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ANALYSIS OF AGENCIES COMPUTERIZED FINANCE AND RESOURCE MANAGEMENT SYSTEM

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Approved For Release 2005/07/12 : CIA-RDP85-00988R000700020001-3

MEMORANDUM FOR: Director of Logistics

SUBJECT: ADP Systems Study

1. Attached is a study entitled "Analysis of Agencies Computerized Finance and Resource Management System." That study identifies components of the finance and resource management system and their operating characteristics in order to flag inefficiencies and recommend alternatives. Recommendations contained in paragraph four were an integral part of that study and are being forwarded for review and approval consideration.

2. The computerized system network consists of four stand alone systems (SAS) maintained independently of ICS, several internal systems under the command jurisdiction of OL, and OL controlled systems designed for interfacing with components of DOD and the Office of Finance. Maintenance responsibilities for the four SAS are as follows; [redacted] 25X1

25X1 [redacted] Data bases for the SAS network house essentially the same data elements, yet these systems were programmed independently often in different languages.

25X1 Data elements resident to [redacted] include those common to the other systems as well as agent names, equipment frequency, etc. With this minor exception data elements residing in the network are roughly comparable to those in ICS.

Subject: ADP Systems Study

3. Internal OL administered systems belong to two classes; first, those already operational and; second, those in various stages of design. CONIF and AWCS are illustrative of the former class whereas FARS, the Vehicle Control System and the stand alone procurement system represent the latter. Like the SAS network, this component consists of independently programmed applications. Item Identification Branch, SD, manages one system which interfaces with the Defense Logistics Services Center. This application, together with that designed to bridge data to the Office of Finance, constitute the only computerized interfaces of the network. The configuration of this network contributes directly to inefficiency and exorbitant overheads. The design of an integrated system offers the most promising option for improving performance capabilities of the total system at less cost. Integration has the potential of increasing operational efficiency because ICS and other updates translate into system updates which decreases dependency on manual update.

4. Analysis of Supply Division workload factors confirm a downward spiral. This trend is believed attributable to five factors; first, external components are relying increasingly on SAS networks for resource management which tends to decrease reliance on logistics; second, the Director of Central Intelligence

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routine logistic support which is certain to impact on logistics in terms of reduced workloads; third, certain operational programs are being retrenched or deactivated altogether; fourth, recent OC procurement of organic spares required to maintain major systems for their entire life expectancy, together with purchase of repair and return materiel from direct materiel procurement allotments, has resulted in a decrease in transaction processing because directs are excluded from formal accountability, and; fifth, inability of the computerized system to flag repetitive demand to provide a wider base for stockage. Implementation of an integrated system will reverse this trend and permit logistics to play a more positive role in resource management.

5. Based on the foregoing it is recommended that:

a. Staffing of the Systems Analysis Branch be expanded to include logisticians having credentials in automation technology in order to synthesize requirements of operating components for reduction to design specifications;

b. Operating Divisions organize a cadre of system analysts to formulate data processing requirements in response to guidance from SA&B/

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c. Systems personnel be tasked to define specifications for an integrated system together with a sound strategy for implementation.

[redacted] 25X1

TO : Chief, Supply Division

SUBJECT: Analysis of ICS - Limitations and Capabilities

1. This study is being submitted in response to your request that limitations and capabilities of ICS be analyzed, particularly with reference to its capability to interface with; a) internal computer systems such as [redacted] etc, serving components other than OL; b) external DOD computerized systems and; c) other OL stand alone systems now operational or in the process of being implemented such as CONIF, AWCS, FARS, etc. It was also requested that the performance capabilities of ICS be related to current and future ADP requirements.

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represents the most critical element of the Agency logistic system. This stems from the fact that resources allotted to these systems are divisible into shelf stocks positioned at forward storage facilities for release in response to demand with residual resources emplaced for operational use. Four independently programmed and maintained computer applications have been activated to exercise budget and management control over this network; namely, [redacted] One common denominator links this system network together. That linkage derives from the fact that the four computerized systems have the capability to control the acquisition, storage, maintenance, and distribution of electronic resources. Basically, the mission of ICS can be expressed in similar terms which makes this system network compatible in terms of intent and purpose but incompatible in terms of maintenance and operation because the four systems exist independently of one another.

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3. Collectively, the dollar value of materiel prepositioned at foreward storage facilities (stock), monthly transaction counts, and the number of line items maintained in the four stand alone systems (SAS) are nearly comparable to their counterparts in ICS. This proposition can be confirmed by contrasting

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line items were maintained at CD as of 31 Dec. 1977 compared to an estimated 12100 for SAS the count of which is predominately non-expendable. Comparision of these quanta lead to the conclusion that system workloads are nearly evenly divided between ICS and the SAS network. One notable difference exists between these systems; namely, ICS engages in volume processing whereas SAS transactions normally represent singular equipment transactions. Original versions of SAS were designed to achieve low level data processing tasks. Enhancement of these early versions augmented the applicable components inventory management and control potential. This, in turn, encouraged components to become more actively involved in resource management responsibilities. Seemingly, the shift toward decentralization impacted on ICS in terms of declining workload.

4. The four SAS were programmed independently of ICS and one another, often in different data base management or programming language. This exclusionary principle is also an essential property of peripheral OL systems now operational or soon to be activated in logistics. FARS, AWCS, CONIF, and ICS clearly demonstrate the ascendancy and acceptance of SAS doctrine. Systems included in this network may be individually efficient and yet be extremely inefficient from the stand point of total system operations. This contradiction is attributable, in part, to the fact that the output of one system must be manually entered in the next system of the data processing chain. Thus file updates in the ICS/SAS network entail double inputs which increases overheads. Elements of this system are so numerous and complex that it is probably not feasible to link the system together via computerized interface. Five reasons contribute to inefficiencies and high maintenance cost associated with this network; first, systems comprising the network must be programmed and enhanced separately which increases development costs; second, duplicate keying of identical or similar inputs for updating these systems increase manpower burdens and computer costs; third, file redundancies exist throughout the network which increases computer utilization costs; fourth, yields associated with integration are forfeited in SAS networks because enhancements must be implemented separately which is not true of the integrated system and; fifth, the continued activation and deactivation of different software systems essential to the operation of the ICS/SAS network is extremely costly.

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5. Supply Division workload factors have decreased rather precipitously in recent years. This decrease is believed attributable to the interplay of five factors which are self reinforcing; first, the Director of Central Intelligence

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maintained by cognizant offices have decreased dependance on logistics; third, accentuation of trends to purchase organic spares and repair/return materiel

from direct materiel procurement allotments, the accountability of which is excluded from ICS, has decreased transaction densities in ICS; fourth, implementation of systems designed to control the acquisition, storage, surveillance, and distribution of the logistic resource such as the computerized repair/return system recently programmed for OC to control 15,000 line items outside the formal supply system, and; fifth, the throttling down or deactiviation of operational activities.

6. Certain propositions described earlier can be verified statistically. For example, ICS processed an estimated 9834 transactions monthly in FY75, 6492 monthly in FY76, 6450 monthly in 77, and 5526 monthly so far in FY78. Similarly procurements financed from direct materiel procurement allotments, expressed in dollar terms, accounted for 57% of total purchases in FY76, 69% in TQ, 77% in FY77, and approximately 80% to date in FY78. Statistically it can be argued that ICS processing levels are decreasing as a result of direct shipments. This phenomena can be reversed; provided, ICS is redesigned in such a manner that it is capable of flagging repetitive demand and the trend toward decentralization is reversed. The impact of decentralization is best illustrated by example. Supply Division maintained 13,257 line items at CD as of 31 Dec. 1977. Assuming OC's computerized repair/return system spans control of 15000 line items and that the four SAS continue to manage approximately 12100 line items in the future, external systems will control twice as many line items as ICS. If these trends materialize in the future they may lead to a totally decentralized system in which logistics plays quite a different role in resource management.

7. Factual data for the analytical phase of the study was assembled on the basis of personal interviews, dollar value distribution reports furnished by Office of Finance, statistical reports provided by SOB and DCB, and special computer reports supplied by DCB. Raw data was subject to a verification rate approaching ninety percent. Accordingly, a certain margin of error may be inherent in the study. These errors, however, are not sufficient magnitude to distort projections presented therein or negate the validity of the study.

8. The study concludes that present trends toward decentralization can be reversed through the design of an integrated inventory management and control system. Concurrently, it is concluded that efficiency and economy of operations can be maximized through integration.

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1. Purpose:

Succeeding paragraphs describe characteristics of several inventory management systems designed, developed and implemented independently of the Logistics Inventory Control System (ICS). The objective of this research effort is to determine whether or not the proliferation of stand alone systems is in violation of statute, regulation, or operational efficiency. Findings presented in this study must be regarded as preliminary as time precluded comprehensive analysis of environments in which actual or planned autonomous systems operate.

2. Legislative and Regulatory Setting:

a. Current:

Exclusionary clauses in CIA enabling and associative legislation provides a basis for implementing financial property accounting and control systems independently of statutes, regulations and GAO system audits pertaining to other government instrumentalilities. This exclusionary feature has seemingly been interpreted to mean the Agency may adopt such procedures as may be necessary to ensure compliance with both the spirit and intent of legislation governing other executive agencies. The Agency's exemption from GAO audits is directly traceable to statute. The Central Intelligence Agency Act of 1949, as amended, states that the Agency may expend confidential funds within approved limitations "without regard to the provisions of law and regulation relating to the expenditure of Government funds." (50 U.S.C.A.

403j(b)) (See Appendix A). This act further states that the director's certification on expenditure documents "shall be deemed a sufficient voucher for the amount therein stated" and "are to be accounted for "solely on the certification of the Director" or the Deputy Director per authority contained in 41 Comp. Gen. 429 dated 2 January 1962. (Appendix B) Provisions of this act have been interpreted to mean that audits "would be limited to determining that such certifications have been made" which precludes comprehensive confidential fund audits by GAO.

Public law 84-863 reinforces the exclusionary principle by vesting responsibility for the establishment and maintenance of internal property control systems in the "head of each executive agency" (31 U.S.C. 66 a (c)) (Appendix C). This individual is also responsible for executing such internal audit procedures as may be necessary to protect the public interest. This statute, in concert with decisions rendered by the Comptroller General, authorizes the establishment of such CIA internal audit procedures as may be deemed appropriate; providing only that comprehensive internal audits be conducted to ensure resource management and control. Viewed in this perspective the design of stand alone systems does not violate any known statute or regulation. Moreover, development of autonomous systems is consistent with past command directives. Paragraph 3, OL 2 0024a, dated 19 January 1972, provides a testimonial to this approach wherein it is stated that "the Office of Communications and Technical Services Division"

may "wish to maintain certain in-use records under the new Materiel Resources System." (Appendix D) Provisions of this memorandum also state that "this office (OL) is not qualified to address those requirements and suggests that the Task Force (ODP) take up such questions with those offices and other offices that might be concerned." The intent of OL-2-0024a was not to delegate carte blanche authority for independent systems development to technical components, yet this interpretation did in fact prevail. Accordingly, the cellular approach to design became rooted in tradition.

Current organizational function and mission statements do not delegate responsibility for ADP system design to either the Director of Logistics or his designee [redacted] (Appendix E). Planned mission updates, however, do vest responsibility for the design of a worldwide supply system in the Office of Logistics. Pursuant to provisions of the planned mission statement the Director of Logistics is also responsible for establishing and approving property accounting systems whether automated or manual. These responsibilities derive from paragraphs (N) and (p) wherein it is stated that the Director of Logistics shall "develop, establish, and administer a worldwide supply system" and concurrently "establish and/or approve Supply Management systems for maintenance of decentralized accountable records and their adoptations to automated processes where necessary and cost effective." (Appendix F) Implicit in these delegations is the responsiblity for the Director of Logistics to periodically review all on-going systems to ensure effective control over the acquisition, use, and accountability for the logistic resource.

b. Proposed :

Provisions of Title I, Section 113 of the proposed "National Intelligence Reorganization and Reform Act of 1978", seemingly rescind previous legislation concerning the applicability of legal and external regulatory requirements to Agency operations. This legislation states that entities of the intelligence community "shall be subject to financial and program management audit and review by the Comptroller General of the United States", provided such audits are either commissioned or approved by designated committees of the Congress. (Appendix G) Pursuant to provisions of this act, the director has discretionary authority to exempt certain activities from review for national security reasons. Exercise of this authority, however, will require that the director notify the appropriate Congressional committee of the exemption together with reasons for granting it. This statute, unless amended, leaves little latitude for interpretation with regard to the question as to whether or not internal reviews are authorized.

Property management reviews conducted by GAO are normally system audits designed to determine whether or not; a) management information and control systems are efficiently organized and administered and; b) management policies and procedures are consistent with applicable legal and external regulatory requirements such as those defined in the "Budget and Accounting Act of 1950, Public Law 84-863 approved August 1, 1956", etc. The "National Intelligence Reorganization and Reform Act of 1978" does not specifically exclude the intelligence community from statute and regulation, therefore,

the act presupposes compliance. Given this setting, it seems safe to predict that the director's authority to restrict the scope of audits and system reviews may be circumscribed. Assuming the Comptroller General rules that compliance with legal and external regulatory requirements is mandated by the act, GAO may recommend; a) adherence to accrual accounting procedures for reasons of budgetary and property control; b) implementation of an integrated inventory management and control system to eliminate waste associated with the maintenance of a profusion of computerized systems performing essentially identical tasks and; c) the adoption of a centralized line item reporting and control system to provide better property accountability. Currently a multitude of stand alone data bases must be accessed to determine the asset posture of a given item worldwide.

The "National Intelligence and Reform Act of 1978" does not set forth specific standards or objectives applicable to the comptroller general's audit and review functions. Consequently, the precise impact of the act cannot be anticipated at this time for planning purposes. Certain initiatives might be undertaken for preparatory purposes such as the design and implementation of an integrated inventory management and control system to reduce overheads and enhance system performance capabilities. Endorsement of this option has the advantage of preparing the system for comprehensive review as well as streamlining operations.

3. Systems Integration Standards:

Organizational elements tasked with system review and approval responsibility normally define standards which are linked to the degree of integration

desired in system operations together with system performance requirements. System integration may assume three forms which frequently overlap to some degree; first, the highly centralized system in which system components are automated and controlled centrally; second, the centralized management information system coupled with a decentralized command and control structure and; third, the decentralized system consisting of autonomous components marginally capable of integration. Centralized control systems function best in automated process control operations such as power distribution systems-refineries, etc.

The centralized management information, decentralized command and control system is normally capable of capturing, storing, and producing management information needed by the decentralized command structure. Military systems are of this variety and consist of highly integrated-interactive systems which preserve traditional logistic command structures. Contrastly, the Agency's system consists of numerous stand alone systems which are marginally capable of direct interface and integration. For example, the ICS does interface to some degree with General Accounting System (GAS) but operates independently of other system components such as [redacted] 25X1

System integration standards normally relate to the identification of external and internal systems with which computerized interface is desired together with software compatibility requirements. An external system interface might provide a capability to bridge data exchanges between ICS and MILSTRIP, DIDS, DAAS, and other systems. Contrastly, internal interface might be expressed in terms of computerized bridges between ICS and [redacted] 25X1

CONIF, and other internally programmed systems. The chemistry of integrated systems demands hardware/software compatibility because modularization requires that the output of the relinquishing module be formatted for input to the receiving module.

System integration standards also influence hardware/software system selection. For example, feedback loops are normally designed into highly automated systems in order to reduce routine repetitively performed clerical operations. A feedback loop may consist of a prepunched IBM card containing DCN, stock number, location, and quantity ordered for release by depot personnel. After pulling stores the warehouseman inserts the prepunched card into a card reader and keys the quantity released into the reader. Similarly, keying operations are performed at each discrete control center within the job order stream to provide for system update.

4. Scope and Intent:

The scope of research effort described in this study was limited to a cursory analysis of seven stand alone systems identified in Appendix H; namely, 25X1 [redacted] AWCS and ICS. Stand alone systems serving similar property management and control objectives are normally more costly to maintain and operate than integrated systems and are generally less efficient. These high cost and low performance factors are frequently attributable to several causes; first, input and output information flow streams cannot be efficiently automated in stand alone systems due to incompatibilities in programming language and other factors; second, considerable data redundancy is

essential to the operation and maintenance of stand alone systems because the self-same data element must be replicated in multiple file structures; third, components comprising the stand alone network must be programmed separately thereby augmenting overall development costs and; fourth, stand alone systems compete for scarce computer resources, thereby degrading response times and performance. The intent of this study is to determine whether or not ICS is organized for efficient and economical operation.

5. Characteristics of Inventory Management System:

ICS is a stand alone system because of its isolation from other computerized internal systems. Also, ICS currently lacks the capacity for direct interface with the Defense Integrated Data System (DIDS), the Defense Logistics Services Center (DLSC), the Defense Logistics Agency (DLA) and other external computerized systems which furthers its estrangement. Isolation has also encouraged the design of internal stand alone systems such as

25X1 [redacted] These systems lack the capacity for direct interface with one another and with ICS thereby completing the circle of isolation for the conglomerate of systems involved in inventory management and control applications. Architectually, these systems are roughly comparable in terms of data base content, however, the systems do diverge in the retrieval or report generation mode of operation. This divergence is attributable to the fact that one system may be designed to support property budget and planning

25X1 objectives [redacted] while another system may be designed for financial property accounting control (example - [redacted] 25X1

Data element differentiation does exist within this system framework, however, differentiation appears more definitional than real. For example, 25X1 [redacted] relies on a stock number (SN) as the key descriptor for updating and 25X1 retrieving data from the system. [redacted] relies on the reference identification 25X1 number (REID) and [redacted] relies on the reference number (RENO). Establishment of the stock number as the key descriptor for interchanging data between these systems would provide an initial step in constructing the ladder of standardization. Further illustrating the gulf in these systems are data elements used 25X1 to identify user installations. [redacted] or activity codes maintained in Finance registers. Another may assign an identifier from internal logs. These identifiers are of markedly different configuration than those maintained by Finance. Obviously, standardization of location codes is another requisite to the resolution of the definitional problem as well as the design of an integrated system.

Certain data elements resident in the system network are unique to a given 25X1 application. [redacted] 25X1 [redacted] rates are commingled with management oriented data elements. The design of a separate mini-computer system to handle operationally sensitive information offers one viable alternative to this problem. Similarly, the design of a system providing corridors for the passage and retrieval of data within the same system network offers a second potential alternative; provided, OTS is the only component capable of triggering sensitive data flows.

The seven stand alone systems analyzed in this study were designed to record materiel acquisition, storage, and distribution actions. Secondary objectives such as the capability ~~of~~ to track equipment locations on the basis of serial number, together with historical profiles, were designed into certain of these systems. Essentially, systems designed for property management, tracking, historical, and financial property accounting purposes are dependent on data elements common to most inventory management systems. These systems trap unit price, characteristic data, stock numbers or alternate identifiers, location, date received, etc., which provide a capability for generating output reports for a wide range of property management and accounting purposes. The majority of these systems are organized to generate property distribution reports on the basis of geographical area and projects or activities within geographical area. Reports are also subdivided in accordance with equipment categorization, e.g., receivers, transmitters, audio, and associative reports. Generation of financial property accounting and other reports are easily programmed in this environment and make design of an integrated system a feasible objective.

The present system contains no conduits for the computerized interchange of data. This attribute has virtually isolated one system from another and fostered evolvement of even more sophisticated systems along the periphery of the network. Most elements of this network commenced as low level data processing systems. Complexity was introduced through enhancement and today several of these systems are equal to or surpass ICS in capability and

performance. Moreover, these systems perform many operations currently performed by ICS and are therefore duplicative systems. For example, [redacted] 25X1 records dues-in, dues-out, in-transit, etc., transactions in response to the receipt and processing of supply actions. [redacted] also relies 25X1 on computerized flags to signal reorder point violations. ICS has been moderately enhanced since it went operational. These enhancements did improve ICS efficiency. This inward focus discouraged development of computerized data paths to external systems notwithstanding the fact that data elements residing in ICS are coincident with data elements housed in other systems. Moreover, reports generated by these systems are dependent on similar data elements which removes another obstacle to integration.

6. System Data Flow:

Data entering ICS is trapped in internal file structures even though certain of this data is manually keyed into other systems. Information flows depicted in Appendix H indicate that ICS generates no computered data flows to companion systems. Four of the seven systems account for the majority of ICS initiated transactions processed; [redacted] Maintenance 25X1 of these four systems creates uneconomical clerical burdens because data elements contained on shipping documents are manually keyed into companion systems. Given this network, systems reliability factors are also degraded because computerized data flows are nearly error free whereas keying errors are an essential property of manual operations. Accordingly, duplicative input costs, together with degraded reliability, affect performance levels of this system.

The seven systems were coded separately in several programming languages which cannot help but hamper design of an integrated system. Considerable manpower was expended in the original design and enhancements to each of these systems. The alternative, design of an integrated system would call for a heavy commitment of manpower in initial design because of interface requirements associated with external and internal systems with which ICS interacts. Interdependencies of these systems, in concert with comparable data processing objectives for each of its members, make design of an integrated system an economical option. The integrated system has the potential of eliminating duplicate development costs as well as reducing clerical overheads. Another advantage is that systems now performing low level data processing tasks would be enhanced through the introduction of an integrated system. This is because benefits of standardization and integration are automatically telescoped to all components of the system.

ICS is programmed in "Generalized Information Management" System (GIMS), data base language. [redacted] is programmed in NIPS (National Military Command System - Information Processing System). ICS invokes GIMS software in response to supply actions, queries, report generation requirements, data element change, and associative transactions. Activation of GIMS is costly in terms of both manpower overheads and utilization of the computer resource. After GIMS transaction processing is complete, the system is deactiviated and NIPS software is invoked to update [redacted] files because this system is separately

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maintained. The continual invocation and swapping of separate software packages to drive this complex of systems is not only costly but also grossly inefficient. Another source of inefficiency and excessive cost derives from the fact that file structures are duplicated within the total system network which augments data storage requirements.

Appendix I identifies source documents containing data entering ICS and

25X1 [redacted] systems. The chart tracks data movements between these systems. The front end assembly of the computerized system is the Supply Management Branch, Supply Division. Requisitions are validated for terminal input by SMB personnel for stock releases at this point. The next entry in the mechanized chain is issue verification which is initiated by Depot personnel. Shipping documents are manually prepared with distribution to OTS and consignee. OTS systems personnel extract data from shipping documents and add data elements

25X1 unique to the [redacted] system for update purposes. The final step in this processing chain is consignee acknowledgement that shipment was received. Four incidents of input exist in this structure which involves essentially the same or comparable data elements. Assuming availability of an integrated system OTS files would be updated on the basis of original SMB inputs with unique data elements being entered by OTS. Thus, the integrated system has the potential of reducing clerical overloads while at the same time enhancing organizational efficiency.

The stand alone system network promotes inefficiency and provokes excessive maintenance and operation expense for five reasons; first, the

several systems comprising the network must be separately programmed; second, the manual keying of common inputs for updating each of these sytems increases rather than decreases manpower burdens and computer costs; third, file redundancies are replicated throughout the network which appreciatively increases data storage and computer utilization costs; fourth, yields associated with integration are forfeited in the autonomous system network because enhancement must be implemented separately which consumes manpower and increases computer utilization costs and; fifth, the continued activation and deactiviation of different software systems essential to the maintenance and operation of this complex represents an extremely costly processing alternative. Another cost associated with this autonomous system complex is that the system may saturate with concommitant degradation in response time. This degradation factor, in turn, discourages enhancements because more computer time and memory must be committed which has the potential of further aggravating an already critical situation.

7. System Interfaces Document Generation, and Decision Making Potential of Automated Systems:

Computerized inventory management systems normally improve response times, increase performance capabilities, reduce hard copy documentation, mechanize the flow of information between components of the network, make low level decisions and mechanize repetitively performed tasks. Computerization has modified perceptions of audit trails in the sense that hard copy documentation is no longer required to support transaction data preserved in computer

storage. Given this situation the first objective of computerization is, more often than not, the elimination or reduction of hard copy documentation which exerts a correlative effect on system manpower requirements. Considered in this context four criteria are available to measure the impact of computerization; first, the degree to which documentation has been reduced or eliminated; second, the extent of overhead reductions resulting from diminished filing, mechanization of repetitively performed tasks etc.; third, the improvement of response time resulting from computer query in contrast to manual file search; and fourth, the degree to which low level decision processes have been automated such as the generation of purchase order requests in response to reorder point violations.

ICS must engage in message exchange with highly sophisticated external systems such as MILSTRIP, FEDSTRIP, DIDS, and DLA. These systems contain sentinels such as router indicators and addressee codes for directing and controlling the flow of data within the computerized network. Logistics has not attempted to develop automated interfaces with external systems, therefore, information passing over this network must be manually processed. Message content of transactions passed over this network either reside, or could be programmed to reside, in the ICS data base. Conversely requisition status information generated via MILSTRIP/FEDSTRIP is received in punched card format and is manually processed. Other external systems are also programmed to generate output in machine sensible format. For example, the Cataloging Management Data Notice (CMDN) constitutes a most significant source of Logistics

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[redacted] CMDN data identifies the Depot responsible for stocking materiel, unit price, unit-of-issue, etc., and all changes appropriate thereto. CMDN feedback is received in machine sensible format, reduced to hard copy and, where appropriate, manually keyed for purposes of updating ICS.

ICS was not designed to interface with external systems. The one exception to this statement is DLSC's manufacturers part number to stock number cross reference guide. ODP was able to program this interface quickly because those few data elements were involved. ICS's isolation from other systems, both external and internal, has prevented Logistics from harvesting other benefits associated with computerization. ICS cannot be classified as other than a passive system by any evaluative standard. The system is neither designed to respond to the receipt of messages in machine sensible format from external systems nor is it capable of passing data in machine sensible format to internal systems such as [redacted] etc. ICS responds only to manual keying via predefined menu. This limitation discourages mechanization of repetitively performed tasks and reduction of hard copy documentation. ICS query capabilities are definitely superior to those involving manual search, however, the system is not capable of tracking the status of supply actions from date of entry into system to date of exit. This lack of tracking capability lowers performance thresholds and degrades yield.

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ICS is not capable of affirmative response to the receipt of transaction data. Data keyed into the system does trigger the release of the Depot Issue

Notice. This is the only document associated with the materiel release process which is computer generated. Shipping document and purchase order preparation remains a manual process. Moreover, no effort has been made to harness the computers capability to record, monitor, and schedule the movement of materiel transitting the supply pipeline. For example, predefined routines could be invoked for purposes of scheduling shipments from point of receipt through test and inspection, packing and crating, and transportation. One outgrowth of this capability is that it provides a basis for consolidating materiel release actions in accordance with destination and shipment mode. Advantages associated with this class of system are five fold; first, clerical personnel can be displaced; second, work flows can be scheduled; third, repetitively performed tasks, such as shipping document preparation are automated; fourth, bottlenecks in the supply pipeline can be identified with relative ease; and, fifth, performance standards can be developed for purposes of evaluating efficiency.

8. Quantitive Attributes of System Operations and System Performance Characteristic:

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As of 4 May 1977, the Property In-Use (PIU)* system consisted of [redacted]

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* [redacted] definition departs from the official description of PIU under which Logistics maintains accountability for materiel in the departmental area and designates a responsible officer to maintain property control.

25X1 [redacted] Appendix J shows that the majority of these accounts are capitalized at $500,000 or less. The average capitalization, expressed in terms of the arithmetic mean, amounted to approximately $80,400 whereas the median capitalization for the array was $43,575. Accountable property consigned to these activities is normally divisible into office machines, office furnishings, household furniture appliances, [redacted] Classification of the PIU system in accordance with value distribution factors indicate that eighty two percent of the total number of PIU accounts control only seven percent of the dollar value of materiel maintained in the PIU system. The most salient characteristic of this component of the system is that resources allocated to it are not subject to rapid turnover and are quantitatively relatively static. Materiel replacement and retirement programs are predominately responsible for supply actions initiated by these activities. Computerization of this component of the Agency's inventory management system as a prime design objective is probably not justifiable in terms of anticipated yield.

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[redacted]

materiel residing in the PIU system. These system components differ both structurally and in terms of mission objectives. Resources allocated to small PIU accounts are relatively fixed and used primarily for internal support. Large accounts are primarily responsible for the Logistical support of other projects.

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[redacted]

evidenced in attachments to Appendix K. The remaining thirty one percent consist of activities in which resource allocation is for the direct support of internal operations such as NPIC, ODP and others involving high capital investment. These two components of the system command maintenance of highly sophisticated and responsive inventory management systems, a point especially applicable to activities engaged in supply distribution. Otherwise personnel responsible for materiel management would not be aware of what materiel was available for issue at what location.

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means. Combining the sixteen percent capitalization factor applicable to fixed plant with the forty eight capitalization in mobile resources reveals that sixty five percent of the total dollar value of assets maintained in the PIU system are managed via computer means. Analysis of the PIU system confirms that most significant components have already been computerized the essentiality of which is not open to challenge. Given this situation, the area offering the most potential for advancement is that of designing an integrated, unified, and economical inventory management system tailored to meet multiple user requirements.

ICS processed approximately 6450 transactions monthly in FY77. Transaction clusters included in this count are identified in Appendix L, page 1 and Appendix M. Figures set forth in these two appendices confirm a significant reduction in workload between June 75 and Oct 77. Transactions initiated in external system elements were roughly comparable to those of ICS in FY77. Transaction counts applicable to external systems contained biases not easily identified for removal. These biases were compensated for by scaling down external system transaction counts to arrive at more realistic comparability factors. For example, [redacted] processed 700 transactions weekly which was reduced to 500 in order to reduce bias. Another bias contained in PIU transaction counts is that receipt of property must be acknowledged in certain PIU systems which results in two inputs per transaction. No effort was made to eliminate this bias. Transaction counts for five external systems were included in the study, namely, [redacted] Transactions for these systems averaged 6370 monthly contrasted with 6450 for ICS. These figures demonstrate that input burdens are nearly evenly divided between external and internal systems.

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Comparative dollar value figures for the PIU system and ICS were formulated on the basis of total system and select system segments. As of 30 December 1977, the dollar value of property positioned [redacted] having a book value of [redacted]

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[redacted]

ICS data processing burdens equate generally to those of four major external PIU systems tasked with resource management responsibilities. The accuracy of this proposition can be validated within the context of three standards; first, counts of transactions initated and processed; second, comparison of values associated with resources maintained in ICS and the four external PIU systems, and; third, the number of line items maintained in each of the several systems 25X1

[redacted]

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[redacted] The actual ICS inventory count total of 13257 line items, degraded by a estimated factor of one third to eliminate expendable supplies and materiel for which there is no demand, leaves an active non-expendable inventory count estimated at 8832 line items. Contrasting these two figures, it is evident that the four principle PIU accounts of the system are responsible for the maintenance of more line items than ICS. No effort was made to eliminate duplications in PIU accounts. 25X1 [redacted]

[redacted]

Costs associated with the operation of external systems were not available for analysis. Projected ICS operating costs are compiled periodically by ODP and accounted to $815,000 in FY78 which includes manpower development costs, (see appendix P). Computerization of companion systems entailed initial development and implementation expense as well as operational costs. Neither initial development nor system maintenance cost for external systems were available for purposes of documenting these factors in this study. ODP does, however, compile estimated maintenance cost data for each component involved. Data processing costs directly attributable to the operation of the external system complex are probably less than those associated with ICS. This estimate is based on the fact that updates are batched in external systems whereas updates are processed on-line in ICS. Generally speaking, the batch mode is more economical and efficient than the on-line mode. Moreover, external systems rely

on different software packages presumably with different levels of efficiency to drive their system.

The absence of external system cost data together with other factors forbid development of meaningful comparative cost relationships. Notwithstanding these limitations several general conclusions regarding cost and efficiency can be stated; first, initial development and implementation costs are incurred for each computerized component of the system which increases overall development cost; second, components of the system generate similar input/output streams via manual means which increases clerical overhead and promotes inefficiency in hardware and software utilization; third, maintenance of autonomous systems generate file redundancy in the network which is costly and degrading in terms of performance and response times, and; fourth, enhancements in one system cannot be telescoped to other systems without expensive redesign. Contrastly, integrated system enhancements are automatically communicated to all system elements at minimal expense.

The capabilities of any system, whether hardware or software, are finite. Assuming boundaries of these systems are violated, additional computer resources must be appended or the system must be redesigned in order to better use the computer resource. Data base management systems undergoing frequent enhancement ultimately become potmarked with hastily devised routines required in file maintenance operations. As saturation points are approached minor enhancements; a) require excessive applications of manpower and commitments of time; b) create a need for additional storage; c) degrade response times and; d) quickly transform the system into the marginally efficient category. Seemingly, enhancements to ICS

are already becoming more difficult to implement and may force the system into a static state. Certain computerized PIU systems surpass the capabilities of ICS. Whether or not ICS has the potential for enhancement to match these capabilities was not a subject for affirmation or denial in this paper.

ICS probably cannot be enhanced to the extent necessary to meet assocative data processing requirements of procurement and depot operations. Accordingly, the path of the future must be in one of four directions; first, redesigning GIMS in such a manner that interactive data base structures can be maintained; second, displacing GIMS as the propelling software system; third, development of a distributive network system in which mini-computers are programmed to perform highly specialized tasks so as to free the prime computer system for higher order tasking or; fourth, combining certain of these approaches in future design. The concept of distributive networks is easily described. Mini-computers are programmed to serve as both terminals and local processors. Data processing operations in this environment are highly structured which involves finite tasking for both the prime computer system (PCS) and the terminal processor (T/P). For example, PCS's are frequently programmed to transmit supply actions for release of stores to the T/P. The T/P is programmed to generate depot release orders and to record feedback confirming completion of the stores retrieval operation. Next the T/P prepares a summary of materiel scheduled for shipment in accordance with both consignee and shipment mode and triggers the release of shipping documents without human intervention. Distributive network systems are designed to free PCS's from time consuming tasking thereby

enhancing response capabilities of the system.

Appendix Q identifies components of the organizational inventory management and control system, both current and planned. This appendix confirms that future planning simply perpetrates the current concept of designing systems capable of meeting requirements specified by the component involved. Traveling this pathway rendors computerized linkage between similar or comparable systems a difficult objective to obtain. This has encouraged development of self contained systems because ICS lacked the capability of meeting total system requirements. This outcome can be verified on the basis of comparative workload factors covering a three year interval. For example, ICS processed 9834 monthly transactions in FY75 (Appendix L), 6402 monthly in FY76 (Appendix R) and 6450 monthly in FY 77 (Appendix M). Part of this drop is attributable to declining workloads. While external components were unable to provide reliable workload factors for the three year time interval it was generally conceded that growing numbers of transactions were processed. This assessment adds credence to the proposition that the organization may be moving in the direction of a decentralized support system because of ICS limitations. The trend toward decentralization can only be reversed through development of an intergrated system capable of meeting system data processing requirements.

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Declining rates of issue [redacted] are believed attributable to three factors; first, shrinkage of global support requirements; second, Office of Communication's increasing reliance of direct procurement for printed circuit boards, modules, and subassemblies processed as Repair and Return Materiel (RRM)

in the supply system; and third, the growth of self contained systems which has encouraged development of a microcosm of inventory management and control systems. Direct procurement of this RRM circumvents the need for maintaining formal accountable records because acquisition costs are expensed at time of receipt and issues need not be formally documented. RRM, in-turn, displaces numerous individual components such as diodes, transistors, vacuum tubes, capacitors, etc, comprising the circuitry of older generation equipment. Naturally the shift to RRM precipitated a decline in the number of line items maintained in the system for the support of staff communications equipment. The most recent OC audit report noted that accountability was not maintained for non-expandable RRM and recommended that OC "comply with prescribed accounting procedures for non-expendable property or obtain the approval of Director of Logistics for the current deviations from the regulations". (Appendix S, page 4)

Prior to the advent of printed circuit board and modularization technology, equipment update programs, or the introduction of advanced equipment, exerted upward pressure on the number and quantity of operational spares maintained in the system. Previously, the Item Identification Section, SD, metered the number of new items introducted into the supply system. Counts associated therewith provided a reasonably accurate barometer for monitoring the impact of equipment replacement or update programs on the system. Compilation of this statistic was suspended in the recent past, therefore, the impact of equipment programs on the supply system cannot be accurately measured. Personnel assigned to the Item Identification Section advise that the number of new items maintained in the system as operational spares has been reduced from a constant flow to a dribble. Accordingly, it is

reasonable to project ever declining workloads in the Supply Division unless action is taken to enforce centralized control over property acquisitions and distribution programs.

The most recent OL audit report recognized the impact development of self contained systems and enhancements thereto have on efficiency and system development and maintenance costs. These observations were made manifest in Appendix T, paragraph 7, page 4, wherein it is explicitly stated that "the duplication of effort required to develop individual automated property systems is uneconomical and inefficient" and, further, that "the development of automated accounting systems should be centralized in the Office of Logistics". The posture of the audit staff regarding responsibility for management of the Agency logistic resource is that "Agency regulations assign responsibility for contol of property to the Office of Logistics" (Appendix T, page 3, paragraph 5). Implicit in this delegation is the responsibility for designing the most efficient, economical, and responsive system tailored for total system applications. The report implies that the integrated system route is the most favored for reasons of efficiency and cost.

9. ADP System Planning for Future - Capabilities and Limitations:

Current planning seemingly encourages design of stand alone systems. Several systems scheduled for activation, or in the process of review, are identified in Appendix Q, the description of which confirms this proposition. The Federal Automated Requisitioning System (FARS) represents one such system. ODP has defined specifications for this system which provides an interface with elements of DOD systems. FARS's primary data processing objectives are;

a) to relay requisitions via electronics means, to appropriate DOD or GSA

Inventory Control Points for supply action; b) to update both ICS and FARS files on the basis of feedback relayed via AUTODIN, and; c) to generate formatted copies of receiving reports for Receiving Section, [redacted] and others. Activation of FARS involves preparation of outgoing messages in accordance with requirements specified in the Defense Automated Addressing System (DAAS). This facet of the program represents low level tasking. Feedback from Inventory Control Points is in machine sensible format and consists of status information such as date materiel is due-in, price changes, substitutions, cancellations, etc. Initially, FARS will not provide the capability for instantaneous ICS file update, because processing methodologies for cross referencing WASH stock numbers to federal stock number for directs as well as the problem of substitutions has yet to be resolved.

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The FARS feasibility study recommended acquisition of a mini-computer for automating that application. Conceptually, FARS involves the maintenance of two data base systems; namely ICS and FARS. The study is silent with respect to file maintenance methodologies, however, it appears evident that the same data elements are maintained in both systems. Tuning this network requires that both systems be updated in response to the receipt of status information such as acquisition price differences, unit-of-issue change, substitutions, and other system updates such as cancellations, order quantity changes initiated by requisitioners, etc. As near as can be determined, the FARS's development plan commands concurrent update to two independent data base systems in order to maintain synchronization. Assuming that system objectives have been properly described and that processing

methodologies have been accurately defined, installation of the mini-computer will increase rather than decrease system processing burdens because of the dual input doctrine. One anticipated benefit associated with the maintenance of duplicate systems is that response capabilities will be enhanced because FARS will be accessed for routine queries which relieves GIMS of that burden.

Mini-computers are routinely programmed to execute data processing routines where large scale data transformation is involved. Consolidation of line items in accordance with consignee and shipment mode for automated generation of shipping documents illustrates data transformation. Similar processing methodologies apply to automation of the packing and crating module. Line items consolidated on the basis of consignee and other criteria in order to schedule multiple line item packaging box empty data transformation in this application. Data transformation is alien to FARS because updates simply replace one value with another. The FARS feasibility study explicitly defines a requirement for the preservation of historical data which commands concurrent update of FARS and ICS. Apparently, FARS is not being designed to decrease ICS main frame tasking. This being the case, benefits accruing from FARS may have been matched or even surpassed through ICS redesign.

Interdepartmental Support Branch's off-line text processing equipment is programmed to generate the Form 2216, and the IBM punched card needed for the initiation of data transfers over the AUTODIN system. Data transposed to these documents are retrieved from; a) the ICS data base; b) data elements identified on the incoming requisition or amendments thereto and; c) microfiche files maintained in Supply Management Branch. ICS redesign has the potential of automating the preparation of the Form 2216 and formating messages transmitted

over the AUTODIN system because data elements contained therein either reside, or could be programmed to reside, in ICS files. The possibility of upgrading ICS to perform this very essential reproduction task offers an alternative to the installation of a mini-computer system. While assignment of the forms production task to the mini-computer has the potential of freeing the prime computer system for alternate use the savings may not offset cost associated with the maintenance of two systems.

Office of Communications relies increasingly on the acquisition of organic spares for the maintenance of staff communications equipment. Printed circuit boards and other modularized components of the system are frequently unique to that equipment which is not marketed commercially. Uniqueness poses provisioning problems with respect to maintenance of operational spares because production necessitates retooling for each order received. The economics of this situation may favor the purchase of sufficient operational spares to maintain equipments over their estimated life expectancy. Recent trends affirm that organic spares are in fact being purchased on the basis of equipment mortality rates. Extrapolating this trend into the future, it seems reasonable to predict increasing reliance on one time purchase of operational spares. This attribute of system operations has shifted processing priorities from these associated with stockage of spares to that of maintaining a quick response posture because stockage of organic spares is presupposed.

Office of Communications solicited ODP assistance in the development of a Repair and Return Materiel System (REMS). This program has already been

debugged and will become operational after peripherals are installed at

25X1 [redacted] The system was designed to control approximately 15000 line items with an estimated transaction frequency of 2000 per month. OC envisions purchase of organic spares from direct materiel procurement allotments. This acquisition means circumvents the necessity of maintaining formal accountability in the OL Logistics System. The most recent audit report, however, took exception to the storage of high dollar value property without maintenance of accountability. This report stated that "there are about 5000 property line items at the Central Repair Facility (CRF) which are defined by regulation as non-expendable, but are administered as expendable property". OC's planned computerization of REMS is believed to be in response to exceptions defined in the Audit Report. Apparently, OC intends to purchase ever increasing quantities of repair and return property from direct procurement funds which has the effect of skirting OL's formal accounting system.

REMS is the first application in which a directorate, other than Logistics, assumed responsibility for materiel required in support of non-sensitive operations. Precedents for delegating responsibility for resource management to external components are available for reference, however, these examples have normally been associated with operational projects or programs affecting national security interests. Such projects may be endowed with internal support mechanisms to avoid external referrals. Property procurements incident to the maintenance of REMS are financed from CIA appropriated funds, therefore, do not qualify for exemption from normal operating procedures. OL has traditionally

been tasked to manage and maintain accountability for these resources. Implementation of REMS will sever OC's umbilical chord with OL for an important segment of materiel maintained in the supply system. The impact of separation may be catapulted into other components of the system. For example, OC cannot warehouse organic spares without a storage capability. Considerable pressure may be exerted on OL in the future to meet these space requirements. Moreover, personnel, peripherals, and secure work area requirements inevitably lead to separation which constitutes duplication. Perhaps the most serious disadvantage associated with maintenance of autonomous supply management systems is that they disenfranchise incentives for maintaining a common support capability. The cost of maintaining separate yet comparable systems is also prohibitive.

Systems Analysis Branch, OL, examined the feasibility of computerizing certain routines in the Procurement Division. This study concluded that computerization was economically feasible. Further it was recommended that the procurement subsystem be interfaced with CONIF and ICS in order to fuel that subsystem with information resident in other systems. Procurement Division declined acceptance of the integrated systems approach. Apparently, rejection was based on the proposition that the approach was not responsive to requirements. Specifications were then defined to guide formulation of a follow-up study. Essentially these requirements reduced to those associated with a mechanized forms management system having memory modules capable of capturing and reproducing history of procurement buys. Subsystem specifications for procurement are being defined without reference to data processing requirements

of associative systems which eliminates the need for interface. Ramifications of this approach will be an additional flowering of disjointed systems.

Logically, procurement subsystem requirements can not be framed without reference to data processing requirements of the larger universe. The present system is only marginally capable of tracking supply actions as they pass through that system largely because of the autonomous configuration of systems comprising the network. Supply Management Branch identifies control points assigned pending purchase actions (IDSB, Gen Proc. [redacted] Contracts, etc.) and 25X1 fingerprints that assignment in the ICS data base. This entry constitutes one of a chain of entries essential to the maintenance of a system tracking module. Next, Data Access Center personnel enter due-in dates in ICS suspense files on the basis of dates annotated on purchase orders prepared by Procurement Division. This combination of entries in ICS provides a limited tracking capability, however, time gaps inherent in this system preclude automated response to requests for status information. For example, SMB may have processed a requirement to Procurement for purchase action and updated ICS so as to record referral. Time lapses between the date referrals are made to Procurement and the date completed purchase orders are received at DAC may be considerable. Time lapses, together with the fact that the system is dependent on the transmittal of manually prepared documentation rather than computerized transmissions, normally requires that both manual and computer files be accessed in order to ensure integrity of response to requests for status information.

The integrated system provides a capability for bridging time gaps built in manual systems. This bridging process facilitates response to requests for

status information and provides the basis for the development of a procurement management system. The integrated system provides a vehicle for; a) flagging delinquent procurement actions; b) generating formated follow-up letters to suppliers in response to time frame suspense violations governing delinquent actions; c) generating multiple line item purchase instruments based on sorts by vendor, etc; d) identifying the Procurement Officer assigned responsibility for purchase order execution; e) modifying item descriptions, stock numbers, manufacturers part numbers, unit-of-procurement, price, order quantity, due-in dates, and other data maintained in the system in response to feedback from vendors, requisitioners and Supply Division personnel; f) measuring workloads handled at select procurement control points of the system; g) tracking the movement of procurement actions within the system so as to provide automated responses to requests for status information, and; h) such other management objectives as may be designed into the system. Normally, requests for materiel stocked in the system are not bottlenecked because response times are relatively short for stock releases. For this reason procurement lead time represents the volatile element in the process the control of which holds promise for yield.

Integrated process control systems require that data be sequentially keyed into the computerized system. Illustrative of the sequential chaining of data elements is the procurement module which is capable of; a) acknowledging and time dating receipt of requirements for purchase action; b) identifying the Procurement Officer responsible for purchase order execution, together with the date assignment was made; c) recording vendor selection and the date materiel is due-in at destination; d) consolidating multiple line items on a single

purchase order; e) cross referencing Document Control Number to Procurement Instrument-Number for tracking and retrieval purposes; f) modifying data elements resident in the system in response to substitutions, price variances, and other changes occurring subsequent to initial entry; g) time stamping date materiel was actually received which provides a criteria for vendor performance evaluation and; h) accepting and time stamping receipt of partials and split orders for identical items between two or more vendors. Efficiency of procurement module operation is related to the kind of feedback mechanisms available for update and the degree to which the computer can track, sort, consolidate, and flag delinquencies for the attention of management personnel.

Certain data elements resident to CONIF are also maintained in ICS. Examples of dual residency are; a) order quantity; b) acquisition price; c) item characteristic data; d) stock number; e) manufacturers part number; f) date due-in; g) etc. Frequently, this date is modified in the negotiation or production process which prompts secondary update. Formal extension of a due-in date illustrates a secondary input requiring concurrent update of both the CONIF and ICS because data elements are resident in both systems. Implementation of an independent procurement subsystem may require that certain initial transactions, together with associative secondary updates, be manually keyed into three systems; namely, ICS, CONIF, and the autonomous procurement subsystem. Synchronization in this sytem network requires concurrent inputs which represents an objective beyond the realm of realization. Because of this limitation the impact of designing an independent procurement system will; a) multiply clerical burdens required in system maintenance; b) result in an additional proliferation of

data base structures; c) further degrade reliability factors because of high error rates and lack of synchronization; d) require the installation and maintenance of duplicative hardware/software, and; e) degrade system response times. Computer tasking requirements of the Procurement Division may well justify the installation of a mini-computer to consolidate line items in accordance with vendor and to generate purchase orders for transmittal to vendors, provided, the design of the mini-computer is an adjunct of the integrated system.

ODP recently implemented the Agency Automated Weapons Control System (AWCS). Computerization of this application involved manual interfacing between ICS and AWCS. Seemingly, updates recording the issuance of firearms will be processed against both ICS and AWCS files with serial numbers being added to the AWCS entry. Permanent separation of these systems is ensured unless both ICS and AWCS are redesigned because AWCS is coded in NIPS and ICS in GIMS. Accordingly, AWCS's design objective was not perceived to be that of an integrated system but rather that of a small independent system. This notwithstanding the fact that integration has the potential of eliminating dual inputs, improving system response time, enhancing reliability of system operations, and avoiding computerized maintenance of nearly identical segments of the total system. OL requested that Systems Analysis Branch, OL, automate the Vehicle Information Manangement and Control System. It seems reasonable to predict that this application, like its predecessors, will also be programmed as an independent system. This outcome will further augment the population of autonomous sytems maintained in the inventory management network.

Inventory management responsibilities cannot be efficiently executed in a totally decentralized environment because elements of the stand alone system network perform essentially the same tasks. Decentralization involves duplicative; a) clerical and management skills; b) hardware/software systems and; c) capabilities to initiate and control message flows throughout the network. The totally decentralized system is fraught with yet another danger; namely that the decision to integrate may necessitate design of an entirely new system because existing resources such as hardware/software cannot be efficiently and economically organized for integration.

10. Properties and Performance Capabilities of Integrated Systems:

The proliferation of systems involved in inventory management and associative applications are neither organized to track supply actions nor to monitor performance of the system via time frame suspense routines. Tracking modules are normally designed to record and monitor the movement of supply actions through predetermined points of the network. These control points may span several functional jurisdictions such as inventory management, procurement, depot operations and finance. For example, Supply Management Branch generates suspense ICS updates for non-stock materiel release actions prior to passing command and control to procurement. Procurement in turn, passes that same action through several discrete control points in that system prior to passing command

25X1 and control to DAC, [redacted] and alternate receiving locations. Tracking modules monitor the movement of supply actions between nodes

of the system whereas the time frame suspense module predicts time intervals supply actions are expected to remain at select nodes or control points in the network. Stated another way, time frame suspense modules are designed to record arrival and departure times at control points and to estimate time lapses at each on the basis of past performance, current workload requirements, and resource availability.

Systems designed for tracking and time frame suspense normally qualify as sophisticated inventory management information and control systems. These two modules combine to provide a systems capability to; a) respond to requests for status information with little or no human intervention; b) establish performance standards governing system operations together with the measurement of deviations therefrom; c) identify actual or potential bottlenecks in the processing chain; d) eliminate document processing and, where appropriate, filing requirements at control points in the network and; e) extrapolate trends so as to maintain balance between projected workloads and resources required to sustain that level of effort. Tracking and time frame suspense modules cannot be efficiently annexed to autonomous systems because of discontinuous data flows. The stand alone system normally requires manual entry of data in order to activate the system; hence continuous and logic data flows are interrupted if output of one system is passed to a companion system for manual update. This attribute renders the stand alone system network marginally capable of; a) computerizing repetitively performed

tasks; b) monitoring performance characteristics of the system; c) monitoring and recording the movement of supply actions in the system; d) preparing advisories for management review in response to slippages in time frame suspense; e) conserving manpower and; f) quick and reliable response.

Integrated systems are capable of generating whatever hardcopy documentation is required via the prime computer, or alternately, a mini-computer system. ICS is programmed to generate the Depot Issue Notice in response to receipt of transaction data. Other forms required in the materiel acquisition, storage, and distribution system are prepared manually. Computerization of ICS has reduced neither the number nor frequency of doucments circulating in the system. The [redacted] was not designed to displace 25X1 a form but rather supplements data contained in the original requisition (Form 88) without actually displacing that form. Performance appraisals of ICS lead to the conclusion that this system has not succeeded in reducing manhours invested in document preparation and distribution and has automated no known process associated with the management of the logistics resource.

ICS's decision making capabilities are nonexistent. For example, lead times together with acquisition cost analysis frequently determine procurement source for low value repetitively consumed supplies. Computers can be routinely programmed to preserve procurement lead times associated with the delivery of identical items from two or more vendors. Similarly, these systems normally capture and preserve acquisition costs for identical items available from two or more suppliers. Given the availablility of this

information, the computer can be programmed to select the most advantageous procurement source given the time element necessities and sterility of the requirement. High dollar value materiel is normally excluded from automated decision processes in order to reduce the probability of costly replenishment and programming error. Economic order quantities for materiel subject to repetitive demand can be determined on the basis of average turnover and other factors arrived at via the computer resource.

ICS design does not; a) harness the decision making potential of the computer resource; b) provide for automated generation of documentation; c) transmit data between control points in the system on the basis of predefined decision rules and; d) interface with external systems so as to eliminate duplication. ICS, therefore, must be classified as a bookkeeping system which, from the standpoint of the total system, consumes rather than releases manpower for alternate applications and offers few managerial yields.

Computerized inventory management systems are capable of flagging repetitive demand. Several methods or combination of methods can be specified for the attainment of this objective; first, entry of part number, model number, or manufacturer is treated as mandatory to provide a capability for sorting and merging requirements for materiel not managed in the system; second, requisitioners are held responsible for determining whether or not materiel is subject to repetitive demand and to code the ordering instrument accordingly and; third, components of the resource management system are tasked with the responsibility for

identifying materiel to be stocked in the system either on the basis of requirement forecasts or actual consumption patterns extrapolated into the future. Generally the third alternative has been applied internally because reasonably accurate requirement forecasts are compiled for equipment and associative spares. This system removes the initiative for introducing new items into the supply system from Supply Division, and except for specific categories of materiel, vests that responsibility in cognizant offices.

Cognizant offices are in a position to influence the structure and content of inventory. Still, the position of the cognizant office is one step removed from actual requisitioners. Separation may represent an obstacle to efficient resource management because certain requisitioners consume resources outside the control of the cognizant offices of which they are a part. Given this setting, requirement forecasts may be formulated for; a) major equipment or operational spares incident to the maintenance of that equipment, and; b) strategic reserves maintained in a ready-for-issue condition to meet contingency situations. These forecasts may exclude collateral requirements for furniture, appliances, maintenance supplies, vehicular spares, hand tools, etc. Requirements for these items occur randomly throughout the system yet the present system is not organized to flag repetitive demand to ensure pursuance of a rational stockage scheme. Another shortcoming is that requirements for materiel not maintained in the system may be assigned WASH numbers. This assignment precludes execution of sort and merge routines capable of identifying materiel subject to repetitive demand. Capture of

manufacturers part or model number for subsequent sort and merge represents the most practical and economic means for flagging repetitive demand.

Comparision of obligations/expenditures against Materiel and Direct Procurement Allotments over time offers a reliable index for gauging the degree to which the system is capable of supplying demand from inventory as opposed to purchase. Analysis of these two quantums definitely confirms that the percentage of demands supplied via direct procurement exhibits a steady increase. Expressed in dollar value terms direct procurement accounted for 57% of total purchases in FY76, 69% in Transitional Quarter, 77% in FY77, and 84% so far in FY78. Assuming present trends continue, approximately 85% of organizational requirements for materiel in terms of dollar value will be met through direct procurement in FY78. The design of a system capable of flagging repetitive demand has the potential of reversing this trend by closing some gap between direct procurement and replenishment.

Minor applications computerized in ICS design are; a) [redacted] 25X1 locator system and; b) the generation of status reports to facilitate physical inventories. According to [redacted] personnel the manual 25X1 locator system continues to be maintained in tandem with the automated system. The rationale underlying the maintenance of parallel-duplicative systems is apparently attributable to low confidence factors in the automated system. Displacement of one of these systems has the potential of reducing overheads. Analysis of the automated system designed to facilitate the conduct of physical inventories was not subjected to in-depth study.

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[redacted] personnel have advised, however, that they periodically request inventory balances of all items within a Federal Commodity Class. Items selected for count are then manually selected from the composite listing so as to flag any deviations between actual and recorded balances. The computerized approach has the advantage of displacing the cumbersome system relied on at present and has the potential of; a) systematizing the physical inventory function; b) eliminating bias in the selection of items to be inventored, and; c) ensuring that a representative cross section is covered in each count cycle. For example, algorithms allowing random selection of ten percent of items maintained in a given Federal Commodity Class might be considered representative whereas a five percent random might be applied to another Federal Commodity Class.

11. Cataloging Interface:

Item Identification Section relies on four primary sources of information in cataloging operations; first, maintenance and status information received from DLSC in magnetic tape format; second, microfiche received periodically from DLSC identifying materiel maintained in the federal system; third, item characteristic and correlative management data contained on Cataloging Action Requests processed by Supply Management Branch; and fourth, screening actions processed against the DLSC data base to determine if the item is a constituent of the federal supply system. Approximately fifty percent of the total number of managed items in ICS are identified by federal

stock number, therefore, the federal supply system constitutes a prime procurement source for materiel managed in the Agency system. This dependency pattern makes a partial or total computerized interface between ICS and DLSC a meaningful design goal.

Information maintained in DLSC is segmented for storage and retrieval purposes. Segment A identifies an item maintained in the federal system by; a) stock number; b) item name code; c) FIIG number; d) criticality code, and; e) related data elements. Segment C of the DLSC data string contains manufacturers part number to stock number cross reference data. Decision rules and logic operations governing maintenance of the DLSC system are extremely complex. This complexity in turn makes development of an automated interface between DLSC and ICS a formidable design goal. DLSC transmits all data residing in a given segment in response to item updates. This transmission mode requires that recipient systems have the capacity to determine which data element or elements residing on DLSC data string have been changed prior to internal system update. System update could be accomplished by overlaying ICS data elements with those contained in the segment. Continuity of system operations also requires that changes be preserved for reference purposes to ensure that they can be tracked and explained. ODP designed a program to present data elements contained in these segments in hard copy. Cataloging personnel manually compare hard copy entries with data elements residing in the data base and generate such menu updates as may be required. The only

computerized interface in the system is that contained in segment C which is, manufacturers' part number to stock number cross reference. This component of the system is automated.

DLSC and ICS contain several incongruities in design. For example, item descriptions may be housed in a field displacing in excess of one thousand characters under DLSC. Contrastly, ICS has allotted a maximum field of three hundred characters to retain descriptive data. Given this discrepancy in field length implementation of an automated interface would require that the GIMS record length be lifted or expanded, because a large percentage of items maintained in DLSC exceed this limitation. Another incompatibility between these systems is that of decimal point (unit price) management. DLSC's decimal system is maintained in cents whereas GIMS currently allocates three positions to the right-of the decimal which is mills. Accordingly, a computerized interface would demand invocation of a routine to add a non-significant zero to DLCS's incoming unit price prior to updating GIMS. Alternatively truncation of the right most digit in the price field in GIMS would accomplish the same objective. Further aggravating compatibility factors is the fact that DLSC drops cents for line items having a unit price in excess of, say, $10 million. Materiel now maintained in the Agency system does not penetrate this barrier and is not expected to do so in the future, therefore, the example is illustative only.

System incompatabilities, other than those described in preceding paragraphs, exist between DLSC and ICS. Reconciliation of these divergencies for computerized interface might prove prohibitive in terms of initial design and system maintenance cost. Moreover, a large percentage of DLSC maintenance actions require cognizant office approval prior to acceptance and ICS update. These delays in the decision process would require that DLSC transaction updates be held in obeyance pending acceptance. Profiles of these interrupts can best be illustrated by example. The stock number and description of an accepted replacement item must be recorded in suspense in response to DLA notification as well as the effective date of the change. Updates of this type may require referral to cognizant offfices for acceptance or rejection which requires maintenance of a suspense file for monitoring purposes. Moreover, in order to adhere to DLSC's effective date doctrine, the internal system would have to rely on simple time frame suspense routines for maintenance purposes.

Basically, GIMS and DLSC are incompatible systems. The design of conversion programs capable of computerizing this interface would be complex and costly to develop. Given these restrictions interfacing represents a long range design goal. The design of ICS, however, should be such that interface requirements can be meshed sometime in the future without dramatic redesign. Interface problems explained herein are illustrative only and are not intended to imply that these specific

computerized interfaces between DLSC and ICS are either planned or desirable.

12. Finance and Associative Interfaces:

Interfaces between ICS and the Office of Finances General Accounting System (GAS) are computerized but do not qualify as automated interfaces. For this reason the logistics and finance subsystems are more analogous to stand alone than integrated systems. ICS is programmed to generate file entries in response to supply actions affecting PRA accounts. Periodically GAS extracts data from ICS files, reformats that data and batch updates that system for subsequent entry into the Financial Resource System. Time wise these systems are not synchronous because ICS updates on-line whereas GAS is subject to batch update. Both systems generate PRA status reports, ICS the PRA Tracking (PRAT) and Finance the Status of Operating PRA (SOPRA) report. The fact that PRAT and SOPRA report generators involve access to two separate data bases (ICS/GAS) makes reconciliation of these reports difficult. Another obstacle to reconciliation is limitations in ICS design. Comparison of balances maintained in the two systems confirm the proposition that output discrepancies are legion. For example, a $5,562.778 unresolved difference existed in FY76, a $131,563 difference in TQ, a $1,174,972 in FY77, and a $25,763 difference to date in FY78.

Differences in PRAT and SOPRA reports are attributable to two primary factors; first, the financial system relies on cents for PRA computation purposes whereas ICS relies on mills, and; second, information extracted from ICS files and copied on GAS files includes reimbursable

PRA transactions whereas reimbursable PRA transactions are excluded from SOPRA reports. Manual adjustments to SOPRA and PRA reports are capable of resolving some differences in these reports, however, unresolvable gaps remain. These gaps prompted implementation of a manual PRA tracking system to ensure operational integrity of the accounting system. The output of the manual system yielded yet another balance which diverged from those of SOPRA and PRATS. This system has since been deactivated but gaps the system was designed to bridge persist. Another potential souce of error is attributable to the configuration of data flows between ICS and GAS. ICS is programmed to pass data to GAS, however, the system cannot reverse this data flow pattern. This constraint allows Finance to update its data base without concurrent ICS update. Finance updates consist mainly of Project Number changes. Logistics is not notified of changes involving the last four numbers of the PN but is advised of those affecting the third and forth digits of the PN. Accordingly, the system rendors reconciliation of [redacted] project level a questionable enterprise. 25X1

ICS is not programmed to accept and evaluate transactions for the purpose of selecting routines for systems update. Management personnel intervene in this process because menu's must be selected prior to processing supply actions. Accordingly, system maintenance relies heavily on judgemental factors which increase in complexity for certain transaction categories. Procedures associated with stock number and unit price change illustrate this complexity. For example, Item Identification Section can execute a stock

number change simply by calling forth the appropriate menu and processing the update. Price changes may be associated with stock number change which requires that command and control responsibility be transferred to SMB where a separate menu is invoked for update purposes. Processing is further complicated by the fact that the stock number change menu is incapable of reaching into suspense files in which dues-in and dues-out are layered. This constraint requires execution of a query to determine whether or not a suspense exists for the item involved. If so, another menu must be called in order to update the suspense.

ICS dependency on human interfaces for file update and maintenance favors high error rates, low reliability, and degradation of system response times. Error corrections represent a time consuming and complex process which have been reduced to the extent possible through; a) manual validation of updates processed in response to certain classes of supply action and; b) diffusion of update responsibilities within the system. Simple errors such as those associated with the keying of an erroneous price at time of receipt frequently command the invocation of eight separate menus for correction. Updates of this kind normally span several files as well as multiple data elements within files for which no computerized linkage exists. Error rates are certain to increase exponentially in this type environment. SMB has pre-empted [ ] from keying the 25X4 receipt of stock replenishment materiel in order to reduce the incidence of process-
25X1 ing error. [ ] has, however, retained responsibility for updates associated with directs. Accordingly, updates confirming receipt of materiel are

processed by two widely separated components. This spatial separation complicates transaction processing and degrades response time because multiple components of the system may have to be accessed for status information.

Another property of system operations is that associated with manual validation of transaction data. DCB/DMS ~~DMS~~ personnel manually validate all supply actions reflecting a cost of $10,000 or more in order to flag and correct errors. Data Management Section workload statistics indicate that approximately three and one-half man years of effort is expended annually in data validation and verification operations, error correction, manual reconciliation of PRATS and SOPRA reports, and evaluating the impact of enhancements on reliability factors. This manpower expenditure pattern demonstrates that ICS is a marginally reliable system which entails a substantial manpower commitment to maintain. The degree of data integrity needed for the financial interface has proven particularly burdensome. Processing procedures described in this and preceding paragraphs were designed to ensure that data lifted from ICS for entry in GAS is reasonably accurate. Notwithstanding efforts to enhance data integrity via manual means, gaps in these systems persist and will continue to do so unless an effort is made to design an integrated system.

Another obstacle to implementation of an integrated system is the lack of a unified numbering system needed to identify and track transactions through the supply system. Requisitioners are responsible for assigning a document control number (DCN) to requirements forwarded to logistics. This number identifies that action in all intermediate processing states except those actions passed to procurement division. Initially SMB assigns a Logistics

Control Number (LCN) to transactions passed to procurement. Subsequently the procurement entity assigned responsibility for executing the purchase instrument modifies the LCN. At this point the modified LCN is redesignated as the Purchase Instrument Number (PIN) for purposed of updating ICS. Frequently, the LCN is not used to identify the actual purchase instrument but rather represents an intermediate number which stands midway between the DCN and the number finally assigned the purchase action. For example, requisitions passed to the CONIF system for appropriate action pick up a unique identifying number which may differ from both the DCN and PIN. Similarly, requirements passed to IDSB are assigned a fourteen position DCN for processing via the MILSTRIP or FEDSTRIP system.

IDSB assigns a DCN to requisitions entering the MILSTRIP/FEDSTRIP system. MILSTRIP/FEDSTRIP requisitions do not set aside fields in which to inscribe the PIN, therefore, DOD billings are keyed in the DCN. Finance does not reference CD receiving reports in connection with the DOD billing and reimbursement process. Consequently, the computerized system lacks the capability to maintain DCN and PIN cross reference data for requisitions passed to DOD for supply action. IDSB compensates for this gap in the data processing stream through maintenance of a manual cross reference log. Periodically this log is forwarded to finance to provide a capability for cross referencing the DCN and PIN prior to effecting reimbursement.

One design objective of FARS is to computerize generation of the PIN/DCN cross reference listing so as to close this gap in the data processing chain. Activation of FARS has the potential of streamlining interfaces with FRS,

however, the creation of another stand alone system offers little promise of enhancing ICS performance capabilities. Already, ICS depends on two systems to feed information to FRS; namely SMB and [redacted] COMIF also feeds data to FRS and 25X1 constitutes a third system. Adding FARS to this data path network cannot help but add a forth feeder and aggravate rather than ameliorate discontinuties in the data exchange network. Grafting FARS to ICS for integrated operations may surface such complex design problems that the two systems will be forced to co-exist with little or no computerized linkage.

13. System Review and Approval Standards:

Standards associated with systems review and approval processes are normally related to missions defined for the application involved. One standard might reference the capacity of the proposed system to conform with reporting requirements of the Agency's Financial Property Accounting System (FPAS). Exclusive linkage to this standard, however, would be both impractical and restrictive. This standard can not apply universally because several applications now operational, or currently in process of review, cannot be evaluated in these terms. For example, the prime mission of FARS is that of interfacing with MILSTRIP, FEDSTRIP, and the Directorate of Finance, whereas AWCS is firearms control sytem designed to track weapons issued to authorized recipients. Analysis of these and other systems confirm the proposition that the review and approval process cannot always be related to specific reporting requirements. Most computerized inventory management systems are capable of capturing stock numbers, descriptions, serial numbers, and associated data

elements and are easily programmed to generate prescribed FPAS reports. This attribute of computerization frequently relegates compliance with reporting requirements to a subordinate position.

Cost effectiveness frequently serves as a system review and approval standard. Application of this standard presupposes that most benefits and costs associated with computerization can be quantified for comparative analysis. Concepts underlying this strategy normally relate to the degree of integration specified for system operations. For example, the design format of DOD inventory control systems centralize information management responsibilities but decentralize command and control. Application of this organizational concept provides an adhesive for joining components of the system into a finely tuned and integrated whole. Initial design cost for the integrated system may exceed those associated with the design of a profusion of stand alone systems. Offsetting these high initial development costs are much lower operation and maintenance costs. Perhaps the most redeeming feature of the integrated inventory control system is the efficiency with which it executes its data processing tasks. This offshoot of integration takes the form of intangibles not capable of precise quantification. The capacity to flag repetitive demand, enhance response times, decrease error rates, execute tasking objectives cutting across two or more administrative or operational jurisdiction etc; are illustrative of these intangibles. Analysis of intangibles clearly demonstrate the risk of excluding them from the evaluation process. Stand alone systems performing essentially identical data processing tasks, yet programmed in different languages, hold little potential for tangible yield at the systems

level of operation.

Reliance on the strategy of cost effectiveness in the evaluative process entails consideration of hardware/software efficiency. Efficiency thresholds for computerized systems range from totally inefficient to extremely efficient. Inefficient systems exact exhorbitant overheads and, more often than not, prevent users from harvesting benefits of computerization; particularly, those belonging to the intangible class. GAO is becoming increasingly critical of federal agencies maintaining incompatible software systems. Articles setting forth the GAO position in this matter have appeared in several issues of Computer World published by CW Communications Inc., Newton, Massachusetts. Responsibility for defining software standards reside with ODP, therefore, the Director of Logistics is not in control of, but rather, is controlled by ODP in matters associated with hardware/software system selection.

The efficiency of hardware/software systems configurations cannot be measured in todays environment from the users perspective. For example, projected development and implementation costs associated with computerization under GIMS compared with costs of implementation under a different system would provide a comparative base for evaluation. Traditionally cost distribution factors have been formulated on the basis of projected stand alone system development expense without reference to the alternative; namely, integrated system development. Current review processes naturally lead to the selection of stand alone systems which are less time consuming and costly to design. This process does not offer a means for evaluating hardware/software efficiency.

Given this setting, efficiency standards can not play a meaningful role in the selection process. Application of cost effectiveness standards require that; a) organizational concepts be defined and; b) the decision to enhance or redesign the system be made on the basis of cost versus benefit studies. Adoption of this standard presupposes that hardware/software efficiency is being maximized.

Cost and urgency of demand may have been responsible for the configuration of the internal system network. Time certainly influenced the system selection process because integrated system design requires extensive manpower commitments over long time intervals. Given the immediacy of the system design requirement it became necessary to forego long range advantage for short term gain. These, together with the interplay of other factors, are believed to have been causal in the development of a system in which efficiency occupied a subordinate position. One paradox is common to stand alone system networks; namely, that efficiency of any particular system of the network may be exceedingly high while total system performance is marginal. Analysis of ICS and its satellites convincingly demonstrates that efficiency and inefficiency can coexist within the system particularly in those networks not stressing integration and the design of computerized interfaces. The design of an integrated inventory management and control system holds promise of erasing this contradiction. Moreover, adoption of integrated system concepts provide a better foundation for the review and approval process in which system development or enhancement can be more extensively analyzed in terms of cost versus benefit.

Statute, regulation, and command and control normally determine operational characteristics of supportive computerized systems. Enabling legislation frequently specifies that a federal agency is subject to GAO audit reviews. GAO's perception of an efficiently organized computer system provides a base for the evaluative process. For example, GAO may flag the maintenance of incompatible software systems for inventory management as a potential source of inefficiency. System reviews may also search for inefficiencies associated with the maintenance of stand alone systems performing essentially identical tasks as another source of inefficiency. Normally, stand alone systems are designed especially for components they support and must therefore be considered a derivative of command and control relationships. For this reason, efficiency of the total system is not an essential property of the stand alone system approval process.

Legislation specifies that federal agency's are required to; a) adhere to accrual accounting procedures for budgetary and management control purposes and; b) formulate such policy and procedural controls as may be necessary to manage the logistic resource. Internally, statutes are interpreted and reduced to a body of regulations controlling day to day operations. Regulations pertaining to the field of inventory management specify the accepted methodologies for exercising property control. Provisions of HR-[redacted] specify delegations of 25X1 authority with regard to the property management function and concurrently define the general capabilities of the supportive property control system. According to this regulation the Director of Logistics is responsible for the development and management of "an accurate and reliable system of inventory

control", with enforcement responsibilities clearly specified in that section which states that he shall "establish and/or approve supply management systems ... and their adoption to automated processes where necessary and cost effective". The scope of inventory management is defined in section (2) (0) of this publication wherein it is stated that the Director of Logistics shall "develop, establish, and administer a worldwide supply system". Accordingly, statute, regulation, internal command and control relationships, and the eventuality of a GAO system audit reinforce the need to commence design of an integrated inventory management and control system in order to maximize efficiency and minimize cost.

The data processing system is not organized to respond meaningfully to urgency of demand factors. Consequently, most supply actions are accorded equal priority for processing purposes. Responsive computerized systems require that the system process high priority requirements prior to those assigned low priority. Inclusion of urgency of demand factors in systems design is essential because requirement processing always triggers competition for scare resources. Accordingly, the efficiency with which computerized systems operate is determined, in part, through the enforcement of processing disciplines. Neither time frame suspense nor tracking routines can be effectively joined to a system in which most requirements are assigned essentially identical processing priorities. Urgency of demand standards, therefore, are an essential property of systems design.

14. Trends Affecting Design Requirements of ADP Systems: 25X1

[redacted]

the impact of that directive translated into declining workloads in Supply Division. Reinforcing that decline was the fact that many operational programs were throttled down or deactivated. Analysis of requisitions processed through the supply system confirm a rather precipitous decline since FY76. Contrastly, analysis of line items purchased by the Small Purchase Branch (SPB) [redacted] exhibit nominal 25X1 change. Average monthly line items processed in FY76 by SPB amounted to 1587, 1599 in TQ, 1303 in FY77, and 1580 to date in FY78. SPB is not an integral part of ICS, therefore, transactions diverted to that branch are not recorded in the computerized ICS. Extrapolation of present trends into the future portends further declines in ICS workloads. 25X1

[redacted] LSD purchase actions are excluded from ICS statistics. Yet, these procurement sources are essential components of the total system notwithstanding the fact that activities occurring in that universe cannot be quantified. Accordingly, it is theoretically possible for ICS to be inactive while transaction densities mount in external support systems. Considering the configuration of that system the decline in ICS may be attributable, in part, to requisitioners preference to acquire materiel from sources external to the formal supply system. Recent retrenchments in operational projects also curtailed the issuance of firearms and other materiel categories to some degree. Requisitioners may now be

concentrating on the acquisition of inexpensive materiel through sources other than those comprising the formal supply system. ICS is neither structured nor organized to yield intelligence and performance data upon which to analyze these trends. This shortcoming derives naturally from the fact that ICS workloads represent a small fraction of total activity occurring in the support system. Accordingly, strengthening data collection capabilities via computer means holds promise to; a) improve efficiency of system operations; b) flag repetitive demand so as to realize economies of large scale purchases; c) provide an information management system capable of generating necessary logistic intelligence for decision making and planning purposes, and; d) provide a response capability which will decrease requisitioners dependency on external support mechanisms.

Long ago, logistics maintained a reasonable facsimile of a centralized property control system. Gradually, maintenance burdens forced a shift to the less rigid decentralized system. The shift to decentralization spawned the need to exploit capabilities of computer technology in order to properly exercise resource management at component level. Emerging from this pattern was a proliferation of stand alone computer systems each presumably designed to meet unique reporting and management requirements of the component involved. Orginally, these systems were designed to accomplish low level data processing tasks but in the course of evolution and enhancement, stand alone systems assumed the properties of higher order inventory management and control systems. Augmentation of resource management capabilities, in turn, encouraged components to develop independent management doctrines. This process is believed to have partially responsible for

the drop in Supply Division workload factors which has been matched by increased workloads in the stand alone system network. This conclusion is convincingly demonstrated in comparative system analysis. Three indices support the conclusion; a) comparision of asset worth between logistics inventory and four PIU systems; b) comparision of line items processed between logistics and the four PIU systems, and; c) comparision of line items maintained between logistics and the four PIU systems. Analysis of these three quantums indicate rough comparability which means that total system workloads are now evenly divided between logistics and four PIU accounts. Assuming perpetration of present trends, it is reasonable to conclude that components will assume residual resource management responsibilities now being exercised by logistics.

The Office of Communications plans on implementing a stand alone system for the express purpose of managing approximately 15,000 line items now positioned, or soon to be positioned, [redacted] Apparently, OC plans to finance the acquisition of materiel to be allocated to REMS and associative systems from direct materiel procurement allotments so as to circumvent formal accounting control procedures. Implementation of REMS will impact on logistics in several ways; first, it will automatically delegate responsibility for the management of approximately 28,000 line items maintain in the system to external components which exceeds the 13,000 plus items now managed [redacted] by a multiple of two and; second, the success of these ventures has the potential of encouraging other components to follow suit. Accordingly, programs now in progress may restrict the director of logistics sphere of influence in resource management. These shifts, while contributing

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to the efficiency of operations at component level, can be expected to degrade efficiency at systems level.

Analysis of Materiel Procurement Allotment obligation and expenditure patterns indicate that the dollar value of directs has increased. Whether this trend is permanent or transitory cannot be determined at this point. The trend does seem to reflect an Agency wide pattern. Moreover, with regard to OC the trend has the appearance of being permanent. This component plans to augment its procurement from direct Materiel Procurement Allotments which may reinforce trends occurring in the support of other Agency components. Collectively these trends have the potential of further decreasing ICS workload factors. The design of a system capable of flagging repetitive DEMAND may reverse this trend.

15. DOD Software Systems:

Attachment U defined specifications for the United States Army's automated Commodity Command Standard System (CCSS). A cursory analysis of this system indicates that it may have applicability in the Agency's environment; provided, minor modifications are made in the software system. CCSS operation and maintenance personnel are assigned to the Army Logistics Management Center and have the capability to install the system at user request. The only stipulation is that the user installation not effect software change subsequent to installation. CCSS has features of interest to logistics and is capable of performing data processing tasks GIMS is not organized to execute. For example, GIMS is not programmed for high level computerized interface with external systems and is not likely to be so programmed in the future. These interfaces are designed into CCSS. The advantage of considering CCSS as a candidate

system is that the program is already coded. Whether or not CCSS has the capability to meet Agency requirements could not be as certained except through detailed analysis of that systems capabilities and limitations.

GSA and other DOD components have developed specialized inventory management and control systems for distribution to user installations. The only stipulation in connection with installation is that the system not be modified in the absence of command approval. The probability of commercial systems meeting data processing requirements of the federal supply system are remote. This is because no counterpart to DLSC exists in the commerical world requiring complex interfacing techniques.

16. Conclusions:

This study concludes that:

a. Stand alone systems comprising the network perform their data processing tasks responsively and efficiently. These benefits, however, are not transferable to the total system because neither computerized interfaces nor integration has been established as a system design standard. Consequently, few benefits have been harvested at the total systems level of operation as a result of computerization, particularly those associated with cost, efficiency, and quick response. Operational characteristics of the current system, together with the autonomy of its elements, make redesign of the entire system the only logical approach to the problem.

b. ICS's information storage and retrieval operations are very limited in scope and relate primarily to inventory control. This system is marginally capable of; 1) automating repetitively performed tasks; 2) eliminating manual file structures and manually controlled logs; 3) document preparation and distribution; 4) time frame suspense and tracking operations; 5) generating status information in response to queries or in response to violations of time frame suspense routines; 6) flagging repetitive demand; 7) computerizing routine decision making; 8) integrating subsystem activities such as those associated with CONIF, FARS, AWCS, the Vehicle Control System and the four SAS into a unified system; 9) reducing error rates associated with system operations and; 10) interfacing with external systems such as DLA, DIDS, DAAS, and others.

Given these gaps, implementation of ICS may well have increased rather than decreased manpower burdens with concommitant loses in efficiency.

c. The SAS network occupies a crucial position within the total system context. Without computerization of this component of the system, additional increments of manpower would be required to discharge finance and resource management responsibilities. Accordingly, it is imperative that any effort at redesign take tasking requirements of externals into account in order to ensure that component efficiency is not jeopardized. Redesign will require considerable time because data processing requirements must again be defined and be translated into a program. Concurrent with this phase of the development effort, feasibility studies associated with hardware/software selection could be conducted to ensure operational efficiency.

d. Statute, external regulatory requirements, the probability of future GAO system audit and review, the most recent Audit Report and provisions of [redacted] implicitly suggest that the integrated systems approach represents the most economical and efficient route to a computerized finance and resource management system. This study also concludes that the integrated system has the potential of being more cost effective and efficient than a proliferation of stand alone systems performing essentially identical data processing tasks. The totally decentralized ADP system yields few managerial benefits because logistics personnel cannot be meaningfully and efficiently utilized in this environment. Perpetuation of current

25X1

trends into the future, therefore, runs the risk of rendering certain components of logistics obsolete notwithstanding the fact that decentralization is much more inefficient that a centralized information management system. Existing command and control structures can be preserved in the integrated system, therefore, this argument cannot be used in countering the integration scheme.

17. Recommendations:

It is recommended that:

a. Systems Analysis Branch be chartered to develop requirements for an integrated finance and resource management system and that this branch be staffed by professional logistics personnel familar with logistics operations and systems techology as well as the contingent of ODP personnel now assigned.

b. The initial redesign effort be directed at the computerization of supply division operations. Presumably the scope of this effort might include, but not necessarily be limited to integration requirements for ICS, depot operations, FARS, the vehicle control system, AWCS, and the cataloging module.

c. Phase two of the redesign effort logically follows and entails integration of CONIF, the Procurement Module, and the design of an updated GAS interface.

d. Design specifications for phase three may well be addressed to the definition of interfaces with companion DOD systems such as DIDS, DAAS, DLSC, DLA and other.

e. Phase IV, the integration of the four SAS will entail considerable effort in order to cope data from the four data bases and reformate that data for the resident data base.

f. The content of candidate internal and external training programs be explored to enhance the potential of those assigned systems development responsibilities.

GLOSSARY OF TERMS

AWCS - Agency Weapons Control System programmed to record the seriel number of weapons maintained in the system. 25X1

[redacted]

CCMS - Commodity Command Standard System. Automated system used by Army for resource and budget management.

25X1 [redacted]

CMDN - Cataloging Management Data Notice. Machine sensible output of DIDS notifying authorized subscribers of data base updates.

CONIF - Contract Information System designed for OL use.

DAAS - Defense Automated Addressing System. Defines standards and operating procedures for transmitting and receiving electronic messages over DOD communications system.

DAC - Data Access Center, OL.

DCN - Document Control Number. Control number assigned requisitions by submitter for control purposes. 25X1

[redacted]

DIDS - Defense Logistics Data System. This system maintains the data base for the DOD inventory management and assocative systems.

DLA - Defense Logistics Agency. Elements of this system are responsible for the issuance of supplies and equipment to authorized entities of the U.S. Government.

DLSC - Defense Logistics Services Center. DOD element responsible for the management of item identification and management data.

DOD - Department of Defense.

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[redacted]

FARS - Federal Automated Requisitioning System. Internal system designed to format, transmit, and receive electronic messages over DOD communications system.

FEDSTRIP-Federal Standard Requisitioning System. This system is GSA maintained and defines procedures for requisitioning materiel through the GSA system.

FRS - Finanical Resource System. Automated system designed to provide summary accounting data.

GIMS - Generalized Information Management System. ODP maintained data base management system used by OL for the maintenance of ICS, CONIF, and other applications.

ICS - Inventory Control System. This system was developed by ODP as an internally maintained inventory management and control system.

LADS - Automated inventory management system developed by ODP for implementation [redacted]

25X1

LCN - Logistics Control Number. Control Number assigned to supply actions diverted to Procurement Division.

MILSTRIP-Military Standard Requisitioning System. This is a DOD maintained system and defines procedures for routing requisitions to DOD storage centers for supply action.

NIPS - National Military Command System - Information Processing System. Data base management system developed by DOD.

NPIC - National Photographic Intelligence Center.

OC - Office of Communications. Responsible for maintenance of [redacted] REMS. 25X1

OTS - Office of Technical Services. Responsible for maintenance [redacted] 25X1

25X1 [redacted]

PRA - Property Requisitioning Authority. Provides a cost ceiling to requisitioners against which to charge issuances of materiel.

PIN - Purchase Instrument Number. Control number assigned by Procurement Division, IDSB, and, where appropriate, the decentralized procurement teams to identify contracts.

PRAT - Property Requisitioning Authority Tracking System. This system is maintained by OL and was designed to maintain current balances of PRA in the system.

PCS - Prime Computer System. Identifies the main frame computer in a distributive network consisting of component terminal processing or mini-computers.

PIU - Property In Use. Signifies that accountability/responsibility for materiel issued by OL or acquired by other means resides with the

25X1 [redacted]

REMS - Repair and Return Materiel System. OC computerized system soon to be implemented for the control of organic spares or spares, subassemblies, and components of major systems returned to internal facilities for restoration and return.

SMB - Supply Management Branch, OL.

SOPRA - Status of Operating Property Requisitioning Authority Report. Prepared periodically by Office of Finance to provide status information to authorized components of the system.

SPB - Small Purchase Branch, OL.

T/P - Terminal Processor. Mini-computer normally programmed to relieve PCS of routine data processing burdens.

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ing equipment and devices, including telegraph and teletype equipment; purchase, maintenance, operation, repair, and hire of passenger motor vehicles, and aircraft, and vessels of all kinds; subject to policies established by the Director, transportation of officers and employees of the Agency in Government-owned automotive equipment between their domiciles and places of employment, where such personnel are engaged in work which makes such transportation necessary, and transportation in such equipment, to and from school, of children of Agency personnel who have quarters for themselves and their families at isolated stations outside the continental United States where adequate public or private transportation is not available; printing and binding; purchase, maintenance, and cleaning of firearms, including purchase, storage, and maintenance of ammunition; subject to policies established by the Director, expenses of travel in connection with, and expenses incident to attendance at meetings of professional, technical, scientific, and other similar organizations when such attendance would be a benefit in the conduct of the work of the Agency; association and library dues; payment of premiums or costs of surety bonds for officers or employees without regard to the provisions of section 14 of Title 6;[43] payment of claims pursuant to Title 28; acquisition of necessary land and the clearing of such land; construction of buildings and facilities without regard to sections 259 and 267 of Title 40;[44] repair, rental, operation, and maintenance of buildings, utilities, facilities, and appurtenances; and

(2) supplies, equipment, and personnel and contractual services otherwise authorized by law and regulations, when approved by the Director.[45]

(b) The sums made available to the Agency may be expended without regard to the provisions of law and regulations relating to the expenditure of Government funds;[46] and for objects of a confidential, extraordinary, or emergency nature, such expenditures to be accounted for solely on the certificate of the Director[47] and every such certificate shall be deemed a sufficient voucher for the amount therein certified.[48]

SEPARABILITY OF PROVISIONS

SEC. 9.[49] If any provision of this Act, or the application of such provision to any person or circumstances, is held invalid, the

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726, 3 U.S.C.A. 105) the President is authorized to fix the compensation of the Executive Secretary of the National Security Council at a rate "of compensation not to exceed that of level II of the Federal Executive Salary Schedule." For the rate set for level II see Federal Executive Salary Act of 1964 at page 173 of the *Guide*.

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[12] The Director is also the "President's primary advisor on foreign intelligence" (subsection 3(d) of Executive Order 11905), with interagency authorities and responsibilities prescribed primarily by subsections 102(d) and (e) of the National Security Act and by Executive Order 11905.

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[13] The Act of 1947 did not include the position of Deputy Director and for several years there was no "provision of law establishing a Deputy Director with statutory authority to act for the Director or to perform such functions as the Director may assign to him" (H.R. Rep. No. 83-219, March 30, 1953). The existence of the position was given statutory recognition by the enactment of the Executive Pay Act of 1949 (63 Stat. 880, P.L. 81-359, October 15, 1949), which prescribed compensation for the position. The position of Deputy Director was created by an amendment of 1953 to subsection 102(a) (67 Stat. 19, P.L. 82-15, April 4, 1953), thereby enhancing the authority and standing of the position and its incumbent. The statute also served to put to rest any contention that the statutory acknowledgement of the position in the Executive Pay Act of 1949 converted the position to an appointive office to which a commissioned officer could not be appointed in view of the statutory prohibitions against the appointment of such officers to appointive offices (now 10 U.S.C.A. 973). The 1953 amendment also amended subsection 102(b) to render that subsection applicable to the Deputy Director, as well as to the Director.

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[14] In addition to the authority to "act for, and exercise the powers of the Director during his absence or disability," it is considered "inherent in the statutory position of the Deputy Director that the holder will assist the Director in the performance of his duties, including those vested by law in the Director" (41 Comp. Gen. 429 (1962), *Guide*, p. IX-9). The President has directed that the Director "shall, to the extent consistent with his statutory responsibilities, delegate the day-to-day operation of the Central Intelligence Agency to the Deputy Director of Central Intelligence" (Executive Order 11905, subsection 3(d)(3)).

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In the 1950 law, the Congress specifies that the head of each executive agency[1] is responsible for establishing and maintaining systems of accounting and internal control which conform to the principles, standards, and related requirements prescribed by the Comptroller General of the United States. As further clarified by Public Law 84-863, approved August 1, 1956 (70 Stat. 783), the law provides a basic framework of financial management within which an accounting system must necessarily operate in achieving these objectives.

Accounting is not an end in itself but is an important part of each agency's management control system. Satisfactory accounting systems are necessary to provide essential and reliable information to management officials for use in achieving efficient and economical operations and to enable them to satisfactorily report on the custody and use of resources under their management.

Although the head of each agency is responsible under the law for the accounting systems in his organization, authority for carrying out the accounting function is ordinarily delegated. However, the ultimate responsibility remains with him and he should satisfy himself that:

(1) A proper accounting system is established, based on prescribed accounting principles and standards applicable to his operations.

(2) The information provided by the accounting system lends itself to effective use.

(3) Such information is being used by responsible officials in programming the agency's activities, in preparing budget data, and in achieving and maintaining efficient and economical operations.

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[1] Sections 114, 116, and 119 of the cited act apply to Government corporations and agencies subject to the Government Corporation Control Act (59 Stat. 597).

Excerpt from "General Accounting office, Policy and Procedures Manual for guidance of Federal Agencies" title 2 accounting.
Appendix C

Approved For Release 2005/07/12 : CIA-RDP85-00988R000700020001-3

19 JAN 1972

MEMORANDUM FOR: Director, Support Information Processing System (SIPS) Task Force

SUBJECT : Property In-Use

REFERENCE : Memo dtd 3 Jan 72 to OL/ADP Coordinator fr C/MRS/SIPS Task Force, same subject

1. In response to paragraph 2a of the referent memo, the Office of Logistics expects to have the necessary staffing completed so that Property In-Use and Type III accounts can be converted to the simplified Type II Financial Property Accounting (FPA) procedures effective no later than 1 July 1972. While the conversion is a significant change in policy and procedure, we do not anticipate any difficulty in obtaining the necessary concurrence.

2. Paragraph 2b of the reference addresses the general policy regarding Logistics records on Property In-Use and requires a more careful analysis. For example, we must continue to collect and record data concerning vehicles. This is being done at present by two methods: (a) the basic line item description information is carried in the appropriate Type III or Property In-Use account, and (b) that basic description plus additional technical descriptive data is carried separately in the vehicle information data base. While the latter data base takes on some aspects of Property In-Use, it is and must continue to be maintained for purposes other than to meet the requirements of FPA. We may wish to extend that control and recordkeeping philosophy to other areas of property (e.g., weapons) but those systems also would be something other than the Property In-Use system as we know it today.

3. We believe that the Office of Communications and Technical Services Division will wish to maintain certain in-use records under the new Materiel Resources System. This Office is not qualified to address those requirements, however, and suggests that the Task Force take up such questions with those offices and other offices that might be concerned.

Signed: John F. Blake

John F. Blake
Director of Logistics

Distribution:
Orig & 1 - Addressee
1 - OL/SD/SMB - Official [redacted]
1 - OL/SD/SMB/GMMS [redacted]
1 - OL Files
1 - D/L Chron

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OL/SD/SMB/[redacted] (14 Jan 72)

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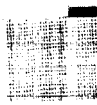

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(4) Any activity funded from the Fund that continues after the end of the fiscal year in which such activity was initiated shall be funded thereafter through the regular budgetary process at the earliest practicable time.

(c) The Director may approve the expenditure of funds to cover matters relating to national intelligence activities of an extraordinary or emergency nature. The expenditure of funds for such purposes shall be accounted for solely on the certificate of the Director and every such certificate shall be deemed a sufficient voucher for the amount certified therein, but funds expended for such purpose may be expended only for activities authorized by law. The Director shall report quarterly to the Committee on Appropriations of the House of Representatives, the Committee on Appropriations of the Senate, the Permanent Select Committee on Intelligence of the House of Representatives, and the Select Committee on Intelligence of the Senate on expenditures made under the authority of this subsection.

SEC 123 rewritten

(d) (1) All funds appropriated to the Office of the Director, all funds appropriated to entities of the Intelligence Community, and all national intelligence activities, counterintelligence activities, and counterterrorism activities conducted by entities of the Intelligence Community, and information and materials relating thereto, shall be subject to financial and program management audit and review by the Comptroller General of the United States, upon the request, or with the approval, of (A) the Permanent Select Committee on Intelligence of the House of Representatives, (B) the Select Committee on Intelligence of the Senate, or upon the request of (C) any other committee of either House of Congress; except that in the case of any financial and program management audit and review conducted by the Comptroller General of the United States upon the request of any other committee (other than the Permanent Select Committee on Intelligence of the House of Representatives and the Select Committee on Intelligence of the Senate), the audit and review may not extend beyond

GAO audit!

the activities over which such committee has legislative jurisdiction.

(2) Notwithstanding the foregoing provisions of this subsection, the Director may exempt from any such audit and review any funds expended for a particular activity, and the activity for which such funds are expended if the Director (A) determines such exemption to be essential to protect the security of the United States, (B) notifies the appropriate committees of the Congress of such exemption and the reasons for granting it, and (C) reports semiannually to the Permanent Select Committee on Intelligence of the House of Representatives and the Select Committee on Intelligence of the Senate on each activity exempted under this subsection.

(3) Any audit or review conducted by the Comptroller General of the United States under authority of this subsection shall be conducted in accordance with such security standards as the Director and the committee requesting or approving such audit shall prescribe.

(4) The results of any audit and review conducted under authority of this subsection shall be submitted to (A) the Permanent Select Committee on Intelligence of the House of Representatives, in the case of any audit or review requested or approved by a committee of the House of Representatives, and shall be made available by such select committee, in accordance with and subject to the provisions of the resolution establishing such select committee, to the committee of the House of Representatives (other than the Permanent Select Committee on Intelligence) which requested or approved such audit or review, and (B) the Select Committee on Intelligence of the Senate, in the case of any audit or review requested or approved by a committee of the Senate, and shall be made available by such select committee, in accordance with and subject to the provisions of the resolution establishing such select committee, to the committee of the Senate (other than the Select Committee on

Intelligence) which requested or approved such audit or review.

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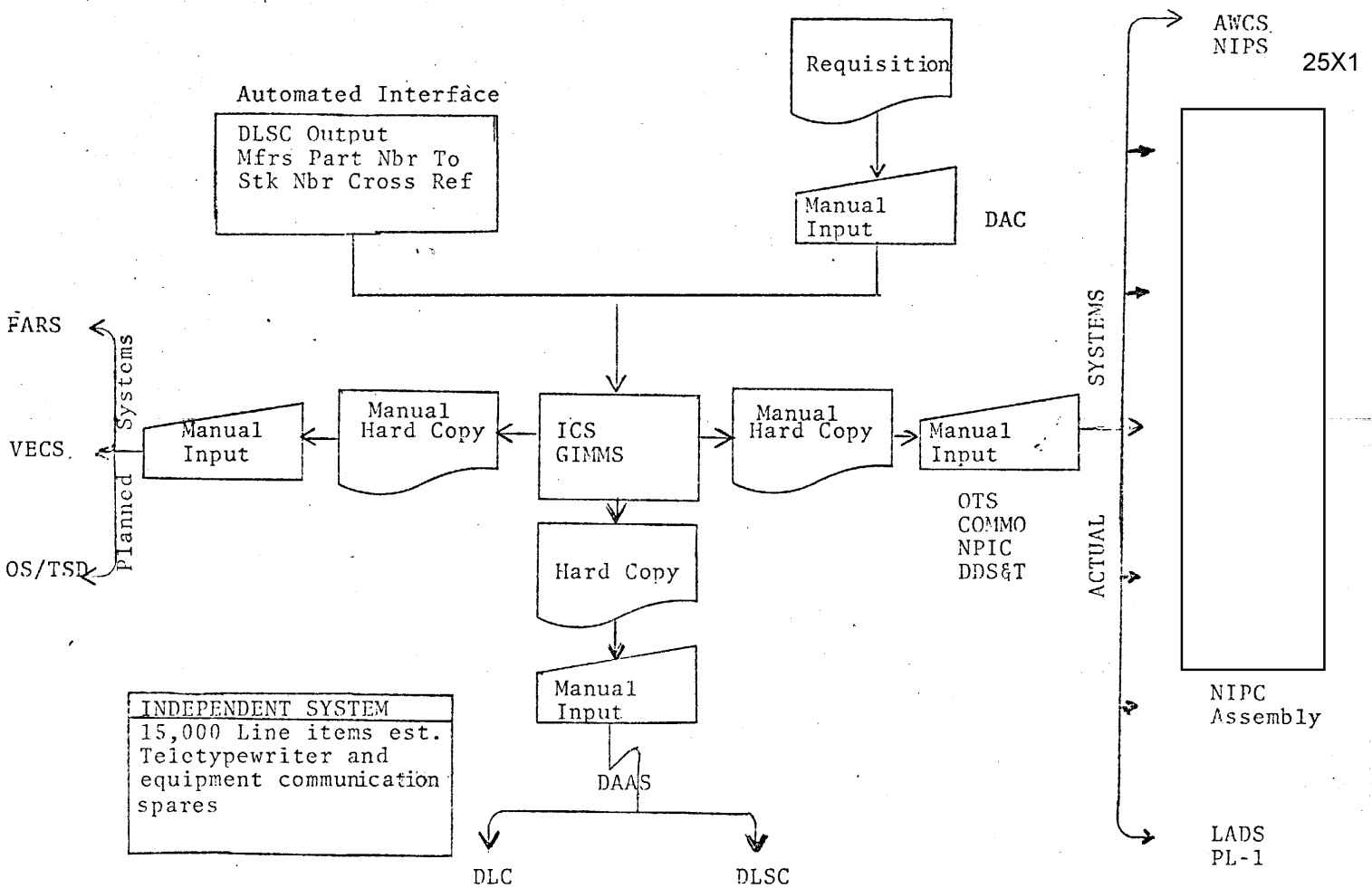
Profile of Agency Property Management System



Attachment II

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ICS and [redacted] System Data Flows

Stock Release Transaction

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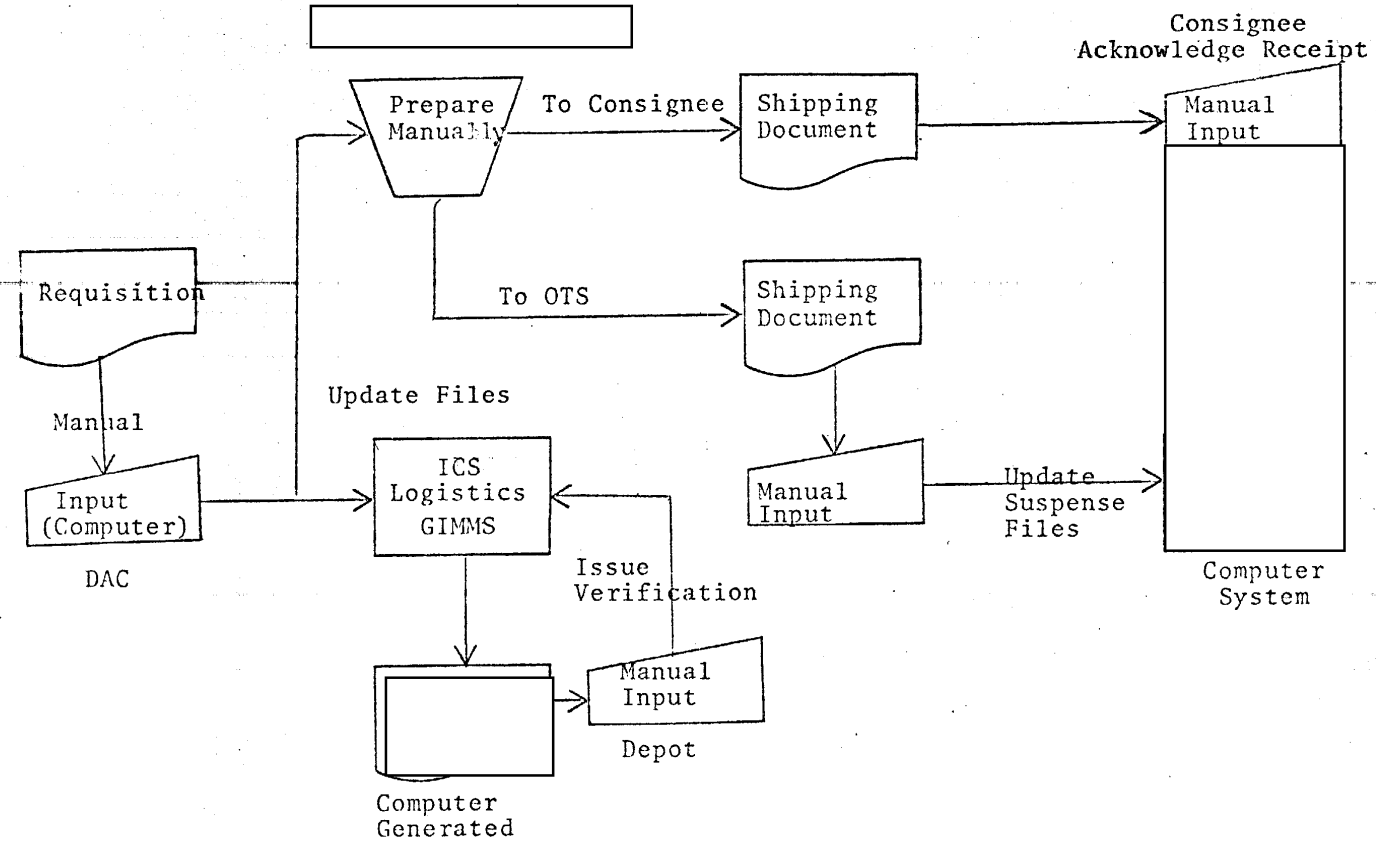

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Attachment I

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ICS Estimated Monthly Volumes, 2 June 1975
(SMB, excluding CS)

Inputs	Menu	*Number of Transactions	X	No. of Characters Per Input	=	Total No. of Characters
Suspense File						
Stock (6's)	I001	2472		60		148,320
Directs (7's)	I001	2473		60		148,380
Stock Replenishments (0R)	I001	373		60		22,380
Receipts	I006					
Directs (0R)		73		31		2,263
Stock Replenishments (1A,2A)		385		31		11,935
Amendments (7's,0R)	I008	3000		30		90,000
Cancellations	I009	40		13		520
B/O Release (Mgt)	I010	45		13		585
Requisition, Confirming (6's,7's)	I004	44		60		2,640
Inventory Adjustments (S-AL-C-Price)	I012	310		50		15,500
Inventory Maintenance (Reorder Point, etc.)	I013	200		50		10,000
Cost Adjustment (9's)	I019	50		50		2,500
Property Turn-In (2's except 2A's)	I005	223		50		11,150
MONTHLY TOTALS:		9834				466,173

Daily Transactions - 447
Daily Total No. of Characters - 21,200
Key Strokes Per Minute Capability - 15**
Daily Production for One Operator - 6 hours

21,200 ÷ 15 key strokes per minute = 1413 minutes
1,413 ÷ 60 minutes = 24 hours
24 ÷ 6 hours = 4 operators

NOTE *Number of Transactions
Based on April 1975 Volumes

**Considers: Inexperienced Operators
· System Down Time
· Manual Preparations of Documents for Input.
· Queries

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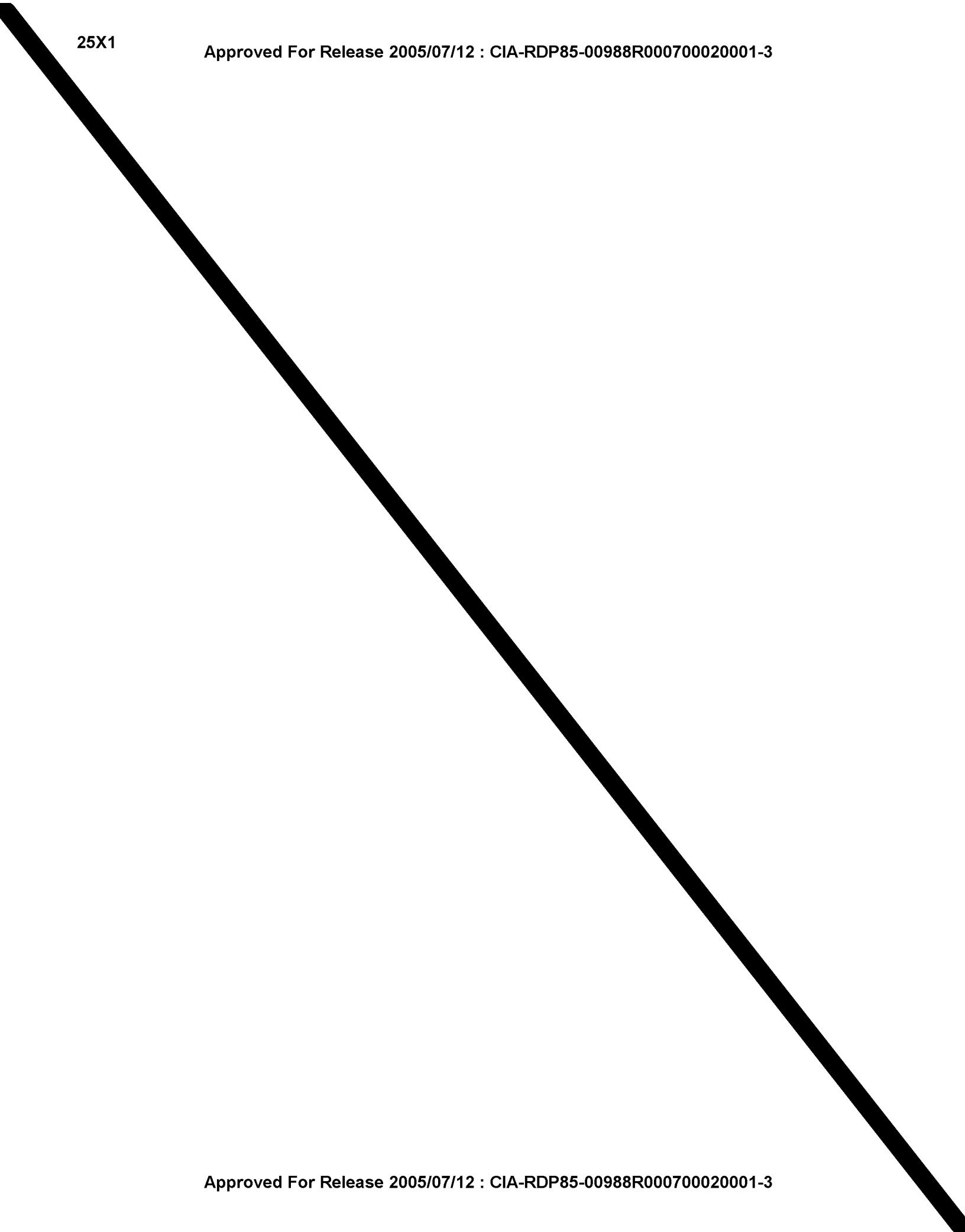

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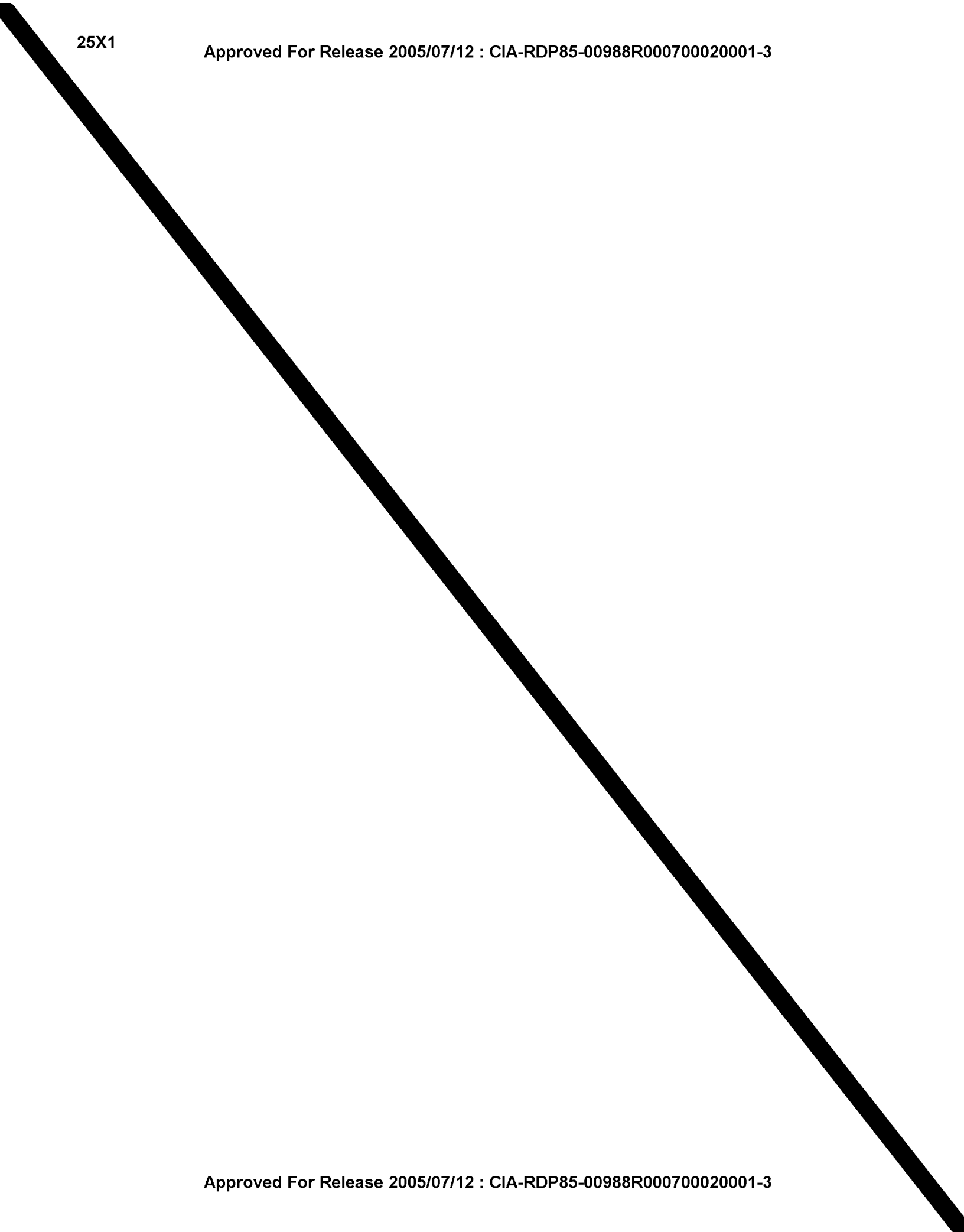

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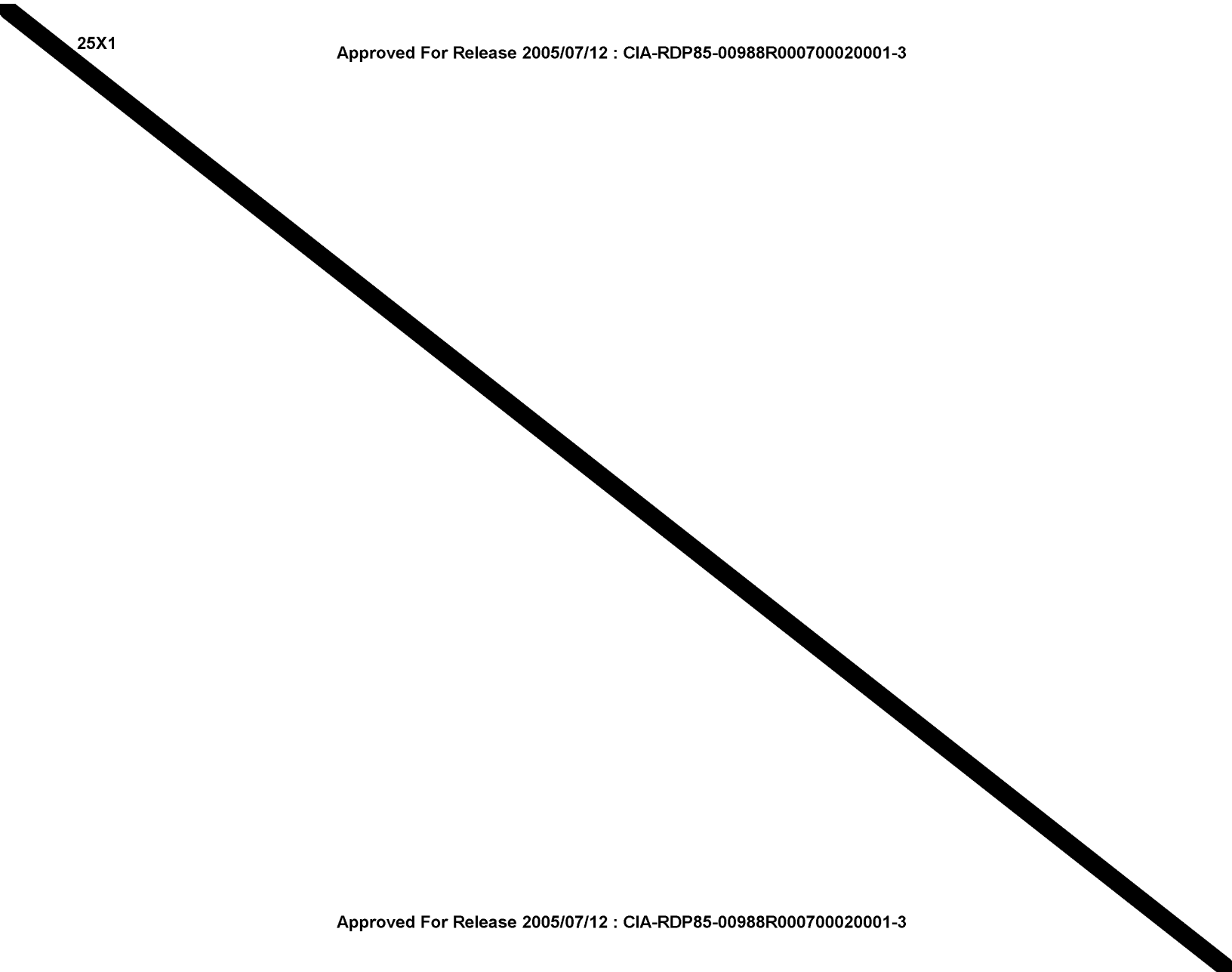

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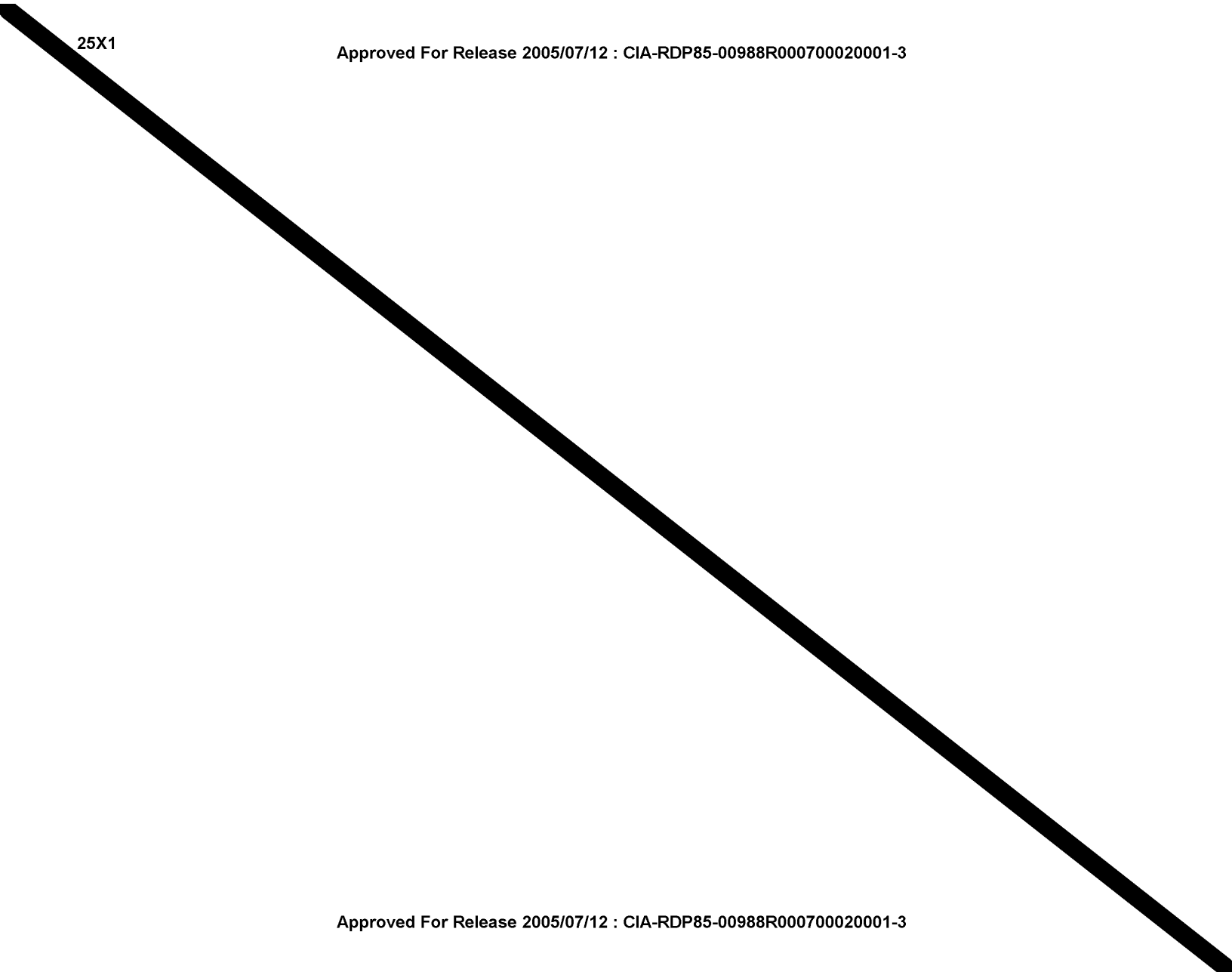

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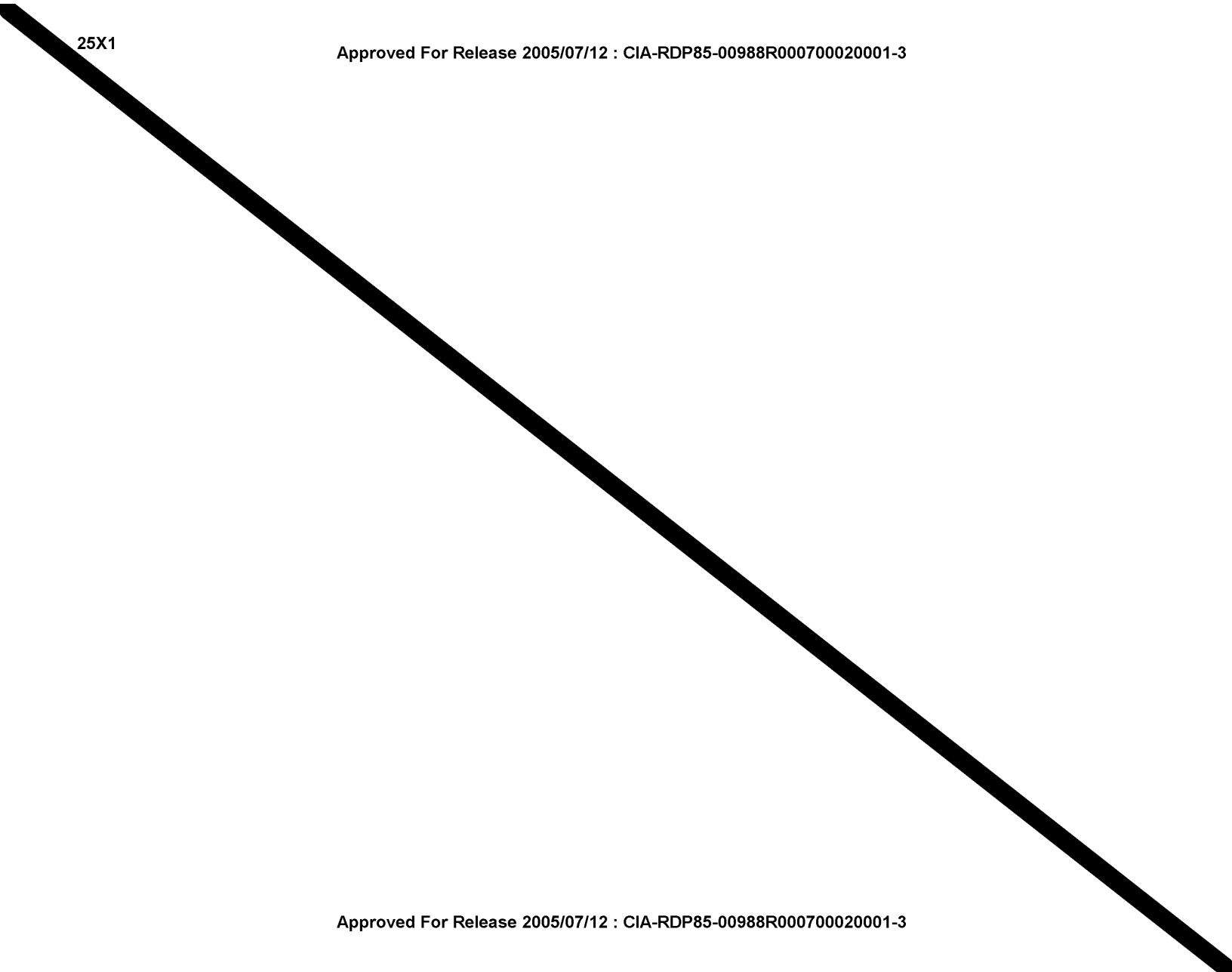

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Transactions Processed
FY-76

July	6472
August	6186
September	5992
October	6616
November	5438
December	6613
January	6441
February	6480
March	7080
April	7589
May	5878
June	7121
TOTAL	77,906

Average FY-76 = 6492

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C/S/MO
D/C/S

15 DEC 1976

MEMORANDUM FOR: Director of Communications

25X1 FROM : [redacted]
Chief, Audit Staff, O/IG

SUBJECT : Report of Audit, Office of Communications, 1 November 1974 - 31 August 1976

1. Attached is a copy of subject report. Please advise the Chief, Audit Staff of action taken on recommendations contained in the report.

2. We appreciate the cooperation and assistance extended to the audit team during the audit.

25X1

[redacted]

Attachment:
as stated

Distribution:
Orig - D/CO
1 - DDA
1 - O/Compt
25X1 1 - [redacted]
1 - D/Fin
1 - O/IG

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1 MAR 1977

MEMORANDUM FOR: Director of Logistics

THROUGH : Inspector General

25X1

FROM : [redacted]
Chief, Audit Staff

SUBJECT : Report of Audit,
Office of Logistics - Supply Division
1 February 1975 - 31 October 1976

1. Subject report is attached. Please advise this office of action taken on recommendations contained in this report.

2. We appreciate the cooperation and assistance furnished the auditor during the audit.

25X1

[redacted]

Attachment:
as stated

Distribution:
Orig - D/Log
1 - DDA
1 - O/Compt/DCI
1 - D/Fin
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[redacted]

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Appendix T

REPORT OF AUDIT
Office of Logistics
Supply Division

For the Period
1 February 1975 - 31 October 1976

SUMMARY OF OBSERVATIONS

Supply Division (SD) personnel are dedicated to the needs of the Agency. They perform their functions in a competent and professional manner.

Division operations generally are conducted in compliance with applicable directives and regulations. However we believe that some of the directives and regulations should be amended to strengthen controls over non-expendable property in use.

The division continues to meet the time requirements of its customers when filling requisitions from existing stock or through its own purchasing facilities. Some delays occur if procurement action is required. The Procurement Division backlog is discussed in a separate report.

Several major Agency components have developed or are developing their own property accountability systems, a condition which leads to duplication of effort by Office of Data Processing and the originating component.

This report includes comments and recommendations on a variety of subjects including:

- Property Accountability
- Management Procedures and Controls
- [redacted]
- [redacted]

25X1

Other matters were brought to the attention of division officials for appropriate action.

SCOPE OF AUDIT

The audit included:

- a review of controls and procedures related to the requisition and management of property in the Agency supply system
- an examination of the effectiveness of the changes in SD since its reorganization in 1974
- an evaluation of the extent to which customer requirements were met on a timely basis
- an examination of controls and procedures to determine the adequacy of safeguards over Agency assets
- a review of operations to determine whether they are conducted in compliance with applicable directives and regulations

25X1

A site audit [redacted] will be audited at a later date.

The results of an audit of the Inventory Control System will be reported on separately.

Expenditures related to Supply Division activities were reviewed during a concurrent audit of the Office of the Director of Logistics.

BACKGROUND

1. The Supply Division budget for Fiscal Year 1976 is distributed as follows: 25X1

[redacted]

2. The division has a table of organization of 202 positions. The charts attached as Exhibits A (Supply Division) [redacted] show how the division is organized and indicate the number of people assigned to the major units. 25X1 25X1

[redacted]

DETAILED COMMENTS

Property Accountability System

5. Agency regulations assign responsibility for control of property to the Office of Logistics. The Director of Logistics has charged Supply [illegible] with the task of developing appropriate accounting procedures.

25X1

[redacted]

6. In recent years several Agency components adopted automated property management systems through which they maintain property accountability. Other components are studying the feasibility of developing their own systems. The Office of Technical Services, Office of Communications, 25X1 [redacted] and the National Photographic Interpretation Center are among the components interested in having their own property systems.

7. The components are interested in developing their own automated systems for both management and property accountability purposes. The components felt that personnel reductions and the size and activity in their accounts made the manual system unworkable. In order to automate their systems some components went directly to the Office of Data Processing for assistance. Others tasked programmers within their own organization to design and program an automated property system. The duplication of effort required to develop individual automated property systems is uneconomical and inefficient; it may lead to multiple cases of "re-inventing the wheel". The development of automated property accounting systems should be centralized in Office of Logistics.

> Recommendation #1: Develop automated property accountability systems that can serve the needs of all Agency components.

8. Supply Division is reviewing the property accounting system with the view towards strengthening controls yet retaining simplicity. We too have been concerned for sometime about weakness in the system. The system does not provide a centralized control that identifies the location and value of non-expendable property. There can be no assurance that all non-expendable property is accounted for. In our opinion the following measures should be considered in any revision to property accountability procedures:

- a centralized Headquarters control over property to assist management in knowing where all non-expendable property is located

- a procedure to control all non-expendable and expendable property over a given dollar value (now $200) until the receiving component can document the consumption of the property

- a revised dollar value for non-expendable property from $200 to a higher limit to take into account the effect of inflation

- a property control register to control accountability

- a schedule of shipments to advise responsible property officers what shipments were made

- a cable or shipping document to support the document recording the transfers between accounts

9. The Audit Staff recently was invited to comment on the proposed revision to the property accountability handbook. Our detailed comments will be the subject of a separate report.

Test and Inspection Procedures

10. We previously reported that testing and inspection (T&I) of all non-expendable property resulted in delay of payment to vendors. We also reported a low rejection rate of items tested. We felt that the knowledge of the inspectors as to which materiel is likely to be rejected justified inspection of property on a test basis. No changes in procedures were made during the audit period. However in February 1977, a supply instruction was revised to provide for inspection on a test basis. The new procedure should help speed the flow of receiving reports and the payment to vendors.

Follow-up on Requisitions

11. Each of the three commodity teams within Supply Management Branch (SMB) include one member who has the responsibility of follow-up action when a customer questions the status of a requisition. However most requisitions pass through SMB before follow-up becomes necessary. Consequently SMB personnel must refer the question to personnel in the Data Control Unit at [redacted] where the follow-up

25X1

action takes place. We also learned that various sections of the warehouse receive direct calls from customers interested in particular requisitions.

[redacted] 25X1

12. The supply system records "due-outs" (unfilled customer requisitions) some of which are quite old. Supply Division has considered follow-up action to determine whether the ordered property is still desired. But no procedure has been established to accomplish this action. Failure to take follow-up action may result in purchase and delivery of property which is no longer needed.

> Recommendation #3: Institute a follow-up program to determine whether old unfilled customer requisitions are still valid.

Time Frame Suspense Module

13. The Time Frame Suspense (TFS) module, an enhancement to the Inventory Control System, is expected to be phased-in during Fiscal Year 1977. This module will enable management to track transactions through the system. Variations from prescribed standards should become apparent thereby enabling prompt corrective action. Once TFS is implemented, the productivity of those units performing the inventory control function can be measured. TFS also is expected to allow retrieval of data on Materiel Procurement Allotment (MPA) issues and Property Requisitioning Authority (PRA). MPA and PRA are procedures followed to control the issue and replenishment of property for components. Until the TFS enhancement is implemented, management cannot effectively determine the efficiency of the various components of Supply Division. We plan to review the effectiveness of the TFS module during the next audit. 25X1

Location of Supply Management Branch (SMB)

[redacted]

has considered the move in the past and has found merit in the suggestion. But the move was not made. We believe the benefits to be derived from the move should be reconsidered. The move would provide a chance for SMB personnel to receive cross-training in [redacted] The move would permit more efficient use of personnel. Those assigned to areas with temporary slack periods in their workload can be reassigned to other areas that have a backlog of work. The move also would eliminate the duplication of requisition files and should eliminate the need for follow-up action to more than one location. And finally, the move would provide branch personnel with a better understanding of the entire supply operation. 25X1

[redacted] 25X1

[redacted] 25X1

25X1

[redacted]

Property Out for Repair

25X1

18. Classification, Repair, and Disposal Section (CRDS) maintains records at [redacted] to control property sent out for repair. No follow-up procedures exist to ensure that the property was returned. No follow-up action has been attempted. Often times the property may be returned by the company performing the repairs directly to the Agency component concerned. Without follow-up action between other offices of Logistics and the repair facility or Agency component concerned, there can be no assurance that the property was returned. Some property may have been lost. CRDS records indicate some items sent out for repair before 1972 have not been returned.

Recommendation #7: Establish procedures which would allow for an annual follow-up on property out for repair longer than six months.

25X1

Property Disposals

[redacted]

[redacted]

On-Loan-Property

21. Supply Management Branch has a procedure which permits agency components to use property for a 90-day period without cost to the user. This on-loan-property procedure was established so that components could acquire property on a temporary basis primarily for test and evaluation purposes. A written justification is required to extend the loan beyond 90 days. The Chief, Supply Division must approve extensions beyond 180 days. The records indicate that some property is held past the initial loan period with little or no justification offered for the extension. Consequently some components use property for extended periods without charge to their account.

Recommendation #9: Ensure that property loaned in excess of 90 days is justified or approved.

22. Property on loan to Agency components originally was placed in allocation code 05 (on loan to Agency activities for test and evaluation). Government furnished equipment (GFE) connected with contracts with other Government agencies also was assigned the same 05 allocation code. Subsequently allocation code 05 was replaced with code 6E.

23. The Analytical Section/SMB has had little success in reconciling the on-loan-property documentation with a machine listing of code 6E property. Three problems were identified:

- identifying and clearing on-loan-property still in allocation 05
- identifying and clearing GFE from allocation codes 05 and the 6E
- ensuring receipt of requisitions coded on-loan-property from the Commodity Teams in SMB where the transactions are originally coded.

24. The last problem cited was resolved during the audit: the Analytical Section/SMB must approve all allocation code 6E transactions.

25. The resolution of first two problems requires a continuing effort to research past data. Current charges are being monitored by extracting a monthly listing of code 6E property from the Inventory Control System and reconciling any changes which may have effected the listing during the month. These procedures were implemented after our initial discussion and review of controls over on-loan-property. The new procedures will be reviewed next audit.

Recommendation #10: Continue to follow-up on discrepancies discovered during the review of allocation code 05 and 6E property.

Duplicate Files at Depot

26. The Preservation and Packing Section (P&PS) maintains shipping document files. About 75% of the FY 75 files we reviewed were invalid because P&PS does not receive information on those requisitions canceled or retired to archives by the Data Control Unit (DCU). The DCU is responsible for maintaining the document control number (DCN) files at [redacted]. The transfer of the DCN files to

25X1

25X1

[redacted]

Recommendation #11: Keep current the separate shipping document files in the Preservation and Packing Section.

Forklift Maintenance Contract

27. We previously discussed the limited use of forklifts at the [redacted] We recommended that consideration be given to reducing the number of forklifts on hand. Since the audit seven were disposed of and two were transferred to another division. 25X1

28. We reviewed the cost of maintenance contracts for the forklifts and found that in 2 years about $61,000 was spent for 2,000 hours of labor and for small parts. The value of the small parts could not be determined from the records. [redacted] personnel support our opinion that consideration should be given to hiring a mechanic to perform maintenance in lieu of renewing the contracts. The [redacted] estimates the mechanic's salary would begin at about $14,000 a year. For comparison purposes, overhead costs of about 28% would have to be added to the base salary. 25X1 25X1

Recommendation #12: Determine the feasibility of hiring a forklift mechanic prior to renegotiating the maintenance contract in September 1977.

Vehicle Maintenance Records

29. Logistics Management does not take advantage of the detailed vehicle maintenance records available at [redacted] One of the automobile mechanics maintains records on 34 vehicles/trailers and 7 gas forklifts. The records are summarized each month to show such things as odometer readings, gasoline consumed and the average mileage per gallon for each vehicle. Another record shows all maintenance and repairs performed on each vehicle. None of the 25X1 25X1

information is provided to management. Consequently management does not review such things as vehicle efficiency and maintenance costs.

Recommendation #13: Use available maintenance records to monitor efficiency of vehicle operations.

Value of Property

30. The value of property recorded in the Inventory Control System exceeded by $116,400 the value recorded by the Office of Finance. The difference has remained substantially unchanged since October 1975. Supply Division concluded that the difference occurred when the entries were made to incorporate the stock value at [redacted] into the Inventory Control System. Supply Management Branch has been researching the difference. 25X1

Recommendation #14: Furnish the Office of Finance with the information to bring the accounts into agreement.

25X1 [redacted] Cash Count Procedures 25X1

31. The cash counting procedures [redacted] should be strengthened. The individuals selected to count cash each month count all cash and cash items in the possession of the finance officer. But they do not count two funds held in Small Purchases Branch ($10,000) and the Office of the Chief ($3,000). The funds are advanced by the finance officer informally on hand receipts. The funds should be verified along with the finance officer's cash.

Recommendation #15: Ensure that all funds charged to the finance officer are counted each month.

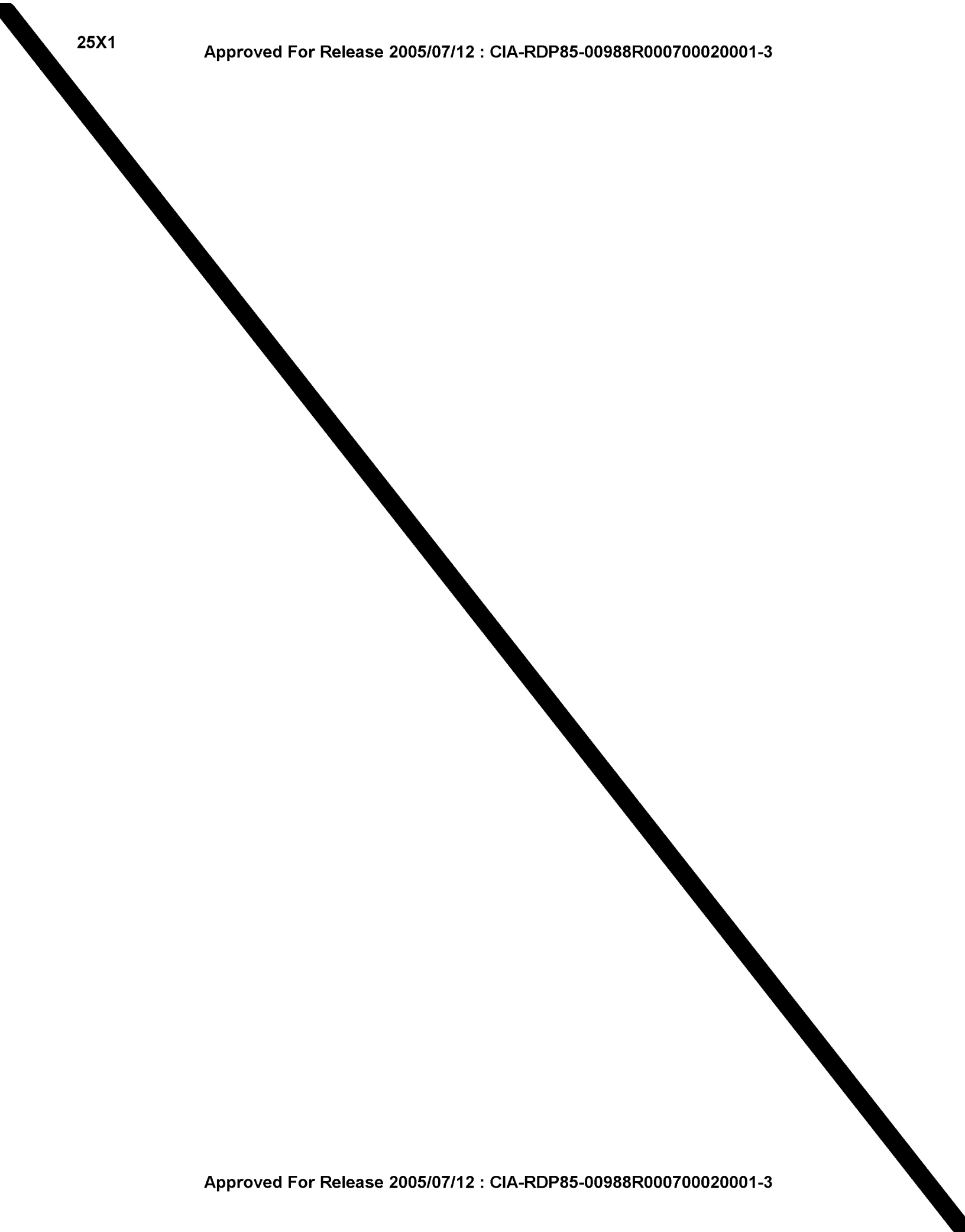
Receiving Reports

32. The Office of Finance/Audit & Certification Division (A&C) continued to experience problems with receiving reports. The reports were received on a more timely basis than in the past. But A&C personnel did not have a central point of contact to locate missing reports or to resolve other receiving report problems.

Also, the Office of Finance and Office of Logistics had not resolved which office had the responsibility to contact the vendor when circumstances so dictated. Subsequent to the audit we were informed that as a result of joint meetings between Office of Finance and Office of Logistics that the problems have been resolved.

Verification of Approving Officer

33. Supply Division plans to accept requisitions without verifying approving officers' signatures. The division found that it is a time consuming task to verify the approving officers' signature on each requisition. And the task seldom is productive. As an alternative to present procedures, the division would require each component to be responsible for properly approved requisitions. The effectiveness of internal control procedures and the validity of signatures would be tested during regularly scheduled component audits. The Audit Staff concurs that the proposed plan has merit but defers formal concurrence pending further review. 25X1



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25X1

42. Protection masks are available in the vicinity of the apparatus, but they seldom are worn by the operator. Other employees also work in close proximity to the machine.

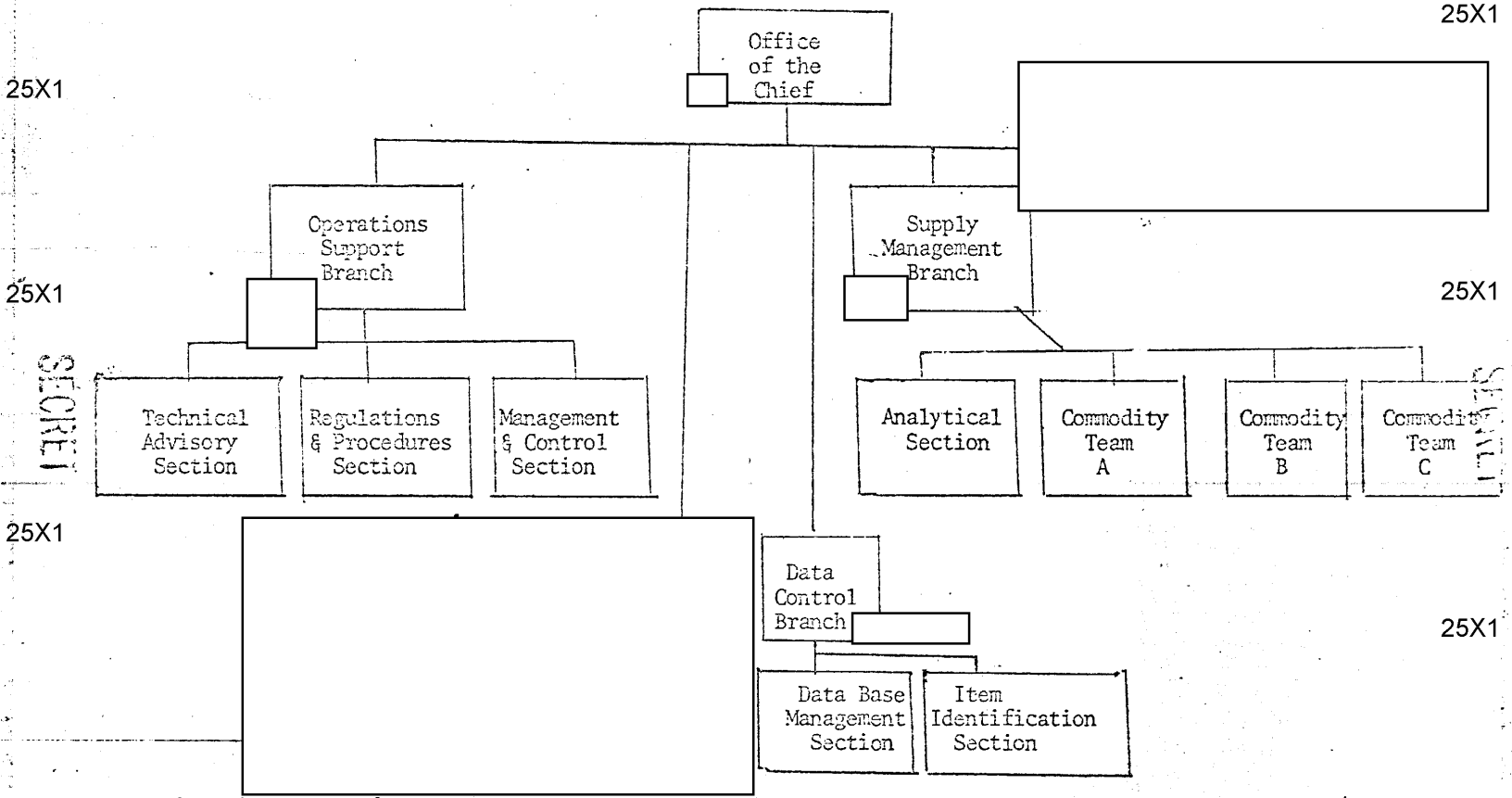
25X1

Recommendation #23: Determine a safe distance from the apparatus to locate employees other than the operator.

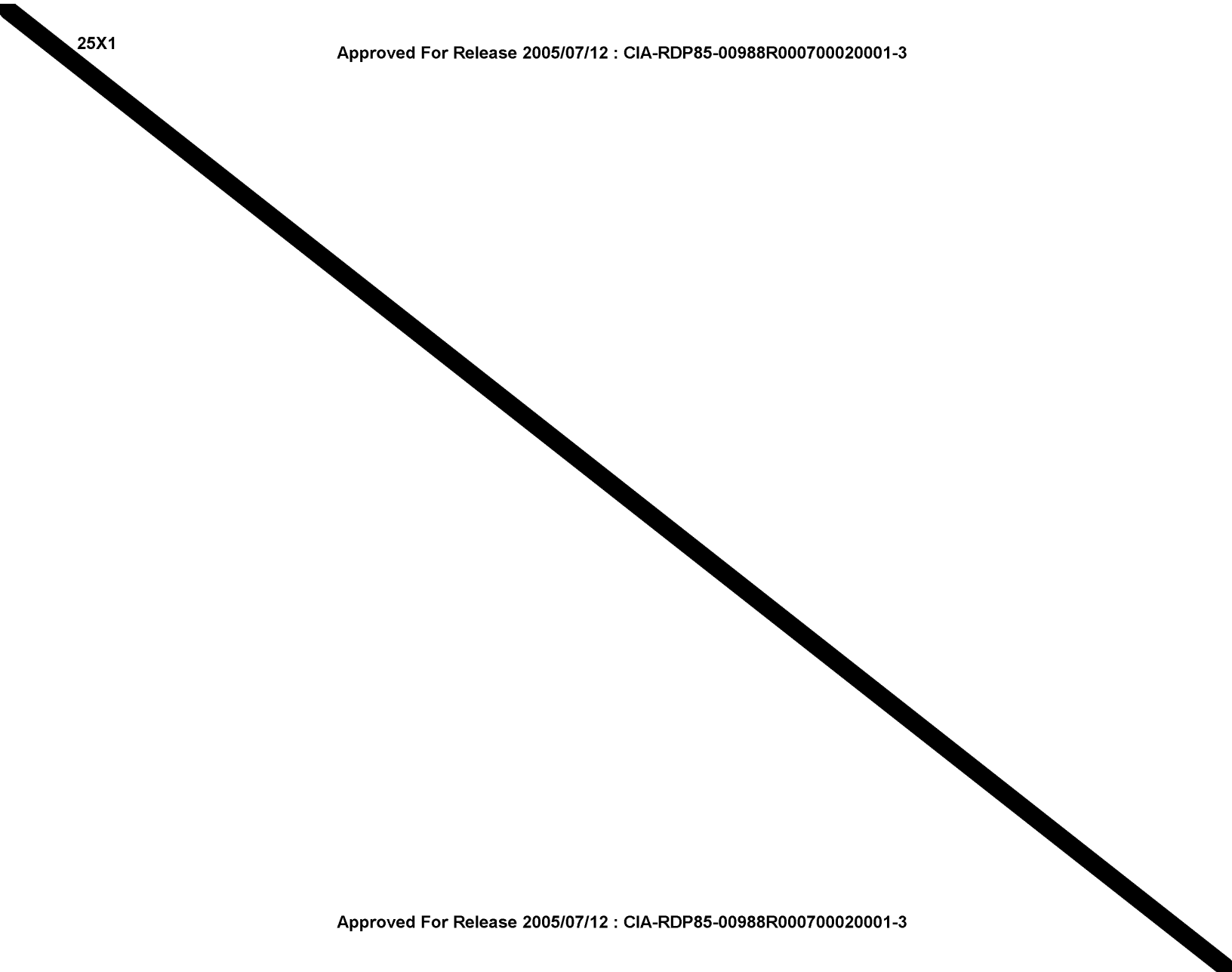
CONCLUSION

43. The report contains 23 recommendations on a variety of subjects. Some relate to matters already being considered by Management; others relate to matters which may not yet have received sufficient attention. We believe Supply Division personnel will give our recommendations a conscientious review and take appropriate action.

Office of Logistics
Supply Division
Organization Chart



Numbers in lower left corner indicate personnel assigned at 29 October 1976



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ADMINISTRATIVE - INTERNAL USE ONLY

17 FEB 1978

MEMORANDUM FOR: Chief, Supply Division, OL

INFORMATION TO: Chief, Supply Management Branch, SD

STAT FROM: [redacted]
ICS Data Base Manager

SUBJECT: Review of Department of Army Automated Logistics Management System

1. Attachment 1 contains a brief overview of the Army's Logistical System and is presented here as information only. STAT [redacted] SA3/B3, attended a tour of a local Army installation recently and brought back a copy of the training manual for this system.

2. This system contains much more capability than we might ever need but it does contain everything we do need. The Army system is batch vice on-line. The software package is free and requires an IBM 360 or better for hardware. We are looking into a similar Air Force system which is on-line.

[redacted] STAT
ICS Data Base Manager

Att.

Distribution:
Orig - Addressee w/att
1 - C/S.B w/att
✓1 - OL/SD/DCB (Official) w/att

STAT OL/SD/DCB [redacted] pk/8373 (17 February 1978)

Review of the Automated Logistics Management Systems Activity (ALMSA). ALM-53B125-RA dated March 1977.

1. The Commodity Command Standard System (CCSS) is an outgrowth of a U.S. Army Materiel Development and Readiness Command (DARCOM) program to develop standard systems, operating on standard equipment, with standard computer software for wholesale logistics, depot operations, and arsenal/lab operations.

2. CCSS is recognized as one of the largest automatic data processing business and accounting systems ever developed. Key features of this system are:

a. Extensive data maintenance and retrieval
b. Standard data elements
c. CCSS Computer/Communication Center (Autodin Interface)
d. Standard management process

3. The key functions of this Army system and the most important features are as follows:

a. Provisioning:

1. Automatic DLSC screening for stock numbers.
2. Extensive editing of input data
3. Capability to retrieve any data stored
4. Automatic generation of repair parts and special tools list
5. Automatic generation of data for establishing an item in the National Stock Number Master Data Record (NSNMDR)

b. Cataloging:

1. Automated record entry to the NSNMDR
2. Extensive number identification capability
3. Extensive interchangeable and substitutable item file updates
4. Master Data Record (MDR) generated Army Master Data File (AMDF) changes
5. Automated deletion system

c. Supply Management:

1. Activator to preclude out-of-stock situation
2. Pre-requirements determination and execution system up-date

3. Computation of requirement levels and execution
4. Defense Materiel Utilization Program (DMUP) automation
5. Automatic Requirements Computation System Initial Provisioning (ARCSIP)
6. DOD budget stratification
7. Price recomputation
8. Administrative and procurement leadtime recomputation
9. Inventory stratification

d. Procurement and Production:

1. Automated funding
2. Automated Procurement Work Directives (PWD)
3. Ageing and staging
4. Automated delivery orders
5. Record of all contractual data in MILSCAP Master File (MMF)
6. Semi-Automated purchase orders and delivery orders
7. Procurement status inquiries
8. Work Ordering and Reporting Communications System (WORCS)
9. Automated Bidders List (ABL)
10. Breakout update

e. Stock Control:

1. Precise requisition control
2. Systems decisions-requisition processing
3. Backorder establishment
4. Backorder release
5. MILSTEP reporting
6. Full MILSTRIP processing
7. Automated surveillance of manual action
8. Inventory reconciliation
9. Station excess
10. Transportation management data

f. Maintenance:

1. Maintenance programs
2. Maintenance program asset reporting
3. Overhaul consumption data
4. Maintenance overhaul factor reporting system
5. Parts explosion

6. Depot Maintenance Parts Requirements List (DMPRL)
7. Army Maintenance Management Data Exchange (AMMDEX)

g. Financial Management:

1. Stock fund
2. General ledger maintenance
3. Supply/Procurement/Financial integration
4. Fund certification
5. Program and fund control
6. Customer billing
7. Financial reporting

h. Depot Standard System (SPEEDEX):

1. Shipment planning
2. Transportation movement and route planning
3. Automated preparation of CBL
4. Automated transportation management reporting
5. Materiel receipt control
6. Depot stock locator system
7. Physical inventory of stocks
8. Inspection schedules of ammunition
9. Quality information system
10. Automated workload planning
11. Automated update of maintenance data bank
12. Automated maintenance shop scheduling
13. Automated parts forecasting for maintenance
14. Expense appropriation management
15. Work measurement
16. etc

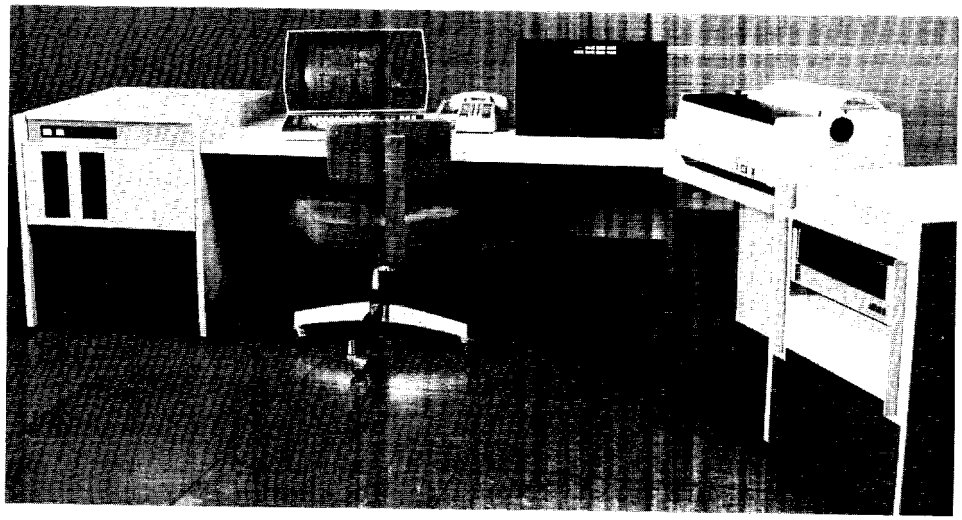
4. It is obvious many of these features in the Army system are similar to those in our system, except under different names. The main selling point of the Army system is the total integration of Logistics/Finance functions, eliminating the need for numerous stand alone systems such as we have today.

DATA-FLO

January/February 1978

Bimonthly Newsletter of Mohawk Data Sciences Corp.

Series 21 Grows Again



For the second time in less than a year, Mohawk Data Sciences announced a major peripheral expansion to its Series 21* line of intelligent systems. The new products include desktop magnetic tape drives, a ten megabyte disk drive and a keyboard rest for added operator comfort during long keying operations. Previous enhancements included three line printers — 90 to 600 lines per minute — and a compatible channel for connecting Series 21 directly to larger MDS* data entry/communications systems.

Introduced in January, 1977 as the first low cost, easy to use distributed processing system, Series 21 has subsequently gained worldwide acceptance. Present users cite modularity as a principal factor in their choice of Series 21.

"MDS Series 21 lets you walk before you run," said one user. "You can start with basic data capture applications on System 21/20, and then when time and workload permit, you can upgrade the system in-place to a user-programmable System 21/40. One by one, local programs can be developed using MOBOL* (Mohawk Business Oriented Language). Eventually, most of your job responsibilities can be automated for greater efficiency and less dependency on mainframe processing."

Promise Fulfilled

The new enhancement package goes a long way toward fulfilling the commitment made at the introduction of Series 21: "Planned extensions to the Series will provide increased processing power for a broader range of distributed applications. This means Series 21 users will always be assured of a long-term growth path within the same product family, thus protecting prior investments in systems programming, documentation and operator training."

The new tape and disk peripherals are favorably priced compared to similar competitive devices, and they have been engineered for a high degree of reliability. Since distributed processing systems are normally widely dispersed, it makes sense to design them for minimal service attention.

Desktop Tape

Two, new 25 inch-per-second magnetic tape drives for Series 21 are designed to rest on a table or desk. Their compact design and quiet operation make them ideally suited to an office environment, where space saving is often a prerequisite.

The new drives provide a computer-compatible medium, in either 9-track 800 bpi or 1600 bpi formats, for transferring diskette files to central processing. Both drives accommodate up to 1200 feet of industry-standard tape

Magnetic tape on Series 21 may serve as an input/output device for MDS data communications and media utility programs. Tape is also accessible via MOBOL programming for customized file manipulation. Series 21 magnetic tape is an economical, reusable medium for long-term file storage, such as customer names/addresses or part numbers/descriptions and pricing information.

10 Megabyte Disk

A new, mass storage disk drive is available for System 21/40 — the user-programmable version of Series 21. This highly-reliable drive incorporates a non-removable disk pack having an on-line storage capacity of 10 million characters.

Disk on Series 21 is accessible for data communications, media utilities and MOBOL programs. For example, user-written programs can access disk files, with the information being displayed on the video screen for operator reference or modification of stored data.

The 10 mb disk is offered in two configurations: either as a freestanding drive, housed in its own cabinet (similar to the 2.5 mb disk shown above); or the drive can be integrated into the Series 21 Controller Console.

Keyboard Rest

Keyboard Rest is a convenience accessory for Series 21 Operator Stations. It extends the front of the keyboard, providing a place for the operator to rest his/her wrist during keying. This low-cost option is recommended for large-volume keying operations, where fatigue could adversely affect production.

For further information on these and other Series 21 features, contact your local MDS representative.

*Trademarks of Mohawk Data Sciences Corp.

Decentralization: Boon To Management

Current Trend Toward Individualism
In December, 1977 the U.S. Census Bureau announced that the American population is evidencing a trend toward individualism. Factors such as smaller family size, more single-family dwellings and greater independence of the elderly were cited in the report.

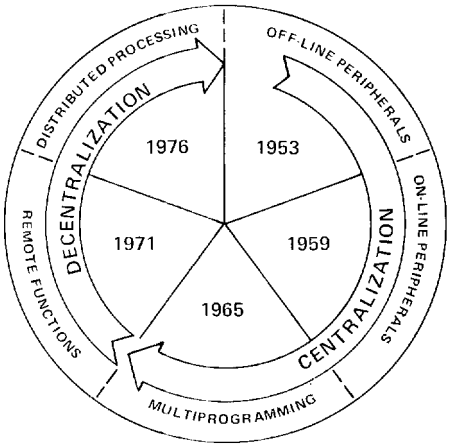
Similarly, many businesses have much of the individualism which characterizes the rest of society. Starting as small, personally-run enterprises, they grew into larger structures joined only by management or department heads. Individual managers were charged with the responsibility of meeting common corporate objectives within their own areas of specialization.

Reliance On Specialists Reversed
With increased specialization and diversification, data processing too developed its own specialists. Other departments had to rely on the combined skills of d.p. professionals for automation of their particular operation. This was understandable, because the high price tag of mainframe computers made it essential to spread the cost over many users. Economies of scale necessitated centralization of the computing function.

The early 1970's saw a reversal of this trend. Low-cost componentry made the "personal" computer practical. It was difficult for individual managers to experiment with new methods while locked into a centralized system. Today's manager now has access to the computer-aided innovations which so often herald progress.

DDP Is Child of Decentralization
Although still in its infancy, distributed data processing (DDP) represents a major trend toward more accessible, up-to-date management information. In recent decades, management has been hampered by a "paper explosion". Paper has been the traditional vehicle of information. Finding such information as current status of jobs in progress, or orders received or stock on hand has always meant paging through voluminous reports.

In the interest of greater efficiency, there is a real need to convert paper flow to information flow. DDP enables the automation of many paper-based



operations by extending computer intelligence into local offices, warehouses and factories.

DDP Is Management Tool
DDP may take various forms. There is no single way to satisfy all distributed processing objectives. For example, some businesses find that an intelligent key/disk system, with its pre-processing capabilities provides sufficient localization of computing power. Others, particularly smaller businesses, effectively rely on a locally-placed RJE or intelligent terminal to interface with a mainframe for report processing. DDP, however, brings to any business the added dimension of customized processing on a local level, complementing the high-volume work being done on a mainframe.

Any enterprise can increase its managerial efficiency by providing department heads with a DDP management tool. The advantages to be gained go far beyond reduced paper flow. Benefits such as local data base management, improved work scheduling and fewer demands on central computing also result.

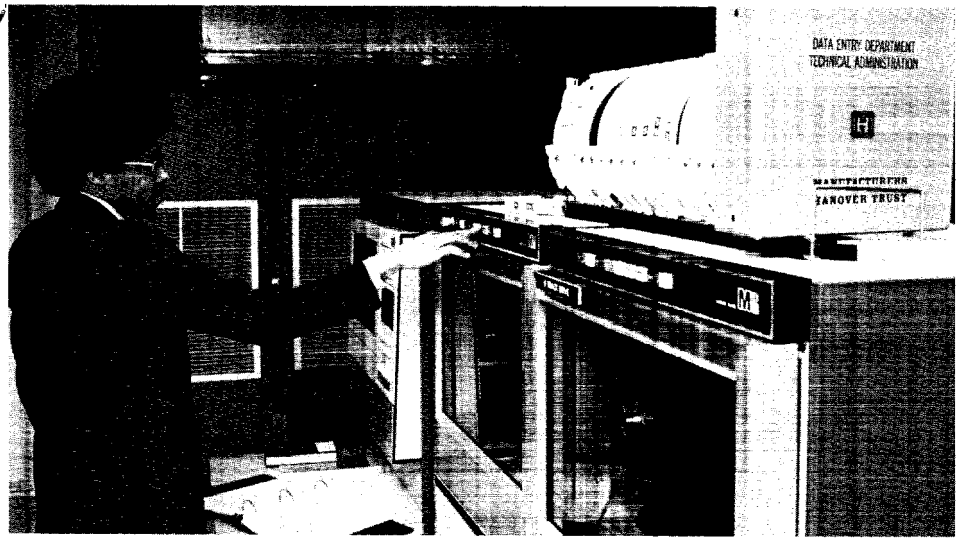
Adapted from SYSTEMS magazine

Series 21 Highlights

Check the following features of Series 21:

- ☐ **Building Block Architecture**
  Start with only what you need, and grow as you go to more complex applications.
- ☐ **Turnkey System**
  Formatted Data Entry Program (FDEP) and media utility routines give immediate usability.
- ☐ **User Programming**
  Mohawk Business Oriented Langauge (MOBOL) enables customized processing of source data with System 21/40.
- ☐ **Interactive Processing**
  Enables operator to interface with stored program for entry/retrieval of information in an intelligent environment.
- ☐ **Local File Storage**
  Files can be keyed from source documents or transferred from central to remote sites to allow local data base inquiries.
- ☐ **Utilities**
  MDS-provided programs allow data transfers between devices and edit routines for on-site printing.
- ☐ **Multiple Operator Stations**
  Up to four operator stations can be attached to the same system.
- ☐ **Three Keyboard Styles**
  User may select data entry, key-punch or typewriter style key-boards for minimal operator training.
- ☐ **Large Display Screen**
  15" CRT with variable display attributes, blinking cursor, upper/lower case, and 480 or 1920 character display capability.
- ☐ **Prompting**
  Displayed messages guide operator step by step through complex transactions.
- ☐ **Operator Statistics**
  Built-in counters in the FDEP monitor operator performance and other production factors.
- ☐ **Data Communications**
  BSC and SDLC protocols for universal network compatibility.
- ☐ **MDS 1200/2300/2400 Interface**
  Direct channel interface provides data transfers with existing networks of MDS 2300 intelligent terminals or MDS 1200/2400 systems for high speed data communications compatibility with a wide range of computer systems.

MDS Communication Terminals Speed EFT Handling For Manufacturers Hanover And Chemical Bank



MDS System 2400 facilitates same-day processing of paperless transactions

Manufacturers Hanover and Chemical Bank, both of New York, are two of a number of banks that are using electronic data processing systems to handle customers' "lock box" operations. Lock box is a special service extended to high-volume users like insurance companies and other banking institutions whereby a bank sets up a collection point (like a post office box) for receiving transactions from the customer.

At Manufacturers Hanover, an MDS System 2400 provides 24-hour data input functions, mainly for lock box operations, but with the ability to service other data transmission demands that occur. Peter Prestipino, officer in charge of the Data Entry Department's Technical Administration says: "The new equipment is powerful enough to enable us to communicate with different computer systems and also leaves room for us to add on capabilities such as disks, card readers and printers. In essence, the equipment can grow as our demands for its use grow." According to assistant vice president Nicholas Siragusa, there are currently 1500 transactions transmitted daily to lock box customers.

Chemical Bank provides lock box services to some 800 active customers and handles a volume of about two million items. 21 post office pick-ups per day minimize peak load pile-ups and assure same-day handling. Once received, the items are readied for processing within the hour. Because Chemical Bank makes multiple deposits as late as 11 p.m., their lock box service assures a greater percentage of same-day deposits than the companies themselves would be able to during their own business hours. To expedite daily updating of accounts receivable records, Chemical transfers payment data to magnetic tape at three of its MDS data communications terminals. Tapes are then delivered to local customers, while distant customers receive their data via telecommunication facilities. As part of its services, the bank receives tape transmissions from other lock box locations and pools the data as a summary of the day's payment transactions. An MDS communication terminal is then used to communicate data directly to the customer's main computer site.

Another type of operation, Deposit Concentration, is one aspect of Manufacturers Hanover's involvement in Electronic Funds Transfer (EFT). They operate this system for bank customers with a large number of branches and provide the most efficient method of concentrating funds from local bank accounts into one concentration account. A daily transaction tape is transmitted via an MDS communications terminal directly to the customer's central office.

"This system eliminates mail float as well as 50% of the paper flow involved in manual deposit concentration systems," says Saul Jones, officer in charge of Customer Service for Lock Box and Deposit Concentration. "It is lower in cost and more controllable than wire transfer systems."

MDS 21/40 Simulates On-Line Environment

"In Series 21, MDS put the processing power where it's supposed to be," said Anthony Barashke pointing to the 15" video display screen. Barashke is data processing manager for Saxton Products, Inc., a manufacturer of decorative telephones and electronic products for the CB and hobbyist markets.

An MDS System 21/40 with 3 operator stations and 3 diskette drives is installed at Saxton headquarters in Congers, N.Y.; a 2.5 megabyte disk drive will eventually be added. A second 21/40 with 2 stations is at their distribution center in nearby Nyack. Both systems are user programmable via MOBOL (Mohawk Business Oriented Language). Barashke's staff is presently writing MOBOL programs to handle Saxton's order entry and inventory control applications.

Initially, both systems are programmed for data entry and validation under control of a Formatted Data Entry package provided by MDS. "The ability to get our systems up and running right away, without having to program it ourselves, was instrumental in our selection of Series 21", Barashke said.

Source data is presently hand-carried from the Nyack distribution center for processing at Saxton headquarters. Information from two other Saxton distribution centers — Rockford, Ill.

Cont. on next page

Great Western Sugar Forms DDP Network

The Great Western Sugar Company of Denver, Colorado has implemented the first distributed data processing network involving MDS Series 21 systems. Three MDS System 21/40's link Great Western's corporate processing center, sugar cane factory and central headquarters via standard telephone facilities. Information flow between company locations has improved by an order of magnitude, with one week turnaround shortened to one day.
Several factors account for the improvement:

- source data entry,
- pre-editing capability, and
- substitution of data transmission for postal communications.

Accounting data formerly mailed from Great Western's headquarters in Dallas, Texas to their Denver keypunching center is now captured at the source. A Dallas operator enters accounts payable and general ledger information on Series 21 diskette, and transmits the files to Denver for same-day processing on their Burroughs 4700 mainframe. The remote MDS system is programmed for extensive data validation such as batch balancing, check digits, table lookups and range checks.

Richard Gentry, MIS Director for Great Western Sugar said: "The ability to validate data at the source, prior to mainframe processing, is a tremendous advantage. Replacement of 'dumb' data capture devices with intelligent Series 21 gave us pre-editing capability for the first time; there's no way to measure the value of that!"

Great Western's sugar cane factory in Louisiana utilizes their System 21/40 to prepare applications involving order entry, payroll, inventory control and standard costs budgeting. There too, extensive use is made of Series 21's ability to pre-edit each transaction. Series 21 intelligence has virtually eliminated error runs on the mainframe, with little need to return exception reports to the source for re-keying.

Each day, completed files are transmitted to Denver in unattended mode via Series 21 tape drives at the two remote sites. During the night, the processed files are returned unattended so reports can be produced the next morning on the remote Series 21 printers. Through these daily exchanges, Great Western's corporate, manufacturing and processing facilities remain current and in step with one another.

MDS 21/40 cont.

and Cerritos, Calif. — is transmitted from IBM 3741's at the remote facilities.

Barashke explained that the 3741 has a small screen which displays only 3 lines of data and has limited operator prompting capability. "With System 21/40, we can emulate an on-line system", Barashke said. "This means we can move terminals out into operating departments, such as accounts payable. Personnel there can learn to use the system simply by looking at the screen. That also means less reliance on data entry specialists who are becoming harder to find."

Once Saxton people have developed and tested the needed application programs in MOBOL, the Nyack system will be replicated at the other two distribution centers. The remote systems will include abbreviated customer and item files, stored on disk and available for access by remote site operators. "This will give us data editing capability at the remote locations for the first time", Barashke said. "Local storage capability will also ease the demand on our mainframe".

"It does cost a bit more per month to replace an essentially 'dumb' device with a distributed processing system", he concluded, "but the extra capabilities such as user programmability and data formatting will lead to personnel cost reductions, better response to customers and increased efficiency throughout our organization. That's a worthwhile investment!"

DATA-FLO
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Data-Flo is a regular publication of Mohawk Data Sciences Corp., Parsippany, N.J. With this newsletter, we aim to keep Mohawk Data users abreast of the latest time-saving/money-saving techniques being employed in EDP shops worldwide. We will also supply current information on the continually evolving MDS product line.

Editorial comments and story contributions from Data-Flo readers are welcome. To obtain copies of Data-Flo, contact Walt Sexton, Editor at the above address.

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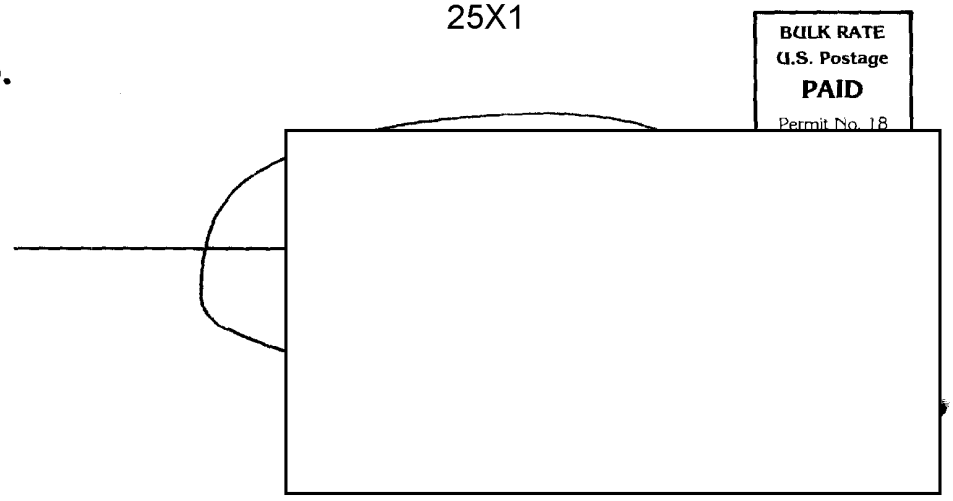

Approved For Release 2005/07/12 : CIA-RDP85-00988R000700020001-3

Printed in U.S.A. by MDS Press