

NAVY TRAINING SYSTEM PLAN
FOR THE
AN/AWS-2 RAPID AIRBORNE MINE
CLEARANCE SYSTEM

N75-NTSP-P-30-0303/I

SEPTEMBER 2003

AN/AWS-2 RAPID AIRBORNE MINE CLEARANCE SYSTEM

EXECUTIVE SUMMARY

This Initial Navy Training System Plan (NTSP) for the AN/AWS-2 Rapid Airborne Mine Clearance System (RAMICS) was developed using the Training Planning Process Methodology. This document provides an early estimate of manpower, personnel, and training requirements to support the employment concepts currently being considered. It also contains appropriate data required to make accurate decisions and assessments concerning manpower and training alternatives for the RAMICS.

The RAMICS, is a non-towed airborne mine neutralization system that will be employed from the MH-60S Multi Mission Helicopter. The RAMICS will provide a rapid response clearance capability against near-surface and surface (floating) moored mines that have been detected, classified, and localized by the Airborne Laser Mine Detection System (ALMDS) or other mine hunting systems. The system will be developed around a rapid-firing MK44 30mm gun that will utilize an electro-optic Light Imaging Detection and Ranging system to reacquire the target and aim the gun. The gun will fire the Mk 258 Mod 1 Armor Piercing Fin Stabilized Discarding Sabot-Tracer ammunition to neutralize the mine. This projectile is stable during air flight, successfully penetrates the surface of the water, and supercavitates while in the water, which greatly reduces the drag and improves underwater flight performance. Mine neutralization can be achieved by detonation, deflagration, or sinking. Deflagration is the preferred method of neutralization. The RAMICS will provide an Organic Airborne Mine Countermeasures capability to the Carrier Battle Group and Amphibious Ready Group and provide a neutralization capability to the dedicated Airborne Mine Countermeasures (AMCM) Forces. This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Operating Area. The RAMICS is currently in Milestone B, System Development and Demonstration phase of the Defense Acquisition System. The Acquisition Category assigned is ACAT II. The Milestone C Decision Point is planned for second quarter Fiscal Year (FY) 06. Initial Operational Capability (IOC) is currently planned for the second quarter of FY07.

The maintenance concept for the RAMICS will be based on the three levels of maintenance, Organizational Level (O-Level), Intermediate Level (I-Level), and Depot (D-Level) as stated in the Naval Aviation Maintenance Program, Chief of Naval Operations Instruction 4790.2H. It is expected that Aviation Electronics Technicians (AT) Navy Enlisted Classification (NEC) code 83XX assigned to Helicopter Combat Support (HC) and Helicopter Mine Countermeasures (HM) squadrons, as MH-60S AMCM Systems Maintenance Technicians Organizational and Intermediate Level, will perform O-Level and I-Level maintenance on the RAMICS targeting system. These billets do not currently exist in the HC squadrons and may have to be established. AT O-Level and I-Level MH-53E AMCM systems maintenance billets currently exist in the HM squadrons, it is expected that these will convert to MH-60S AMCM systems maintenance billets to support the HM community's transition to the MH-60S. A new

AN/AWS-2 RAPID AIRBORNE MINE CLEARANCE SYSTEM

NEC code 83XX will be required to identify MH-60S AMCM systems maintenance personnel. Aviation Ordnanceman (AO) NEC code 8378 that will be assigned to the HC squadrons will perform aircraft mission configuration, mission certification, and O-Level maintenance on the RAMICS gun system when installed and while in their custody. AO maintenance billets do not currently exist in the HC deployable squadrons and may have to be established. AOs NEC code 8378 that will be assigned to the HM squadrons Aircraft Maintenance Department Work Center (W/C) 230 will perform aircraft mission configuration, mission certification, and O-Level maintenance on the RAMICS gun system when installed and while in their custody. Additionally ATs NEC code 83XX, MH-60S AMCM Systems Maintenance Technicians Organizational and Intermediate Level will be assigned to the HM squadrons W/C 230 to provide maintenance support for the RAMICS. Factory Technical Representatives will provide support for an interim period after IOC. It is expected that the manufacturer or an approved Depot repair point will perform D-Level maintenance.

Operations Specialists (OS) that are assigned to the HM squadrons conduct AMCM Mission Planning, Post Mission Analysis, and operate AMCM Command, Control, Communications, Computers, and Intelligence (C4I) systems. It is expected that this manning concept will not change. Currently these OSs receive no AMCM specific follow-on training or NEC. A Stand-Alone course titled Airborne Mine Countermeasures MCM Planning, Post Mission Analysis, MCM Evaluation Course is currently proposed in the AN/AQS-20A Initial NTSP. Additionally, an On The Job Training awardable NEC code that will identify their AMCM specific qualifications is planned. Personnel requirements for conducting Mission Planning, Post Mission Analysis, and the operation of AMCM C4I systems for the HC squadrons are currently being evaluated.

The RAMICS mission will require an operator manning of four: AMCM qualified pilot, co-pilot, and two enlisted aircrewmen. It is expected that the RAMICS will require no additional operator billets above those identified in current HC and HM Activity Manpower Documents. It is anticipated additional O-Level and I-Level maintenance billets within the HC squadrons may be required to support the RAMICS and additional MH-60S AMCM systems. Additional instructor billets may be required to support RAMICS follow-on training requirements. A Manpower Estimate Report (MER) is currently under development by Commander Naval Air Systems Command (Code AIR 3.2.6) Patuxent River, Maryland. Results of the MER will be identified in future updates of this NTSP.

Follow-on maintenance training for mission configuration personnel will be conducted at Maintenance Training Unit (MTU) -1044 Naval Station (NS) Norfolk, Virginia and MTU-1022, Naval Air Station (NAS) North Island, California. Follow-on RAMICS maintenance training for the AMCM systems technicians will be conducted at MTU-1044, NS Norfolk and MTU-1022, NAS North Island. It is anticipated operator training will be conducted at the Fleet Replacement Squadrons located at HC-3, NAS North Island and HC-2, NS Norfolk. Follow-on training for squadron tactics (Mission Planning/Post Mission Analysis) personnel is under review and will be included in future updates to this NTSP.

AN/AWS-2 RAPID AIRBORNE MINE CLEARANCE SYSTEM

The RAMICS is one of five AMCM sensor/weapon systems being developed for deployment aboard the MH-60S aircraft. The additional sensor/weapon systems are the ALMDS, AN/AQS-20A Sonar Mine Detecting Set, Organic Airborne and Surface Influence Sweep (OASIS), and the Airborne Mine Neutralization System (AMNS). Individual NTSPs are in development for each of these systems.

AN/AWS-2 RAPID AIRBORNE MINE CLEARANCE SYSTEM

TABLE OF CONTENTS

	Page
Executive Summary	i
List of Acronyms	v
Preface.....	viii
 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. Aircraft and/or Equipment/System/Subsystem Replaced	I-5
G. Description of New Development.....	I-5
H. Concepts	I-7
1. Operational.....	I-7
2. Maintenance.....	I-7
3. Manning	I-9
4. Training.....	I-11
I. Onboard (In-Service) Training.....	I-18
J. Logistics Support.....	I-19
K. Schedules.....	I-20
L. Government-Furnished Equipment and Contractor-Furnished Equipment Training Requirements.....	I-21
M. Related NTSPs and Other Applicable Documents.....	I-21
 APPENDIX A- POINTS OF CONTACT	
	A-1
 APPENDIX B- TRAINING TRACKS.....	
	B-1

AN/AWS-2 RAPID AIRBORNE MINE CLEARANCE SYSTEM

LIST OF ACRONYMS

AE	Aviation Electrician's Mate
AIMD	Aircraft Intermediate Maintenance Departments
ALMDS	Airborne Laser Mine Detection System
AMCM	Airborne Mine Countermeasures
AMTCS	Aviation Maintenance Training Continuum System
AO	Aviation Ordnanceman
AOA	Amphibious Operating Area
APO	Aviation Petty Officer
ARG	Amphibious Ready Group
AT	Aviation Electronics Technician
BIT	Built-In-Test
C4I	Command, Control, Communications, Computers, and Intelligence
CBT	Computer Based Training
CNO	Chief of Naval Operations
COMLANTFLT	Commander Atlantic Fleet
COMOPTEVFOR	Commander Operational Test & Evaluation Force
COMPACFLT	Commander Pacific Fleet
CSE	Common Support Equipment
CSTRS	Carriage, Stream, Tow, and Recovery System
CVBG	Carrier Battle Group
D-Level	Depot Level
DT	Developmental Test
FRS	Fleet Replacement Squadrons
GS	Gun Subsystem
HC	Helicopter Combat Support
HM	Helicopter Mine Countermeasures
ICW	Interactive Courseware
IETM	Interactive Electronic Technical Manual
I-Level	Intermediate Level
ILTE	Intermediate Level Test Equipment

AN/AWS-2 RAPID AIRBORNE MINE CLEARANCE SYSTEM

LIST OF ACRONYMS

IOC	Initial Operational Capability
IOT&E	Initial Operational Test and Evaluation
LIDAR	Light Imaging Detection and Ranging
LORA	Level of Repair Analysis
MCM	Mine Countermeasures
MER	Manpower Estimate Report
MS	Milestone
MTU	Maintenance Training Unit
NAMP	Naval Aviation Maintenance Program
NAMTRAU	Naval Air Maintenance Training Unit
NAS	Naval Air Station
NS	Naval Station
NEC	Navy Enlisted Classification
NTSP	Navy Training System Plan
OAMCM	Organic Airborne Mine Countermeasures
OJT	On-the-Job Training
O-Level	Organizational Level
OPEVAL	Operational Evaluation
OPNAV	Office of the Chief of Naval Operations
OPNAVINST	Office of the Chief of Naval Operations Instruction
OPO	OPNAV Principal Official
OS	Operations Specialist
OT	Operational Test
PEO LMW	Program Executive Officer Littoral and Mine Warfare
PIDS	Prime Item Development Specification
PMA	Program Manager, Air
PMS	Program Manager, Surface
PSE	Peculiar Support Equipment
RFOU	Ready For Operational Use
RFT	Ready For Training
ROC	Required Operational Capability

AN/AWS-2 RAPID AIRBORNE MINE CLEARANCE SYSTEM

LIST OF ACRONYMS

RSA	Reacquisition Search Area
SD&D	System Development and Demonstration
SRA	Shop Replaceable Assembly
TBD	To Be Determined
TD	Training Device
TECHEVAL	Technical Evaluation
TEMP	Test and Evaluation Master Plan
TTE	Technical Training Equipment
W/C	Work Center
WRA	Weapon Replaceable Assembly
WSESRB	Weapon System Explosives Safety Review Board

AN/AWS-2 RAPID AIRBORNE MINE CLEARANCE SYSTEM

PREFACE

This Initial Navy Training System Plan (NTSP) is an early look at the AN/AWS-2 Rapid Airborne Mine Clearance System (RAMICS) program. This is the first iteration of the Initial NTSP for the RAMICS program. The data contained in this iteration does not represent the official Manpower Personnel and Training requirements of the program. This document explores the various employment and support alternatives currently under consideration. Since it is relatively early in the acquisition process, some definitive data was unavailable for inclusion in this version. This NTSP is a product of the Training Planning Process Methodology, as outlined in Office of the Chief of Naval Operations (OPNAV) publication P-751-3-9-97.

D. SYSTEM DESCRIPTION

1. Operational Uses. The RAMICS, is a non-towed airborne mine neutralization system that will be employed from the MH-60S Multi Mission Helicopter. The system will provide a rapid response clearance capability against near-surface and surface (floating) moored mines that have been detected, classified, and localized by the Airborne Laser Mine Detection System (ALMDS) or other mine hunting systems. The RAMICS will provide an Organic Airborne Mine Countermeasures (OAMCM) capability to the Carrier Battle Group (CVBG) and Amphibious Ready Group (ARG) and provide an airborne neutralization capability to the supporting Airborne Mine Countermeasures (AMCM) Forces. This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Operating Area (AOA).

The RAMICS is one of five AMCM sensor/weapon systems being developed for deployment aboard the MH-60S aircraft. The additional sensor/weapon systems are the ALMDS, AN/AQS-20A Sonar Mine Detecting Set, Organic Airborne and Surface Influence Sweep (OASIS), and the Airborne Mine Neutralization System (AMNS). Individual NTSPs are currently in development for each of these systems.

2. Foreign Military Sales. No Foreign Military Sales are planned at this time.

E. DEVELOPMENTAL TEST AND OPERATIONAL TEST. Developmental Test and Evaluation (DT [TECHEVAL]) and Operational Test (OT) will be conducted as outlined in the RAMICS Test and Evaluation Master Plan (TEMP) –1644, February 2003.

RAMICS DT is structured into several incremental phases (DT-IIA, DT-IIB, DT-IIC, and DT-IID/TECHEVAL) designed to monitor and validate the progress of System Development and Demonstration. Additionally, the multiple phases allow for significant risk reduction. Developmental risk for the RAMICS is primarily in the area of integration of subsystem components and of the RAMICS mission kit.

Initial Operational Test and Evaluation (IOT&E) of an AMCM capable MH-60S with RAMICS installed will be conducted with one OT phase. OT-C will determine the operational effectiveness and suitability of an AMCM capable MH-60S with production representative RAMICS installed to support a fleet introduction and develop initial tactics. Follow-on Operational Test and Evaluation OT-D and OT-E, as required will be conducted to verify correction of deficiencies, complete deferred or incomplete IOT&E, continue tactics development, and verify the operational effectiveness and suitability of the MH-60S with a production RAMICS installed. RAMICS test events are identified in table below. For detailed test information, refer to the RAMICS TEMP.

RAMICS TEST EVENTS - UNCLASSIFIED					
Test Event	Description	Schedule	Level of Integration	Location	Decision Supported
RAMICS Advanced Technology Demonstration	Demonstration of RAMICS concept from H-1 Cobra Helicopter	3&4Q FY00	Minimal	Patuxent River, MD Aberdeen, MD Panama City, FL	Milestone (MS) B
Munitions Experiments	25mm and 30mm projectiles fired at in-water targets	3&4Q FY00	Ground tests using test stands only. Integration into aircraft is not required.	Aberdeen, MD	Projectile Size Cartridge Composition and Configuration Cannon Requirements MS B
Safe Standoff Test	In-water detonation of representative mines under arena test conditions	2Q FY01	Ground tests only. Aircraft not required.	Socorro, NM	Helicopter Safe Standoff position requirements WSESRB Flight Clearance
Phase I of Munition Lethality Tests	Initial tests of 30mm munitions in open ocean environment	4Q FY01/1Q FY02	None. Munition fired from gun fixed to platform.	Luce Bay near West Freugh, Scotland	LFT&E Approval MS C
DT-IIA	Installation of prototype DT-IIA Gun Subsystem (GS) onto aircraft, determine shock and vibration loading at potential mounting locations	1Q FY04	Ground and flight test – prototype GS installed in MH-60S, GS under manual control	Patuxent River, MD Aberdeen, MD TBD	WSESRB Flight Clearance for DT and OT events

RAMICS TEST EVENTS - UNCLASSIFIED					
Test Event	Description	Schedule	Level of Integration	Location	Decision Supported
DT-IIB	Initial vendor tests with system (contractor testing) Acceptance testing for Navy.	4Q FY04	Ground and flight tests - Partially integrated system installed on aircraft	Patuxent River, MD Panama City, FL Vendor's Facility – TBD	DT-IIC Readiness
DT-IIC	Initial fully integrated tests Electromagnetic Environmental Effects tests/ EMSEC Regression tests	2Q FY05	Ground and flight tests - Fully integrated on aircraft	Panama City, FL Patuxent River, MD Aberdeen, MD	WSESRB Flight Clearance DT-IID
DT Assist	Initial look by operational test community	4Q FY04	Ground and flight tests - Fully integrated on aircraft	Patuxent River, MD Aberdeen, MD	DT-IID
Live Fire	Lethality tests	2Q FY01, 2Q FY05- 3Q FY06	Ground and flight tests - Fully integrated on aircraft	West Freugh, Scotland Aberdeen, MD Panama City, FL	WSESRB MS C
DT-IID	TECHEVAL	4Q FY05 1Q FY06	Flight Tests- Fully integrated on aircraft	Panama City, FL Aberdeen, MD Stran Raer, Scotland	WSESRB OT-IIA
DT Assist	Initial look at full-up system	1Q FY06	Flight Tests - Fully integrated on aircraft	Panama City, FL Aberdeen, MD Stran Raer, Scotland	OT-IIA

RAMICS TEST EVENTS - UNCLASSIFIED					
Test Event	Description	Schedule	Level of Integration	Location	Decision Supported
OT-IIA	OPEVAL	3Q FY06	Flight Tests -Fully integrated on aircraft	Panama City, FL TBD	Production

F. AIRCRAFT AND/OR EQUIPMENT/SYSTEM/SUBSYSTEM REPLACED. The RAMICS will not replace or augment any existing equipment or system.

G. DESCRIPTION OF NEW DEVELOPMENT

1. Functional Description. The RAMICS uses an electro-optic Light Imaging Detection and Ranging (LIDAR) system to reacquire the target. Once the target is reacquired, a Fire Control System aims the GS and determines when to fire on the target. The GS consists of a Precision Electronic Turret and a rapid-firing MK44 30mm gun that fires the MK 258 Mod 1 Armor Piercing Fin Stabilized Discarding Sabot-Tracer ammunition. This projectile is stable during air flight, successfully penetrates the surface of the water, and supercavitates while in the water, which greatly reduces the drag and improves underwater flight performance.

The target location data used in the RAMICS mission is generated by the ALMDS or other mine hunting systems. Classification of the target as a Mine Like Object will be done by the system reporting the contact. RAMICS will reacquire the target, but it will not identify the target as a mine, or classify the target beyond a gross shape classification that confirms the object is mine-like.

The target localization data RAMICS requires from a mine hunting system will have minimum accuracy as specified in Appendix A of the RAMICS Prime Item Development Specification (PIDS). Data from non-electro-optic sensor systems will be acceptable for use by RAMICS, provided the environmental conditions are within the operating limits described in the Environmental Limitations specified in Appendix A of the RAMICS PIDS. The environment affects various sensors differently. A sonar system may be able to operate in murky waters, but the performance of an electro-optic sensor may be degraded if operated in these conditions.

The RAMICS mission profile will not prohibit attempts to neutralize drifting mines that are sighted during transit to and from the designated Reacquisition Search Area (RSA) or during the search of an RSA. However, RAMICS is not a mine hunting system, and will not be required to search for and neutralize drifting mines. Since it is difficult to distinguish a drifting mine from a floating mine, the entire RSA must be searched during each neutralization attempt. This increases the probability that the original target that was found by the mine hunting system will be reacquired by RAMICS.

The RSA is an area that RAMICS searches when attempting to reacquire a single target that has been previously located and classified by a mine hunting system. The size of the RSA is dependent on the navigation error from the various mine hunting systems, the MH-60S helicopter, and the size of the watch circle of the target.

Neutralization cannot be attempted unless the distance between the helicopter and the target (the safe standoff distance) is sufficient to guarantee the safety of the helicopter and its crew.

Mine neutralization can be achieved by detonation, deflagration, or sinking. Deflagration is the preferred method of neutralization.

2. Physical Description. Detailed physical dimensions and characteristics of the RAMICS are currently not available. Refer to Figure I-1 for conceptual major system components.

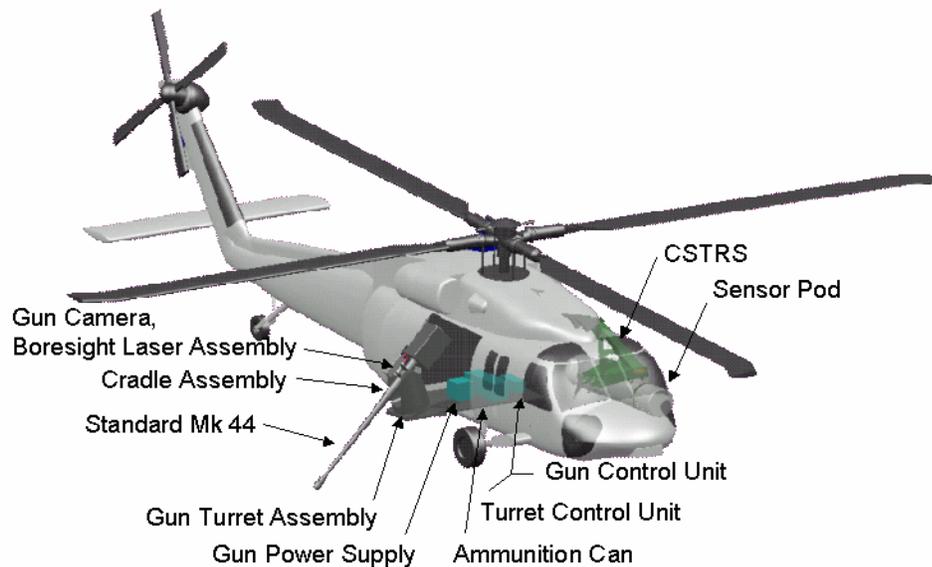


Figure I-1

3. New Development Introduction. The RAMICS will be introduced as new production.

4. Significant Interfaces. The interfaces associated with the RAMICS are divided into two categories, internal interfaces and external interfaces. Internal interfaces are interfaces between components of the system. All other interfaces are considered to be external interfaces. The characteristics of the RAMICS internal interfaces shall be developed and documented by the Contractor in accordance with the provisions of the contract Statement Of Work. The interface requirements for the gun turret are described in Appendix B of the RAMICS PIDS. The mechanical, electrical power, and electrical signal interfaces shall be as defined in the RAMICS Interface Requirements Document.

5. New Features, Configurations, or Material. The RAMICS is the first mine neutralization system of its kind utilizing a gun system with supercavitating ammunition to be deployed for Navy use and represents the state-of-the-art in weapon/ammunition development and LIDAR targeting technology.

H. CONCEPTS

1. Operational Concept. The RAMICS, is a non-towed Mine Neutralization System that will be employed from the MH-60S Multi Mission Helicopter. The system will provide a rapid response clearance capability against near-surface and surface (floating) moored mines that have been detected, classified, and localized by the ALMDS or other mine hunting systems. The RAMICS will provide an OAMCM capability to the CVBG and ARG and provide an airborne mine neutralization capability to the dedicated AMCM Forces. This capability will be of critical importance in littoral zones, confined straits, choke points, and the AOA. The normal operating crew will consist of an MH-60S AMCM Pilot, Co-pilot, and two enlisted aircrewmembers. As with all AMCM systems, the RAMICS is modular in design and can be readily installed in or removed from the helicopter as mission requirements dictate. MCM Planning will be conducted utilizing Mine Warfare Environmental Decision Aid Library (MEDAL) and Mission Planning will be conducted on the Navy H-60 Mission Planning Station. Post Mission Analysis will be conducted on the AMCM Common Post Mission Analysis Station. MCM Evaluation will also be conducted on MEDAL. The RAMICS represents a capability that does not exist in the current MCM inventory.

2. Maintenance Concept. The maintenance concept for the RAMICS will be based on the three levels of maintenance, Organizational Level (O-Level), Intermediate Level (I-Level), and Depot Level (D-Level) as stated in the Naval Aviation Maintenance Program (NAMP), Office of the Chief of Naval Operations Instruction (OPNAVINST) 4790.2H. Description for each level of maintenance is as follows:

a. Organizational. The system will be designed to minimize the complexity of corrective maintenance action at the O-Level. O-Level maintenance will be performed in the work center or on the flight line. O-Level maintenance will be limited to aircraft mission configuration, pre and post mission equipment inspections/certifications, cleaning and corrosion control, minor flight line repairs, and troubleshooting using Built-In Test (BIT) to the Weapons Replaceable Assembly (WRA) level. It is expected that Aviation Electronics Technicians (AT) with Navy Enlisted Classification (NEC) code 83XX that will be assigned to Helicopter Combat Support (HC) and Helicopter Mine Countermeasures (HM) squadrons, as MH-60S AMCM Systems Maintenance Technicians Organizational and Intermediate Level will perform O-Level and I-Level maintenance on the RAMICS. Additionally they will be trained to perform O-Level and I-Level maintenance as required on all the MH-60S AMCM systems. These billets do not currently exist in the HC squadrons and will have to be established. A new NEC code will be required to identify these technicians.

Aviation Ordnancemen (AO) NEC code 8378 will perform aircraft mission configuration and certification. AO maintenance billets do not currently exist in the HC squadrons and will have to be established. Additionally ATs NEC code 83XX, MH-60S AMCM Systems Maintenance Technicians Organizational and Intermediate Level attached to HM squadrons will be assigned to Work Center (W/C) 230 to provide maintenance support for the RAMICS when installed and while in their custody. This maintenance concept is supported by the AMCM mission systems maintenance program outlined in the NAMP, OPNAVINST 4790.2H.

(1) Preventive Maintenance. Preventive maintenance at the O-Level normally occurs between missions and includes limited scheduled maintenance consisting of pre and post-flight inspections, operational readiness testing, and corrosion control.

(2) Corrective Maintenance. Corrective maintenance actions at the O-Level will include fault isolation to the WRA level, using Power-Up BIT, Operator Initiated BIT, or manual troubleshooting methods, removal and replacement of faulty WRAs, and verification of satisfactory corrective maintenance actions, and adjustment or alignment as required as authorized at the O-Level.

b. Intermediate. I-Level maintenance will be performed on all WRAs and Shop Replaceable Assemblies (SRA) beyond the O-Level maintenance capability. I-Level maintenance consists of fault isolation of defective WRAs and SRAs by using Common Support Equipment (CSE) and Peculiar Support Equipment (PSE), replacing faulty SRAs and components, and verifying corrective action via the appropriate CSE and PSE. When deployed away from supporting Aircraft Intermediate Maintenance Departments (AIMD) I-Level trained squadron maintenance personnel will perform I-Level maintenance. Intermediate Level Test Equipment (ILTE) is expected to be small and lightweight to facilitate portability. The squadrons and supporting AIMDs will be outfitted with the necessary CSE, PSE, repair parts and consumables to support authorized maintenance. Detailed information on AIMD locations, CSE, and PSE will be identified in future updates to this NTSP.

Note: It is expected that O-Level and I-Level trained ATs NEC 83XX will be assigned to MH-60S squadrons and supporting AIMDs as MH-60S AMCM systems maintenance technicians to provide RAMICS O-Level and I-Level maintenance support. I-Level AO maintenance support requirements are currently under review.

c. Depot. D-Level maintenance of the RAMICS and its subsystems will be performed by the production contractor or approved Navy Depot repair point. Systems and assemblies will be returned to the depot for repairs in accordance with the Maintenance Plan.

d. Interim Maintenance. Factory technical representatives will provide interim maintenance support after Initial Operational Capability (IOC) until Navy technicians are fully trained to perform O-Level and I-Level maintenance.

e. Life-Cycle Maintenance Plan. The service life of the RAMICS is limited by component deterioration. Maintenance requirements and component life cycle data is based on

data obtained from the supportability analysis, Reliability Centered Maintenance and Level of Repair Analysis (LORA) results. All life cycle data from testing will be compiled and preventive maintenance requirements designed to extend the life cycle will be provided prior to Fleet introduction.

Note: The RAMICS LORA will determine the exact level of maintenance for repairable items.

3. Manning Concept. Based on a cursory analysis of the operator, maintenance, and tactics related tasks associated with the RAMICS and its supporting equipment, it has been determined these tasks will be within the capabilities of the Navy's existing enlisted rating and Navy Officer Billet Classification structures. Based on current program information it is anticipated introduction of the RAMICS will require no additional operator billets above those identified in current HC and HM Activity Manpower Documents. Based on the results of a base line comparison conducted during the development of this NTSP utilizing current AMCM systems maintenance support information, it is expected that additional O-Level and I-Level maintenance billets may be required within the HC squadrons and AIMDs to support the maintenance requirements of the RAMICS and additional MH-60S AMCM systems. It is expected that existing AT NEC 8391 maintenance billets will convert to MH-60S AMCM systems maintenance support billets when the HM squadrons transition to the MH-60S and its associated AMCM systems. Additional instructor billets may be required to support RAMICS training requirements. This will not be determined until detailed training and student throughput information becomes available. Actual manpower requirements will not be available until a Manpower Estimate Report (MER) for the MH-60S squadrons supporting AMCM becomes available.

Note: A MER for the MH-60S squadrons supporting AMCM is currently under development by Commander Naval Air Systems Command (Code AIR 3.2.6) Patuxent River, Maryland. Results of the MER will be identified in future updates of this NTSP.

a. Estimated Maintenance Man-Hours per Operating Hour. Estimated Maintenance Man-Hours per Operating Hour for each affected Work Center will be identified with the development of the MER. Once complete, the results will be identified in an update to this NTSP.

b. Proposed Utilization. Average sortie length is expected to be approximately two hours and 30 minutes. System utilization has currently not been identified.

c. Recommended Qualitative and Quantitative Manpower Requirements. Based on the MH-60S NTSP N88-NTSP-A-50-9902A/A, current RAMICS program information, and baseline comparisons conducted, it is expected the RAMICS will not require additional operator billets. New O-Level AO, NEC code 8378 and O-Level and I-Level AT, NEC code 83XX maintenance billets may be required.

(1) Operator. Refer to the MH-60S NTSP N88-NTSP-A-50-9902A/A.

(2) Maintenance. It is expected that new maintenance billets may be required to support O-Level and I-Level maintenance requirements for the RAMICS. These O-Level and I-Level ATs will be assigned to the squadrons and supporting AIMDs specifically trained to support both the O-Level and I-Level maintenance requirements for all the MH-60S AMCM systems. It is anticipated that they will be identified as MH-60S AMCM Systems Maintenance Technician Organizational and Intermediate Level, NEC code 83XX. Additionally, AOs NEC code 8378 will perform aircraft mission configuration, certification, and ordnance related maintenance functions. AO maintenance billets currently do not exist in the deployable HC squadrons. These billets may have to be established. This maintenance-manning concept is supported by the NAMP, OPNAVINST 4790.2H. Detailed maintenance manpower information is currently not available. The tables below detail current and proposed qualitative manning information.

Note: The O-Level AOs may be assigned to the HC MH-60S squadrons as a result of the Combat Search and Rescue (Armed Helo) requirement. Refer to the H-60 Armed Helicopter NTSP N88-NTSP-A-50-9805/A, March 2002.

HM AMCM SYSTEMS MAINTENANCE SUPPORT					
CURRENT MH-53E			PROPOSED MH-60S		
RATE	NEC	W/C	RATE	NEC	W/C
AD	8391	16A	AO	8378	230
AE	8391	16B	AT	83XX	230/16B
AM	8391	230/16A	-	-	-
AO	0000	230	-	-	-
AT	8391	16B	-	-	-

HC AMCM SYSTEMS MAINTENANCE SUPPORT					
CURRENT H-46			PROPOSED MH-60S		
RATE	NEC	W/C	RATE	NEC	W/C
None	-	-	AO	8378	230
None	-	-	AT	83XX	210

Note: With the current and future development of MH-60S deployable AMCM systems, the need for a specific NEC code identifying those personnel trained and qualified to maintain these systems will be required. Currently the HM community utilizes NEC code 8391; AMCM Systems Maintenance Technician Organizational and Intermediate Level to identify

personnel trained to maintain AMCM systems and mission equipment. These personnel support both O-Level and I-Level maintenance requirements.

(3) Tactics. Operations Specialists (OS) are assigned to, and conduct AMCM Mission Planning and Post Mission Analysis, and operate AMCM Command, Control, Communications, Computers, and Intelligence (C4I) systems for the HM squadrons. It is expected that this manning concept will not change. Currently these OSs receive no AMCM specific follow-on training or NEC. A Stand-Alone course titled Airborne Mine Countermeasures MCM Planning, Post Mission Analysis, MCM Evaluation Course is currently proposed in the AN/AQS-20A Initial NTSP. Additionally, an On-the-Job Training (OJT) awardable NEC code 03XX, AMCM Operations Specialist that will identify their AMCM specific qualifications is planned. This Stand-Alone course along with the OJT will ensure these personnel receive the training and skills necessary to meet the commands operational commitments. Personnel requirements for conducting Mission Planning, Post Mission Analysis, and the operation of AMCM C4I systems for the HC squadrons are currently being evaluated. HC and HM operators (pilots and aircrewmembers) will receive AMCM mission tactics training from a segment course within the operator track.

4. Training Concept. The RAMICS training program will consist of initial and follow-on training for TECHEVAL and OPEVAL personnel, instructors, Fleet operators, maintenance technicians, and tactics personnel. Initial training for TECHEVAL and OPEVAL personnel, instructors, Fleet operators, and maintenance technicians will be accomplished by both government and contractor support. Follow-on training for operators (pilots and aircrewmembers) will be conducted at the MH-60S Fleet Replacement Squadrons (FRS), HC-3 Naval Air Station (NAS) North Island, California and HC-2 Naval Station (NS) Norfolk, Virginia. Follow-on maintenance training for mission configuration personnel (AOs) will be conducted at Maintenance Training Unit (MTU) -1044, NS Norfolk and MTU-1022, NAS North Island. Follow-on RAMICS maintenance training for the AMCM systems technicians (ATs) will be conducted at MTU-1044, NS Norfolk and MTU-1022, NAS North Island. Training for HM tactics (Mission Planning/Post Mission Analysis) personnel will be provided through a Stand-Alone course, the training activity has not been identified. Tactics training requirements for HC squadrons are currently being evaluated. The follow-on training system that will be delivered to the training activities will be developed under contract as Computer Based Training (CBT) in the format required by the training activities.

a. Initial Training. The Contractor will develop and conduct operator and maintenance initial training for Navy Test and Evaluation personnel in support of TECHEVAL and OPEVAL. In order to meet Fleet introduction requirements, the Contractor will also develop and conduct operator and maintenance initial training for the FRS and Naval Air Maintenance Training Unit (NAMTRAU) instructors, and an initial cadre of Fleet operator, maintenance, and tactics (Mission Planning/Post Mission Analysis) personnel. It is expected that the following courses will be required.

Note: Initial training requirements for tactics personnel are currently under review.

Note: Initial I-Level training requirements for AOs are currently under review.

(1) Pre-TECHEVAL and OPEVAL.

Title **RAMICS Pre-TECHEVAL and OPEVAL Training Courses**

Description Provides familiarization training to designated personnel to sufficiently prepare for and support TECHEVAL and OPEVAL. This will include Laser Safety Fundamentals, ordnance and weapon safety, controls and indications, aircraft rigging/de-rigging, certification procedures, aircrew operating procedures, safety/emergency procedures and system tactics.

Location Naval Surface Warfare Center Coastal Systems Station
Panama City, Florida

Length TECHEVAL: 20 Days (Maintenance)
OPEVAL: 43 Days

RFT date TECHEVAL: August 05
OPEVAL: April 06

TTE/TD RAMICS, CSTRS, CC, MH-60S

Prerequisite Designated Government and Navy personnel in support of TECHEVAL and OPEVAL

(2) Operator. Instructors and initial cadre Fleet personnel.

Title **RAMICS Operation and Tactics Initial Training (Pilot)**

Description Provides instructors and an initial cadre of Fleet pilots Laser Safety Fundamentals, ordnance/weapon safety, and the basic skills, tactics and techniques necessary to employ the RAMICS.

Location TBD

Length TBD

RFT date November 06

TTE/TD TBD

Prerequisites Pilot qualified in the MH-60S helicopter

Title **RAMICS Operator Initial Training**

Description Provides instructors and an initial cadre of Fleet aircrewmembers Laser Safety Fundamentals, ordnance/weapon safety, and the basic skills necessary to operate the RAMICS.

Location TBD

Length TBD

RFT date November 06

TTE/TD TBD

Prerequisites Aircrewman qualified in the MH-60S helicopter, APO NEC 8205

(3) Tactics. Instructors and initial cadre Fleet personnel.

Title..... **RAMICS Mission Planning and Post Mission Analysis Initial Training**

Description..... Provides instructors and an initial cadre of Fleet tactics personnel the training necessary to properly plan mission requirements and conduct post mission analysis for the RAMICS.

Location..... TBD

Length..... TBD

RFT date..... November 06

TTE/TD..... TBD

Prerequisites..... Fleet AMCM Tactics personnel

(4) Maintenance. Instructors and initial cadre Fleet personnel.

**Title..... RAMICS Electronic Systems
Organizational/Intermediate Level Maintenance Initial
Training**

Description..... Provides instructors and an initial cadre of Fleet personnel the skills, knowledge, and techniques required to perform O-Level and I-Level maintenance and test procedures on the electronic components of the RAMICS.

Location..... TBD

Length..... TBD

RFT date..... November 06

TTE/TD..... RAMICS, ILTE

Prerequisites..... AT 83XX

Title..... RAMICS Aircraft Configuration Initial Training

Description..... Provides instructors and an initial cadre of Fleet maintenance personnel with Laser Safety Fundamentals, ordnance/weapon safety, and the skills, knowledge, and techniques required to properly configure/de-configure the aircraft and operate BIT Equipment for the RAMICS mission.

Location..... TBD

Length..... TBD

RFT date..... November 06

TTE/TD..... RAMICS, CSTRS, CC, MH-60S

Prerequisites..... AO 8378, AT 83XX

**Title..... RAMICS Gun System Organizational Maintenance
Initial Training**

Description..... Provides instructors and an initial cadre of Fleet maintenance personnel with the skills, knowledge, and techniques required to properly maintain the RAMICS gun system and handle the ammunition.

Location..... TBD

(2) Maintenance.

Title.....	Rapid Airborne Mine Clearance System Electronic Systems Organizational/Intermediate Level Maintenance
CIN.....	C-102-XXX2 (Pipeline D/E-102-XXX1, Currently proposed in the AN/AQS-20A Initial NTSP)
Model Manager....	TBD
Description.....	Provides ATs with Laser safety fundamentals, and the skills, knowledge, and techniques required to perform aircraft configuration, O-Level and I-Level maintenance, and test procedures on the RAMICS. Upon completion, the technician will be capable of configuring the aircraft, performing O-Level and I-Level maintenance, and operate BIT for the RAMICS under limited supervision.
Location.....	MTU-1022, NAS North Island, California MTU-1044, NS Norfolk, Virginia
Length.....	TBD
RFT date.....	MTU-1022 - February 07 MTU-1044 - TBD
Skill identifier.....	AT 83XX
TTE/TD.....	TBD
Prerequisites.....	C-100-2020, Avionics Common Core Class A1 C-100-2018, Avionics Technician O-Level Class A1 or C-100-2017, Avionics Technician I-Level Class A1

c. Student Profiles.

SKILL IDENTIFIER	PREREQUISITE SKILL AND KNOWLEDGE REQUIREMENTS
1311	Q-2A-0001, Primary Flight Training Q-2A-0010, Joint T-34C/T-6A Joint Primary Aircraft Training System (JPATS) Intermediate Flight Training Q-2A-0015, Undergraduate Helicopter Pilot Training D/E-2D-0039, Survival, Evasion, Resistance, and Escape Training J-495-0413, Shipboard Aircraft Firefighting.
AO 8378	C-646-2011, Aviation Ordnanceman Common Core Class A1 C-646-2012, Aviation Ordnanceman Airwing Strand Class A1
AT 83XX	C-100-2020, Avionics Common Core Class A1 C-100-2018, Avionics Technician O-Level Class A1, or C-100-2017, Avionics Technician I Level Class A1
APO 8205	Q-050-1500, Naval Aircrewman Candidate School Q-050-0600, Aviation Rescue Swimmer School D/E-2D-0039, Survival, Evasion, Resistance, and Escape
OS 03XX	J-221-0011, Operations Specialist Class A1

d. Training Pipelines. The following identifies the tracks and courses expected to be impacted as a result of the addition of RAMICS operator, maintenance, and tactics training. Due to this being new development training, the extent of impact to existing and planned training tracks is unknown at this time. Details of the individual training tracks, courses, and revisions to the existing training tracks are listed in Appendix B.

- (1) **E-2C-3100**, MH-60S Fleet Replacement Pilot Category I Pipeline.
- (2) **E-2C-3102**, MH-60S Fleet Replacement Pilot Category II Pipeline.
- (3) **E-050-3100**, MH-60S Fleet Replacement Aircrew Category I Pipeline.
- (4) **E-050-3102**, Fleet Replacement Aircrewman Category II Pipeline.
- (5) **D/E-646-0840**, H-60 Armament and Related Systems Organizational Maintenance Track.

(6) **D/E-102-XXX1**, MH-60S AMCM Systems Organizational and Intermediate Maintenance. Proposed in the AN/AQS-20A Initial NTSP.

(7) **C-102-XXX3**, Airborne Mine Countermeasures MCM Planning, Post Mission Analysis, MCM Evaluation. Stand-Alone. Proposed in the AN/AQS-20A Initial NTSP.

Note: Due to the use of Lasers with the various AMCM systems, it is anticipated that C-602-3770, Laser Safety Fundamentals, will be added to the proposed MH-60S AMCM systems maintenance track D/E-102-XXX1.

I. ONBOARD (IN-SERVICE) TRAINING.

1. Proficiency or Other Training Organic to the New Development.

a. Maintenance Training Improvement Program. Current planning is to adopt the Aviation Maintenance Training Continuum System (AMTCS) concepts to replace the Maintenance Training Improvement Program (MTIP). AMTCS is scheduled to begin full implementation for fleet deployment in November 2003.

b. Aviation Maintenance Training Continuum System. The AMTCS will provide career path training to the Sailor or Marine from their initial service entry to the end of their military career. AMTCS concepts will provide an integrated system that will satisfy the training and administrative requirements of both the individual and the organization. The benefits will be manifested in the increased effectiveness of the technicians and the increased efficiencies of the management of the training business process. Where appropriate, capitalizing on technological advances and integrating systems and processes can provide the right amount of training at the right time, thus meeting the CNO's mandated "just-in-time" training approach.

Technology investments enable the development of several state-of-the-art training and administrative tools: Interactive Multimedia Instruction for the technicians in the Fleet in the form of Interactive Courseware (ICW) with Computer Managed Instruction and Computer Aided Instruction for the schoolhouse.

Included in the AMTCS development effort is the Aviation Maintenance Training Continuum System - Software Module, which provides testing [Test and Evaluation], recording [Electronic Certification Qualification Records], and a Feedback system. The core functionality of these AMTCS tools are based and designed around the actual maintenance-related tasks the technicians perform, and the tasks are stored and maintained in a Master Task List data bank. These tools are procured and fielded with appropriate Commercial-Off-The-Shelf hardware and software, i.e., Fleet Training Devices - Laptops, PCs, Electronic Classrooms, Learning Resource Centers, operating software, and network software and hardware.

Upon receipt of direction from OPNAV (N789H), AMTCS concepts are to be implemented and the new tools integrated into the daily training environment of all participating aviation activities and supporting elements. AMTCS will serve as the standard training system for aviation maintenance training within the Navy and Marine Corps, and is planned to supersede the existing Maintenance Training Improvement Program and Maintenance Training Management and Evaluation Program programs.

It is expected that RAMICS training will encompass the requirements of AMTCS.

2. Personnel Qualification Standards. Currently no formal Personnel Qualification Standards are planned for the RAMICS.

3. Other Onboard or In-Service Training Packages. On-Board training in the form of portable CBT/ICW will be developed to provide operators a mission skill development capability and a means to maintain proficiency operating the RAMICS system. This is an invaluable tool for those aircrews whom may experience extended periods between mission flights. Similar proficiency support training will also be developed for maintenance and tactics (Mission Planning/Post Mission Analysis) personnel. On-the-Job Training will be available at the Fleet level.

J. LOGISTICS SUPPORT

1. Manufacturer and Contract Numbers.

CONTRACT NUMBER	MANUFACTURER	ADDRESS
N00024-02-C-6324	Northrop Grumman Corporation	2000 West NASA BLVD, P.O. Box 9650 Melbourne, FL, 32902-9650

2. Program Documentation. A RAMICS PIDS and TEMP are currently available.

3. Technical Data Plan. The RAMICS technical publications will be produced, distributed, and supported in an Interactive Electronic Technical Manual (IETM) format, including software and hardware support. The RAMICS publications will support operation, training, maintenance, and Depot repair of the system, or subsystems. The IETMs will be developed in accordance with the RAMICS Technical Manual Contract Requirements.

4. Test Sets, Tools, and Test Equipment. Requirements for special test sets, tools, equipment, and general-purpose test equipment will be identified during the System Development and Demonstration (SD&D) phase. The required equipment will be available to support IOC.

5. Repair Parts. Requirements for repair parts will be identified during the SD&D phase. Initially provisioned repair parts will be available to support IOC.

6. Human Systems Integration. The Human Systems Integration Plan establishes the basis for effective integration of human factors engineering, manpower, personnel, training, health hazards, and safety considerations into the RAMICS acquisition as outlined in the Department of Defense Instruction 5000.2. The Draft RAMICS Human Engineering Program Plan is currently available.

K. SCHEDULES.

1. Installation and Delivery Schedule. The table below identifies the number of systems projected for delivery. Specific squadron delivery schedules are currently not available.

DELIVERY SCHEDULE			
FY05	FY06	FY07	FY08
00	02	04	04

2. Ready For Operational Use Schedule. The RAMICS will be Ready For Operational Use (RFOU) upon delivery to the receiving activity.

3. Time Required to Install at Operational Sites. The RAMICS is delivered RFOU, but is not permanently installed in the aircraft. The RAMICS is loaded as modularized, removable components. Installation/removal threshold is four hours with an objective of two hours.

4. Foreign Military Sales and Other Source Delivery Schedule. NA.

5. Training Device and Technical Training Equipment Delivery Schedule. Although detailed information on Training Devices (TD) and Technical Training Equipment (TTE) is currently under development it is expected the following TDs and TTE will be required.

(a) Operator:

DEVICE	DATE REQUIRED
Common Console.....	February FY07
RAMICS (Task Trainer).....	February FY07

(b) Maintenance:

DEVICE	DATE REQUIRED
Common Console.....	February FY07
RAMICS Electronics (Task Trainer).....	February FY07
ILTE.....	February FY07
Gun (Task Trainer)	February FY07
Aircraft Configuration Trainer.....	February FY07

(c) Tactics:

DEVICE	DATE REQUIRED
MEDAL	February FY07
Navy H60 Mission Planning Station	February FY07
Post Mission Analysis Station	February FY07

L. GOVERNMENT-FURNISHED EQUIPMENT AND CONTRACTOR-FURNISHED EQUIPMENT TRAINING REQUIREMENTS. NA.

M. RELATED NTSPs AND OTHER APPLICABLE DOCUMENTS

DOCUMENT OR NTSP TITLE	DOCUMENT OR NTSP NUMBER	PDA CODE	STATUS
Prime Item Development Specification For RAMICS	CSS-01-0001	PMS210	Approved Sep 2001
H-60 Armed Helicopter Program NTSP	N88-NTSP-A-50-9805/A	PMA299	Approved Mar 2002
Operational Requirements Document for an AMCM Multi-Mission HC Helicopter	Annex B (Revision 1)	CNO N752E	Approved Aug 2002
MH-60S NTSP	N88-NTSP-A-50-9902A/A	PMA299	Approved Jan 2003
Test And Evaluation Master Plan For RAMICS	TEMP-1644	PMS210	Approved Feb 2003
Airborne Laser Mine Detection System (ALMDS) Initial NTSP	N75-NTSP-P-30-0304/I	PMS210	Initial Sep 2003

DOCUMENT OR NTSP TITLE	DOCUMENT OR NTSP NUMBER	PDA CODE	STATUS
AN/AQS-20A Initial NTSP	N75-NTSP-P-30-0305/I	PMS210	Initial Sep 2003

APPENDIX A - POINTS OF CONTACT

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL	TELEPHONE NUMBERS
CAPT John Chase Deputy Aviation Maintenance Programs CNO, N781B John.chase@navy.mil	COMM: (703) 604-7747 DSN: 664-7747 FAX: (703) 604-6972
CDR Wanda Janus Resource Sponsor / Program Sponsor CNO, N785D1/E1 wanda.janus@navy.mil	COMM: (703) 614-3375 DSN: 224-3375 FAX: (703) 695-3066
LCDR Gregory S. Clark Pilot Training Requirements CNO, N789F2 gregory.s.clark@navy.mil	COMM: (703) 604-7766 DSN: 664-7766 FAX: (703) 604-6939
LCDR Kenan Shaffer SH-60R/MH-60S Training Requirement Officer CNO, N789F4 shaffer.kenan@navy.mil	COMM: (703) 604-7723 DSN: 664-7723 FAX: (703) 604-6939
MGYSGT Kevin Thomas, USMC Helicopter Maintenance Requirements CNO, N789F6 kevin.thomas@navy.mil	COMM: (703) 604-7730 DSN: 664-7730 FAX: (703) 604-6393
AWCM James Cook Navy Aircrew Training Requirements CNO, N789F7 james.cook@navy.mil	COMM: (703) 604-7721 DSN: 664-7721 FAX: (703) 604-6393
AZCS Gary Greenlee NTSP Manager CNO, N789H7 gary.greenlee@navy.mil	COMM: (703) 604-7709 DSN: 664-7709 FAX: (703) 604-6939
LCDR Jim Arend Aviation Manpower CNO, N122C1C n122c1c@bupers.navy.mil	COMM: (703) 695-3223 DSN: 225-3223 FAX: (703) 614-5308
CAPT David Mahoney Head, Reserve Air Logistics Programs CNO, N0955F mahoney.david@navy.mil	COMM: (703) 601-1872 DSN: 329-1872 FAX: (703) 601-0561
CAPT Mike Disano Professional Development Division Director CNO, N00T3 mike.disano@navy.mil	COMM: (703) 602-5172 DSN: 227-5172 FAX: (703) 602-5175

APPENDIX A - POINTS OF CONTACT

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL	TELEPHONE NUMBERS
<p>Mr. Robert Zweibel Human Performance and Acquisition Assessment Division CNO, N00T46 robert.zweibel@navy.mil</p>	<p>COMM: (703) 602-5151 DSN: 332-5151 FAX: (703) 602-5175</p>
<p>Capt James Rennie Head, Mine Warfare Branch CNO, N752 Rennie.James@hq.navy.mil</p>	<p>COMM: (703) 695-0574 DSN: 224-0574 FAX: (703) 697-3808</p>
<p>CDR George Parisi AMCM Requirements Officer CNO, N752E parisigb@hq.navy.mil</p>	<p>COMM: (703) 695-0574 DSN: 224-0574 FAX: (703) 697-3808</p>
<p>CAPT Vito Jimenez Program Manager NAVSEASYSKOM, PMS210 jimenezvw@navsea.navy.mil</p>	<p>COMM: (202) 781-4376 DSN: 781-4376 FAX: (202) 781-4696</p>
<p>Ms. Elisa Bracero Assistant Program Manager NAVSEASYSKOM, PMS210 braceroea@navsea.navy.mil</p>	<p>COMM: (202) 781-4387 DSN: 781-4387 FAX: (202) 781-4696</p>
<p>Mr. Mark Dryslowski APM Logistics NAVSEASYSKOM, PMS210L DryslowskiMS@navsea.navy.mil</p>	<p>COMM: (202) 781-4481 DSN: 781-4481 FAX: (202) 781-4696</p>
<p>CAPT William Shannon Program Manager, Multi-Mission Helicopter NAVAIR, PMA299 shannonwe@navair.navy.mil</p>	<p>COMM: (301) 757-5409 DSN: 757-5409 FAX: (301) 757-5437</p>
<p>LCDR Salvatore Rafanello Assistant Program Manager (Training Systems) NAVAIR, PMA205-2D1 rafanellosp@navair.navy.mil</p>	<p>COMM: (301) 757-8154 DSN: 757-8154 FAX: (301) 757-6945</p>
<p>Mr. Bob Kresge NTSP Manager NAVAIR, AIR 3.2.6 kresgerj@navair.navy.mil</p>	<p>COMM: (301) 757-1844 DSN: 757-1844 FAX: (301) 342-7737</p>
<p>AZCM Kevin Green AMTCS Training Systems Manager NAVAIR, PMA205B1 greenkl@navair.navy.mil</p>	<p>COMM: (301) 757-8120 DSN: 757-8120 FAX: (301) 757-6941</p>

APPENDIX A - POINTS OF CONTACT

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL	TELEPHONE NUMBERS
<p>CAPT Pat Salsman Branch Head, Training Requirements and Assessments COMLANTFLT, N72 salsmancp@clf.navy.mil</p>	<p>COMM: (757) 836-6495 DSN: 836-6495 FAX: (757) 863-6794</p>
<p>CDR Mike Hohl Aviation NTSP Point of Contact COMLANTFLT, N731 hohlmjf@clf.navy.mil</p>	<p>COMM: (757) 836-0085 DSN: 836-0085 FAX: (757) 836-6737</p>
<p>Mr. Bob Long Deputy Director of Training COMPACFLT, N70 longrh@cpf.navy.mil</p>	<p>COMM: (808) 471-8513 DSN: 315-471-8513 (OUTCONUS) FAX: (808) 471-8596</p>
<p>LT JP Holland AMCM Officer COMHELTACWINGLANT Hollandjp@chtlw.spear.navy.mil</p>	<p>COMM: (757) 444-1842 ext. 355 DSN: 564-1842 FAX: (757) 444-4460</p>
<p>CAPT Robert Holland Deputy Assistant, Chief of Naval Personnel for Distribution NAVPERSCOM, PERS 4B p4b@persnet.navy.mil</p>	<p>COMM: (901) 874-3529 DSN: 882-3529 FAX: (901) 874-2606</p>
<p>CDR David Nelson Branch Head, Aviation Enlisted Assignments NAVPERSCOM, PERS 404 p404@persnet.navy.mil</p>	<p>COMM: (901) 874-3691 DSN: 882-3691 FAX: (901) 874-2624</p>
<p>CDR Rose Wynne Department Head, Aviation Programs NAVMAC, 30 rosemary.wynne@navy.mil</p>	<p>COMM: (901) 874-6218 DSN: 882-6218 FAX: (901) 874-6471</p>
<p>Ms. Susan Webb NTSP Coordinator NAVMAC, 30 susan.webb@navy.mil</p>	<p>COMM: (901) 874-6242 DSN: 882-6242 FAX: (901) 874-6471</p>
<p>ATCS Anthony Malenky NTSP Coordinator NAVMAC, 32 anthony.malenky@navmac.navy.mil</p>	<p>COMM: (901) 874-6434 DSN: 882-6434 FAX: (901) 874-6471</p>
<p>SKCS Parthina Jacobs NTSP Coordinator (Assistant) NAVMAC, 32 parthina.jacobs@navmac.navy.mil</p>	<p>COMM: (901) 874-6483 DSN: 882-6483 FAX: (901) 874-6471</p>

APPENDIX A - POINTS OF CONTACT

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL	TELEPHONE NUMBERS
<p>Mr. Brett Hollowell NETC/NPDC NTSP Coordinator NPDC, N7 brett.hollowell@cnet.navy.mil</p>	<p>COMM: (757) 444-2269 ext. 3225 DSN: 564-2269 ext. 3225 FAX: (757) 445-8082</p>
<p>Mr. Steve Berk NTSP Distribution NETC ETS-23 stephen-g.berk@cnet.navy.mil</p>	<p>COMM: (850) 452-8919 DSN: 922-8919 FAX: (850) 452-4853</p>
<p>CDR Janet Wiley Center for Naval Aviation Technical Training (CNATT) Functional Integration Directorate (FID), N51 cdr-janet.wiley@cnet.navy.mil</p>	<p>COMM: (850) 452-7146 DSN: 922-7146 FAX: (850) 452-7149</p>
<p>LCDR Rick Lawson NTSP Manager COMOPTEVFOR, 533 lawsonr@cotg.navy.mil</p>	<p>COMM: (757) 444-5087 ext. 3354 DSN: 564-5087 ext. 3354 FAX: (757) 444-3820</p>
<p>CDR Monty Yarger Operational Test Coordinator COMOPTEVFOR yargerm@cotf.navy.mil</p>	<p>COMM: (757) 444-5546 ext 3901 DSN: 564-5546 FAX: (757) 444-3820</p>
<p>LT Greg Brotherton Operational Test Director COMOPTEVFOR brothertongk@navair.navy.mil</p>	<p>COMM: (301) 757-1368 DSN: 757-1398 FAX: (301) 757-1326</p>
<p>Mr. Ronald Anderson Program & Contracts H-60 & OAMCM CNATT, N921 ronald.r.anderson@cnet.navy.mil</p>	<p>COMM: (850) 452-9613 ext. 205 DSN: 922-9613 ext. 205 FAX: (850) 452-7105</p>
<p>ADCS Tex Rochester H-60 & OAMCM Training CNATT, N7 adcs-tex.s.rochester@cnet.navy.mil</p>	<p>COMM: (850) 452-7168 DSN: 922-7168 FAX: NA</p>
<p>Mr. Patrick Archibald Human Performance Directorate Center for Naval Engineering patrick.archibald@cnet.navy.mil</p>	<p>COMM: (757) 444-5332 ext. 3031 DSN: 564-5332 ext. 3031 FAX: (757) 444-8433</p>
<p>Ms. Karen Pohl Field Training Specialist – Course Manager H-60 CNATT Element San Diego, NAS North Island karen.pohl@navy.mil</p>	<p>COMM: (619) 545-8412 DSN: 735-8412 FAX: (619) 767-7856</p>

APPENDIX A - POINTS OF CONTACT

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL

TELEPHONE NUMBERS

LT Robert Eschner

Department Head
NAMTRAU Norfolk, MTU-1031
lt.robert.eschner@cnet.navy.mil

COMM: (757) 445-2194
DSN: 565-2194
FAX: (757) 445-9234

AT1 Robert Hermann

AMCM Systems Instructor
NAMTRAU Norfolk, MTU-1031
at1-robert.hermann@cnet.navy.mil

COMM: (757) 445-2194/5
DSN: 565-2194/5
FAX: (757) 445-9234

CDR Tim Bitzer

Commanding Officer
AMCM Weapon Systems Training School (AWSTS)
tbitzer@nsn.cmar.navy.mil

COMM: (757) 444-3209
DSN: 565-3209
FAX: (757) 444-0836

Mr. Bobby Burt

Project Engineer
Fleet Support, Research & Development
burtbi@ncsc.navy.mil

COMM: (850) 235-5700
DSN: 436- 5700
FAX: (850) 235-5511

Mr. Bill Krieg

AMCM NTSP Development
D.P. Associates, Inc.
bkrieg@dpatraining.com

COMM: (850) 233-5571
DSN: NA
FAX: (850) 233-5584

APPENDIX B - TRAINING PIPELINES

Appendix B to the RAMICS NTSP identifies the proposed establishment of new training courses, and revisions to existing tracks. Due to this being new development training the extent of impact to existing and planned training tracks is unknown at this time. Ready For Training (RFT) dates below have been estimated based on current program information.

Note: Dual site training for the AMCM systems maintenance technicians, as identified in this NTSP, is anticipated. Currently, training site throughput has not been determined. It is expected, the MER, once complete, will provide the information needed for developing the throughput numbers used to determine if dual site training is required.

1. E-2C-3100, MH-60S Fleet Replacement Pilot Category I Pipeline. The course identified below is currently proposed in the AN/AQS-20A Initial NTSP. Proposed revision:

(a) Revise **D/E-2C-XXX1**, MH-60S Pilot Airborne Mine Countermeasures Systems Familiarization and Operational Flight Trainer/Weapons Tactical Trainer. Add RAMICS training information. Change to course length is TBD. Course currently proposed with a planned establishment at the FRS at HC-3, NAS North Island and HC-2, NS Norfolk. HC-3 RFT date is February 2007. HC-2 RFT date is TBD.

(b) Change to Category I track lengths is TBD.

2. E-2C-3102, MH-60S Fleet Replacement Pilot Category II Pipeline. The course identified below is currently proposed in the AN/AQS-20A Initial NTSP. Proposed revision:

(a) Revise **D/E-2C-XXX1**, MH-60S Pilot Airborne Mine Countermeasures Systems Familiarization and Operational Flight Trainer/Weapons Tactical Trainer. Add RAMICS training information. Change to course length is TBD. Course currently proposed with a planned establishment at the FRS at HC-3, NAS North Island and HC-2, NS Norfolk. HC-3 RFT date is February 2007. HC-2 RFT date is TBD.

(b) Change to Category II track length is TBD.

3. E-050-3100, MH-60S Fleet Replacement Aircrew Category I Pipeline. Proposed revision:

(a) Add **C-050-XXX1**, Rapid Airborne Mine Clearance System Operator. Course length is TBD. Establish this course at the FRS at HC-3, NAS North Island and HC-2, NS Norfolk. HC-3 RFT date is February 2007. HC-2 RFT date is TBD.

(b) Change to Category I track length is TBD.

4. E-050-3102, MH-60S Fleet Replacement Aircrewman Category II Pipeline. Proposed revision:

APPENDIX B - TRAINING PIPELINES

(a) Add **C-050-XXX1**, Rapid Airborne Mine Clearance System Operator. Course length is TBD. Establish this course at the FRS at HC-3, NAS North Island and HC-2, NS Norfolk. HC-3 RFT date is February 2007. HC-2 RFT date is TBD.

(b) Change to Category II track length is TBD.

5. D/E-102-XXX1, MH-60S AMCM Systems Organizational and Intermediate Maintenance. This track is currently proposed in the AN/AQS-20A Initial NTSP. Proposed revision:

(a) Add **C-102-XXX2**, RAMICS Electronic Systems Organizational and Intermediate Level Maintenance. Course length is TBD. Establish this course at MTU-1022, NAS North Island and MTU-1044, NS Norfolk. MTU-1022 RFT date is February 2007. MTU-1044 RFT date is TBD.

(b) Change to track length is TBD.

6. C-102-XXX3, Airborne Mine Countermeasures MCM Planning, Post Mission Analysis, MCM Evaluation Course. This course is currently proposed in the AN/AQS-20A Initial NTSP. Training for squadron tactics personnel will be resident in a Stand-Alone course. A new OJT awardable NEC code 03XX, AMCM Operations Specialist will be established. This NEC will be awarded after successful completion of the Stand-Alone course and approximately six months of OJT at the squadron. No training track required. Proposed revision:

(a) Revise, **C-102-XXX3**, Airborne Mine Countermeasures MCM Planning, Post Mission Analysis, MCM Evaluation. Add RAMICS training information. Change to course length is TBD. Training location TBD. RFT date is February 2007.

7. D/E-646-0840, H-60 Armament and Related Systems Organizational Maintenance Track. The course below is currently proposed in the AN/AQS-20A Initial NTSP. Proposed revision:

(a) Revise **C-646-XXX4** MH-60S AMCM Weapon Systems Mission Configuration. Add RAMICS training information. Change to course length is TBD. Course currently proposed with a planned establishment at MTU-1022, NAS North Island, and MTU-1044, NS Norfolk. MTU-1022 RFT date is February 2007. MTU-1044 RFT date is TBD.

(b) Change to track length is TBD.