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From: Chief of Naval Operations (N889H)  
To: Commander, Naval Air Systems Command (PMA205-3B1)

REQUEST FOR APPROVAL OF PROPOSED NAVY TRAINING SYSTEMS  
PLAN (NTSP) FOR THE AMPHIBIOUS ASSULT SHIP VISUAL LANDING AIS  
SYSTEMS N88-NTSP-A-50-9203A/A

(a) COMNAVAIRSYSCOM ltr 3502 Ser PMA205-3B1/0400023

(1) NTSP dated April 2000

1. In reply to reference (a), subject NTSP has been reviewed and is approved after incorporation of minor changes marked in enclosure (1). The NTSP will be distributed via the OPNAV N889H (Naval Aviation Technical Training) web site (<http://www.avtechtra.navy.mil>). If your activity is unable to access the OPNAV web site and download the subject NTSP for review, contact ATCS (AW) Morris at DSN 757-9173, Comm: (301) 757-9173 for assistance.

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**NAVY TRAINING SYSTEM PLAN**  
**FOR THE**  
**AMPHIBIOUS ASSAULT SHIP**  
**VISUAL LANDING AID SYSTEMS**

**N88-NTSP-A-50-9203A/A**

**JULY 2000**

## AMPHIBIOUS ASSAULT SHIP VISUAL LANDING AID SYSTEMS

### EXECUTIVE SUMMARY

This Navy Training System Plan (NTSP) has been developed to identify the life cycle manpower, personnel, and training requirements associated with Amphibious Assault Ship Visual Landing Aid (VLA) Systems.

Due to the similarity and close interface between systems, all Amphibious Assault Ship VLA Systems are addressed together in this NTSP. The Amphibious Assault Ships complement of VLA Systems include the Vertical and Short Takeoff and Landing Optical Landing System (VSTOL OLS), Wind Measuring and Indicating System (WMIS), Hover Position Indicator (HPI), and Wave Off/Cut Light (WO/CUT). These systems are used to enhance the capability of V/STOL aircraft and helicopters to operate at night and in adverse weather conditions from the flight decks of Amphibious Assault Ships. All VLA Systems are post-Milestone III Decision Point, are in Acquisition Phase III (Production, Deployment, and Operational Support) of the Weapon System Acquisition Process, and are in fleet-wide use.

The VSTOL OLS, WO/CUT, and HPI are operated by Marine Corps Landing Signal Officers (LSOs) with Military Occupational Specialty 7589. The WMIS requires no operator. The VSTOL OLS is maintained by Navy Interior Communications Electricians (ICs) with Navy Enlisted Classification (NEC) 4746. The WO/CUT, HPI, and WMIS are maintained by ICs and Electrician's Mates (EMs).

Initial training required to support the development and fleet introduction of the VLA Systems has been completed, with the exception of initial training for WMIS instructors, which will be provided by Naval Air Warfare Center Aircraft Division Lakehurst, New Jersey. LSO training is established at Marine Air Group (MAG) 14 Marine Corps Air Station (MCAS), Cherry Point, North Carolina, and MAG 13 MCAS Yuma, Arizona. Follow-on maintenance training for the VSTOL OLS is established at Service School Command Great Lakes, Illinois. The skills possessed by IC and EM "A" school graduates are sufficient to maintain the WO/CUT and HPI. No formal follow-on WO/CUT or HPI training is required. Currently there is no formal follow-on maintenance training established for WMIS. However, WMIS maintenance training will be established at Fleet Training Center (FTC) Norfolk, Virginia, and FTC San Diego, California, by incorporating WMIS information into existing course, A-651-0047, Propulsion Alarms and Indicating Systems Maintenance. A tentative WMIS Ready For Training date of first quarter Fiscal Year 2001 has been established.

Current Navy and Marine Corps manning is sufficient to operate and maintain the VLA Systems addressed in this NTSP. No increase or decrease in manpower requirements is anticipated.

**AMPHIBIOUS ASSAULT SHIP VISUAL LANDING AID SYSTEMS**

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**AMPHIBIOUS ASSAULT SHIP VISUAL LANDING AID SYSTEMS**

**LIST OF ACRONYMS**

ACDU	Active Duty
CIN	Course Identification Number
CINCLANTFLT	Commander In Chief, Atlantic Fleet
CINCPACFLT	Commander In Chief, Pacific Fleet
CM	Corrective Maintenance
CNET	Chief of Naval Education and Training
CNO	Chief of Naval Operations
DT	Developmental Test
EM	Electrician's Mate
FMS	Foreign Military Sales
FN	Fireman
FTC	Fleet Training Center
FTS&L	Fleet Technical Services and Logistics
FY	Fiscal Year
GFE	Government Furnished Equipment
GQ	General Quarters
HPI	Hover Position Indicator
Hz	Hertz
IC	Interior Communications Electrician
ILSP	Integrated Logistics Support Plan
LHA	Landing Ship, Helicopter Assault
LHD	Multi-Purpose Amphibious Assault Ship
LSO	Landing Signal Officer
MAG	Marine Air Group
MCAS	Marine Corps Air Station
MOS	Military Occupational Specialty
MRC	Maintenance Requirement Card
NA	Not Applicable
NADEP	Naval Aviation Depot

**AMPHIBIOUS ASSAULT SHIP VISUAL LANDING AID SYSTEMS**

**LIST OF ACRONYMS**

NAVAIRSYSCOM	Naval Air Systems Command
NAVPERSCOM	Naval Personnel Command
NAWCADLKE	Naval Air Warfare Center Aircraft Division Lakehurst
NEC	Navy Enlisted Classification
NOB	Naval Operations Base
NTC	Naval Training Center
NTSP	Navy Training System Plan
OJT	On-the-Job Training
OPNAV	Office of The Chief of Naval Operations
OPO	OPNAV Principal Official
OT	Operational Test
PM	Preventive Maintenance
PMA	Program Manager, Air
RFT	Ready For Training
SRA	Shop Replaceable Assembly
SSC	Service School Command
TAR	Training Air Reserve
TD	Training Device
TTE	Technical Training Equipment
VLA	Visual Landing Aid
VSTOL OLS	Vertical and Short Takeoff and Landing Optical Landing System
WMIS	Wind Measuring and Indicating System
WO/CUT	Wave Off Cut Light
WRA	Weapon Replaceable Assembly

**AMPHIBIOUS ASSAULT SHIP VISUAL LANDING AID SYSTEMS**

**PREFACE**

This Approved Navy Training System Plan (NTSP) for the Amphibious Assault Ship Visual Landing Aid Systems has been developed in accordance with the guidelines set forth in the Navy Training Requirements Documentation Manual, OPNAV Publication P-751-1-9-97. This document incorporates fleet comments to the Draft NTSP, A-50-9203A/D, dated October 1999.

**PART I - TECHNICAL PROGRAM DATA**

**A. NOMENCLATURE-TITLE-PROGRAM**

**1. Nomenclature-Title-Acronym.** Amphibious Assault Ship Visual Landing Aid Systems (VLA)

**2. Program Element.** 0603512N

**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 (N885D)
- OPO Resource Sponsor ..... CNO (N885D)
- Developing Agency..... NAVAIRSYSCOM (PMA251)
- Training Agency ..... CINCLANTFLT  
CINCPACFLT  
CNET
- Training Support Agency ..... NAVAIRSYSCOM (PMA205)
- Manpower and Personnel Mission Sponsor ..... CNO (N12)  
NAVPERSCOM (PERS-4, PERS-404)
- Director of Naval Training..... CNO (N7)
- Marine Corps Force Structure..... MCCDC (C53)

**D. SYSTEM DESCRIPTION**

**1. Operational Uses.** The Vertical and Short Takeoff and Landing Optical Landing System (VSTOL OLS), Wave Off/Cut Light (WO/CUT), Hover Position Indicator (HPI), and Wind Measuring and Indicating System (WMIS) are Visual Landing Aids (VLA) designed to

improve the safety and efficiency of recovering aircraft, both day and night, in all weather conditions, aboard Amphibious Assault Ships.

**2. Foreign Military Sales.** Specific information concerning the Foreign Military Sales (FMS) of the VLA Systems addressed in this NTSP may be obtained from the Program Office, Naval Air Systems Command (NAVAIRSYSCOM) PMA251.

## **E. DEVELOPMENTAL TEST AND OPERATIONAL TEST**

**1. Developmental Test.** Developmental Tests (DT) for the VLA Systems addressed in this NTSP have been successfully completed.

**2. Operational Test.** Operational Tests (OT) for the VLA Systems addressed in this NTSP have been successfully completed.

## **F. AIRCRAFT AND/OR EQUIPMENT/SYSTEM/SUBSYSTEM REPLACED**

**1. Vertical and Short Takeoff and Landing Optical Landing System.** The VSTOL OLS replaced the Modified Close-In Approach Indicator.

**2. Wave Off/Cut Light.** The MK 2 MOD 1 WO/CUT replaced the MK 1 MOD 0 Wave Off Light.

**3. Hover Position Indicator.** The HPI did not replace any existing position indicating system.

**4. Wind Measuring and Indicating System.** The WMIS replaced the wind sock and augments hand-held mechanical wind measuring technology.

## **G. DESCRIPTION OF NEW DEVELOPMENT**

### **1. Functional Description**

**a. Vertical and Short Takeoff and Landing Optical Landing System.** The VSTOL OLS is operable in day, night, and all weather conditions. During recovery operations, the pilot uses the VSTOL OLS to establish proper glide slope position and obtain glide slope rate of change information at a range of 0.8 miles to the ramp where he will transition to the HPI.

**b. Wave Off/Cut Light.** The WO/CUT Light is an electronic system designed for use on Landing Ship, Helicopter Assault (LHA) and Multi-Purpose Amphibious Assault Ship (LHD) ships in conjunction with the VSTOL OLS. Two WO/CUT subassemblies are installed, one on each side of the VSTOL OLS indicator. When activated, the wave-off lights provide a visual indication to a pilot to discontinue the approach to the landing. The cut lights are also used

as signal lights to communicate predetermined commands to the pilot in the event of radio communication loss.

**c. Hover Position Indicator.** The HPI is designed to place the pilot's eye 49 feet above the deck when the red light is placed at the intersection of the vertical and horizontal groups of lights. When this occurs, the pilot is over the touchdown zone. As the pilot vertically descends, the HPI gives him a relative idea of his rate of closure with the deck as the red light orientation changes in its apparent alignment with the vertical amber HPI lights.

**d. Wind Measuring and Indicating System.** All Navy ships are equipped with a WMIS that provides continuous visual indication of wind direction (in degrees) and wind speed (in knots) relative to the ship's bow. The system also provides electrical signals representative of wind direction and speed for computation of flight deck crosswind and head wind conditions, computation of wind vectors for weapon launch systems, and recording by meteorological equipment. There are two primary types of WMISs in use: Type B and Type F. Both systems operate by transmission of electrical synchro signals. The Type B system is based on 60 Hertz (Hz) electrical power, while the newer Type F system utilizes 60 Hz and 400 Hz.

## 2. Physical Description

**a. Vertical and Short Takeoff and Landing Optical Landing System.** The VSTOL OLS consists of the following major assemblies:

COMPONENT	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
	HEIGHT	WIDTH	DEPTH	
Power Control Enclosure	36	25	92	120
Electronics Enclosure	36	25	92	65
Source Light Motor Driven Transformer	130	120	118	45
Inboard Datum Motor Driven Transformer	130	120	118	45
Outboard Datum Motor Driven Transformer	130	120	118	45
Remote Control Panel	136	150	87	45
Lighting Junction Box	110	80	51	20
Stabilization Junction Box	164	134	76	20
Source Light Transformer (lower indicator)	164	154	61	60
Source Light Transformer (upper indicator)	164	154	61	60
Lower Indicator Display	599	163	640	700

COMPONENT	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
	HEIGHT	WIDTH	DEPTH	
Upper Indicator Display	599	163	640	700
Inboard Datum Bar	93	104	120	75
Outboard Datum Bar	93	104	120	75

**b. Wave Off/Cut Light.** The WO/CUT consists of the following major assemblies:

COMPONENT	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
	HEIGHT	WIDTH	DEPTH	
Master Control Panel	20	16	7	45
Remote Panel	6	5	4.5	10
Junction Box (L300)	4	4	3	2
Junction Box (L400)	7	4	4.6	2
Light Assembly	53	10 (diameter)		30
Portable Switch	8.4 (long), 4.5 (thick)			5

**c. Hover Position Indicator.** The HPI consists of the following major assemblies:

COMPONENT	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
	HEIGHT	WIDTH	DEPTH	
Control Panel	12.3	9.1	5.1	30
Junction Box	6.3	11.4	13.4	15
HPI Light	85.0	77.0	116.5	135

**d. Wind Measuring and Indicating System.** The WMIS consists of the following major assemblies:

COMPONENT	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
	HEIGHT	WIDTH	DEPTH	
Detector	32.0	15.5	27.5	15.5
Transmitter	13.5	15.5	7.5	61.0
Indicator	11.1	7.4	4.9	15.0

- \* Some installations will require more than one transmitter.
- \*\* Various and multiple indicators can be used in one WMIS.

**3. New Development Introduction.** The VLA Systems addressed in this NTSP are currently installed and in-use aboard Amphibious Assault Ships and will be installed on new construction Amphibious Assault Ships, as applicable, during construction. VLA Systems are new production equipment.

#### **4. Significant Interfaces**

**a. Vertical and Short Takeoff and Landing Optical Landing System.** The VSTOL OLS is used in conjunction with the other VLA Systems; however, they are not physically connected.

**b. Wave Off/Cut Light.** The WO/CUT can be operated independently or be interconnected with the ship's Rotary Beacon System.

**c. Hover Position Indicator.** The HPI is used in conjunction with the other VLA Systems; however, they are not physically connected.

**d. Wind Measuring and Indicating System.** The WMIS interfaces with ship's electrical and weapon fire control systems.

### **H. CONCEPTS**

#### **1. Operational**

**a. Vertical and Short Takeoff and Landing Optical Landing System.** The VSTOL OLS is manned by the Landing Signal Officer (LSO) and activated during all day and night flight operations. The average operating cycle for aircraft recovery is one and one-half hours with the longest cycle lasting four hours.

**b. Wave Off/Cut Light.** When activated by the LSO, the WO/CUT begins to flash, providing a visual indication to the pilot to abort the landing attempt.

**c. Hover Position Indicator.** The HPI will be manned by the LSO and activated during all day and night flight operations. The average operating cycle for aircraft recoveries is one and one-half hours with the longest cycle lasting four hours.

**d. Wind Measuring and Indicating System.** The WMIS is activated during all underway periods, 24 hours a day, and requires no operator.

**2. Maintenance Concept.** The maintenance concept for all the VLA Systems addressed in this NTSP follows the direction and guidance outlined in the Naval Ships Maintenance, Material, and Management Program Manual 4790.4 (series).

**a. Vertical and Short Takeoff and Landing Optical Landing System.**

VSTOL OLS maintenance is based on two levels of repair, organizational and depot as outlined in the VSTOL OLS Maintenance Plan, NAWCADLKE-MAPL-92054 Revision A, dated March 1997. VSTOL OLS components are designed to facilitate rapid fault isolation and verification.

**(1) Organizational.** Organizational level maintenance of the VSTOL OLS is performed by Interior Communications Electricians (ICs) with Navy Enlisted Classification (NEC) 4779, VSTOL OLS Maintenance Technician.

**(a) Preventive Maintenance.** Preventive Maintenance (PM) is performed at specified intervals in accordance with established Maintenance Requirement Cards (MRCs). PM includes visual inspection, cleaning, alignment adjusting, and operational and functional testing.

**(b) Corrective Maintenance.** Corrective maintenance (CM) is performed as indicated by the fault isolation, removal, and replacement of Weapon Replaceable Assemblies (WRAs) and Shop Replaceable Assemblies (SRAs).

**(2) Intermediate.** Not Applicable (NA)

**(3) Depot.** Depot level maintenance is performed at Naval Aviation Depot (NADEP) North Island, California. The maintenance philosophy behind VSTOL OLS depot maintenance is to perform overhaul and repair of all circuit boards and subassemblies, rework of all severely damaged or corroded equipment, and the repair and calibration of all equipment beyond organizational level capabilities.

**(4) Interim Maintenance.** NA

**(5) Life-Cycle Maintenance Plan.** The Naval Air Warfare Center Lakehurst (NAWCADLKE), New Jersey, provides necessary engineering technical services through their Fleet Technical Services and Logistics (FTS&L) Division. The FTS&L Division is available upon request to provide technical assistance as required. Representatives also provide any necessary certification testing and inspections required for the VSTOL OLS during or following ship overhaul periods.

**b. Wave Off/Cut Light.** WO/CUT maintenance is based on two levels of repair, organizational and depot in accordance with the WO/CUT Maintenance Plan, NAWCADLKE-MAPL-004-82 Revision A, dated May 1997.

**(1) Organizational.** Organizational level maintenance of the WO/CUT is performed by the same ICs and Electrician's Mate (EM) personnel that maintain the HPI.

**(a) Preventive Maintenance.** PM is performed at specified intervals in accordance with established MRCs. PM includes visual inspection, cleaning, alignment adjusting, and operational and functional testing.

**(b) Corrective Maintenance.** CM is performed as indicated by the fault isolation, removal, and replacement of defective components.

**(2) Intermediate.** NA

**(3) Depot.** Depot level maintenance of the WO/CUT consists of all repair actions beyond the capability of organizational level maintenance. Depot level maintenance is performed at NADEP North Island.

**(4) Interim Maintenance.** NA

**(5) Life-Cycle Maintenance Plan.** NAWCADLKE provides necessary engineering technical services through their FTS&L Division. The FTS&L Division is available upon request to provide technical assistance as required. Representatives also provide any necessary certification testing and inspections required for the WO/CUT during or following ship overhaul periods.

**c. Hover Position Indicator.** HPI maintenance is based on two levels of repair, organizational and depot, in accordance with the HPI Maintenance Plan, NAWCADLKE-MAPL-010-85 Revision A, dated August 1997.

**(1) Organizational.** Organizational level maintenance of the HPI is performed by the same ICs and EMs that maintain the WO/CUT.

**(a) Preventive Maintenance.** PM is performed at specified intervals in accordance with established MRCs. PM includes visual inspection, cleaning, alignment adjusting, and operational and functional testing.

**(b) Corrective Maintenance.** CM is performed as indicated by the fault isolation, removal, and replacement of defective components.

**(2) Intermediate.** NA

**(3) Depot.** Depot level maintenance of the HPI consists of all repair actions beyond the capability of organizational level maintenance. Depot level maintenance is performed at NADEP North Island.

**(4) Interim Maintenance.** NA

**(5) Life-Cycle Maintenance Plan.** NAWCADLKE provides the necessary engineering technical services through their FTS&L Division. The FTS&L Division is available upon request to provide technical assistance as required. Representatives also provide any necessary certification testing and inspections required for the HPI during or following ship overhaul periods. Complete overhaul of the HPI system is accomplished at the depot level every three to five years depending on ship availability.

**d. Wind Measuring and Indicating System.** The WMIS maintenance concept is based on three levels of maintenance as outlined in Maintenance Plan SSIED MP. No. 002-80, dated 25 November 1980.

**(1) Organizational.** Organizational level maintenance includes all maintenance performed aboard ship by ship's personnel. Organizational level maintenance of the WMIS is performed by ICs on all class ships. There is no NEC requirement for WMIS maintenance technicians.

**(a) Preventive Maintenance.** PM actions include cleaning, inspection, lubrication, and operational and functional testing of WMIS units.

**(b) Corrective Maintenance.** CM consists of operational and functional tests, fault isolation, and unit repair by assembly, subassembly, component, or piece-part replacement.

**(2) Intermediate.** Intermediate level maintenance is performed at Shore Intermediate Maintenance Activities and afloat aboard tenders by ICs. Intermediate level maintenance consists of unit test and fault isolation to the component or piece-part level and repair by component or piece-part replacement. Also, subassemblies and components that are beyond the capability of repair at the organizational level are repaired by removal and replacement of defective piece-parts.

**(3) Depot.** Depot level maintenance includes repair or overhaul and calibration of all end items, including units, repairable assemblies, subassemblies, and components coded for depot repair or found to be beyond the capability of intermediate maintenance activities.

**(4) Interim Maintenance.** Interim Maintenance support for Type F Hi-Shock WMIS was provided by NAWCADLKE, through their FTS&L Division, prior to the Material Support Date of February 1997.

**(5) Life-Cycle Maintenance Plan.** NAWCADLKE provides the necessary engineering technical services through their FTS&L Division. The FTS&L Division is available upon request to provide technical assistance as required. Representatives also provide any necessary certification testing and inspections required for the WMIS during or following ship overhaul periods.

### **3. Manning Concept**

#### **a. Vertical and Short Takeoff and Landing Optical Landing System**

**(1) Watch Station Requirements.** The VSTOL OLS is operated by two embarked Marine squadron LSOs during AV-8B flight operations and General Quarters (GQ).

<b>STATION TITLE</b>	<b>SKILL IDENTIFIER</b>	<b>GENERAL QUARTERS MANNING</b>	<b>FLIGHT QUARTERS MANNING</b>
LSO	O-3, MOS 7589	2	2

**(2) Maintenance Workload.** VSTOL OLS maintenance is performed by ICs with NEC 4779. The estimated maintenance man-hours per week listed below were provided by NAWCADLKE.

<b>SKILL IDENTIFIER</b>	<b>PM</b>	<b>CM</b>
IC2, NEC 4779	0.90	0.09
ICFN	1.20	0.01
ICFN	0.05	0.00
<b>TOTALS</b>	<b>2.10</b>	<b>0.10</b>

**(3) Recommended Manpower Requirements.** The LSO is an embarked Marine squadron collateral duty billet and, therefore, is not accountable to the VSTOL OLS. The following manpower currently onboard Amphibious Assault Ships is sufficient to operate and maintain the VSTOL OLS:

<b>SKILL IDENTIFIER</b>	<b>QUANTITY</b>
IC2, NEC 4779	1
ICFN	1

**b. Wave Off/Cut Light**

**(1) Watch Station Requirements.** The WO/CUT is operated by the same two embarked Marine squadron LSOs that operate the VSTOL OLS during AV-8B flight operations and GQ.

<b>STATION TITLE</b>	<b>SKILL IDENTIFIER</b>	<b>GENERAL QUARTERS MANNING</b>	<b>FLIGHT QUARTERS MANNING</b>
LSO	O-3, MOS 7589	2	2

**(2) Maintenance Workload.** WO/CUT maintenance is performed by the ICs and EMs who maintain the ships lighting system. The estimated maintenance man-hours per week listed below were provided by NAWCADLKE.

<b>SKILL IDENTIFIER</b>	<b>PM</b>	<b>CM</b>
IC2/EM2	0.03	0.03
ICFN/EMFN	0.03	0.04
<b>TOTALS</b>	<b>0.06</b>	<b>0.07</b>

**(3) Recommended Manpower Requirements.** The LSO is an embarked Marine squadron collateral duty billet and, therefore, is not accountable to the WO/CUT. The following manpower currently onboard Amphibious Assault Ships is sufficient to operate and maintain the WO/CUT:

<b>SKILL IDENTIFIER</b>	<b>QUANTITY</b>
IC2, EM2	1
ICFN	1

**c. Hover Position Indicator**

**(1) Watch Station Requirements.** The HPI is operated by the same two embarked Marine squadron LSOs that operate the VSTOL OLS and WO/CUT during AV-8B flight operations and GQ.

<b>STATION TITLE</b>	<b>SKILL IDENTIFIER</b>	<b>GENERAL QUARTERS MANNING</b>	<b>FLIGHT QUARTERS MANNING</b>
LSO	O-3, MOS 7589	2	2

**(2) Maintenance Workload.** HPI maintenance is performed by the same ICs and EMs who maintain the WO/CUT and ships lighting system. The estimated maintenance man-hours per week listed below were provided by NAWCADLKE.

<b>SKILL IDENTIFIER</b>	<b>PM</b>	<b>CM</b>
IC2/EM2	0.04	0.08
ICFN/EMFN	0.07	0.04
<b>TOTALS</b>	<b>0.11</b>	<b>0.12</b>

**(3) Recommended Manpower Requirements.** The LSO is an embarked Marine squadron collateral duty billet and, therefore, is not accountable to the HPI. The following manpower currently onboard Amphibious Assault Ships is sufficient to operate and maintain the HPI:

<b>SKILL IDENTIFIER</b>	<b>QUANTITY</b>
IC2 or EM2	1
ICFN	1

#### **d. Wind Measuring and Indicating System**

**(1) Watch Station Requirements.** There are no watch station requirements for the WMIS. The system is activated at all times while underway. No operator action is required after activation.

**(2) Maintenance Workload.** ICs are responsible for PM and CM performed on the WMIS. The estimated maintenance man-hours per week listed below were provided by NAWCADLKE:

<b>SKILL IDENTIFIER</b>	<b>PM</b>	<b>CM</b>
IC2	0.30	0.25
ICFN	0.30	0.25
<b>TOTALS</b>	<b>0.60</b>	<b>0.50</b>

**(3) Recommended Manpower Requirements.** The following manpower currently onboard Amphibious Assault Ships is sufficient to maintain the WMIS.

<b>SKILL IDENTIFIER</b>	<b>QUANTITY</b>
IC2	1
ICFN	1

**4. Training Concept.** The objective of the VLA for Amphibious Assault Ships training concept is to provide the fleet with proficient VLA operators and maintainers. All VLA Systems addressed herein are currently in fleet use and all initial training, with the exception of initial training for WMIS instructors, has been completed. Follow-on operator training for VSTOL OLS, WO/CUT, and HPI is included in the AV-8B LSO syllabus currently available at Marine Corps Air Station (MCAS) Cherry Point, North Carolina. The WMIS requires no operator and, therefore, no WMIS operator training is required. Follow-on maintenance training for the VSTOL OLS is established at Service School Command (SSC) Great Lakes, Illinois. The skills possessed by IC and EM “A” school graduates are sufficient to maintain the WO/CUT and HPI. No formal follow-on WO/CUT or HPI training is necessary. Currently, there is no formal follow-on maintenance training established for WMIS. However, due to identified training deficiencies, WMIS organizational and intermediate maintenance training will be established at Fleet Training Center (FTC) Norfolk, Virginia, and FTC San Diego, California.

**a. Initial Training.** All initial training required to support the DT, OT, and fleet introduction of the VLA Systems addressed in this NTSP has been completed. Initial training for WMIS instructors will be provided by NAWCADLKE. A tentative WMIS Ready For Training (RFT) date of first quarter Fiscal Year (FY) 01 has been established.

**Title .....** **Wind Measuring and Indicating System Instructor Initial Training**

Description ..... This course provides FTC instructors the knowledge to teach WMIS maintenance.

Location ..... NAWCADLKE

Length ..... 5 days

RFT date ..... Fourth quarter FY00

TTE/TD ..... WMIS system

Prerequisites ..... A-623-0105, Interior Communications Electrician Class A  
NEC 9502

**b. Follow-On Training**

**(1) Operator**

**(a) Vertical and Short Takeoff and Landing Optical Landing System, Wave Off/Cut Light, and Hover Position Indicator.** The VSTOL OLS, WO/CUT, and HPI are operated by Marine Corps LSOs with Military Occupational Specialty (MOS) 7589. MOS 7589 is obtained by completing a LSO training syllabus currently available at Marine Air Group (MAG) 14 MCAS Cherry Point and MAG-13 MCAS Yuma. Candidates for LSO training must be qualified AV-8B pilots with MOS 7509 and nominated by their commanding officer. After successfully completing the LSO Syllabus, MOS 7589 is awarded via a designation letter from the Commandant of the Marine Corps.

**(b) Wind Measuring and Indicating System. NA**

**(2) Maintenance**

**(a) Vertical and Short Takeoff and Landing Optical Landing System**

**Title .....** **Vertical and Short Takeoff and Landing Optical Landing System Maintenance**

CIN ..... A-670-0064

Model Manager .. SSC Great Lakes, Illinois

Description .....	This course provides ICs in paygrades E-5 through E-7 with the knowledge and skills required to: <ul style="list-style-type: none"> <li>• Operate the system in all modes.</li> <li>• Perform designated Planned Maintenance Scheduled (PMS) in accordance with the Ships Maintenance and Material Management (3M) System procedures.</li> <li>• Perform organizational level corrective maintenance in accordance with equipment technical manuals.</li> <li>• Troubleshoot system malfunctions and replace faulty units to the printed circuit card or subassembly level.</li> </ul> The job skills acquired will be performed without supervision, for all conditions of ship readiness, in port or underway.
Location .....	SSC Great Lakes
Length .....	12 days
RFT date .....	Currently available
Skill identifier .....	IC, NEC 4779
TTE/TD .....	Refer to section IV.A.1 for Technical Training Equipment (TTE). Training Device (TD) is NA
Prerequisites .....	A-623-0105, Interior Communications Electrician Class A Paygrades E-5 through E-7

**(b) Wave Off/Cut Light.** The skills possessed by IC and EM “A” school graduates are sufficient to maintain the WO/CUT. No formal follow-on WO/CUT training is necessary.

**(c) Hover Position Indicator.** The skills possessed by IC and EM “A” school graduates are sufficient to maintain the HPI. No formal follow-on HPI training is necessary.

**(d) Wind Measuring and Indicating System.** Currently, there is no formal follow-on maintenance training established for WMIS. However, due to identified training deficiencies, WMIS organizational and intermediate maintenance will be added to course A-651-0047, Propulsion Alarms and Indicating Systems Maintenance, at FTC Norfolk and FTC San Diego per Training Project Plan serial number 1500T23313/400, dated 12 August 1996. All required training materials and equipment are in place with the exception of the WMIS TTE. Current plans are to remove two complete WMISs from decommissioned ships for use as TTE. A tentative WMIS RFT date of first quarter FY01 has been established.

**Title .....** **Propulsion Alarms And Indicating Systems Maintenance**

**CIN .....** A-651-0047

**Model Manager ..** FTC Norfolk

**Description .....** This course provides organizational and intermediate level maintenance personnel with the knowledge and skills necessary to support the Type "B" and "F" WMIS. It also develops skills to perform PM and CM on pressure and temperature alarm sensors, alarm panels and switchboards, McNabb salinity indicating level alarm and indicating system, and various other engine room alarms with minimum supervision on Marine Propulsion Plants.

**Location .....** FTC Norfolk  
FTC San Diego

**Length .....** 31 days

**RFT date .....** Currently available (To Be Determined with WMIS included)

**Skill identifier .....** IC, no NEC is awarded

**TTE/TD .....** Refer to section IV.A.1 for TTE.

**Prerequisites .....** A-623-0105, Interior Communications Electricians Class A School  
Six months fleet experience working with alarm and indicating systems

**c. Student Profiles**

<b>SKILL IDENTIFIER</b>	<b>PREREQUISITE SKILL AND KNOWLEDGE REQUIREMENTS</b>
IC	A-623-0105, Interior Communications Electrician Class A
EM	A-662-0159, Electrician's Mate A School Pipeline

**d. Training Pipelines.** Replacement pilot training courses for the AV-8B, AH-1W, UH-1N, SH-3D, SH-3H, CH-46D, CH46E, RH-53D, CH-53E, MH-53E, SH-60B, SH-60F, HH-60H, H-60A, H-60D, H-60G, H-60K, CH-47D, MH-47E, MH-6, OH-58D, and AH-64 require updating to course curricula and training devices any time new VLA equipment is installed or existing equipment is modified aboard Amphibious Assault Ships.

## I. ONBOARD (IN-SERVICE) TRAINING

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

- a. **Maintenance Training Improvement Program.** NA
- b. **Aviation Maintenance In-Service Training.** NA
- c. **Aviation Maintenance Training Continuum System.** NA

**2. Personnel Qualification Standards.** No Personnel Qualification Standards exist or are planned for maintenance of VLA Systems.

**3. Other Onboard or In-Service Training Packages.** Each class of Amphibious Assault Ships has an individualized helicopter operations training package. All personnel involved in helicopter launch and recovery operations must complete the training package and pass a locally prepared test before being certified for their flight quarters station.

Junior IC and EM personnel gain VLA maintenance experience through On-The-Job Training (OJT). OJT consists of performing on-equipment PM and limited CM under the direct guidance of a senior Petty Officer who has completed advanced training on that particular system.

## J. LOGISTICS SUPPORT

### 1. Manufacturer and Contract Numbers

SYSTEM	CONTRACT NUMBER	MANUFACTURER	ADDRESS
VSTOL OLS	N00019-96-D-0159	Hughes Technical Services Company	6075 Lakeside Boulevard Indianapolis, IN 46278
WO/CUT	N68335-90-M-3032	EMW Incorporated	Lititz, Pennsylvania
HPI	N68335-90-C-0002	EMW Incorporated	Lititz, Pennsylvania
WMIS	N00140-87-C-1377	Airflo Instrument Company	53 Addison Road Glastonbury, CT 06033

### 2. Program Documentation

a. **Vertical and Short Takeoff and Landing Optical Landing System.** The VSTOL OLS Integrated Logistics Support Plan (ILSP), NAWCADLKE-ILSP-92054, was

approved in March 1993. The VSTOL OLS Maintenance Plan, NAWCADLKE-MAPL-92054 Revision A, was approved in March 1997.

**b. Wave Off/Cut Light.** The WO/CUT Maintenance Plan, NAWCADLKE-MAPL-004-82 Revision A, was approved in May 1997. A WO/CUT ILSP does not exist, nor is one currently planned.

**c. Hover Position Indicator.** The HPI Maintenance Plan, NAWCADLKE-MAPL-010-85 Revision A, was approved in August 1997. A HPI ILSP does not exist, nor is one currently planned.

**d. Wind Measuring and Indicating System.** The WMIS Maintenance Plan, SSIED MP 002-80 was approved in November 1980. A WMIS ILSP does not exist, nor is one currently planned.

**3. Technical Data Plan.** All Technical Manuals, MRCs, Planned Maintenance System Work Packages, and Operator Manuals required to support the VLA Systems addressed in this NTSP have been completed and distributed. Technical Data required for new construction ships will be obtained from the Naval Air Technical Data and Engineering Service Command via the automatic distribution list. A listing of all technical data required to support VLA Systems training is available in element IV.B.3 of this NTSP.

**4. Test Sets, Tools, and Test Equipment.** All test sets, tools, and test equipment required to support fleet maintenance of the VLA Systems addressed in this NTSP have been delivered. Test sets, tools, and test equipment required onboard new construction ships will be included in the ships initial outfitting. Test sets, tools, and test equipment required to support VSTOL OLS training have been delivered. A listing is available in element IV.A.1 of this NTSP. Test sets, tools, and test equipment requirements to support WMIS training have not been established. When known, they will be included in future updates to this NTSP.

**5. Repair Parts.** Supply support for the VLA Systems addressed in this NTSP will be provided through normal supply channels from the Navy Inventory Control Point Mechanicsburg, Pennsylvania, and Defense Logistics Agency supply centers.

**6. Human Systems Integration.** NA

## **K. SCHEDULES**

**1. Installation and Delivery Schedules.** Delivery and installation schedule information was provided by NAWCADLKE. The installation of VLA Systems on all active Amphibious Assault Ships has been completed. VLA Systems will be installed on all new construction Amphibious Assault Ships during construction. Delivery of new VLA Systems to the shipyards will be coordinated by NAWCADLKE to preclude installation delays or long storage times prior to installation.

**AMPHIBIOUS ASSAULT SHIP VLA DELIVERY SCHEDULE**

<b>ACTIVITY, UIC</b>	<b>VSTOL OLS</b>	<b>HPI</b>	<b>WO/CUT</b>	<b>WMIS</b>
LHA 1 USS Tarawa, 20550	FY96	FY89	FY96	FY94
LHA 2 USS Saipan, 20632	FY97	FY89	FY97	FY93
LHA 3 USS Belleau Wood, 20633	FY97	FY89	FY97	FY99
LHA 4 USS Nassau, 20725	FY95	FY89	FY95	FY94
LHA 5 USS Peleliu, 20748	FY96	FY89	FY96	FY98
LHD 1 USS Wasp, 21560	FY97	FY89	FY97	FY97
LHD 2 USS Essex, 21533	FY97	FY90	FY97	FY98
LHD 3 USS Kearsarge, 21700	FY96	FY91	FY96	FY95
LHD 4 USS Boxer, 21808	FY96	FY92	FY96	FY98
LHD 5 USS Bataan, 21879	FY97	FY94	FY97	FY97
LHD 6 USS Bonhomme Richard, 22202	FY98	FY96	FY98	FY98
LHD 7 Iwo Jima, 23027	1 <sup>st</sup> Qtr FY00	FY99	1 <sup>st</sup> Qtr FY00	1 <sup>st</sup> Qtr FY00
NAWCADLKE	FY97	FY97	FY97	FY93

**2. Ready For Operational Use Schedule.** The installation of VLA Systems on all active Amphibious Assault Ships has been completed and the systems are in operational use. VLA Systems installed on new construction Amphibious Assault Ships will be ready for operational use upon completion of system certification during sea trials.

**3. Time Required to Install at Operational Sites**

**a. Vertical and Short Takeoff and Landing Optical Landing System.**

Installation of VSTOL OLS requires approximately four weeks.

**b. Wave Off/Cut Light.** Installation of WO/CUT requires approximately eight weeks.

**c. Hover Position Indicator.** Installation of HPI requires approximately eight weeks.

**d. Wind Measuring and Indicating System.** Installation of WMIS requires approximately twelve weeks.

**4. Foreign Military Sales and Other Source Delivery Schedule.** Specific information concerning FMS of the VLA Systems may be obtained from the Program Office, NAVAIRSYSCOM PMA251.

**5. Training Device and Technical Training Equipment Delivery Schedule**

**TECHNICAL TRAINING EQUIPMENT**

<b>ACTIVITY, UIC</b>	<b>VSTOL OLS</b>	<b>HPI</b>	<b>WO/CUT</b>	<b>WMIS</b>
SSC Great Lakes, 30626	FY95	FY95	FY95	NA
FTC Norfolk, 79700	NA	NA	NA	Note 1
FTC San Diego, 61690	NA	NA	NA	Note 1

**Note 1:** Two complete WMISs will be obtained from decommissioned ships for use at FTC Norfolk and FTC San Diego as TTE. A firm date for this action has not been established.

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

**M. RELATED NTSPs AND OTHER APPLICABLE DOCUMENTS**

<b>DOCUMENT OR NTSP TITLE</b>	<b>DOCUMENT OR NTSP NUMBER</b>	<b>PDA CODE</b>	<b>STATUS</b>
NTSP for the AV-8B Weapon System	A-50-8520D/D	PMA257	Draft Jul 99
NTSP for the Integrated Launch and Recovery Television Surveillance System	A-50-8401/A	AIR551	Approved Aug 84
NTSP for the Aircraft Launch and Recovery Equipment (ALRE) Quality Assurance/Maintenance Program	A-50-8509C/D	AIR552	Draft Jan 95
NTSP for the Fresnel Lens Optical Landing System (FLOLS)	A-50-8409A/D	PMA251	Draft May 97
NTSP for the Landing Signal Officer (LSO) Training System	A-50-8418B/A	PMA251	Approved Jul 92

<b>DOCUMENT OR NTSP TITLE</b>	<b>DOCUMENT OR NTSP NUMBER</b>	<b>PDA CODE</b>	<b>STATUS</b>
NTSP for the Light Airborne Multipurpose System (LAMPS) MK III	A-50-7702D/A	PMA299	Approved Nov 94
NTSP for the Aircraft Carrier Visual Landing Aid Systems	A-50-9202A/A	PMA251	Approved Nov 99
NTSP for the Air Capable Ship Visual Landing Aid Systems	A-50-9205A/D	PMA251	Draft Oct 99
NTSP for the AH-1W Aircraft	A-50-8520D/A	PMA267	Approved Mar 96
NTSP for the CH-53E Helicopter	A-50-7604G/D	PMA261	Preliminary Draft Jan 00
NTSP for the CH-60 Fleet Combat Support Helicopter	Initial NTSP	PMA299	In Work May 99
NTSP for the CH-60 Multi Mission Helicopter	A-50-9902/D	PMA299	Proposed Nov 99
NTSP for the United States Marine Corps H-1 Helicopter Upgrade Program	A-50-9602/A	PMA267	Approved Dec 97
NTSP for the MH-53E Helicopter	A-50-8417D/D	PMA261	Preliminary Draft Jan 00
NTSP for the SH-60F Carrier Inner-Zone ASW Helicopter	A-50-8508D/D	PMA299	Draft Aug 99
NTSP for the RH-53D (Reserve) Helicopter	A-50-8601A/A	PMA261	Approved Mar 92
NTSP for the HH-60H Combat SAR-SW Support Helicopter	A-50-8714B/A	PMA299	Approved Dec 93
NTSP for the SH-2C Helicopter	A-50-9303A/A	PMA299	Approved Jun 94

<b>DOCUMENT OR NTSP TITLE</b>	<b>DOCUMENT OR NTSP NUMBER</b>	<b>PDA CODE</b>	<b>STATUS</b>
NTSP for the SH-60R Multi-Mission Helicopter	A-50-9403/D	PMA299	In Work May 99
NTSP for the HH/UH-1N Aircraft	A-50-9404/A	PMA267	Approved Oct 94
NTSP for the H-46 Helicopter	A-50-9409/A	PMA261	Approved Jun 95
ILSP for the Vertical and Short Takeoff and Landing Optical Landing System	NAWCADLKE-ILSP-92054	NAWCADLKE	Approved Mar 93
Maintenance Plan for the Wave Off/Cut Light	NAWCADLKE-MALP-004-82 Revision A	NAWCADLKE	Approved May 97
Maintenance plan for the Vertical and Short Takeoff and Landing Optical Landing System	NAWCADLKE-MAPL-92054 Revision A	NAWCADLKE	Approved Mar 97
Maintenance plan for the Hover Position Indicator	NAWCADLKE-MAPL-010-85 Revision A	NAWCADLKE	Approved Aug 97
Maintenance Plan for the Wind Measuring and Indicating System	SSIED MP 002-80	NAWCADLKE	Approved Nov 80

## **PART II - BILLET AND PERSONNEL REQUIREMENTS**

The following elements are not affected by the VLA for Amphibious Assault Ships 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. BILLET REQUIREMENTS**

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

**SOURCE:** PMA251

**DATE:** 4/1/99

<b>ACTIVITY, UIC</b>		<b>PFYs</b>	<b>CFY00</b>	<b>FY01</b>	<b>FY02</b>	<b>FY03</b>	<b>FY04</b>
<b>OPERATIONAL ACTIVITIES - NAVY</b>							
LHA 2 USS Saipan	20632	1	0	0	0	0	0
LHA 4 USS Nassau	20725	1	0	0	0	0	0
LHD 1 USS Wasp	21560	1	0	0	0	0	0
LHD 3 USS Kearsarge	21700	1	0	0	0	0	0
LHD 5 USS Bataan	21879	1	0	0	0	0	0
LHD 7 USS Iwo Jima	23027	0	1	0	0	0	0
LHA 1 USS Tarawa	20550	1	0	0	0	0	0
LHA 3 USS Belleau Wood	20633	1	0	0	0	0	0
LHA 5 USS Peleliu	20748	1	0	0	0	0	0
LHD 2 USS Essex	21533	1	0	0	0	0	0
LHD 4 USS Boxer	21808	1	0	0	0	0	0
LHD 6 USS Bonhomme Richard	22202	1	0	0	0	0	0
<b>TOTAL:</b>		11	1	0	0	0	0

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

ACTIVITY, UIC, PHASING INCREMENT	BILLETS		DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
	OFF	ENL			
OPERATIONAL ACTIVITIES - NAVY					
<b>LHA 2 USS Saipan, 20632</b>					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4755	4779
<b>ACTIVITY TOTAL:</b>	<b>0</b>	<b>2</b>			
<b>LHA 4 USS Nassau, 20725</b>					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4755	4779
<b>ACTIVITY TOTAL:</b>	<b>0</b>	<b>2</b>			
<b>LHD 1 USS Wasp, 21560</b>					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4779	
<b>ACTIVITY TOTAL:</b>	<b>0</b>	<b>2</b>			
<b>LHD 3 USS Kearsarge, 21700</b>					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4779	
<b>ACTIVITY TOTAL:</b>	<b>0</b>	<b>2</b>			
<b>LHD 5 USS Bataan, 21879</b>					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4779	
<b>ACTIVITY TOTAL:</b>	<b>0</b>	<b>2</b>			
<b>LHD 7 USS Iwo Jima, 23027, FY00 Increment</b>					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4779	
<b>ACTIVITY TOTAL:</b>	<b>0</b>	<b>2</b>			
<b>LHA 1 USS Tarawa, 20550</b>					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4755	4779
<b>ACTIVITY TOTAL:</b>	<b>0</b>	<b>2</b>			
<b>LHA 3 USS Belleau Wood, 20633</b>					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4755	4779

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

ACTIVITY, UIC, PHASING INCREMENT	BILLETS		DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
	OFF	ENL			
ACTIVITY TOTAL:	0	2			
LHA 5 USS Peleliu, 20748					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4755	4779
ACTIVITY TOTAL:	0	2			
LHD 2 USS Essex, 21533					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4779	
ACTIVITY TOTAL:	0	2			
LHD 4 USS Boxer, 21808					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4779	
ACTIVITY TOTAL:	0	2			
LHD 6 USS Bonhomme Richard, 22202					
ACDU	0	1	IC1	4779	4728
	0	1	IC2	4779	
ACTIVITY TOTAL:	0	2			

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

DESIG/ RATING	PNEC/SNEC PMOS/SMOS	PFYs		CFY00		FY01		FY02		FY03		FY04	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
NAVY OPERATIONAL ACTIVITIES - ACDU													
IC1	4779 4728		11		1		0		0		0		0
IC2	4755 4779		5		0		0		0		0		0
IC2	4779		6		1		0		0		0		0
<b>SUMMARY TOTALS:</b>													
NAVY OPERATIONAL ACTIVITIES - ACDU													
			22		2		0		0		0		0
<b>GRAND TOTALS:</b>													
NAVY - ACDU													
			22		2		0		0		0		0

**II.A.3. TRAINING ACTIVITIES INSTRUCTOR AND SUPPORT BILLET REQUIREMENTS**

DESIG RATING	PNEC/SNEC PMOS/SMOS	PFYs		CFY00		FY01		FY02		FY03		FY04	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL

**TRAINING ACTIVITY, LOCATION, UIC:** FTC Norfolk, NOB Norfolk, Virginia, 61797

**INSTRUCTOR BILLETS**

ACDU													
IC1	9502	0	2	0	2	0	2	0	2	0	2	0	2
<b>TOTAL:</b>		0	2	0	2	0	2	0	2	0	2	0	2

**TRAINING ACTIVITY, LOCATION, UIC:** FTC San Diego, NTC San Diego, California, 61690

**INSTRUCTOR BILLETS**

ACDU													
IC1	9502	0	2	0	2	0	2	0	2	0	2	0	2
<b>TOTAL:</b>		0	2	0	2	0	2	0	2	0	2	0	2

**TRAINING ACTIVITY, LOCATION, UIC:** Service School Command, Naval Training Center Great Lakes, Illinois, 30626

**INSTRUCTOR BILLETS**

ACDU														
IC1	4779	9502	0	1	0	1	0	1	0	1	0	1	0	1
IC2	4779		0	1	0	1	0	1	0	1	0	1	0	1
<b>TOTAL:</b>			0	2	0	2	0	2	0	2	0	2	0	2

**II.A.4. CHARGEABLE STUDENT BILLET REQUIREMENTS**

ACTIVITY, LOCATION, UIC	USN/ USMC	PFYs		CFY00		FY01		FY02		FY03		FY04	
		OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
Service School Command, Naval Training Center Great Lakes, Illinois, 30626	NAVY		0.2		0.2		0.2		0.2		0.2		0.2
FTC Norfolk, NOB Norfolk, Virginia, 61797	NAVY		0.0		0.0		6.5		6.5		6.5		6.5
FTC San Diego, NTC San Diego, California, 61690	NAVY		0.0		0.0		6.5		6.5		6.5		6.5
<b>SUMMARY TOTALS:</b>													
	NAVY		0.2		0.2		13.2		13.2		13.2		13.2
<b>GRAND TOTALS:</b>													
	NAVY		0.2		0.2		13.2		13.2		13.2		13.2

**II.A.5. ANNUAL INCREMENTAL AND CUMULATIVE BILLETS**

DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS	BILLET BASE	CFY00 +/- CUM	FY01 +/- CUM	FY02 +/- CUM	FY03 +/- CUM	FY04 +/- CUM
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a. OFFICER - USN      Not Applicable

**b. ENLISTED - USN**

Operational Billets ACDU and TAR

IC1	4779	4728	11	1	12	0	12	0	12	0	12	0	12
IC2	4755	4779	5	0	5	0	5	0	5	0	5	0	5
IC2	4779		6	1	7	0	7	0	7	0	7	0	7
IC			162	0	162	0	162	162	162	0	162	0	162

Staff Billets ACDU and TAR

IC1		9502	4	0	4	0	4	0	4	0	4	0	4
IC1	4779	9502	1	0	1	0	1	0	1	0	1	0	1
IC2	4779		1	0	1	0	1	0	1	0	1	0	1

Chargeable Student Billets ACDU and TAR

			0	0	0	13	13	0	13	0	13	0	13
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**TOTAL USN ENLISTED BILLETS:**

Operational			184	2	186	0	186	0	186	0	186	0	186
Staff			6	0	6	0	6	0	6	0	6	0	6
Chargeable Student			0	0	0	13	13	0	13	0	13	0	13

c. OFFICER - USMC      Not Applicable

d. ENLISTED - USMC      Not Applicable

**II.B. PERSONNEL REQUIREMENTS**

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

**CIN, COURSE TITLE:** A-670-0064, Vertical and Short Take-Off and Landing Optical Landing System Maintenance

**COURSE LENGTH:** 2.0 Weeks

**TOUR LENGTH:** 36 Months

**ATTRITION FACTOR:** Navy: 10%

**BACKOUT FACTOR:** 0.07

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY00		FY01		FY02		FY03		FY04	
			OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
SSC, NTC, Great Lakes, Illinois												
	NAVY	ACDU		7		6		6		6		6
		TOTAL:		7		6		6		6		6

**CIN, COURSE TITLE:** A-651-0047, Propulsion Alarms and Indicating Systems Maintenance

**COURSE LENGTH:** 4.6 Weeks

**TOUR LENGTH:** 36 Months

**ATTRITION FACTOR:** Navy: 10%

**BACKOUT FACTOR:** 0.07

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY00		FY01		FY02		FY03		FY04	
			OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
FTC, Norfolk, NOB Norfolk, Virginia, 61797												
	NAVY	ACDU		00		81		81		81		81
		TOTAL:		00		81		81		81		81

**CIN, COURSE TITLE:** A-651-0047, Propulsion Alarms and Indicating Systems Maintenance

**COURSE LENGTH:** 4.6 Weeks

**TOUR LENGTH:** 36 Months

**ATTRITION FACTOR:** Navy: 10%

**BACKOUT FACTOR:** 0.07

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY00		FY01		FY02		FY03		FY04	
			OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL
FTC, San Diego, NTC San Diego, California, 61690												
	NAVY	ACDU		00		81		81		81		81
		TOTAL:		00		81		81		81		81

## PART III - TRAINING REQUIREMENTS

The following elements are not affected by the VLA for Amphibious Assault Ships and, therefore, are not included in Part III of this NTSP:

III.A.2. Follow-on Training

III.A.2.c. Unique Courses

III.A.3. Existing Training Phased Out

**PART III - TRAINING REQUIREMENTS**

**III.A.1. INITIAL TRAINING REQUIREMENTS**

**COURSE TITLE:** Wind Measuring and Indicating System Instructor Initial Training  
**COURSE DEVELOPER:** NAWCADLKE  
**COURSE INSTRUCTOR:** Civilian  
**COURSE LENGTH:** 5 Days  
**ACTIVITY DESTINATIONS:** FTC Norfolk, Virginia  
FTC San Diego, California

<b>LOCATION, UIC</b>	<b>BEGIN</b>	<b>STUDENTS</b>		
	<b>DATE</b>	<b>OFF</b>	<b>ENL</b>	<b>CIV</b>
NAWCAD Lakehurst, New Jersey, 45945	4 <sup>th</sup> Qtr FY00		4	Input
			0.1	AOB
			0.01	Chargeable

**III.A.2. FOLLOW-ON TRAINING**

**III.A.2.a. EXISTING COURSES**

**CIN, COURSE TITLE:** A-670-0064, Vertical and Short Take-Off and Landing Optical Landing System Maintenance

**TRAINING ACTIVITY:** Service School Command

**LOCATION, UIC:** Naval Training Center Great Lakes, Illinois, 30626

**SOURCE:** NAVY                      **STUDENT CATEGORY:** ACDU - TAR

CFY00		FY01		FY02		FY03		FY04		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	5		7		6		6		6	ATIR
	5		6		5		5		5	Output
	0.2		0.2		0.2		0.2		0.2	AOB
	0.2		0.2		0.2		0.2		0.2	Chargeable

**III.A.2.b. PLANNED COURSES**

**CIN, COURSE TITLE:** A-651-0047, Propulsion Alarms and Indicating Systems Maintenance  
**TRAINING ACTIVITY:** FTC, Norfolk  
**LOCATION, UIC:** NOB Norfolk, Virginia, 61797

**SOURCE:** NAVY                      **STUDENT CATEGORY:** ACDU - TAR

CFY00		FY01		FY02		FY03		FY04		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	0		81		81		81		81	ATIR
	0		73		73		73		73	Output
	0.0		6.5		6.5		6.5		6.5	AOB
	0.0		6.5		6.5		6.5		6.5	Chargeable

**CIN, COURSE TITLE:** A-651-0047, Propulsion Alarms and Indicating Systems Maintenance  
**TRAINING ACTIVITY:** FTC, San Diego  
**LOCATION, UIC:** NTC San Diego, California, 61690

**SOURCE:** NAVY                      **STUDENT CATEGORY:** ACDU - TAR

CFY00		FY01		FY02		FY03		FY04		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	0		81		81		81		81	ATIR
	0		73		73		73		73	Output
	0.0		6.5		6.5		6.5		6.5	AOB
	0.0		6.5		6.5		6.5		6.5	Chargeable

## **PART IV - TRAINING LOGISTICS SUPPORT REQUIREMENTS**

The following elements are not affected by the VLA for Amphibious Assault Ships, and, therefore, are not included in Part IV of this NTSP:

IV.A. Training Hardware

IV.A.2. Training Devices

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

**IV.A. TRAINING HARDWARE**

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

**CIN, COURSE TITLE:** A-670-0064, Vertical and Short Take-Off and Landing Optical Landing System Maintenance

**TRAINING ACTIVITY:** Service School Command

**LOCATION, UIC:** NTC Great Lakes, Illinois, 30626

<b>ITEM NO.</b>	<b>EQUIPMENT / TYPE OR RANGE OF REPAIR PARTS</b>	<b>QTY REQD</b>	<b>DATE REQD</b>	<b>GFE CFE</b>	<b>STATUS</b>
<b>TTE</b>					
001	VSTOL OLS Production Unit	1	May 95	GFE	Onboard
<b>GPTE</b>					
021	CVS/260/6P Multimeter	10	May 95	GFE	Onboard
022	89536-8000A/BU AC Voltmeter	10	May 95	GFE	Onboard
023	AN/USM-425 Oscilloscope	10	May 95	GFE	Onboard
<b>SPTE</b>					
030	1313-6A Video Signal Generator	10	May 95	GFE	Onboard

**CIN, COURSE TITLE:** A-651-0047, Propulsion Alarm and Indicating System Maintenance

**TRAINING ACTIVITY:** FTC Norfolk

**LOCATION, UIC:** NOB Norfolk, Virginia, 61797

<b>ITEM NO.</b>	<b>EQUIPMENT / TYPE OR RANGE OF REPAIR PARTS</b>	<b>QTY REQD</b>	<b>DATE REQD</b>	<b>GFE CFE</b>	<b>STATUS</b>
<b>TTE</b>					
002	Detector Wind Direction	1	Jul 00	GFE	Pending
003	Mount, Detector, Wind Direction	1	Jul 00	GFE	Pending
004	Transmitter, Wind Direction	1	Jul 00	GFE	Pending
005	Indicator, Wind Direction	1	Jul 00	GFE	Pending
006	Synchro Panel	1	Jul 00	GFE	Pending
007	Test Panel Assembly	1	Jul 00	GFE	Pending
008	Wind Measuring Set	1	Jul 00	GFE	Pending
009	Indicator, Single Bite	1	Jul 00	GFE	Pending
010	NAVAIR Certification and Test Kit	1	Jul 00	GFE	Pending

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

**CIN, COURSE TITLE:** A-651-0047, Propulsion Alarm and Indicating System Maintenance

**TRAINING ACTIVITY:** FTC San Diego

**LOCATION, UIC:** NTC San Diego, California, 61690

<b>ITEM NO.</b>	<b>EQUIPMENT / TYPE OR RANGE OF REPAIR PARTS</b>	<b>QTY REQD</b>	<b>DATE REQD</b>	<b>GFE CFE</b>	<b>STATUS</b>
<b>TTE</b>					
002	Detector Wind Direction	1	Jul 00	GFE	Pending
003	Mount, Detector, Wind Direction	1	Jul 00	GFE	Pending
004	Transmitter, Wind Direction	1	Jul 00	GFE	Pending
005	Indicator, Wind Direction	1	Jul 00	GFE	Pending
006	Synchro Panel	1	Jul 00	GFE	Pending
007	Test Panel Assembly	1	Jul 00	GFE	Pending
008	Wind Measuring Set	1	Jul 00	GFE	Pending
009	Indicator, Single Bite	1	Jul 00	GFE	Pending
010	NAVAIR Certification and Test Kit	1	Jul 00	GFE	Pending

**IV.B. COURSEWARE REQUIREMENTS**

**IV.B.1. TRAINING SERVICES**

<b>COURSE / TYPE OF TRAINING</b>	<b>SCHOOL LOCATION, UIC</b>	<b>NO. OF PERSONNEL</b>	<b>MAN WEEKS REQUIRED</b>	<b>DATE BEGIN</b>
Wind Measuring and Indicating System Instructor Initial Training	NAWCAD Lakehurst, New Jersey, 45945	2	2	Jul 00

**IV.B.2. CURRICULA MATERIALS AND TRAINING AIDS**

**CIN, COURSE TITLE:** A-670-0064, Vertical and Short Take-Off and Landing Optical Landing System Maintenance

**TRAINING ACTIVITY:** Service School Command

**LOCATION, UIC:** NTC Great Lakes, Illinois, 30626

<b>TYPES OF MATERIAL OR AID</b>	<b>QTY REQD</b>	<b>DATE REQD</b>	<b>STATUS</b>
Curriculum Outline	6	May 95	Onboard
Instructor Guide	1	Mar 96	Onboard
Lesson Guide	4	May 95	Onboard
Student Guide	30	May 95	Onboard
Student Test	30	May 95	Onboard
Transparencies	4 Sets	May 95	Onboard

**CIN, COURSE TITLE:** A-651-0047, Propulsion Alarm and Indicating System Maintenance

**TRAINING ACTIVITY:** FTC Norfolk

**LOCATION, UIC:** NOB Norfolk, Virginia, 61797

<b>TYPES OF MATERIAL OR AID</b>	<b>QTY REQD</b>	<b>DATE REQD</b>	<b>STATUS</b>
Instructor Guide	1	Jul 00	Onboard
Student Guide Volume I	9	Jul 00	Onboard
Student Guide Volume II	9	Jul 00	Onboard
Transparencies	10	Jul 00	Onboard
Video Cassette, Wind Measuring System	1	Jul 00	Onboard
Wall Chart	1	Jul 00	Onboard

**CIN, COURSE TITLE:** A-651-0047, Propulsion Alarm and Indicating System Maintenance

**TRAINING ACTIVITY:** FTC San Diego

**LOCATION, UIC:** NTC San Diego, California, 61690

<b>TYPES OF MATERIAL OR AID</b>	<b>QTY REQD</b>	<b>DATE REQD</b>	<b>STATUS</b>
Instructor Guide	1	Jul 00	Onboard
Student Guide Volume I	9	Jul 00	Onboard
Student Guide Volume II	9	Jul 00	Onboard
Transparencies	10	Jul 00	Onboard
Video Cassette, Wind Measuring System	1	Jul 00	Onboard
Wall Chart	1	Jul 00	Onboard

**IV.B.3. TECHNICAL MANUALS**

**CIN, COURSE TITLE:** A-670-0064, Vertical and Short Take-Off and Landing Optical Landing System Maintenance  
**TRAINING ACTIVITY:** Service School Command  
**LOCATION, UIC :** NTC Great Lakes, Illinois, 30626

<b>TECHNICAL MANUAL NUMBER / TITLE</b>	<b>MEDIUM</b>	<b>QTY REQD</b>	<b>DATE REQD</b>	<b>STATUS</b>
NAVAIR 51-60-11 VSTOL OLS Shipboard Operations and Manual	Hard copy	30	May 95	Onboard
NAVAIR 51-60-14 VSTOL OLS Maintenance Manual	Hard copy	30	May 95	Onboard

**CIN, COURSE TITLE:** A-651-0047, Propulsion Alarm and Indicating System Maintenance  
**TRAINING ACTIVITY:** FTC Norfolk  
**LOCATION, UIC :** NOB Norfolk, Virginia, 61797

<b>TECHNICAL MANUAL NUMBER / TITLE</b>	<b>MEDIUM</b>	<b>QTY REQD</b>	<b>DATE REQD</b>	<b>STATUS</b>
AM-410AA-MAN-000 Operational and Maintenance Instructions with Illustrated Parts Breakdown for Type B WMIS	Hard copy	12	Jul 00	Onboard
AM-410AB-MAN-000 Operational and Maintenance Instructions with Illustrated Parts Breakdown for Type F WMIS	Hard copy	12	Jul 00	Onboard
AM-420AD-MAN-000 Cross Wind and Head Wind Computer Assembly and Speed Indicator	Hard copy	12	Jul 00	Onboard

**CIN, COURSE TITLE:** A-651-0047, Propulsion Alarm and Indicating System Maintenance  
**TRAINING ACTIVITY:** FTC San Diego  
**LOCATION, UIC :** NTC San Diego, California, 61690

<b>TECHNICAL MANUAL NUMBER / TITLE</b>	<b>MEDIUM</b>	<b>QTY REQD</b>	<b>DATE REQD</b>	<b>STATUS</b>
AM-410AA-MAN-000 Operational and Maintenance Instructions with Illustrated Parts Breakdown for Type B WMIS	Hard copy	12	Jul 00	Onboard
AM-410AB-MAN-000 Operational and Maintenance Instructions with Illustrated Parts Breakdown for Type F WMIS	Hard copy	12	Jul 00	Onboard
AM-420AD-MAN-000 Cross Wind and Head Wind Computer Assembly and Speed Indicator	Hard copy	12	Jul 00	Onboard

**PART V - MPT MILESTONES**

<b>COG CODE</b>	<b>MPT MILESTONES</b>	<b>DATE</b>	<b>STATUS</b>
PDA	Submit Proposed NTP to OPNAV	May 93	Completed
OPNAV	Approve and promulgate NTP	Aug 93	Completed
TSA	Deliver VSTOL OLS Curricula Materials and TTE	Jul 95	Completed
TA	Begin VSTOL OLS Follow-On Training	Sep 95	Completed
TSA	Assess WMIS training requirements	Aug 96	Completed
TSA	Distribute Draft NTSP (Update) for Fleet review	Sep 99	Completed
TSA	Determine WMIS Test Sets, Tools, and Test Equipment Requirements for training		
TSA	Deliver WMIS Curricula Materials	Sep 00	Pending
TSA	Deliver WMIS TTE	Sep 00	Pending
TSA	Deliver WMIS Test Sets, Tools, and Test Equipment to training activities	Sep 00	Pending
TA	Begin WMIS Follow-On Training	Oct 00	Pending

PART VI - DECISION ITEMS/ACTION REQUIRED

DECISION ITEM OR  
ACTION REQUIRED

COMMAND ACTION

DUE DATE

STATUS

None

PART VII - POINTS OF CONTACT

NAME / FUNCTION / ACTIVITY, CODE / INTERNET EMAIL	TELEPHONE NUMBERS
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