NAVY TRAINING SYSTEM PLAN

FOR THE

VH-3D HELICOPTER

N88-NTSP-A-50-0007/D

DECEMBER 2000

VH-3D HELICOPTER

EXECUTIVE SUMMARY

This draft of the Navy Training Systems Plan provides an estimate of manpower, personnel, and training requirements to support the employment concepts currently in use for the VH-3D Helicopter, henceforth called VH-3D. The VH-3D has been in use for approximately 25 years and is the helicopter transport for the President of the United States, Vice President, and other visiting heads of state. It has seating provisions for 16 passengers and the aircrew consists of a pilot, co-pilot, and crewchief. Designed as an executive transport, the aircraft systems, interior furnishings, and equipment have been optimized for executive transport missions. The VH-3D receives extensive care and maintenance exceeding normal standards to keep the aircraft in superior condition. The VH-3D incorporates a folding pylon for loading and storage onto an Air Force C-5A/B and C-17 transport for overseas assignments.

The VH-3D is in Phase III, Production, Deployment, and Operational Support phase of its life cycle. Although there is no production line currently for the VH-3D, the helicopter is expected to remain in service until the year 2012 based on current utilization data. Current training for Marine Helicopter Squadron One (HMX-1) pilots, and maintenance personnel is provided by a contractor at the squadron. No specific formal military aircrew or maintenance training exists for the VH-3D.

HMX-1 has an outstanding safety record. Increased operational tempo has made it a challenge to meet the training requirements of personnel and the decreased availability of aircraft for training purposes. Although the overall training program is sufficient in many areas, recommendations for improvement are noted in more detail in the Training Concept of this document. Particular attention is given to utilizing technology to allow modular lesson formats and Interactive Multimedia Instruction as well as improving current Training Devices for hands on learning.

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LIST OF ACRONYMS

ACT	Aircrew Coordinator Training
APML	Assistant Program Manager for Logistics
APT	Aircrew Proficiency Trainer
APU	Auxiliary Power Unit
ASE	Automatic Stabilization Equipment
COMM/NAV	Communication/Navigation
DSS	Department of Safety and Standardization
ECS	Environmental Control System
EPA	Environmental Protection Agency
HMX-1	Marine Helicopter Squadron One
IETM	Interactive Electronic Technical Manual
I Level	Intermediate Level Maintenance
MATMEP	Maintenance Training Management and Evaluation Program
MOS	Military Occupational Specialty
MRC	Maintenance Requirements Cards
NA	Not Applicable
NAS	Naval Air Station
NATOPS	Naval Air Training and Operating Procedures Standardization
NAVAIRSYSCOM	Naval Air System Command
NTSP	Navy Training System Plan
OEM	Original Equipment Manufacturer
OJT	On-the-Job-Training
OPNAVINST	Office of the Chief of Naval Operations Instruction
OPS	Operations
PMA	Program Manager, Air
RFT	Ready For Training
SPAR	Special Progressive Aircraft Rework

VH-3D HELICOPTER

LIST OF ACRONYMS

TC	Training Contractor
TD	Training Device
TMS	Type/Model/Series
TTE	Technical Training Equipment
USMC	United States Marine Corps
VATS	Vibration Analysis Test Set

VH-3D HELICOPTER

PREFACE

This first iteration of the Draft Navy Training Systems Plan (NTSP) is for the VH-3D. This NTSP has been developed to comply with guidelines set forth in the Navy Training Requirements Documentation Manual. This document summarizes the manpower and training, required to operate the VH-3D. As a living document, updates are initiated through Program Manager, Air (PMA)-205-2B in accordance with the above mentioned guidelines.

PART I - TECHNICAL PROGRAM DATA

A. NOMENCLATURE-TITLE-PROGRAM

1. Nomenclature-Title-Acronym. VH-3D Helicopter.

2. Program Element. 0901212M

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 (N88)

OPO Resource Sponsor ..... CNO (N88)

Marine Corps Program Sponsor..... HQMC (APW51)

Developing Agency..... NAVAIRSYSCOM (PMA 2614)

Training Agency ..... CNET

Training Support Agency..... NAVAIRSYSCOM (PMA 205-2B)

Manpower and Personnel Mission Sponsor ..... HQMC-Code M

Director of Naval Training..... CNO (N7)

Marine Corps Force Structure..... MCCDC (C53)

D. SYSTEM DESCRIPTION

1. Operational Uses. The VH-3D provides helicopter transportation for the President of the United States, Vice President of the United States, members of the President's Cabinet, and foreign dignitaries as directed by the Director, White House Military Office. When on a mission, the detachment is completely self-contained, supported by dedicated aircrew, maintenance, technical representatives, security personnel and logistics for the duration of the event.

2. Foreign Military Sales. Not Applicable (NA)

E. DEVELOPMENTAL TEST AND OPERATIONAL TEST. All Developmental and Operational Testing were successfully completed.

F. AIRCRAFT AND/OR EQUIPMENT/SYSTEM/SUBSYSTEM REPLACED. NA

G. DESCRIPTION OF NEW DEVELOPMENT

1. Functional Description. The VH-3D is a single main rotor, twin turbine engine helicopter. The crew consists of a pilot, copilot, and crewchief. Aircraft systems, furnishings, and equipment optimized for executive transport mission. A heater/air-conditioning system is provided to maintain a constant cabin temperature at all times. The VH-3D incorporates a folding pylon and non-folding rotary wing head. Distinguishing features include a boat hull shaped fuselage and outrigger sponsons into which the main landing gear retracts. Rotors consist of a five-blade rotary wing head and a five blade rotary rudder.

2. Physical Description

VH-3D PHYSICAL CHARACTERISTICS		
Maximum Pylon spread	72 feet	8 inches
Pylon folded	57 feet	3 inches
Wheel Base	23 feet	5.5 inches
Maximum to top of rotary rudder, blade vertical	16 feet	10 inches
Minimum, pylon folded	15 feet	10 inches
Maximum	62 feet	0 inches
Overall width	15 feet	10 inches
Main landing gear tread	13 feet	0 inches
Minimum rotary wing ground clearance (tip clearance forward sector)	12 feet	1 inch
Minimum rotary rudder ground clearance	6 feet	6 inches
Minimum clearance for 180 degree turn	44 feet	11 inches

3. New Development Introduction. NA

4. Significant Interfaces. NA

5. New Features, Configurations, or Material. NA

H. CONCEPTS

1. Operational Concept. The VH-3D has been in operation for approximately 25 years and is designed as an executive transport. The crew consists of a pilot, co-pilot, and crewchief. Marine Helicopters Squadron One (HMX-1) is the only Marine Squadron that operates the VH-3D. HMX-1 is required to provide executive support throughout the United States as well as overseas. Mission detachments are completely self-contained and supported by dedicated aircrew, maintenance, technical representatives, security personnel and logistics for the duration of the event.

2. Maintenance Concept. The Maintenance Concept for the VH-3D is based on three levels of maintenance as stated in the Naval Maintenance Program Manual, Office of the Chief of Naval Operations Instruction (OPNAVINST) 4790 series, organizational, intermediate and depot.

Maintenance at HMX-1 is organized into two separate departments; the Executive Aircraft Maintenance and United States Marine Corps (USMC) Aircraft Maintenance. The Executive Maintenance also known as the "Whiteside" or "Cage" maintenance will henceforth be referred to as the Whiteside in this document. The USMC Maintenance Aircraft Department, also known as the "Greenside" or "Stake" maintenance will henceforth be referred to as the Greenside in this document. The Whiteside maintenance department maintains the VH-3D.

a. Organizational. The organizational level maintenance consists of those maintenance actions normally performed by an operating activity in support of its day-to-day operations. Due to the highly structured missions of executive transport, aircraft configuration is tightly controlled.

(1) Preventive Maintenance. Preventive Maintenance consists of scheduled inspections and servicing at specific intervals as required by the applicable Maintenance Requirements Cards (MRC) procedures and is performed by the Squadron's Flight Line, Airframe, and Avionics Maintenance personnel. For the VH-3D, these inspections are performed in two phases after every 150 hours of flight. After completing four full cycles of the two phase inspections, the aircraft will normally undergoes the Special Progressive Aircraft Rework (SPAR) inspection. Preventive actions performed on the aircraft include corrosion inspection, wiping down the outside of the aircraft by hand after each flight regardless of flight time, lubrication and servicing and daily turnaround and special inspections.

(2) Corrective Maintenance. Corrective Maintenance is unscheduled and consists of fault isolation, repair, and replacement of components when verified as faulty. Built-In Test or test sets are used on the appropriate systems to determine if certain parts or assemblies are in need of repair or replacement. The Squadron's Flight Line, Airframe, and Avionics Maintenance Personnel perform these actions.

b. Intermediate. Intermediate level maintenance (I Level) is performed on those Weapon Replacement Assemblies and Shop Replaceable Assemblies beyond the capability of the organizational maintenance level activity. These assemblies are more specialized and complex

requiring a higher level of skill to repair the faulty component. Limited I Level maintenance support is provided for non-flight critical items. A local intermediate component repair list is published detailing components that are tested and checked, limited repair, or repaired at the I Level. Facilities at Naval Air Station (NAS) Patuxent River, Maryland are used for selected VH-3D avionics. Component repairs beyond the capabilities of this facility are forwarded to the appropriate contracted Original Equipment Manufacturer (OEM). There is an I Level engine shop in the Whiteside facility that performs I Level functions on T-58 engines and T-62 Auxiliary Power Unit (APU) and assists in O-level tasks performed by other shops. Components and assemblies requiring maintenance above the level of the squadron's capabilities are sent to OEM facilities. Replacement parts are acquired from contracted OEM. Special clearances and inspection processes are in place to maintain the security of VH components and the integrity of the closed loop VH supply system.

c. Depot. Depot level maintenance consists of major overhaul of the aircraft or the rebuilding, manufacture, and modification of parts, assemblies, and subassemblies beyond the capabilities of the Intermediate Maintenance Activity. Scheduled Depot maintenance occurs at the expiration of 28 months or 1200 flight hours, whichever comes first, and is accomplished by the OEM.

d. Interim Maintenance. NA

e. Life-Cycle Maintenance Plan. The Standard Depot Level Maintenance Plan requires that VH-3D undergoes a SPAR every 1200 hours flight time or 28 months, whichever comes first. SPAR is an enhanced version of the Scheduled Depot Level Maintenance and includes partial disassembly of the airframe, replacement of components, refurbishment of interior furnishings, assessing aircraft structural integrity and repainting the aircraft. The requirements are outlined in the revised SPAR Specification in accordance with Naval Air Systems Command (NAVAIRSYSCOM) Instruction 4710.1.

As a main airframe for Executive missions, the VH-3D is considered an "aging" aircraft because no production line currently exists. It is subject to recurring in-depth evaluations of the condition and maintenance procedures resulting in establishing a service life of 14,000 flight hours based on Service Life Assessment Program and Service Life Extension Programs performed on the airframes. Based on current utilization data, these aircraft will remain in service until approximately 2012.

3. Manning Concept. HMX-1 is the largest permanently formed aircraft squadron in the Marine Corps. The major divisions within the unit are: Administration, Operations, Logistics, Safety & Standardization, White House Liaison Office, Executive Alert Facility, Plans, Security, Communications, Fiscal, Aviation Supply, Operational Test & Evaluation, Whiteside and Greenside.

Specific Military Occupational Specialties (MOSs) do not exist for the VH-3D since the training is done by a contractor, rather than the military. Personnel who are assigned to operate and maintain the VH-3D are selected from the population of regular marine forces aviation

personnel and have no previous experience on this platform. Personnel are specifically recruited for HMX-1 and usually spend a year on the Greenside while intensive background investigations are conducted by the appropriate Department of Defense agencies. Once personnel are given appropriate clearance and access, they are eligible for transfer to the Whiteside.

The number of detachments varies according to the number of missions. When on a mission, the detachment is completely self-contained, supported by dedicated aircrew, maintenance, technical representatives, security personnel and logistics for the duration of the event in compliance with the Standard Operating Procedures contained in the Whiteside Trip Leader Manual.

4. Training Concept. No specific Navy Training Schools, "A", "C", or Fleet Replacement Enlisted Skills Training, are in existence for the VH-3D maintenance shop personnel. The VH platform job familiarization process is heavily dependent upon On-the-Job-Training (OJT). All aircraft familiarization and mission training is handled on the squadron level, with the exception of the pilots, who may complete simulator training at NAS Jacksonville, Florida. Flight Line personnel are trained specifically to either the VH-3D or VH-60N whereas the pilots and personnel for avionics, and airframes are trained on both VH helicopters. HMX-1 currently contracts initial and follow-on training for the VH-3D to an external Training Contractor (TC).

Pilot: Flight scheduling is a very involved process in a squadron that has 75 pilots on-hand and flies four different Type/Model/Series (TMS) aircraft. The TMS aircraft currently Primary Aircraft Authorization are the VH-3D, VH-60N, CH-53E, and CH-46E. Only the first two are flown for the Whiteside. The majority of pilots on the Whiteside are qualified in three platforms.

The squadron does not have access to any aircraft simulators at HMX-1 Quantico, Virginia. The HMX-1 pilots use the Navy simulators located at NAS Jacksonville, Florida that belong to the Command Helicopter Anti-Submarine Wing Atlantic Fleet squadron. Pilots may receive training in standard fleet SH-3 simulators prior to commencing VH syllabus. After that, pilots receive only annual refresher training in both simulators.

Aircrew: Aircrew Coordination Training (ACT) is the Naval Aviation term for Crew Resource Management. The ACT program at HMX-1 is implemented by three officers who received their ACT instructor designation after attending the Navy's instructor's course at NAS Pensacola, Florida.

Formal documented training is conducted at two safety stand-downs each year. The training includes lectures and videotapes in combined pilot and aircrew sessions. Pilots and aircrew are evaluated on ACT skills annually during instrument written exams and check flights.

The Department of Safety and Standardization (DSS) and Operations (OPS) monitor and track all aircrew qualifications for the squadron. DSS publishes a monthly 30-60-90 day report

that goes to OPS and the Commanding Officer for upcoming instrument and Naval Air Training and Operation Procedures Standardization (NATOPS) defined checkrides.

Maintenance: Maintenance training is provided at HMX-1 Quantico, Virginia and attended by approximately 183 personnel per year arriving directly from school after recruit training who have no prior experience on this specific platform. Due to the operational requirements, missions and scheduled depot maintenance events, training is impacted by not having aircraft available for OJT, and by disrupting the class schedule.

The Follow-on TC, in conjunction with HMX-1 directives, has designed and developed the curriculum content, classroom training aides, instructor guides and student manuals for traditional classroom familiarization training of pilots and maintenance personnel. The annual training schedule is set by the TC and modified by the squadron's mission load. Due to the squadron's mission requirements, rescheduling personnel for training is more the rule, rather than the exception. This environment of frequent mission requirements lends itself to a modular lesson format and Interactive Multimedia Instruction. Enhancing the training program would accomplish the following goals:

- Maximize squadron operational safety
- Ensure the rapid mastery of job tasks by pilot and maintainers
- Provide the highest level of aircraft availability and crew readiness

Future Training Environment Description: The areas of future training enhancements for the HMX-1 Squadron are:

- Initial Maintenance Training
- Initial Pilot Aircraft Systems Training
- Refresher Job Training
- Specialized Aircraft Systems Training (e.g. new systems, Engineering Change Proposal, Airframes Bulletin, Avionics Change, etc.)
- Deployable Training (e.g. Just-in-time Training, virtual expert, remote support, etc.)

In addition, improvements made to the following current Training Devices and the acquisition of the Aircrew Cockpit simulator would further support the training goals.

DEVICE	LOCATION	INSTALL DATE	COMMENTS
VH-3D Composite Maintenance Trainer (Improve)	HMX-1 Quantico, Virginia	September 1995	Upgrade to a 3D series, currently it is SH-3D.

DEVICE	LOCATION	INSTALL DATE	COMMENTS
Landing Gear Part Task Trainer (Improve)	HMX-1 Quantico, Virginia	September 1995	Upgrade hydraulic components.
Engine Part Task Trainer (Improve)	HMX-1 Quantico, Virginia	September 1995	Replace existing trainer with new one, current trainer is worn from use.
Automatic Stabilization Equipment (ASE) (Improve)	HMX-1 Quantico, Virginia	September 1995	Replace existing trainer with new one. Current trainer is incompatible with system installed on the helicopter.
Environmental Control System (ECS) (Improve)	HMX-1 Quantico, Virginia	September 1995	Representative of system in VH-3D helicopter. Serves as training aid for VH-3D ECS course.
VH-3D Driveshaft Part Task Trainer	HMX-1 Quantico, VA	September 1995	No modification necessary.
VH-3D/VH-60N Aircrew and Cockpit Simulator	To be located at HMX-1 Quantico, Virginia	Proposed	Fleet representative of both VH-3D and VH-60N in ASE, engines, cockpit, and Communication/Navigation (COMM/NAV) systems. Capable of training aircrew and pilots on both the VH 3D and VH-60N helicopters.

The following technology will improve the five areas of training and the associated goals:

- Enhanced classroom instruction to employ sophisticated Computer Assisted Instruction with supporting Interactive Multimedia Lecture System.
- Multimedia Training Facility to include use of self-paced Interactive Courseware.
- Flight simulators and maintenance composite trainers for both TMS aircraft to be used in conjunction with structured training.
- Tracking of all training records and student information via Computer Managed Instruction.

- Utilization of Simulators, Part-Task and Composite Trainers for the efficient development of OJT and systems training.
- Employ the use of Interactive Electronic Technical Manual (IETM), Personal Electronic Display Devices and Electronic Performance Support System for initial classroom, refresher and deployable training.
- Other deployable training resources could involve Compact Disc-Read Only Memory, Digital VideoDisc, laptop computers, Internet, Navy Wide Area Network and Video Tele-Training.

a. Initial Training. NA

b. Follow-on Training. Follow-on training for the VH-3D is provided to personnel selected to the Executive Transport from the core of personnel assigned to the squadron. These personnel are originally ordered into the command from Rotary Wing Maintenance Personnel: CH-53, CH-46, or H-1, MOSs. Once assigned to this department, contracted instructors give these personnel training. The following courses were developed by TC instructors to provide the instruction for the VH-3D personnel.

(1) Pilot Training

Title	**VH-3D System Familiarization**
Description	This course provides qualified Marine Pilots with familiarization of the VH-3D and powerplant systems operation, controls and indications.
Location	HMX-1 Quantico, Virginia
Length	4 days
RFT date	Currently available
TTE/TD	VH-3D Trainer, Drive Shaft Part Task Trainer, Landing Gear Part Task Trainer, Engine Part Task Trainer, VH-3D Main gearbox Quick Change Unit
Skill Identifier	MOSs 7562, 7563, 7564, 7565, 7566
Prerequisites	All students must be qualified U.S. Government helicopter pilots.

Title	**Pilot COMM/NAV System Familiarization**
Description	This course provides the qualified Marine Pilots with familiarization of the VH-3D/VH-60N Communication, Navigation and Countermeasures systems.

Location	HMX-1 Quantico, Virginia
Length	3 days
RFT date	Currently available
TTE/TD	Computer Based Training
Skill Identifier	MOSs 7562, 7563, 7564, 7565, 7566
Prerequisites	All students must be qualified U.S. Government helicopter pilots and should have attended the VH-3D/VH-60N Pilot Systems Course.

(2) Maintenance Training. Maintenance personnel are comprised of Avionics, Flight Line, and Airframes divisions.

a. Avionics

Title	**VH COMM/NAV Organizational Maintenance Course**
Description	This course provides qualified technicians the skills to perform operational checks, troubleshooting and maintenance to systems and components at the organizational level on the VH-3D.
Location	HMX-1 Quantico, Virginia
Length	15 days
RFT date	Currently available
TTE/TD	None required
Skill Identifier	MOSs 6322, 6323, 6324
Prerequisites	Prior technical training and experience as a helicopter Navigation/Communication System technician, and have attended the VH-3D and VH-60N electrical systems maintenance courses.

Title	**VH-3D Electrical Systems Maintenance Course**
Description	This course provides qualified maintenance technicians/crewchiefs the skills to perform operational checks, troubleshooting, component replacement, and adjustment of systems and components at the organizational maintenance level on theVH-3D
Location	HMX-1 Quantico, Virginia

Length	15 days
RFT date	Currently available
TTE/TD	Visual training aids only
Skill Identifier.....	MOSs 6322, 6323, 6324
Prerequisites	Prior technical training and experience as helicopter electrical systems line maintenance technicians/crewchiefs.

Title	**VH-3D Automatic Flight Control System Maintenance Course**
Description	This course provides qualified Marine Helicopter Technicians with the skills and knowledge required for operating, testing, adjusting and maintaining the automatic stabilization equipment installed in the VH-3D.
Location	HMX-1 Quantico, Virginia
Length	10 days
RFT date	Currently available
TTE/TD	VH-3D
	ASE Maintenance Trainer
	Collective Auxiliary Servo Non Projectable Demonstration Panel
	Cyclic Auxiliary Servo Non Projectable Demonstration Panel
	Yaw Auxiliary Servo Non Projectable Demonstration Panel
Skill Identifier.....	MOSs 6322, 6323, 6324
Prerequisites	Prior technical training and experience as a helicopter electrical systems line maintenance technician/crewchiefs, and have previously attended VH-3D Electrical Systems Maintenance Course.

b. Airframes and Flight Line

Title	**VH-3D Vibration Analysis Maintenance Course**
Description	This course is to provide qualified helicopter mechanic's with skills and knowledge required to operate the standard United States Navy Vibration Analysis Test Sets (VATS) in support of the VH-3D Helicopter.

Location	HMX-1 Quantico, Virginia
Length	2 days
RFT date	Currently available
TTE/TD	VATS
Skill Identifier	MOSs 6112, 6113, 6114, 6152, 6153, 6154, 6172, 6173, 6174
Prerequisites	Must be qualified U.S Government helicopter mechanics/technicians with prior technical training and experience as helicopter airframe and powertrain systems, line maintenance technicians/crewchiefs.

Title	**VH-3D Airframe and Powertrain System**
Description	This course provides qualified helicopter mechanic's with the skills and knowledge required to operate, test, and maintain the mechanical airframe and powerplant systems and components of the VH-3D.
Location	HMX-1, Virginia
Length	22 days
RFT date	Currently available
TTE/TD	VH-3D Trainer, Landing Gear Part Task Trainer, Engine Part Task Trainer, and Drive Shaft Part Task Trainer
Skill Identifier	MOSs 6152, 6153, 6154; 6112, 6113, 6114, 6172, 6173, 6174
Prerequisites	Must be qualified U.S. Government helicopter mechanics/technicians with prior technical training and experience as helicopter airframe and powertrain systems line maintenance technicians/crewchiefs.

c. Airframes only

Title	**Refrigerant Recycling Environmental Protection Agency (EPA) Certification Course**
Description	This course provides qualified Marine Helicopter Mechanics with the knowledge required to successfully completing the EPA refrigerant recovery certification test under section 608 of the Clean Air Act of 1990.

Location	HMX-1, Virginia
Length	5 days
RFT date	Currently available
TTE/TD	VH-3D ECS pallet
Skill Identifier.....	MOSs 6152, 6153, 6154
Prerequisites	Must be qualified U.S. Government helicopter mechanics/technicians with prior technical training and experience as helicopter airframe and powertrain systems, line maintenance technicians/crewchiefs.

Title	**Composite Material Repair Course**
Description	This course provides training in the repair techniques for rotor blades, kevlar, and other composite materials used on the CH-53E, VH-3D and VH-60N.
Location	HMX-1 Quantico, Virginia
Length	10 days
RFT date	Currently available
TTE/TD	None required
Skill identifier	MOSs 6152, 6153, 6154
Prerequisites	Must be qualified U.S. Government helicopter mechanics/technicians with prior technical training and experience as helicopter airframe and powertrain systems, line maintenance technicians.

d. Flight Line

Title	**VH-3D Flight Control System Rigging Course**
Description	This course provides qualified Marine Helicopter Mechanic's with the skills and knowledge required to rig the main and tail rotor systems of the VH-3D.
Location	HMX-1, Virginia
Length	4 days
RFT date	Currently available

TTE/TD ..... VH-3D Trainer VH-3D flight control rigging and adjustment kit

Skill Identifier ..... MOSs 6112, 6113, 6114, 6172, 6173, 6174

Prerequisites ..... Must be qualified U.S. Government helicopter mechanics/technicians with prior technical training and experience with helicopter flight controls.

Title ..... VH-3D Air Conditioning System Maintenance Course

Description ..... This course provides qualified Marine Helicopter mechanics and technicians with the skills and knowledge required to operate, test, inspect, and maintain the air conditioning systems and components of the VH-3D.

Location ..... HMX-1 Quantico, Virginia

Length ..... 2 days

RFT date ..... Currently available

TTE/TD ..... VH-3D ECS Trainer Pallet

Skill Identifier ..... MOSs 6112, 6113, 6114, 6172, 6173, 6174

Prerequisites ..... Must be qualified U.S. Government helicopter mechanics/technicians with prior technical training and experience as helicopter line maintenance technicians/crewchiefs.

c. Student Profiles. The following table shows the prerequisite skill requirements of personnel ordered into HMX-1.

SKILL IDENTIFIER	PREREQUISITE SKILL AND KNOWLEDGE REQUIREMENTS
MOS 6112	° M-601-2414 CH-46 Power Plants Trains and Rotors Organizational Maintenance Course ° C-600-3601, Communication Indoctrination Course ° C-600-9422, CH-46 Mechanical Organizational Maintenance Course
MOS 6113	° M-601-2720 CH-53E Power Plants and Related Systems Maintenance ° C-600-3601, Communication Indoctrination Course

SKILL IDENTIFIER	PREREQUISITE SKILL AND KNOWLEDGE REQUIREMENTS
	° C-602-9456, CH-53 Mechanics Organizational Maintenance Course
MOS 6114	° M-601-2014 AH-1T/J and UH-1N Power Plants Power Trains and Rotors Maintenance ° C-600-3601, Communication Indoctrination Course ° C-601-9351, AH-1W Power Trains and Related Systems Course ° C-601-9352, H-1 Combination Maintenance Course ° C-600-9355, UH-1N Power Trains and Rotors and Related Navy Mechanics Course
MOS 6152	° M-602-2486 Helicopter Airframe Mechanic CH-46 ° C-600-3601, Communication Indoctrination Course ° C-600-3419, H-46 Fiberglass Rotor Blade Repair Organizational Maintenance Course ° C-603-3419, H-46 Structure and Hydraulics Course
MOS 6153	° M-602-2781 Helicopter Airframe Mechanic CH-53 ° C-600-3601, Communication Indoctrination Course ° C-603-9444, CH-53 Airframes Systems Organizational Maintenance Course
MOS 6154	° M-602-2081 Helicopter Airframe Mechanic A/UH-1 ° C-600-3601, Communication Indoctrination Course ° C-600-9363, H1 Airframes Systems Organizational Maintenance Course
MOS 6172	° PREREQUISITE IS MOS 6112
MOS 6173	° PREREQUISITE IS MOS 6113
MOS 6174	° PREREQUISITE IS MOS 6114
MOS 6322	° M-102-2424 CH-46 Communication Navigation Identification Systems Organizational Maintenance ° C-600-3601, Communication Indoctrination Course ° C-602-3421, H-46 Electrical and Instrument Course ° C-602-3428, H-46 Automatic Flight Control System

SKILL IDENTIFIER	PREREQUISITE SKILL AND KNOWLEDGE REQUIREMENTS
	Course ° C-102-3419, H-46 Electrical Counter Measures Course ° C-102-3416, H-46 Navigation/Communication and Identification Friend or Foe Course ° C-102-3421, H-46 Cockpit Communication/Navigation Systems Course ° C-198-3416, H-46 Night Vision Goggle/Heads Up Display Course
MOS 6323	° M-102-2731 CH-53E Communications/Electrical System Organizational Maintenance ° C-600-3601, Communication Indoctrination Course ° C-602-9441, CH-53 Electrical Systems Course ° C-602-9451, CH-53E Automatic Flight Control System Course ° C-102-9945, CH-53A/D/E Communication/Navigation/Identification/Systems Organizational Maintenance Course
MOS 6324	° M-102-2024 CH-46 Communication Navigation Identification Systems Organizational Maintenance ° C-600-3601, Communication Indoctrination Course ° C-102-9354, H-1 Communications, Navigation Systems Course ° C-602-9360, H-1 Electrical and Stabilization Control Augmentation System Course ° C-198-9351, AH-1 Tactically Operated Wire Guided Hellfire Missile System Course ° C-602-3357, H-1 Wire Bundle Repair Course
MOS 7562	° QUALIFIED IN CH-46E
MOS 7563	° QUALIFIED IN UH-1N
MOS 7564	° QUALIFIED IN CH-53D
MOS7565	° QUALIFIED IN AH-1W
MOS 7566	° QUALIFIED IN CH-53E

d. Training Pipelines. NA

I. INBOARD (IN-SERVICE) TRAINING. Pilots and aircrew must comply with annual flight hour requirements setforth in OPNAVINST 3710.7 to assure an acceptable minimum level of readiness and to enhance aviation safety.

NAVAL AVIATOR (pilots with less than 20 years aviation experience)

	Semiannual	**Annual (Fiscal Year)**
Pilot Time	40	100
Night Time	6	12
Instrument Time	6	12

SPECIAL CREW (communication systems operators and crewchiefs)

	Semiannual	**Annual (Fiscal Year)**
Flight Time	25	50

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

2. Personnel Qualification Standards. NA

3. Other Onboard or In-Service Training Packages. Marine Corps onboard training is based on the current series of MCO P4790.12, Individual Training Standards System and Maintenance Training Management and Evaluation Program (MATMEP). This program is designed to meet Marine Corps, as well as Navy OPNAVINST 4790.2 series, maintenance training requirements. It is a performance-based, standardized, level-progressive, documentable, training management and evaluation program. It identifies and prioritizes task inventories by MOS through a front-end analysis process that identifies task, skill, and knowledge requirements of each MOS. MTIP questions coupled to MATMEP tasks will help identify training deficiencies that can be enhanced with refresher training. (MATMEP is planned to be replaced by Aviation Maintenance Training Continuum System.)

J. LOGISTICS SUPPORT

1. Manufacturer and Contract Numbers

CONTRACT NUMBER	**MANUFACTURER**	**ADDRESS**

CONTRACT NUMBER	MANUFACTURER	ADDRESS
N00019-98-C0136	United Technologies Corporation, Sikorsky Aircraft Division	6900 Main Street Stratford, Connecticut, 06602

2. Program Documentation. The current Integrated Logistics Support Plan was approved 05 August 1998. The contractor provides the Integrated Logistic Support for the VH-3D SPAR effort.

3. Technical Data Plan. The following VH-3D series technical manuals are required and currently available to support the VH-3D. No changes are required:

- Service Unique Flight Manuals (NATOPS)
- IETMs
- Maintenance Instruction Manuals
- Structural Repair Publications
- Illustrated Parts Breakdown
- MRC
- VH-3D NATOPS Pilot's Pocket Checklist

4. Test Sets, Tools, and Test Equipment. Unique requirements for special tools, test sets, and test equipment are provided for by the organization. The squadron maintains a document of materials that lists all required special and unique items. These materials are squadron assets and are utilized by the training contractor to aid in training. Material items include aircraft test equipment, platform unique tools manufactured commercially, and platform unique tools that are manufactured locally.

5. Repair Parts. The VH-3D supply support is a "closed loop" system. Special avionics parts are managed by the Naval Air Warfare Center Aircraft Divisions Patuxent River, and Engines, APUs and their related parts are managed by the NAVAIRSYSCOM Assistant Program Manager for Logistics (APML). NAVAIRSYSCOM APML controls all parts. All components once repaired or overhauled are specifically identified and marked to be returned to the VH inventory for reissue on VH aircraft only.

6. Human Systems Integration. NA

K. SCHEDULES

1. Installation and Delivery Schedules. NA

2. Ready For Operational Use Schedule. NA

3. Time Required to Install at Operational Sites. NA

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

5. Training Device and Technical Training Equipment Delivery Schedule. The following table shows the training devices and the date they were on-board for training.

DEVICE	LOCATION	INSTALLATION DATE
Aircrew Proficiency Trainer	HMX-1 Quantico, Virginia	September 2002
H-3 Composite Maintenance Trainer	HMX-1 Quantico, Virginia	September 1995
Landing Gear Part Task Trainer	HMX-1 Quantico, Virginia	September 1995
Engine Part Task Trainer	HMX-1 Quantico, Virginia	September 1995
Drive Shaft Part Task Trainer	HMX-1 Quantico, Virginia	September 1995
ASE	HMX-1 Quantico, Virginia	September 1995
ECS	HMX-1 Quantico, Virginia	September 1995

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

M. RELATED NTSPs AND OTHER APPLICABLE DOCUMENTS.

DOCUMENTOR NTSP TITLE	DOCUMENTOR NTSP NUMBER	PDACODE	STATUS
Joint Training System Plan For the V-22 Osprey	N88-NTSP-A-508412D/A	PMA 275	Approved August 99
CH-53E Helicopter	A-50-7604F/D	CMC ALS-33	Draft April 95

DOCUMENTOR NTSP TITLE	DOCUMENTOR NTSP NUMBER	PDACODE	STATUS

PART II - BILLET AND PERSONNEL REQUIREMENTS

The following elements are not affected by the VH-3D Helicopter and, therefore, are not included in Part II of this NTSP:

II.A. Billet Requirements

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

PART II - BILLET AND PERSONNEL REQUIREMENTS

II.A. BILLET REQUIREMENTS

II.A.1.a. OPERATIONAL AND FLEET SUPPORT ACTIVITY ACTIVATION SCHEDULE

SOURCE: PMA261 **DATE:** 12/1/99

ACTIVITY, UIC		PFYs	CFY01	FY02	FY03	FY04	FY05
OPERATIONAL ACTIVITIES - USMC							
HMX-1 Marine Corps Helicopter Squadron	55615	1	0	0	0	0	0
TOTAL:		1	0	0	0	0	0

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC / SNEC/ PMOS / SMOS
OPERATIONAL ACTIVITIES - USMC				
HMX-1 Marine Corps Helicopter Squadron, 55615				
USMC	45	0	CAPT	
	1	0	CWO3	
	0	3	CPL	6046
	0	1	CPL	6060
	0	3	CPL	6113
	0	3	CPL	6152
	0	1	CPL	6153
	0	7	CPL	6154
	0	2	CPL	6172
	0	4	CPL	6173
	0	4	CPL	6323
	0	2	CPL	6324
	0	2	CPL	6531
	0	2	GYSGT	2537
	0	4	GYSGT	2549
	0	1	GYSGT	6047
	0	1	GYSGT	6060
	0	3	GYSGT	6112
	0	1	GYSGT	6113
	0	1	GYSGT	6124
	0	1	GYSGT	6153
	0	1	GYSGT	6172
	0	1	GYSGT	6174
	0	2	GYSGT	6323
	0	2	GYSGT	6324
	0	1	LCPL	6046
	0	3	LCPL	6113
	0	2	LCPL	6122
	0	2	LCPL	6124
	0	3	LCPL	6153
	0	7	LCPL	6154
	0	4	LCPL	6172
	0	3	LCPL	6323
	0	3	LCPL	6324
	0	1	MGYSGT	2591
	0	1	MGYSGT	6391
	0	1	MSGT	2591
	0	2	SGT	6047
	0	1	SGT	6060
	0	2	SGT	6072
	0	2	SGT	6112
	0	2	SGT	6113
	0	1	SGT	6152
	0	2	SGT	6153
	0	2	SGT	6172

II.A.1.b. BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC / SNEC/ PMOS / SMOS
USMC	0	4	SGT	6173
	0	4	SGT	6322
	0	1	SGT	6323
	0	2	SGT	6324
	0	1	SGT	6531
	0	10	SSGT	2537
	0	5	SSGT	6112
	0	1	SSGT	6113
	0	1	SSGT	6114
	0	2	SSGT	6122
	0	1	SSGT	6152
	0	1	SSGT	6153
	0	2	SSGT	6154
	0	3	SSGT	6172
	0	1	SSGT	6173
	0	3	SSGT	6322
	0	4	SSGT	6323
	0	17	MAJ	
ACTIVITY	46	160		

II.A.1.c. TOTAL BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

DESIG/ RATING	PNEC/SNEC PMOS/SMOS	PFYs OFF	PFYs ENL	CFY01 OFF	CFY01 ENL	FY02 OFF	FY02 ENL	FY03 OFF	FY03 ENL	FY04 OFF	FY04 ENL	FY05 OFF	FY05 ENL
USMC OPERATIONAL ACTIVITIES - USMC													
CAPT		45		0		0		0		0		0	
CWO3		1		0		0		0		0		0	
CPL	6046		3		0		0		0		0		0
CPL	6060		1		0		0		0		0		0
CPL	6113		3		0		0		0		0		0
CPL	6152		3		0		0		0		0		0
CPL	6153		1		0		0		0		0		0
CPL	6154		7		0		0		0		0		0
CPL	6172		2		0		0		0		0		0
CPL	6173		4		0		0		0		0		0
CPL	6323		4		0		0		0		0		0
CPL	6324		2		0		0		0		0		0
CPL	6531		2		0		0		0		0		0
GYSGT	2537		2		0		0		0		0		0
GYSGT	2549		4		0		0		0		0		0
GYSGT	6047		1		0		0		0		0		0
GYSGT	6060		1		0		0		0		0		0
GYSGT	6112		3		0		0		0		0		0
GYSGT	6113		1		0		0		0		0		0
GYSGT	6124		1		0		0		0		0		0
GYSGT	6153		1		0		0		0		0		0
GYSGT	6172		1		0		0		0		0		0
GYSGT	6174		1		0		0		0		0		0
GYSGT	6323		2		0		0		0		0		0
GYSGT	6324		2		0		0		0		0		0
LCPL	6046		1		0		0		0		0		0
LCPL	6113		3		0		0		0		0		0
LCPL	6122		2		0		0		0		0		0
LCPL	6124		2		0		0		0		0		0
LCPL	6153		3		0		0		0		0		0
LCPL	6154		7		0		0		0		0		0
LCPL	6172		4		0		0		0		0		0
LCPL	6323		3		0		0		0		0		0
LCPL	6324		3		0		0		0		0		0
MGYSGT	2591		1		0		0		0		0		0
MGYSGT	6391		1		0		0		0		0		0
MSGT	2591		1		0		0		0		0		0
SGT	6047		2		0		0		0		0		0
SGT	6060		1		0		0		0		0		0
SGT	6072		2		0		0		0		0		0
SGT	6112		2		0		0		0		0		0
SGT	6113		2		0		0		0		0		0
SGT	6152		1		0		0		0		0		0
SGT	6153		2		0		0		0		0		0
SGT	6172		2		0		0		0		0		0

II.A.1.c. TOTAL BILLETS REQUIRED FOR OPERATIONAL AND FLEET SUPPORT ACTIVITIES

DESIG/ RATING	PNEC/SNEC PMOS/SMOS	PFYs OFF	PFYs ENL	CFY01 OFF	CFY01 ENL	FY02 OFF	FY02 ENL	FY03 OFF	FY03 ENL	FY04 OFF	FY04 ENL	FY05 OFF	FY05 ENL
SGT	6173		4		0		0		0		0		0
SGT	6322		4		0		0		0		0		0
SGT	6323		1		0		0		0		0		0
SGT	6324		2		0		0		0		0		0
SGT	6531		1		0		0		0		0		0
SSGT	2537		10		0		0		0		0		0
SSGT	6112		5		0		0		0		0		0
SSGT	6113		1		0		0		0		0		0
SSGT	6114		1		0		0		0		0		0
SSGT	6122		2		0		0		0		0		0
SSGT	6152		1		0		0		0		0		0
SSGT	6153		1		0		0		0		0		0
SSGT	6154		2		0		0		0		0		0
SSGT	6172		3		0		0		0		0		0
SSGT	6173		1		0		0		0		0		0
SSGT	6322		3		0		0		0		0		0
SSGT	6323		4		0		0		0		0		0
MAJ			17		0		0		0		0		0
SUMMARY TOTALS:													
USMC OPERATIONAL ACTIVITIES - USMC		46	160	0	0	0	0	0	0	0	0	0	0
GRAND TOTALS:													
USMC - USMC		46	160	0	0	0	0	0	0	0	0	0	0

II.A.4. CHARGEABLE STUDENT BILLET REQUIREMENTS

ACTIVITY, LOCATION, UIC	USN/ USMC	PFYs OFF	PFYs ENL	CFY01 OFF	CFY01 ENL	FY02 OFF	FY02 ENL	FY03 OF	FY03 ENL	FY04 OFF	FY04 ENL	FY05 OFF	FY05 ENL
HMX-1 Marine Corps Helicopter Squadron, Quantico, Virginia, 55615													
	USMC	0.4	2.7	0.4	2.7	0.4	2.7	0.4	2.7	0.4	2.7	0.4	2.7
SUMMARY TOTAL													
	USMC	0.4	2.7	0.4	2.7	0.4	2.7	0.4	2.7	0.4	2.7	0.4	2.7
GRAND TOTAL													
		0.4	2.7	0.4	2.7	0.4	2.7	0.4	2.7	0.4	2.7	0.4	2.7

II.A.5. ANNUAL INCREMENTAL AND CUMULATIVE BILLETS

DESIG/ RATING	PNEC / SNEC PMOS / SMOS	BILLET BASE	CFY01 +/-	CFY01 CUM	FY02 +/-	FY02 CUM	FY03 +/-	FY03 CUM	FY04 +/-	FY04 CUM	FY05 +/-	FY05 CUM
a. OFFICER - USN			NA									
b. ENLISTED - USN			NA									
c. OFFICER - USMC												
Operational Billets USMC and AR												
CAPT		45	0	45	0	45	0	45	0	45	0	45
CWO3		1	0	1	0	1	0	1	0	1	0	1
Chargeable Student Billets USMC and AR												
		1	0	1	0	1	0	1	0	1	0	1
TOTAL USMC OFFICER BILLETS:												
Operational		46	0	46	0	46	0	46	0	46	0	46
Chargeable Student		1	0	1	0	1	0	1	0	1	0	1
d. ENLISTED - USMC												
Operational Billets USMC and AR												
CPL	6046	3	0	3	0	3	0	3	0	3	0	3
CPL	6060	1	0	1	0	1	0	1	0	1	0	1
CPL	6113	3	0	3	0	3	0	3	0	3	0	3
CPL	6152	3	0	3	0	3	0	3	0	3	0	3
CPL	6153	1	0	1	0	1	0	1	0	1	0	1
CPL	6154	7	0	7	0	7	0	7	0	7	0	7
CPL	6172	2	0	2	0	2	0	2	0	2	0	2
CPL	6173	4	0	4	0	4	0	4	0	4	0	4
CPL	6323	4	0	4	0	4	0	4	0	4	0	4
CPL	6324	2	0	2	0	2	0	2	0	2	0	2
CPL	6531	2	0	2	0	2	0	2	0	2	0	2

GYSGT	2537	2	0	2	0	2	0	2	0	2	0	2
GYSGT	2549	4	0	4	0	4	0	4	0	4	0	4
GYSGT	6047	1	0	1	0	1	0	1	0	1	0	1
GYSGT	6060	1	0	1	0	1	0	1	0	1	0	1
GYSGT	6112	3	0	3	0	3	0	3	0	3	0	3
GYSGT	6113	1	0	1	0	1	0	1	0	1	0	1
GYSGT	6124	1	0	1	0	1	0	1	0	1	0	1

II.A.5. ANNUAL INCREMENTAL AND CUMULATIVE BILLETS

DESIG/ RATING	PNEC / SNEC PMOS / SMOS	BILLET BASE	CFY01 +/-	CFY01 CUM	FY02 +/-	FY02 CUM	FY03 +/-	FY03 CUM	FY04 +/-	FY04 CUM	FY05 +/-	FY05 CUM
GYSGT	6153	1	0	1	0	1	0	1	0	1	0	1
GYSGT	6172	1	0	1	0	1	0	1	0	1	0	1
GYSGT	6174	1	0	1	0	1	0	1	0	1	0	1
GYSGT	6323	2	0	2	0	2	0	2	0	2	0	2
GYSGT	6324	2	0	2	0	2	0	2	0	2	0	2
LCPL	6046	1	0	1	0	1	0	1	0	1	0	1
LCPL	6113	3	0	3	0	3	0	3	0	3	0	3
LCPL	6122	2	0	2	0	2	0	2	0	2	0	2
LCPL	6124	2	0	2	0	2	0	2	0	2	0	2
LCPL	6153	3	0	3	0	3	0	3	0	3	0	3
LCPL	6154	7	0	7	0	7	0	7	0	7	0	7
LCPL	6172	4	0	4	0	4	0	4	0	4	0	4
LCPL	6323	3	0	3	0	3	0	3	0	3	0	3
LCPL	6324	3	0	3	0	3	0	3	0	3	0	3
MGYSGT	2591	1	0	1	0	1	0	1	0	1	0	1
MGYSGT	6391	1	0	1	0	1	0	1	0	1	0	1
MSGT	2591	1	0	1	0	1	0	1	0	1	0	1
SGT	6047	2	0	2	0	2	0	2	0	2	0	2
SGT	6060	1	0	1	0	1	0	1	0	1	0	1
SGT	6072	2	0	2	0	2	0	2	0	2	0	2
SGT	6112	2	0	2	0	2	0	2	0	2	0	2
SGT	6113	2	0	2	0	2	0	2	0	2	0	2
SGT	6152	1	0	1	0	1	0	1	0	1	0	1
SGT	6153	2	0	2	0	2	0	2	0	2	0	2
SGT	6172	2	0	2	0	2	0	2	0	2	0	2
SGT	6173	4	0	4	0	4	0	4	0	4	0	4
SGT	6322	4	0	4	0	4	0	4	0	4	0	4
SGT	6323	1	0	1	0	1	0	1	0	1	0	1
SGT	6324	2	0	2	0	2	0	2	0	2	0	2
SGT	6531	1	0	1	0	1	0	1	0	1	0	1
SSGT	2537	10	0	10	0	10	0	10	0	10	0	10
SSGT	6112	5	0	5	0	5	0	5	0	5	0	5
SSGT	6113	1	0	1	0	1	0	1	0	1	0	1
SSGT	6114	1	0	1	0	1	0	1	0	1	0	1
SSGT	6122	2	0	2	0	2	0	2	0	2	0	2
SSGT	6152	1	0	1	0	1	0	1	0	1	0	1
SSGT	6153	1	0	1	0	1	0	1	0	1	0	1
SSGT	6154	2	0	2	0	2	0	2	0	2	0	2
SSGT	6172	3	0	3	0	3	0	3	0	3	0	3
SSGT	6173	1	0	1	0	1	0	1	0	1	0	1
SSGT	6322	3	0	3	0	3	0	3	0	3	0	3
SSGT	6323	4	0	4	0	4	0	4	0	4	0	4
MAJ		17	0	17	0	17	0	17	0	17	0	17
Chargeable Student Billets USMC and AR		3	0	3	0	3	0	3	0	3	0	3

II.A.5. ANNUAL INCREMENTAL AND CUMULATIVE BILLETS

DESIG/ RATING	PNEC / SNEC PMOS / SMOS	BILLET BASE	CFY01 +/-	CFY01 CUM	FY02 +/-	FY02 CUM	FY03 +/-	FY03 CUM	FY04 +/-	FY04 CUM	FY05 +/-	FY05 CUM
TOTAL USMC ENLISTED BILLETS:												
Operational		160	0	160	0	160	0	160	0	160	0	160
Chargeable Student		3	0	3	0	3	0	3	0	3	0	3

II.B. PERSONNEL REQUIREMENTS
II.B.1. ANNUAL TRAINING INPUT REQUIREMENTS

CIN, COURSE VH-3D System Familiarization Course
COURSE LENGTH: 1.0 Weeks **TOUR LENGTH:** 36 Months
ATTRITION FACTOR: Navy: 0% USMC: 0% **BACKOUT FACTOR:** 0.00

TRAINING		ACDU/TAR	CFY01		FY02		FY03		FY04		FY05	
ACTIVITY	SOURCE	SELRES	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
HMX-1 Marine Corps Helicopter Squadron, Quantico, Virginia												
	USMC	USMC	11		11		11		11		11	
		TOTAL:	11		11		11		11		11	

CIN, COURSE VH-3D COMM/NAV Familiarization Course
COURSE LENGTH: 1.0 Weeks **TOUR LENGTH:** 36 Months
ATTRITION FACTOR: Navy: 0% USMC: 0% **BACKOUT FACTOR:** 0.00

TRAINING		ACDU/TAR	CFY01		FY02		FY03		FY04		FY05	
ACTIVITY	SOURCE	SELRES	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
HMX-1 Marine Corps Helicopter Squadron, Quantico, Virginia												
	USMC	USMC	11		11		11		11		11	
		TOTAL:	11		11		11		11		11	

CIN, COURSE VH COMM/NAV Organizational Maintenance Course
COURSE LENGTH: 2.2 Weeks **TOUR LENGTH:** 36 Months
ATTRITION FACTOR: Navy: 0% USMC: 0% **BACKOUT FACTOR:** 0.04

TRAINING		ACDU/TAR	CFY01		FY02		FY03		FY04		FY05	
ACTIVITY	SOURCE	SELRES	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
HMX-1 Marine Corps Helicopter Squadron, Quantico, Virginia												
	USMC	USMC		7		7		7		7		7
		TOTAL:		7		7		7		7		7

CIN, COURSE VH-3D Electrical Systems Maintenance Course
COURSE LENGTH: 2.2 Weeks **TOUR LENGTH:** 36 Months
ATTRITION FACTOR: Navy: 0% USMC: 0% **BACKOUT FACTOR:** 0.04

TRAINING		ACDU/TAR	CFY01		FY02		FY03		FY04		FY05	
ACTIVITY	SOURCE	SELRES	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
HMX-1 Marine Corps Helicopter Squadron, Quantico, Virginia												
	USMC	USMC		8		8		8		8		8
		TOTAL:		8		8		8		8		8

CIN, COURSE VH-3D Automatic Flight Control System Maintenance Course
COURSE LENGTH: 1.6 Weeks **TOUR LENGTH:** 36 Months
ATTRITION FACTOR: Navy: 0% USMC: 0% **BACKOUT FACTOR:** 0.00

TRAINING		ACDU/TAR	CFY01		FY02		FY03		FY04		FY05	
ACTIVITY	SOURCE	SELRES	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
HMX-1 Marine Corps Helicopter Squadron, Quantico, Virginia												
	USMC	USMC		8		8		8		8		8
		TOTAL:		8		8		8		8		8

II.B.1. ANNUAL TRAINING INPUT REQUIREMENTS

CIN, COURSE VH-3D Vibration Analysis Maintenance Course
COURSE LENGTH: 0.4 Weeks **TOUR LENGTH:** 36 Months
ATTRITION FACTOR: Navy: 0% USMC: 0% **BACKOUT FACTOR:** 0.00

TRAINING		ACDU/TAR	CFY01		FY02		FY03		FY04		FY05	
ACTIVITY	SOURCE	SELRES	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
HMX-1 Marine Corps Helicopter Squadron, Quantico, Virginia												
	USMC	USMC		18		18		18		18		18
		TOTAL:		18		18		18		18		18

CIN, COURSE VH-3D Airframe and Powertrain System Course
COURSE LENGTH: 3.2 Weeks **TOUR LENGTH:** 36 Months
ATTRITION FACTOR: Navy: 0% USMC: 0% **BACKOUT FACTOR:** 0.06

TRAINING		ACDU/TAR	CFY01		FY02		FY03		FY04		FY05	
ACTIVITY	SOURCE	SELRES	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
HMX-1 Marine Corps Helicopter Squadron, Quantico, Virginia												
	USMC	USMC		17		17		17		17		17
		TOTAL:		17		17		17		17		17

CIN, COURSE Refrigerant Recycling EPA Certification Course
COURSE LENGTH: 1.0 Weeks **TOUR LENGTH:** 36 Months
ATTRITION FACTOR: Navy: 0% USMC: 0% **BACKOUT FACTOR:** 0.00

TRAINING		ACDU/TAR	CFY01		FY02		FY03		FY04		FY05	
ACTIVITY	SOURCE	SELRES	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
HMX-1 Marine Corps Helicopter Squadron, Quantico, Virginia												
	USMC	USMC		7		7		7		7		7
		TOTAL:		7		7		7		7		7

CIN, COURSE Composite Material Repair Course
COURSE LENGTH: 1.6 Weeks **TOUR LENGTH:** 36 Months
ATTRITION FACTOR: Navy: 0% USMC: 0% **BACKOUT FACTOR:** 0.00

TRAINING		ACDU/TAR	CFY01		FY02		FY03		FY04		FY05	
ACTIVITY	SOURCE	SELRES	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
HMX-1 Marine Corps Helicopter Squadron, Quantico, Virginia												
	USMC	USMC		18		18		18		18		18
		TOTAL:		18		18		18		18		18

CIN, COURSE VH-3D Flight Control System Rigging Course
COURSE LENGTH: 0.8 Weeks **TOUR LENGTH:** 36 Months
ATTRITION FACTOR: Navy: 0% USMC: 0% **BACKOUT FACTOR:** 0.00

TRAINING		ACDU/TAR	CFY01		FY02		FY03		FY04		FY05	
ACTIVITY	SOURCE	SELRES	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
HMX-1 Marine Corps Helicopter Squadron, Quantico, Virginia												
	USMC	USMC		10		10		10		10		10
		TOTAL:		10		10		10		10		10

II.B.1. ANNUAL TRAINING INPUT REQUIREMENTS

CIN, COURSE VH-3D Air Conditioning System Maintenance Course
COURSE LENGTH: 0.4 Weeks **TOUR LENGTH:** 36 Months
ATTRITION FACTOR: Navy: 0% USMC: 0% **BACKOUT FACTOR:** 0.00

TRAINING		ACDU/TAR	CFY01		FY02		FY03		FY04		FY05	
ACTIVITY	SOURCE	SELRES	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
HMX-1 Marine Corps Helicopter Squadron, Quantico, Virginia												
	USMC	USMC		11		11		11		11		11
		TOTAL:		11		11		11		11		11

PART III - TRAINING REQUIREMENTS

The following elements are not affected by the VH-3D Helicopter and, therefore, are not included in Part III of this NTSP:

III.A.1. Initial Training Requirements

III.A.2.b. Planned Courses

III.A.2.c. Unique Courses

III.A.3. Existing Training Phased Out

III.A.2. FOLLOW-ON TRAINING

III.A.2.a. EXISTING COURSES

CIN, COURSE VH-3D System Familiarization
TRAINING HMX-1 Marine Corps Helicopter Squadron
LOCATION, Quantico, Virginia, 55615

SOURCE: USMC **STUDENT CATEGORY:** USMC - AR

CFY01		FY02		FY03		FY04		FY05		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
11		11		11		11		11		ATIR
11		11		11		11		11		Output
0.2		0.2		0.2		0.2		0.2		AOB
0.2		0.2		0.2		0.2		0.2		Chargeable

CIN, COURSE VH-3D COMM/NAV Familiarization Course
TRAINING HMX-1 Marine Corps Helicopter Squadron
LOCATION, Quantico, Virginia, 55615

SOURCE: USMC **STUDENT CATEGORY:** USMC - AR

CFY01		FY02		FY03		FY04		FY05		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
11		11		11		11		11		ATIR
11		11		11		11		11		Output
0.2		0.2		0.2		0.2		0.2		AOB
0.2		0.2		0.2		0.2		0.2		Chargeable

CIN, COURSE VH COMM/NAV Organizational Maintenance Course
TRAINING HMX-1 Marine Corps Helicopter Squadron
LOCATION, Quantico, Virginia, 55615

SOURCE: USMC **STUDENT CATEGORY:** USMC - AR

CFY01		FY02		FY03		FY04		FY05		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
7		7		7		7		7		ATIR
7		7		7		7		7		Output
0.3		0.3		0.3		0.3		0.3		AOB
0.3		0.3		0.3		0.3		0.3		Chargeable

CIN, COURSE VH-3D Electrical Systems Maintenance Course
TRAINING HMX-1 Marine Corps Helicopter Squadron
LOCATION, Quantico, Virginia, 55615

SOURCE: USMC **STUDENT CATEGORY:** USMC - AR

CFY01		FY02		FY03		FY04		FY05		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
8		8		8		8		8		ATIR
8		8		8		8		8		Output
0.3		0.3		0.3		0.3		0.3		AOB

III.A.2.a. EXISTING COURSES

CIN, COURSE VH-3D Automatic Flight Control System Maintenance Course
TRAINING HMX-1 Marine Corps Helicopter Squadron
LOCATION, Quantico, Virginia, 55615

SOURCE: USMC **STUDENT CATEGORY:** USMC - AR

CFY01		FY02		FY03		FY04		FY05		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	8		8		8		8		8	ATIR
	8		8		8		8		8	Output
	0.2		0.2		0.2		0.2		0.2	AOB
	0.2		0.2		0.2		0.2		0.2	Chargeable

CIN, COURSE VH-3D Vibration Analysis Maintenance Course
TRAINING HMX-1 Marine Corps Helicopter Squadron
LOCATION, Quantico, Virginia, 55615

SOURCE: USMC **STUDENT CATEGORY:** USMC - AR

CFY01		FY02		FY03		FY04		FY05		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	18		18		18		18		18	ATIR
	18		18		18		18		18	Output
	0.1		0.1		0.1		0.1		0.1	AOB
	0.1		0.1		0.1		0.1		0.1	Chargeable

CIN, COURSE VH-3D Airframe and Powertrain Systems Course
TRAINING HMX-1 Marine Corps Helicopter Squadron
LOCATION, Quantico, Virginia, 55615

SOURCE: USMC **STUDENT CATEGORY:** USMC - AR

CFY01		FY02		FY03		FY04		FY05		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	17		17		17		17		17	ATIR
	17		17		17		17		17	Output
	1.0		1.0		1.0		1.0		1.0	AOB
	1.0		1.0		1.0		1.0		1.0	Chargeable

CIN, COURSE Refrigerant Recycling EPA Certification Course
TRAINING HMX-1 Marine Corps Helicopter Squadron
LOCATION, Quantico, Virginia, 55615

SOURCE: USMC **STUDENT CATEGORY:** USMC - AR

CFY01		FY02		FY03		FY04		FY05		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	7		7		7		7		7	ATIR
	7		7		7		7		7	Output
	0.1		0.1		0.1		0.1		0.1	AOB
	0.1		0.1		0.1		0.1		0.1	Chargeable

III.A.2.a. EXISTING COURSES

CIN, COURSE Composite Material Repair Course
TRAINING HMX-1 Marine Corps Helicopter Squadron
LOCATION, Quantico, Virginia, 55615

SOURCE: USMC **STUDENT CATEGORY:** USMC - AR

CFY01		FY02		FY03		FY04		FY05		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	18		18		18		18		18	ATIR
	18		18		18		18		18	Output
	0.5		0.5		0.5		0.5		0.5	AOB
	0.5		0.5		0.5		0.5		0.5	Chargeable

CIN, COURSE VH-3D Flight Control System Rigging Course
TRAINING HMX-1 Marine Corps Helicopter Squadron
LOCATION, Quantico, Virginia, 55615

SOURCE: USMC **STUDENT CATEGORY:** USMC - AR

CFY01		FY02		FY03		FY04		FY05		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	10		10		10		10		10	ATIR
	10		10		10		10		10	Output
	0.1		0.1		0.1		0.1		0.1	AOB
	0.1		0.1		0.1		0.1		0.1	Chargeable

CIN, COURSE VH-3D Air Conditioning System Maintenance Course
TRAINING HMX-1 Marine Corps Helicopter Squadron
LOCATION, Quantico, Virginia, 55615

SOURCE: USMC **STUDENT CATEGORY:** USMC - AR

CFY01		FY02		FY03		FY04		FY05		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
									11	ATIR
	11		11		11		11		11	Output
	0.1		0.1		0.1		0.1		0.1	AOB
	0.1		0.1		0.1		0.1		0.1	Chargeable

PART IV - TRAINING LOGISTICS SUPPORT REQUIREMENTS

The following elements are not affected by the VH-3D Helicopter and, therefore, are not included in Part IV of this NTSP:

IV.A. Training Hardware

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

IV.A.2. Training Devices

IV.B. Courseware Requirements

IV.B.1. Training Services

IV.B.2. Curricula Materials and Training Aids

IV.B.3. Technical Manuals

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

NOTE: NOTE: Upon confirmation with the squadron, it was determined that the training hardware, training devices, all courseware and training facilities, are assets of the squadron. The primary training contract at HMX-1 is for instruction with, some courseware development by the TC.

PART V - MPT MILESTONES

COG CODE	MPT MILESTONES	DATE	STATUS
DA	Begin analysis of manpower, personnel, and training requirements.	Feb 00	Completed
DA	Distribute Draft NTSP.	Dec 00	Complete
OPO	Approve and promulgate NTSP.	FY01	Pending

PART VI ACTION ITEMS/ACTION REQUIRED

No Decision Items or Actions Pending

None

PART VII - POINTS OF CONTACT

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL	TELEPHONE NUMBERS
CAPT Owen Fletcher Head, Plans, Policy, and Fleet Maintenance Support CNO, N781B Fletcher.owen@hq.navy.mil	**COMM:** (703) 604-7747 **DSN:** 664-7747 **FAX:** (703) 604-6972
CDR Cyrus Murphy Resource Sponsor / Program Sponsor CNO, N785D1 murphy.cyrus@hq.navy.mil	**COMM:** (703) 697-9359 **DSN:** 227-9359 **FAX:** (703) 695-7103
CAPT Thomas Vandenberg Head, Aviation Technical Training Branch CNO, N789H vandenberg.thomas@hq.navy.mil	**COMM:** (703) 604-7730 **DSN:** 664-7730 **FAX:** (703) 604-6939
AZCS Gary Greenlee NTSP Manager CNO, N789H1 greenlee.gary@ @hq.navy.mil	**COMM:** (703) 604-7743 **DSN:** 664-7743 **FAX:** (703) 604-6939
CDR Kevin Neary 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, N75B zweilbel.robert@hq.navy.mil	**COMM:** (703) 614-1344 **DSN:** 224-1344 **FAX:** (703) 695-5698
MAJ Terry Stautberg Assault Helicopter Requirement Officer CNO, N880F3 Stautberg.terry@hq.navy.mil	**COMM:** (703) 695-2672 **DSN:** 224-2672 **FAX:** (703) 614-7047
LTCOL Curtis Haberbosch Heavy Helo Coordinator APW-51 haberbosch@hqmc.usmc.mil	**COMM:** (703) 614-1729 **DSN:** 224-1729 **FAX:** (703) 614-2318
COL Dennis Bartels Branch Head, USMC Aviation Manpower Management CMC, ASM-1 bartelsd@hqmc.usmc.mil	**COMM:** (703) 614-1244 **DSN:** 224-1244 **FAX:** (703) 614-1309
LTCOL Angela Clingman USMC Aircraft Maintenance Officer CMC, ASL-33 clingmanab@hqmc.usmc.mil	**COMM:** (703) 614-1187 **DSN:** 224-1187 **FAX:** (703) 697-7343
LTCOL Richard Findlay Head of Aviation Officers Assignment Section HQMC MMOA-2 Richard_j_findlay@manpower.usmc.mil	**COMM:** (703) 784-9267 **DSN:** 278-9267 **FAX:** (703) 278-9844

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL	TELEPHONE NUMBERS
MAJ Nicholas Knight Unit Head for Enlisted MMEA84 Nicholas_l_knight@manpower.usmc.mil	**COMM:** (703) 784-9257 **DSN:** 278-9257 **FAX:** (703) 278-9845
CDR Robin Mason Aviation NTSP Manager CINCLANTFLT, N-721 mason@cfl.navy.mil	**COMM:** (757) 836-0101 **DSN:** 836-0101 **FAX:** (757) 836-0141
Mr. Bill Laray Assistant Program Manager, Training Program NAVAIRSYSCOM, PMA205 laraywr@navair.navy.mil	**COMM:** (301) 757-8099 **DSN:** 757-8099 **FAX:** (301) 757-8079
Ms Marie Greening Program Manager, Aviation Common Support Equipment NAVAIRSYSCOM, PMA260 greeningma@navair.navy.mil	**COMM:** (301) 757-6899 **DSN:** 757-6899 **FAX:** (301) 757-6902
Mr. S.E. Campbell VH DAPML NAVAIRSYSCOM, Air 3.1.2K campbellse2@navair.navy.mil	**COMM:** (301) 757-5480 **DSN:** 757-5109 **FAX:** (301) 757-5970)
MAJ Carl Ingebretsen VH Deputy Program Manager NAVAIRSYSCOM, PMA 2614 ingebretsecr@navair.navy.mil	**COMM:** (301) 757-5781 **DSN:** 757-5781 **FAX:** (301) 757-5109
CAPT Henry Hess VH APML NAVAIRSYSCOM, AIR 3.12K hesshg@navair.navy.mil	**COMM:** (301) 757-5479 **DSN:** 757-5479 **FAX:** (301) 757-5970
CAPT Patricia Huiatt Deputy Assistant, Chief of Naval Personnel for Distribution NAVPERSCOM, PERS-4B p4b@persnet.navy.mil	**COMM:** (901) 874-3529 **DSN:** 882-3529 **FAX:** (901) 874-2606
LCDR B. Martin Hull and Engineering Assignments NAVPERSCOM, PERS-404 P402@persnet.navy.mil	**COMM:** (901) 874-3602 **DSN** 882-3609 **FAX:** (901) 874-2743
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

PART VII - POINTS OF CONTACT

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL	TELEPHONE NUMBERS
LT COL Ben Mathews AMO HMX-1 (Cage), mathewshb@hmx-1.usmc.mil	**COMM:** (703) 784-5561 **DSN:** 784-5561 **FAX:** (703) 784-5575
MAJ Stewart Gold AAMO HMX-1 (Cage), goldso@hmx-1.usmc.mil	**COMM: (703) 784-5561** **DSN:** 278-5561 **FAX:** (703) 784-5575
LT COL Jeff White Operations Officer HMX-1 HMX-1 (Cage), whitejr@hmx-1.usmc.mil	**COMM:** (703) 784-5487 **DSN:** 784-5487 **FAX:** (703) 784-5575
CDR Scott Gingery Aviation Department Head NAVMAC, 30 scott.gingery@navmac.navy.mil	**COMM:** (901) 874-6218 **DSN:** 882-6218 **FAX:** (901) 874-6471
Mr. Al Sargent NTSP Coordinator NAVMAC, 332 al.sargent@navmac.navy.mil	**COMM:** (901) 874-6247 **DSN:** 882-6247 **FAX:** (901) 874-6471
Mr. Steve Berk CNET NTSP Distribution CNET, ETS-23 stephen.berk@cnet.navy.mil	**COMM:**(850) 452-8919 **DSN:** 922-8919 **FAX:** (850) 452-4901
CDR Erich Blunt Aviation Technical Training CNET, ETE-32 cdr_erich.blunt@cnet.navy.mil	**COMM:** (850) 452-4915 **DSN:** 922-4915 **FAX:** (850) 452-4901
GYSGT David Castrellano Tech Coordinator NAMTRAYGRU, N2123 gysgtdavid.castellano@smpt.cnet.navy.mil	**COMM:** (850) 452-9708 ext. 231 **DSN:** 452-9708 ext. 231 **FAX:** (850) 452-9769
GYSGT Francis Samsel Tech Coordinator NAMTRAYGRU, N2124 gysgtfrancis.samsel@smptT.cnet.navy.mil	**COMM:** (850) 452-9708 ext. 230 **DSN:** 452-9708 ext. 230 **FAX:** (850) 452-9769
Beth Brandenburg Logistics Analyst, NTSP author DP Associates, bbrandenburg@dpatraining.com	**COMM:** (703) 521-6236 **DSN:** **FAX:** (703) 521-6899