1971

Navy management information system for aeronautical supply support.

Bedenbaugh, Jack Randall.

George Washington University

NAVY MANAGEMENT INFORMATION SYSTEM FOR AERONAUTICAL SUPPLY SUPPORT

Jack Randall Bedenbaugh

NAVY MANAGEMENT INFORMATION SYSTEM

FOR AERONAUTICAL SUPPLY SUPPORT

BY

Jack Randall Bedenbaugh

Bachelor of Science

U. S. Naval Academy, 1955

A Thesis Submitted to the School of Government and Business Administration of the George Washington University in Partial Fulfillment of the Requirements for the Degree of Master of Business Administration

May, 1971

Thesis Directed by

John F. McCarthy, Jr., M. L.
Associate Professor of Business Administration

TABLE OF CONTENTS

CHAPTER I

INTRODUCTION

Background Information

The United States Navy owns and operates 7,126 aircraft valued at 47 billion dollars. To support these aircraft in the custody of Navy and Marine air units in the field, a stock of ready supply parts and insurance material is required at the operating level, and at the inventory control points ashore. Currently, the value of the spares and repair parts available to support naval aircraft is 3.9 billion dollars. Management's requirement to have the right part at the right place (when needed) is indeed a valued objective, which cannot be obtained without timely management information and a system to insure integrated effort at all levels, to correct casualties and to cause corrective action to be taken.

By definition,

> . . . the design of a management information system determines the operating characteristics of the system. . Fundamental to the design is definition of system objectives. Management must define the objectives of the management information system. Unless these goals are clear and realistic, a responsive system cannot be designed.[1]

---

[1]Norman L. Enger, "Putting MIS to Work," American Management Associations, Inc., 1969, p. 31.

In establishing an aviation supply management information system, it is not enough simply to eonsider the objectives of top management. Instead, design must be founded on a pyramidal basis with the objeetives of top management (apex) supported by the objectives of the supporting subsystems (lower echelons). As stated by R. L. Martino:

> . . . there is an inverse relationship between organizational levels and requirements for information.[2]

Therefore, the relevance of information reeeived at top levels is only as good as the lower subsystems' data inputs. This point is further supported by Dr. Marvin M. Wofsey, who states:

> . . . in order of steps might be as follows:
> 1. Examination of the objectives of the systems
> 2. Segregation of the system into the optimum number of subsystems
> 3. Development of subsystem objectives consonant with the system objectives
> 4. Development of the hierarchy of output within each subsystem to attain the objeetives
> 5. Determination of the input neeessary to produce the output
> 6. Analysis of the current system to ensure that no signifieant input or output has been omitted
> 7. Development of concepts eoneerning ways in which the system ean operate
> 8. Selection of the optimum means of operation
> 9. Selection of the optimum equipment eonfiguration and the output that will be produeed
> 10. Proposal of the new system[3]

A different approach is offered by Mr. Marshall K. Evans and Mr. Lou

---

[2]R. L. Martino, Information Management: The Dynamics of MIS, (Wayne, Pennsylvania: MDI Publications, Management Development Institute, 1968), p. 3.

[3]Marvin M. Wofsey, Management of Automatie Data Processing Systems, (Washington, D.C.: Thompson Book Company, 1968), p. 15.

R. Hague of Westinghouse, who recommend:

1. Establish the long-range objectives and then work out a basic design for an information system that will enable the business to operate more effectively and at lower cost;
2. analyze and define the information system currently in use;
3. make short-range improvements in the existing system which are consistent with the long-range plan;
4. establish a time schedule and assign responsibility for attaining the long-range objectives; and,
5. accomplish the plan.[4]

The Evans and Hague approach is very refreshing in that it looks to the future and it recognizes the goals of the total system as the eynosure of the management information system. As pointed out earlier, it considers subsystems as contributors to the overall system and as self-contained micro-systems. Since this paper is concerned with analysis and updating of a system in being, the Westinghouse approach offers a cost conscious approach to existing procedures and allows growth and change with minimum disruption of function and maximum direction toward achievement.

In addition to basic design, the capabilities of third generation computers must be considered. In this regard, Enger states:

> . . . the advent of third generation computers has increased the sophistication and responsiveness of management information systems. The following are the characteristics of current management information systems:
> 1. orientation toward random access
> 2. concurrent use by multiple users
> 3. flexible file structuring
> 4. flexible question formats
> 5. flexible output formats
> 6. communications orientation

---

[4]Marshall K. Evans and Lou R. Hague, "Master Plan for Information Systems," Harvard Business Review, December, 1962, p. 93.

7. near-English retrieval language
8. user no longer and EDP specialist
9. rapid response to queries[5]

Therefore, it is considered paramount in importance to analyze the objectives of the total aeronautical management information system and its supporting subsystems; and, armed with this information, to examine the existing system for its ability to inform all echelons on their effectiveness in meeting objectives.

Statement of Research Question

What are the multiple factors influencing the choice and use of aviation supply management information in the Department of the Navy? Investigating and correlating the objectives of aeronautical supply support, with the management information system in being, is the primary objective of this thesis.

This thesis seeks to compare current management thinking about information systems with the systems in use by the Navy to monitor supply support on a timely basis, using both immediate and long-range corrective action.

The approach is based on: (1) determination of objectives; (2) design of current system; (3) analysis of current system; and, (4) changes needed.

Secondary questions expected to be dealt with in the research project are:

1. Is it worthwhile to standardize reporting criteria for all of DOD?
2. What are the management uses of the accumulated data as a base for

---

[5]Enger, "Putting MIS to Work," pp. 37-38.

future planning of aeronautical supply support?

3. What range of data, not now collected, would be useful in the management of aeronautical material?

In order to design the new system, the following subsidiary questions have to be answered:

1. What materials are being controlled for issue and resupply?
2. Who are the customers?
3. What service objectives are required (time of service at each level)?
4. What channels of distribution are needed?
5. What subsystems are involved?
6. Will all material be Navy Procured or are other Inventory Managers involved?
7. What facilities for repair are available?
8. What will the information needs be?

Scope and Approach

This thesis is intended to determine the requirements for a management information system in the Department of the Navy which will enable managers at all levels to have immediate knowledge of problem areas which affect accomplishment of total or subsystem objectives. In this regard, maximum stress and analysis will be placed on the following concepts:

1. determination and specification of objectives for the total system
2. determination and specification of objectives for the supporting subsystems

3. hierarchy of outputs and required inputs
4. analysis of the system in being, for redesign purposes
5. proposal of the new system

This project does not attempt to exhaust the field of management information technology. Rather, it is a systemmatic analysis of objectives sought, data base design, hierarchy of reports and action units, communication media, timing and responsibility for corrective action and feedback. Of primary concern in this project is the question of adequacy of data and adequacy or objective attainment from these data. Interviews with top management information personnel in the Navy provide deep insight into this question. The responses to questionnaires represent current top management views on the subject area. Although the feedback is considered valid, it is not the Navy Department's official views.

Research Methods

The use of both primary and secondary sources is essential to getting a practical solution, both from an experience-based and an academic-oriented view.

Primary sources include interviews with responsible personnel in the Navy department, and regulations in current force within the Navy.

Secondary sources are local libraries and selected periodicals.

Limitations of Research Methods

The analysis of information used in this project is deductive in technique. The scope is considered indicative and by no means exhaustive. The

areas requiring further research are properly noted and justified.

Organization

Chapter II will define a management information system, discuss the design process and then compare the required system to the actual system in being.

Chapter III discusses, displays and evaluates the data formats of reports, hierarchy of reports, decision points, feedback provisions, and use of historical data for long-range corrective actions.

Chapter IV is concerned with the way top management views its information system and its effectiveness.

Chapter V summarizes, and concludes findings based on deductive reasoning. Areas requiring further study are identified and qualified as to relevancy.

CHAPTER II

DESCRIPTION OF A MANAGEMENT INFORMATION SYSTEM AND ITS USES

Information System Design

Information connotes the acquisition of knowledge. It contains the element of suprise.[6] Mr. Sherman C. Blumenthal defines it as:

> . . . a unit or series of uninterrupted raw statements of fact, recorded, classified, organized, related, or interpreted within context to convey meaning.[7]

A computer can store vast amounts of data, can retrieve the data quickly, and can perform arithmetic and logic operations at a speed measured in mano-seconds. And, it can perform these operations practically without error. These characteristics make the computer ideally adapted to solving many operational control problems. As a result, some complex and ingenious automatic information systems have been developed in the past few years, particularly in the areas of production scheduling and inventory control. It is incorrect, however, to assume that this is the first step in automating

---

[6]Dr. R. L. Martino, "The Development and Installation of a Total Management System," Data Processing for Management, April, 1963, p. 37.

[7]Sherman C. Blementhal, Management Information Systems, A Frame-Work for Planning and Development, (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1969), p. 30.

management information. The higher levels of management activity have entirely different information requirements, and it is a mistake to assume that these functions are merely a more complex operational function. Consequently, the same techniques that are used to solve operational control problems cannot be applied to management control problems.[8]

In the Navy department, the basic premise of support is highly decentralized logistics support to insure "repair at the lowest level."[9] Repair at the lowest level requires viable supply support at the lowest level also, because repair of complex equipments cannot be effected without a ready supply of parts for repair purposes. Therefore, the lower echelon supply managers require support data which indicates:

1. Status of reparable items under repair at the local level (intermediate maintenance activity) which are required for owned aircraft.

2. Status, including estimated data of delivery by higher echelons, for all outstanding requisitions to satisfy NORS requirements.

3. Ready data, by individual assigned aircraft, indicating the number of items holding an aircraft down (used to determine optimum cannibalization costs).

4. Usage factors for resupply and allowance lists changes.

---

[8]John Dearden, "Can Management Information be Automated?," Harvard Business Review, Vol. 42, No. 2, (March-April, 1964), pp. 128-135.

[9]U.S. Navy Maintenance, Material, and Management Manual, (Washington, D.C.: Department of the Navy, 1963), p. iii.

5. Number of hours NORS, by type aircraft assigned (for reporting to higher authority).

The first stage, problem definition, requires development of a realistic statement indicating the kind of system necessary to produce the reports needed for top management. This phase must include establishing objectives of a total management information system, personnel selection to develop and design such a system, and determination of the required elements of the system.[10]

In problem definition, it is important that the objectives of the total system be broken down into manageable subsystem targets, to enable the operating forces to maintain control of their peculiar requirements by means of subsystem objectives which lend essential knowledge to the operators, and eventually to the higher echelons, in support of total objectives. Again, decentralized action at the lowest level is prerequisite to maintaining a ready force of air weapons at the site as required by DOD's weapon system programming.

Design means to "mark out, designate or indicate."[11] It includes combining features or details and often calls for preparation of preliminary sketches or plans. The design function is important in establishing a relationship between the various stages or phases of a system, linking them together, and outlining the composite. It also covers the arrangement of people and communications

---

[10]Martino, "Development and Installation," pp. 31-37.

[11]Richard A. Johnson, Fremont E. Kast, and James E. Rosenwieg, "Designing Management Systems," The Business Quarterly, (Summer, 1964), pp. 59-65.

networks established to provide information concerning the process.

When establishing a new business operation, the design function is fairly straightforward. However, the scope of systems design also covers the function of redesign, assessing existing systems with an eye toward change.[12]

> First and foremost, the systems concept is a frame of mind. Management must be receptive to this approach and develop a philosophy in which planning, organizing, controlling, and communication are accomplished in terms of subsystems integrated into a composite whole. Once there is acceptance of the systems concept and the feasibility of organizing on the basis of a master planning council, a resource allocation planning group, and an operations planning group (with facilitating and project systems reporting to it), the systems design function can be carried out in a progressive atmosphere. The atmosphere created is all-important; it fosters creativity and innovation on the part of systems designers.[13]

Once objectives are determined, the analysis phase encompasses:

1. determination of data elements;
2. determination of the interrelationships of data elements and the location of data elements in the file;
3. determination of rules governing the handling of data elements and data files;
4. formulation of decision tables where logical choice would govern the selection of one of many possible paths; and,
5. formulation of rules governing the production of specific reports required for specific management action.[14]

Norman L. Enger defines a management information system design as follows:

---

[12]Ibid., pp. 59-65.

[13]Peter P. Schoderbek, Management Systems, (New York: John Wiley and Sons, Inc., 1967), p. 120.

[14]Martino, The Development and Installation, pp. 31-37.

> A management information design determines the operating characteristics of the system. Fundamental to system design is definition of system objectives. Management must define the objectives of the management information system. Unless these system goals are clear and realistic, a responsive system cannot be designed.[15]

In the Navy Aeronautical Supply System, the objective for total support is set by DOD, and the chain of command is assigned mission tasks in support of these objectives. The question to be answered is: What is the degree of attainment of these objectives and what changes, if any, are required to make the management information system more viable and responsive to these objectives and their accomplishment?

The next step is comparison of the designed system with the existing system. At this point, great benefits can be realized by simplification or redesign of current systems to match the objectives of management. That is, reduction or redesign of data elements, reduction of storage space and decision points, all of which can save vast sums in data handling, communications and redundant responses to problem areas. Usually an improvement in the system connotes a change in organization: to match the players with the program. Finally, the system must be tested and proved effective to the needs of the users.

Information System for Aeronautical Supply Support

The design process for a management information system must address

---

[15]Enger, "Putting MIS to Work," p. 31.

the following characteristics in the case of a major weapon system (such as an aircraft):

1. operations in which costly and complex equipments are dominant;
2. operating requirements that are stringent;
3. an environment containing many stochastic elements; and,
4. organizations which are in scattered locations, but whose activities must be coordinated.[16]

The Naval aircraft inventory consists of costly and complex equipments which are subject to high failure rates as a result of stringent operating conditions (aircraft carrier, sea-based operations) with the attendant corrosion, mechanical shock, and variable weather conditions which introduce many stochastic elements to contend with. The custodians (operators) of the aircraft are scattered over the globe and are completely mobile, thereby requiring the utmost in self-sufficiency or, as stated before, "repair at the lowest level."

In a system design, the primary objective is to produce information for managing or decision-making. Quite often, however, the end products are not well defined; and this leads to either too much or too little data in a design which falls short of objectives.

Furthermore, the decisions to be made vary. For example, in the management of a weapon system, four categories of decisions are:

1. Tactical: Those decisions concerned with the combat commitment of the force.
2. Support: Those decisions concerned with maintaining the combat readiness of the force.

---

[16]Rand Corp P-1362, p. 1.

3. Planning: Those decisions concerned with establishing and modifying the force configuration and operating procedures.
4. Equipment Design: Those decisions concerned with modifications of equipment and facilities as a result of field experience.[17]

In the attainment of objectives, all closely allied to the dominant DOD requirement to keep NORS rates below 5 per cent, particular information requirements are necessary to enable managers at all levels to carry out their specific missions in support of Naval aircraft and the overall DOD objective.

Since Naval aircraft are procured in finite numbers, determined by DOD and the services to support the Joint Strategic Operating Plan (JSOP), their combat readiness is vital to the defense posture of the United States. Therefore, the Department of Defense not only approves the number of aircraft to be acquired, but also stipulates a management report to be submitted in a format which provides up-to-date readiness figures on the aircraft inventory operated by the various services.

Assistant Secretary of Defense (Installations and Logistics) has directed that:

> . . . each service shall provide logistic data on the maintenance and supply support of major items of equipment . . .[18]

in the format shown in Appendix I.[19] The genesis of this report, titled "Equipment Distribution and Condition (EDAC) - Measuring and Reporting System," is to advise the number of operational aircraft in terms of percentage

---

[17]Ibid., p. 3.

[18]DODINST 7730.25, February 13, 1968, p. 2.

[19]Ibid., Encl (2).

ready, percentage not ready due to maintenance, and percentage not ready due to supply. This is a monthly report which includes analysis of problem areas contributing to the percentage shortfall.

In addition, the Secretary of Defense has established the objectives for supply and maintenance support. These objectives are: Supply (not operationally ready) - 5 per cent; and, Maintenance (not operationally ready) - 24 per cent.[20]

Therefore, top management has set the objectives and a report to inform top management of operating results, including narrative analysis of major problems contributing to the missing of DOD ready percentage goals.

In order for the Navy department to be able to respond to DOD with analyses, a management information system was set up to monitor and control the supply of parts holding aircraft down, or making them incapable of performing required missions.

In addition to overall readiness visibility at the DOD level, the Navy department also requires management information at its various support levels in order to control the number of ready aircraft available to carry out assigned missions (tactical and strategic requirements). The management information collected, and the uses of these data, are of paramount importance in the management of the Naval aircraft inventory.

Since the responsibilities for support are different at each level of

---

[20]Ibid., p. 3, encl (1).

support, different data is required at different levels to enable managers to recognize deficiencies and to provide a basis for decisions to correct deficiencies in support.

An aircraft that is not operationally ready due to parts is an aircraft that either cannot perform its missions or cannot fly safely. When an aircraft is determined to be not operationally ready supply (NORS), a series of actions are necessary to correct the casualty in the shortest possible time.

As indicated previously, the total system objective is the maintaining of the number of assigned aircraft so that non-operationally ready time due to supply of parts is 5 per cent or lower. By subsystem (support echelons), the supporting objectives are as follows:

Squadron: For assigned aircraft, carry out the maintenance plan (scheduled work) and conduct maintenance as otherwise required (non-scheduled), replacing required parts as necessary to effect safe flight or mission capability. Provide input to supporting activity to define the occurrence time of a NORS condition (when maintenance ceases due to lack of parts) and report the completion (receipt of parts) to the supporting activity.[21]

Support Activity: Maintain stocks of parts for use in replacement and repair of all assigned (squadron) aircraft. Issue available material; or, if not in stock, place requisition on nearest assigned depot. Report in NORSAIR format the occurrence of NORS to the Program Support Point (Aviation Supply Office),

---

[21]U.S. Navy Maintenance, Material and Management Manual, Part III.

monitor status and follow up as necessary to expedite receipt of parts. Upon receipt of parts, notify completion action to Program Support Point.[22]

Depot: Provide replenishment support to assigned supporting activities, receiving and filling their NORS requisitions in one hour. For material not available, pass requirement direct to Program Support Point (Inventory Control Point) with status by electrical means to the ordering activity. Record demand and replenish stocks as necessary for future support.[23]

Type Commander (Aviation Material Office): From the time a NORS is reported at a support site, monitors to completion by various means. Provides firm shipping data to support site if requirement is available in system; if not available, takes alternative action such as expediting production delivery, cannibalizing aircraft ashore in rework or strike status, local emergency purchase through supply centers, or expediting of higher assembly part to the requestor as a last resort. Advises status and satisfaction of requirement, when effected, to program support point (Aviation Supply Office).[24]

Program Support Point (Inventory Control Point): Maintains central asset data and central NORS records, satisfying requirements as occurring and in consonance with DOD priorities (Force Designators). Maintains NORS data base to indicate a composite report every 15 days to designate by stock number

---

[22]COMNAVAIRLANT and COMNAVAIRPAC Instruction 4400 Series, "Requisitioning Guide," Current edition.

[23]Ibid.

[24]Type Commander Inst., 5442 Series.

the NORS contributing parts and their duration in days. Reports to higher authority the NORS days, by aircraft type, against specific stock numbers, so that measurement can be made of total system response. Provides analysis and corrective action requirement for the top ten NORS causative parts to higher authority (Headquarters Naval Air Systems and Naval Supply Systems Commands plus CNO, the type commanders and DOD). Monitors corrective action by responsible authorities and reports completion.[25]

Graphically, the EDAC system and NORSAIR system operate concurrently and independently as shown in Appendix III.

It is significant to note at this point that the two systems are supportive in nature; but, due to the stochastic element of cannibalization of aircraft undergoing repair, the NORS times in the two systems will never agree. The EDAC system gives a precise twenty-four hour accounting of Operationally Ready, Non-Operationally Ready due to Maintenance and Non-Operationally Ready due to Supply time. The NORSAIR Management Information System gives a count, in days, of the NORS time from occurrence to completion, regardless of stochastic events locally. The essence of this difference in measurement, therefore, is twofold:

1. EDAC is an operational report and measures in hours on a continuous basis; NORSAIR measures in days.

2. As long as a NORM condition (maintenance) exists, a NORS (supply condition) cannot exist in EDAC; however, when the part is still required for the cannibalized

---

[25]Headquarters, Naval Supply Systems Command Instruction 5442.1 of 3 June 1966.

aircraft and since the costs of control and communication are high, the adjustment to operating reports is made to EDAC, but not to NORSAIR.

Then, the objectives and subobjectives of the total system and the subsystems, respectively, are integrated by the NORSAIR concept as indicated above.

Reports Required:

1. Usage (Historical - United States Navy Maintenance, Material, and Management System)

2. NORSAIR (NORS Aviation Item Report) - reports to top management and intermediate commands the items causing the greatest amount of NORS time, including an analysis of the reasons for the NORS conditions and corrective action by commands.

3. EDAC Report (Aircraft Readiness Data) to DOD via CNO - advises percentages of aircraft ready by type aircraft on a twenty-four basis.

Basically, this is the objective of the Navy Management Information System for Aviation Supply. Actual timing, the detailed formats, responsibility centers, communications and feedback systems for corrective action will be analyzed in Chapter III.

CHAPTER III

COLLECTION AND USE OF DATA

The current management information system for aeronautical supply support is designed to accomodate the objectives for the total system and its supporting subsystems. Using the objectives for each hierarchial subsystem, the report formats and their frequency will be examined in regard to their contribution to total objectives and to subsystem objectives.

Due to the complexity of interaction between decision points and feedback points, the hierarchy of subsystems which comprise the total system will be described first; then, the operation of each subsystem will be described in relation to the other subsystems and to the total system.

The Non-Operationally Ready Supply Aviation Item Reporting System (NORSAIR) is the management information system under analysis. This system was designed and installed by the Naval Supply Systems Command, Washington, D.C., in 1966. The purpose of this information system is:

> . . . to establish NORSAIR management information reporting to various management levels within the Department of the Navy . . . . This system includes a measure of the number of Navy aircraft not operationally ready due to supply (NORS).[26]

---

[26]Ibid., p. 1.

The occurrence of a NORS condition is reported by submission of a requisition from the user (squadron's supporting station, carrier or Marine Air Group) to the supporting depot (second echelon of support), with a copy to Aviation Material Offiee and the Aviation Supply Office. There is no data-link from the ships and Marine air groups to their depots; therefore, at present, the initial document is submitted by Naval message (radio transmission). Onee the requisition is received by the depot, subsequent transaetions are reported by data transmission systems which interface with eomputers.

Sinee all depots, reporting stoek points and inventory eontrol points (such as the Aviation Supply Offiee), are eonneeted by data links and have standard computer programs, the subsequent proeessing is automated. Only the non-reporting (small activities) stoek points are off-line; therefore, the Aviation Material Offices (one on eaeh coast) manually screen all non-reporters by telephone for required NORS material. If material is found, and the reporting system cannot provide, it is pushed to the unit by intereept proeedures and a "kill" order is sent to the present holder of the outstanding requisition. Currently, 92 per eent of all requirements for NORS are filled from local support activity or depot stocks. The other 8 per eent is found either by stoek asset data at the Aviation Supply Office (location of material at other sites, depots), by Aviation Material Offiee's seareh of non-reporters (off-line) in their respeetive areas, or by other alternate aetions to satisfy the requirement (eannibalization of aircraft ashore, diversion from production eontract assets, or expeditions repair ashore).

The input document which imitates a NORS cycle is called a NORS requisition and it is identified by a character "G" in card column 40. This requisition is submitted by the supporting ship or air station when local assets are not available to satisfy the NORS requirement. This requisition is received by the supporting depot and only one hour is allowed to provide issue and shipping status or passing action to the next echelon for supply (Aviation Supply Office), with status or passing action provided to the customer and the cognizant Aviation Material Office (Atlantic or Pacific).

The Aviation Material Offices Atlantic and Pacific are under the command of Commander Naval Air Force, Atlantic and Commander Naval Air Force, Pacific, respectively, and respond to NORS information by performing a closed-loop process from initiation of the NORS to completion of the NORS. The Aviation Material Offices get a copy of the initial requisition to depot and all subsequent status by electrical means. In this manner, they are cognizant of the exact holder of each NORS requisition and the length of time the requisition is held at any echelon of support. In this way, the Aviation Material Office acts as a catalyst to insure prompt action or alternate efforts to satisfy the requirement. If the estimated time of completion exceeds the deadline delivery date set by the operating unit, the Aviation Material Office can take alternate action to satisfy the requisition. As mentioned previously, the alternate sources are cannibalization of aircraft ashore under the Commander Naval Air Force's jurisdiction, salvage from strike (salvage) aircraft, expediting repair of reparables in rework at

overhaul points, or emergency local purchase.

The objectives of the total system and the subsystems are as follows:

Department of Defense (Total System) Objective: To maintain aircraft not ready due to supply (NORS) rate below 5 per cent for aireraft assigned to the operating forces. DOD Instruetion 7730.25 of 13 February 1968 specifies this objeetive.

Chief of Naval Operations (CNO) Objective: CNO Instruetion 4700.19C of 2 July 1968 speeifies the DOD objective of less than 5 per cent of assigned aircraft not operationally ready due to supply. In addition, an analysis of type aircraft having 5 per eent or more NORS is required for reporting to DOD on causative factors responsible for material support deficieneies.

Chief of Naval Material (CNM) Objective: To review analysis of defieiencies and report findings to CNO regarding aircraft types having 5 per eent or more NORS. The responsibility for design and maintenanee of the management information system to meet CNO/DOD objeetives was delegated to Commander, Naval Supply Systems Command.

Commander, Naval Supply Systems Command (NAVSUP) Objeetive: The design of the management information system for aeronautieal supply (NORSAIR System) is under the eognizance of this command. In addition, the eomputer systems, programs, staffing of supply aetivities, and the operating funds for the United States Navy Aviation Supply Office, Naval Supply Depots and Naval Supply Centers are under this command. In addition to system design, this command coordinates

corrective actions by responsible commands under the command of Chief of Naval Material for NORS rates over 5 per cent for specific items of supply (Naval Air Systems Command for technical repair part problems and Naval Supply System Command for procurement of Navy Stock Fund items).

Commander, Naval Air Systems Command (NAVAIR) Objective: To comment on technical material problems and initiate corrective action on them. This command has budget and funding authority for all technical aviation repair parts and components procured and accounted for by the United States Navy Aviation Supply Office, Philadelphia, Pennsylvania.

United States Navy Aviation Supply Office (ASO) Objective: To maintain NORS rates below 5 per cent in the operating forces by provisioning, stocking, distributing, and accounting for aircraft material; to analyze the technical and supply problems which caused the NORS rate to exceed 5 per cent and report findings to Naval Supply Systems Command, Naval Air Systems Command, Chief of Naval Material and Chief of Naval Operations; to receive feedback from action commands on causative factors under their cognizance, for specific NORS items, and to incorporate corrective action information in reports to top management (CNO, CNM, NAVAIR, NAVSUP). In addition, support arrangements with all contractors and the Defense Supply Agency are the responsibility of this command; and, emergency purchase and adjustment of stock levels due to demand is the responsibility of ASO to insure long-term corrective action.

Defense Supply Agency (DSA) Objective: To provide wholesale supply support

to the military services for items under their cataloging cognizance based on forecasted and funded requirements. These parts are procured with Navy Stock Funds. DSA Regulation 4140.35 is applicable to supply support procedures between DSA and the United States Navy.

Aviation Material Offices (AMO's) Objective: To receive all NORS reports from operating units and to maintain constant expediting action to satisfy NORS requirements, advising the unit, the Aviation Supply Office and the Type Commander of the results of expedite and alternate actions to satisfy the requirement by the required delivery date.

Type Commanders (COMNAVAIRPAC/COMNAVAIRLANT) Objective: To maintain constant status of all operating aircraft assigned and supply items causing aircraft assigned and supply items causing NORS (report provided by AMO, an activity under their command) and to take alternative actions, when necessary, to provide material from shore based assets, and to provide for replacement of the cannibalized material to the shore based unit.

Operating Forces (Aircraft Carriers, Naval Air Stations and Marine Air Groups) Objective: To report all NORS occurrences to AMO, ASO and the supporting depot; and, to report, by stop card, the satisfaction of NORS as a result of depot, ASO, and AMO action. Every fifteen days, each command recaps all NORS outstanding to AMO and ASO.

The determination of attainment of the 5 per cent NORS objective is made from the monthly EDAC operational report which is sent by operational

units to CNO, NAVAIR, ASO, NAVSUP and the Type Commanders. The NORSAIR reports are handled on-line from start to finish and fifteen day recaps by aircraft type and unit are reported to ASO. Therefore, a real-time system is in being to identify, at any time, items causing NORS, their status, and corrective actions required by the logistic commands (CNO, NAVAIR, NAVSUP, and ASO) to solve the problem. From the physical data handling described, the inputs and outputs, it would appear that the basic design is sound and that the subsystems are tied together in a common cause; however, deductions will be made later on the basis of top management replies to questionnaires concerning the viability of the total system and its parts.

Due to the many stochastic elements involved in decision-making, the complete automation of the process is not possible; that is, analyses from the automated data are used to alert management to problem areas, then coordinated corrective action is taken by the various logistic commands by off-line reasoning; and, the results are monitored to completion by a combination of human feedback and machine action.

Reporting

The NORSAIR "start report" is reported by the aircraft custodian upon occurrence of a NORS. Appendix II is the format of the initial report. Frequency of the initial report is on an as-occurring basis. The "stop report" is submitted when the requirement is made available to the requisitioner, also on an as-occurring basis.

At fifteen day intervals, the Aviation Supply Office reports all outstanding NORS requirements to the Naval Material Command, copies to the Naval Material Command, copies to the Naval Air Systems Command and Naval Supply Systems Command. In addition, a narrative report is submitted for the top ten NORS items (based on cumulative NORS hours contributed by lack of specific parts). The narrative report covers the causative factors, the corrective action taken and the get-well dates for the item.

For historical purposes, a data code is assigned to the "stop report" indicating the method of satisfaction of the NORS requirement. These codes are as follows (entered in column J, Appendix II):

Code	Meaning
11	Receipts from other Supply Officers - ASO action
12	Receipts from procurement - ASO action
13	Receipts from DSA, DOD, CSA
14	Local purchase
15	Local repair or fabrication
16	Cannibalization
17	Local stock (interchangeable, substitute, etc.)
18	Local system tapping action
19	Miscellaneous
20	Cancellation

ASO

. . . develops statistical reports from NORSAIR's submitted. Through analysis,

action is taken to improve specific and overall support to prevent future NORS conditions. Also, ASO is required to provide extensive reports to higher authority regarding NORS, as specified in Naval Supply System Command Instruction 5442.1. These reports are critically reviewed by top Navy Management and assistance is required when necessary.[27]

Hierarchy of Reports

Appendix II shows the total management information provided to Navy management, the frequency of the reports and the data contained therein (format).

The importance of this information system is mainly attributable to the standardization of reports by the various users and the aggregate picture presented on what parts are causing NORS, the extent of the NORS problem (requisitions and days outstanding), corrective actions taken and responsible commands for correcting the problems. The coordinated action thus obtained is the essence of a management information system; that is, concerted efforts by the various subsystems in support of objectives (common purposes).

Decisions

Appendix II is an overall decision point matrix developed from instructions applicable to the various command levels. Once an aircraft is reported NORS due to lack of a part at the operating site, the second echelon of support (depot) has only one hour to respond or pass the requirement direct to ASO. Each transaction in the operating area is closely monitored by the

---

[27]Aviation Supply Office Field Instruction 5442.1K of 17 December 1968, p. 5.

Aviation Material Office; and, once ASO status indicates non-availability in the reporting system, the Aviation Material Office takes alternate action to provide the material from non-reporting activities in their areas, emergency purchase, from repair site assets in CONUS, issue of a higher assembly (with ASO approval), cannibalization of a stricken aircraft, or cannibalization of a shore based pool aircraft. The decision for cannibalization must be made by the Fleet Commander (AMO's next higher command) and immediate diversion of ASO receipts must be arranged to replace cannibalized parts.

At the Aviation Supply Office, decisions center on providing the part from reported assets at other sites (any stocked item can be referred for issue to satisfy a NORS condition). This is done mechanically from the nearest site or sites holding the assets. If the required material is not available in the reporting system, expedite is taken on existing due-in material, emergency purchase is taken if necessary to arrest a rising demand and technical review is initiated to determine any reported higher-than-planned failure rates reported by the 3M system.

The Naval Air Systems Command and the Naval Supply Systems Command are informed of residual problem items on a bi-monthly basis. These two commands direct analyses of the problem items in depth to determine the causes of the residual problem and to monitor concerted corrective action by funding, training, redesign of material, redesign of maintenance instructions, increase in allowance lists or any combination of these corrective actions necessary.

The Chief of Naval Material and the Chief of Naval Operations are charged with the Five Year Defense Plan, the budget and development and

maintenance of the logistics system and facilities. Decisions on reprogramming funds (Program Change Proposals) must be made by these commands and approved by DOD.

Therefore, the range of decisions is from a wide base at the AMO level and ASO level (micro-systems) and tends to be on broader, long-range and less dynamic (macro) at the top level. The tracking, solution and monitoring of NORS in the Navy is highly dependent on the quality, timeliness and inclusiveness of data submitted under the NORSAIR system.

A study of any management information system should include the objectives, the design, the inputs and outputs, the decision (feedback) points, communications, and the collection and use of data. In addition, it was considered appropriate to compare the system under study to another similar system in another similar organization under DOD.

The closest counterpart to the United States Navy Aeronautical Management Information System for Aeronautical Supply is the United States Air Force's Standard Aerospace Vehicle and Equipment Status Report, promulgated by Air Force Manual 65-110. This Manual tells all Air Force activities, including Air National Guard and Reserve Units, how to use a mechanized system to report gains and losses, changes of status, and depot supply support requirements for their aerospace vehicles and selected items of equipment. It implements DOD Directive 7730.25 just as the Navy EDAC System does in regard to equipment status.

In the Air Force system, Air Force Form 359 "Aerospace Vehicle Data Card" is forwarded daily at 0900 to base data services. In base data services,

machine reports are generated for base use and cards are created to provide all levels of command with current status of aerospace vehicles and selected equipment. This is comparable to the Navy's EDAC reporting system. Both Navy and Air Force definitions of NORS are the same: that is, an aircraft that "cannot perform the primary assigned missions due to laek of parts."[28]

A seeond card, Air Force Form 360, is generated when NORS commences and Air Force Supply Activities forward completed Air Force Forms 360 "NORS Detail Data Cards" by 1400 hours each day to base data serviees. In base data serviees, maehine reports are generated for base use and detail cards are created to provide all levels of command with current supply shortage information.

The United States Air Foree objective is also 5 per cent or less NORS (set by DOD I nstruction 7730.25).

The Air Force has a comparable system of reporting operational data (EDAC) and supply data (360 cards) separately. Also, the Air Force 359 cards (total NORS hours) do not add up to the total NORS hours reported by 360 cards. As in the Navy system, the field maintenance unit can cannibalize a "hangar queen" (aircraft already NORS) and get the new NORS aireraft up, but the Air Force Manual reads:

> . . . when supply is effected from lateral support, such as cannibalization or other sources, and the requisition is not caneelled, submission of Air Force Form 360 will continue until the requisition is satisfied by the supplier.[29]

---

[28]U.S. Air Force Manual 65-110, (Washington, D.C.: Department of the Air Force), p. 38.

[29]Ibid., p. 8.

Recently the Air Force has adopted a policy of conducting a 359 card and 360 card match at scheduled intervals and where the 359 system does not show a NORS for the specific requirement on the outstanding 360 card, the requisition is cancelled.

So, by design, the basic management information systems are identical and the objective of 5 per cent or less NORS is identical. This gives DOD an integrated approach to the air arms of the two services in measurement of effectiveness.

CHAPTER IV

HOW DOES TOP MANAGEMENT VIEW THE INFORMATION SYSTEM FOR AERONAUTICAL SUPPLY SUPPORT?

Selection of Personnel for Interview

In order to determine how top level management views its management information system for aeronautical supply support, the author designed a listing of questions concerning the principal indicators for appraisal of the management information system.

The author chose key positions in top management (Naval Weapon Support Establishment) at commands responsible for inputs and outputs to the system and for action on the information collected, summarized, analyzed and distributed according to the NORSAIR system design.

Interviews were conducted with the following key personnel at the top management commands for aeronautical logistic support:

*Mr. Don Croke, Systems and Procedures Division, United States Navy Aviation Supply Office, Philadelphia, Pennsylvania

*LCDR. D. B. Carre, SC, USN, Fleet Support Division, United States Navy Supply Systems Command, Washington, D.C.

*CDR. D. O. Miller, SC, USN, and Lt. Don Yaney, SC, USN, Supply Support Division, United States Navy Air Systems Command, Bailey's Crossroads, Virginia

*Captain J. P. Prestwieh, SC, USN, Office of the DCNO for AIR, OPNAV, Pentagon, Arlington, Virginia

The seleetion of the above key logistic eommands was determined from the United States Navy air logistics ehain of command depicted in Appendix IV (Organization Chart) and the eurrent NORSAIR system Instruction (Headquarters Supply Systems Command Instruetion 5442.1).

The Defense Supply Agency was omitted from the top management eategory beca.se of its indirect partieipation in the NORSAIR management information system. DSA Regulation 4140.35 specifies DSA responsibilities for supply support of all governmental ageneies, including the military services. The United Sta.es Navy Aviation Supply Office, as the aviation program support point for the Chief of Naval Material, is responsible for the programming and monitoring of DSA support required for aeronautical program support. When deficieneies occur, resolution is made by ASO and DSA; and, any unresolved problems are forwarded to DOD.

Design of Questionnaire for Interviews

A discussion of the reasoning for, and wording of, the questions in the questionnaire is eonsidered appropriate for elarity of purpose. Of prime importance is the insight into question meanings, and their relevance to the

appraisal of this aeronautical supply management information system.

The first question (Does your organization have an aeronautical supply management information system (MIS)?) was intended to ascertain whether top level executives considered their system of information processing warranted the formalized terminology of a management information system. It is understood that every command level has a management information system of sorts; however, the indication of how management views this system was the purpose proffered to top management.

Question number two (Is it a part of an integrated system that encompasses your entire organization and its functions?) was intended merely to evaluate the scope and uniformity of purposes toward which the system was directed. It is realized that all information regarding supply support is eagerly sought; however, the question bears more on what useful purposes toward command objectives are served by the explicit information received.

The third, fourth and fifth questions are empirical questions bearing on "the name of the system," "the inputs," and "the outputs" for the current design.

Question number six asks: Of the inputs to higher authority, which of these are used by the respondent as a device to measure his effectiveness? This question was designed to enlighten the author regarding whether or not the respondent and his next higher logistic agent were oriented to the same objectives, and to what degree. In constructing this question, it was realized that lower echelons, when passing information to higher echelons, would surely pass

information germane to that higher echelon's objectives; however, the critical question is whether the same information which higher authority requires is in fact meaningful to the providing command also.

The seventh question (What feedback information do you receive as a result of your report?) was conceived for the purpose of determining what is the prime purpose of the report: i.e., is the report necessary, and is the report one which requires decision and feedback by its objective design? Is the report either not necessary or is it beyond the capability of the receiver to respond to authoritatively? Admittedly this question has great import to management information system design and, in this case, to the effectiveness of the total system. Yet, it is a question that one respondent could cover up for the exigencies of the moment and the specific higher requirement (directive). But, the scope of this thesis is intended to uncover incongruities in connecting subsystems where they exist and to pin-point disconnects in the holistic configuration of this information system, where they exist.

Question number eight and number nine are: Are you satisfied with the management information system you provide inputs to and receive feedback (actions) from? and, What additional data would you require in order to do your job better? These questions are designed to measure the user's satisfaction or dissatisfaction with the current management information system. These questions should offer the respondent an opportunity to voice his needs in relation to the current situation and his objectives.

Question number ten is: What is your objective in regard to aircraft supply support? Here the target is to get an indication of the prime objective and its definition in order to compare total system prime objective to subsystem objectives neeessary to accomplish the total objective.

Question eleven asks: Realizing that the EDAC (operational) reporting system and the 3M (maintenance data collection system) are complimentary reports to your supply report, and that they summarize readiness of aircraft and aircraft support data respectively, do you see a need to combine any of these reports (NORSAIR, 3M and EDAC)? Since there is a certain amount of duplication of data between information systems on aircraft readiness and support data, it is considered relevant to investigate the possibility of combining reports, where the common purposes can be served in the manner required by each individual systems' design. Therefore, inherent in this question is a measure of the opportunity to economize on data collection, summarization and disposition to users.

In the twelfth question, the communications facilities are examined by asking: What is your communication link to the other subsystems (commands)? The communication prowess of any system in regard to timeliness of data and facility of reporting is of great importance, similar to the nervous system in humans where acquisition, analysis, and disposition of corrective orders are neeessary for objective accomplishment.

Question number thirteen expands the communication question to allow

for positive comments on what is needed. The question (Are there any communications problems under the present system? Would random access links to inventory control data assist you?) is designed to allow respondents to expound on their needs in relation to the objective requirements of the total system.

The last question, fourteen, asks: If you could redesign the present non-operationally ready supply aviation item reporting, what elements of data would you desire? This is a key question which provides top management's thinking on redesign of the current system in regard to needed inputs and outputs and the objectives therefor.

Responses to Interview Questions

Aviation Supply Office

At the Aviation Supply Office, the NORSAIR reporting system is the major management information system, due to its quantitative measure of supply effectiveness in terms of aggregated casualty data. From the field user inputs, the following is provided:

1. Specific line items (stock numbers or part numbers)
2. NORS frequency on specific items
3. Number of days outstanding for each requisition
4. A total of the number of NORS days for aggregated requisitions
5. Summary by aircraft type and specific items against that aircraft

This basic data is put together in the following reports for indicated commands:

Specifications for NORSAIR Semi-monthly listings:

1. Title of Report: SEMI-MONTHLY LISTING OF NORSAIR ITEMS.
2. Frequency: Semi-monthly on the 15th and last day of each month.
3. Coverage: All NORSAIR items submitted during the reporting period.
4. Data Elements to be Reported: FSN, Aircraft Bureau Number, Item Source Code, Requisition Number, Quantity, NAVSTRIP Identifier Code, Supply Action Status, Type Equipment Code (Aircraft Model Code), Command Code, NORS/NFE Code, Julian Stop Date, and Progress Code.
5. A total of four lists will be produced, each containing various NORSAIR items as follows:
    1. Summary of NORSAIR Items (ASO FSNs).
    2. Summary of NORSAIR Items (other than ASO FSNs).
    3. Summary of NORSAIR Items (Part Numbers).
    4. Summary of NORSAIR Items (Cognizance Symbol Summary).
6. Distribution: One copy each to following: NAVMAT (MAT 142), NAVAIR (AIR 41221), NAVSUP (SUP 0461).

Specifications for NORSAIR Monthly Listings:

1. Title of Report: TOP 100 NORSAIR ITEMS
2. Frequency: Monthly as of the end of each calendar month.
3. Coverage: The 100 NORSAIR items causing the greatest number of elapsed NORSAIR days during the reporting period.

4. Data Elements to be Displayed: See sample report.
5. Sequence: Descending order from greatest number of NORSAIR days per FSN to smallest number.
6. Distribution: One copy to the following: COMNAVAIRLANT, COMNAVAIRPAC, CNARESTRA, CNATRA, COMFAIRWESTPAC, COMFAIRMED, CNATECHTRA, CNAVANTRA, CNABATRA, NAVAIRSYSCOM (AIR 4122l), NAVSUPSYSCOM (SUP 046l), NAVMAT (MAT l42 and MAT 423), CNO (OP-504 - top 25 items only), FMFLANT, and FMFPAC.

Specifications for NORSAIR Monthly Summary Report by Aircraft Controlling Custodian:

1. Title of Report: NORSAIR SUMMARY BY AIRCRAFT CONTROLLING CUSTODIAN.
2. Frequency: Monthly as of the end of each calendar month.
3. Coverage: All NORS/NFE items reported during the reporting period.
4. Data Elements to be Displayed: See sample report.
5. Sequence: Totals by Aircraft Controlling Custodian.
6. Distribution: One copy to the following: COMNAVAIRLANT, COMNAVAIRPAC, CNARESTRA, CNATRA, CNATECHTRA, CNAVANTRA, CNABATRA, NAVAIRSYSCOM (AIR 4122l), NAVSUPSYSCOM (SUP 046l), NAVMAT (MAT l42 and MAT 423), CNO (OP-504), FMFPAC and FMFLANT.

Specifications for two-part NORSAIR Monthly Summary Report by Inventory Manager:

1. Title of Report: NORSAIR SUMMARY BY INVENTORY MANAGER.
2. Frequency: Monthly as of the end of the calendar month.

3. Coverage: All NORS/NFE items reported during the reporting period.
4. Data Elements to be Displayed: See sample report.
5. Sequence: Totals by cognizance symbol within Inventory Manager.
6. Distribution: Copy of the cog symbol portion applicable to the respective Inventory Manager having cognizance over the material contained therein; copy of summaries for each DSC to DSA; one copy of the complete summary to each of the following: COMNAVAIRLANT, COMNAVAIRPAC, CNARESTRA, CNATRA, CNATECHTRA, CNAVANTRA, CNABATRA, NAVAIRSYSCOM (AIR 41221), NAVSUPSYSCOM (SUP 0461), NAVMAT (MAT 142 and MAT 423), FMFPAC, and FMFLANT.

Specifications for NORSAIR Monthly Summary Report by Aircraft Type:

1. Title of Report: NORSAIR SUMMARY BY AIRCRAFT TYPE.
2. Frequency: Monthly as of the end of the calendar month.
3. Coverage: All NORSAIR items reported and processed during the reporting period.
4. Data Elements to be Displayed: See sample report.
5. Sequence: Totals by aircraft type in alphabetical sequence.
6. Distribution: One copy to the following: COMNAVAIRLANT, COMNAVAIRPAC, CNARESTRA, CNATRA, CNATECHTRA, CNAVANTRA, CNABATRA, NAVAIRSYSCOM (AIR 41221), NAVSUPSYSCOM (SUP 0461), NAVMAT (MAT 142 and MAT 423), CNO (OP-504), FMFPAC, and FMFLANT.

Specifications for NORSAIR Monthly Narrative Report:

1. Title of Report: NORSAIR NARRATIVE ANALYSIS.

2. Frequency: Monthly as of the end of the calendar month.

3. Coverage: Include the top eight NORS items and top two NFE items.

4. Data Elements to be Displayed: This report will be a narrative analysis of the top eight NORS items and top two NFE items, as selected by ASO. This analysis will include, but is not limited to, the following:

(1) Aircraft type(s) involved.

(2) Nature of the significant problem(s) being encountered.

(3) Cause(s) of the problem(s).

(4) Responsible activities.

(5) Statement of probable consequences.

(6) Corrective actions underway or proposed.

(7) Recommendations for actions to be taken at the Systems Command or highest level.

(8) An anticipated "get-well" date.

(9) Indicate for repeat items (those items reappearing in consecutive 90-day periods) number of months since first appearance on report.

5. Sequence: Descending order from most troublesome items to the least troublesome. Identify items 1 through 8 as the eight NORS items; items 9 and 10 as the two NFE items. Include, by separate page, an FSN summary to reflect those NORSAIR items that meet the criteria to be included in the current narrative

analysis, yet are not included due to having been previously reported within the last three months.

6. Report Validation: Within 15 working days after the end of the month, ASO will forward two copies of the report to NAVSUPSYSCOM (SUP 0461) for review. Upon completion of review, NAVSUP will notify ASO via telephone of any recommended changes to the report prior to ASO's effecting distribution.

Replies to questions indicated that a management information system was in being for aeronautical supply support. It is titled the NORSAIR Reporting System, and it is part of the Aviation Supply Office's integrated management system.

The basic inputs to higher commands which are shown in the previous specifications were extracted from Naval Supply Systems Command Instruction 5442.1. A sample narrative is as follows (Specification 6):

1. Aircraft type(s) involved
2. Nature of significant problems being encountered
3. Cause of the problem
4. Responsible activities
5. Statement of probable consequences
6. Corrective action underway or proposed
7. Recommendations for actions to be taken at the systems command or higher level
8. Get-well date
9. Cumulative days of trouble item

To higher authority, the following outputs (feedback) are received:

1. Reports of corrective action
2. Inquiries on specific items for specific weapons

In addition, higher authority provides the ASO with:

1. The EDAC Report (operational)
2. 3M Data (total usage)
3. Weapon System Planning Documents (Aircraft numbers, Sites and Flying Hours)
4. Funding
5. Engineering (design) changes
6. Allowance list changes

ASO outputs to higher authority are designed for the use of the recipients; however, each report is from the same NORSAIR data base with which ASO measures its effectiveness. The NORSAIR measure of effectiveness at ASO is a combination of the following weekly indices by Federal Stock Number (FSN) or part number:

1. ASO managed FSN's (items) - descending frequency
2. ASO managed FSN's (items) by responsible ASO internal code
3. Part numbered items - descending frequency
4. All items by weapon system (aircraft)
5. Non-ASO FSN's - descending frequency
6. Non-ASO FSN's - FiiN (last 7 digits) sequence
7. Completion method summary

8. Summary of ASO FSN's
9. Summary of Non-ASO FSN's
10. Summary of part-numbered items
11. Summary of items by inventory managers (DOD inventory control points)
12. Summary of ASO FSN's by requisition age
13. Summary of items by material control codes (internal codes of ASO)
14. Completed ASO items for commodity managers in their code sequence
15. 45 days old summary by aircraft model
16. 45 days old FSN's in descending frequency
17. 45 days old FSN's in user sequence (requisitions)

Therefore, the outputs to higher authority are compressed reports to serve higher management needs. These reports are the top 100 NORSAIR items, the NORSAIR summary by aircraft controlling custodians, NORSAIR summary by inventory control points in DOD, NORSAIR summary by aircraft type, NORSAIR narrative analysis of top ten (problem definition and corrective action inputs needed from recipients), NORSAIR summary by aircraft controlling custodian for ASO managed items, NORSAIR summary by aircraft type for ASO managed items, items on the backorder file in activity sequence, and the backorder summary for ASO items by age.

Therefore, from a common data base, ASO internal management needs are met, and outputs are also made to higher authority as required.

The respondent was particularly satisfied with the ASO NORSAIR management information system because it provides a common denominator to top management for reviewing and correcting NORS problem areas on a

coordinated basis.

Further, information was provided on ASO's objective and the adequacy of input data for the job. ASO's objective is to maintain NORS rates below 5 per cent. The inputs to the NORSAIR provide the means to identify the problems and correct them; however, the design of the 5 per cent objective was questioned in light of the funding deficiencies to meet both initial investment and replenishment needs for material.

The Aviation Supply Office NORSAIR system is connected to the depots, centers and other inventory control points by AUTODIN or other data-links, and to the Headquarters, Naval Air Systems Command and Naval Supply Systems Command by random access terminals. All other communication is by radio, telephone or mail. There were no communications problems of great magnitude.

In the area of need for redesign, there were no requests from field activities (users) or higher commands for any changes. ASO had no changes which they considered necessary either. There was an indication that the present system could be improved in the area of quantification of the 5 per cent objective which was arbitrarily set by DOD.

Naval Supply Systems Command

The Naval Supply Systems Command uses the NORSAIR data as its management information system for aeronautical supply in conjunction with the EDAC and 3M reports. In effect, the EDAC gives the indication of weapon

systems which fall below the 5 per cent NORS objective, and NORSAIR and 3M data explains why. A monthly review is performed using the NORSAIR data and 3M data to determine causative factors for the shortfall in specific weapon system readiness. NORSAIR, therefore, is part of an integrated management information system for the Naval Supply Systems Command.

NAVSUP inputs to higher authority are the identical reports submitted by ASO: i.e., data specification 2 (top 100), specification 3 (summary by controlling custodian) and specification 5 (summary by aircraft type or weapon system) to CNO and SECNAV information centers.

Outputs from higher authority are, as required:

1. Funding increases or reprogramming
2. Curtailment or increase in flying hour program
3. Program change proposals to DOD
4. Reduction or increases in operating sites

Therefore, the inputs to higher authority are less than the inputs from lower echelons (as it should be); however, these inputs provide a common base with which to analyze and correct NORS problem areas.

The Naval Supply Systems Command is the designer and operator of this management information system and, in the opinion of its Fleet Support Managers, the NORSAIR pin-points problem areas and disseminates the information to all commands requiring it for improvement to logistics support of air weapons. Other systems are used too; the EDAC reports to indicate NORS percentage rates, and the 3M reports to indicate maintenance replacement

rates, attrition, individual unit usage rates and other comparative data for analysis.

There are no additional inputs or outputs required by NAVSUPSYSCOM and no requests for changes are on file currently (from other users of the system).

Communications is not a system problem. A random access capability exists to interrogate this file on a real time basis, when necessary.

Naval Air Systems Command

At the Naval Air Systems Command the 5 per cent NORS objective was acknowledged; but, it was called a "magic" DOD figure which has no scientific or practical value. A management information system for aeronautical supply support is in being. It is the NORSAIR system, and it is part of Naval Air System Command's integrated management information system.

The NORSAIR reports, shown in Appendix II, are used in conjunction with EDAC and 3M reports to determine NORS causative factors, for corrective action. Examples of major causative factors which develop are:

1. Increase of number of operating sites (due to operational exigencies) prior to funds/material being made available. This happened on the P3 "Orion" aircraft and the A6 "Intruder" aircraft for example.
2. Increase of flight hour program prior to funds/material being made available.
3. Maintenance practices not in accordance with maintenance instructions.

4. Incorporation of configuration changes prior to support availability.

5. Decrease in reliability (mean time between failure design).

The only objection was to the 5 per cent NORS objective, because of its unfounded derivation. The respondents explained that the inputs from higher authority were insufficient to develop a logistic plan to guarantee a 5 per cent rate. This was due to lack of:

1. A firm operating plan or the immediate dissemination of changes to operating plans.

2. Funding to match changes in operating plans.

3. Slowness of Program Change Proposal (PCP) action.

4. Characteristics in definitive detail for the total weapon system and a method for immediate advice on changes in these characteristics and their operational employment.

Therefore, the sub-objective of the Naval Air Systems Command is:

> . . . how to use money, men and materials to insure equitable fleet support to the operating forces . . . to maximize effectiveness from the logistic base of resources.[30]

Some difficulty was reported in matching 3M data with NORSAIR data due to validity questions on 3M source data. It should be noted that the 3M system reports by part number while NORSAIR is by Federal Stock Number. The work unit code (WUC), however, is definitive to the equipment; and NORSAIR is also definitive by special material identification codes (SMIC) to the equipment.

---

[30]Lt. Don Yaney, Air Logistic Element Support Manager, Supply Support Division, Naval Air Systems Command, Washington, D. C. Personal Interview.

In this way, using a time-consuming process of cross reference, problem areas can be expanded by benefit of the combined logistic data offered by the supply (NORSAIR) data and the maintenance (3M) data.

Chief of Naval Operations

At CNO level, NORSAIR reports received are:

1. NORSAIR top 100 (specification 2)
2. NORSAIR summary by controlling custodian (specification 3)
3. NORSAIR summary by aircraft type or weapon system (specification 5)
4. NORSAIR narrative analysis on top 10 (specification 6)

Both maintenance and supply of Air 05 receive this data and the narrative information (the narrative information is reviewed prior to report to DOD on shortfalls to the 5 per cent NORS goal). The supply representative also uses the critical NORS list (top 100) as an indicator of the Navy's ability to provide sales to foreign military units without jeopardizing United States support further.

CNO's goal is the same as DOD: i.e., 5 per cent or less NORS per weapon system. Again, it was pointed out that 5 per cent is a "magic DOD figure" with no scientific basis. It was reported that the Center for Naval Analysis has proved that a 5 per cent NORS rate is unrealistic, because it is not cost effective. Hope was expressed that DOD can be convinced to change this to a realistic figure, and scientifically assign "a funding versus NORS rate figure." In civilian enterprise, this is normally called a variable budget.

Summary

The questions used for interviewing were designed to measure commonality of objectives between the various subsystems, to provide an insight to the inputs and outputs to the system, and to get a candid report on satisfaction or dissatisfaction with the management information system for aeronautical supply.

The response indicated a common data base (NORSAIR), specifications to reports published by the ASO computer, distribution of reports, uses of reports and desires for change.

Perhaps the most significant findings, so far, are that the common system is tied to common objectives and the maintenance of the NORSAIR data base provides a common denominator for supply and maintenance elements to use in analysis for corrective actions. The viability of the resultant actions is another matter and is beyond the scope of th s thesis. In addition, the 5 per cent total objective is in doubt as to its scientific derivation.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

In Chapter I, the conceptual design and the primary benchmarks for management information systems were outlined, based on the current views of scholars and authorities in this field. Several approaches to management information system design were examined. Of the approaches cited, such as Dr. Marvin Wofsey's top-down approach and the Westinghouse approach, the common denominator of all the approaches examined was "total objective approach, with subsystems' objectives attuned to the primary objective."

Intrinsic to the analysis of a management information system is a deduction as to the value of the system to each user of the information. Therefore, a description was made of the current Navy Aeronautical Logistics Organization, and its individual and collective missions in support of Naval aircraft. It was shown that the various levels of support and their subobjectives were meshed and interfaced in a closed-loop process to insure recognition of, definition of, and coordinated corrective action for deficiencies in support.

Recognition of a problem is the most valued objective to management at any level because, once recognized and defined, the resolution of the problem

within existing resources is easily accomplished.

Therefore, a system is a model, fashioned on the scientific method. The scientific method is a closed-loop process, consisting of all the influencing factors (inputs) which determine the objective function (output). In the case of aeronautical supply support in the Department of Defense, the objective function is 5 per cent or less NORS for each type aircraft. This objective function was established by a Department of Defense directive. For the moment, this objective of 5 per cent or less NORS will be accepted as scientifically developed in order to continue deductions about the system which supports this objective. Later in this summary, the quantification of the figure (5 per cent) will be seriously questioned as to its derivation and scientific foundation.

In the scientific method, a model is used to describe a real world problem artificially. In the model approach, a prediction is made on the outcome of a combination of variables and constants contained in the objective function. This prediction is then tested by varying the inputs to determine if it works accurately (as predicted). The resultant exceeding of, or falling short of, the predicted value is then examined; and, a new model is developed with new weight control on the inputs to get closer to the predicted effect. And, the process goes on, ad infinitum, to develop a better model.

In the Department of Defense, it is understood that cost-benefit analysis is widely used. It must be recognized that cost-benefit analysis is not a means of maximizing the objective function, but, rather, a way of satisfying within budget constraints. Aaron Wildavsky has described the system of Federal

budgeting and funding under which the Department of Defense must exist. Wildavsky, recognized as an authority on the budget input, has stated that Federal budgeting and funding is "fragmented, incremental, repetitive, and sequential."[31]

Therefore, it is apparent that the Department of Defense must enter each new defense program with reservations as to the means of sustaining the program should it prove successful. The end result of success of a new weapon system is to be in constant competition with all the other successful projects in a shrinking budget and funding environment. This infers fierce competition between the services for the defense dollar. Nevertheless, the objective, although unscientifically developed, is of primary importance and to attain this objective, be it right or wrong, is the management problem for the military services.

With the framework in mind for a management information system design, the next step was the analysis of the current system design for objectives, sub-objectives, inputs and outputs to each system, the commonality of purpose attained and the management uses as a basis for either direct action (within the subsystem) or coordinated action (multi-systems). Chapter II described the current system design for aeronautical management information. The derivation of the systems total objective of 5 per cent or less NORS and the missions of the supporting subsystems and their connecting processes were defined.

---

[31]Aaron Wildavsky, The Politics of the Federal Budget, (Boston: Little, Brown and Company, 1964), pp. 4-5.

In the flow of information it was shown that there is an inverse relationahip between the level of management and the amount of data received. That is, the higher the manager, the more compressed the data requirement (less volume). In some circles, it is called management by exception as developed by Frederick W. Taylor.

In the Department of the Navy, the basic maintenance philosophy was found to be repair at the lowest level. This precept easily follows from the mission of the Navy; that is, "to keep the seas open (free access) for the use of the United States and her Allies." To do this, the sea-keeping capability of a force is of paramount importance. Resupply of carriers by logistic aircraft would be insufficient to sustain a 100 per cent component remove and replace philosophy at the carrier unit level. Therefore, the philosophy of repair at the lowest level also infers supply of specific repair parts instead of total components for maintenance purposes at the lowest level. Navy allowance lists are designed to accomodate this function.

When an aircraft is determined to be NORS, it means the local level (sea-based or shore based unit) cannot provide parts to sustain the maintenance effort required to ready an aircraft both for safe flight and required mission capability. To miss the mark is to be NORS, and if NORS exceeds 5 per cent, corrective action is required. The coordinative means provided by the NORSAIR system in this respect is of prime importance in resolution of the logistic problems.

NORSAIR is a management information system designed to capture (from source) the occurrence of a NORS, the progress of action to correct it, the methods of satisfaction and the residual NORS beyond local or second echelon capability requiring top management corrective action. The tracing of this action, in detail, was a primary endeavor for this thesis; that is, the methods and the abilities of the higher echelons (top management) to correct deficiencies in support through timely collection of casualty data and viable communication ability to correct deficiencies in the shortest time.

The Fleet units are supported in their respective areas by an alter-ego type organization on each coast: the Aviation Material Offices (AMO's) Atlantic and Pacific. The prime function of these Fleet Support Units is to insure satisfaction by requirements by either normal issue from stocks ashore or by alternate satisfaction methods from within their capability, when exigencies so dictate. When the AMO's satisfy NORS by lateral (off-line) means, feedback is provided to the NORSAIR system and action continues on the remaining NORS.

It is evident that correction of NORS at the lowest level is the foremost principle, yet the data is collected for the total use of higher echelons (ASO, NAVAIRSYSCOM, NAVSUPSYSCOM, and CNO) for correction of residual problems of current exigency or for correction of long-term problems in Naval aviation.

The collection and use of data, as explained in Chapter III, are by no

means ends in themselves. The NORSAIR system does, however, provide a common base of NORS causative items with which to enter other systems such as the Navy Maintenance, Management and Material System (3M) which collects total usage to isolate both supply and maintenance problems, and the degree of each functions contribution to the total logistic problem. In this way, directed, prompt corrective action is possible by way of:

1. correction of maintenance procedures;
2. additional procurement to support increased sites, operating hours or demand;
3. design changes to increase material reliability; and,
4. reprogramming of funds, sites, operating aircraft or operating hours.

In interviews with top management, the respondents were satisfied with the NORSAIR system as a formal management information system which was part of the integrated management system of their respective commands. By the reports received, the system is performing as designed. The NORSAIR management information system provides, in an organized manner, each manager with all the data, and only that data, which he needs to make decisions, at the time he needs it, and in a form that aids his understanding and stimulates his action.

The examination of the multiple factors influencing the choice and use of aviation supply management information in the Department of the Navy revealed an integrated approach in being, characterized by extensive input of NORS operational information, identified to unit and weapon system with

start date and stop date, progress code, completion code and a definitive description of the casualty part.

The master data bank for this system is the responsibility of the Aviation Supply Office, Philadelphia. As evidenced by the seventeen outputs which ASO produces on a weekly basis, described in Chapter IV, the inventory manager responsibility is determined and priority of corrective actions is set by the items having the highest frequency and contributing the greatest number of NORS days to the system.

ASO uses this definitive data to enter other systems such as the maintenance data collection system (3M system) to ascertain, in detail, the cause of the shortfall in material planned availability. The resultant actions are then tailored to the type problem and an efficient, timely solution is possible.

In this way, the historical use of the data is a valued objective as well as the real time correction of operational problems on an occurring basis.

In summary, the NORSAIR system meets the objectives of a management information system. The following quotation from Stahrl Edmunds is considered a measure to which NORSAIR equivocates:

> The point is that responsibility is never general; it is always particular. This is why it is always so elusive in a functional organization. This is also why a comprehensive information system linking action - taking individuals will be a more responsible form of organization than business has now.[32]

---

[32]Stahrl Edmunds, "The Reach of an Executive," Harvard Business Review, January-February, 1959, p. 96.

Conclusion

The conclusions which bear upon a study of a particular management information system need to be directed at the essence of the system, or the total system objective, and its utility value to all users in accomplishment of subsystem or supporting objectives. Management information systems can be defined as:

> . . . the total process by which raw data is collected, summarized, or processed and reported . . . with the emphasis on the ultimate reporting to management.[33]

The objective of this thesis, defined in Chapter I, was to define the multiple factors influencing the choice and use (design) of aviation supply management information in the Department of the Navy and to determine: whether DOD requirements were met; whether the data collected was useful; whether data was provided to requiring echelons; whether feedback was provided from reports; and, whether the data base collected was used by the Naval Weapon Support establishment for historical purposes as a base for future planning.

I conclude that the technologists, authors and eminent scholars view management information systems as holistic devices to capture, record, summarize and distribute management information according to a plan (design) which provides the hierarchial structure of management the information required to carry out its function in support of total objectives.

---

[33]Paul R. Saunders, Systems and Procedures, 2nd ed., (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1968), pp. 425-426.

In the Department of the Navy, a formal management information system exists for aeronautical supply support. By design, the total objective, maintaining NORS aircraft below 5 per cent, is the total objective; and supporting subsystem missions are tied to the overall mission by the NORSAIR reporting system. The Navy data base provides a real time capability for expressing the causative factors, on a world-wide (aggregate) basis, which caused aircraft supply support objectives to be missed. The corrective action thus initiated is based on common information which facilitates coordinated action by the weapon system support establishment of the Navy, and the strategic planners of the Navy department.

The NORSAIR system meets DOD requirements for identification of problem items on aircraft, and forms a data base on which to make both tactical and strategic decisions. The NORSAIR data is provided to requiring commands, and is a major tool in their management control. The Aviation Supply Office is the center of reports and logistic information, and coordinates corrective feedback actions by commands responsible for logistic deficiencies; and, as program support point for Naval Aviation Supply (ASO), acts on historical data collected to prevent future occurrence of deficiencies.

The United States Air Force system for aeronautical supply control was found to be similar; that is, a separate system for EDAC (operational) data and separate system for aggregating, monitoring, controlling and disseminating information to responsible logistic commands. Therefore, it is concluded that DOD is receiving standardized reports from the two major

air services.

The Navy is studying the elements involved in attainment of 5 per cent NORS, and when the model is perfected, it will be presented to DOD as a means of quantifying the manpower, the money, and the material design required to attain a 5 per cent NORS objective.

EQUIPMENT DISTRIBUTION AND CONDITION REPORT

QUARTER ENDING __

SAMPLE FORMAT: Aircraft Type, Model, Series	1. Average Number of Equipments During Period (Operational Unit Equipment)						9. Actual Inventory of Equipment End of Period							
	Combat	Combat Support	Support	Training	Test/Test Support	Total Operational Unit Equipment	Operational Units Equipment	Depot Maintenance	Bailed Loan	13c. Storage Code A	13c. Storage Code B	13c. Storage Code C	Other	Total Invn.
	2	3	4	5	6	8	10	11	12				14	15
AUTHORIZED														
POSSESSED														
EQUIPMENT COVERAGE INDEX														
STANDARD OPERATIONALLY READY %														
OPERATIONALLY READY %														
NUMBER OPERATIONALLY READY														
PROGRAM UTILIZATION														
ACTUAL UTILIZATION														
NOT OPS READY MAINTENANCE %														
NUMBER - NORM														
NOT OPS READY SUPPLY %														
NUMBER - NORS														
NOT FULLY EQUIPPED(NFE) %														
NUMBER - NFE														

Enclosure (2)

DEPARTMENT OF THE NAVY
NAVAL SUPPLY SYSTEMS COMMAND
WASHINGTON, D. C. 20360

NAVSUPINST 5442.1A
SUP 04612D
12 FEB 1969

NAVSUP INSTRUCTION 5442.1A

From: Commander, Naval Supply Systems Command
To: Distribution List

Subj: NORSAIR (Not Operationally Ready Supply Aviation Item Report)

Ref: (a) OPNAVINST 4700.19C of 2 Jul 1968; Subj: EDAC - Measuring and Reporting System
(b) FASOINST 5442.1 (latest issuance); Subj: NORSAIR

Encl: (1) Specifications for NORSAIR Semi-Monthly Listings
(2) Specifications for Two-Part NORSAIR Monthly Listings of Top 100 Items
(3) Specifications for Two-Part NORSAIR Monthly Summary Report by Aircraft Controlling Custodian
(4) Specifications for Two-Part NORSAIR Monthly Summary Report by Inventory Manager
(5) Specifications for Two-Part NORSAIR Monthly Summary Report by Aircraft Type
(6) Specifications for NORSAIR Monthly Narrative Report

1. Purpose. To provide revised NORSAIR management information reporting to various management levels within the Department of the Navy.

2. Cancellation. BUSANDA Instruction 5442.1 is cancelled and superseded by this Instruction.

3. Background

a. Reference (a) revised the EDAC (Equipment Distribution and Condition) Measuring and Reporting System. The EDAC System includes a measure of the number of Navy aircraft NORS (Not Operationally Ready Supply) and a measure of the number of Navy aircraft NFE (Not Fully Equipped). The need exists to design and to implement an aviation supply system effectiveness report to provide specific item information consistent with the revised EDAC System. In this respect, the NORSAIR will be used only to identify problem items causing NORS/NFE conditions; it will not be used to measure aircraft readiness.

b. In the past, the NORSAIR provided specific supply information on aircraft that were NORS-G (grounded) and NORS-N (not grounded). The inclusion of the new NFE definition as a portion of the EDAC System necessitates a revision to the provisions of reference (b).

c. Henceforth the term "NORSAIR" as used in this instruction will include both NORS and NFE data. Enclosure (1) requires the integration of both NORS and NFE criteria into a single report. Enclosures (1) through (6) will reflect separate reporting of NORS and NFE categories within each individual report.

4. Discussion. The CNM (Chief of Naval Material) assigned NAVSUP (Naval Supply Systems Command) the task of coordinating the development of management information reports required by commands, other than ASO (Aviation Supply Office). These reports are to be derived from the NORSAIR reporting system. CNM further directed that these requirements be published in a single directive.

5. Action

a. ASO will utilize as a basis for the promulgation of a revised NORSAIR directive, the NORS and NFE definitions as cited in reference (a).

b. ASO will prepare semi-monthly and monthly summary reports of NORSAIR data as prescribed in enclosures (1) through (6), and may prepare additional listings or summaries required for internal use and as requested by other commands. The semi-monthly NORSAIR reports will utilize cutoff dates reflecting the 15th and last day of each calendar month. The monthly summary report will cover the full calendar month. These reports will be distributed within ten calendar days of the end of the reporting period for enclosures (1) through (5) and within 15 working days for enclosure (6).

6. Distribution. NORSAIR reports will be distributed as directed in enclosures (1) through (6). Any activity desiring reports compiled from NORSAIR data on a continuing basis other than those cited in enclosures (1) through (6) shall forward a request, substantiating the need for the report, direct to NAVSUP.

7. Effective Date. This Instruction is effective upon receipt.

8. Reports Control. Reports Control Symbols NAVSUP 5442-2, 5442-3A, 5442-3B, 5442-4A, 5442-4B, 5442-5A, 5442-5B, 5442-6A, 5442-6B, and 5442-7 are applicable to the reporting requirements contained herein.

P. T. Cosgrove, Jr.
Deputy Commander, Supply Operations

Distribution:
SNDL FKM15 (Aviation Supply Office) (ASO, Philadelphia only) (50 copies)

Copy to:
SNDL A2A (Independent Offices) (Director, Office of Management Information only) (5 copies); A3 (Chief of Naval Operations) (Op-09B83) (Op-504 (10 copies)); A4A (Chief of Naval Material) (MAT 0142 (10 copies); MAT 0423 (10 copies); MAT 04123)
24A (10 copies); 24J (CGFMFPAC, CGFMFLANT only); 42A (COMFAIRMED, COMFAIRWESTPAC only); 46B
FKA1A (Air Systems Command Hq.) (AIR 412) (10 copies)
FKM2 (Electronics Supply Office) (5 copies); FKM13 (Ships Parts Control Center) (5 copies); FKM19 (Publications and Printing Service Office) (DIRNAVPUBPRINTSERVO (CL), Washington, D. C. only)
FKR1B (Air Rework Facility); FKR7A (Air Systems Command Representative) (NAVAIRSYSCOMREPLANT, NAVAIRSYSCOMREPCENT, NAVAIRSYSCOMREPAC only); FKR7C (Air Technical Services Facility)
FT1 (Chief of Naval Air Training) (20 copies); FT2 (Chief of Air Advanced Training); FT3 (Chief of Air Basic Training); FT4 (Chief of Air Reserve Training) (10 copies); FT5 (Chief of Air Technical Training)
NAVSUP (SUP 0461 (10 copies); 0821 (10 copies); 045 (5 copies); 09D); X(34) (NAVSUP Staff Offices); X(53) (DSA Integrated Managers) (DCSC, DESC, DGSC, DISC only)

Stocked:
Supply and Fiscal Dept. (Code 514.32)
Naval Station
Washington, D. C. 20390

SPECIFICATIONS FOR NORSAIR SEMI-MONTHLY LISTINGS

A. Report Symbol: NAVSUP 5442-2.

B. Title of Report: SEMI-MONTHLY LISTING OF NORSAIR ITEMS.

C. Frequency: Semi-monthly on the 15th and last day of each month.

D. Coverage: All NORSAIR items submitted during the reporting period.

E. Data Elements to be Reported: FSN, Aircraft Bureau Number, Item Source Code, Requisition Number, Quantity, NAVSTRIP Identifier Code, Supply Action Status, Type Equipment Code (Aircraft Model Code), Command Code, NORS/NFE Code, Julian Stop Date, and Progress Code.

F. A total of four lists will be produced, each containing various NORSAIR items as follows:

1. Summary of NORSAIR Items (ASO FSNs).

2. Summary of NORSAIR Items (other than ASO FSNs).

3. Summary of NORSAIR Items (Part Numbers).

4. Summary of NORSAIR Items (Cognizance Symbol Summary).

G. Distribution: One copy each to following: NAVMAT (MAT 142), NAVAIR (AIR 41221), NAVSUP (SUP 0461).

H. Format for Summary of NORSAIR Items; ASO FSNs, other than ASO FSNs and Part Numbers:

	OUTSTANDING		COMPLETED	
	NORS	NFE	NORS	NFE
Part I - TOTAL				
Part II - CUSTODIAN 1. COMNAVAIRLANT 2. COMNAVAIRPAC 3. CNATRA 4. CNARESTRA 5. CNATECHTRA 6. NAVAIR 7. CNAVANTRA 8. CNABATRA 9. Miscellaneous				
Part III - AIRCRAFT A-1 A-3 etc.				
Part IV - ACTIVITY * 00101 00127 etc.				

* By accounting code.

I. Format for Summary of NORSAIR Items; Cognizance Symbol Summary:

	OUTSTANDING		COMPLETED	
	NORS	NFE	NORS	NFE
2R 1R etc.				

Enclosure (1)

SPECIFICATIONS FOR TWO-PART NORSAIR MONTHLY LISTINGS OF TOP 100 ITEMS

A. Report Symbol: NAVSUP 5442-3A
NAVSUP 5442-3B

B. Title of Report: TOP 100 NORSAIR ITEMS

C. Frequency: Monthly as of the end of each calendar month.

D. Coverage: The 100 NORSAIR items causing the greatest number of elapsed NORSAIR days during the reporting period.

E. Data Elements to be Displayed: See sample report below.

F. Sequence: Descending order from greatest number of NORSAIR days per FSN to smallest number.

G. Distribution: One copy to the following: COMNAVAIRLANT, COMNAVAIRPAC, CNARESTRA, CNATRA, COMFAIRWESTPAC, COMFAIRMED, CNATECHTRA, CNAVANTRA, CNABATRA, NAVAIRSYSCOM (AIR 41221), NAVSUPSYSCOM (SUP 0461), NAVMAT (MAT 142 and MAT 423), CNO (OP-504 - top 25 items only), FMFLANT, and FMFPAC.

H. Sample Report:

Report Symbol 5442-3A TOP 100 NORSAIR ITEMS (NORS)

Sequence Number (1)	FSN/Part Number (2)	Total NORS Requisitions (3)	Total NORS Days (4)	Aircraft Model(s) Affected (5)
001	2R1650-123-4567	30 *	600 *	A6A
002	9N5935-765-4321	35	295	A6A
		20	80	F8B
		15	130	F8A
		70 *	505 *	
003	GBW-43679-1	5	1	S2F
through		8	75	E2A
100		10	20	S2E
		23 *	96 *	
		1,599 **	15,988 **	
* Subtotals				
** Totals				

Report Symbol 5442-3B TOP 100 NORSAIR ITEMS (NFE) (Same format as shown above except list only NFE items. Substitute in columns (3) and (4) NFE vice NORS.)

Enclosure (2)

SPECIFICATIONS FOR TWO-PART NORSAIR MONTHLY SUMMARY REPORT BY AIRCRAFT CONTROLLING CUSTODIAN

A. Report Symbol: NAVSUP 5442-4A
NAVSUP 5442-4B.

B. Title of Report: NORSAIR SUMMARY BY AIRCRAFT CONTROLLING CUSTODIAN .

C. Frequency: Monthly as of the end of each calendar month.

D. Coverage: All NORS/NFE items reported during the reporting period.

E. Data Elements to be Displayed: See sample report.

F. Sequence: Totals by Aircraft Controlling Custodian.

G. Distribution: One copy to the following: COMNAVAIRLANT, COMNAVAIRPAC, CNARESTRA, CNATRA, CNATECHTRA, CNAVANTRA, CNABATRA, NAVAIRSYSCOM (AIR 41221), NAVSUPSYSCOM (SUP 0461), NAVMAT (MAT 142 and MAT 423), CNO (OP-504), FMFPAC and FMFLANT.

H. Sample Reports:

Report Symbol 5442-4A NORSAIR SUMMARY BY AIRCRAFT CONTROLLING CUSTODIAN (NORS)

Controlling Custodian (1)	Number of FSN/Part Numbers (2)	Percent of FSN/Part Numbers (3)	Number of NORS Requisitions (4)	Percent of Total NORS Requisitions (5)	NORS Days (6)	Percent of Total NORS Days (7)
COMNAVAIRLANT	300	21.4	800	32	1,500	15
COMNAVAIRPAC	600	42.9	1,000	40	1,500	15
NAVAIR	100	7.1	200	8	1,000	10
CNATRA	25	1.8	50	2	1,000	10
CNARESTRA	75	5.4	100	4	1,000	10
CNATECHTRA	50	3.6	100	4	1,000	10
CNAVANTRA	150	10.7	100	4	1,000	10
CNABATRA	50	3.6	100	4	1,000	10
Miscellaneous	50	3.6	50	2	1,000	10
SUPPLY SYSTEM TOTAL	1,400	100.0%	2,500	100%	10,000	100%

Report Symbol 5442-4B NORSAIR SUMMARY BY AIRCRAFT CONTROLLING CUSTODIAN (NFE)
(Same format as shown above except summarize for NFE items. Substitute in columns (4), (5), (6), and (7) NFE vice NORS.)

Enclosure (3)

SPECIFICATIONS FOR TWO-PART NORSAIR MONTHLY SUMMARY REPORT BY INVENTORY MANAGER

A. Report Symbol: NAVSUP 5442-5A
NAVSUP 5442-5B .

B. Title of Report: NORSAIR SUMMARY BY INVENTORY MANAGER.

C. Frequency: Monthly as of the end of the calendar month.

D. Coverage: All NORS/NFE items reported during the reporting period.

E. Data Elements to be Displayed: See sample report.

F. Sequence: Totals by cognizance symbol within Inventory Manager.

G. Distribution: Copy of the cog symbol portion applicable to the respective Inventory Manager having cognizance over the material contained therein; copy of summaries for each DSC to DSA; one copy of the complete summary to each of the following: COMNAVAIRLANT, COMNAVAIRPAC, CNARESTRA, CNATRA, CNATECHTRA, CNAVANTRA, CNABATRA, NAVAIRSYSCOM (AIR 41221), NAVSUPSYSCOM (SUP 0461), NAVMAT (MAT 142 and MAT 423), FMFPAC, and FMFLANT.

H. Sample Reports:

Report Symbol 5442-5A NORSAIR SUMMARY BY INVENTORY MANAGER (NORS)

Inventory Manager (1)	Number of FSN/Part Numbers (2)	Percent of FSN/Part Numbers (3)	Number of NORS Requisitions (4)	Percent of Total NORS Requisitions (5)	NORS Days (6)	Percent of Total NORS Days (7)
ASO - R and V Cog	800*	57.1*	1,200*	48*	5,000*	50*
ICP's/DSA's						
Navy						
ESO	100	7.1	150	6	300	3
SPCC	25	1.8	75	3	200	2
Other						
ATAC	50	3.6	100	4	300	3
DCSC	25	1.8	50	2	400	4
DESC	200	14.2	350	14	1,000	10
DGSC	50	3.6	75	3	300	3
DISC	25	1.8	25	1	300	3
DPSC	0	0	0	0	0	0
OOAMA	25	1.8	75	3	200	2
Misc.						
Subtotal ICP's/DSA's	500*	35.7*	900*	36*	3,000*	30*
Part Numbered Items	75*	5.4*	250*	10*	1,500*	15*
Other Than "P" Source Code	25*	1.8	150*	6*	500*	5*
Supply System Total	1,400**	100.0**	2,500**	100**	10,000**	100**

* Subtotals
** Totals

Report Symbol 5442-5B NORSAIR SUMMARY BY INVENTORY MANAGER (NFE) (Same format as shown above except summarize for NFE items. Substitute in columns (4), (5), (6), and (7) NFE vice NORS.)

Enclosure (4)

SPECIFICATIONS FOR TWO-PART NORSAIR MONTHLY SUMMARY REPORT BY AIRCRAFT TYPE

A. Report Symbol: NAVSUP 5442-6A
NAVSUP 5442-6B.

B. Title of Report: NORSAIR SUMMARY BY AIRCRAFT TYPE.

C. Frequency: Monthly as of the end of the calendar month.

D. Coverage: All NORSAIR items reported and processed during the reporting period.

E. Data Elements to be Displayed: See sample report.

F. Sequence: Totals by aircraft type in alphabetical sequence.

G. Distribution: One copy to the following: COMNAVAIRLANT, COMNAVAIRPAC, CNARESTRA, CNATRA, CNATECHTRA, CNAVANTRA, CNABATRA, NAVAIRSYSCOM (AIR 41221), NAVSUPSYSCOM (SUP 0461), NAVMAT (MAT 142 and MAT 423), CNO (OP-504), FMFPAC, and FMFLANT.

H. Sample Reports:

Report Symbol 5442-6A NORSAIR SUMMARY BY AIRCRAFT TYPE (NORS)

Aircraft Type (1)	Number of FSN/Part Numbers (2)	Percent of FSN/Part Numbers (3)	Number of NORS Requisitions (4)	Percent of Total NORS Requisitions (5)	NORS Days (6)	Percent of Total NORS Days (7)
A-1	50	4	75	3	200	2
A-4	20	2	50	2	300	3
F-4	150	13	600	42	2,200	22
F-8	60	5	85	3	2,000	20
ETC.						
(All Aircraft Types)						
SUPPLY SYSTEM TOTAL	1,400	100%	2,500	100%	10,000	100%

Report Symbol 5442-6B NORSAIR SUMMARY BY AIRCRAFT TYPE (NFE) (Same format as shown above except summarized for NFE items. Substitute in columns (4), (5), (6), and (7) NFE vice NORS.)

Enclosure (5)

SPECIFICATIONS FOR NORSAIR MONTHLY NARRATIVE REPORT

A. Report Symbol: NAVSUP 5442-7.

B. Title of Report: NORSAIR NARRATIVE ANALYSIS.

C. Frequency: Monthly as of the end of the calendar month.

D. Coverage: Include the top eight NORS items and top two NFE items. (Note: An item will not be reported more frequently than once in any three-month period.)

E. Data Elements to be Displayed: This report will be a narrative analysis of the top eight NORS items and top two NFE items, as selected by ASO. This analysis will include, but is not limited to, the following:

1. Aircraft type(s) involved.

2. Nature of the significant problem(s) being encountered.

3. Cause(s) of the problem(s).

4. Responsible activities.

5. Statement of probable consequences.

6. Corrective actions underway or proposed.

7. Recommendations for actions to be taken at the Systems Command or highest level.

8. An anticipated "get-well" date.

9. Indicate for repeat items (those items reappearing in consecutive 90-day periods) number of months since first appearance on report.

F. Sequence: Descending order from most troublesome items to the least troublesome. Identify items 1 through 8 as the eight NORS items; items 9 and 10 as the two NFE items. Include, by separate page, an FSN summary to reflect those NORSAIR items that meet the criteria to be included in the current narrative analysis, yet are not included due to having been previously reported within the last three months.

G. Report Validation: Within 15 working days after the end of the month, ASO will forward two copies of the report to NAVSUPSYSCOM (SUP 0461) for review. Upon completion of review, NAVSUP will notify ASO via telephone of any recommended changes to the report prior to ASO's effecting distribution.

H. Distribution:

Activity	Number Copies
*NAVSUPSYSCOMHQ (SUP 0461)	2
*NAVAIRSYSCOMHQ (AIR 41232B)	5
*NAVMAT (MAT 04123)	2
*CNO (OP 514)	2
*CMC (AAJ-3)	2
*CMI	1
COMNAVAIRLANT (41)	2
COMNAVAIRPAC (42)	2
CNATRA	1
CNABATRA	1
CNAVAITRA	1
CNATECHTRA	1
CG FMFLANT	2
CG FMFPAC	2
NAVAIRSYSCOMREPLANT	1
NAVAIRSYSCOMREPAC	1
NAVAIRSYSCOMREPCENTRAL	1
CO NARF QUONSET POINT	1
CO NARF NORFOLK	1
CO NARF CHERRY POINT	1
CO NARF JACKSONVILLE	1
CO NARF PENSACOLA	1
CO NARF NORTH ISLAND	1
CO NARF ALAMEDA	1
CO SPCC	1
CO ESO	1
AMO SAN DIEGO	1
AMO NORFOLK	1
COMFAIRWESTPAC	1
COMFAIRMED	1
NATSF PHILADELPHIA	1
CG FIRST MAW (WSO)	1
CG SECOND MAW (WSO)	1
CG THIRD MAW (WSO)	1

* Advance copy of report will be forwarded to NAVSUP in accordance with paragraph G. NAVSUP will effect distribution.

U. S. NAVY
AVIATION SUPPLY OFFICE
700 ROBBINS AVENUE
PHILADELPHIA, PA. 19111

ASO 5442.2G
SPA
22 May 1968

ASO INSTRUCTION 5442.2G

SUBJ: NORSAIR (NOT OPERATIONALLY READY SUPPLY AVIATION ITEM REPORT)

REF: (a) FASOINST 5442.1 (latest issuance), Subj: Not Operationally Ready Supply Aviation Item Report (NORSAIR)
(b) BUSANDINST 5442.1 (latest issuance), Subj: Not Operationally Ready Supply Aviation Item Report (NORSAIR)

ENCL: (1) DP Detailed Procedures
(2) SC Detailed Procedures
(3) TE Detailed Procedures
(4) DA Detailed Procedures
(5) SP Detailed Procedures
(6) WS, PG and FC Detailed Procedures
(7) Weekly, Monthly and Quarterly NORSAIR Reports

1. PURPOSE. This instruction:

a. Provides for preparation of internal/external reports and charts/graphs based on the NORSAIR report submitted in accordance with reference (a).

b. Provides policy and procedures for management action on NORSAIR reports.

2. DIRECTIVE CANCELED. ASOINST 5442.2F

3. SCOPE. Applies to DP, SC, TE, DA, SP, WS, PG, FC.

4. STATEMENT OF CHANGES. This revision:

a. Deletes FS and includes SP, PG and FC in the scope of this instruction.

b. Assigns to SP(SPA) responsibilities which formerly were assigned to WS.

c. Assigns to SC the responsibility for the selection, preparation and distribution of the monthly NORSAIR Narrative Analysis Report.

d. Provides new listings based on the number of requisitions per FSN vice over 14 day old requisitions.

5. INFORMATION. The NORSAIR program was implemented within ASO on 1 March 1966. Since that time the program has been reviewed to determine if component responsibility, procedures and reports provide all necessary information for management review of NORS (Not Operationally Ready Supply) items. This revision incorporates all Command approved changes to the NORSAIR program which affect ASO review of NORS items. Reports required by reference (b) have not been changed.

6. DISTRIBUTION OF REPORTS. NORSAIR'S will be distributed as prescribed in enclosure (7). Any activity desiring reports compiled from NORSAIR data on a continuing basis will direct their request to NAVSUP (Naval Supply Systems Command).

7. MEETINGS.

a. There is a weekly NORSAIR meeting on Wednesday at 1315. This meeting will be chaired by SC-A. Items discussed at this meeting will be selected by SC-A based on guidance from OP. SC IMS's (Inventory Management Specialists) and an SCI representative will attend as directed. Representatives from PG, TE, FC and WS may be requested to attend also.

b. There is a weekly NORSAIR statistical meeting on Friday at 1330 in the MIC (Management Information Center). This meeting is chaired by CO with AX, PL, OP, SC-A, TE-A, and WS-A attending. SPA presents statistical data from the NORSAIR report and special analysis of NORSAIR data as developed.

c. There is a Review Board monthly meeting in the SC Director's Conference Room, chaired by SC-01, to review the rough draft NORSAIR Narrative Analysis (top 10) for each item and put the report in its final rough draft form. SC, TE and WS members will attend each meeting with the FC and PG members available on a stand-by basis. The composition of the Review Board will be as follows:

Division	Member	Alternate
SC	SC-01	SC-02
WS	WSS-A	WSS1-A
TE	TE-026	TE-023
PG	PG-01	PGM-01
FC	FCB-3	FCB-6

d. There is a monthly meeting in the MIC, chaired by CO for presentation of the NORSAIR Narrative Analysis (top 10). SC-01 will make the presentation.

8. ACTION.

a. OP is responsible for monitoring the ASO NORSAIR Program and providing guidance to SC for selecting items for discussion at the weekly NORSAIR meeting.

b. Detailed procedures for DP, SC, TE, DA, SP, WS, PG and FC are contained in enclosures (1) through (6) respectively.

9. REPORTS CITED

a. Weekly Reports
Report Symbol

(1) ASO 5442-15 - ASO FSN's - Descending Frequency

(2) ASO 5442-16 - ASO FSN's - Cog Unit Code Sequence

(3) ASO 5442-17 - Part Numbers - Descending Frequency

(4) ASO 5442-18 - All items by Weapon System

(5) ASO 5442-19 - NON-ASO FSN's - Descending Frequency

(6) ASO 5442-20 - NON-ASO FSN's - FIIN Sequence

(7) ASO 5442-39 - Completion Method Summary

(8) ASO 5442-40 - Summary of ASO FSN's

(9) ASO 5442-41 - Summary of NON-ASO FSN's

(10) ASO 5442-42 - Summary of Part Numbered Items

(11) ASO 5442-43 - Summary of Items by Dual Cog Symbol

(12) ASO 5442-45 - Summary of ASO FSN's by Requisition Age

(13) ASO 5442-46 - Summary of Items by Material Control Code

(14) ASO 5442-47 - Completed ASO items - Cog Unit Sequence

(15) ASO 5442-48 - 45 day old Summary - Aircraft Model Sequence

(16) ASO 5442-50 - 45 day old FSN's - Descending Frequency

(17) ASO 5442-54 - 45 day old FSN's - Activity Sequence

b. Monthly Reports
Report Symbol

(1) NAVSUP 5442-3 - Top 100 NORSAIR Items

(2) NAVSUP 5442-4 - NORSAIR Summary by Aircraft Controlling Custodian

(3) NAVSUP 5442-5 - NORSAIR Summary by Inventory Manager

(4) NAVSUP 5442-6 - NORSAIR Summary by Aircraft Type

(5) NAVSUP 5442-7 - NORSAIR Narrative Analysis (Top 10 Items)

(6) ASO 5442-37 - NORSAIR Summary by Aircraft Controlling Custodian (ASO Cog Items)

(7) ASO 5442-38 - NORSAIR Summary by Aircraft Type (ASO Cog Items)

(8) ASO 5442-52 - Items on the Backorder File - Activity Sequence

(9) ASO 5442-53 - Backorder Summary - ASO Items by Age

10. FORMS CITED.

a. 4ND-ASO-5442/13 - NORSAIR/Work Stoppage Report

b. 4ND-ASO-4000/4 - TE - Job Order Card

/s/ L. F. ReDAVID
Executive Officer

Asterisks are not used to indicate
changes since this is a general revision.

Authenticated

R. E. DeWINTER
LCDR, SC, USN

DP DETAILED PROCEDURES

1. Weekly.

a. Receive NORSAIR's transmitted via AUTODIN (Automatic Digital Network).

b. Receive from SPA for keypunching edited NORSAIR messages by 0800 on Friday following the report date.

c. From all NORSAIR's submitted, prepare the applicable weekly reports listed in enclosure (9).

d. Each Wednesday by 1200, forward all weekly listings as specified in enclosure (7).

e. Report to SPA in advance of the scheduled delivery time, any reports which will be delinquent and provide the reasons.

f. Screen NORSAIR's of non-ASO cog FSN's against the PSI (Program Support Interest) File. Reports of FSN's which do not match FSN's on the PSI will be printed out in FIIN sequence (Report Symbol ASO 5442-20) and forwarded to DA each Friday.

g. Maintain a NORSAIR History File for one year.

2. Monthly.

a. Prepare applicable monthly reports listed in enclosure (7) immediately after receipt of the last NORSAIR received for the report month, i.e., final data for the month is included.

b. Forward all monthly listings as specified in enclosure (7).

SC DETAILED PROCEDURES

1. Weekly.

a. SC-A. Select items for discussion and chair the weekly NORSAIR meeting. SC-A receives the ASO 5442-15 report as a management tool to determine dispersion of trouble items among the Branches.

b. NORS Coordinator (Head, Special Expediting Section, SCC7-A). Notify via the SC Branch Heads those IMS's whose items will be discussed at the weekly NORSAIR meeting. When deemed appropriate, notify other ASO components. SCC7 receives the ASO 5442-16, -18, -47 and -54 reports to aid in the selection of items for the NORSAIR meeting and to maintain current SCC7 records of items requiring expedite action.

c. SC IMS's.

(1) The SC Weapons Branches receive the ASO 5442-16 and -18 reports. These reports are used to review NORS requisitions outstanding 45 days or longer, to review those items selected for the weekly SC NORSAIR meeting, to investigate the system aspects of items and special studies as directed by SC-A and SC Weapons Branch Heads.

(2) When notified that items under their respective cognizance will be discussed at the weekly SC NORSAIR meeting, prepare Form 4ND-ASO-5442/13 (NORSAIR/WORK STOPPAGE REPORT), and report to the NORSAIR meeting prepared to discuss the items.

(3) The IMS may require PG representation at the SC NORSAIR meeting on Wednesdays. In such instances, PG must be notified on the same day that the IMS is notified of the items to be reported.

d. SCI. Receive the ASO 5442-15 and -18 reports for use in insuring that an adequate NICRISP schedule is in existence for repairable items.

2. Monthly. SC is responsible for the preparation and distribution of the "TOP 10 NORSAIR NARRATIVE ANALYSIS," Report Symbol NAVSUP 5442-7. NAVSUP has authorized 15 working days for the submission of this report from the cut off of the weekly NORSAIR report encompassing the end of the calendar month. The time frames established below will permit completion of the report within the 15 working day limit.

a. SC NORS Coordinator (Head, Special Expediting Section, SCC7-A).

(1) Notify Branch Heads concerned of the items to be reported immediately upon receipt of the monthly TOP 100 list (Report Symbol 5442-3). In addition, SCI, WS-A and TE-A will be informed of the items to be reported.

(a) Notify IMS's via the SC Branch Head when items under their management are selected for Narrative Analysis.

(b) When a part numbered item is selected for Narrative Analysis, contact the TE (TE-026) for the development of information for the Narrative Analysis Report.

(2) Review narratives received for compliance with paragraph 2c below.

(3) Present rough draft analysis reports to the Review Board for the action specified in paragraph 2d(1) below.

(4) Upon receipt of the approved rough draft, prepare in smooth and present through SC-A and OP to AX for signature. SCC7 will provide distribution of the report (Report Symbol NAVSUP 5442-7) as specified in enclosure (7).

(5) The NORS Coordinator is fully responsible for the coordination of this program. This responsibility includes advising the Branch Heads of items to be reported, advising Review Board members of the meeting schedule, arranging the Review Board meeting with SC-A, arranging with PL-01 for the scheduling of the MIC presentation to the CO and insuring that the time frames for action are met.

b. Branch Heads will present their Narrative Analysis to the Review Board when called upon to do so. Branch Heads are responsible for their items through final approval of the rough draft.

c. IMS's when notified will prepare a detailed analysis of indicated items and hand carry to the Special Expediting Section (SCC7) via the Branch Head by the close of business on the second working day after notification. The detailed Narrative Analysis Reports will include, but not be limited to, the following:

(1) Aircraft type involved.

(2) Nature of significant problems being encountered.

(3) Causes of the problems.

(4) Responsible activities.

(5) Explanation of consequences.

(6) Corrective actions underway or proposed.

(7) Recommendations for actions to be taken at the Command or Departmental level.

(8) An anticipated "Get Well" date.

d. SC-01.

(1) A Review Board will convene at 0900 in the SC-A Conference Room on the following working day after receipt of the rough drafts in SCC7. The Review Board, chaired by SC-01 will review the item rough drafts and revise the reports as deemed necessary for presentation to the CO. Representatives from SC, TE and WS will attend each meeting. Representatives of PG and FC will be available on a stand-by basis. Branch Heads will provide all information as required and in accordance with instructions from the Review Board. Branch Heads will be contacted individually to present their items for review.

(2) SC-01 will present the Review Board approved items to the CO in the MIC. The date and time for the presentation will be arranged by SCC7 with PL-01.

(3) SC-01 will provide SCC7 with the final rough draft for preparation of the finished report and submission for approval, signature and distribution.

e. SC-A, SCI-A and SCC7 will each receive a copy of the NAVSUP Report 5442-3 for information on the most troublesome items, for insuring an adequate NICRISP schedule is in existence and for selecting the TOP 10 items requiring a Narrative Analysis.

TE DETAILED PROCEDURES

1. Weekly.

a. TE Staff. Receive and coordinate technical analysis of NORSAIR items.

b. TE CPPC (Centralized Production Planning Control).

(1) Distribute to cognizant branches (TEA/TEX):

(a) NORSAIR report symbol ASO 5442.17

(b) NORSAIR report symbol ASO 5442.19

(c) NORSAIR items selected for review at the weekly SC NORSAIR or work stoppage meeting.

(d) NORSAIR items referred to TE for Technical Determinations/Resolution of problems from CO NORSAIR weekly meeting.

(2) Attach Job Order Form 4ND-ASO-4000/4 cards, as applicable. Assign "Priority Handling." Hand carry to cognizant TE Branches.

(3) Maintain NORSAIR file for TE Manpower requirements and for all internal/external inquires/follow-ups.

c. TEA/TEX.

(1) Assistant Branch Heads shall designate Branch representatives selected for the review of the NORS items selected for discussion at the Wednesday NORSAIR meeting.

(2) Branch technicians shall review each item and provide a fully descriptive resumé of technical data and technical actions initiated to resolve the NORS problem. Each item will be discussed with the SC Branch counterpart for assistance in the resolution of any technical problems.

(a) Appropriate actions shall be initiated to:

1. Secure drawings for the identification of interchangeability, recoverability, etc.

2. Furnish priority handling for the completion of any DCN (Design Change Notice), SICR (Supply Item Change Record), SCPR (Source Certification and Procurement Record), Referral, Purchase Requisition on hand in TE which might hamper the completion of the NORS requirement.

3. Update the MDF to reflect the latest interchangeability, application data.

4. Completely resolve problems concerning test sites, specifications, etc.

5. Identify alternate source(s) for the manufacture of the item.

6. Review for possible change of provisioning code. (Source or MARC)

7. As applicable, recommend one-time procurement.

8. Initiate appropriate correspondence to the prime designated overhaul point to request manufacture of items source coded in the "M" series to satisfy immediate requirements.

9. Initiate correspondence to alleviate chronic NORS conditions which are related to technical problems.

10. Initiate appropriate SSR (Supply Support Request) actions for NORS items determined to be under the cognizance of another ICP, DSC, etc. When applicable, a recommendation to procure on a one-time basis should be given due consideration to alleviate a given critical NORS condition.

(3) All NORS items shall receive priority handling. Items shall be returned by the designated NORS Branch technicians to TE via the immediate Section Supervisor. All items shall be completed and returned by 1500 hours, Tuesday.

(4) Problem items returned to TE for resolution shall be reviewed by the cognizant Branch technician selected by the Assistant Branch Head. A complete resumé of the actions initiated to resolve the Technical requirements will be documented in a memorandum to SC-A, copy to TE-026.

d. TE Representation at the Weekly NORS Meeting.

(1) TE Staff shall :

(a) Represent TE at all NORS meetings.

(b) Coordinate TEA/TEX branch personnel attendance at a specific NORS meeting based on the complexity of the NORS problem, and depth of technical analysis.

2. Monthly.

a. TE Staff. When notified, coordinate preparation of a Narrative Analysis of selected part numbered items and forward to SCC7 via TE-A within two working days of notification. Information on these reports should include elements listed in enclosure (2) paragraph 2c.

b. Review Board Member. Attend the Review Board monthly meeting in the SC-A Conference Room, chaired by SC-01.

DA DETAILED PROCEDURES

1. Weekly.

a. Upon receipt of Report Symbol ASO 5442-20 (non-ASO cog FSN's in FIIN sequence):

(1) Screen FSN's in FIIN File.

(2) If not contained there, request file data from DLSC.

(3) Screen part numbers received from DLSC against the DA reference file to determine if a FSN is in process. Matching items will be discarded.

(4) Forward part numbers/FIIN's, on which ASO has not requested supply support, to TE for determination whether an SSR should be initiated.

b. Upon receipt of initial SSR's from TE, normal SSR procedures shall be followed. These procedures are stated in Section II of the MDF Manual (ASOINST P4400.24).

SP(SPA) DETAILED PROCEDURES

1. Weekly.

a. Monitor NORSAIR's submitted by field activities. This includes advising activities of reporting deficiencies when incorrect or incomplete reports are submitted. When advised by DP that activities are delinquent, follow-up requesting that reports be expedited.

b. Receive NORSAIR's submitted by messages. Edit these for correct data and keypunching format. Hand carry original copies to DP for processing no later than 0800 on the Friday following the report data.

c. Distribute all weekly reports to applicable ASO addressees listed in enclosure (7), insuring timely completion by DP, and initiating necessary action to eliminate DP delinquencies. Advise SC-A in advance of the DP completion date of reports which will be late and the reasons.

d. Mail appropriate reports to non-ASO addressees listed in enclosure (7).

e. Maintain NORSAIR statistics, charts and graphs.

f. Prepare and present requested NORS statistics at the weekly NORSAIR Statistical Meeting in the MIC.

2. Monthly.

a. Maintain NORSAIR statistics, charts and graphs.

b. Forward all monthly reports required by reference (b) to applicable non-ASO addressees via AX within 10 working days of the final report for the month.

NOTE: The distribution of Report Symbol NAVSUP 5442-7 (Narrative Analysis) signed by AX is the responsibility of the SC Expediting Section (SCC7).

1. WS DETAILED PROCEDURES

A. Weekly. Receive the ASO reports 5442-15 and ASO 5442-18. These reports are used to keep the Weapons Systems Support Managers informed of the most troublesome items within the supply system and within their respective weapons system. The reports are also used in research for the bi-weekly ASO/NATSF report and assist in identification of items reported by the 3-M reporting system.

B. Monthly. The designated Review Board Member will attend the monthly Review Board meeting (in the SC-A Conference Room), and will assist in the review of rough draft NORSAIR Narratives.

2. PG DETAILED PROCEDURES

A. Weekly. The responsible PG Representative will attend the weekly NORSAIR meeting on Wednesday at 1315 and be prepared to discuss the status of specific procurement(s) of NORSAIR item(s) brought to his attention by the SC Commodity Manager prior to the meeting as candidate(s) for discussion.

B. Monthly. A representative of PG will be provided (on a stand-by basis) to attend the Review Board meeting (in the SC Director's Conference Room) to assist in the review of a rough draft NORSAIR Narrative(s) which involves procurement(s) of particular item(s).

3. FC DETAILED PROCEDURES

A. FC will provide representation on a stand-by basis at the weekly NORSAIR meeting on Wednesday at 1315, and the monthly Review Board meeting in the SC-A Conference Room.

NOTE: DP is the preparer of and SPA is responsible for the distribution of all reports except NAVSUP 5442-7 which is under the preparation and distribution control of SC.

WEEKLY NORSAIR REPORTS

REPORT SYMBOL	TITLE	DISTRIBUTION INTERNAL	DISTRIBUTION EXTERNAL
ASO 5442-15	ASO FSN's - Descending Frequency 5 or more requisitions outstanding	OP, SC-A, WS, SPA, SCC, SCI.	AMO Norfolk AMO San Diego
ASO 5442-16	ASO FSN's - Cog Unit Code Sequence 5 or more requisitions outstanding	SCC, SPA, SCW1, SCW2, SCW3, SCW4, SCW5.	
ASO 5442-17	Part Numbers - Descending Frequency 2 or more requisitions outstanding	TE Staff, OP, SPA, DA	
ASO 5442-18	NORS Items by Weapons System FSN/PART NO. sequence outstanding	WSS, SPA, SCC, SCI, SCW1, SCW2, SCW3, SCW4, SCW5.	Hill AFB (F-4 Items)
ASO 5442-19	NON-ASO FSN's - Descending Frequency 5 or more requisitions outstanding	OP, SPA, TE Staff	ESO, SPCC (Applicable items)
ASO 5442-20	NON-ASO outstanding FSN's by FIIN List - NON PSI, CARDS PSI	DA	
ASO 5442-39	Completion Method Summary - G and N Part 1 - ASO FSN's Part 2 - Part Numbers Part 3 - NON-ASO FSN's	OP, SPA	
ASO 5442-40	Summary of ASO items - outstanding & complete, G and N Part 1 - System totals Part 2 - Controlling custodian Part 3 - Aircraft type Part 4 - Activity	SPA	NAVAIR, NAVSUP, CNM

REPORT SYMBOL	TITLE	DISTRIBUTION INTERNAL	EXTERNAL
ASO 5442-41	Summary of NON-ASO items - outstanding & complete, G and N Part 1 - System totals Part 2 - Controlling Custodian Part 3 - Aircraft type Part 4 - Activity	SPA	NAVAIR, NAVSUP, CNM
ASO 5442-42	Summary of Part Numbers - outstanding & complete, G and N Part 1 - System totals Part 2 - Controlling Custodian Part 3 - Aircraft type Part 4 - Activity	SPA	NAVAIR, NAVSUP, CNM
ASO 5442-43	Summary of items by dual cognizance symbol Outstanding and complete, G and N	SPA	NAVAIR, NAVSUP, CNM
ASO 5442-45	Summary of ASO items by requisition age - G and N Part 1 - Age of outstanding requisitions Part 2 - Age of outstanding requisitions held by ASO Part 3 - Age of completed requisitions	SPA	
ASO 5442-46	Summary of items by material control code Outstanding and completed, G and N	SPA	
ASO 5442-47	Completed ASO items - FIIN within Cog unit sequence	SPA, SCC	
ASO 5442-48	Summary of 45 day & older - aircraft sequence ASO outstanding requisitions	SPA	

REPORT SYMBOL	TITLE	DISTRIBUTION INTERNAL	DISTRIBUTION EXTERNAL
ASO 5442-50	45 Day and older - FSN's in descending frequency ASO outstanding requisitions	SPA	
ASO 5442-51	45 Day and older - FSN sequence ASO outstanding requisitions	SPA	
ASO 5442-52	NORSAIR items on the backorder file - activity sequence ASO outstanding requisitions (1 week per month)	SPA	
ASO 5442-53	Summary of backordered requisitions ASO outstanding by age (1 week per month)	SPA	
ASO 5442-54	45 Day and older - activity sequence ASO outstanding requisitions	AX, SCC, SPA	

MONTHLY NORSAIR REPORTS

REPORT SYMBOL	TITLE	DISTRIBUTION INTERNAL	DISTRIBUTION EXTERNAL
NAVSUP 5442-3	TOP 100 NORSAIR ITEMS (all sources) Descending frequency of NORSAIR days	CO, AX, OP, SC-A, TE-A, SPA SCI-A, SCC7	CNAL, CNAP, CNARESTRA, CNATRA, CNATECHTRA, CNAVANTRA, CNABATRA, NAVAIR, NAVSUP, CNM, CNO, FMFPAC
NAVSUP 5442-4	Summary by Aircraft Controlling Custodian (all sources)	CO, OP, SPA	CNAL, CNAP, CNARESTRA, CNATRA, CNATECHTRA, CNAVANTRA, CNABATRA, NAVAIR, NAVSUP, CNM, CNO, FMFPAC
NAVSUP 5442-5	Summary by Inventory Manager (all sources)	CO, OP, SPA	CNAL, CNAP, CNARESTRA, CNATRA, CNATECHTRA, CNAVANTRA, CNABATRA, NAVAIR, NAVSUP, CNM, FMFPAC PLUS APPLICABLE PORTIONS TO ESO, SPCC, DSA, DCSC, DESC, DGSC, DISC.
NAVSUP 5442-6	Summary by Aircraft Type (all sources)	CO, OP, SPA	CNAL, CNAP, CNARESTRA, CNATRA, CNATECHTRA, CNAVANTRA, CNABATRA, NAVAIR, NAVSUP, CNM, CNO, FMFPAC
NAVSUP 5442-7	NORSAIR NARRATIVE ANALYSIS OF TOP 10 ITEMS	CO, OP, SC-A, SC-B, TE-A, WS, SPA	CNAL, CNAP, CNARESTRA, CNATRA, CNATECHTRA, CNAVANTRA, CNABATRA, NAVAIR, NAVSUP, CNO, FMFPAC, CMI, CNM, CMC, SPCC, ESO AMO SAN DIEGO, AMO NORFOLK

REPORT SYMBOL	TITLE	DISTRIBUTION INTERNAL	DISTRIBUTION EXTERNAL
			FMFLANT, NAVAIRSYS-COMREPS - LANT, PAC, PNCLA, NAVAIREWORKFAC's - QUONSET POINT, NORFOLK, CHERRY POINT, JACKSONVILLE, PENSACOLA, NORTH ISLAND, ALAMEDA
ASO 5442-37	Summary by Aircraft Controlling Custodian (ASO items only)	CO, OP, SPA	
ASO 5442-38	Summary by Aircraft Type (ASO items only)	CO, OP, SPA	
ASO 5442-52	NORSAIR items on the backorder file - activity sequence ASO Outstanding requisitions (1 week per month)	SPA	
ASO 5442-53	Summary of backordered requisitions ASO outstanding by age (1 week per month)	SPA	
	QUARTERLY REPORTS - NORSAIR		
ASO 5442-36	F-4 NORSAIR ASO ITEMS - outstanding & completed JSL & NON-JSL, G and N	SPA	

U. S. NAVY
AVIATION SUPPLY OFFICE
700 ROBBINS AVENUE
PHILADELPHIA, PA. 19111

FASO 5442.1K
SDA
17 Dec 1963

ASO FIELD INSTRUCTION 5442.1K

FROM: Commanding Officer, Aviation Supply Office, Philadelphia
TO: Distribution List

SUBJ: NORSAIR (NOT OPERATIONALLY READY SUPPLY AVIATION ITEM REPORT)

REF: (a) OPNAVINST P5442.2 (latest issuance), Subj: Aircraft Accounting System
(b) ASO msg 122131Z Aug 1963, Subj: Revision to the NORSAIR Reporting Schedule (NOTAL)
(c) COMNAVAIRPAC msg 192202Z Jul 1963, Subj: NORSAIR Reporting Procedures (NOTAL)
(d) NAVSUP Pub 437: MILSTRIP/MILSTRAP
(e) OPNAVINST 4700.19 (latest issuance), Subj: Equipment Distribution and Condition (EDAC) - Measuring and Reporting System
(f) OPNAVINST 4614.1 (latest issuance), Subj: Uniform Material Movement and Issue Priority System (UMMIPS)
(g) NAVAIRINST 4440.1 (latest issuance), Subj: Material Required in Support of Backfit and Modernization Programs
(h) NAVSUPINST 4440.115C (latest issuance), Subj: Physical Inventory
(i) NAVSUPINST 5442.1 (latest issuance), Subj: Not Operationally Ready Supply Aviation Item Report (NORSAIR)

ENCL: (1) Detailed Procedures for Preparation of the NORSAIR
(2) Sample NORSAIR submitted by AUTODIN/TRANSCEIVER Activities
(3) Sample NORSAIR submitted by NON-AUTODIN Activities
(4) Dependent Activities Authorized to Consolidate NORSAIR Reports With Their Supporting Activities

1. PURPOSE. This instruction prescribes policies and procedures concerning the NORSAIR (Not Operationally Ready Supply Aviation Item Report) which provides status on material that is unavailable, and which causes an aircraft to be in a NORS (Not Operationally Ready Supply) or NFE (Not Fully Equipped) condition.

2. DIRECTIVE CANCELED. FASOINST 5442.1J

3. SCOPE. Applies to:

a. All activities within the Naval Aviation Supply Distribution System, ships, squadrons, COMNAVAIRPAC (Commander, Naval Air Force Pacific Fleet), COMNAVAIRLANT (Commander, Naval Air Force Atlantic Fleet), CNATRA (Chief, Naval Air Training Command), and AMO (Aviation Material Offices) San Diego and Norfolk.

b. All operational aircraft carried under Status Codes "A," "B1"-"B8" and "BM"-"BZ". Status codes are defined in reference (a).

c. All aeronautical material Source Coded in the "P," "M," and "N" series and material under the cognizance of other inventory control points, commands and DSA (Defense Supply Agencies).

4. STATEMENT OF CHANGES. This revision:

a. Deletes the definitions of NORS C and N and establishes new definitions for NORS (Not Operationally Ready Supply) and NFE (Not Fully Equipped).

b. Formalizes semi-monthly NORSAIR reporting established by reference (b).

c. Requires all CONUS MAG (Marine Air Group) records to be identified with the MAG accounting number in the reporting activity field of the report.

d. Requires direct reporting of NORSAIR from NAS Barbers Point, NAVSTA Adak, NAVSTA Kodiak and MCAS Kaneohe established by reference (c).

e. Reassigns the responsibility for advising AMO of changes in status from deployed squadrons and detachments to their supporting supply activity/ship.

5. DEFINITIONS. For the purposes of this instruction, the following definitions apply:

a. NORS and NFE Items. A NORS or NFE item is an item which has been requisitioned off-station and is not available from base/ship resources (serviceable or repairable not awaiting parts). An item is considered a NORS or NFE item if the following respective situation exists.

(1) NORS. The item is required for an aircraft in a readiness reportable status (Status Codes A, B1-B8, BM-BM) and the item causes the aircraft to be incapable of safe flight or unable to perform a minimum of one of the primary missions of the unit to which assigned.

(2) NFE. The item is required for an aircraft in a readiness reportable status (Status Codes A, B1-B8, BM-BM) and is safely flyable and capable of performing one or more of the primary missions of the unit to which assigned but, the item is applicable to a mission essential sub system required to perform any of the primary missions of the unit to which the aircraft is assigned.

b. A-NORS and A-NFE Items. An item which has been requisitioned off-station and is not available from base/ship resources (serviceable or repairable not awaiting parts). An item will be considered A-NORS or A-NFE if it is a "forced removal" item and will cause a NORS or NFE to exist in five days for CONUS activities or seven days for extra-CONUS and deployed activities if the required item is not available.

NOTES: (1) Items qualify for NFE definition only when related to mission essential subsystems affecting the primary mission of the unit to which the aircraft is assigned.

(2) NORS and NFE requisitions will include a "G" in card column 40 of the MILSTRIP document as specified in reference (d).

6. BACKGROUND. Reference (e) revised the definition of NORS for purposes of measuring supply support effectiveness and defines NFE (Not Fully Equipped) for measuring impaired capability of aircraft. This change has necessitated the redefinition of NORS and NFE as cited in paragraph 5.

7. PROCEDURES.

a. Requisitioning. NORS and NFE items will be requisitioned using MILSTRIP procedures citing an IPD (Issue Priority Designator) in consonance with reference (f). In accordance with reference (g), requirements for original installation in aircraft under backfit and modernization programs shall not be labeled NFE. Ground support equipment must have a direct effect on operating aircraft readiness as defined in reference (d) for project code assignment in order to be considered NORS.

b. Reporting of NORS and NFE Items.

(1) All NORS and NFE requisitions except requisitions with a Project Code "ZF7," regardless of age, for items under any cognizance symbol, which have been forwarded by the supporting supply activity to an off-station activity for satisfaction of the requirement will be reported on the ASO NORSAIR. These requisitions and items shall continue to be reported until the requisition is satisfied or canceled. When the reported NORS or NFE requisition is satisfied or canceled it shall be reported as completed. NORSAIR's for completed requisitions will also indicate the method of completion and the Julian date of completion. A requirement that is satisfied through a method other than a receipt for the reported NORS or NFE requisition, e.g., cannibalization, local purchase or customer service, will be reported as completed; however, the reported NORS or NFE requisition will be canceled. Completed requisitions will be reported only once and in the applicable report period. Requisitions will not be reported both outstanding and completed in the same report period.

(2) An A-NORS or A-NFE requisition will be included on the NORSAIR if the criteria in paragraph 7b(1) are met and in addition the A-NORS or A-NFE requisition is verified to be an actual NORS or NFE requirement.

(3) Detailed procedures for preparation of the NORSAIR are contained in enclosure (1).

c. Field Reporting Procedures.

(1) General.

(a) All CONUS activities supporting active aircraft, NAS Barbers Point, NAVSTA Kodiak, NAVSTA Adak and MCAS Kaneohe shall prepare a semi-monthly NORSAIR reflecting status as of 2400 local time on the 15th and last day of each month. Negative reports are required.

(b) Reports are to be submitted so as to reach ASO not later than 0800 Philadelphia time on the third working day following the 15th and last day of the month.

(2) COMNAVAIRPAC and COMNAVAIRLANT activities.

(a) Ships, deployed USMC (United States Marine Corps) units and Extra-CONUS activities (except NAS Barbers Point, NAVSTA Kodiak, NAVSTA Adak and MCAS Kaneohe) do not submit NORSAIR's.

(b) CONUS Activities, NAS Barbers Point, NAVSTA Kodiak, NAVSTA Adak and MCAS Kaneohe. Submit information copies of ASO NORSAIR's to AMO San Diego or AMO Norfolk as applicable.

(c) AMO's San Diego and Norfolk. Prepare a NORSAIR for COMNAVAIRPAC and COMNAVAIRLANT respectively for ships, deployed USMC units and overseas stations except NAS Barbers Point, NAVSTA Kodiak, NAVSTA Adak, and MCAS Kaneohe based on NORS, NFE, A-NORS and A-NFE items requisitioning. NORSAIR's will be prepared in accordance with enclosure (1) and be submitted so as to reach ASO by 0800 Philadelphia time on the third working day following the 15th and last day of the month. In addition, copies of the summaries will be forwarded to COMNAVAIRPAC and COMNAVAIRLANT, respectively.

(3) CONUS Activities under CNATRA and CNARESTRA will submit information copies of all NORSAIR's to the respective commands.

(4) Consolidation of Reports, by the Naval supporting activity, of dependent off-station supply activities with the parent supporting activity is not permitted except as authorized in enclosure (4).

(5) Reconciliation of NORSAIR. All reporting activities will incorporate in local procedures a mandatory reconciliation of all outstanding NORSAIR records with the requisitioner prior to the semi-monthly submission. The reconciliation will include verifying that the requisition is outstanding and that the latest Status Code and holding activity are correct. The reconciliation will be made as close to the cut-off time of the report as is feasible based on local procedures involved. NORS and NFE requirements found to be completed will be so annotated with the Method Code and Julian date prior to submission. This procedure applies even when the requirement was satisfied through receipt of material other than for the specific NORS or NFE requisitions.

(6) Local Processing of NORS Requisitions. Local supply effort to satisfy NORS and NFE requirements prior to submission of requisitions off-station is of prime significance to the NORS and NFE rate and to the number of NORS and NFE requisitions in the supply system, i.e., on the NORSAIR. In this endeavor, local supply departments are encouraged to implement the following procedures:

(a) Provide a physical check (bin and locator card), for NIS (Not In Stock) stock record NORS and NFE requirements if the warehouse location check can be made without impeding processing time frames established in paragraph 04070 of reference (d).

(b) Where local stock records indicate material availability, but requisitions are returned from the warehouse NIS, the requisitions should be referred to the inventory manager. Subsequent to the referral action, a spot inventory check should be conducted in accordance with reference (h).

(c) NAVSUP permits screening of incoming receipts prior to posting for outstanding Issue Group I requirements only. This waiver of standard procedure is granted with the proviso that expeditious action is taken to post the issue after the fact.

(d) When a replacement item is not available from supply, insure that the defective component is screened by the local IMA for repair prior to submitting the requisition off-station.

(7) Temporary Attached Squadrons and Detachments. NORS and NFE item data regarding aircraft in the custody of temporarily attached squadrons or detachments shall be reported by the host activity if the NORS or NFE condition occurred during the temporary deployment. If the NORS or NFE condition existed prior to the temporary deployment, the parent activity will continue to report semi-monthly until the requirement is satisfied.

NOTE: The foregoing does not apply if the original requisition was cancelled and a new requisition was submitted by the host activity.

(8) Transient Aircraft. The host activity will report those items causing transient aircraft to be NORS only if the aircraft is grounded.

(9) Deployed Squadrons and Detachments. Continuity of NORSAIR reporting must be maintained when squadrons or detachments are deployed. NORS and NFE requisitions not completed or cancelled by the supporting station when deployment occurs will be reported by the appropriate AMO. This procedure will require the following coordinated actions:

(a) Losing supporting station.

1. Provide the AMO by message, with information copy to the squadron and gaining supporting activity/ship the NORS and NFE outstanding requisitions with FSN's (Federal Stock Numbers), quantity, bureau number, aircraft type, latest Status Code and holding activity. Advise the supporting activity/ship to provide AMO with status of the requirement from that point on.

2. Upon receipt of material for requisitions required for deployed squadrons, immediately reship to the squadron and provide status to AMO.

(b) AMO Norfolk and San Diego. Upon receipt of messages cited in paragraph 7c(9)(a)1 commence reporting items on the NORSAIR report.

(c) Gaining supporting activity/ship. Insure that AMO is advised of changes in status or completion with stop date and Method Code for completion of all requisitions transferred to AMO reporting on NORSAIR.

d. Preparation of the NORSAIR.

(1) Reporting activities shall include all information specified in enclosure (1) on all items regardless of cognizance. Items shall be grouped in three parts as follows:

(a) Part 1 - Federally stock numbered "2R," "1R" and "8R" cognizance items source coded in the "P" series.

(b) Part 2 - Items source coded in the "M," and "N," series.

(c) Part 3 - Items under the cognizance of other ICP's, Commands, or DSA.

(2) AUTODIN (Automatic Digital Network) and TRANSCEIVER activities shall prepare appropriate EAM (Electronic Accounting Machine) cards in compliance with the format of enclosure (2) and in accordance with the following instructions:

(a) Each transmission shall start with a message card indicating:

1. Message Code "9" in card column 1.

2. The accounting number of the activity submitting the report.

3. Total card count and negative reports, when applicable, identifying the appropriate parts of the report.

e. ASO Action. ASO will:

(1) Develop statistical reports from NORSAIR's submitted. Through analysis action is taken to improve specific and overall support to prevent future NORS and NFE conditions. Also, ASO is required to provide extensive reports to higher authority regarding NORS and NFE items, as specified in reference (i). These reports are critically reviewed by top Navy management NAVSUP (Naval Supply Systems Command), NAVAIR (Naval Air Systems Command), CNM (Chief of Naval Material), CNO and SECNAV (Secretary of the Navy) and assistance is provided when necessary.

(2) ASO will take action on specific requisitions reported on the NORSAIR when there are indications that the normal requisition processing procedures are not expeditiously satisfying the requirement.

(3) Part numbered items will be revieved for identification and possible source code changes. As deemed necessary, inquiries are made of other inventory managers regarding items under their control causing NORS and NFE conditions.

f. Security Classification. NORSAIR will not be classified.

8. REPORTS CITED. Reports Control Symbol ASO 5442-14 is assigned to the semi-monthly NORSAIR.

/s/ J. W. CARTEE
By direction

DISTRIBUTION LIST #7

INTERNAL DISTRIBUTION

Authenticated

R. C. STUBBS
CDR, SC, USN

DETAILED PROCEDURES FOR PREPARATION OF THE NORSAIR

The report shall be prepared as follows:

Card Column	Message Column Heading	DESCRIPTION
1-5		REPORTING ACTIVITY. Reporting activity's five digit accounting code. (Full field punching zeros to the left as applicable.)
6-34	A	FSN or MANUFACTURER's NUMBER. Part 1. ASO TYPE FSN. Indicate in columns 6-7 the ASO Dual Cognizance Symbol (including "8R" cognizance material). Indicate in column 8 the MCC (Material Control Code.) In columns 9 through 23, indicate the balance of FSN plus SMIC (Special Material Identification Code) as shown in the samples in enclosures (2) and (3). When reporting Part 1, indicate code 1 in column 80. Part 2. MANUFACTURER's CODE AND MANUFACTURER's PART NUMBER. Manufacturer's numbers for items source coded in the "M," and "N," series shall be indicated by entering the manufacturer's five digit code in columns 6-10. The manufacturer's part number will be entered starting with column 11 and continuing left to right for the remainder of the part number. Unused portions will be left blank. When a manufacturer's part number exceeds 24 digits on the EAM card, enter an * in column 34. If the manufactures five digit code is not known leave columns 6 10 blank. When reporting Part 2, indicate code 2 in column 80. Part 3. OTHER ACTIVITY FSN. Indicate in columns 6-7 the ICP, Commander DSA Dual Cognizance Symbol in accordance with reference (a). leave card column 8 blank. In columns 9 through 23 indicate the balance of the FSN as shown in the samples in enclosure (2), or (3). When reporting Part 3, indicate code 3 in column 80.
35-40	P	Bureau Number. Indicate the aircraft BUNO (Bureau Number) which is NORS or NFE for the item reported.
41-42	C	NAVAIR SOURCE CODE. Part 1. Report the applicable "P" series source code. Part 2. Report the source code if available. Part 3. No source code is required.
43-56	D	REQUISITION NUMBER. Enter the document number exactly as it appears in columns 30-43 of the MILSTRIP requisition.
57-60	E	QUANTITY REQUIRED. (Full field punching zeros to the left, as applicable.)
61-62	F	MILSTRIP STATUS CODE - Two character code indicating the status of the requisition.

Card Column	Message Column Heading	DESCRIPTION
63	G	PROGRESS CODE - Enter "O" for outstanding requisitions or "C" for completed requisitions.
64-66	H	ROUTING IDENTIFIER OF HOLDING ACTIVITY - Enter the routing identifier of the activity currently holding the NORS or NFE request. When purchase action is required, the routing identifier of the activity initiating the procurement shall be inserted as the holding activity.
67-68		BLANK
69-71	I	JULIAN STOP DATE - Enter three digit Julian Date of delivery if requisitioned material was delivered to the requestor and "C" was entered in cc 63.
72-73	J	COMPLETION METHOD CODE - Enter applicable code indicating method requirement was filled. (Mandatory when "C" is entered in cc 63). 11. Receipts from other Supply Officers - ASO action 12. Receipt from Procurement - ASO action 13. Receipts from DSC's, DOD agencies, GSA and other government departments 14. Local purchase 15. Local repair or fabrication (AMD or NAVAIREWORKFAC) 16. Cannibalization 17. Local stock (interchangeable substitute, etc. 18. Local system tapping action (OSO Receipt) 19. Miscellaneous 20. Cancellation
74-77	K	TYPE EQUIPMENT CODE - Four character OPNAV type equipment code as listed in reference (a). New type equipment codes are published as developed in reference (h).
78	L	NORS/NFE CODE - Indicate code "G" for NORS items and "N" for NFE items as defined in paragraph 5.
79	M	COMMAND CODE - Major operating command of aircraft indicated. Indicate one of the following codes: 1. COMNAVAIRLANT 2. COMNAVAIRPAC 3. CNATRA 4. CNARESTRA 5. CNATECHTRA 6. NAVAIR 7. CNAVANTRA 8. CNABATRA 9. Miscellaneous
80	Not Required	REPORT CODE - Indicate 1, 2, or 3 for Part 1, 2, or 3 respectively. Refer to paragraph 7d(1) for explanation of these codes.

Enclosure (2)

FASOINST 5442.1X
S7A
17 Dec 1968

SAMPLE NORSAIR SUBMITTED BY AUTODIN/TRANCEIVER ACTIVITIES

PART 1

Field	Card columns	Sample entry
Reporting Activity Accounting Number	1–5	0 0 1 4 0
Dual C&S Symbol	6–7	2 R
RCC	8	Q
ASO Type FSN	9–23	1 5 6 0 5 6 8 3 7 9 7 L X
	24–34	
Bureau Number	35–40	1 3 4 5 8 4
BuWeps Source Code	41–42	P 1
Requisition No.	43–56	N 0 0 1 4 6 5 3 4 7 0 0 0 1
Qty. Req'd.	57–60	0 0 2 2
Milstrip Status Code	61–62	B A
Progress Code	63	C
R.I. of Holding Act.	64–66	P 1 Z
Blank	67–68	
Julian Stop Date	69–71	2 1 3
Completion Method Code	72–73	1 1
Type Equipment Code	74–77	A A A 2
[illegible]	78	[illegible]
[illegible]	79	[illegible]
[illegible]	80	[illegible]

PART 2

Field	Card columns	Sample entry
Accounting Number	1–5	0 0 1 4 0
MFR'S Code	6–10	8 0 4 9 0
Manufacturer's Part Number	11–34	8 2 5 6 9 2 A N 5 3
Bureau Number	35–40	1 4 8 6 1 3
BuWeps Source Code	41–42	M O
Requisition No.	43–56	N 0 0 1 4 6 5 3 [illegible] 7 0 0 0 2
Qty. Req'd.	57–60	0 0 0 1
Milstrip Status Code	61–62	B A
Progress Code	63	0
R.I. of Holding Act.	64–66	P A Z
Blank	67–68	
Julian Stop Date	69–71	
Completion Method Code	72–73	
Type Equipment Code	74–77	A A C D
[illegible]	78–80	[illegible]

PART 3

Field	Card columns	Sample entry
Accounting Number	1–5	0 0 1 2 0
Dual C&S Symbol	6–7	Y 2
Blank	8	
Other Activity FSN	9–23	5 3 0 5 3 4 6 7 8 9 2
	24–34	
Bureau Number	35–40	1 4 8 7 1 7
Blank	41–42	
Requisition No.	43–56	N 0 0 1 4 6 5 3 4 7 U U 0 3
Qty. Req'd.	57–60	0 0 0 2
Milstrip Status Code	61–62	B M
Progress Code	63	U
R.I. of Holding Act.	64–66	3 9 1
Blank	67–68	
Julian Stop Date	69–71	
Completion Method Code	72–73	
Type Equipment Code	74–77	A A E A
[illegible]	78–80	[illegible]

NOTE: (1) When a manufacturer's part number exceeds 24 digits, enter an * in column 34.

(2) Card columns 63 and 69-80 are prime EAM valadation columns. Data will not be acceptable to the program unless these columns are complete and accurate.

(3) SMIC's are mandatory entries in card columns 20-21 of ASO type FSN's, Part I.

SAMPLE NORSAIR SUBMITTED BY NON-AUTODIN ACTIVITIES

	HANDLING QTY	FSN OR MANUFACTURER'S NO.	BUREAU NO.	S. C.	REQUISITION NUMBER	QTY REQ	MILSTRIP STATUS CODE	PROGRESS CODE	R.I. OF HOLDING ACTY	JULIAN STOP DATE	COMPLE-TION METHOD CODE	TYPE EQUIP CODE	NORS NFE CODE	COMMAND CODE
		A	B	C	D N00146	E	F	G	H	I	J	K	L	M
Part 1		2RH-6685-134-5318-FA	134584	P1	63470001	2	BA	C	PTZ	213	11	AAAB	G	1
		2RQ-2810-049-0367-MF	148613	P1	633480006	1	BB	C	PAZ	214	12	AACD	N	1
		8R-1270-344-8706- QH	48615	P1	63490010	1	BA	O	PNZ			AAEA	N	1
Part 2		26512-178384-2L	149134	MO	53490005	2	BA	O	PDZ			AFSJ	G	1
		26512-98P-1201-15	148883	MO	63460004	2	BA	C	PTZ	213	16	APBB	G	1
Part 3		1N5960-166-7667	150823		53480012	4	BB	O	N33			AADB	N	1
		9N5910-581-8447	148717		63470011	1	BA	O	59E			ASAH	N	1

NOTE: (1) Request maintain columnar format on one line with single spacing for EAM key punching operations at ASO.

(2) Columns "G," and "I" through "M" are prime EAM validation columns. Data will not be acceptable to the program unless these columns are complete and accurate.

(3) Do not intermingle records from parts 1, 2 and 3.

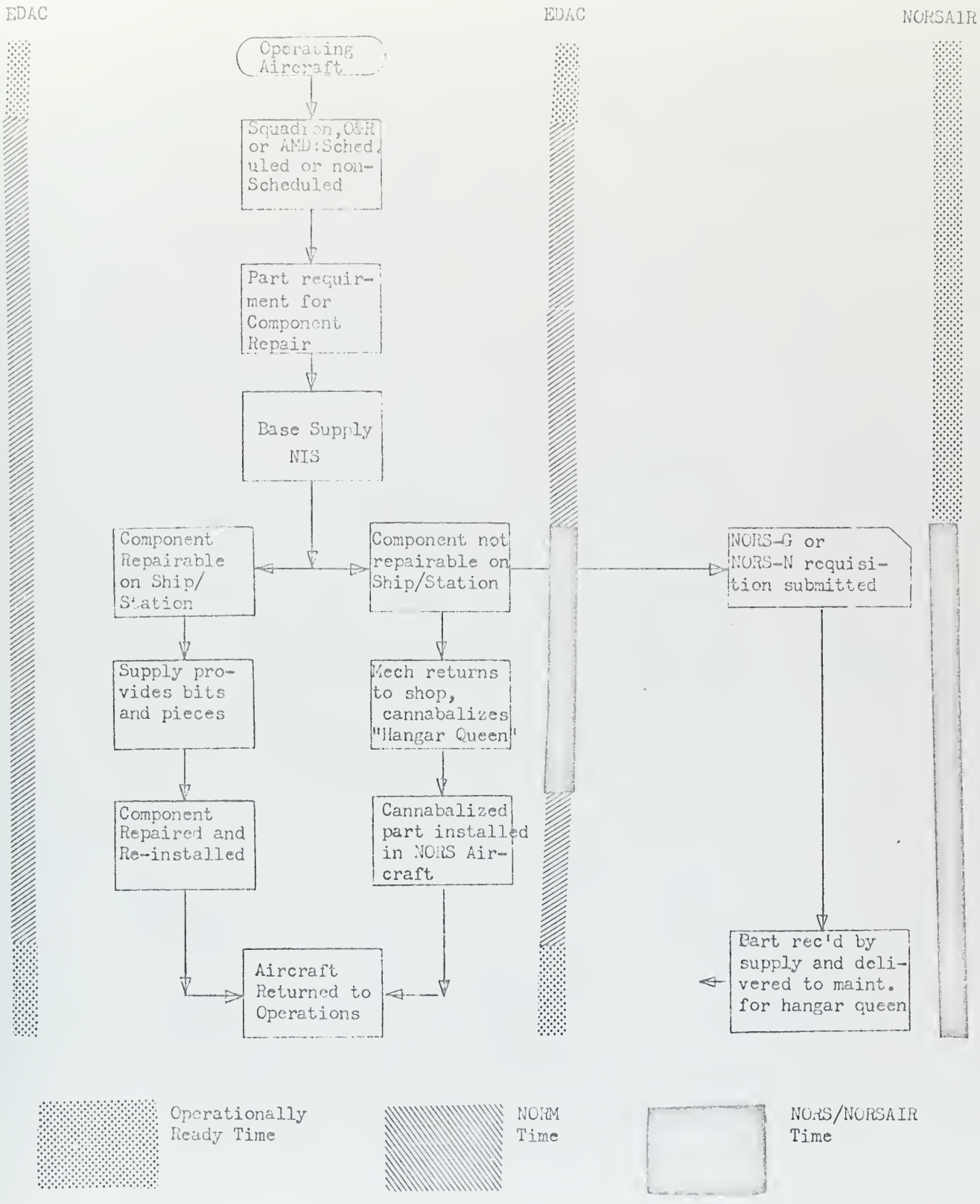
100

DEPENDENT ACTIVITIES AUTHORIZED TO CONSOLIDATE
NORSAIR REPORTS WITH THEIR SUPPORTING ACTIVITIES

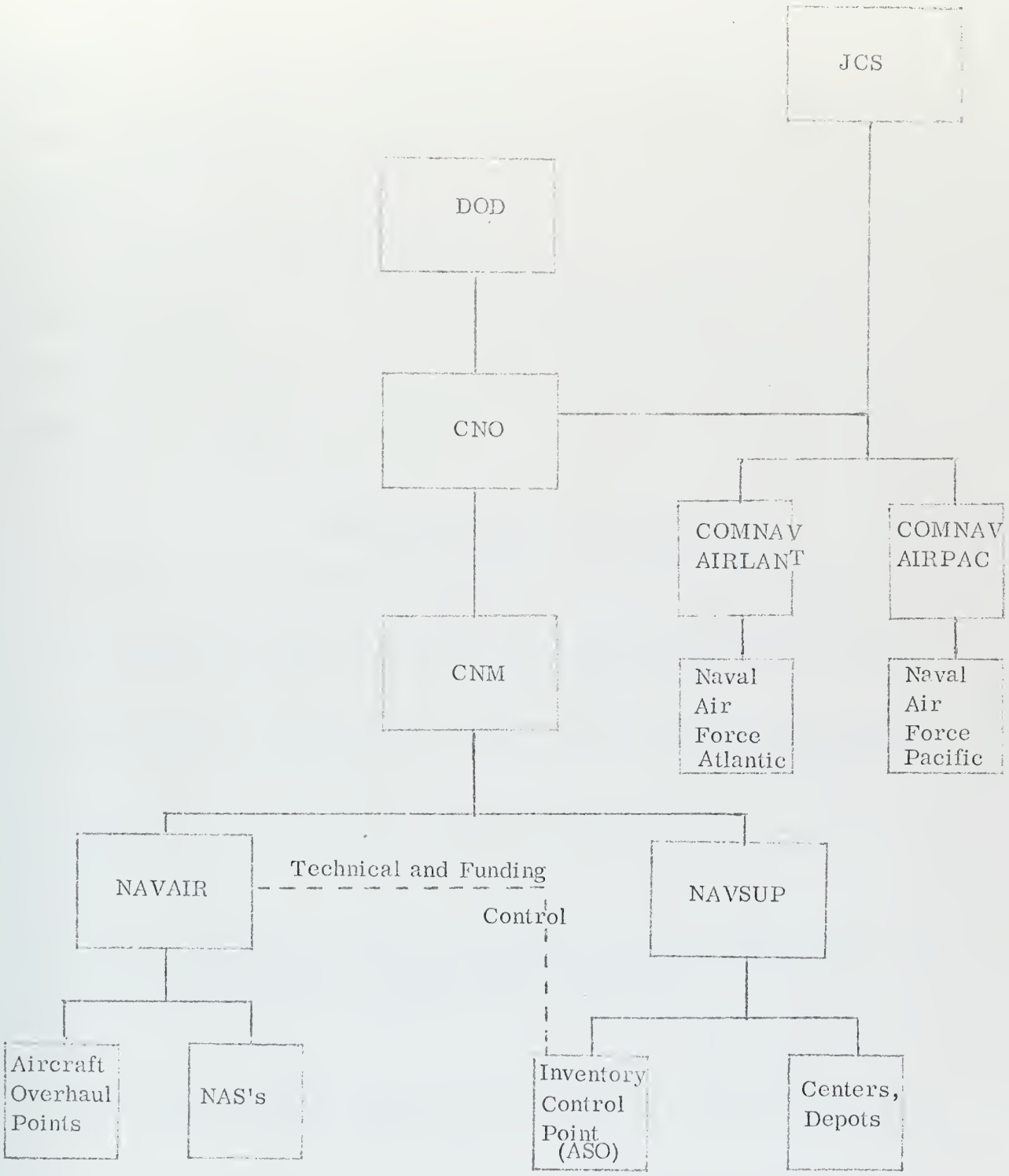
DEPENDENT (REQUIRING) ACTIVITY	SUPPORTING AND REPORTING ACTIVITY
1. NWL Dahlgren	1. NAS Patuxent River
2. NAAS Fallon	2. NAS Alameda
3. NS Mayport	3. NAS Jacksonville
4. NMDL Panama City	4. NAS Pensacola
5. NAAS Port Isabel	5. NAS Corpus Christi
6. SHIPS, Deployed USMC Units and EXCONUS Actys except NAS Barbers Point, NAVSTA Adak, NAVSTA Kodiak and MCAS Kaneohe.	6. AMO Norva or AMO San Diego as appropriate.

APPENDIX III

NORSAIR AND EDAC COMPARED



Functional Logistic Organization
U. S. Navy Aeronautical Weapon Support



APPENDIX V

QUESTIONNAIRE ON NON-OPERATIONALLY READY SUPPLY ITEM REPORTING

NAME:

COMMAND ASSIGNED TO:

POSITION:

NEXT HIGHER LOGISTIC COMMAND:

REPORT SYMBOLS:

SUBMISSION FREQUENCY:

RECIPIENT OF REPORT:

Questions (Answer on Separate Sheet)

1. Do you have a management information system for aeronautical supply?

2. Is your management information system part of an integrated system that encompasses your entire organization and its functions?

3. What is the name of the reporting system by which you report your aircraft supply status regarding parts?

4. What basic inputs do you provide to higher authority?

5. What basic outputs does higher authority provide to you?

6. Of the reported inputs (in Number 4) to higher authority, which of these are used by you as a device to measure your effectiveness (per cent accomplishment of goals in support of your command)?

7. What feedback information do you receive as a result of your report?

8. Are you satisfied with the management information system you provide inputs to and receive feedback (actions) from?

9. What additional data would you require in order to do your job better?

10. What is your objective in regard to aircraft supply support (in terms of per cent aircraft ready)?

11. Realizing that the EDAC reporting system and 3M system are complimentary operational reports to your supply report, in that they summarize readiness of aircraft and aircraft support data, do you see a need to combine any of these reports (your report with theirs)?

12. What is your communication link to the other subsystems (commands)?

13. Are there any communications problems under the present system? Would random access links to ICP data assist you?

14. If you could redesign the present Non-Operationally Ready Supply Item Reporting, what elements of data would you desire?

Inputs (From You)	Outputs to You (Feedback)	Remarks (Justify)

BIBLIOGRAPHY

Books

Blementhal, Sherman C. Management Information Systems, A Framework for Planning and Development. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1969.

Martino, R. L. Information Management: The Dynamics of MIS. Wayne, Pennsylvania: MDI Publications, Management Development Institute, 1968.

Saunders, Paul R. Systems and Procedures. 2nd ed. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1968.

Schoderbek, Peter P. Management Systems. New York: John Wiley and Sons, Inc., 1967.

Wildavsky, Aaron. The Politics of the Federal Budget. Boston: Little, Brown and Company, 1964.

Wofsey, Marvin M. Management of Automatic Data Processing Systems. Washington, D.C.: Thompson Book Company, 1968.

Government Documents

Aviation Supply Office Field Instruction 5442.1K of 17 December 1968.

Commander, Naval Air Force Atlantic and Commander, Naval Air Force Pacific, Instruction 4400 (Series).

Commander, Naval Air Force Atlantic and Commander, Naval Air Force Pacific, Instruction 5442 (Series).

Department of Defense Instruction 7730.25 of February 13, 1968.

Headquarters, Naval Supply Systems Command Instruction 5442.1 of 3 June 1966.

U. S. Air Force Manual 65-110. Washington, D.C.: Department of the Air Force.

U. S. Navy Maintenance, Material, and Management Manual. Washington, D. C.: Department of the Navy, 1963.

Periodicals

Dearden, John. "Can Management Information be Automated?" Harvard Business Review. Vol. 42, No. 2, March-April, 1964, pp. 128-135.

Edmunds, Stahrl. "The Reach of an Executive." Harvard Business Review. January-February, 1959, pp. 94-96.

Enger, Norman L. "Putting MIS to Work." American Management Associations. 1969.

Evans, Marshall K. and Hague, Lou R. "Master Plan for Information Systems." Harvard Business Review. December, 1962, pp. 91-94.

Johnson, Richard A., Kast, Fremont E. and Rosenwieg, James E. "Designing Management Systems." The Business Quarterly. Summer, 1964, pp. 59-65.

Martino, Dr. R. L. "The Development and Installation of a Total Management System." Data Processing for Management. April, 1963, pp. 36-39.

Stoller, David S. and Van Horn, Richard L. "Design of a Management Information System." Study Number P-1362, November 22, 1958, Rand Corporation, Santa Monica, California.

Personal Interviews

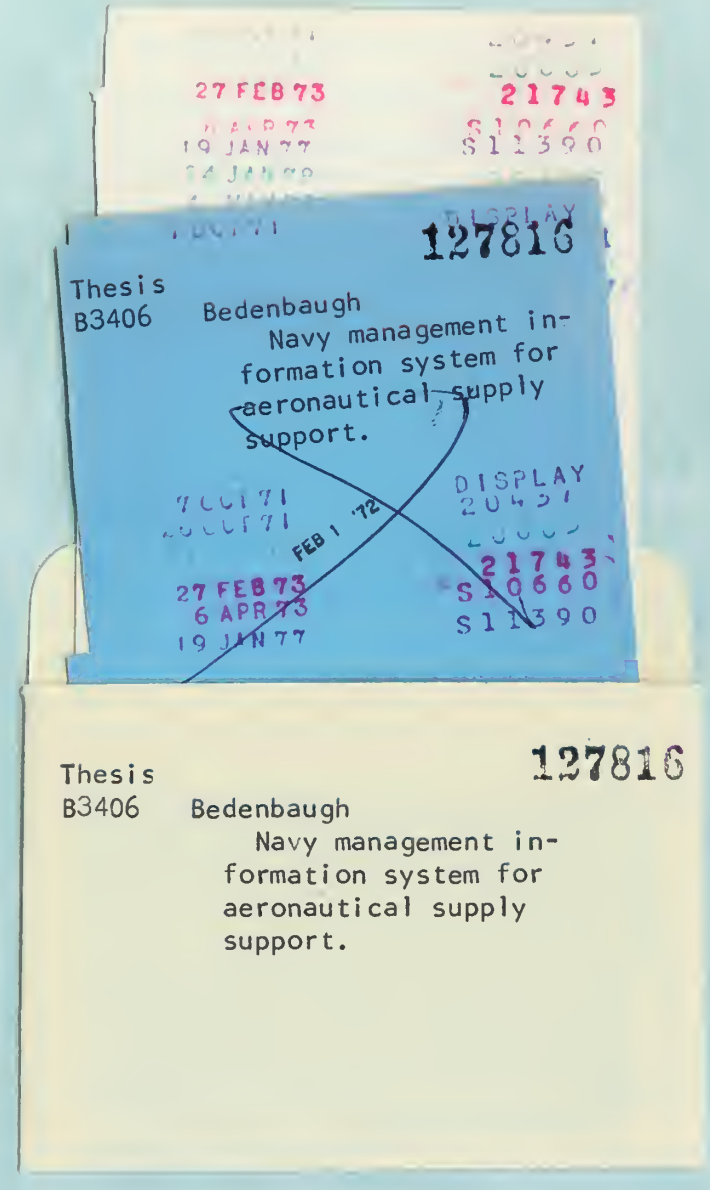
Carre, Lcdr. D. B. SC, USN, Fleet Support Division, United States Navy Supply Systems Command, Washington, D.C.

Croke, Don. Systems and Procedures Division, United States Navy Aviation Supply Office, Philadelphia, Pennsylvania.

Miller, Cdr. D. O. SC, USN. Supply Support Division, United States Navy Air Systems Command, Bailey's Crossroads, Virginia.

Prestwich, Captain J. P. SC, USN, Office of the DCNO for AIR, OPNAV, Pentagon, Arlington, Virginia.

Yaney, Lt. Don. SC, USN, Supply Support Division, United States Navy Air Systems Command, Bailey's Crossroads, Virginia.



Thesis
B3406 Bedenbaugh
Navy management information system for aeronautical supply support.