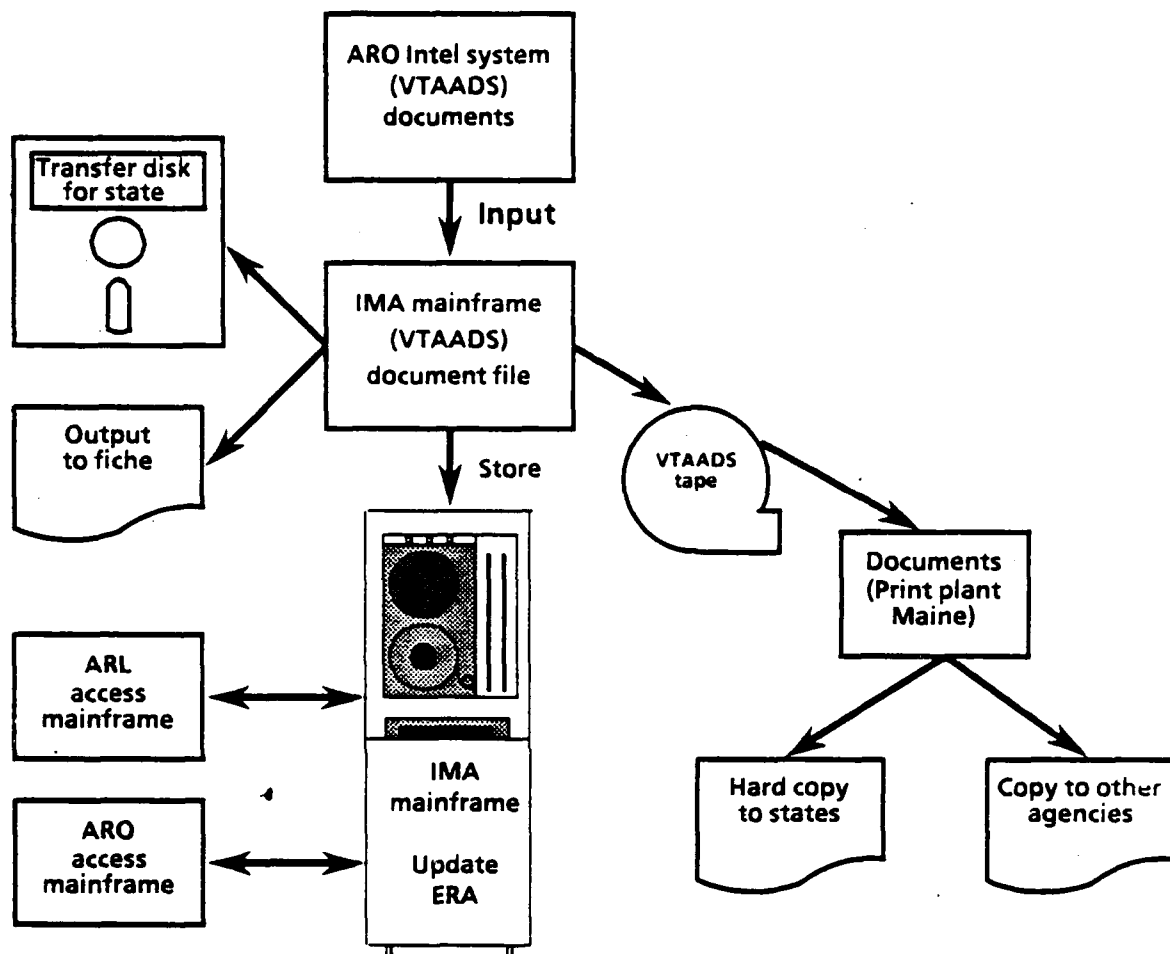


Figure 5-7. Document Printing Process Upgrade

(4) Structured Query Language Process. Main Menu 3 selection on the ERA program allows the user to enter the ORACLE environment and program in the SQL. However, because of the requirement of having to know both SQL and where the data is located, it is not an easily used selection. As it stands now, the user must have knowledge of the SQL programming language and arrangement of the ERA data base before being able to extract data with SQL. The user cannot ask the ERA program to provide data from one menu and combine it with data from another menu, nor can the user just ask for the data directly. The user must know the data-field heading and the SQL commands needed to find the data desired. This selection should be either replaced or supplemented by a program which allows the user to easily select data elements for query, i.e., NGSN, UIC, LIN, state, etc.; to define sort criteria, headings, and order of data-fields; and to enter an output format for the data. This would allow a user-friendly ability to pull up specialized reports on items or states, produce specialized queries without the needed knowledge of SQL, and would finally allow more flexibility in equipment management.

(5) **Intercommunication Process/Readiness Validation.** The institutionalized use of the dialcom system between NGB divisions in an unclassified mode would allow for immediate information flow in support of each division's requirements. A specific application is the edit/validation by ARR of the state USR readiness ratings. An automated edit/validation program and interface with the mainframe computer could reduce processing time and give ARL the capability to review and address actual distribution/redistribution questions. Further, informing ARL via dialcom of readiness problems and advising them of areas for scrutiny would enhance equipment redistribution actions.

b. Long Term

(1) **Excess Process.** In order to improve the flow of information required by the excess process, changes from state level through the NGB will be necessary. Changes internal to NGB, with standard procedures provided for the states, is recommended. Primary improvement should include a better communications net between the NGB and state computers. Further, an internal NGB computer interface is needed to allow the different divisions to work together using a common data base. Finally, a high priority should be placed on expanding the ERA program to fully automate the excess process.

(a) A needed first step to NGB excess process improvement is a revision of the time schedule for the submission of the ESR/USR and FTE to the NGB. Currently, the FTEs are mailed with a cutoff date of 15th of the month. The ESRs are sent via tape with the 20th as the cutoff date. Since AR 220-1 specifies the as-of date for the USR, the FTE submission date should be changed to 5 days after the USR. This adjustment would allow for coordinated action between excess and readiness data.

(b) The next step needed to improve the NGB excess process is the introduction of electronic transfer of the ESR/USRs on a secure line, allowing for computer-to-computer mainframe transfer with simultaneous upgrade to the ERA system. Transfer via electronic means should significantly reduce the time needed to compile the data base for a more current use of this reference data by NGB. This transfer of data can be accomplished either through dialcom in an unclassified mode or a dedicated line using the KG84 encrypting/decrypting device. The latter process is already available between ARL and the IMA mainframe computer.

(c) The last needed improvement is to have all of the states use the Autodin system to submit their FTEs and mail the DA Form 461-5 to NGB ARL. This process is currently being used by the state of Michigan, resulting in reduced mail time. Further, it has not affected the USPFO time for receiving disposition instructions from NGB on their equipment.

(d) The interface among the divisions within the NGB needs to be enhanced to allow for an improved documentation flow. This will require a structured communication network and use of a common ERA data base. The following sequential flow of data is needed to accomplish this. The ESR/USR data will input into the ERA data base at IMA, and a notice of the compiled data will be sent to ARR. ARR can now perform its edits on the data and inform ARL when this action is completed. Prior to the completion by ARR of defining which units are below C-3, the excess data should have reached IMA

and have been archived into the mainframe computer for review by ARL. When programed, the ERA system will identify C-3 units needs against excesses, and the Item Manager can review and approve as appropriate for distribution of the equipment.

(e) The final needed enhancement to the excess process is in the ERA program itself. Two improvements are needed to expedite the process: first, the ability to edit data from the ERA program, and second, the ability for ERA to make a preliminary run of the excess match.

1. An enhancement to the ERA program that allows ARR limited access to the data base to make changes and flag certain units so that the excess process done by ARL will not interfere with the C-rating of the unit, i.e., M+10, etc. This process will shorten the amount of time needed to check the C-rating and equipment shortfall of the units.

2. Development of a program to give ERA the capability to make an excess match IAW AR 220-1. This will avoid the need for the Item Manager to verify and expedite the redistribution process. The total excess process automation flow is depicted in Figure 5-8.

(2) **Substitution/In-lieu-of Items Process.** A subprogram to the ERA is required for substitute and in-lieu-of LINs developed by commanders of units in the states and ARL Item Managers. This listing would be queried by the subprogram after the system has reviewed Appendix H, SB 700-20. Further, other substitutes noted in Appendix G, AR 220-1, and commanders' in-lieu-of items must be recognized, since they are used in USR computations and can be perpetuated in the ERA process with information transmitted to the states on approved substitution actions taken at the NGB. Coordination on the above process is necessary between ARR, ARO, and ARL.

(3) **Equipment Allocation Process.** An automated equipment allocation process with appropriate subprograms needs to be developed for the ERA program. This program would provide all data on equipment scheduled for units within the ARNG from the AMIM. It would identify UIC, LIN, quantity, and estimated fielding date. Additionally, another subprogram would provide a listing of all units scheduled to receive equipment from the dedicated procurement system. The format for the data could be the same as the AMIM screen with a sort package so that a specific unit can be identified. In the case of a LIN, any equipment from either the AMIM or dedicated procurement would be displayed. Furthermore, to make this menu even more beneficial to ARL, the standard prices IAW SB 700-20 for equipment could be included, allowing Item Managers to view the screens for development of equipment requirements lists consistent with NGB funding appropriations. Further, an additional subprogram identifying equipment that is not available through the supply system must be consistent with the AMIM and dedicated procurement actions.

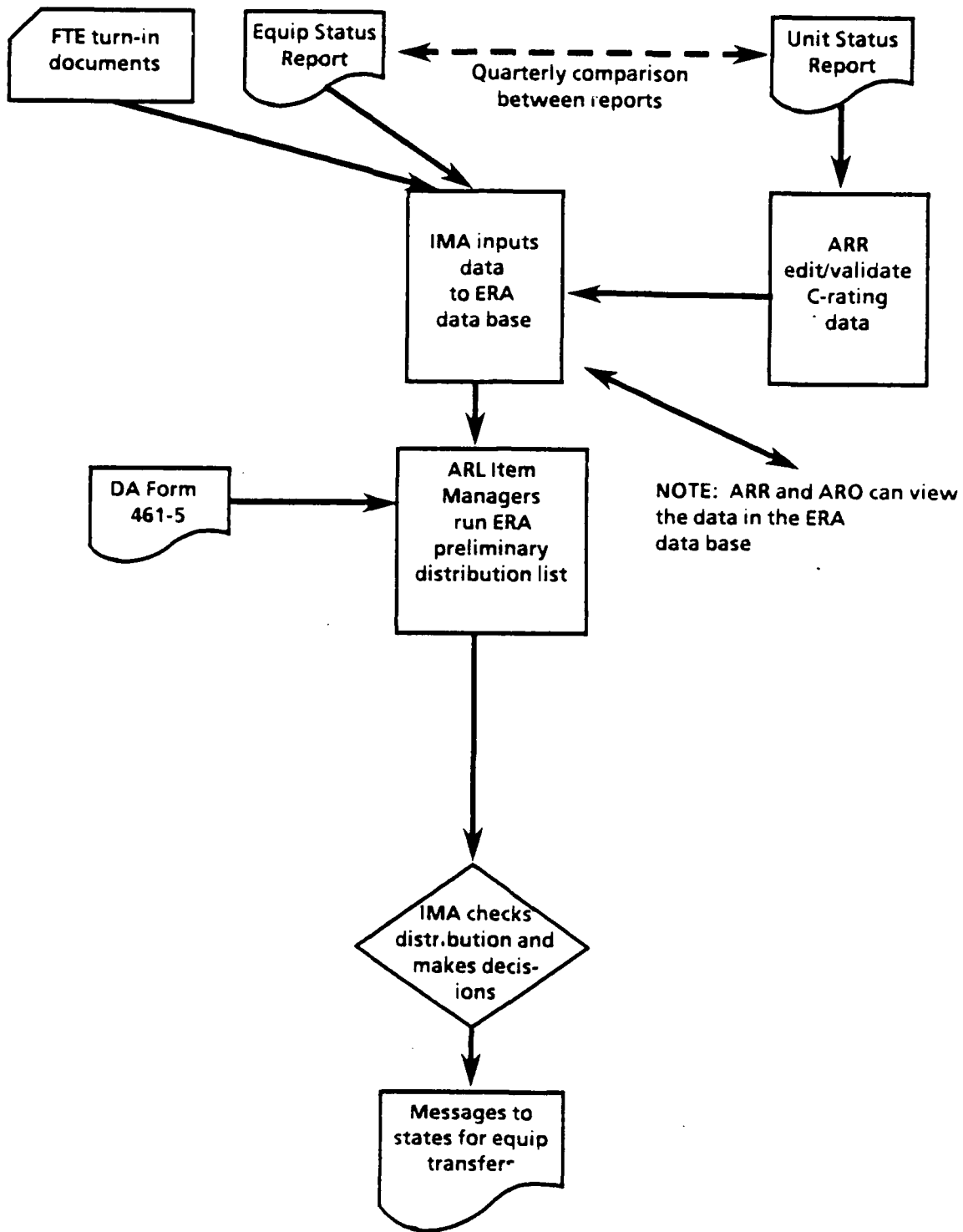


Figure 5-8. Excess Automation Flow

(4) **Document Validation.** A validation process to review documents prepared by ARO is required to ensure that the equipment packages are complete. Expertise in types of items and ancillary equipment is necessary to accomplish this objective and most likely would have to be obtained from personnel within the states. This would require that a budget and personnel requirements package be established to allow for state support of this absolutely necessary function. It appears that assets within the NGB cannot accomplish this function based upon current requirements. **Note:** another method would require that selected states which participate in the validation process receive documents forwarded via Autodin and validate at home station and upon completion return via Autodin to ARO.

(5) **MTOE Supportability.** Each Documentor and Force Integrator needs to be provided read-only access to the ERA data base. Access to the data would allow for a review of equipment availability (from the excess screen) with final coordination with ARL to provide answers to unit supportability questions. Access to the data base will require computers which are capable of handling classified material with dedicated transmission capabilities. Further, a requirements package addressing budget needs must be established.

(6) **Troop Structure Program (TSP) Process.** Total automation of the TSP process is necessary to facilitate a reduction in preparation and production time. This would require an increase in the storage capability of the computer system within ARO. Further, a subprogram should be developed which would allow for direct input from all concerned in the TSP development process. An additional subprogram to allow for updating of the TSP relative to the unslated units and final decision by the Director, Army National Guard, would facilitate input into the Command Plan provided to HQDA. **Note:** the end result of this process would be a standard TSP data base.

(7) **Equipment Status Report (ESR) Process.** Currently, each state is required to update its equipment inventory on a monthly basis. This process must be enforced by NGB so that the equipment inventory data is as accurate as possible for Item Manager decisionmaking. This accuracy of input is essential along with validation of L, M, and N accounting records by the USPFO with the ESR before entry into the reporting system. Units that fail to report must be flagged, since old data from the previous month is copied into the current month's report. Further, this process needs to be automated between the states and IMA to reduce time delay in the reporting process. This action would provide real-time data and immeasurably increase the decision accuracy of the Item Manager in the distribution of excess equipment. Further, there needs to be an interrelationship between the ESR and USR so that data is current during the quarterly report process.

(8) **Loan Equipment Process.** The loan of equipment to the ARNG to accomplish training requirements is a continuing process. In many instances, the equipment is requested for loan for 180 days using DA Form 4881-6-R (Request and Approval for Loan or Lease of Equipment and Loan or Lease Agreement). These requests are subject to extension on a case-by-case basis from the HQ AMC major subordinate command or HQ FORSCOM. This equipment is picked up for accountability by the units and is not displayed in any manner for the NGB Item Manager. A program must be established to allow states to report loan equipment onhand by UIC and state. This inventory must be reported to IMA on a monthly basis and incorporated by UIC and state in the mainframe

computer. Further, access via the ERA is essential for the Item Manager to allocate any excess material against loan equipment based upon DAMPL or NGSN. **Note:** the loan equipment process could be made to cross-reference the ESR and USR, thereby providing a true picture of the equipment onhand within the unit and state, respectively.

(9) **Deactivated Units Process.** The continual change in force structure makes it difficult for states to redistribute equipment, since the POTO needs to be required to provide deactivation information to the USPF0 immediately upon receipt in state. Furthermore, the deactivation information must be placed into the mainframe computer by ARO with access by the Item Manager through the ERA process. This access to the mainframe computer is limited to read only. The fact that the Item Manager can preview forthcoming deactivations can be invaluable to the distribution/redistribution process. The Item Manager can then determine excess equipment availability by cross-reference to activations scheduled for the state being reviewed. This will reduce overall equipment shipments. **Note:** there is a current action ongoing to activate a G-4 in each state to assist in providing information to the USPF0 on pending changes in force structure within a state.

(10) **Excess Window View.** The increase in the ERA data base by AMIM input, dedicated procurement, activations/deactivations, and accuracy of the ESR and USR will allow for the expansion of the excess review and view window. This window is currently set at 6 months. After completion of the additional ERA data base inputs, the ARL Item Manager can look at equipment requirements out to 2 years. This will reduce the inventory in motion due to double and triple movements of equipment.

(11) **Unit Status Report (USR) Process.** Once the C-rating edit/validation process has been automated as discussed earlier in this chapter, it is useful to automate the entire USR process. This could be accomplished by a major change which will allow each division within the NGB to read the quarterly updated USR screen within the ERA. The automated Intel Computer transfer from ARR to IMA is essential for the insertion of the USR into the ERA data base. Figure 5-9 depicts this process. Alternatively, ARR can edit/validate the state USRs within an ARR up-sized computer and directly interface with the IMA mainframe with subsequent input into the ERA data base.

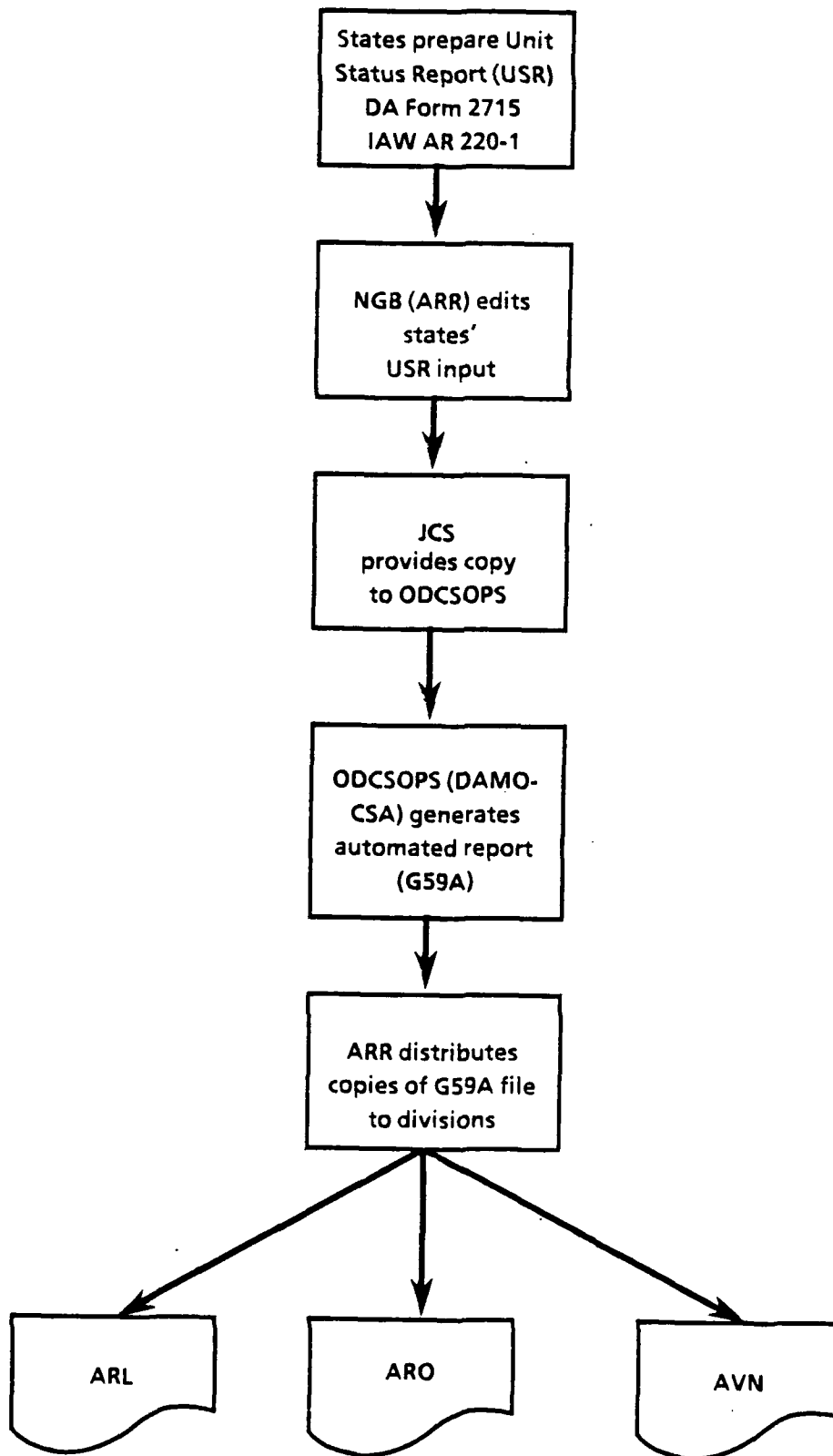


Figure 5-9. Unit Status Report Upgrade

5-4. **SUMMARY.** There is insufficient electronic communication (common data access, etc.) between NGB divisions. This can be improved through implementing enhancements to the ERA program and expanding the use of the dialcom system. Improvements to the documentation process are necessary to facilitate accurate equipment requirements analysis and redistribution. Improvements to the current system that could be implemented in the short term were identified for redistributing excess equipment, upgrading the VTAADS process, distributing updated documentation, modifying the Structured Query Language process in ERA, and validating unit readiness. Long-term implementation of suggested improvements was identified for redistribution of excess equipment, identifying substitutions and in-lieu-of items, allocating equipment through the ERA program, validating documentation, reviewing equipment availability, automating the Troop Structure Program process, improving the accuracy of the ESR, accounting for equipment loans, identifying deactivated units, producing a more detailed MTOE data base, expanding the excess window view, and providing for editing and validating of the USR process.

CHAPTER 6

FINDINGS AND OBSERVATIONS

6-1. PURPOSE. The purpose of this chapter is to address the essential elements of analysis required for the study, to present key findings and observations, and to summarize the study.

6-2. ESSENTIAL ELEMENTS OF ANALYSIS (EEA). The study directive contained four EEAs, which are listed below, followed by a summary of the study's applicable response/results.

a. What are the detailed functional requirements for performing NGB equipment requirements distribution? The many information and data transfers, updates, coordinations, and decisions that must be accomplished accurately and in a timely manner in order to carry out the functions outlined below constitute the detailed functional requirements for NGB equipment distribution.

(1) Force Structure Process. NGB equipment requirements distribution begins with the force structure process. Initially, ODCSOPS provides the NGB with force structure guidance based on the Total Army Analysis. Subsequently, a Troop Structure Program is distributed to all NGB divisions and states. The states have an opportunity to request that any unslated units be assigned to their state. Upon approval by the Director, Army National Guard, NGB, unit assignments are forwarded through the ODCSOPS to HQDA for approval and incorporation into the VTAADS.

(2) Documentation. All unit documentation is prepared by ARO using the Intel computer system. Once submitted to the mainframe computer at IMA, there are no interactive editing capabilities. The Force Integrator and Documentor approve changes and forward the tape for DA approval. The DA-approved tape is returned to ARO, NGB, and subsequently to the printing plant in Maine for hard copy distribution to the state POTO and to other applicable agencies.

(3) Equipment Readiness Analysis (ERA)

(a) The ERA program is used by the NGB as the primary method for distributing and redistributing equipment to the states. The ERA program is designed to minimize the delay between the reporting of excess equipment and the equipment redistribution process. However, time-consuming manual input and output procedures are still required.

(b) The Item Manager uses the ERA to determine states and units that have a shortfall. The ERA allows the Item Manager to see what LINS the state units have onhand. From this, the Item Manager can determine where substitutes are being used and display what LINS the units are authorized to have in the inventory. The ERA data base can be queried to determine units with less than a C-3 readiness rating.

(4) Excess. The US PFO prepares the excess report (FTE) card and forwards it with the appropriate DA Form 461-5, Vehicle Classification

Inspection, to the Logistics Division. Data from the cards are automated by IMA, where the excess reports are edited and printed. The excess reports are provided to the Item Managers in ARL who access the ERA to accomplish a manual redistribution of these excesses against MTOE shortages within the ARNG. Excesses beyond requirements are subsequently forwarded to the appropriate major subordinate command of HQ AMC for disposition.

(5) **Unit Status Report (USR).** The USR, DA Form 2715, is prepared quarterly by the states and forwarded to the NGB, where, upon ARR edit/validation, it is submitted to JCS and then provided by JCS to ODCSOPS, Command Support Agency (DAMO-CCSA). DAMO-CCSA then generates an automated report (G59A) which lists units and LINs that do not meet C-3 criteria for equipment onhand. Upon approval, a courtesy copy of the G59A report is provided to ARR and ARL, upon which the Logistics Division is requested to determine the availability of equipment to upgrade unit C-ratings using the ERA program.

(6) **Equipment Status Report (ESR).** The USPFO updates the inventory of equipment within the state on a monthly basis. Inventories, when not submitted, are carried over from the previous month during the consolidation and automation process at IMA. A hard copy of the ESR is used by the Logistics Division of NGB during the excess identification, classification, and redistribution process.

b. Through analysis, does the current system accomplish the required distribution/redistribution of equipment actions? If not, in what ways is it deficient?

(1) **Lack of Communication.** There is insufficient electronic communication (common data access, etc.) throughout the NGB divisions.

(2) **ERA Shortcomings**

(a) ARL Item Managers cannot automatically relate excesses in the ARNG system with the ERA. The computer does not assess equipment needs versus requirements and prepare distribution spreadsheets incorporating NGSN, DAMPL, and LADs, etc., for the Item Managers' approval before dissemination.

(b) The quarterly USR, submitted by the states, is not incorporated into the mainframe computer data base and thus is not accessed by ARL's Item Managers through the ERA process. No program exists to correlate the USR with the ESR or to identify what the states have done to distribute/redistribute excesses against their requirements. There is not a program available which identifies items that will be true excess at USPFO level for reporting to the NGB.

(c) The ERA only considers Appendix H, SB 700-20, as the authorized substitution document; however, states have used substitutes and commanders' in-lieu-of items which do not appear within this appendix.

(d) No subprogram exists within the ERA which will identify the units to which AMIM and dedicated procurement items have been programed.

(e) ERA does not address equipment on loan by UIC and state which prevents Item Managers from addressing MTOE shortages during the monthly distribution and redistribution process.

(3) VTAADS. The shortcoming in the VTAADS process is that once documents are built and placed into the mainframe computer at IMA and there is no interactive editing capability.

(4) Approved Documentation and ERA. The ERA is not updated simultaneously with the approved MTOE documentation disseminated to the states. Thus, decisions made by the Item Managers within ARL are not based on the same documentation received by the states.

(5) Insufficient Inventory Status. The current ESR does not display timely information for the Item Manager making decisions on the distribution/redistribution of excess equipment. Deficiencies exist in timeliness of reporting, automation of the reporting process, ERA visibility for Item Manager decisionmaking, and ERA visibility to ARR during their review of these units with readiness ratings below C-3.

(6) Accounting for Deactivations. The state USPFO and Logistics Division Item Manager is not always informed of deactivation action, thus restricting expeditious equipment redistribution. Further, the Logistics Division Item Manager cannot react to changes in equipment requirements without knowledge of unit deactivations.

c. How can the current process be improved? *

(1) Add a common NGB computer data base to allow access from different NGB divisions.

(2) Automate the entire USR process.

(3) Include all substitute LINs from Appendix G, AR 220-1, and commanders' in-lieu-of items in the ERA program data base.

(4) Add AMIM, dedicated procurement, activations/deactivations, and improve accuracy of the ESR and USR by adding them to the ERA program data base.

(5) Add a capability within the ERA computer program to allow states to report loan equipment onhand by UIC and state.

(6) Develop an edit capability for the ERA program to run an automated preliminary recommended excess distribution for the item manager within ERA.

(7) Enforce the monthly state update of the ESR.

(8) Provide for the electronic transfer of the ESR/USR on a secure line, allowing for mainframe computer-to-computer transfer with a simultaneous upgrade to the ERA system.

(9) Train action officers, Force Integrators, and Item Managers in the use of the Structure Query Language.

(10) Implement validation procedures for Army organization and training division (ARO) documents.

(11) Develop an edit capability for documentation archived in the IMA mainframe computer.

(12) Add a NGB capability to determine MTOE changes from basis of issue plan(s).

d. What are the advantages/disadvantages of the suggested changes to the current system?

(1) **Advantages.** The following are the advantages for the full implementation of the suggested changes.

(a) Increase the accuracy and timeliness in the NGB division coordination process through automation/integration of NGB divisional computers.

(b) Standardize the ERA as the data base for management decisionmaking.

(c) Provide consistency between NGB and state documentation.

(d) Speed up excess distribution process.

(e) Potential to reduce inventory in motion.

(f) Improve efficiency of Item Managers, Force Integrators, Documentors, and Readiness Analysts.

(g) Improve accuracy of ESR, USR and state excess reporting procedures.

(h) Reduce time to upgrade/validate ERA program data base.

(i) Improve accuracy of accounting for loan equipment, AMIM, and dedicated procurement equipment, substitutions and in-lieu-of items.

(j) Provide ability to project cost and quantity of total ARNG requirements through the use of automation.

(k) Produce availability of statements of work for programing purposes.

(l) Provide USPFO greater control on excess management.

(m) Provide for a central audit trail capability.

(2) Disadvantages

- (a) Additional start up time and associated costs incurred due to addition of dedicated communication lines, computer upgrades at the state level, and intra-NGB communication capability of Intel Computer Systems within the NGB.
- (b) Additional costs incurred for contractor support for computer programing changes and developing new computer programs.
- (c) Two additional people within NGB would be needed to accommodate the additional BOIP function in the ARL and ARO divisions.
- (d) Costs incurred for dedicated state support for documentation analysis either at the NGB or state level.

6-3. KEY FINDINGS. The key findings of this report are:

- a. The primary finding is that there is insufficient coordination between NGB divisions. Improved cross-coordination of information is needed to eliminate inaccuracies within internal division processes. This coordination can be accomplished through networking of the divisional Intel Computer System, assuming that the transfer of information through the automation process is accurate.
- b. There is no central data base being used by ARO, ARR, and ARL in their respective arenas of responsibility. This negatively impacts on the equipment distribution/redistribution process. This deficiency could be eliminated through the use of the ERA as the standard centralized data base.
- c. The documentation process at ARO is hindered, since Documentors are not able to access the mainframe computer at IMA to read and/or correct documents. The lack of an interactive editing capability can be corrected by use of a software program known as the ODUS which is currently available at IMA.
- d. The SQL Process, even though available, is not being exploited to its full potential. It would allow action officers to enter the ERA and select data elements for query, i.e., LIN, NGSN, UIC, state, etc. All NGB divisions can use the process to assist in documentation, asset visibility, readiness analysis, and distribution/redistribution actions.
- e. An automated procedure urgently needs to be established within ERA to eliminate the current manual C-rating edit/validation process used by ARR. Visibility in the ERA by ARO, ARR, and ARL could greatly improve the conduct of supportability, dedicated procurement, and redistribution actions.
- f. The ESR and USR interface is nonexistent. A dual action is necessary to validate the ESR throughout the NGB system and to ensure that the USR is cross-referenced to the ESR on a quarterly basis, with data input to the ERA menus applicable to these actions. Again, visibility by ARO, ARR, and ARL in this arena would eliminate current manual actions.

g. Equipment status reporting on a monthly basis needs to be made mandatory to ensure that the ERA is current for review by ARR and ARL, thereby reducing the possibility of redistribution actions without cause.

6-4. OBSERVATIONS. The following observations of potential benefit were noted:

a. Action Officers in ARR, ARO, and ARL could use the ERA as the standard data base for information which would assist in their daily operations, provided that the data was verified and constantly updated. The capability of the divisions to access the ERA data base currently exists; however, it is not being used in the management of organizations and their equipment in relation to document building, readiness evaluation, C-rating upgrading, and excess management.

b. A centralized data source, already in place, at state and NGB level, is the ESRESR. This report, which is updated monthly, identifies the total National Guard equipment status. This report needs to be developed, validated, and used by all agencies within NGB as the source document. Once accuracy of the ESR is ensured by the NGB, its data could be used in validating or cross-checking a number of other reports.

c. This study pointed out the need for increased availability of classified communication capability within the entire National Guard. The HQDA classified communication authorization for NGB requires reprioritization in order to eliminate this shortcoming.

d. This study did not address the state automated procedures; however, it is relevant to note that the Burroughs computer system currently used in all the states, unless upgraded or replaced, is likely to be inadequate for state automation requirements.

e. The National Guard Command Logistics Review Team needs to become more attuned to validation procedures with regard to L, M, and N accountability records and the ESR. As specified in NGB regulations, the monthly input of the ESR to the NGB is an absolute necessity. The ESR accountability procedure is applicable both to the USPFQ and to the personnel at unit level responsible for property book and inventory actions.

f. In conjunction with the distribution/redistribution of materiel, it is necessary to have an audit trail on equipment in motion. This would require an automated program which would flag all messages to the gaining and losing states. Further, it would alert the Item Manager if the shipment window is not met. Confirmation of shipment and acknowledgment of receipt from the recipient would close the audit trail window back to the Item Manager in ARL.

g. It has been determined that equipment generally procured through the dedicated procurement process has not been fenced in the ERA program. Eliminating this shortcoming would reduce the unnecessary distribution of equipment to units already destined to receive equipment from Congressionally allocated dollars.

h. Due to current inaccuracies within the TAEDP it could not be used as a viable document for this study. If the TAEDP is to be used as a definitive source of Army equipment distribution guidance, its accuracy must be improved.

i. The evolution of the ERA into a highly reliable data base would provide NGB ARR, ARO, and ARL divisions with the ability to address the development and supportability questions with answers on organization/units accepted by the CNGB, which are out of cycle with the TSP.

j. The ability of the NGB to review BOIPs is necessary. Currently, BOIPs are not being staffed within the NGB due to shortages in staffing; however, one position should be created in the ARO division with the Systems Integrator and one position added in the ARL division with the Maintenance Branch. These two additional positions could screen the BOIPs and address those specifically involving the ARNG. Other expertise can be used to evaluate particular BOIPs, such as the Maintenance Advisory Committee, etc.

k. In the review of the ERA, it was noted that requests for upgrade or application of automated support systems were having problems. The activities of the Contracting Officer's Representative are key functions to ensure that the statements of work are coordinated with all NGB divisions and are clear and precise. This task is time-consuming, but its accuracy is a necessary function so that output products are functional.

l. Cost savings generated by the improvement in the distribution and redistribution process could be validated by a cost analysis conducted at ARL and state level. The required data could largely come from the transportation control and movement documents (TCMD) for cost plus damages and TM 20, Transfer Standard, for discrepancies. A significant cost avoidance should be achievable through the use of an accurate ESR data base within the ERA.

6-5. STUDY SUMMARY. This study has identified potential enhancements to be incorporated into the existing ERA process which, when incorporated, could greatly improve the effectiveness of the distribution/redistribution system being used in the Logistics Division, National Guard Bureau. It has also identified the major deficiencies impacting on the ability of the Logistics Division to accomplish its main mission of equipping the ARNG in support of the ever-changing force structure requirements.

APPENDIX A
STUDY CONTRIBUTORS

1. STUDY TEAM

a. Study Director

LTC Gordon Philippovic, Force Systems Directorate

b. Team Members

Mr. Joel Gordon

Mr. K. Brad Knowlton

2. PRODUCT REVIEW BOARD

COL James DeWire, Chairman

MAJ Rubin Dinwiddie

Mr. David Smith

Mr. Jeff Wingard

3. EXTERNAL CONTRIBUTORS

COL William Boone, Senior Army National Guard Advisor

COL William Mackert (Ret), Assistant for Property and Fiscal Affairs to
the Chief, National Guard Bureau

APPENDIX B
STUDY DIRECTIVE



DEPARTMENTS OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
WASHINGTON, D.C. 20310-2500



NGB-ARL (700)

06 JAN 89

MEMORANDUM FOR: Director, U.S. Army Concepts Analysis Agency,
8120 Woodmont Avenue, Bethesda, MD 20814-2797

SUBJECT: National Guard Logistics (NG LOG) Study

1. PURPOSE OF STUDY DIRECTIVE. This directive provides for the conduct of a study to develop an improved process for determining equipment distribution/redistribution requirements for use by the National Guard Bureau (NGB).

2. BACKGROUND. The NGB has been unable to accurately determine equipment distribution/redistribution requirements to fill Army National Guard (ARNG) units to desired readiness levels in accordance with Army-approved force structure guidance. The Chief, NGB, IAW AR 10-5 is charged with the responsibility of distribution/redistribution of equipment as a result of force structure changes. Procedural improvements are desired to obtain improved readiness levels without an increased expenditure of resources.

3. STUDY SPONSOR.

a. Study Proponent: National Guard Bureau, Logistics Division (NGB-ARL).

b. Study Sponsor: Mr. J. Joyner, NGB-ARL, 697-4904.

4. STUDY AGENCY. U.S. Army Concepts Analysis Agency (CAA).

5. TERMS OF REFERENCE.

a. Scope. Analysis will include the National Guard Bureau Equipment Distribution/Redistribution Process, in support of Army force structure decisions, over which the NGB has control.

b. Objectives.

(1) Identify those deficiencies in the current National Guard Bureau Equipment Distribution/Redistribution Process which inhibit accurate responses to force structure changes and readiness considerations.

(2) Identify corrections and changes which will improve the ability of the Army National Guard to better accomplish equipment distribution objectives.

1. Timeframe. FY 90.

NGB-ARL
SUBJECT: National Guard Logistics (NG LOG) Study

d. Assumptions.

(1) Responsibilities of the Chief, National Guard Bureau, will remain as specified in AR 10-5, Organization and Functions, Department of the Army, dated 1 December 1980.

(2) The current force structure identification and allocation process performed in the Total Army Analysis, as related to the National Guard Bureau, will remain in effect.

(3) Readiness reporting requirements for the NGB will remain as specified in AR 220-1, dated 30 August 1988.

(4) Director of the Army National Guard will continue his goal of having states maintain equipment on hand within units at readiness levels of C-3 above.

e. Limitations.

(1) Cutoff date for documentation used will be 26 September 1988.

(2) Study will examine the equipment allocation process over which the NGB has control, but will not examine those force structure requirements processes that provide input to the NGB.

(3) Study analysis will identify computer system structure needed to correct identified system deficiencies or system improvements.

(4) Study will look at National Guard Units only.

f. Essential Elements of Analysis.

(1) What are the detailed functional requirements for performing NGB equipment requirements distribution?

(2) Thru analysis does the current system accomplish the required distribution/redistribution of equipment actions? If not, in what ways is it deficient?

(3) How can the current process be improved?

(4) What are the advantages/disadvantages of the suggested changes to the current system?

NGB-ARL
SUBJECT: National Guard Logistics (NG LOG) Study

6. RESPONSIBILITIES.

a. The study proponent, NGB, will:

- (1) Provide a study coordinator.
- (2) Schedule In-Process Reviews (IPR) as required.
- (3) Coordinate data collection as data requirements become known.

(4) Provide supplemental funds for travel to NGB agencies as needed. Local and nearby travel funds will be provided by CAA.

(5) Provide data and data sources.

(6) Authorize direct contact with various governmental agencies.

b. The study agency, CAA, will:

(1) Designate a study director and establish a full-time study team.

(2) Coordinate with governmental agencies as required for the conduct of the study.

(3) Provide an IPR and final study documentation to the study proponent.

(4) Provide programing and ADP support as required for the conduct of the study.

7. LITERATURE SEARCH. The following studies are related to the analysis:

a. (U) Support Force Requirements Analysis, FY 89-93) Study, U.S. Army Concepts Analysis Agency, April 1987.

b. Program Forces Capability Analysis FY 90 (PFCA-90) Study, U.S. Army Concepts Analysis Agency, December 1984.

c. (U) Combat to Support Balance Study (CSBS), U.S. Army Concepts Analysis Agency, September 1980.

d. Balancing Army Combat Services Support Forces Between the Reserve and Active Duty Components, U.S. Naval War College, March 1986.

NGB-ARL

SUBJECT: National Guard Logistics (NG LOG) Study

8. REFERENCES.

- a. AR 5-5, Army Studies and Analysis, 15 Oct 81.
- b. AR 10-5, Organizations and Functions, Department of the Army, 1 Dec 85.
- c. AR 10-38, United States Army Concepts Analysis Agency, 18 Dec 85.
- d. AR 220-1, Unit Status Reporting, 30 Aug 88.

9. ADMINISTRATION.

a. Support-funding for temporary duty (TDY) and local travel associated with the study will be provided by each participating agency as noted in paragraph 6a (4).

b. Milestone schedule.

<u>Event</u>	<u>Date</u>
Study Plan and Initial ARB	1 Dec 88
Brief Interim Results/IPR	27 Feb 89
Final Results ARB	24 Apr 89
Submit Draft of Final Report to Sponsor	25 May 89

c. Defense Technical Information Center (DTIC). The study agency will prepare and send DD Form 1498 and the final study documentation to DTIC.

10. COORDINATION. This directive has been coordinated with CAA and complies with the mission, functions, procedures of CAA as stated in AR 10-38.

FOR THE CHIEF, NATIONAL GUARD BUREAU:



THEODORE T. CARLSEN
Colonel, GS
Chief, Army Logistics Division

APPENDIX C
BIBLIOGRAPHY

DEPARTMENT OF THE ARMY

Department of the Army (DA) Publications

- AR 5-5, Army Studies and Analysis, 15 October 1981
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- FM 101-10-2, Extracts of Non-divisional TOE, 15 July 1987

CAA-SR-89-8

US Army Concepts Analysis Agency

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Program Force Capability Analysis - FY 90 (PFCA-90) Study, CAA-SR-84-35, US Army Concepts Analysis Agency, December 1984

Support Force Requirements Analysis, FY 88-93 (SRA-93) Study, CAA-SR-87-5, US Army Concepts Analysis Agency, April 1987

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NGB Pam 700-1, Logistics Functional Systems Requirements Supply Accounting and Management Information System (SAMIS), 30 April 1986

OM 10-5, Organization and Functions of the National Guard Bureau, 30 September 1986

FY 89 ARNG Troop Structure Program (TSP), 26 September 1988

ADSM 18-N01-HWA-BUR-UM, Army National Guard Equipment Readiness Analysis Field Version, User's Manual, 18 March 1987

DEPARTMENT OF THE NAVY

Department of the Navy Publications

Balancing Army Combat Services Support Forces between the Reserve and Active Duty Components, US Naval War College, March 1986

APPENDIX D
SPONSOR'S COMMENTS

STUDY CRITIQUE

(This document may be modified to add more space for responses to questions.)

1. Are there any editorial comments? YES
~~NO~~ If so, please list on a separate page and attach to the critique sheet.

2. Identify any key issues planned for analysis that are not adequately addressed in the report. Indicate the scope of the additional analysis needed. NONE

3. How can the methodology used to conduct the study be improved?

THE PROCESS WAS EXCELLENT.

4. What additional information should be included in the study report to more clearly demonstrate the bases for the study findings?

NONE

5. How can the study findings be better presented to support the needs of both action officers and decisionmakers?

VERY WELL DONE.

6. How can the written material in the report be improved in terms of clarity of presentation, completeness, and style?

See COMMENTS.

STUDY CRITIQUE (continued)

7. How can figures and tables in the report be made more clear and helpful?

Well done, however see comments.

8. In what way does the report satisfy the expectations that were present when the work was directed? The report confirmed previous perceptions and, more importantly, it identified new causes of our problems.

In what ways does the report fail to satisfy the expectations?

Did not address the impact of contemplated reorganization changes currently under study.

9. How will the findings in this report be helpful to the organization which directed that the work be done? Study findings will be used during on-going reorganization studies internal to the Logistics Division and the Army Directorate and are viewed as highly useful.

If they will not be helpful, please explain why not.

NA

10. Judged overall, how do you rate the study? (circle one)

Poor

Fair

Average

Good

Excellent

APPENDIX E
DISTRIBUTION

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Chief
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 Washington, DC 20310-2500

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1

GLOSSARY

ABBREVIATIONS, ACRONYMS, AND SHORT TERMS

AA	Active Army
AC	Active Component
ADP	automatic data processing
ADPE	automatic data processing equipment
AG	Adjutant General
AMC	Army Materiel Command
AMIM	Army Modernization Information Memorandum
AR	Army regulation
ARL	Army Logistics Division
ARNG	Army National Guard
ARO	Army Organization and Training Division
ARR	Army Mobilization and Readiness Division
auth	authorized
avn	aviation
BOIP	basis of issue plan
CAA	US Army Concepts Analysis Agency
CBS-X	Continuing Balance System - Expanded
CCSA	Command and Control Support Agency
CNGB	Chief, National Guard Bureau
COOP	Continuity of Operations Plan
CS/CSS	combat support/combat service support
DA	Department of the Army
DAMPL	Department of the Army Master Priority List
DARNG	Director, Army National Guard
DCSOPS	Deputy Chief of Staff for Operations and Plans

DESCOM	Depot System Command
DG	Defense Guidance
DIC (FTE)	document identifier code (FTE)
DLSIE	Defense Logistics Study Information Exchange
DPI	data processing installation
ECP	engineering change proposals
E-date	effective date
EEA	essential element(s) of analysis
EOH	equipment onhand
equip	equipment
ERA	Equipment Readiness Analysis
ESR	Equipment Status Report
FAD	Force Activity Designator
FAS	Force Accounting System
FASTALS	Force Analysis Simulation of Theater Administrative and Logistic Support (model)
FI	Force Integrator
FM	field manual
FMMP	Force Modernization Master Plan
FOA	field operating agency
FORSCOM	US Army Forces Command
FY	fiscal year
GOSC	General Officer Steering Committee
HQ	headquarters
HQDA	Headquarters, Department of the Army
IAW	in accordance with
ILS	integrated logistics support

IMA	Information Management Agency
IPR	in-process review
JCS	Joint Chiefs of Staff
L	property accounting record
LAD	latest arrival date
LIN	line item number
.loc	location
LOGSACS	Logistics Structure and Composition System
M	property accounting record
MACOM	major Army command
MILSTRAP	Military Standard Transaction Reporting and Accounting Procedures
MILSTRIP	Military Standard Requisitioning and Issue Procedures
MOU	Memorandum of Understanding
MRC	materiel readiness command
MRIS	Modernization Resource Information Submission
MSC	major subordinate command
MTOE	modification table(s) of organization and equipment
N	property accounting record
NG	National Guard
NGB	National Guard Bureau
NGSN	National Guard sequence number
NSN	national stock number
ODCSOPS	Office of the Deputy Chief of Staff for Operations and Plans
ODUS	On-Line Document Update System
OM	organizational manual
para	paragraph

PD	priority designator
POC	point of contact
POM	Program Objective Memorandum
POTO	Plans, Operations, and Training Officer
RC	Reserve Components
REDFRAM	Readiness from Redistribution of Army Materiel
reg	regulation
RIC	routing identifier code
RICC	Reportable Item Control Code
ROBCO	readiness objective code
rqmt	requirement
SI	Systems Integrator
SOP	standard operating procedure
spt	support
SQL	Structured Query Language
SR	study report
SRC	standard requirement code
TAA	total Army analysis
TAADS	The Army Authorization Documents System
TAEDP	Total Army Equipment Distribution Program
TAG	The Adjutant General
TCMD	transportation control and movement document
TDA	table(s) of distribution and allowances
TM	technical manual
TOE	table(s) of organization and equipment
TPFDL	Time-Phased Force Deployment List
TPSN	troop program sequence number

TSP	Troop Structure Program
UIC	unit identification code
USALOGCEN	US Army Logistics Center
USAR	US Army Reserve
USPFO	US Property and Fiscal Officer
USR	Unit Status Report
VTAADS	Vertical--The Army Authorization Documents System



NATIONAL GUARD LOGISTICS
(NGLOG) STUDY

STUDY
SUMMARY
CAA-SR-89-8

THE REASON FOR PERFORMING THE STUDY was to provide an improved process for equipping units of the National Guard in response to force structure changes and readiness objectives.

THE PRINCIPAL FINDINGS of the work reported herein are as follows:

- (1) There is insufficient electronic communication (common data access, etc.) throughout the National Guard Bureau (NGB) divisions.
- (2) The automated system for establishment and dissemination of documentation is inadequate to support equipment requirements analysis and equipment redistribution.
- (3) Lack of a central Equipment Readiness Analysis (ERA) computer data base accessible to all NGB divisions has increased workload and decreased accuracy of decisionmaking.

THE MAIN ASSUMPTIONS of this work are:

- (1) Responsibilities of the Chief, NGB, will remain as specified in Army Regulation (AR) 10-5, Organization and Functions, Department of the Army, dated 1 December 1980.
- (2) The current force structure identification and allocation process performed in the total Army analysis, as related to the NGB, will remain in effect.
- (3) Readiness reporting requirements for the NGB will remain as specified in AR 220-1, dated 30 August 1988.
- (4) Director of the Army National Guard (ARNG) will continue his goal of having states maintain equipment onhand within units at readiness levels of C-3 or above.

THE PRINCIPAL LIMITATION of this work is that it examines the equipment allocation process over which the NGB has control, and not those force structure requirements processes that provide input to the NGB.

THE SCOPE OF THE STUDY was to analyze the NGB Equipment Distribution/Redistribution Process, in support of Army force structure decisions, over which the NGB has control.

THE STUDY OBJECTIVES were to:

(1) Identify those deficiencies in the current NGB Equipment Distribution/Redistribution Process which inhibit accurate responses to force structure changes and readiness considerations.

(2) Identify corrections and changes which will improve the ability of the ARNG to better accomplish equipment distribution objectives.

THE BASIC APPROACHES used in this study were to:

(1) Determine all source data inputs to the ERA process.

(2) Determine all required source data necessary to accomplish the ERA mission.

(3) Determine current equipment distribution/redistribution procedures.

(4) Determine problems with procedural and automation practices.

(5) Determine optimal results desired in the equipment allocation process.

(6) Develop procedural changes/improvements to the ERA process.

THE STUDY SPONSOR was the Chief, Logistics Division, National Guard Bureau, who established the objectives and monitored study activities.

THE STUDY EFFORT was directed by LTC Gordon Philippovic, Force Systems Directorate, US Army Concepts Analysis Agency.

COMMENTS AND QUESTIONS may be sent to the Director, US Army Concepts Analysis Agency, ATTN: CSCA-FS, 8120 Woodmont Avenue, Bethesda, Maryland 20814-2797.