APPROVED

NAVY TRAINING SYSTEM PLAN

FOR THE

NAVY CONSOLIDATED

SONOBUOYS

N88-NTSP-A-50-8910B/A

SEPTEMBER 1998

NAVY CONSOLIDATED SONOBUOYS

EXECUTIVE SUMMARY

This Navy Training System Plan addresses the continuing development and forthcoming introduction of the AN/SSQ-101 Air Deployable Active Receiver (ADAR) sonobuoy into the Navy inventory. In addition, all current and projected series of the AN/SSQ-36, AN/SSQ-53, AN/SSQ-57, AN/SSQ-62, AN/SSQ-77, and AN/SSQ-86 sonobuoys are addressed. These sonobuoys enhance potential hostile submarine detection and provide for Anti-Submarine Warfare superiority.

The ADAR sonobuoy Developmental Test (DT) II was conducted by Naval Air Warfare Center Aircraft Division (NAVAIRWARCENACDIV) Patuxent River, Maryland, from second quarter FY98 through fourth quarter FY98. Air Test and Evaluation Squadron One (VX-1) Patuxent River, Maryland will conduct Operational Test (OT) II, during first quarter FY99.

Like all sonobuoys, the ADAR sonobuoy will be expendable and non-repairable. No maintenance actions will be performed at the organizational, intermediate, or depot maintenance levels.

Manpower requirements will remain unchanged by introduction of the ADAR sonobuoy. Existing operators will be used to monitor processed data. Organizational level personnel will upload and download the sonobuoy as part of their currently assigned tasking.

The Naval Surface Warfare Center at Crane, Indiana, currently provides Integrated Logistics Support to all subject sonobuoys.

Contractor Engineering and Technical Services, and Navy Engineering Technical Services will not be required to support Initial Operational Capability for the ADAR sonobuoy. Contractor support requirements will only exist to support DT and OT.

NAVAIRWARCENACDIV Patuxent River completed Initial training for DT in fourth quarter FY97, and OT in fourth quarter FY98. Follow-on training will be provided by Fleet Readiness Squadrons, Fleet Aviation Specialized Operational Training Groups, Fleet Tactical Groups, and Fleet Training Groups. A Fleet Assistance Support Team (FAST) comprised mainly of personnel from NAVAIRWARCENACDIV Patuxent River, Maryland will provide technical support. FAST support will be provided for approximately one year subsequent to completion of Fleet Introduction Training.

NAVY CONSOLIDATED SONOBUOYS

TABLE OF CONTENTS

NAVY CONSOLIDATED SONOBUOYS

LIST OF ACRONYMS

ADAR	Air Deployable Active Receiver
AGC	Automatic Gain Control
AO	Aviation Ordnanceman
ASUW	Anti-Surface Warfare
ASW	Anti-Submarine Warfare
AT	Aviation Electronics Technician
AW	Aviation Warfare Systems Operator
BT	Bathythermograph
BUPERS	Bureau of Naval Personnel
CAD	Cartridge Actuated Device
CFS	Command Function Select
CINC	Commander-in-Chief
CNET	Chief of Naval Education and Training
CNO	Chief of Naval Operations
CSO	Constant Shallow Omni
DA	Developing Agency
DICASS	Directional Command Activated Sonobuoy System
DIFAR	Directional Frequency Analysis and Recording
DLC	Data Link Communications
DT	Developmental Test
EER	Extended Echo Ranging
EFS	Electronic Function Select
EOD	Explosive Ordnance Disposal
FASOTRAGRULANT	Fleet Aviation Specialized Operational Training Group, Atlantic
FASOTRAGRULANT DET	Fleet Aviation Specialized Operational Training Group, Atlantic Detachment
FASOTRAGRUPAC	Fleet Aviation Specialized Operational Training Group, Pacific
FASOTRAGRUPAC DET	Fleet Aviation Specialized Operational Training Group, Pacific Detachment
FIT	Fleet Introduction Team
FLEASWTRACEN	Fleet Anti-Submarine Warfare Training Center
FM	Frequency Modulation
FTC	Fleet Training Center

LIST OF ACRONYMS

FY	Fiscal Year
ISD	Instructional Systems Development
LOFAR	Low Frequency Analysis and Recording
NA	Not Applicable
NAVAIRSYSCOM	Naval Air Systems Command
NAVAIRWARCENACDIV	Naval Air Warfare Center Aircraft Division
NFO	Naval Flight Officer
NSWC	Naval Surface Warfare Center
NTP	Navy Training Plan
NTSP	Navy Training System Plan
OPO	OPNAV Principal Official
OS	Operations Specialist
OT	Operational Test
OTS	Over the Side
PEO	Program Executive Officer
PMA	Program Manager, Air
PQS	Personnel Qualification Standards
RF	Radio Frequency
SPL	Sound Pressure Level
STG	Sonar Technician Surface
TACCO	Tactical Coordinator
TBD	To Be Determined
TD	Training Device
TTE	Technical Training Equipment
UHF	Ultra High Frequency
VHF	Very High Frequency
VLAD	Vertical Line Array DIFAR

NAVY CONSOLIDATED SONOBUOYS

PREFACE

This Approved Navy Training System Plan (NTSP) for the Navy Consolidated Sonobuoys has been prepared to update the Proposed Navy Consolidated Sonobuoys NTSP, A-50-8910A/P, dated August 1997. This document update complies with guidelines set forth in the Navy Training Requirement Documentation Manual, OPNAV Publication P-751-1-9-97.

PART I - TECHNICAL PROGRAM DATA

A. NOMENCLATURE-TITLE-PROGRAM

1. **Nomenclature-Title-Acronym.** Navy Consolidated Sonobuoys

2. **Program Element.** 064261N

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 (N880E)

OPO Resource Sponsor ..... CNO (N880E)

Developing Agency.....NAVAIRSYSCOM (PMA264)

Training Agency..... CINCLANTFLT
CINCPACFLT
CNET

Training Support Agency..... NAVAIRSYSCOM (PMA205)

Manpower and Personnel Mission Sponsor ..... CNO (N12)
BUPERS(PERS-4,PERS-404)

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

D. SYSTEM DESCRIPTION

1. Operational Uses. The United States Navy maintains a superior global Anti-Submarine Warfare (ASW) capability with the ability to detect, localize, identify, and track potential hostile submarines. This is provided by the capabilities of sonobuoys. The sonobuoys provide both a deployable acoustical signal source and reception of underwater signals of interest. These received signals are transmitted to any monitoring unit(s) that then process the signal for

analysis, classification of any target, and recording on magnetic tape media for replay and post event analysis. By use of established tactics, the sonobuoys allow for short and long range detection of surface ships and submarines, thereby, allowing for prosecution of identified hostile targets.

a. Bathythermograph Sonobuoy AN/SSQ-36. The Bathythermograph (BT) sonobuoy is an A-size, expendable and non-repairable sonobuoy. The BT sonobuoy provides a thermal gradient measurement to the monitoring unit(s).

b. Directional Frequency Analysis and Recording Sonobuoy AN/SSQ-53D/E. The Directional Frequency Analysis and Recording (DIFAR) sonobuoy is an A-size, expendable and non-repairable sonobuoy. The DIFAR sonobuoy provides a magnetic bearing to the signal of interest to the monitoring unit(s) and can be used for search, detection, and classification. With this capability, it is possible to fix the location of a contact with as few as two AN/SSQ-53 sonobuoys.

c. Low Frequency Analysis and Recording Sonobuoy AN/SSQ-57B. The Low Frequency Analysis and Recording (LOFAR) sonobuoy is an A-size, expendable, non-repairable, calibrated sonobuoy. The LOFAR sonobuoy provides omnidirectional passive acoustic signature data to the monitoring unit(s). The sonobuoy is calibrated and can be used to accurately measure ambient noise, and through post event analysis, provides Sound Pressure Level (SPL) measurements.

d. Directional Command Activated Sonobuoy System Sonobuoy AN/SSQ-62B/C/D/E. The Directional Command Activated Sonobuoy System (DICASS) sonobuoy is an A-size, expendable, non-repairable, command activated sonobuoy. The DICASS, in conjunction with the monitoring unit(s) signal processing equipment, provides active sonar range, bearing, and Doppler information on a submerged contact. The DICASS sonobuoy is designed to develop and maintain attack criteria. The DICASS is usually employed in multiple sonobuoy patterns, however, they are designed to permit single buoy attack criteria. The flexibility inherent in the monitoring unit's control over the various sonobuoy functions enables optimum sonobuoy employment over a wide range of environmental and target conditions.

e. Vertical Line Array Directional Frequency Analysis and Recording Sonobuoy AN/SSQ-77B. The Vertical Line Array Directional Frequency Analysis and Recording (VLAD) sonobuoy is an A-size, expendable, non-repairable sonobuoy. The VLAD is designed to increase the detection of signals of interest in an environment where there is an ever-increasing amount of ambient noise. This increased detection capability is accomplished through the use of beamforming technology. Beamforming provides enhanced reception of desired threat signals of interest while attenuating reception of unwanted noise. This technology gives the monitoring unit(s) the ability to search, detect, and classify a target at extended ranges with minimum expenditure of sonobuoys.

f. Data Link Communications Sonobuoy AN/SSQ-86. The Data Link Communications (DLC) sonobuoy is an A-size, expendable, non-repairable sonobuoy. It provides

limited, one-way acoustic communications from the buoy to friendly submarines. The buoy is encoded by the aircrew prior to flight.

g. Air Deployable Active Receiver Sonobuoy AN/SSQ-101. The Air Deployable Active Receiver (ADAR) sonobuoy is an A-size, expendable, non-repairable sonobuoy. It is an acoustic data receiver capable of in-buoy beamforming and transmission of received real-time acoustic signals back to any monitoring unit(s). The primary mission is to receive active search signals (i.e., long-range echo detection of quiet, slow moving targets).

h. Extended Echo Ranging Sonobuoy AN/SSQ-110/A. The Extended Echo Ranging (EER) sonobuoy is an A-size, expendable, non-repairable sonobuoy. Additional information on the EER sonobuoy is available in EER System NTP A-50-9310/A, dated 25 April 1994.

2. Foreign Military Sales. For information on foreign military sales contact PMA264.

E. DEVELOPMENTAL TEST AND OPERATIONAL TEST. The BT, DIFAR, LOFAR, DICASS, VLAD, DLC, and EER sonobuoys have all completed Developmental Test (DT) and Operational Test (OT). The DT ADAR test for system effectiveness, ASW platform and sonobuoy interoperability, and compliance with logistics and performance specifications are completed, the OT will be completed first quarter FY99.

The ADAR DT-1 was successfully completed by VX-1, Patuxent River, Maryland, during FY97. Naval Air Warfare Center Aircraft Division (NAVAIRWARCENACDIV), Patuxent River, Maryland also successfully completed the ADAR DT-II, from first quarter FY98 through fourth quarter FY98. S-3B aircraft (being the only aircraft capable for testing at this time) and acoustic sources will be used in conjunction with production representative ADAR sonobuoys. OT-II will be conducted by VX-1during the first quarter FY99 in support of approval for full production of the ADAR sonobuoy.

F. AIRCRAFT AND/OR EQUIPMENT/SYSTEM/SUBSYSTEM REPLACED. The introduction of the ADAR sonobuoy does not replace any existing sonobuoy systems.

G. DESCRIPTION OF NEW DEVELOPMENT

1. Functional Description. All sonobuoys currently in inventory are normally launched from standard A-size tubes via pneumatics, free fall, or a Cartridge Actuated Device (CAD). Shipboard personnel may also launch them by hand or Over the Side (OTS). All are powered by either salt water activated magnesium or silver chloride, lithium chemistry, or thermal batteries and are designed to scuttle at some point after usable or selected life expires.

a. Bathythermograph Sonobuoy. The BT sonobuoy is an expendable thermal gradient measurement sonobuoy that operates on one of three or one of 99 Radio Frequency (RF)

channels. It consists of a thermistor temperature probe that descends through the bottom of the sonobuoy canister producing a continuous reading of temperature versus depth. The thermistor temperature probe will descend to 1000, 2000, or 2625 feet, depending upon the sonobuoy selected.

b. Directional Frequency Analysis and Recording Sonobuoy. The DIFAR sonobuoy is an expendable, directional passive sonar.

(1) AN/SSQ-53D. The AN/SSQ-53D DIFAR sonobuoy incorporates the Electronic Function Select (EFS) capability which provides the operator with the capability of electronically selecting one of the available 99 RF channels, sonobuoy life of one-half, one, two, four, or eight hours, and hydrophone depth of 90, 400, or 1000 feet. The AN/SSQ-53D also has improved suspension, wider sonic response curve, and electronic upgrades compared to previous DIFAR sonobuoys.

(2) AN/SSQ-53E. The AN/SSQ-53E DIFAR sonobuoy incorporates Command Function Select **(**CFS). Through CFS, a suitably equipped ASW aircraft can transmit Ultra High Frequency (UHF) radio commands to the sonobuoy. These commands select Very High Frequency (VHF) operation (on/off), hydrophone reception (Constant Shallow Omni (CSO)/Normal, Automatic Gain Control (AGC) operation (on/off), and change RF channel frequency. The CSO is an omnidirectional hydrophone positioned at a depth setting of 45 feet. It is less sensitive than the normal DIFAR hydrophone, but is useful against an evasive submarine. AGC selection provides the operator additional flexibility when operating in a noisy environment. The ability to select VHF operation and change RF channels enhances operations in the littoral environment. Also, the AN/SSQ-53E includes an additional 200 feet EFS depth setting.

c. Low Frequency Analysis and Recording Sonobuoy. The LOFAR sonobuoy is an expendable, omnidirectional passive sonar unit. It consists of an omnidirectional hydrophone that descends through the bottom of the sonobuoy canister to a pre-selected depth. The LOFAR operates from one of 31 RF channels preset during manufacturing. There is a selectable operating life of one, three, or eight hours and selectable operating depth of 90 or 400 feet.

d. Directional Command Activated Sonobuoy System Sonobuoy. The DICASS sonobuoy is an expendable, active sonar unit. The monitoring unit via an RF UHF downlink controls the DICASS sonobuoy.

(1) AN/SSQ-62B. The AN/SSQ-62B DICASS may be command activated to change depth, to activate sonar transmissions and to scuttle the sonobuoy. The AN/SSQ-62B DICASS operates on one of four preset sonar channels and one of 31 preset RF channels. These channels are preset by the manufacturer and cannot be changed. Upon deployment, the AN/SSQ-62B DICASS will initially deploy to a depth of 90 feet. Upon receipt of a command signal, the transducer will deploy to a depth of 400 or 1500 feet.

(2) AN/SSQ-62C. The AN/SSQ-62C DICASS also operates on one of 86 preset sonar channels. The channels are preset prior to flight to one of 86 preset RF channels

that correspond with the preset sonar channel. Upon deployment, the AN/SSQ-62C DICASS will initially deploy to a depth of 90 feet. Upon receipt of a command signal, the transducer will deploy to a depth of 400 feet or 1500/2500 feet. The 1500 or 2500 foot depth option must be selected through the EFS during preflight.

(3) AN/SSQ-62D. The AN/SSQ-62D DICASS has been improved with the replacement of the lithium chemistry battery with a thermal battery. Additionally, the sonobuoy includes the EFS option of selectable depth families. During preflight, either a shallow or deep family of depth option shall be selected. If the shallow family is selected, depth settings of 50, 150, or 300 feet are available. If the deep family is selected, depth settings of 90, 400, and 1500 are available. These depth options provide sufficient flexibility for both littoral and open ocean ASW operations.

(4) AN/SSQ-62E. The AN/SSQ-62E DICASS includes the following improvements and modifications to the AN/SSQ-62D DICASS design. It incorporates CFS, allowing a suitably equipped ASW aircraft to transmit UHF radio commands to the sonobuoy. These commands select VHF operation (on/off), change RF channel frequency and associated sonar channel frequency, change sonar frequency independently, and change depth setting. These features all provide enhancements for both deep water and littoral ASW environments. Additionally, the AN/SSQ-62E DICASS will include all four available sonar channel frequencies into a single sonobuoy which provides significant logistics savings.

e. Vertical Line Array Directional Frequency Analysis and Recording Sonobuoy. The VLAD sonobuoy is an expendable, omnidirectional passive sonar unit. The VLAD uses a multi-element omnidirectional hydrophone array and a beamforming filter assembly to enhance acoustic sensitivity. The VLAD has a selectable configuration incorporated into the EFS. This allows the operator to select either bottom bounce or convergence zone sound reception. The EFS will also allow selection of one of 99 RF channels, two operating depths of 500 and 1000 feet, and selectable life settings of one, four, or eight hours. In all other respects, the VLAD is comparable to the DIFAR.

f. Data Link Communications Sonobuoy. The DLC sonobuoy is an expendable, acoustic communication device designed to transmit a preprogrammed message to a submerged submarine. It consists of an omnidirectional acoustic transducer that descends through the bottom of the sonobuoy canister to a shallow transmission depth of 75 feet. After completing shallow depth transmissions, the transducer automatically descends to the deep transmission depth of 350 feet. The messages are encoded through the EFS prior to launch. The acoustic transmission frequencies are classified. The message transmission includes an address group, an addressee group, and two word groups. The sonobuoy does not have an RF transmitter.

g. Air Deployable Active Receiver Sonobuoy. The ADAR sonobuoy is an expendable unit capable of receiving UHF downlink commands and sending real-time beamformed acoustic data via a VHF digital uplink to the monitoring unit. The ADAR will be a free-floating acoustic data receiver that will operate in conjunction with an acoustic source. The

buoy will also scuttle automatically upon detection of a low voltage state or completion of its six-hour life.

h. Extended Echo Ranging Sonobuoy. The EER sonobuoy is an expendable sonobuoy that is a commandable, air-dropped, high source level acoustic source.

(1) AN/SSQ-110. The AN/SSQ-110 EER sonobuoy operates on one of 31 selectable RF channels and is composed of two sections. The upper section is called the control buoy and is similar to the upper electronics package of the AN/SSQ-62 DICASS sonobuoy. The lower section consists of two explosive payloads of Class A explosive weighing 4.2 pounds each. The arming and firing mechanism is hydrostatically armed and detonated.

(2) AN/SSQ-110A. The SSQ-110A EER includes the following improvements and modifications to the AN/SSQ-110 EER design. The AN/SSQ-110A EER includes the EFS feature. EFS allows the selection of one of 99 RF channels. Additionally, the sonobuoy adds a classified depth setting for a total number of two depth settings. Upon deployment, the AN/SSQ-110A EER can be sent to its deeper depth setting via UHF radio commands.

2. Physical Description. The sonobuoys discussed in this NTSP are all A-size: length 36 inches, diameter 4 7/8 inches. The sonobuoy weight varies by manufacturer and buoy type, but will not exceed 39 pounds.

3. New Development Introduction. All the sonobuoys discussed in this NTSP, except the DLC, are new production sonobuoys. The DLC sonobuoy is a refurbished product.

4. Significant Interfaces. The BT, DIFAR, LOFAR, DICASS, VLAD, and DLC sonobuoys are used in conjunction with the on-board systems of the P-3C, SH-2G, and SH-60B/F aircraft.

The P-3C Update III, SH-60B Upgrade, SH-2G Upgrade and SH-60F Upgrade are potential recipients of the ADAR sonobuoy.

The AN/SSQ-110 EER sonobuoy will operate with the P-3C Update III to form the EER System. The AN/SSQ-110A EER sonobuoy will operate with the P-3C Update III to form the EER and Improved EER Systems, respectively. The SH-60B Upgrade, SH-2G Upgrade, and the SH-60F Upgrade are potential recipients of the EER sonobuoy.

5. New Features, Configurations, or Material. The ADAR does not drive technological breakthroughs, but does use existing hardware and processing technology.

H. CONCEPTS

1. Operational Concept. All sonobuoys will be expended from compatible ASW aircraft or deployed OTS by shipboard personnel. These sonobuoys will be used to determine environmental conditions for determination of best search tactics, to communicate with friendly submarines, and to conduct search, localization, tracking, and, as required, attack of designated hostile platforms.

a. Bathythermograph Sonobuoy. The BT, upon self-activation, deploys a thermistor temperature probe. Throughout the probe's descent, the temperature gradient is converted to an electronic signal that is applied to the buoys preset carrier frequency. The monitoring platform receives the signal for recording, processing, and analysis.

b. Directional Frequency Analysis and Recording Sonobuoy. The DIFAR, upon self-activation, operates in a passive mode at the preset life and depth. Upon reception of acoustical signals, the subsurface unit converts the pressure waves into amplified electronic signals and provides a magnetic reference for each signal through utilization of the flux gate compass. These signals are sent to the surface unit via the cable assembly. The surface unit applies these signals to a preset Frequency Modulation (FM) carrier for VHF transmission. The monitoring platform receives the signals for recording, processing, and analysis.

c. Low Frequency Analysis and Recording Sonobuoy. The LOFAR, upon self-activation, operates in a passive mode at the preset life and depth. Upon reception of acoustic signals, the subsurface unit converts the pressure waves into amplified electronic signals. These signals are then sent to the surface unit where they are applied to an FM carrier for VHF transmission. The monitoring platform receives the signal for recording, processing, and analysis.

d. Directional Command Activated Sonobuoy System Sonobuoy. The DICASS, upon self-activation, is able to process UHF command signals transmitted by the monitoring unit. This command activated, active sonobuoy provides range, bearing and Doppler information on active sonar contacts. The monitoring platform is capable of commanding the transducer to deeper depths, activating sonar transmission, including pulse mode and pulse duration changes, and sonobuoy scuttle. Upon receiving a UHF command signal from the monitoring unit and decoding the signal for the proper address codes, the DICASS sonobuoy emits, as selected, either a continuous wave or FM "ping." The transducer array emits pulses, which are omnidirectional on the horizontal plane and beamformed on the vertical plane. The received signal is amplified and filtered prior to transfer to the compass and multiplexer subassembly where a magnetic bearing reference is provided. This signal is then routed through the cable assembly to the surface unit where it is applied to an FM carrier for VHF transmission. The monitoring platform receives the signal for recording, processing, and analysis.

e. Vertical Line Array Directional Frequency Analysis and Recording Sonobuoy. The VLAD, upon self-activation, operates in a passive mode for the preset life, depth, and sound reception pattern. Upon reception of acoustic signals, the subsurface unit converts the pressure waves to amplified electronic signals. These signals are then transferred to

the beamforming assembly where the signal is amplified and filtered and a magnetic bearing reference is applied. The amplified signal is then routed through the cable assembly to the surface unit and applied to an FM carrier for VHF transmission. The monitoring platform receives the signal for recording, processing, and analysis.

f. Data Link Communications Sonobuoy. The DLC, upon self-activation, operates in an autonomous acoustic communications mode for the preset coding. The preset coding is converted into the equivalent acoustic frequencies and transmitted from the buoy transducer at both shallow and deep settings. This buoy does not use a VHF transmitter. Monitoring of acoustic transmissions can be accomplished through a co-located passive buoy.

g. Air Deployable Active Receiver Sonobuoy. The ADAR will be expended by all compatible ASW aircraft or OTS by shipboard personnel and operated in conjunction with an independent transmitting acoustic source. The EFS selector will be used to select depth (one of three) and the default acoustic beamform band (one of two). Once in the water the acoustic frequency band can be changed, the RF channel can be changed, and the RF can be turned on or off via downlink command function select. Once activated, the sonobuoy receives, beamforms, and transmits real-time acoustic data in the selected frequency band to the monitoring unit. The separately deployed acoustic source will be commanded to "ping," ensonifying the water and any target present, generating an acoustic "return" that is received and transmitted by the ADAR receiver. Aboard the monitoring unit, the data will be processed and displayed (visual and aural), providing the operator a means of determining range, bearing, amplitude and possibly Doppler (coherent acoustic sources only) on submarine targets.

h. Extended Echo Ranging Sonobuoy. All compatible ASW aircraft or OTS will expend the EER by shipboard personnel. Upon activation, the payloads are suspended approximately fifteen to twenty feet below the surface. The sonobuoy VHF transmitter transmits on the pre-assigned RF channel for a specified period to indicate successful launch. The payloads remain unarmed until the command to deploy is received from the aircraft. The buoy transmits for a specified period on the pre-assigned VHF channel to indicate reception of command signals.

2. Maintenance Concept. All sonobuoys will be expendable and non-repairable.

a. Organizational. Organizational personnel will be used to preset and load the sonobuoys. These actions will use generic skills inherent in the Aviation Ordnanceman (AO), Aviation Warfare Systems Operator (AW), Aviation Electronics Technician (AT) and Sonar Technician Surface (STG) ratings.

b. Intermediate. Not Applicable (NA).

c. Depot. NA.

d. Interim Maintenance. Navy Engineering and Technical Services personnel will not be required to support the Initial Operational Capability of the ADAR sonobuoy system. Contractor support requirements will only exist to support DT and OT testing.

e. Life-Cycle Maintenance Plan. The initial shelf life of all procured sonobuoys is five years.

3. Manning Concept. The qualitative and quantitative manpower requirements will remain unchanged at the recipient activity. Existing operators will be used to monitor the processed data. Organizational level personnel will upload and download the sonobuoy as part of their currently assigned tasking. Fleet introduction of ADAR will not drive a manpower increase or decrease.

4. Training Concept. Various training methodologies are being studied to ensure that a cost-effective life cycle training solution is applied to the sonobuoy program. Deficiencies noted will be addressed by applying the Instructional Systems Development (ISD) concept. The ISD concept assembles the most efficient combination of resources, techniques, and procedures by which the specific learning objectives may be achieved. The training requirements will be satisfied through an instructional system which will be designed as the most cost effective life cycle solution. The intent of the sonobuoy training program is to provide proficient Fleet operators and sonobuoy handlers. This will be accomplished by the applicable training activity. Due to the expendable, non-repairable nature of the sonobuoys, training will be focused on the sonobuoy's employment (including environmental considerations), deployment, usage, preset, and loading procedures. ADAR training will be included in existing courses. No addition to course lengths is anticipated.

A new training concept for most aviation maintenance training has been established. This concept entails dividing “A” school courses into two or more segments called core and strand, and “C” school courses into separate initial and career training courses. “A” school core courses include general knowledge and skills training for the particular rating, while “A” school strand courses focus on the more specialized training requirements for that rating and a specific aircraft or equipment, based on the student’s fleet activity destination. Strand training immediately follows core training and is part of the “A” school. Upon completion of core and strand “A” school, graduates attend the appropriate initial “C” school for additional specific training. Initial “C” school training is intended for students in paygrades E-4 and below. Career “C” school training is provided to E-5 and above personnel to enhance skills and knowledge within their field.

a. Initial Training. VX-1, Patuxent River, Maryland successfully completed the ADAR DT-1, during first quarter FY97. NAVAIRWARCENACDIV Patuxent River conducted initial training from first quarter FY98 through third quarter FY98.

b. Fleet Introduction Team. A Fleet Introduction Team (FIT) will be assigned for the ADAR sonobuoy. The FIT will provide on-site familiarization and training to fleet training activities and ensure adequate training is available. This training will be in the form of instruction to the AWs and Tactical Coordinators (TACCOs) on the capabilities, tactical applications, unique applications, equipment interface and proper usage of the ADAR. In addition, the FIT will demonstrate to AW, AT, AO, Flight Engineers, and STG personnel the proper preset and loading procedures for the sonobuoy.

c. Follow-on Training. Follow-on training will be provided by the applicable training activity. A FAST will be developed to provide tailored training. The courses listed below depict the courseware that could be affected by the ADAR sonobuoy introductions. No addition to course lengths is anticipated.

(1) Operator

Title	**Acoustics I**
CIN	D/E-210-0002
Model Manager ...	Fleet Aviation Specialized Operational Training Group, Atlantic (FASOTRAGRULANT) Norfolk
Description	Provides Fleet operator acoustic training for VP/HS/HSL Sensor Operators and other Fleet acoustic operators.
Locations.....	FASOTRAGRULANT Norfolk
.	Fleet Aviation Specialized Operational Training Group, Pacific (FASOTRAGRUPAC) North Island FASOTRAGRULANT Detachment (DET) Brunswick FASOTRAGRULANT DET Jacksonville FASOTRAGRULANT DET Mayport FASOTRAGRUPAC DET Whidbey Island FASOTRAGRUPAC DET Barber's Point
Length	12 days
RFT date	Currently available
Skill identifier.....	AW
TTE/TD	None
Prerequisites	D-210-0001 Pipeline Basic Acoustic Analysis, Secret security clearance

Title	**Acoustics II**
CIN	D/E-210-0003
Model Manager ...	FASOTRAGRULANT Norfolk
Description	Provides Fleet operator advanced acoustic training for VP/HS/HSL Sensor Operators, prior to final designation.
Locations.....	FASOTRAGRULANT Norfolk FASOTRAGRUPAC North Island FASOTRAGRULANT DET Brunswick FASOTRAGRULANT DET Jacksonville FASOTRAGRULANT DET Mayport FASOTRAGRUPAC DET Whidbey Island FASOTRAGRUPAC DET Barber’s Point
Length	12 days
RFT date	Currently available
Skill identifier.....	AW
TTE/TD	None

Prerequisites	D/E-210-0002 Acoustics I, Secret security clearance

Title	**Acoustics II Refresher**
CIN	D/E-210-0005
Model Manager ...	FASOTRAGRULANT Norfolk
Description	Provides Fleet operator advanced acoustic refresher training for VP/HS/HSL aircrewmen.
Locations.....	FASOTRAGRULANT Norfolk FASOTRAGRUPAC North Island FASOTRAGRULANT DET Brunswick FASOTRAGRULANT DET Jacksonville FASOTRAGRULANT DET Mayport FASOTRAGRUPAC DET Whidbey Island FASOTRAGRUPAC DET Barber's Point
Length	5 days
RFT date	Currently available
Skill identifier.....	AW
TTE/TD	None
Prerequisites	D/E-210-0003 Acoustics II, Secret security clearance

Title	**Antisubmarine Warfare Aural Recognition**
CIN	D/E-210-0006
Model Manager ...	FASOTRAGRUPAC North Island
Description	Provides officer and enlisted personnel with the basic fundamentals of aural recognition techniques, aural cues, and target/non-target recognition.
Locations.....	FASOTRAGRULANT Norfolk FASOTRAGRUPAC North Island FASOTRAGRULANT DET Brunswick FASOTRAGRULANT DET Jacksonville FASOTRAGRULANT DET Mayport FASOTRAGRUPAC DET Barber's Point
Length	2 days
RFT date	Currently available
Skill identifier.....	TACCO, AW
TTE/TD	None
Prerequisites	Secret security clearance

Title	**Extended Echo Ranging (EER)**
CIN	D/E-210-0110
Model Manager ...	FASOTRAGRUPAC North Island
Description	Trains individuals of the AW rating in the utilization of the EER sonobuoy in an undersea warfare environment.

Locations.....	FASOTRAGRUPAC North Island FASOTRAGRULANT DET Brunswick FASOTRAGRULANT DET Jacksonville FASOTRAGRUPAC DET Whidbey Island FASOTRAGRUPAC DET Barber's Point
Length	3 days
RFT date	TBD
Skill identifier.....	AW
TTE/TD	None
Prerequisites	C-210-2010 Aviation Warfare Systems Operator Class A1, Secret security clearance

Title	**Common Core Acoustic Analysis**
CIN	D/E-050-0100
Model Manager ...	FASOTRAGRUPAC North Island
Description	Provides training to Fleet replacement aircrewmen to analyze and classify Lofargram signatures of single or multiple contacts.
Locations.....	FASOTRAGRULANT Norfolk FASOTRAGRUPAC North Island
Length	29 days
RFT date	Currently available
Skill identifier.....	AW
TTE/TD	None
Prerequisites	C-210-2010 Aviation Warfare Systems Operator Class A1, D/E-210-0006 Antisubmarine Warfare Aural Recognition, D/E-5B-0010 Antisubmarine Warfare Oceanography, Secret security clearance

Title	**Tactical Support Center Analyst**
CIN	D-210-0041
Model Manager ...	FASOTRAGRULANT Norfolk
Description	Provides individuals of the AW rating with the fundamental knowledge and skills required to become a Tactical Support Center Acoustic Analyst.
Location	FASOTRAGRULANT Norfolk
Length	47 days
RFT date	Currently available
Skill identifier.....	AW
TTE/TD	None
Prerequisites	D/E-050-0100 Common Core Acoustic Analysis, Secret security clearance

Title	**Antisubmarine Warfare Module Acoustic Analyst**
CIN	D-210-0042
Model Manager ...	FASOTRAGRULANT Norfolk
Description	Provides individuals of the AW rating with the fundamental knowledge and skills required to become an Antisubmarine Warfare Module Acoustic Analyst.
Location	FASOTRAGRULANT Norfolk
Length	47 days
RFT date	Currently available
Skill identifier.....	AW
TTE/TD	None
Prerequisites	D/E-050-0100 Common Core Acoustic Analysis, Secret security clearance

Title	**Anti-Submarine Warfare (ASW)/Anti-Surface Warfare (ASUW) Tactical Air Controller**
CIN	K-221-2503
Model Manager ...	Fleet Anti-Submarine Warfare Training Center (FLEASWTRACEN) San Diego
Description	This course provides Operations Specialists (OS) Second Class and above, with the knowledge and skills required to coordinate the tactical employment of ASW/ASUW aircraft. At the conclusion of this course, the student will be able to perform ASW/ASUW Tactical Air Controller watch station duties during normal, emergency, and casualty system operating conditions in all assigned mission areas.
Locations.....….....	FLEASWTRACEN San Diego Fleet Training Center (FTC) Norfolk
Length	68 days
RFT date	Currently available
Skill identifier.....	OS-0324
TTE/TD	None
Prerequisites	E-5 and above, Secret security clearance

Title	**Single Ship Antisubmarine Warfare**
CIN	K-2E-4634
Model Manager ...	FLEASWTRACEN San Diego
Description	To train ASW teams of U.S. Navy ships in the command and control of own-ship, assist ship, and LAMPS MK I/III assist in prosecuting hostile submarine threats per the Navy Wide Operational Task Undersea Warfare.

Locations.....	FTC Mayport FTC Norfolk FLEASWTRACEN San Diego Afloat Training Group Middle Pacific Pearl Harbor Afloat Training Group Western Pacific Yokosuka, Japan
Length	12 days
RFT date	Currently available
Skill identifier.....	OS, STG
TTE/TD	None
Prerequisites	K-2G-0539 Anti-Submarine Warfare Evaluator, K-221-2503 ASW/ASUW Tactical Air Controller, Secret security clearance

(2) Maintenance. NA.

d. Student Profiles

SKILL IDENTIFIER	PREREQUISITE SKILL AND KNOWLEDGE REQUIREMENTS
TACCO	° Q-2D-0012 Basic Naval Flight Officer Training
AW	° C-210-2010 Aviation Warfare Systems Operator Class A1 ° Q-050-1500 Naval Aircrew Candidate School
STG	° K-130-0037 Surface Sonar Technician Class A1
OS	° A-221-0011 Operations Specialist Class A1

e. Training Pipelines. Introduction of the ADAR sonobuoy will not require any change to existing training tracks. Courses listed above will be modified to include the ADAR sonobuoy with no change to course length anticipated.

I. ON-BOARD (IN-SERVICE) TRAINING

1. Proficiency or Other Training Organic to the New Development. No specific sonobuoy training exists other than that provided by aircraft unique acoustic processor training. This acoustic training may be provided by programs like the Deployable Acoustic Readiness Trainer System, the Aviation Multi-function Electronic Warfare Trainer, and Aviation Multi-Purpose Trainer System.

2. Personnel Qualification Standards. Applicable Personnel Qualification Standards (PQS) will be updated to reflect the introduction of the ADAR sonobuoy through PQS user inputs and PQS review conferences facilitated by Chief of Naval Education and Training.

3. Other On-Board or In-Service Training Packages. The BT, DIFAR, LOFAR, DICASS, VLAD, DLC, ADAR, and EER sonobuoys may be deployed utilizing standard CADs common to the standard A-size sonobuoys. Therefore, sonobuoy CAD training for Explosive Ordnance Disposal (EOD) personnel will remain relevant. Disposal of EER sonobuoys is covered within the scope of EOD personnel training.

J. LOGISTICS SUPPORT

1. Manufacturer and Contract Numbers. The BT, DIFAR, LOFAR, DICASS, VLAD, and DLC sonobuoys are currently supplied under various contracts managed by Program Executive Officer Air Anti-Submarine Warfare and Special Mission Programs (PEO(A)) PMA264. A production contract has not yet been let for the ADAR sonobuoy. Contracts to replenish expended sonobuoys are executed annually or semi-annually. Contract numbers for individual sonobuoy procurements are available from PEO(A) PMA264.

SONOBUOY	MANUFACTURER	ADDRESS
BT	Sippican Electronics Sparton Electronics Hermes Electronics	Marion, Massachusetts DeLeon Springs, Florida Dartmouth, Nova Scotia, Canada
DIFAR	Magnavox Electronics Sparton Electronics Hermes Electronics	Ft. Wayne, Indiana DeLeon Springs, Florida Dartmouth, Nova Scotia, Canada
LOFAR	Magnavox Electronics Sparton Electronics	Ft. Wayne, Indiana DeLeon Springs, Florida
DICASS	Magnavox Electronics Sparton Electronics	Ft. Wayne, Indiana DeLeon Springs, Florida
VLAD	Magnavox Electronics Sparton Electronics Hermes Electronics	Ft. Wayne, Indiana DeLeon Springs, Florida Dartmouth, Nova Scotia, Canada
DLC	Sparton Electronics	DeLeon Springs, Florida
ADAR	TBD	TBD

EER	Magnavox Electronics Sparton Electronics	Ft. Wayne, Indiana DeLeon Springs, Florida

Note: Magnavox Electronics has undergone a series of ownership changes and may also be known as Hughes Defense Communications or Raytheon.

2. Program Documentation. The Naval Surface Warfare Center Crane (NSWC) is currently providing the required logistics support for the BT, DIFAR, LOFAR, DICASS, VLAD, DLC, and ADAR sonobuoys. Logistics support data is available from the Integrated Logistics Support Section Manager at NSWC Crane. The latest version of the sonobuoy maintenance plan, MP-AYMP-1119, is dated October 1993. The ILSP for sonobuoys, S-B-ILSP-427, was last updated October 1995.

3. Technical Data Plan. The technical manuals listed in Part IV.B.3 contain relevant BT, DIFAR, LOFAR, DICASS, VLAD, and DLC information and will incorporate ADAR data. The FAST for each manual, will ensure that the appropriate information is incorporated into the applicable Naval Air Systems Command (NAVAIRSYSCOM) manuals prior to Fleet introduction of the ADAR sonobuoy in FY99.

4. Test Sets, Tools, and Test Equipment. The subject sonobuoys will not require special tools or test equipment for organic Navy support. Only common ground support equipment will be required for transportation, uploading and downloading of the sonobuoys.

5. Repair Parts. The subject sonobuoys are expendable, non-repairable sonobuoys. Therefore, there are no requirements for repair parts.

6. Human Systems Integration. NA.

K. SCHEDULES

1. Installation and Delivery Schedules. The delivery schedule for the subject sonobuoys is classified information. Delivery schedules are available from PEO(A) PMA264

2. Ready For Operational Use Schedule. Sonobuoys will be ready for use upon delivery.

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. NA.

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

M. RELATED NTSPs AND OTHER APPLICABLE DOCUMENTS

DOCUMENT OR NTSP TITLE	DOCUMENT OR NTSP NUMBER	PDA CODE	STATUS
SH-60B LAMPS MK III Pt. B Aircraft Subsystem	A-50-7702D/P	PMA299	Proposed Oct 94
SH-60R Multi Purpose Helicopter	A-50-9403/P	PMA299	Proposed Jun 94
SH-60F Carrier Inner Zone ASW Helicopter	A-50-8508D/D	PMA299	Preliminary Draft Sep 98
P-3C Update III Anti-Submarine Warfare Improvement Program Aircraft	A-50-8112B/A	PMA290	Approved July 98
Extended Echo Ranging (EER) System	A-50-9310/A	PMA264	Approved Apr 94
SH-2G Helicopter	A-50-9303/A	PMA299	Approved Jun 94

PART II - BILLET AND PERSONNEL REQUIREMENTS

The following elements are not affected by the Navy Consolidated Sonobuoys and, therefore, are not included in Part II of this NTSP:

II.A. Billet Requirements

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

II.B. Personnel Requirements

- II.B.1. Annual Training Input Requirements

Note: Delivery schedule is classified. There are no changes in manpower or training requirements.

PART III - TRAINING REQUIREMENTS

The following elements are not affected by the Navy Consolidated Sonobuoys and, therefore, are not included in Part III of this NTSP:

III.A.1. Initial Training Requirements

III.A.2. Follow-on Training

- III.A.2.a. Existing Courses
- III.A.2.b. Planned Courses
- III.A.2.c. Unique Courses

III.A.3. Existing Training Phased Out

PART IV - TRAINING LOGISTICS SUPPORT REQUIREMENTS

The following elements are not affected by the Navy Consolidated Sonobuoys and, therefore, are not included in Part IV of this NTSP:

IV.A. Training Hardware

IV.A.2. Training Devices

IV.B.1 Training Services

IV.B.2 Curricula Materials and Training Aids

IV.C. Facility Requirements

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

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

IV.C.3. Facility Project Summary by Program

PART IV - TRAINING LOGISTICS SUPPORT REQUIREMENTS

IV.A. TRAINING HARDWARE

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

Note 1: No additional TTE, GPTE, SPTE, ST, GPETE, or SPETE is required to support the ADAR sonobuoy program. The Activities Support Equipment Requirements Management Information System (SERMIS) or Equipment Requirements List (ERL) provides a list of all sonobuoy requirements.

Note 2: The ADAR sonobuoy is an expendable, non-repairable end item. Therefore, no repair parts are required.

IV.B.3. TECHNICAL MANUALS

TRAINING ACTIVITY: FASOTRAGRULANT
LOCATION, UIC: Norfolk, 30686
CIN, COURSE TITLE: D/E-210-0002, Acoustics I
D/E-210-0003, Acoustics II
D/E-210-0006, Antisubmarine Warfare Aural Recognition
D/E-050-0100, Common Core Acoustic Analysis
D-210-0041, Antisubmarine Warfare Operators Center Acoustic Analyst
D-210-0042, Antisubmarine Warfare Module Acoustic Analyst

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	2	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development

TRAINING ACTIVITY: FASOTRAGRUPAC
LOCATION, UIC: North Island, 09191
CIN, COURSE TITLE: D/E-210-0002, Acoustics I
D/E-210-0003, Acoustics II
D/E-210-0006, Antisubmarine Warfare Aural Recognition
D/E-050-0100, Common Core Acoustic Analysis

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	2	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development

IV.B.3. TECHNICAL MANUALS

TRAINING ACTIVITY: FASOTRAGRULANT DET
LOCATION, UIC: Brunswick, 44408
CIN, COURSE TITLE: D/E-210-0002, Acoustics I
D/E-210-0003, Acoustics II
D/E-210-0006, Antisubmarine Warfare Aural Recognition

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	2	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development
P-3 TACMAN NWP 3-20.5	Hard copy	2	FY98	On board

TRAINING ACTIVITY: FASOTRAGRULANT DET
LOCATION, UIC: Jacksonville, 43520
CIN, COURSE TITLE: D/E-210-0002, Acoustics I
D/E-210-0003, Acoustics II
D/E-210-0006, Antisubmarine Warfare Aural Recognition

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	2	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development
P-3 TACMAN NWP 3-20.5	Hard copy	2	FY98	On board

IV.B.3. TECHNICAL MANUALS

TRAINING ACTIVITY: FASOTRAGRULANT DET
LOCATION, UIC: Mayport, 46423
CIN, COURSE TITLE: D/E-210-0002, Acoustics I
D/E-210-0003, Acoustics II
D/E-210-0006, Antisubmarine Warfare Aural Recognition

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	2	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development

TRAINING ACTIVITY: FASOTRAGRUPAC DET
LOCATION, UIC: Whidbey Island, 0345A
CIN, COURSE TITLE: D/E-210-0002, Acoustics I
D/E-210-0003, Acoustics II

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	2	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development

TRAINING ACTIVITY: FASOTRAGRUPAC DET
LOCATION, UIC: Barbers Point, 0346A
CIN, COURSE TITLE: D/E-210-0002, Acoustics I
D/E-210-0003, Acoustics II
D/E-210-0006, Antisubmarine Warfare Aural Recognition

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	2	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development

IV.B.3. TECHNICAL MANUALS

Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development
P-3 TACMAN NWP 3-20.5	Hard copy	2	FY98	On board

TRAINING ACTIVITY: FLEASWTRACEN
LOCATION, UIC: San Diego, 42851
CIN, COURSE TITLE: K-221-2503, ASW/ASUW Tactical Air Controller
K-2E-4634, Single Ship Antisubmarine Warfare

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	2	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development

TRAINING ACTIVITY: FTC
LOCATION, UIC: Mayport, 44484
CIN, COURSE TITLE: K-2E-4634, Single Ship Antisubmarine Warfare

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	2	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development

TRAINING ACTIVITY: FTC
LOCATION, UIC: Norfolk, 63401
CIN, COURSE TITLE: K-2E-4634, Single Ship Antisubmarine Warfare

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	2	FY98	On board

IV.B.3. TECHNICAL MANUALS

Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development

TRAINING ACTIVITY: ATGMIDPAC
LOCATION, UIC: Pearl Harbor, 57063
CIN, COURSE TITLE: K-2E-4634, Single Ship Antisubmarine Warfare

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	2	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development

TRAINING ACTIVITY: ATGWESTPAC
LOCATION, UIC: Yokosuka, Japan, 57064
CIN, COURSE TITLE: K-2E-4634, Single Ship Antisubmarine Warfare

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	2	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development

TRAINING ACTIVITY: VP-30
LOCATION, UIC: NAS Jacksonville, 42335
CIN, COURSE TITLE: Proficiency Training

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	2	FY98	On board

IV.B.3. TECHNICAL MANUALS

SUS Technical Manual NAVAIR 11-1-107	Hard copy	2	FY98	On board
Sonobuoy Inventory Cord Report, Control & Disposition NAVAIRINST 4010.3A	CD-ROM	2	NA	On board
P-3 TACMAN NWP 3-20.5	Hard copy	30	FY98	On board
P-3 A/B/C Airborne Weapons, Storage, Loading Manual NAVAIR 01-75PA-75	Hard copy	2	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development

TRAINING ACTIVITY: HS-10
LOCATION, UIC: NAS North Island, 09299
CIN, COURSE TITLE: Proficiency Training

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	2	FY98	On board
SUS Technical Manual NAVAIR 11-1-107	Hard copy	2	FY98	On board
Sonobuoy Inventory Condition Report, Control & Disposition NAVAIRINST 4010.3A	Hard copy	1	NA.	On board
SH-60F TACMAN NWP 3-21.64	Hard copy	20	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development

IV.B.3. TECHNICAL MANUALS

TRAINING ACTIVITY: HSL-40
LOCATION, UIC: NS Mayport, 53912
CIN, COURSE TITLE: Proficiency Training

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	5	FY98	On board
SUS Technical Manual NAVAIR 11-1-107	Hard copy	2	FY98	On board
SH-60B Airborne Weapons, Storage, Loading Manual NAVAIR H60BB-LWS-000	Hard copy	2	FY98	On board
SH-60B/LAMPS MKIII TACMAN NWP 3-21.63	Hard copy	20	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development

TRAINING ACTIVITY: HSL-41
LOCATION, UIC: NAS North Island, 55138
CIN, COURSE TITLE: Proficiency Training

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	5	FY98	On board
SUS Technical Manual NAVAIR 11-1-107	Hard copy	2	FY98	On board
SH-60B Airborne Weapons, Storage, Loading Manual NAVAIR H60BB-LWS-000	Hard copy	2	FY98	On board
SH-60B/LAMPS MKIII TACMAN NWP 3-21.63	Hard copy	20	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY98	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement)	CD-ROM	1	FY98	Development

IV.B.3. TECHNICAL MANUALS

NAVAIR 28-SSQ-500-4A

IV.B.3. TECHNICAL MANUALS

TRAINING ACTIVITY: FTG
LOCATION, UIC: NS Pearl Harbor, 44590
CIN, COURSE TITLE: Proficiency Training

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	2	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development
P-3 TACMAN NWP 3-20.5	Hard copy	2	FY98	On board

TRAINING ACTIVITY: FCTC
LOCATION, UIC: San Diego, 30291
CIN, COURSE TITLE: Proficiency Training

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	1	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development

TRAINING ACTIVITY: FCTC
LOCATION, UIC: Dam Neck, 30532
CIN, COURSE TITLE: Proficiency Training

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	1	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement)	CD-ROM	1	FY99	Development

IV.B.3. TECHNICAL MANUALS

NAVAIR 28-SSQ-500-4A

IV.B.3. TECHNICAL MANUALS

TRAINING ACTIVITY: RESASWTRACEN
LOCATION, UIC: NASJRB Willow Grove, 44637
CIN, COURSE TITLE: Proficiency Training

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	2	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development
P-3 TACMAN NWP 3-20.5	Hard copy	2	FY98	On board

TRAINING ACTIVITY: AW A1
LOCATION, UIC: NATTC Pensacola, 63093
CIN, COURSE TITLE: Proficiency Training

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	1	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development
Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development

TRAINING ACTIVITY: Helicopter Wing Reserve
LOCATION, UIC: NAS North Island, 09983
CIN, COURSE TITLE: Proficiency Training

TECHNICAL MANUAL TITLE, NUMBER	MEDIUM	QUANT REQD	DATE REQD	STATUS
Sonobuoy Instruction Manual NAVAIR 28-SSQ-500-1	Hard copy	2	FY98	On board
Basic Introduction to Air ASW Sensors NAVAIR 28-SSQ-500-4	CD-ROM	1	FY99	Development

IV.B.3. TECHNICAL MANUALS

Basic Introduction to Air ASW Sensors (Confidential Supplement) NAVAIR 28-SSQ-500-4A	CD-ROM	1	FY99	Development
SH-2G TACMAN NWP 55-2-SH2/LAMPS MKI	Hard copy	2	FY98	On board

PART V - MPT MILESTONES

COG CODE	MPT MILESTONES	DATE	STATUS
ACNO	Draft Consolidated Sonobuoy NTP	12/93	Completed
DA	Began analysis of manpower personnel, and training requirements	10/95	Completed
DA	Promulgated update Draft NTP to ALCON for review and comment	6/96	Completed
TSA	Developed Draft NTSP (Update)	2/97	Completed
DA	Submitted Proposed NTSP to OPNAV	8/97	Completed
DA	Began ADAR DT II	4th Qtr FY98	Completed
COMOPTEVFOR	Begin ADAR OT II	1st Qtr FY99	
TSA	Deliver Technical Training Equipment	FY99	
TSA	Deliver Curricula Material	FY99	

PART VI - DECISION ITEMS/ACTION REQUIRED

DECISION ITEM OR ACTION REQUIRED	COMMAND ACTION	DUE DATE	STATUS
None			

PART VII - POINTS OF CONTACT

NAME, ACTIVITY, CODE	FUNCTION	TELEPHONE NUMBERS COMMERCIAL, DSN, FAX INTERNET ADDRESS
CAPT D. Nelson CNO N880E	Head, Maritime Surveillance Section	(703)-695-2624, DSN 225
CAPT A. Steigelman CNO N881B	Head, Plans, Policy, and Fleet Maintenance	(703) 604-7747, DSN 664 (703) 604-6972 (fax) steigelman.anthony@hq.navy.mil
CAPT F. Smith CNO N889H	Head, Aviation Technical Training Branch	(703) 604-7730, DSN 664 (703) 604-6969 (fax) smith.frank@hq.navy.mil
AZC S. Dean CNO N889H7	NTSP Manager	(703) 604-7714, DSN 664 (703) 604-6939 (fax) dean.scott@hq.navy.mil
LCDR B. Mack CNO N122C1	Aviation Manpower	(703) 695-3247, DSN 225 (703) 614-5308 (fax) n122c1@bupers.navy.mil
Mr. R. Zweibel CNO N75B	Training Technology Policy	(703) 614-1344, DSN 224 (703) 695-5698 (fax) bobzweilbel@ntsc.navy.mil
LCDR D. Epperson CNO N869D2	Head, Surface Warfare Training	(703) 614-6087, DSN 224
AZC S. Paynter CNO N122C1D	Manpower and Personnel	(703) 695-3219, DSN 224 (703) 614-5308 n122c1d@bupers.navy.mil
CDR J. Rixey NAVAIRSYSCOM PMA205-8A	P-3 Training System Program Manager	(301) 757-8147, DSN 757 (301) 757-6945 (fax)
AWCM T. Weinzetl NAVAIRSYSCOM PMA205-8A2	Training System Manager	(301) 757-8156, DSN 757 (301) 757-6945 (fax)
CDR E. Hawkins CINCLANTFLT N-721	Aviation NTSP Manager	(757) 836-0101, DSN 836 (757) 322-0141 (fax) hawkinsel@clf.navy.mil
LT C. Presley CINCPACFLT N-343	Fleet Training and Readiness Coordinator	(808) 474-6965, DSN 474 (808) 471-8601 (fax) s341@cpf.navy.mil

PART VII - POINTS OF CONTACT

NAME, ACTIVITY, CODE	FUNCTION	TELEPHONE NUMBERS COMMERCIAL, DSN, FAX INTERNET ADDRESS
CDR C. Murphy CNO N885D1	Resource Sponsor / Program Sponsor	(703) 697-9359, DSN 227 (703) 695-7103 (fax) murphy.cyrus@hq.navy.mil
CAPT R. Gibson BUPERS PERS 4B	Deputy Assistant, Chief of Military Personnel for Distribution	(901) 874-3532, DSN 882 (901) 874-2606 (fax) p4b@persnet.navy.mil
CDR Lineberg BUPERS PERS 404	Branch Head, Aviation Enlisted Rating	(703) 693-1370, DSN 223 (703) 693-1392 (fax) p404@bupers.navy.mil
CDR. J. Vess PEO(A) PMA264B	Sonobuoy Production IPT Team Leader	(301) 757-5718, DSN 757 vessje.jfk@navair.navy.mil
CDR L. S. Gingery NAVMAC 30	Aviation Department Headr	(901) 874-6218, DSN 882 (901) 874-6471 (fax) scott.gingery@navmac.navy.mil
Mr. A. Sargent NACMAC 33	NTSP Coordinator	(901) 874-6247, DSN 882 (901) 874-6471 (fax)
CDR R. Martin CNET ETE323	Aviation Technical Training	(850) 452-4915, DSN 922 (850) 452-4901 (fax) cdr_ron.martin@smtp.cnet.navy.mil
GMCM T. Merril NETPDTC	PQS Development Group LCPO	(850) 452-1708, DSN 922 (850) 452-1764 gmcm_timothy.merrill@smtp.cnet.navy.mil
AWCS Rainwater NETPMSA Pensacola N34	PQS Development	(850) 452-1035, DSN 452 (850) 452-1764 (fax) awcs-william.rainwater@sntp.cnet.navy.mil
Mr. G. Wolf NSWC Crane Code 7054	APML PMA 264 Logistics	(812) 854-6730, DSN 482 (812) 854-3573 (fax) wolf_gw@crane.navy.mil
Mr. J. Savage NAWCAD Pax River Code 45543	Fleet Support	(301) 342-2106, DSN 342 (301) 342-2518 (fax) savagej@am5@paxmb1
GMC Versostek COMNAVSURFPAC N832	NTSP Coordinator	(619) 437-3120, DSN 577

PART VII - POINTS OF CONTACT

NAME, ACTIVITY, CODE	FUNCTION	TELEPHONE NUMBERS COMMERCIAL, DSN, FAX INTERNET ADDRESS
STG Rose FTC Norfolk N395A	ASW Training	(757) 444-1656, DSN 564
Mr. Phil Szczyglowski NAVAIRSYSCOM AIR 3.4.1	Competency Manager	(301) 757-9182 , DSN 757 (301) 342-4723 (fax) szczyglowski_phil%pax8b@mr.nawcad.navy.mil
AVCM Roger Lovern NAVAIRSYSCOM AIR 3.4.1	NTSP Manager	(301) 757-9183, DSN 757 (301) 342-4723 (fax) lovern_roger%pax8b@mr.nawcad.navy.mil
ATCS Steve Worthen NAVAIRSYSCOM AIR 3.4.1	NTSP Coordinator	(301) 757-9194, DSN 757 (301) 342-4723 (fax) worthen_stephen%pax8b@mr.nawcad.navy.mil