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LOGISTICS AND OPERATIONAL EFFECTIVENESS OF THE P-3 AIRCRAFT.(U)
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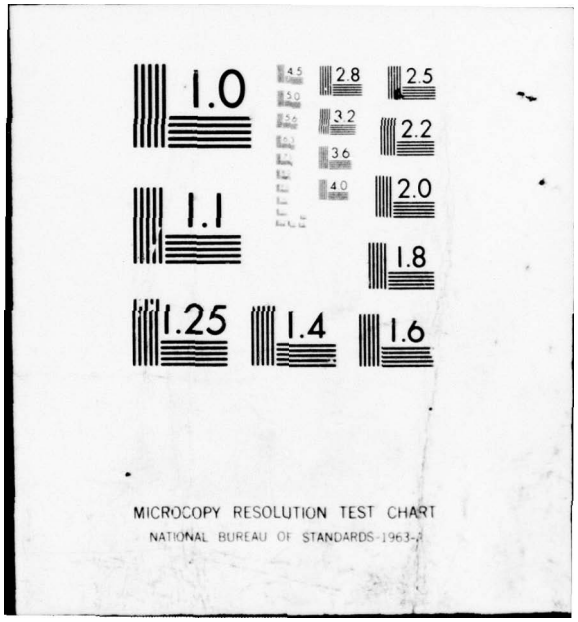
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FINAL SUMMARY REPORT

LOGISTICS AND OPERATIONAL EFFECTIVENESS OF THE P-3 AIRCRAFT

MARCH 1977

Prepared for
NAVAL AIR SYSTEMS COMMAND
DEPARTMENT OF THE NAVY
WASHINGTON, D.C. 20361
under Contract N00019-76-C-0401

ARINC RESEARCH CORPORATION

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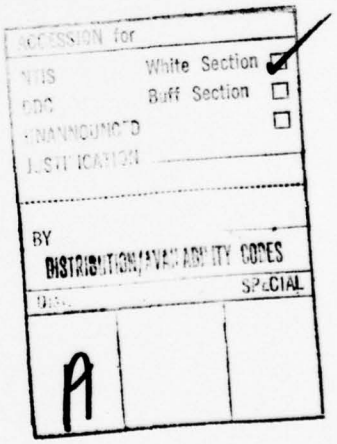
ABSTRACT

This report summarizes a 12-month logistic and engineering support effort performed by ARINC Research Corporation for the Naval Air Systems Command. It describes the activities that provided the P-3 Project Manager with an independent and objective evaluation of factors affecting the P-3's operational availability and logistic support posture.

The effort consisted primarily of tasks in integrated logistic support, engineering activities, P-3 operational readiness programs, aircraft component transitioning, maintenance plan development, and foreign military sales programs.



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CHAPTER ONE

INTRODUCTION

This report summarizes the work ARINC Research Corporation performed on the P-3 avionic subsystems for the Naval Air Systems Command (NAVAIR-SYSCOM) from 1 March 1976 through 28 February 1977 under Contract N00019-76-C-0401.

The objective was to provide continuing logistic and engineering support for the P-3 program. This was accomplished principally through the performance of tasks in the following areas:

- Integrated Logistic Support (ILS)
  - P-3C Update Programs
  - P-3B Modernization Program
  - P-3 FMS Programs
- Engineering
  - Data Collection/Problem-Area Identification
  - Field Engineering Support
  - Maintenance and Engineering Analysis
  - Related Maintenance/Engineering Activities
  - P-3 Operational Readiness Programs
  - P-3 Transition Programs

A substantial portion of our effort was devoted to Integrated Logistic Support, with the primary objective of providing PMA-240 and AIR-4101B3 with detailed ILS planning information needed for timely, effective logistic-support decisions.

After the contract work began, a contract supplement established the following additional tasks:

- Monitor the progress of the P-3C Update II and the P-3A/B Modernization Program
- Prepare and update Program Status Summaries for each program

At the direction of the Project Manager, ARINC Research also performed special tasks, usually requiring quick response.

All task assignments are summarized in this report. Details of the efforts are omitted since results are presented in depth in monthly status letters or special reports. A listing of all data submissions is presented in the appendix to this report. The reader is referred to these submittals for specific discussions of work accomplished under this contract.

CHAPTER TWO

INTEGRATED LOGISTIC SUPPORT

During the contract period, ARINC Research Corporation provided detailed ILS planning information for the following programs: P-3C Update Programs, the P-3A/B Modernization Program, special improvement programs, and foreign procurements. The primary objective was to provide logistic-management information to PMA-240 and cognizant AIR-04 personnel to effect timely logistic support decisions.

ILS plans were developed from a series of action-milestone charts. Selected milestones were continuously monitored to assure that required actions were taken and that potential problem areas could be identified quickly. In addition, the monitoring provided a means for assessing the overall program status.

2.1 P-3C UPDATE PROGRAMS

During the previous contract period*, ARINC Research placed primary emphasis on monitoring of logistic and maintainability planning for the P-3C Update II Program and reliability assessment of P-3C Update I equipment. During the first half of the contract period covered by this report, we continued these efforts, with major emphasis on the P-3C Update II Program. In August 1976 our effort was expanded by a supplemental contract to include total program planning and monitoring for the P-3C Update II Program. In addition, we continued to assess the reliability of P-3C Update I equipment -- particularly AN/AQA-7(V)5 -- in the fleet environment, and we began initial program planning for the P-3C Update III Program.

2.1.1 Task Description

The objectives of this task were to provide engineering and logistic support planning for the P-3C Update Programs.

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*1 March 1975 through 29 February 1976, Contract N00019-75-C-0412.

2.1.2 Work Accomplished

2.1.2.1 P-3C Update I

During this contract period, the on-site ARINC Research field engineer (at NAS Moffett Field) assisted fleet personnel in implementing the AN/AQA-7 Interim Support Plan, developed on the previous contract, during the transitioning of VP-9 to Update I aircraft (with improved DIFAR).

In addition to these efforts, we used on-site monitoring to assess the reliability trends of the improved DIFAR (throughout this contract period) and three original Update I subsystems (through their Navy Support Date). Monitoring subsequent to the Navy Support Date on these systems has been continued through the 3M system. The results of these monitoring efforts, conducted in support of the initial fleet operations, were reported to PMA-240.

2.1.2.2 P-3C Update II

During this contract period, the P-3C Update II Program was transitioning from the initial development stage to the test and evaluation stage. In the first six months of the contract period, through August 1976, our effort was directed toward logistic planning and maintainability analysis of P-3C Update II subsystems. We worked closely with AIR-4101B3 and developed detailed ILS planning for the P-3C Update II subsystems, preparing a series of detailed action milestone charts that addressed each of the logistic elements required to provide support for the Update II subsystems in a timely manner. We also completed an in-depth Level of Repair Analysis for the AN/ARS-3 (Sonobuoy Reference System) and made recommendations to PMA-240. In addition, our field engineer at NAS Moffett Field conducted a temperature-profile investigation of the P-3C Sensor Station Three compartment to determine the temperature range the IRDS Video Display would experience during typical ground and flight operations. The results of the investigation, which were reported to PMA-240, indicated that with existing airflow characteristics, the Sensor Station Three Compartment is a satisfactory location for the IRDS Display.

In August 1976 our effort was expanded to include the development and implementation of a management information system to provide total program planning for the P-3C Update II. We developed the P-3C Update II Program Status Summary to provide total program visibility and to permit timely analysis of potential problem areas. Throughout the contract period, ARINC Research participated in a number of meetings and conferences, including:

- Hardware Design Management Team Meetings
- Subsystem Design Reviews
- Maintenance Engineering Analysis Reviews
- Site Transition Meetings

2.1.2.3 P-3C Update III

During this contract period, the P-3C Update III Program was in the initial stage of development. ARINC Research efforts were directed primarily toward program planning and maintainability analysis for the Advanced Signal Processor (ASP). They included review of the maintainability characteristic of ASP and review of the Level of Repair Analysis for the system. In each case, the purpose of our review was to determine whether the planning being developed was in consonance with the P-3C maintenance concept.

Late in the contract period, when the P-3C Update III system was more clearly defined, we expanded our effort to include program planning for all of the Update III subsystems.

Throughout the contract period, ARINC Research participated in a number of meetings and conferences, including:

- ASP Users Conferences
- ASP ILS Management Team Meetings
- P-3C Update III Program Coordination Meetings

2.2 P-3A/B MODERNIZATION PROGRAM

During the first half of the contract period ARINC Research continued to provide both ILS planning and evaluation of current program problems. In August 1976 our effort was expanded to include development and implementation of a management information system that would provide timely and accurate data, permitting program management decisions on a realistic schedule.

2.2.1 Task Description

The objectives of this task were to provide engineering and logistic support planning, a complete assessment of current program status, and a continuing evaluation of potential problems on the P-3A/B Modernization Program.

2.2.2 Work Accomplished

The Program Planning Document for the P-3A/B Modernization Program was developed and promulgated to provide current planning for hardware procurement and squadron retrofit.

An analysis of the expected reliability of the modified AN/AQA-7(V)4,5 Sonar Computer-Recorder Group (commonly called DIFAR) was performed for PMA-240B. Since reliability testing to date had been performed on "new built" DIFAR, the report was directed toward analysis of the expected reliability of a DIFAR with a "used" unmodified portion and a new modified portion (the configuration that will be installed in P-3A/B modernized aircraft).

Using the ARINC Research spares optimization model, we prepared and submitted to ASO an Initial Outfitting List (IOL) for the AN/ASN-124 WRAs and SRAs. When more detailed information was available, we prepared and submitted a second IOL for all items, repairable and consumable, of the AN/ASN-124 system.

The P-3A/B Modernization Program Status Summary was developed as part of a management information system reflecting program status and permitting timely analysis of problem areas. The Status Summary is updated regularly to be kept current with the P-3A/B Modernization Program.

Throughout the contract period, ARINC Research participated in a number of meetings and conferences, including:

- Program Review Meetings
- P-3A/B Modernization Reserve Implementation Meeting
- Funding Apportionment Meeting
- ILSMT
- Design Review Meetings

2.3 P-3 FMS PROGRAMS

During previous contract periods, ARINC Research, at the request of PMA-240, had initiated the development of management aids and provided logistic and management planning support for current FMS programs. These efforts continued throughout the contract period covered by this report.

2.3.1 Task Description

The objectives of this task were to provide ILS planning and management assistance in support of the P-3 FMS Program.

2.3.2 Work Accomplished

During this contract period, ARINC Research continued to provide program and logistic management planning for the P-3 FMS programs. The efforts encompasses the following actions:

- Developed an Iranian Gross Requirements NSN/PN Cross-Reference Index
- Expanded and refined the FMS Cost Model, developed under a previous contract, to permit more cost variables, escalation factors, etc.
- Participated in numerous FMS support and status review conferences
- Updated the P-3C Program and Logistics Management Plan (RAAF) as required

- Participated in ATE program planning and developed milestone plans that were acceptable to the RAAF and USN and still met the priority requirements
- Performed an on-site review of the IAAF P-3F GSE status

CHAPTER THREE

ENGINEERING ACTIVITIES

This chapter describes ARINC Research engineering efforts in support of the P-3 aircraft. These efforts, which were directed primarily toward increasing the operational effectiveness of the P-3 weapon system, encompassed the following areas:

- Data Collection/Problem-Area Identification
- Field Engineering Activities
- Maintenance and Engineering Analysis
- Related Maintenance/Engineering Activities
- P-3 Operational Readiness Activities
- P-3 Transition Programs

3.1 DATA COLLECTION/PROBLEM-AREA IDENTIFICATION

Throughout our participation in the P-3 program, we have maintained a comprehensive, continuously updated file of P-3 operational and usage data. During this contract period, these data were processed to obtain removal rates, failure rates, usage rates, BCM rates, and other statistics of P-3 subsystems as one means of identifying problem areas. Problem areas were also identified through the close contact between our field engineers and the operating squadrons.

For each problem, the primary data source was validated to determine if the problem was fleetwide or represented an isolated occurrence. Problems reported by a field engineer were validated through 3M data; if the problem was identified by 3M data, it was validated through the field engineers.

The problems were then reported to PMA-240 and other cognizant activities, both verbally and in writing. In addition to the descriptions of the problems, we provided assessments of the impacts of the problems and recommended further actions.

3.1.1 Task Description

The objectives of this task were to collect P-3 maintenance and engineering data, perform analyses to identify problem areas, and recommend candidates for further maintenance or engineering analysis.

3.1.2 Work Accomplished

ARINC Research has regularly maintained and updated a comprehensive and easily accessed data file on selected P-3C peculiar aircraft subsystems. During this contract period we also developed data files for P-3B aircraft and used them in conjunction with field engineering inputs to analyze and investigate problem areas. Principal efforts under this task were as follows:

- Investigated, monitored, and regularly reported on problems of reliability and availability of spares of Front Bearing Cages, Combustion Liners, Turbine Vanes, and Turbine Rotors for the T-56 Engine
- Investigated a reported problem of corrosion control in the engine nacelle hot section
- Investigated various problems with the AN/ARN-99 OMEGA during the learning phase following fleet introduction in the P-3C Update I aircraft
- Investigated availability of replacements for items of the TD-900 Time Code Generator/Decoder Display that had been BCMd
- Investigated a variety of AN/ASN-84 Inertial Navigation Set problems:
  - Intermediate-level replacement of the Electronic Assembly Chassis of the IMU
  - Advisability of procuring a Memory Module Tester for the AIMD at NAS Jacksonville
  - Module Caddy utilization for the Position Indicator
  - Failure rate and spares availability of the Indicator Wheels
  - Receipt of incorrect panel lamps (28V in lieu of 18V)
  - Support and transportation problems related to the operation of the AN/ASN-84 SX Support Program
  - Replenishment of Pre-Expended Bin assets for SX Support
- Investigated reliability and spares availability for the recorder head of the AN/AQH-4 Sound Recorder Reproducer
- Identified and investigated high failure rate and high cannibalization rate for the Auxiliary Power Plant
- Investigated the NOR problems of the Starter Control Valves

- Investigated the failure rate and spares availability of the Turbine Inlet Temperature Indicator
- Investigated spares availability for the Strobe Light during the initial phase of retrofit into the P-3 aircraft
- Investigated TRIAC failures in the AN/AQA-7(V) Sonar Computer Recorder Group
- Identified and investigated incorrect use of the Work Unit Codes for the RD-319/AYA-8 and RD-319A/AYA-8 Magnetic Tape Transport
- Investigated spares availability problems of the RD-319/AYA-8 Magnetic Tape Transport:
  - Replacement vacuum blower motors
  - Piece parts for A7A1 circuit board
- Investigated the availability of spare HI/LO Backward Wave Oscillators for the AN/ALQ-78 Countermeasures Set
- Investigated the problem of large numbers of Brake Assemblies being AWP for Heat Shields, Carrier Liners, and Boots (Seals)
- Investigated the failure of depot-overhauled T-56 Engines to meet minimum performance standards when test-run in the field

3.2 FIELD ENGINEERING ACTIVITIES

Under this contract, ARINC Research continued to provide field engineering support for the P-3 program. Field engineers were provided for the full contract period at NAS Jacksonville, NAS Moffett Field, and NATC Patuxent River. These engineers performed the on-site investigations necessary for early identification of problems affecting P-3 operational readiness. This approach proved effective and was continued throughout the contract period.

3.2.1 Task Description

The objective of this task was to provide field engineering support to NAS Jacksonville, NAS Moffett Field, NATC Patuxent River, and other sites, as requested.

3.2.2 Work Accomplished

During this contract period, almost every phase of our logistic support tasks involved some field engineering effort. Although the primary contributions of the field engineers were the timely identification of problems affecting support of the P-3 aircraft, assistance was also provided to various on-site activities on a daily basis.

This support included day-to-day assistance to the squadrons, AIMDs, NARFs, and NAMTRADETs on publications, support equipment, maintenance concept, and supply problems. Continuous liaison was maintained with NAVAIR, ASO, NAESU, the P-3C principal contractor, and vendor personnel.

The NAVAIR P-3 Project Manager (PMA-240) and cognizant Navy activities were informed of the results of these efforts through informal briefings, weekly field activity reports, monthly status reports, and special reports. The field engineers' activities during this contract period included the following:

- Provided daily assistance to NAS Jacksonville and Moffett Field P-3 squadrons in correcting support problems affecting NOR status
- Participated in a number of P-3 aircraft modification, modernization, and improvement programs, including:
  - P-3C Readiness Retrofit Program
  - P-3B Modernization Program
  - P-3C Update I Program
  - P-3C Update II Program
- Collected reliability data on selected P-3C Update I and Update II subsystems
- Assisted various NAVAIR and CNAVRES activities in transitioning P-2 aircraft squadrons and sites to the P-3 aircraft
- Assisted in locating, identifying, and effecting the transfer of a number of support equipment items for the reserve squadrons and support activities
- Assisted NARF Jacksonville in establishing P-3 hydraulic component and CU-2070 Antenna Coupler repair capability
- Assisted AIMD Jacksonville in establishing TD Amplifier repair capability
- Analyzed the effectiveness of the PEB at NAS Moffett Field and NAS Jacksonville and provided consolidated printouts of PEB items normally stocked at these sites
- Conducted temperature-recording tasks on selected P-3C subsystem components for NAVAIR
- Participated in program reviews, ILSMT, and aircraft transition meetings
- Assisted in solving other fleet support problems

3.3 MAINTENANCE AND ENGINEERING ANALYSIS ACTIVITIES

During previous contract periods, ARINC Research had conducted numerous engineering analyses of selected P-3 subsystem problems that were identified by on-site field engineers or 3M data analysis. These analyses were continued throughout this contract period.

3.3.1 Task Description

The objective of this task was to perform, at the direction of the P-3 Project Manager, engineering analyses on specific P-3 subsystems in order to identify and define operational, reliability, maintainability, and support problems.

3.3.2 Work Accomplished

ARINC Research conducted detailed analyses of several P-3 subsystem problems identified by 3M data analysis and field engineering reports. In addition, we investigated other problems as directed by the Project Manager. The reports of the analyses were submitted to the Project Manager. The analyses were conducted on the following subsystems:

- PB20N Autopilot. The PB20N was analyzed under a task assigned by the Fleet Improvement Action Team (FIAT) manager. We reviewed the publications to determine whether revisions should be made, and we analyzed the 3M data to identify any other maintenance/support problems that should be corrected.
- H1-H2 Electronics Bay Cooling Modification. We analyzed the 3M data for the AN/ASN-84 Inertial Navigation Set to determine the reliability impact of improving the cooling in the H1-H2 Electronics Bay in the P-3C.
- AN/ALQ-78 Countermeasures Set. We analyzed the 3M data for the AN/ALQ-78 to determine whether the organizational-level technicians were succeeding in following the maintenance plan.
- AN/ASN-84 SX Support Program. We analyzed the 3M data for the AN/ASN-84 Inertial Navigation Set to determine the impact of the SX Support Program on the subsystem support and operational readiness.
- T-56 Engine. We processed the Aircraft Degradation Ranking Summary Reports (MSOD 4790.A3364-01) data to obtain the CY-1975 absolute degradation figures for the T-56 Engine installed in the P-3A, P-3B, and P-3C aircraft.
- Auxiliary Power Plant. We reviewed applicable publications and TYCOM/WING instructions to establish the existence of directives regarding the employment of the APP to supply power and air conditioning for maintenance purposes. In addition, we surveyed the squadrons to determine local policies on such employment of the APP.

3.4 RELATED MAINTENANCE/ENGINEERING ACTIVITIES

Under previous contracts, ARINC Research had performed a variety of tasks related to maintenance/engineering that produced information needed for project management. Such maintenance/engineering-related tasks were also performed under this contract.

3.4.1 Task Description

The objectives of this task were to perform, on request, related maintenance/engineering tasks that were not suitable for inclusion in the other, more narrowly defined, tasks.

3.4.2 Work Accomplished

During this contract period several tasks were performed:

- We prepared maintenance plans, or revisions to existing maintenance plans, on the following systems:
  - AN/ACQ-5 Data Terminal Set
  - AN/ASH-20(V) Crash Locator
  - AN/ASN-84 Inertial Navigation Set
- Support Costs for the P-3C. We conducted an investigation to determine the direct costs per flight hour for the P-3C. The organic support costs per flight hour, by calendar quarter, were developed for calendar years 1973 through 1975. The costs for CY-1973 and CY-1974 were adjusted for an inflation rate of 6 percent per year. The costs are plotted in Figure 1, with the implementation dates of the support programs (which were designed to improve the P-3 Weapon System Program).
- P-3 Availability Simulation Model. We refined the P-3 Availability Simulation Model, which had been developed under the previous contract, and prepared the documentation. The model has been used to provide evaluations of alternatives being considered by the P-3 Program Manager.
- P-3C Readiness Retrofit Program. We monitored the progress of RRP aircraft through Phases I and II on a daily basis until the program was completed on 11 June 1976. We reported problems immediately upon discovery, and submitted periodic reports of status to the P-3 Program Manager.
- ECP Management. We assisted in developing and reviewing ILS requirements and retrofit plans for ECPs being processed for submittal to the NAVAIR Aircraft Change Control Board (ACCB). We maintained an accurate accounting of the status of all P-3 ECPs in the NAVAIR review cycle and closely monitored pertinent ILS elements of ECPs approved by NAVAIR. During this contract period, 58 ECPs were reviewed, of which 32 (with a value of $23,615,173) were approved

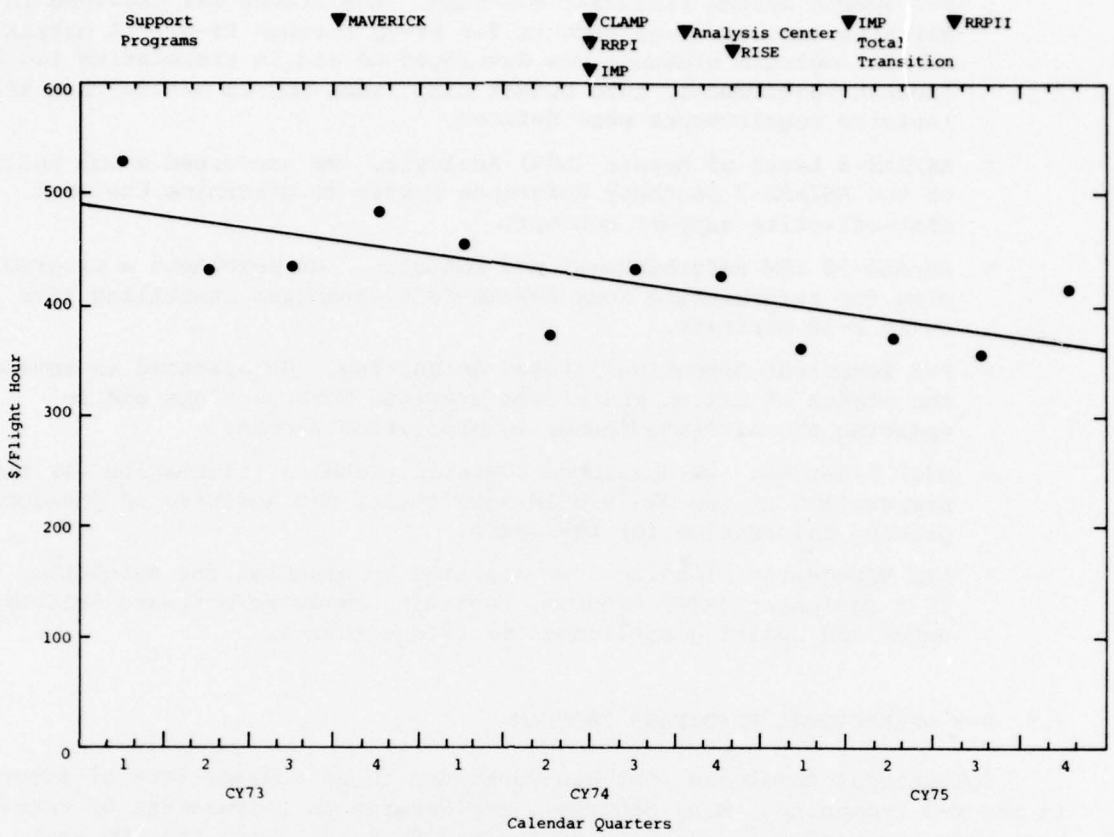

Figure 1. P-3C ORGANIC SUPPORT COST PER FLIGHT HOUR

for incorporation into the P-3 aircraft. The following is a summary of the ECP management effort:

Received for Review	58
Approved for Production Only	7
Approved for Production and Retrofit	2
Approved for Retrofit Only	23
Disapproved	5
Deferred	11
Withdrawn	3
Open	7

- P-3 Weapon System Financial Planning. Assistance was provided in defining logistic requirements for FY-TQ through FY-82. A matrix of all logistic elements was developed to aid in translating logistic element requirements into Budget Line Items and to ensure that all logistic requirements were defined.
- AN/ARS-3 Level of Repair (LOR) Analysis. We conducted a LOR analysis on the AN/ARS-3 Sonobuoy Reference System to determine the most cost-effective support concept.
- AN/ALR-58 ESM Refurbishment and Retrofit. We developed a program plan for refurbishing four AN/ALR-58 systems and installing kits in 16 P-3B aircraft.
- P-3 Technical Directives Status Accounting. We assisted in reviewing the status of action chits from previous TDSA meetings and in updating the Airframe Change Incorporation Record.
- OSIP Planning. We developed logistic planning information for the preparation of the FY-79 OSIP submittals, and assisted in developing pricing information for the OSIPs.
- ATE Management Planning. We assisted in planning the Automatic Test Equipment (ATE) Program, reviewing hardware/software delivery dates and updating applicable milestone charts.

3.5 P-3 OPERATIONAL READINESS PROGRAM

Operational Readiness (OR) has continued to be a major area of interest in the P-3 community. Many programs, implemented to improve the OR rates, have been successful in maintaining the P-3 OR rates above the CNO goal. Our involvement in these programs continued throughout the contract period covered by this report.

3.5.1 Task Description

The objective of this task was to analyze relevant OR data to identify trends and potential problem areas adversely affecting OR.

3.5.2 Work Accomplished

3.5.2.1 Operational Readiness Analysis

During this contract period, ARINC Research continued the analysis of P-3 OR data to identify trends in the operational readiness of the P-3 aircraft and identify factors that could affect NORS, NORM, RMC, or FSC rates. We maintained a comprehensive data file of OR data obtained from both LANT and PAC squadrons. We analyzed the data to identify OR trends of active and reserve squadrons and various combinations of active squadrons and presented the results of these analyses to PMA-240 and AIR-4101B3.

3.5.2.2 MAVERICK

During this contract period ARINC Research maintained a comprehensive data file of MAVERICK transactions. Considerable effort was expended during the first few months in reducing these data to a statistically usable form that presented the history of each requisition and determined the average Turn-Around Time (TAT), distribution of TAT, and frequency of occurrence for each FIIN. Since a very broad data base indicated that the significant events being monitored (TAT, etc.) had stabilized (Table 1), our monitoring effort was terminated with the July statistical report.

Table 1. MAVERICK DATA-BASE STATISTICS (OCTOBER 1973 - MAY 1976)

Statistic		Quantity
Total Individual Items (NIINs) Requisitioned		1,144
Total MAVERICK Requisitions		3,739
NAS Jacksonville, Florida	948	
NAS Brunswick, Maine	721	
NAS Moffett Field, California	959	
NAS Barbers Point, Hawaii	808	
NAS Patuxent River, Maryland	300	
Total MAVERICK Data Records Processed		13,800

3.5.2.3 P-3 Downtime Analysis

Under the prescribed procedures for reporting the aircraft readiness posture (OPNAVINST 5442.2C Aircraft Accounting System), it is not possible to report multiple NOR/RMC conditions on the same aircraft. As a consequence, data summaries prepared from ESD reports may give an incomplete picture of the failed equipment that must be returned to operating condition before that aircraft can be considered operationally ready. During this contract period, ARINC Research analyzed 3M data to identify the MESL subsystems that contribute most to the degradation of the P-3C from full systems capability and, consequently, are responsible for most of the downtime. This analysis eliminates the inherent "masking" effect of the summary reports prepared from ESD source data. The statistics of down hours per flight hour and maintenance actions per flight hour for the MESL subsystems are calculated for each of the following categories of maintenance actions:

- On-Aircraft Repair
- Off-Aircraft Repair (Remove and Replace)
- Off-Aircraft Repair (Cannibalization Time)

The statistics for the top 25 MESL subsystems for the P-3C and P-3B for the period August through October 1976 are shown in Tables 2 and 3, respectively.

3.5.2.4 Improved Maintenance Program (IMP)

The Improved Maintenance Program (IMP), developed by NAVAIR and Lockheed, restructured the procedures for calendar inspections of the aircraft so that a more extensive inspection would be accomplished with less impact on aircraft availability. The IMP system was introduced to the fleet in June 1974, and by March 1975 all P-3 aircraft were under the program. During this contract period, ARINC Research continued to analyze the IMP data and to report the results. The impact of IMP on NORM/FH for both scheduled and unscheduled maintenance through November 1976 is shown in Figure 2. The figure shows that since IMP was implemented, the average NORM/FH for scheduled maintenance has been reduced by about 50 percent, and the average NORM/FH for unscheduled maintenance has been reduced by about 10 percent. In addition, the IMP statistics have leveled off to nearly constant values; therefore, it is believed that continued monitoring of the IMP statistics is not necessary.

3.6 P-3 TRANSITION PROGRAMS

Ensuring smooth transition of squadrons into new aircraft types requires thorough planning, continuous monitoring of progress, and early identification of problems. During pervious contract periods ARINC Research had provided ILS planning and progress monitoring support for the transition of the Reserves into the P-3A aircraft. Those support activities were continued during this contract period and were expanded to include the transition of P-3C Update II aircraft at NAS Brunswick.

3.6.1 Task Description

The objective of this task was to provide engineering and logistic support planning for the Reserves P-3A Transition Program and for the NAS Brunswick P-3C Update II Transition Program.

3.6.2 Work Accomplished

3.6.2.1 Reserves P-3A Transition Program

ARINC Research provided ILS Planning and other support as required for the transitioning of Reserve P-2 squadrons into the P-3A and for the activation of new Reserve P-3A squadrons at NAF Detroit and NAS New Orleans. Specific activities in support of the programs were as follows:

- Monitored progress and reported status of IMRL/AVCAL build-up at the Reserve sites
- Assisted in locating and arranging transfer of custody of GSE items for the Reserve P-3A squadrons

Table 2. P-3C SUBSYSTEM CUMULATIVE DOWN HOURS PER FLIGHT HOUR: FIRST 25 SUBSYSTEMS - AUGUST 1976 THROUGH OCTOBER 1976

Rank		Work Unit Code	Subsystem	Total Down Hours per Flight Hour	Breakdown by Maintenance Action Taken					
					On-Aircraft Code C		Off-Aircraft Code U		Off-Aircraft Code R	
Down-Time	Degradation Summary				Hours per Flight Hour	Actions per 1,000 Flight Hours	Hours per Flight Hour	Actions per 1,000 Flight Hours	Hours per Flight Hour	Actions per 1,000 Flight Hours
1	15	73X1	Bombing Navigation Associated Equipment	10.616	0.195	5.2	5.627	12.6	4.794	18.3
2	7	7378	AN/AQA-7 Sonar Computer Recorder Group	9.566	0.667	20.8	4.872	24.2	4.026	70.7
3	16	7399	AN/ARR-72 Miniature Sonobuoy Receiver	6.932	0.392	4.4	3.193	5.2	3.347	8.7
4	5	6912	AN/ACQ-5 Data Terminal Set	6.469	0.273	3.0	1.518	3.2	4.679	11.2
5	1	223	T-56 Engine	6.305	2.242	39.4	1.599	4.6	2.464	13.5
6	8	7367	AN/ASQ-114 Digital Computer Set	5.648	0.409	6.8	1.931	2.8	3.307	11.1
7		4211	Primary Ac Generation	5.380	0.096	1.1	0.532	2.2	4.752	9.3
8	17	7366	AN/AYA-8 Data Analysis Program Group	5.102	0.980	14.9	1.599	4.0	2.523	12.5
9	20	732B	AN/ASA-70 Tactical Data Display	4.927	0.901	16.5	3.223	6.6	0.803	12.9
10	23	4111	Air Cycle System	4.000	0.813	14.0	1.598	3.6	1.589	7.8
11	11	7661	AN/ALQ-78 Countermeasures Set	3.848	0.423	3.8	1.648	3.0	1.778	5.4
12	12	5132	Turbine Inlet Temperature	3.759	0.040	1.5	1.617	10.1	2.103	14.1
13	3	726A	AN/APS-115 Search Radar Set	3.465	0.729	14.5	0.972	3.3	1.764	13.3
14	13	24	Auxiliary Power Plant	3.392	0.729	10.9	1.501	2.5	1.162	8.0
15		5738	AN/ASW-31 Automatic Flight Control	3.050	0.369	3.2	0.956	3.9	1.724	10.6
16		6422	AN/AIC-22 Intercommunication Set	3.031	0.604	10.8	1.559	4.8	0.869	10.8
17	2	7389	AN/AQH-4 Sound Record Reproduce	2.489	0.145	2.9	1.544	6.9	0.801	9.4
18	25	734F	AN/ASN-84 Inertial Navigation Set	2.226	0.496	15.2	0.953	8.7	0.778	23.4
19	9	3214	Propeller Control	2.151	0.561	13.0	0.743	3.5	0.847	12.2
20	24	61X2	HF Communications Associated Equipment	2.056	0.199	2.6	0.891	4.8	0.967	8.4
21	14	6532	AN/APX-76 Interrogator Set	1.904	0.041	1.3	0.723	3.1	1.140	8.7
22	18	612M	AN/ARC-161 HF Radio Set	1.844	0.232	3.7	1.009	5.0	0.603	11.0
23		69X1	Miscellaneous Communications Associated Equipment	1.676	0.145	1.9	1.099	2.1	0.432	2.1
24	10	56X1	Flight Reference Associated Equipment	1.594	0.035	0.4	0.824	2.3	0.736	3.2
25		3213	Propeller Associated Structural Components	1.592	0.600	12.7	0.447	1.7	0.545	3.9
			Totals	103.022	12.315	224.6	42.175	134.7	48.531	320.6
			Other Subsystems	78.622	26.542	393.3	21.875	92.5	30.205	279.6
			All Subsystems	181.644	38.857	617.9	64.050	277.2	78.736	600.2

Table 3. P-3B SUBSYSTEM CUMULATIVE DOWN HOURS PER FLIGHT HOUR: FIRST 25 SUBSYSTEMS - AUGUST 1976 THROUGH OCTOBER 1976

Rank		Work Unit Code	Subsystem	Total Down Hours per Flight Hour	Breakdown by Maintenance Action Taken					
					On-Aircraft Code C		Off-Aircraft Code U		Off-Aircraft Code R	
Down-Time	Degradation Summary				Hours per Flight Hour	Actions per 1,000 Flight Hours	Hours per Flight Hour	Actions per 1,000 Flight Hours	Hours per Flight Hour	Actions per 1,000 Flight Hours
1	1	223	T-56 Engine	6.745	2.833	48.8	0.862	3.5	3.050	16.4
2	9	7378	AN/AQA-7 Sonar Computer Recorder Group	5.448	0.332	9.1	2.575	20.3	2.540	55.6
3	23	7399	AN/ARR-72 Miniature Sonobuoy Receiver	4.083	0.233	2.5	1.715	6.0	2.140	8.2
4	14	4111	Air Cycle System	3.493	1.108	14.8	1.031	2.2	1.353	7.4
5	5	3214	Propeller Controls	3.128	1.083	22.4	0.818	2.9	1.228	16.4
6*	8**	24	Auxiliary Power Plant	2.817	0.604	8.9	0.821	2.2	1.393	9.4
7	3	7274	AN/APS-80 Dual Search Radar Set	2.540	0.853	16.6	0.347	3.2	1.346	28.7
8	6	7362	AN/ASQ-19 Magnetic Detecting Set	2.520	0.182	3.3	0.840	5.7	1.498	27.1
9		5121	Navigational Indicators	2.467	0.104	2.2	0.562	2.4	1.800	8.0
10	25	5151	Fuel Quantity Components	2.135	0.328	5.0	0.104	0.4	1.704	6.0
11		73X1	Bomb Navigation Associated Equipment	2.129	0.098	2.6	1.481	6.8	0.548	15.8
12		3213	Propeller Associated Structural Components	2.062	0.762	16.5	0.058	0.7	1.241	7.3
13	7	5211	PB-20N Automated Flight Control System	1.812	0.249	2.8	0.365	3.1	1.197	14.9
14		7236	AN/APN-141 Electronic Altimeter Set	1.772	0.095	1.6	0.509	4.3	1.160	24.4
15		7617	AN/ALD-2 Direction Finder Set	1.678	0.339	3.0	0.052	0.6	1.287	7.9
16		7742	KS-89A Camera System	1.668	0.322	2.5	0.537	1.1	0.808	1.5
17	17	7352	AN/ASN-42 Inertial Navigation System	1.561	0.376	11.8	0.223	7.0	0.964	57.9
18		5111	Flight Indicators	1.319	0.204	4.7	0.407	2.8	0.707	8.5
19		7317	AN/ASA-16 Indicator Group	1.223	0.140	6.0	0.188	4.2	0.896	37.2
20		1146	Nacelles	1.217	0.905	8.9	0.049	0.3	0.263	0.8
21	16	5[illegible]2	Turbine Inlet Temperature	1.206	0.030	0.9	0.500	3.4	0.596	10.6
22		7522	Sonobuoy System	1.150	0.510	7.3	0.074	0.2	0.566	3.3
23		749C	Kill Stores Control	1.140	0.085	0.7	0.256	1.1	0.800	3.1
24		699C	AN/ASH-22 Signal Data Sound Recording Set	1.137	0.039	0.7	0.085	0.2	1.013	2.5
25		4622	Fuel/Defuel/Transfer Components	1.11[illegible]	0.094	1.3	0.014	0.3	1.002	1.4
			Totals	57.565	11.908	204.9	14.553	84.9	31.108	380.3
			Other Subsystems	58.156	20.822	358.3	10.724	75.0	26.610	435.4
			All Subsystems	115.721	32.730	563.2	25.277	159.9	57.718	815.7

*Combined Rank.
**APP Basic Engine-8; APP Control System-10; Auxiliary Power Plant-15; APP Fuel System-19.

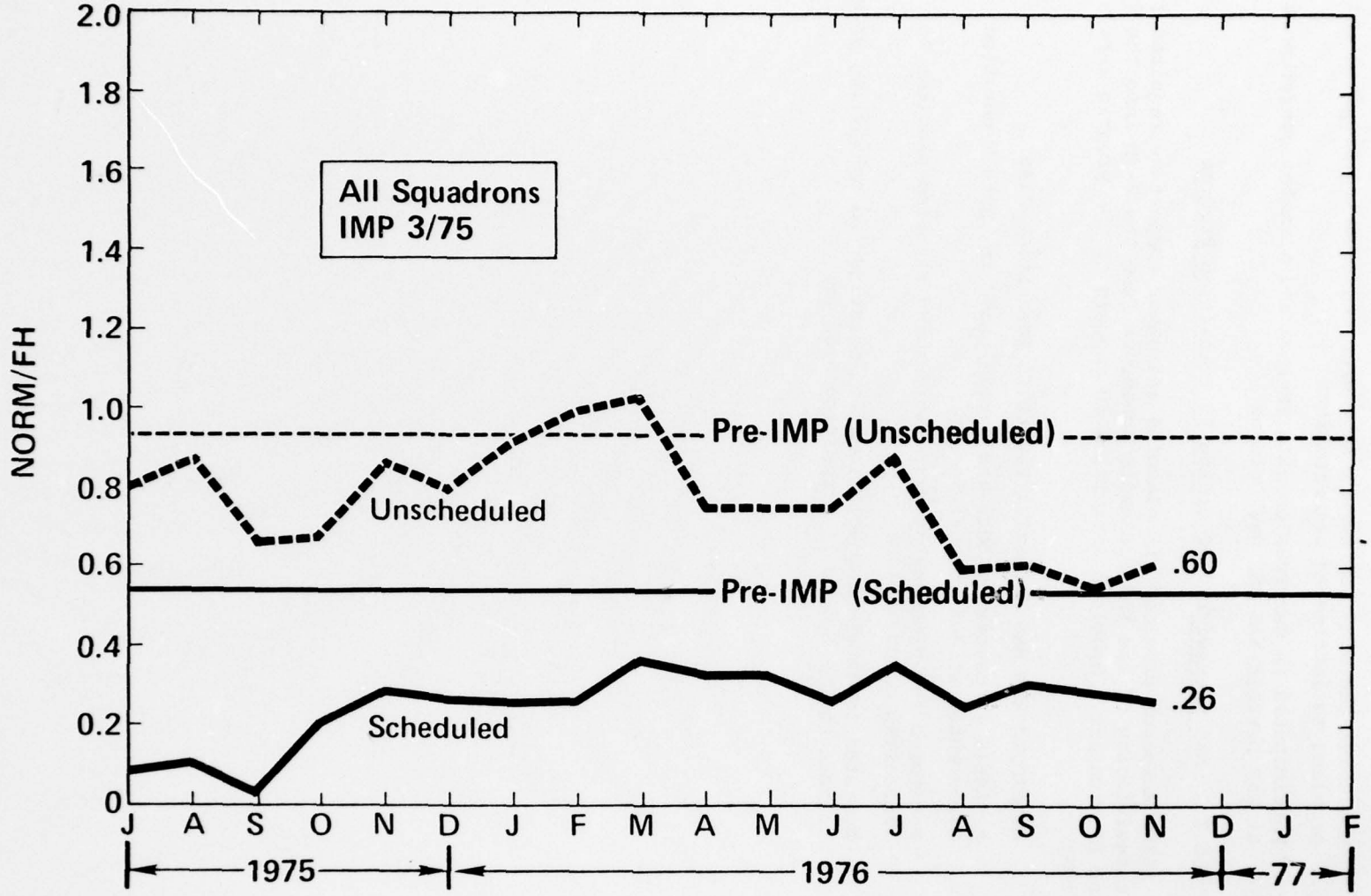

Figure 2. P-3 IMPROVED MAINTENANCE PROGRAM (IMP) STATISTICS P-3 FLEET EXCEPT VP-30 AND VP-31

- Monitored the NARF GSE rework schedules and reported progress and problems to interested organizations
- Participated in numerous on-site reviews and planning conferences at NAF Detroit and NAS New Orleans

3.6.2.2 NAS Brunswick P-3C Update II Transition Program

ARINC Research provided ILS planning and other support as required for the transitioning of the NAS Brunswick squadrons from the P-3B into the P-3C Update II aircraft. Specific activities in support of the program were as follows:

- Developed the NAS Brunswick Update II Transition Plan
- Assisted in preparing for, and participated in, Site Transition Conferences at NAS Brunswick
- Monitored the progress of preparations and reported problems to interested organizations
- Assisted in developing solutions to logistics and scheduling problems related to the Update II Transition Program

CHAPTER FOUR

OTHER ASSIGNED TASKS

4.1 INTRODUCTION

During the performance of the tasks described in this report, the need for other, closely related tasks frequently became apparent. These tasks, which often required quick response, were undertaken at the direction of the Project Manager. The results of these efforts were documented in monthly status reports, special reports, and informal briefings.

4.2 TASK DESCRIPTION

The objective of this task was to perform general logistic support planning and other related work requiring quick response, as directed by the Project Manager.

4.3 WORK ACCOMPLISHED

4.3.1 Aircraft Component Transition Program

During previous contract periods, ARINC Research had been an active participant in the Aircraft Component Transition Program, assisting NAVAIRSYSCOM in analyzing specific problems and expediting the transitioning of P-3C peculiar avionic subsystems from commercial depots to Navy in-house depots. This effort continued for the contract period covered by this report.

4.3.1.1 Task Description

The objective of this task was to support the P-3C Aircraft Component Transition Program.

4.3.1.2 Work Accomplished

During this contract period, we continued to monitor the status of the Alameda and Jacksonville NARFs' transition effort and to assess the impacts of identified problems. We monitored the progress of developing capability

for repairable items for 36 P-3C peculiar avionic subsystems, developed and updated individual subsystem milestones, and monitored the progress of corrective actions for specific problems. Figure 3 shows the status of depot repair capability for the 36 systems as of 15 January 1977.

Specific activities in support of the program were as follows:

- Investigated the total cost of transitioning the AN/ASQ-114 Digital Computer to depot repair
- Prepared the "P-3C Peculiar Avionics Depot Capability and Induction/Repair Summary" (PADCS & I/RS), which summarized NARF Alameda and NARF Jacksonville capabilities and Navy-wide NARF inductions and repair status
- Prepared and submitted monthly updated "P-3C Depot Transition Milestone Charts", "Corrective Action Status Reports", and "Action Chit Status Reports" to the Project Manager, and provided an assessment of the Transition progress
- Participated in scheduled P-3C Aircraft Component Transition Conferences

4.3.2 AN/ASN-84 Intermediate SX Support Program

During this contract period the Intermediate SX Support Program for the AN/ASN-84 Inertial Navigation Set was implemented. By direction of PMA-240, ARINC Research was an active participant in the program.

4.3.2.1 Task Description

The objective of this task was to support the AN/ASN-84 Intermediate SX Support Program.

4.3.2.2 Work Accomplished

ARINC Research assisted in the planning for the Intermediate SX Support Program and assisted in the pre-implementation preparations. Following implementation of the program in May 1976, we closely monitored the operations of the program, identified and defined problems, and assisted in developing and implementing corrective actions. Specific activities in support of the program were as follows:

- Participated in planning, pre-implementation, and post-implementation meetings and reviews
- Conducted analyses to evaluate the effectiveness of the program
- Developed spares quantity recommendations, monitored inventory levels of the Rotable Pool and Pre-Expended Bin, and assisted in solving supply support problems

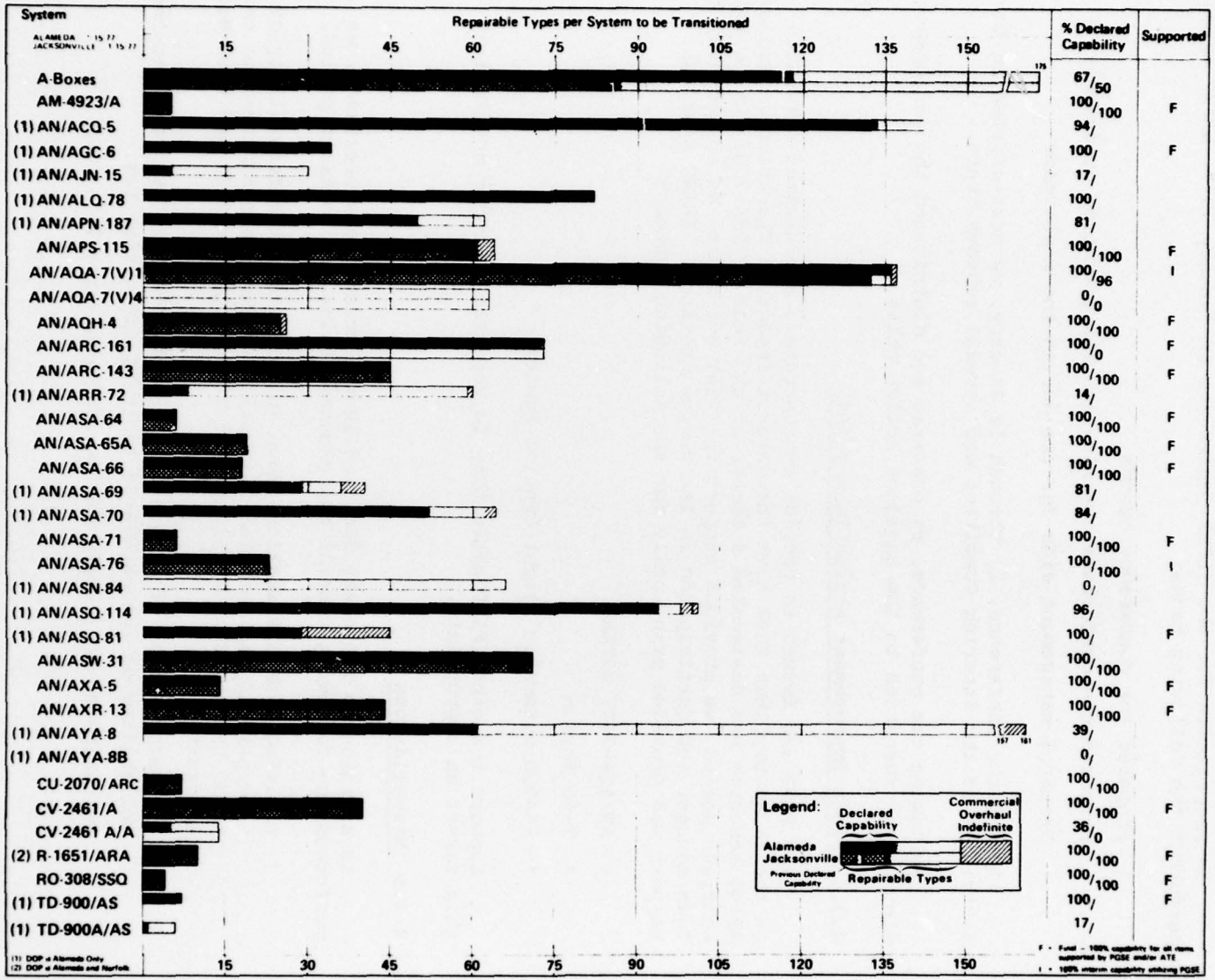

Figure 3. NARF ALAMEDA/JACKSONVILLE P-3C REPAIRABLES CAPABILITY

4.3.3 Integrated Logistics Support Management Team (ILSMT) Conference

In preparation for the ILSMT Conference in January 1977, ARINC Research performed the following tasks:

- Prepared the conference agenda
- Prepared the conference organization and operation guidelines
- Prepared management aids for use during the conference

During the conference, 11 through 14 January, we participated in the activities of the Steering Committee and several subcommittees.

Following the conference, we prepared and distributed the conference minutes and responded to the assigned action chits.

4.3.4 Fleet Improvement Action Team (FIAT)

The FIAT was formed to provide concentrated, coordinated attention on the P-3 subsystems that have the largest impact on Operational Readiness. ARINC Research was designated a member of the team by PMA-240; during this contract period, we provided support for FIAT activities as assigned by the team manager and participated in the review meetings. ARINC Research support was provided principally for the following systems:

- AN/AQA-7(V) DIFAR
- T-56 Engine
- PB-20N Automatic Flight Control System

Support for other FIAT activities is reported in other sections of this report as appropriate.

4.3.5 Miscellaneous

In addition to the tasks detailed in the preceding subsections, we performed the following special assignments during the contract period:

- Assisted a NAVAIR working group in evaluating the feasibility of incorporating an Inertial Navigation System, (manufactured to the ARINC Characteristic 561 specifications) in the P-3C and P-3B Mod aircraft
- Evaluated a list of suggestions from the vendor for improving the reliability of the AN/ASN-84 Inertial Navigation Set

  Participated in a CLAMP review conference for P-3 items

APPENDIX

DATA SUBMISSIONS
UNDER CONTRACT N00019-76-C-0401

All data submissions made during the contract period are listed on the following pages.

Item No.	Description	How Submitted	Date Submitted	Submitted To
1.	AN/ACQ-5 Data Terminal Maintenance Plan	Letter ASG/OEP/A&V-76-26	3/1/76	PMA-240
2.	Analysis of PEB Effectiveness AIMD Moffett Field	Letter ASG/OEP/A&V-76-30	3/12/76	PMA-240
3.	P-3C Peculiar Avionics Depot Capability and Induction/Repair Summary	Letter ASG/OEP-A&V-76-32	3/12/76	PMA-240
4.	P-3C Update I Interim Support Plan	Letter ASG/OEP/A&V-76-34	3/17/76	AIR-4102C
5.	AN/ASN-84 Intermediate SX Support Implementation Plan	Letter ASG/OEP/A&V-76-35	3/17/76	AIR-4112A
6.	P-3C Update II Transition Plan (Brunswick)	Hand-carried	3/31/76	AIR-4102C
7.	Submittal of 1 April 1976 P-3C Depot Transition Milestone Charts, Corrective Action Status Report, and Action Chit Status Report	Letter ASG/OEP/A&V-76-42	4/9/76	AIR-4102C
8.	ARINC Research Review of the SP STM ILS Plan	Letter ASG/OEP/A&V-76-46	4/8/76	PMA-240A1
9.	Monthly Progress Report	Letter ASG/OEP/A&V-76-51	4/15/76	PMA-240
10.	NARF Alameda/Jacksonville Repair Capability Chart and P-3C Depot Transition Milestone Chart	Letter ASG/OEP/A&V-76-45	4/15/76	PMA-240
11.	Direct Support Cost Presentation for P-3C Program	Letter ASG/OEP/A&V-76-53	4/23/76	PMA-240
12.	Submittal of the AN/ASH-20(V)1,2,3 Flight Data Recorder/Crash Position Locator System Maintenance Plan, Revision A	Letter ASG/OEP/A&V-76-56	4/29/76	PMA-240
13.	Iranian GRL Cross-Reference Index	Letter ASG/OEP/A&V-76-58	5/4/76	PMA-240
14.	Iranian GRL Cross-Reference Index (Magnetic Tape Copy)	Letter ASG/OEP/A&V-76-59	5/6/76	ASO (SCF-1-1)
15.	Iranian GRL Cross-Reference in Part Number Sequence	Letter ASG/OEP/A&V-76-60	5/7/76	PMA-240
16.	Second submission of the AN/ACQ-5 Data Terminal Set Maintenance Plan	Letter ASG/OEP/A&V-76-63	5/12/76	AIR-41122A
17.	TT-707 Program Development Plan	Hand-carried	5/13/76	PMA-240B
18.	Submission of the 1 May 1976 P-3C Depot Transition Milestone Charts, Corrective Action Status Report, and Action Chit Status Report	Letter ASG/OEP/A&V-76-64	5/14/76	AIR-4102C
19.	Monthly Progress Report	Letter ASG/OEP/A&V-76-61	5/15/76	PMA-240
20.	AN/ALR-58 Refurbishment and Retrofit Program Plan	Letter ASG/OEP/A&V-76-69 (hand-carried)	5/28/76	AIR-53303A
21.	AN/AQA-76 Installation Status in S-2G Aircraft	Letter ASG/OEP/A&V-76-70	5/28/76	PMA-240
22.	NARF Alameda/Jacksonville P-3C Repairables Capability Chart and Updated P-3C Depot Transition Milestone Charts (Capability Summary)	Letter ASG/OEP/A&V-76-71	6/2/76	PMA-240
23.	P-3C Update II ILS Transition Program	Letter ASG/OEP/A&V-76-72	6/3/76	PMA-240
24.	FSC Degradation in the P-3C Aircraft	Letter ASG/OEP/A&V-76-74	6/3/76	PMA-240
25.	Submittal of the AN/ASN-84 Inertial Navigation Set Maintenance Plan, Revision A	Letter ASG/OEP/A&V-76-75	6/10/76	PMA-240
26.	NAVILCO PMR-GRL Extract Report (Magnetic Tape)	Letter ASG/OEP/A&V-76-73	6/11/76	PMA-240D1
27.	Monthly Progress Report	Letter ASG/OEP/A&V-76-76	6/15/76	PMA-240
28.	15 June 1967 P-3C Depot Transition Milestone Charts, Corrective Action Status Report, and Action Chit Status Report	Letter ASG/OEP/A&V-76-80	6/24/76	AIR-4102C
29.	AN/ARS-3 Level of Repair Analysis	Letter ASG/OEP/A&V-76-68	6/29/76	AIR-4102C4
30.	P-3 Aircraft Availability Simulation Model User's Manual	Letter ASG/OEP/A&V-76-82	7/7/76	PMA-240
31.	Program Planning Document (PPD) for the P-3A/B Modernization Program	Letter ASG/OEP/A&V-76-83	7/7/76	PMA-240B

Item No.	Description	How Submitted	Date Submitted	Submitted To
32.	Milestone Slippage Impact on the P-3A/B Modernization Program	Letter ASG/OEP/A&V-76-86	7/9/76	PMA-240B
33.	Temperature Profile Investigation of the P-3C Sensor Station Three Compartment	Letter ASG/OEP/A&V-76-87	7/26/76	PMA-240
34.	NARF Alameda/Jacksonville P-3C Repairables Capability Chart and Updated P-3C Depot Transition Milestone Charts (Capability Summary)	Letter ASG/OEP/A&V-76-88	7/14/76	PMA-240
35.	AN/AQA-7(V)4,5 Reliability Analysis	Letter ASG/OEP/A&V-76-89	7/16/76	PMA-240B
36.	Data Processing of PEB Demand Slips AIMD Jacksonville	Letter ASG/OEP/A&V-76-90	7/21/76	PMA-240
37.	Monthly Progress Report	Letter ASG/OEP/A&V-76-91	7/15/76	PMA-240
38.	Third Submission of the AN/ACQ-5 Data Terminal Set Maintenance Plan	Letter ASG/OEP/A&V-76-92	7/21/76	AIR-41122A
39.	Initial Outfitting List for the AN/ASN-124	Letter ASG/OEP/A&V-76-97	8/9/76	ASO (WLW-3)
40.	Recommendations for ILS Inputs to be Included in the P-3C Update Program Test and Evaluation Plan (TEMP)	Letter ASG/OEP/A&V-76-98	8/10/76	PMA-240C1
41.	Fifth Monthly Progress Report	Letter ASG/OEP/A&V-76-99	8/16/76	PMA-240
42.	PEB/AIMD Brunswick	Letter ASG/OEP/A&V-76-102	8/23/76	CO NAS Brunswick
43.	AN/AQA-7 Delay Line Grounding Problem	Letter ASG/OEP/A&V-76-103	8/26/76	NARFA, Code 305
44.	P-3A/B Modernization Program Status Summary	Letter ASG/OEP/A&V-76-105	8/31/76	PMA-240
45.	FY-77 APN-1 Budget Recommendations for Line Items 11, 12, 13, and 15	Hand-carried	8/9/76	PMA-240F
46.	P-3C Update II Program Status Summary	Letter ASG/OEP/A&V-76-106	9/1/76	PMA-240A1
47.	P-3C Depot Transition Milestone Charts, Corrective Action Status Report and Action Chit Status Report	Letter ASG/OEP/A&V-76-107	9/1/76	AIR-4101B3
48.	NARF Alameda/Jacksonville P-3C Repairables Capability Chart and Updated P-3C Depot Transition Capability Summary Chart	Letter ASG/OEP/A&V-76-112	9/8/76	PMA-240
49.	Monthly Progress Report	Letter ASG/OEP/A&V-76-115	9/15/76	PMA-240
50.	AN/ASN-124 Navigation System Initial Outfitting List	Letter ASG/OEP/A&V-76-116	9/16/76	ASO (WLW3-22)
51.	FY-77 APN-1 Budget Recommendations (Revised)	Hand-carried	9/21/76	PMA-240F
52.	AN/ASA-( ) LDR IACS Program Plan	Letter ASG/OEP/A&V-76-119	10/1/76	PMA-240A1
53.	Review of P-3C Update II Site Transition Meeting Minutes	Letter ASG/OEP/A&V-76-123	10/7/76	AIR-4101B3
54.	NAS Moffett Field PEB Listing	Hand-carried	10/14/76	AIMD Moffett
55.	Monthly Progress Report	Letter ASG/OEP/A&V-76-127	10/15/76	PMA-240
56.	Submission of the 1 October 1976 P-3C Depot Transition Milestone Charts, Corrective Action Status Report, and Action Chit Status Report	Letter ASG/OEP/A&V-76-129	10/15/76	AIR-4101B3
57.	Ninth P-3A/B Modernization Program Review and Logistics/Project Implementation Review	Hand-carried	10/15/76	PMA-240B
58.	P-3C Peculiar Avionics Depot Capability and Induction/Repair Summary	Letter ASG/OEP/A&V-76-130	10/15/76	PMA-240
59.	NARF Alameda/Jacksonville P-3C Repairables Capability Chart and Updated P-3C Depot Transition Milestone Chart (Capability Summary)	Letter ASG/OEP/A&V-76-131	10/19/76	PMA-240
60.	Tenth P-3C Update II HDMT Minutes	Hand-carried	10/21/76	AIR-53303A
61.	Eleventh P-3C Update II HDMT Agenda	Hand-carried	10/27/76	AIR-53303A
62.	P-3A/B Modernization Program Status Summary	Hand-carried	11/1/76	PMA-240B

Item No.	Description	How Submitted	Date Submitted	Submitted To
63.	P-3C Update II Program Status Summary	Hand-carried	11/13/76	PMA-240
64.	P-3A/B Modernization Program Reserve Implementation Meeting	Hand-carried	11/15/76	PMA-240B
65.	Eighth Monthly Progress Report	Letter ASG/OEP/A&V-76-141	11/15/76	PMA-240
66.	Submission of Initial Outfitting Lists for the AN/ASN-124	Letter ASG/OEP/A&V-76-140	11/16/76	PMA-240B
67.	Update to Preliminary P-3C Program and Logistics Management Plan	Hand-carried	11/22/76	PMA-240
68.	Fiscal Year 1977 Funding Apportionment for P-3A/B Modernization Program	Hand-carried	11/30/76	PMA-240B
69.	Repairable Item Data Bank CLAMP List Analysis	Hand-carried	11/30/76	AIR-4101B3
70.	Submission of the 15 November 1976 P-3C Depot Transition Milestone Charts, Corrective Action Status Report, and Action Chit Status Report	Letter ASG/OEP/A&V-76-143	12/1/76	AIR-4101B3
71.	P-3C Peculiar Avionics Depot Capability and Induction/Repair Summary	Letter ASG/OEP/A&V-76-147	12/9/76	PMA-240
72.	NARF Alameda/Jacksonville P-3C Repairables Capability Chart and Updated P-3C Depot Transition Milestone Chart (Capability Summary)	Letter ASG/OEP/A&V-76-148	12/9/76	PMA-240
73.	Ninth Monthly Progress Report	Letter ASG/OEP/A&V-76-150	12/15/76	PMA-240
74.	Minutes of the P-3C Update III Program Coordination Meeting	Hand-carried	12/29/76	PMA-240A1
75.	AN/ARS-3 Level of Repair Analysis	Letter ASG/OEP/A&V-76-128	12/30/76	AIR-4101B32
76.	P-3A/B Modernization Program Status Summary	Hand-carried	1/3/77	PMA-240B
77.	Use of the Aircraft APP vs Ground Power Units	Letter ASG/OEP/A&V-77-03	1/5/77	AIR-4101B3
78.	Tenth Monthly Progress Report	Letter ASG/OSP/A&V-77-07	1/15/77	PMA-240
79.	AN/ALQ-78 Countermeasures Set, WRA and SRA Removals	Letter ASG/OSP/A&V-77-09	1/14/77	NATC AT-421E
80.	Submission of the 15 November 1976 P-3C Depot Transition Milestone Charts, Corrective Action Status Report, and Action Chit Status Report	Letter ASG/OEP/A&V-77-143	1/14/77	AIR-4101B3
81.	AN/ASN-84 NORS Hours and BCM Quantities and T56 Engine Absolute Degradation Factors	Letter ASG/OSP/A&V-77-10	1/17/77	AIR-4101B3
82.	Submittal of the 15 January 1977 P-3C Depot Transition Milestone Charts, Corrective Action Status Report, and Action Chit Status Report	Letter ASG/OSP/A&V-77-13	1/24/77	AIR-4101B3
83.	ILS Planning for HACLCS	Letter ASG/OSP/A&V-77-16	1/25/77	AIR-4101B3
84.	AN/ASN-84 WRA and Memory Module Spare Pool Assets Required to Support the Moffett and Deployed (SX) Sites and Their Satellite Sub-Sites	Letter ASG/OSP/A&V-77-01	2/7/77	AIR-4112C
85.	AN/ARS-3 Level of Repair Analysis	Letter ASG/OSP/A&V-77-23	2/7/77	AIR-4101B3
86.	NARF Alameda/Jacksonville P-3C Repairables Capability Chart and Updated P-3C Depot Transition Milestone Chart (Capability Summary)	Letter ASG/OSP/A&V-77-19	2/11/77	PMA-240
87.	AN/AQA-7 FIAT Action/Progress Reports	Letter ASG/OSP/A&V-77-32	2/14/77	NARF, ALA (Code 30)
88.	Tenth P-3A/B Modernization Program Review Minutes	Hand-carried	2/14/77	PMA-240B
89.	Monthly Progress Report	Letter ASG/OSP/A&V-77-27	2/15/77	PMA-240
90.	AN/ASN-84 WRA and SRA Spare Pool Assets Required to Support the Moffett and Deployed (SX) Sites and their Satellite Sub-Sites	Letter ASG/OSP/A&V-77-31	2/18/77	AIR-4112C
91.	Status of Action Items from P-3C Update III Program Coordination Meeting 16 December 1976	Letter ASG/OSP/A&V-77-36	2/28/77	PMA-240A1
92.	Temperature Monitoring of the TD-900 Time Code Generator	Letter ASG/OSP/A&V-77-37	2/28/77	PMA-240
93.	Review of the IBM Level of Repair Analysis (LORA) for the Advanced Signal Processor (ASP) Analyzer Unit (AU)	Letter ASG/OSP/A&V-77-38	2/28/77	PMA-240A1
94.	Draft Copy of Revision A to the AN/ASH-20 Maintenance Plan, AVMP-025A	Letter ASG/OSP/A&V-77-39	3/9/77	AIR-4112C2