

DRAFT

NAVY TRAINING SYSTEM PLAN

FOR THE

MORIAH PROGRAM

N88-NTSP-A-50-0001/D

MARCH 2000

MORIAH PROGRAM

EXECUTIVE SUMMARY

This Draft Navy Training System Plan for the Moriah Program was developed by the Naval Air Systems Command. This document provides the current manpower, personnel, and training concepts for the United States Navy (USN) and United States Marine Corps (USMC) to introduce and sustain the Moriah Program.

The Moriah Program is in the Concept Exploration/Program Definition and Risk Reduction phase of the Weapon System Acquisition Process (WSAP) awaiting a combined Milestone I/II approval. After Milestone I/II approval, the Moriah Program will go into the Engineering and Manufacturing Development phase of the WSAP.

The Moriah Program involves the integration of three emerging wind and meteorological systems into one program that will apply new sensors with processors and local area networks. This will present decision-makers a unified picture of the ever-changing atmospheric conditions around the ship or shore station. The three non-developmental items and/or commercial off-the-shelf systems being integrated are the New Digital Wind Measuring and Indicating System, the Shipboard Meteorological and Oceanographic Observing System Replacement, and the meteorological sensor portion of the Shipboard Environmental Assessment/Weapon System Performance (SEAWASP) and AEGIS Tactical Assessment Capability (ATAC) (SEAWASP/ATAC). Moriah components will replace the AN/UMQ-5 Wind Speed and Direction System installed at USN and USMC air stations and the Wind Measuring and Indicating System installed on ships.

An operator and maintenance workload analysis indicates there will be no increase in end-strength or change in force structure as a result of the Moriah Program. Personnel in the existing USN ratings Aerographer's Mate (AG), Electronics Technician (ET), Quartermaster (QM), and Fire Controlman (FC) will be utilized for operation, and ET for maintenance. An Information System Technician (IT) will be used to maintain network administration systems. The related USMC Military Occupational Specialty (MOS) is MOS 6821 Weather Observer and MOS 6842 Weather Forecaster for operation, and MOS 6493 Aviation Meteorological Equipment Technician for maintenance. Existing fleet manpower is capable of performing all operation and maintenance tasks associated with Moriah equipment.

The training concept to support Moriah provides initial training during installation and Computer-Based Training (CBT) for follow-on training.

MORIAH PROGRAM

TABLE OF CONTENTS

	Page
Executive Summary.....	i
List of Acronyms.....	iii
Preface.....	v
 PART I - TECHNICAL PROGRAM DATA	
A. Nomenclature-Title-Program	I-1
B. Security Classification	I-1
C. Manpower, Personnel, and Training Principals.....	I-1
D. System Description.....	I-2
E. Developmental Test and Operational Test.....	I-2
F. Ship/Aircraft and Equipment/System/Subsystem (E/S/S) Replaced	I-2
G. Description of New Development	I-2
H. Concepts	I-5
I. Onboard (In-Service) Training.....	I-8
J. Logistics Support	I-8
K. Schedules	I-9
L. Government-Furnished Equipment and Contractor-Furnished Equipment Training Requirements.....	I-11
M. Related NTSPs and Other Applicable Documents	I-11
 PART II - BILLET AND PERSONNEL REQUIREMENTS	 II-1
 PART III - TRAINING REQUIREMENTS.....	 III-1
 PART IV - TRAINING LOGISTICS SUPPORT REQUIREMENTS.....	 IV-1
 PART V - MPT MILESTONES.....	 V-1
 PART VI - DECISION ITEMS/ACTION REQUIRED	 VI-1
 PART VII - POINTS OF CONTACT	 VII-1

MORIAH PROGRAM

LIST OF ACRONYMS

AG	Aerographer's Mate
AIT	Alteration Installation Team
ASOS	Automated Surface Observing System
BIT	Built-In Test
CBT	Computer-Based Training
CNET	Chief of Naval Education and Training
CNO	Chief of Naval Operations
COTS	Commercial Off-The-Shelf
EDM	Engineering Development Model
ET	Electronics Technician
FC	Fire Controlman
FMS	Foreign Military Sales
FY	Fiscal Year
GOTS	Government Off-The-Shelf
HSI	Human Systems Integration
ICAN	Integrated Communications and Advanced Networks
IOC	Input/Output Controller
IT	Information System Technician
METOC	Meteorology and Oceanography
MOS	Military Occupational Specialty
NA	Not Applicable
NDI	Non-Developmental Item
NEC	Navy Enlisted Classification
NTSP	Navy Training System Plan
OJT	On-the-Job Training
OPO	OPNAV Principal Official
PDA	Principal Development Activity

MORIAH PROGRAM

LIST OF ACRONYMS

PDR	Program Design Review
PMA	Program Manager, Air
PMW	Program Manager, Warfare
PQS	Personnel Qualification Standards
QM	Quartermaster
TBD	To Be Determined
TTE	Technical Training Equipment
USMC	United States Marine Corps
USN	United States Navy
VRT	Voyage Repair Team
WMIS	Wind Measuring and Indicating System
WSAP	Weapon System Acquisition Process

MORIAH PROGRAM

PREFACE

This is the first edition Draft Navy Training System Plan (NTSP). Since the Moriah Program is still in the early stages of program development and acquisition, data for many NTSP elements is either incomplete or currently unavailable. Future updates to this NTSP will provide more specific information as it becomes available.

PART I - TECHNICAL PROGRAM DATA

A. NOMENCLATURE-TITLE-PROGRAM

1. **Nomenclature-Title-Acronym.** Moriah Program
2. **Program Element.** 0604512N

B. SECURITY CLASSIFICATION

1. **System Characteristics** Unclassified
2. **Capabilities** Unclassified
3. **Functions**..... Unclassified

C. Manpower, Personnel, and Training Principals

- OPNAV Principal Official (OPO) Program Sponsor..... CNO (N961)
- OPO Resource Sponsor CNO (N961)
- Functional Mission Sponsor CNO (N961)
- Developing Agency..... NAVAIRSYSCOM (PMA251)
SPAWARSYSCOM (PMW185)
- Training Agency CINCLANTFLT
CINCPACFLT
CNET
- Training Support Agency NAVAIRSYSCOM (PMA205)
- Manpower and Personnel Mission Sponsor CNO (N12)
NAVPERSCOM (PERS-4, PERS-404)
- Director of Naval Training CNO (N7)
- Marine Corps Force Structure..... MCCDC (C53)

D. SYSTEM DESCRIPTION

1. Operational Uses. The Moriah Program will replace the wind speed and direction sensors and associated displays on all ships, USN, and USMC air stations. It will provide a single Meteorology and Oceanography (METOC) sensor suite consistent across all ship classes, and will include all required METOC observations. The sensor subsystem of Moriah will measure all METOC conditions including wind speed and direction, barometric pressure, air temperature, sea surface temperature, relative humidity, visibility, insolation (incoming solar radiation), and cloud height. These in-situ meteorological measurements will be used for calculations of vertical profile and evaporation ducts. The sensors will provide data to the automated data acquisition, processing, and distribution subsystem. The data acquisition system will acquire data from its sensors and from interfaces with other data acquisition systems such as ship navigation systems, and provide formatted data to shipboard systems and off-board locations. The capability to store data will be provided in both readily accessible formats for a minimum of 24 hours and in an archived format for longer-term storage.

2. Foreign Military Sales. No Foreign Military Sales (FMS) are planned at this time.

E. DEVELOPMENTAL TEST AND OPERATIONAL TEST. Over the past several years, the three emerging systems that make up Moriah have conducted individual demonstrations and validations of their systems and components in order to reduce risk to the Moriah Program. Engineering Development Models (EDM) of the Moriah were and will be installed in Fiscal Year (FY) 99-00 on a nuclear aircraft carrier and a guided missile destroyer for technical evaluation and operational assessment. An operational evaluation of the two EDMs will then be conducted to support a full rate production decision for FY01 and subsequent procurements. As additional information becomes available, it will be incorporated in future updates to this NTSP.

F. AIRCRAFT AND/OR EQUIPMENT/SYSTEM/SUBSYSTEM REPLACED. The AN/UMQ-5 Wind Speed and Direction System installed at USN and USMC air stations, and the Wind Measuring and Indicating System (WMIS) installed on ships, will be replaced by Moriah.

G. DESCRIPTION OF NEW DEVELOPMENT. For all ship classes, Moriah will provide continuous data for display and direct digital or analog input to ship systems. Moriah will provide continuous output of the parameters measured by the sensors and processed by the Moriah central processor in standard units of measure as required by the end users (systems and people). These units of measure and the algorithms or formulas used to convert base output data will be identified in appropriate system specification documents. Moriah will use an open system architecture to reduce the integration effort of additional sensors.

Moriah will have the capability to select valid data and process that data to provide system performance parameters. Moriah will be capable of providing data for storage on multimedia mass storage devices. These interfaces, including system nomenclature, location on ship, required

data format, and required sampling frequency to meet user-defined update rates will be iterated in a separate interface specification document.

Moriah will provide multiple display types with different levels of capability to include stand-alone continuous sensor information, aircraft launch and recovery decision aids, and control functions and maintenance diagnostics. Displays will be capable of displaying both digital and analog graphics and will be usable both during daylight and during nighttime reduced light conditions. Moriah will be capable of national television standard C output for ship's closed circuit television systems.

In addition to the above shipboard requirement, the sensor suites procured by the Moriah Program will also be used to fulfill shore-based requirements as a partial replacement or augmentation to the Automated Surface Observing System (ASOS) and as a replacement for the AN/UMQ-5 Wind Speed and Direction System. The ASOS was a joint program of the National Oceanographic and Atmospheric Agency, USN, Department of Transportation, and Federal Aviation Administration, with the National Weather Service as the lead procurement agency. ASOS is installed at USN and USMC air stations in the continental United States and abroad. Certain sensors may require updating by replacement in existing installations. Other air stations that did not receive ASOS may have a current requirement that can be fulfilled by Moriah.

The wind speed and direction subsystem of Moriah will fulfill the requirements to replace the AN/UMQ-5, as well as augmentation for end-of-runway requirements submitted by the type commanders where installation costs are not prohibitive. Using Moriah as the AN/UMQ-5 replacement will be advantageous in that it will allow all USN wind systems to be alike, saving maintenance and procurement costs.

1. Functional Description. The Moriah system consists of five major components as subsystems:

- Wind sensing
- Meteorological
- Data processing
- Data distribution
- Data display

The system is designed to be modular so that it may accept various types of displays and sensing equipment as well as interface with existing or legacy ship systems and wind system components when required. The following paragraphs contain a brief description of each component or subsystem and its basic function.

a. Wind Sensing. The Moriah system has been designed to use new sensor technology while maintaining backward compatibility with existing WMIS detectors based on older synchro technology that have a long service history in the fleet. The Moriah system also has the ability to interface with new solid state wind sensors such as those based on sonic

measurement technology. These types of sensors require little or no periodic maintenance and are capable of transmitting wind speed and direction data in a digital format (such as RS-422). The new wind sensors will be mounted in approximately the same locations as the existing detectors (port, starboard, and forward) so that no revalidation of aircraft launch and recovery envelopes will be required. Wind data (either synchro or digital) from all sensors will be routed to both Moriah processors.

b. Meteorological. The meteorological subsystem is capable of acquiring a variety of meteorological parameters from numerous sensors mounted throughout the ship. Five of these parameters (air temperature, humidity, barometric pressure, insolation, and infrared sea surface temperature) are obtained.

c. Data Processing. The data processing component of Moriah acquires and processes all of the data critical to the launch and recovery tasks. Due to the safety of flight nature of these functions, it is planned that the core Moriah processing function will be executed within two self-checking central processing units.

d. Data Distribution. The shipboard data distribution system that will be used to transmit Moriah information to various displays throughout the ship is the Integrated Communications and Advanced Networks (ICAN). It is planned that each Moriah processor will be connected to a separate ICAN Input-Output Controller (IOC) via Ethernet. However, only the processor designated as primary will be transmitting information to its respective IOC for distribution.

e. Data Display. All high-end displays will be connected to IOCs local to their particular location via Ethernet. Several high-end displays may be connected to one IOC if necessary. High-end displays will display information such as: true wind speed and direction, relative wind speed and direction, crosswind/headwind, ship's speed and course, launch and recovery bulletins, fox corpen data¹, limited meteorological data, etc. Low-end displays will also be connected to local IOCs or directly to the Moriah processors via an RS-422 digital serial interface. As with the high-end displays, several low-end displays may be connected to one IOC if necessary. Low-end displays will display either relative wind speed and direction or crosswind/headwind information.

2. Physical Description. Physical descriptions are not available at this time. As information becomes available, it will be included in future updates to this NTSP.

3. New Development Introduction. The Moriah Program equipment will be introduced as new production equipment based upon the Moriah operational and support concepts with heavy reliance on Non-Developmental Item (NDI), Commercial Off-The-Shelf (COTS), and

¹ Fox corpen data was previously calculated on a slide-rule. It is data used while landing an aircraft. It would recommend a ship's course to steer to get the correct wind speed and direction. In the Moriah system it will be calculated automatically and displayed. However, it is only a recommendation for perfect conditions.

Government Off-The-Shelf (GOTS) hardware, software, and firmware, repackaged for the shipboard operating environment.

4. Significant Interfaces. Moriah will interface with other systems through designated circuits or local networks (e.g., Joint Maritime Command Information System (JMICS), Global Command and Control System (GCCS), ICAN, Aviation Data Management And Control System (ADMACS), Advanced Combat Direction System (ACDS), and Sonar Local Area Network) for data acquisition and display, where applicable. Data rates and formats will be coordinated with network interface requirements. The Interface Specification document will define the top-level interface requirements, and will be updated as interfaces change, are added, and deleted.

5. New Features, Configurations, or Material. Not Applicable (NA)

H. CONCEPTS

1. Operational Concept. Moriah will be activated during all underway periods for 24 hours per day. Moriah will be fully mission capable in all weather conditions (tropical to arctic), heavy seas with wave heights up to 20 feet, and wind speeds up to 125 knots.

2. Maintenance Concept. Moriah will incorporate a self-contained diagnostic and Built-In Test (BIT) system, continuity or systems degradation alarms, redundant paths for continuous operations in a combat or damage control environment, and operator reconfiguration capability without impacting system operations. Ancillary equipment such as wind direction and speed detectors, transmitters, and indicators are also being investigated for upgrade. At this time it is not felt that any change to these devices will significantly affect the Moriah maintenance concept.

a. Organizational. Organizational level maintenance will be performed by Navy Electronics Technicians (ET), and by Weather Observer personnel for the USMC. Organizational level maintenance will include self-contained diagnostic tests and BIT, and if the unit is not working properly, removal and replacement of the unit under test.

(1) Preventive Maintenance. Preventive maintenance will consist of periodic checks, filter replacement, and corrosion control, and will be determined through Reliability-Centered Maintenance (RCM) analysis.

(2) Corrective Maintenance. Corrective maintenance will consist of self-contained diagnostic tests and BIT as required, with removal and replacement of defective units as necessary.

b. Intermediate. No intermediate level maintenance will be required. All failed units will be returned to the vendor for repair or disposed of by ship's force.

c. Depot. Depot level maintenance will be provided by the vendor.

d. Interim Maintenance. Interim maintenance will be provided by the vendor.

e. Life-Cycle Maintenance Plan. There will be no mandatory overhaul period required for the Moriah systems.

3. Manning Concept. There will be no increase in end-strength or change in force structure as a result of the Moriah Program. Current fleet manpower is adequate to perform all tasking required by the Moriah Program.

a. Estimated Maintenance Man-Hour per Operating Hour. The basic architecture of the Moriah system is still undetermined. Consequently, it is too early to predict the estimated maintenance man-hours per operating hour. The requirement is for no maintenance action to exceed two hours. At this time, it appears that this is achievable. Information listed below is from the Draft Moriah System/Segment Specification. This information will be updated with future updates to this NTSP.

PARAMETER	THRESHOLD	OBJECTIVE
Operational Availability	0.969	0.981
Mean Time Between Operational Maintenance Failures	4,320 hours	7,000 hours
Mean Corrective Maintenance Time per Operational Mission Failure	2.0 hours	1.5 hours
Scheduled Maintenance	Less than 10 hours per quarter	

b. Proposed Utilization. The Moriah system will be activated during all underway periods for 24 hours per day. Moriah will be fully mission capable in all weather conditions (tropical to arctic), heavy seas with wave heights up to 20 feet, and wind speeds up to 125 knots. The Moriah system will also be operated at USN and USMC air stations.

c. Recommended Qualitative and Quantitative Manpower Requirements.

Manpower currently exists in appropriate quantities in both the USN and USMC. Operational and maintenance functions will be assigned to existing USN and USMC personnel at the activities receiving the Moriah system. Personnel from the existing USN ratings Aerographer's Mate (AG), ET, Quartermaster (QM), and Fire Controlman (FC) will perform operation and ET personnel will be the maintainers. An Information System Technician (IT) will be used to maintain the network. The related USMC MOS would be MOS 6821 Weather Observer and MOS 6842 Weather Forecaster for operation, and MOS 6493 Aviation Meteorological Equipment Technician for maintenance.

4. Training Concept. A contractor, in conjunction with Naval Air Warfare Center Aircraft Division, Lakehurst (NAWCADLKE), will create Computer-Based Training (CBT) that will be used on Navy ships and USN and USMC air stations as onboard training to develop the skills of personnel maintaining and operating Moriah equipment. This has been judged to be the most efficient and cost-effective scenario. At this point in the acquisition process the contract for CBT development has not yet been awarded. No additional formal follow-on training beyond CBT is anticipated at this time.

a. Initial Training. Alteration Installation Teams (AIT), Voyage Repair Teams (VRT), and shipyard personnel will provide initial operator training during installation of the particular Moriah system.

(1) Operator. Operator training will be provided by contractor-developed CBT and by Navy Technical Training Unit (NTTU), Keesler AFB, to AG, ET, QM, FC, USMC Weather Observer, and USMC Weather Forecaster personnel as required.

(2) Maintenance. Initial Moriah maintenance training will be provided during installation and check out by the contractor. Initial training will include test and check of the Moriah system, combined with BIT, cleaning, filter changing, corrosion control, and removal and replacement of the failed unit.

b. Follow-on Training

(1) Operation. Follow-on operator training will be provided by contractor-developed CBT. Operator training for the AGs will be developed by PMW-185 and NTTU Keesler, and incorporated into existing courses.

(2) Maintenance. Maintainer follow-on training will be provided by modifying affected courses and contractor-developed CBT.

c. Student Profiles

SKILL IDENTIFIER	PREREQUISITE SKILL AND KNOWLEDGE REQUIREMENTS
ET	<ul style="list-style-type: none"> ° A-100-0138, Electronics Technician Core A School ° A-100-0140, Electronics Technician Strand A School
MOS 6821	<ul style="list-style-type: none"> ° E3AQR1W031, Basic Weather
MOS 6842	<ul style="list-style-type: none"> ° E3AQR1W031, Basic Weather ° E3AAR1W071, Meteorological and Oceanographer Analyst/Forecaster

d. Training Pipelines. No new pipeline training will be required to support Moriah. Moriah follow-on training will be supported by CBT.

I. ONBOARD (IN-SERVICE) TRAINING

1. Proficiency or Other Training Organic to the New Development. It has not been determined exactly what kind of proficiency training will be required. It will be identified in future updates to this NTSP. On-the-Job Training (OJT) will be required to enhance the skills and knowledge of individuals. An OJT package will be delivered to each activity receiving the Moriah system at the time of delivery and installation.

2. Personnel Qualification Standards. If it is decided that Personnel Qualification Standards (PQS) will be required, they will be provided by the PQS Development Center. This information will be updated as information becomes available.

3. Other Onboard or In-Service Training Packages. The application and adoption of advances in computer hardware and software technology have enabled CBT with its basic elements of computer-managed instruction, computer-aided instruction, and interactive courseware to be integrated into the training arena. Some mix of this training will be required for Moriah.

J. LOGISTICS

1. Manufacturer and Contract Numbers. The Moriah production systems integration and manufacturing contract will be competitively awarded and will be a firm fixed price contract for the various production lots. Using the systems performance specification, NAWCADLKE will award a contract to one production system contractor, who will integrate, manufacture, and deliver Moriah production systems to the Navy for shipboard installation.

Shipboard installation of the production system will not be included in the production contract and will be contracted separately for various sources, including AITs, VRTs, and shipyard personnel. Interface Control Documents that identify the Moriah configuration and data interfaces for each ship class will be used as the basis for all installations. As more specific information becomes available, it will be included in future updates to this NTSP.

2. Program Documentation. Program documentation currently consists of Moriah Operational Requirements Document, Memorandum of Agreement for Moriah, Acquisition Strategy for Moriah, the Minutes of the Moriah Preliminary Design Review (PDR), and System Specification. As additional information becomes available, it will be included in future updates to this NTSP.

3. Technical Data Plan. Technical documentation (Maintenance Instruction Manuals, Maintenance Requirements Cards, User Logistic Support Summary (ULSS), Integrated Logistic Support Plan (ILSP), etc.) will be provided by the contractor upon system installation and checkout. As additional information becomes available, it will be included in future updates to this NTSP.

4. Test Sets, Tools, and Test Equipment. Only General Purpose Electronic Test Equipment (GPETE) will be required at the organizational maintenance level. Special Purpose Electronic Test Equipment (SPETE) may be required at the depot (if organic).

5. Repair Parts. An In-Service Engineering Agent will provide interim spare parts support as Moriah is provisioned into the Navy Supply System.

6. Human Systems Integration. A Human Systems Integration (HSI) program will be organized to achieve the effective integration of personnel factors into the design of the system. The HSI effort will include, but not necessarily be limited to, active participation in the following three major interrelated areas of system development: analysis, design and development, and test and evaluation.

K. SCHEDULES

1. Schedule of Events. Office of the Chief of Naval Operations (N096) will fund the procurement of the meteorological and oceanographic portion of Moriah for all classes of ships (approximately 218 ships) and 35 USMC and USN air stations starting in FY00. Separate acquisition strategies will address N85, N86, and N88 procurement of the wind portion of Moriah for their respective ship classes (approximately 151 ships).

a. Installation and Delivery Schedules. Moriah consists of both METOC and WIND components. The following installation schedule assumes ship installation to occur the year after production, and shore system installation occurs the same year as production:

		METOC (FISCAL YEAR)					WIND (FISCAL YEAR)				
CLASS	QTY	01	02	03	04	05	02	03	04	05	06
CVN	11	3	5	3			5	6			
LHA	5	1	1	2	1				2	3	
LHD	7	2	1	2	2				3	4	
LPD	5	2	1	2					2	2	1
LSD 41	8	3	3	2					2	3	3
LSD 49	4			1	3				2	1	1
CG 47	27	5	5	10	7				10	9	8
DDG 51	37	7	8	11	11				12	12	13
AE	0										
AGF	2	1	1					1		1	
AO 177	0										
AOE 1	4	3	1						1	1	2
AOE 6	4		1	2	1				1	1	2
ARS	4	1	1	1	1				1	1	2
LCC	2	1	1							1	1
MCM	14	4	3	5	2				5	5	4
MCS	1	1									1
MHC	12	3	3	3	3				4	4	4
PC	8	2	2	2	2				4	3	1
T-AE 25	8	1	2	3	2				3	3	2
T-AFS	6	1	2	1	2				2	2	2
T-AGM 23	1			1							1
T-AGS 26	7	3	3	1					2	2	3
T-AH 19	2		1	1						1	1
T-AKR 287	12	1	3	4	4				4	4	4
T-AO 187	12	3	3	2	4				4	4	4
T-ARC 7	1			1							1

		METOC (FISCAL YEAR)					WIND (FISCAL YEAR)				
CLASS	QTY	01	02	03	04	05	02	03	04	05	06
TOTALS	218	52	56	62	48		5	7	68	72	66
Shore Systems	35	3	7	8	8	9					

b. Ready For Operational Use Schedule. All Moriah Program equipment will be ready for operational use upon installation and checkout by the installation team.

c. Time Required to Install at Operational Sites. To Be Determined (TBD)

d. Foreign Military Sales and Other Source Delivery Schedule. No FMS is planned at this time.

e. Training Device and Technical Training Equipment Delivery Schedule. It is anticipated that Technical Training Equipment (TTE) will be located only at Keesler Air Force Base, Biloxi, Mississippi. It will consist of one Moriah system. A delivery date and the exact equipment required will be determined at a later date. Shipboard TTE (for initial training) will be the actual equipment installed.

L. GOVERNMENT FURNISHED EQUIPMENT AND CONTRACTOR FURNISHED EQUIPMENT TRAINING REQUIREMENTS. TBD

M. RELATED NTSPs AND OTHER APPLICABLE DOCUMENTS

DOCUMENT OR NTSP TITLE	DOCUMENT OR NTSP NUMBER	PDA CODE	STATUS
Minutes of the Moriah Program Pre-PDR	NA	PMA251	May 1998
Acquisition Strategy for Moriah	NA	N096	Under review
Operational Requirements Document	512-96-99	N096	Approved Jun 1999
Memorandum Of Agreement For Moriah	NA	N096	Approved Feb 1998

PART II - BILLET AND PERSONNEL REQUIREMENTS

The following elements are not affected by Moriah and, therefore, are not included in Part II of this NTSP:

II.A. Billet Requirements

- II.A.1.a. Operational and Fleet Support Activity Activation Schedule
- II.A.1.b. Billets Required for Operational and Fleet Support Activities
- II.A.1.c. Total Billets Required for Operational and Fleet Support Activities
- II.A.2.a. Operational and Fleet Support Activity Deactivation Schedule
- II.A.2.b. Billets to be Deleted in Operational and Fleet Support Activities
- II.A.2.c. Total Billets to be Deleted in Operational and Fleet Support Activities
- II.A.3. Training Activities Instructor and Support Billet Requirements
- II.A.4. Chargeable Student Billet Requirements
- II.A.5. Annual Incremental and Cumulative Billets

II.B. Personnel Requirements

- II.B.1. Annual Training Input Requirements

Note: Since there is no change to current manpower requirements and no formal classroom training required, none of the elements in Part II are applicable.

PART III - TRAINING REQUIREMENTS

The following elements are not affected by Moriah and, therefore, are not included in Part III of this NTSP:

III.A.2. Follow-on Training

III.A.2.a. Existing Courses

III.A.2.c. Unique Courses

III.A.3. Existing Training Phased Out

Note: Since there is no change to current manpower requirements and no formal classroom training currently required, the elements above are not applicable.

PART III - TRAINING REQUIREMENTS

III.A.1. INITIAL TRAINING REQUIREMENTS

a. Initial Training. Alteration Installation Teams (AIT), Voyage Repair Teams (VRT), and shipyard personnel will provide initial operator training during installation of the particular Moriah system configuration using CBT and/or embedded training where feasible.

(1) Operator. Operator training will be provided by contractor-developed CBT and the Navy Technical Training Unit (NTTU), Keesler AFB, to AG, ET, OM, FC, USMC Weather Observer, and USMC Weather Forecaster personnel as required.

(2) Maintenance. Initial Moriah maintenance training will be provided by the contractor during installation and system checkout. Initial training will include test and check of the Moriah system combined with BIT, cleaning, filter changing, corrosion control, and removal and replacement of the failed unit.

III.A.2. FOLLOW-ON TRAINING

III.A.2.a. EXISTING COURSES

Operator training AG courses at NTTU, Keesler AFB will be modified to incorporate Moriah.

III.A.2.b. PLANNED COURSES

Moriah CBT will be developed and available for follow-on maintenance training in January 2003

Note: Operator training will be provided in C-420-2010, Aerographer's Mate "A" School at Keesler AFB at a rate of 12 students per year.

PART IV - TRAINING LOGISTICS SUPPORT REQUIREMENTS

The following elements are not affected by Moriah and, therefore, are not included in Part IV of this NTSP:

IV.A. Training Hardware

IV.A.2. Training Devices

IV.B. Courseware Requirements

IV.B.1. Training Services

IV.C. Facility Requirements

IV.C.1. Facility Requirements Summary (Space/Support) by Activity

IV.C.2. Facility Requirements Detailed by Activity and Course

IV.C.3. Facility Project Summary by Program

PART IV - TRAINING LOGISTICS SUPPORT REQUIREMENTS

IV.A. TRAINING HARDWARE

IV.A.1. TTE / GPTE / SPTE / ST / GPETE / SPETE

CIN, COURSE TITLE: C-420-2010, Aerographer's Mate Class A1

CIN, COURSE TITLE: C-420-2021, Aerographer's Mate Basic for USMC

TRAINING ACTIVITY: NTTU Keesler AFB

LOCATION, UIC: Keesler AFB, Biloxi, Mississippi 39534

ITEM NUMBER	EQUIPMENT / TYPE OR RANGE OF REPAIR PARTS	QTY REQUIRED	DATE REQUIRED	GFE CFE	STATUS
TTE 001	Moriah System	1	90 days prior to IOC	GFE	Pending

IV.B.2. CURRICULA MATERIALS AND TRAINING AIDS

CIN, COURSE TITLE: Moriah Operation and Maintenance CBT

TRAINING ACTIVITY: NA

LOCATION, UIC: All ships and shore activities where Moriah is installed

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Moriah Operation and Maintenance CBT	1 set	90 days prior to IOC	Pending

IV.B.3. TECHNICAL MANUALS

CIN, COURSE TITLE: C-420-2010, Aerographer's Mate Class A1

CIN, COURSE TITLE: C-420-2021, Aerographer's Mate Basic for USMC

TRAINING ACTIVITY: NTTU Keesler AFB

LOCATION, UIC: Keesler AFB, Biloxi, Mississippi 39534

TECHNICAL MANUAL NUMBER, TITLE	MEDIUM	QTY REQD	DATE REQD	STATUS
Moriah Maintenance Manual	TBD	1 set	90 days prior to IOC	Pending

Note: Medium has not yet been determined. Interactive Electronic Technical Manuals are being considered.

PART V - MPT MILESTONES

COG CODE	MPT MILESTONES	DATE	STATUS
PDA	Conducted Analysis of MPT requirements	02/99	Completed
DA	Distribute Draft NTSP for Review	03/00	Pending
PDA	Submit Proposed NTSP to OPNAV	09/00	Pending
DCNO - (MPT)	Approve NTSP	11/00	Pending
PDA	Promulgate ILS Master Plan	09/00	Pending
PDA	Begin Fleet Introduction	01/02	Pending
TSA	Begin Initial Training (concurrent with installations)	01/02	Pending
TSA	Deliver Curricula Materials - (CBT)	01/02	Pending
TA	Begin Follow-on Training	01/02	Pending

PART VI - DECISION ITEMS/ACTION REQUIRED

DECISION ITEM OR ACTION REQUIRED	COMMAND ACTION	DUE DATE	STATUS
Contract award for CBT	PMA 205 / NAWCADLKE		TBD
Replacement for Windbirds / Sensors	NAWCADLKE		TBD

PART VII - POINTS OF CONTACT

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL	TELEPHONE NUMBERS
CDR C. D. Lilly Program Sponsor CNO, N961E 961e@ocean.usno.navy.mil	COMM: (202) 762-1024 DSN: 762-1024 FAX: (202) 762-1025
CDR Pete Furze Resource Sponsor CNO, N961G furze.pete@hq.navy.mil	COMM: (202) 762-0260 DSN: 762-0260 FAX: (202) 762-1025
CAPT Thomas Vandenberg Head Aviation Technical Training Branch CNO, N889H vandenberg.thomas@hq.navy.mil	COMM: (703) 604-7730 DSN: 664-7730 FAX: (703) 604-6939
LCDR Mike Belcher NTSP Manager CNO N889H1 belcher.michael@hq.navy.mil	COMM: (703) 604-7765 DSN: 664-7765 FAX: (703) 604-6939
AZC Scott Dean NTSP Manager CNO, N889H7 dean.scott@hq.navy.mil	COMM: (703) 604-7714 DSN: 664-7714 FAX: (703) 604-6939
LCDR Gary Swain Aviation Manpower CNO, N122C1 n122c1@bupers.navy.mil	COMM: (703) 695-3247 DSN: 225-3247 FAX: (703) 614-5308
Mr. Robert Zweibel Training Technology Policy CNO, N75K zweibel.robert@hq.navy.mil	COMM: (703) 614-1344 DSN: 224-1344 FAX: (703) 695-5698
ACCM Howard McGrath ATC Programs Training Systems Manager NAVAIRSYSCOM, PMA205-3B1 mcgrathhj@navair.navy.mil	COMM: (301) 757-8126 DSN: 757-8126 FAX: (301) 757-6945
Ms. Franceen George Program Team Leader NAVAIRSYSCOM, PMA251A georgeFP@navair.navy.mil	COMM: (301) 757-7006 DSN: 757-7006 FAX: (301) 757-6800
Mr. Vic Brown ALRE Assistant Program Manager Logistics NAVAIRSYSCOM, AIR 3.1.4.C / PMA251L browmvl.ntrprs@navair.navy.mil	COMM: (301) 757-6814 DSN: 757-6814 FAX: (301) 757-6800

PART VII - POINTS OF CONTACT

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL	TELEPHONE NUMBERS
Ms. Denise Johnson Assistant Program Manager In-Situ Systems SPAWARSYSCOM, PMW185 johnsond@spawar.navy.mil	COMM: (619) 524-7911 DSN: 524-7911 FAX: (619) 524- 3035
Mr. Robby Robinson Assistant Program Manager for Logistics SPAWARSYSCOM, PMW185L robinson@spawar.navy.mil	COMM: (619) 524-7336 DSN: 524-7336 FAX: (619) 524-3034
Mr. Robert Calland MetOc Systems SPAWARSYSCOM, PMW185-2 metociss@spawar.navy.mil	COMM: (619) 537-0226 DSN: 577-0226 FAX: (619) 524-3034
CAPT Jerry Rhea Director, Enlisted Assignments Division NAVPERSCOM, NPC 40 p40@persnet.navy.mil	COMM: (901) 874-3548 DSN: 882-3548 FAX: (901) 874-2647
CDR Timothy Ferree Branch Head, Aviation Enlisted Assignments NAVPERSCOM, PERS-404 p404@persnet.navy.mil	COMM: (901) 874-3691 DSN: 882-3691 FAX: (901) 874-2642
MAJ Jon Doering Head, ACE Branch, TFS Division MCCDC, C5325A doeringjg@mccdc.usmc.mil	COMM: (703) 784-6241 DSN: 278-6241 FAX: (703) 784-6072
CDR Robin Mason Aviation NTSP Manager CINCLANTFLT, N-721 masonr@clf.navy.mil	COMM: (757) 836-0101 DSN: 836-0101 FAX: (757) 836-0141
LT Charles Presley Fleet Training and Readiness Coordinator CINCPACFLT, N343 s341@cpf.navy.mil	COMM: (808) 474-6965 DSN: 474-6965 FAX: (808) 471-8601
CDR Erich Blunt Aviation Technical Training CNET, ETE32 cdr-erich.blunt@smtp.cnet.navy.mil	COMM: (850) 452-4915 DSN: 922-4915 FAX: (850) 452-8914
Ms. Nancy McQuillan Wind APML NAWCADLKE, 3.1.4.1 mcquillan4@lakehurst.navy.mil	COMM: (732) 323-7808 DSN: 624-7808 FAX: (732) 323-4064

PART VII - POINTS OF CONTACT

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL	TELEPHONE NUMBERS
Ms. Teri Kostbar Training Requirements NAWCADLKE, 3.4.1.4 kostbar4@lakehurst.navy.mil	COMM: (732) 323-1841 DSN: 624-1841 FAX: (732) 323-7402
Mr. Kurt Hartig NAWC Team Leader NAWCADLKE, 1.1.X.6.1.1.B hartig@lakehurst.navy.mil	COMM: (732) 323-1696 DSN: 624-1696 FAX: (732) 323-4029
Mr. Mike Eddowes Systems Engineer NAWCADLKE, 4.8.1.2 eddwesMP@lakehurst.navy.mil	COMM: (732) 323-1915 DSN: 624-1915 FAX: (732) 323-1551
Mr. J. Glenn Program Team Leader NAWCADLKE, 1.1.X.6.1.4.B glenn@lakehurst.navy.mil	COMM: (732) 323-2931 DSN: 624-2931 FAX: (732) 323-4029
Mr. K. White Software Engineer NAWCADLKE, 4.8.3.2 whitekp@lakehurst.navy.mil	COMM: (732) 323-5262 DSN: 624-5262 FAX: (732) 323-7445
Mr. Phil Szczyglowski Competency Manager NAVAIRSYSCOM, AIR 3.4.1.1 szczyglowspr@navair.navy.mil	COMM: (301) 757-9182 DSN: 757-9182 FAX: (301) 342-4723
AFCM Marlon Breboneria Front End Analysis Manager NAVAIRSYSCOM, AIR 3.4.1.1 breboneriamn@navair.navy.mil	COMM: (301) 757-9184 DSN: 757-9184 FAX: (301) 342-4723
Mr. Gary Barnes MPT Analyst (NTSP Author) NAVAIRSYSCOM, AIR 3.4.1.1 barnesgd@navair.navy.mil	COMM: (301) 757-9199 DSN: 757-9199 FAX: (301) 342-4723