NAVY TRAINING SYSTEM PLAN

FOR THE

MARINE CORPS SHORE BASED AND EXPEDITIONARY AIRFIELD AIRCRAFT LAUNCH AND RECOVERY EQUIPMENT

N78-NTSP-A-50-0122/A

JULY 2003

MARINE CORPS SHORE BASED AND EXPEDITIONARY AIRFIELD AIRCRAFT LAUNCH AND RECOVERY EQUIPMENT

EXECUTIVE SUMMARY

This Navy Training System Plan (NTSP) has been developed to identify the life cycle manpower, personnel, and training requirements associated with Marine Corps Shore Based and Expeditionary Air Field (EAF) Aircraft Launch and Recovery Equipment (ALRE). Shore Based ALRE consists of terminal guidance equipment and emergency arresting gear installed at established bases such as Marine Corps Air Stations and includes the Precision Approach Path Indicator (PAPI), Mark 8 Mod 1 Fresnel Lens Optical Landing System (FLOLS), Improved Fresnel Lens Optical Landing System (IFLOLS), Manually Operated Visual Landing Aid System (MOVLAS), and E28 Emergency Runway Arresting Gear. EAF ALRE consists of systems, hardware, and accessories required to establish and support aircraft flight operations at forward sites, and includes the AM2 Airfield Matting, M21 and M31 Marine Corps Expeditionary Arresting Gear System (MCEAGS), Mark 8 Mod 0 FLOLS, Field Marker Light (FML), Marine Corps Minimum Operation Strip Lighting System (MOSLS), Expeditionary Airfield 2000 (EAF 2000) Lighting and Marking System, and the AN/PRC-139 Radio.

All systems addressed in this NTSP have achieved Initial Operating Capability with the exception of the M31 MCEAGS, which was completed in March 2003. All systems are in the Operations and Support Phase of the Defense Acquisition System (DAS) with the exception of the IFLOLS, which is in the Production and Deployment Phase.

The ALRE addressed in this NTSP is operated by Marine Corps Landing Signal Officers (LSO) with Military Occupational Specialty (MOS) 7549, Marine Corps Aircraft Recovery Specialists with MOS 7011, and civilian personnel. Marine Corps personnel with MOS 7011 perform organizational and intermediate level maintenance on all the ALRE addressed in this NTSP, with the exception of IFLOLS, PAPI, and MOVLAS. Contractor personnel maintain IFLOLS, PAPI, and MOVLAS at Marine Corps shore bases.

All initial operator and maintainer training has been completed with the exception of the M31 MCEAGS. M31 MCEAGS initial training will be provided to a cadre of Instructor, Expeditionary Airfield Services Unit, and Marine Wing Support Squadron personnel beginning in May 2003.

Follow-on operator training for LSOs with MOS 7549 is established at the LSO School, Naval Air Station Oceana, Virginia. Follow-on operator and maintenance training for Marine Corps personnel with MOS 7011 is established at the Naval Air Technical Training Center Pensacola, Florida. M31 MCEAGS information is being incorporated into course *C-604-2015, Marine Expeditionary Airfield Equipment*, and will be Ready For Training in Fiscal Year 04.

The manpower requirements identified in Marine Corps Tables of Organization are adequate to support current and future workloads, and will not change as a result of this NTSP.

MARINE CORPS SHORE BASED AND EXPEDITIONARY AIRFIELD AIRCRAFT LAUNCH AND RECOVERY EQUIPMENT

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MARINE CORPS SHORE BASED AND EXPEDITIONARY AIRFIELD AIRCRAFT LAUNCH AND RECOVERY EQUIPMENT

LIST OF ACRONYMS

ACDU	Active Duty
ALRE	Aircraft Launch and Recovery Equipment
ALSP	Acquisition Logistics Support Plan
AMTCS	Aviation Maintenance Training Continuum System
AOB	Average Onboard
AR	Active Reserve
ATIR	Annual Training Input Requirement
CBR	California Bearing Ratio
CFE	Contractor Furnished Equipment
CFY	Current Fiscal Year
CIN	Course Identification Number
CM	Corrective Maintenance
CMC	Commandant of the Marine Corps
CNATT	Center for Naval Aviation Technical Training
CNO	Chief of Naval Operations
COMLANTFLT	Commander Atlantic Fleet
COMPACFLT	Commander Pacific Fleet
DT	Developmental Test
EAF	Expeditionary Airfield
EASU	Expeditionary Airfield Services Unit
FCTP	Foreign Comparative Test Program
FLOLS	Fresnel Lens Optical Landing System
FML	Field Marker Light
FMS	Foreign Military Sales
FRS	Fleet Readiness Squadron
FY	Fiscal Year
GPTE	General Purpose Test Equipment
GFE	Government Furnished Equipment
HUD	Head-Up Display
IFLOLS	Improved Fresnel Lens Optical Landing System
ILSP	Integrated Logistics Support Plan
IOC	Initial Operating Capability

MARINE CORPS SHORE BASED AND EXPEDITIONARY AIRFIELD AIRCRAFT LAUNCH AND RECOVERY EQUIPMENT

LIST OF ACRONYMS

IPB	Illustrated Parts Breakdown
JRB	Joint Reserve Base
LMS	Lighting and Marking System
LSO	Landing Signal Officer
MALS	Marine Aviation Logistics Squadron
MATMEP	Maintenance Training Management and Evaluation Program
MCALF	Marine Corps Auxiliary Landing Field
MCARS	Marine Corps Aircraft Recovery Specialist
MCAS	Marine Corps Air Station
MCCDC	Marine Corps Combat Development Command
MCEAGS	Marine Corps Expeditionary Arresting Gear System
MOS	Military Occupational Specialty
MOSKIT	Minimum Operating Strip Lighting Kit
MOSLS	Minimum Operating Strip Lighting System
MOVLAS	Manually Operated Visual Landing Aid System
MRC	Maintenance Requirements Card
MSD	Material Support Date
MWSS	Marine Wing Support Squadron
NA	Not Applicable
NADEP	Naval Aviation Depot
NAMP	Naval Aviation Maintenance Program
NAS	Naval Air Station
NATO	North Atlantic Treaty Organization
NATOPS	Naval Air Training and Operating Procedures Standardization
NATTC	Naval Air Technical Training Center
NAVAIR	Naval Air Systems Command
NAVICP	Navy Inventory Control Point
NAVMAC	Naval Manpower Analysis Center
NAVPERSCOM	Navy Personnel Command
NAWCAD	Naval Air Warfare Center Aircraft Division
NETC	Naval Education and Training Command
NiCad	Nickel Cadmium
NSD	Navy Support Date
NTSP	Navy Training System Plan
NVG	Night Vision Goggles

MARINE CORPS SHORE BASED AND EXPEDITIONARY AIRFIELD AIRCRAFT LAUNCH AND RECOVERY EQUIPMENT

LIST OF ACRONYMS

OLSP	Operational Logistics Support Plan
OPEVAL	Operational Evaluation
OPNAV	Office of the Chief of Naval Operations
OPNAVINST	Office of the Chief of Naval Operations Instruction
OPO	OPNAV Principal Official
ORD	Operational Requirements Document
PAPI	Precision Approach Path Indicator
PDA	Principal Development Activity
PFY	Previous Fiscal Year
PM	Preventive Maintenance
PMA	Program Manager, Air
PMOS	Primary Military Occupational Specialty
RAF	British Royal Air Force
RFOU	Ready For Operational Use
RFT	Ready For Training
SALKIT	Supplemental Airfield Lighting Kit
SBE	Shore Based Equipment
SMCR	Selected Marine Corps Reserve
SMOS	Secondary Military Occupational Specialty
SRA	Shop Replaceable Assembly
TD	Training Device
TECHEVAL	Technical Evaluation
TLZ	Tactical Landing Zone
TSA	Training Support Agency
TTE	Technical Training Equipment
ULSS	Users Logistics Support Summary
USMC	United States Marine Corps
WRA	Weapon Replaceable Assembly

MARINE CORPS SHORE BASED AND EXPEDITIONARY AIRFIELD AIRCRAFT LAUNCH AND RECOVERY EQUIPMENT

PREFACE

This Approved Navy Training System Plan (NTSP) for the Marine Corps Shore Based and Expeditionary Airfield (EAF) Aircraft Launch and Recovery Equipment (ALRE) has been developed to update the Draft Expeditionary Airfields NTSP, A-50-0122/D, dated March 2002, in accordance with the guidelines set forth in the Navy Training Requirements Documentation Manual, Office of the Chief of Naval Operations (OPNAV) Publication P-751-1-9-97.

This NTSP incorporates all ALRE employed by the Marine Corps into one document. Major changes in this iteration include:

- Changing the NTSP title from Expeditionary Airfields to Marine Corps Shore Based and Expeditionary Airfield Aircraft Launch and Recovery Equipment to more accurately identify the NTSP content.
- Incorporation of the Expeditionary Airfield 2000 Lighting and Marking System (LMS) hereafter, referred to as the EAF 2000 LMS.
- Incorporation of the latest program information throughout the document.
- Incorporation of Draft NTSP review comments.

Comments were received from the Naval Education and Training Command and serve to clarify several items throughout the NTSP.

PART I - TECHNICAL PROGRAM DATA

A. NOMENCLATURE-TITLE-PROGRAM

1. Nomenclature-Title-Acronym. Marine Corps Shore Based and Expeditionary Airfield (EAF) Aircraft Launch and Recovery Equipment (ALRE)

2. Program Element. Not Applicable (NA)

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 (N78)

OPO Resource Sponsor..... CNO (N78)

Marine Corps Program Sponsor ..... CMC (ASL-33)

Developing Agency ..... NAVAIR (PMA251)

Training Agency ..... MCCDC (C462)
CNATT (FID N5)

Training Support Agency..... NAVAIR (PMA205)

Manpower and Personnel Mission Sponsor..... CMC (ASM-1)

Director of Naval Training ..... CNO (N00T)

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

D. SYSTEM DESCRIPTION

1. Operational Uses. The ALRE addressed in this NTSP are identified in two categories: Shore Based Equipment (SBE) and EAF Equipment. SBE consists of terminal guidance equipment and emergency arresting gear installed at established bases such as Marine Corps Air Stations (MCAS). SBE includes:

- Precision Approach Path Indicator (PAPI)
- Mark 8 Mod 1 Fresnel Lens Optical Landing System (FLOLS)
- Improved Fresnel Lens Optical Landing System (IFLOLS)
- Manually Operated Visual Landing Aid System (MOVLAS)
- E28 Emergency Runway Arresting Gear

EAF equipment consists of equipment, hardware, and accessories required to establish and support aircraft flight operations at forward sites. EAF equipment includes:

- AM2 Airfield Matting
- M21 and M31 Marine Corps Expeditionary Arresting Gear System (MCEAGS)
- Mark 8 Mod 0 FLOLS
- Field Marker Light (FML)
- Marine Corps Minimum Operation Strip Lighting System (MOSLS)
- EAF 2000 LMS
- AN/PRC-139 Radio.

2. Foreign Military Sales. Information regarding Foreign Military Sales (FMS) of the equipment addressed in this NTSP may be obtained from Naval Air Systems Command (NAVAIR) Program Manager, Air (PMA) 251.

E. DEVELOPMENTAL TEST AND OPERATIONAL TEST

1. Developmental Test

a. Precision Approach Path Indicator. The PAPI did not require Technical Evaluation (TECHEVAL).

b. Improved Fresnel Lens Optical Landing System. TECHEVAL of the IFLOLS was successfully completed at NAVAIR Patuxent River, Maryland, in September 1996.

c. Manually Operated Visual Landing Aid System. TECHEVAL of the MOVLAS was successfully completed over thirty years ago.

d. E28 Emergency Runway Arresting Gear. TECHEVAL of the E28 Emergency Runway Arresting Gear was successfully completed at NAVAIR Lakehurst, New Jersey, in the 1980s.

e. AM2 Airfield Matting. TECHEVAL of the AM2 Airfield Matting was completed in 1961.

f. M21 Marine Corps Expeditionary Arresting Gear System. TECHEVAL of the M21 MCEAGS was successfully completed in 1962.

g. M31 Marine Corps Expeditionary Arresting Gear System. Developmental Tests (DT) of the M31 MCEAGS was successfully completed at the NAVAIR Lakehurst Jet Car Track Site in June 2001.

h. Marine Corps Minimum Operation Strip Lighting System. Since the MOSLS is a non-developmental procurement item, DT was not required.

i. Field Marker Light. TECHEVAL of the FML was not required.

j. AN/PRC-139 Radio. TECHEVAL of the AN/PRC-139 Radio was successfully completed by the Air Force in 1992.

k. Mark 8 Fresnel Lens Optical Landing Systems. TECHEVAL of the Mark 8 FLOLS was successfully completed at NAVAIR Lakehurst in the 1970s.

l. Expeditionary Airfield 2000 Lighting and Marking System. TECHEVAL of the EAF 2000 LMS was successfully completed in the 1960s.

2. Operational Test

a. Precision Approach Path Indicator. Formal Operational Evaluation (OPEVAL) was not required for the PAPI.

b. Improved Fresnel Lens Optical Landing System. Formal OPEVAL was not required for the IFLOLS.

c. Manually Operated Visual Landing Aid System. Formal OPEVAL was not required for the MOVLAS.

d. E28 Emergency Runway Arresting Gear. OPEVAL of the E28 Emergency Runway Arresting Gear was successfully completed at NAVAIR Lakehurst in the 1980s.

e. AM2 Airfield Matting. OPEVAL of the AM2 Airfield Matting was successfully completed in 1961.

f. M21 Marine Corps Expeditionary Arresting Gear System. OPEVAL of the M21 MCEAGS was successfully completed in 1962.

g. M31 Marine Corps Expeditionary Arresting Gear System. Marine Suitability Testing of the M31 MCEAGS was successfully completed in March 2002.

h. Marine Corps Minimum Operation Strip Lighting System. In August 1992, the British Royal Air Force (RAF) provided a demonstration evaluation to determine if the existing RAF version of the MOSLS was suitable to fulfill the requirement for EAF lighting. In March 1997, as part of the Foreign Comparative Test Program (FCTP), a Logistics Evaluation and demonstration was conducted at Marine Corps Auxiliary Landing Field (MCALF), Bogue, North Carolina. This included two weeks of initial training provided by RAF and contractor personnel to Marine Expeditionary Airfield Equipment Course instructors, NAVAIR Lakehurst engineering and logistics personnel, and Marine Wing Support Squadron (MWSS) 271 personnel. The FCTP also included aircraft compatibility tests with regards to Visual Landing Aids and transportation, with a complete installation, maintenance, and a disassemble-

reassemble demonstration. The RAF version of the MOSLS satisfied all requirements of the Operational Requirements Document (ORD).

i. Field Marker Light. OPEVAL of the FML was successfully completed in 1995.

j. AN/PRC-139 Radio. OPEVAL of the AN/PRC-139 Radio was successfully completed by the Air Force in 1992.

k. Mark 8 Fresnel Lens Optical Landing Systems. OPEVAL of the Mark 8 FLOLS was successfully completed at NAVAIR Lakehurst in the 1970s.

l. Expeditionary Airfield 2000 Lighting and Marking System. OPEVAL of the EAF 2000 LMS was successfully completed in the 1960s.

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

1. Precision Approach Path Indicator. The PAPI did not replace any existing system.

2. Improved Fresnel Lens Optical Landing System. The IFLOLS replaced the Mark 6 Mod 3 FLOLS.

3. Manually Operated Visual Landing Aid System. The MOVLAS did not replace any existing system.

4. E28 Emergency Runway Arresting Gear. The E28 Emergency Runway Arresting Gear replaced the E5 Emergency Runway Arresting Gear at selected MCASs.

5. AM2 Airfield Matting. The AM2 Airfield Matting did not replace any existing airfield matting system.

6. M21 Marine Corps Expeditionary Arresting Gear System. The M21 Marine Corps Expeditionary Arresting Gear System did not replace any existing arresting system.

7. M31 Marine Corps Expeditionary Arresting Gear System. The M31 MCEAGS will replace the M21 MCEAGS.

8. Marine Corps Minimum Operation Strip Lighting System. The MOSLS did not replace any existing system.

9. Field Marker Light. The FML did not replace any existing lighting system.

10. AN/PRC-139 Radio. The AN/PRC-139 Radio replaced various other hand-held communications equipment being used to support EAF operations.

11. Mark 8 Fresnel Lens Optical Landing Systems. The Mark 8 FLOLS replaced the Mark 10 FLOLS.

12. Expeditionary Airfield 2000 Lighting and Marking System. The EAF 2000 LMS did not replace any existing lighting system.

G. DESCRIPTION OF NEW DEVELOPMENT

1. Functional Description

a. Precision Approach Path Indicator. The PAPI uses four individual units, each consisting of two lights permanently installed perpendicular to the runway, arranged in a single bar configuration. Each unit projects a split beam of light precisely divided horizontally into a white upper section and a red lower section. The transition from red to white or vice versa occurs over a vertical angle of approximately three degrees glide slope with the light in this area being pink in color.

b. Improved Fresnel Lens Optical Landing System. The trailer-mounted IFLOLS is towed to a concrete pad located adjacent to the runway, set-up and aligned, and put into operation. At the end of each exercise or at the end of each day the IFLOLS is removed and stored. The IFLOLS displays a virtual image (meatball), which appears aligned between two horizontal datum arms when the aircraft is on an optimal glide path for landing approach. As the aircraft traverses above or below the optimal glide path, the ball will appear to move away from the datum axis respectively. The ball appears yellow in color unless the aircraft's landing approach is greater than 45 degrees below the optimal glide path axis, in which case a flashing red color will be observed.

c. Manually Operated Visual Landing Aid System. The MOVLAS is designed to present glide slope information to the Pilot of an approaching aircraft in the same manner as the Mark 8 FLOLS or IFLOLS. When either the Mark 8 FLOLS or IFLOLS becomes inoperative, the portable, trailer-mounted MOVLAS is towed into position and operates in place of the inoperative system until repairs are completed.

d. E28 Emergency Runway Arresting Gear. An aircraft arrestment using the E28 Emergency Runway Arresting Gear is accomplished by the engagement of the aircraft's tail-hook with a deck pendant that spans the runway. During run-out, the kinetic energy of the arrested aircraft is absorbed by the rotary hydrodynamic arresting engines. The arrestment is entirely automatic. The arresting gear engines are activated when the aircraft's tail-hook engages the deck pendant, thereby pulling out the attached purchase tapes. As each tape unwinds, a splined shaft turns a vaned rotor located between vaned stators in a housing filled with fluid. The turbulent fluid resistance decreases the rotational speed of the drums, thereby slowing down the purchase tape pay-out that in turn applies a braking force on the aircraft.

e. AM2 Airfield Matting. The AM2 Airfield Matting is a fabricated aluminum panel consisting of a hollow, extruded, one-piece main section with extruded end connectors welded to each end. The AM2 Airfield Matting may also be fabricated in two- and three-piece main panel extrusions, which, when welded longitudinally, form the same size and shape as the one-piece extrusion. AM2 Airfield Matting is fabricated in 6-foot and 12-foot lengths and is painted Marine Corps Green; the top surface is coated with a nonskid material of the same color.

The sides of the matting panels are constructed to interlock with a rotating motion. The end connectors are arranged with the prongs up on one end and down on the other. Thus, by properly placing the end connector of one mat over the end connector of the previous mat, a continuous layer of matting is formed. A flat locking bar is then inserted into the slot common to the two mats to form a non-separable joint.

f. M21 Marine Corps Expeditionary Arresting Gear System. The M21 MCEAGS primary recovery installation is a lightweight, high-capacity arresting system for the recovery of aircraft at EAF sites under normal arresting conditions. The arresting engines utilize the vortex principle of energy absorption in a hydrodynamic braking system. As the arresting hook of an incoming aircraft engages the deck pendant, which is pretensioned across the runway and connected to tapes on the arrester engine, the tapes unwind to set the absorber rotor of each arrester engine in motion. Rotation of the rotor sets fluid located in the base of the arrester engine into motion, causing the fluid to flow toward and around the outer periphery of the rotor at great velocity that generates a vortex action at the center of the rotor. This flow is diverted to the absorber stator that decreases the velocity and causes the flow to enter the vortex action of the fluid. As fluid motion increases, due to the rapid removal of the tape, the greater the breaking action. A throttle located at the base of the absorber controls the rate of fluid flow. At completion of an arrestment, a friction brake within each arrester engine retains the tape reel in the unwound condition to allow disengagement of the deck pendant from the aircraft's arresting hook. The friction brakes are released and the tape is then rewound onto its respective reel.

g. M31 Marine Corps Expeditionary Arresting Gear System. Each M31 MCEAGS consists of two trailer mounted arresting gear platforms and associated equipment. The mobile arresting gear platforms consist of an energy absorber system, a retract system, an energy absorber cooling system, a mobility system, and an anchoring system. When an aircraft tail hook engages a pendant stretched across a runway, the pendant and two purchase tapes are pulled down the runway. As the tapes are being unwound from the two purchase tape drums, the energy absorber turns, generating a breaking force which smoothly decelerates the aircraft to a safe stop. After the hook of the aircraft has been disengaged from the cross-deck pendant, the purchase tapes and cross-deck pendant are retrieved using a retract subsystem. Each purchase tape is wound on their respective tape drum with a pressure roller applying force to squeeze the tape against the tape stack to ensure that the tape is tightly and uniformly wound. When the tapes are fully wound, cinching tension is applied to the pendant by the retract subsystem, the cross-deck pendant tension is set, and the M31 MCEAGS is ready to arrest another aircraft.

h. Marine Corps Minimum Operation Strip Lighting System. A complete MOSLS system consists of two Minimum Operating Strip Lighting Kits (MOSKIT) and three Supplemental Airfield Lighting Kits (SALKIT). Each kit has its own trailer, battery chargers, and auxiliary equipment necessary for a self-contained system that requires minimum support.

(1) Minimum Operating Strip Lighting Kit. The MOSKIT is a fully self-contained, portable, rapidly deployed, stand-alone, emergency and contingency airfield lighting system. It is designed for day or night operation and is compatible with Night Vision Goggles. The individual components of the MOSKIT can be operated manually or through a

remote control unit. All components of the MOSKIT are water-resistant and can be operated in moderately heavy rain, sleet, or snow.

(2) Supplemental Airfield Lighting Kit. The SALKIT consists of a trailer containing 64 omni-directional runway edge lights used as additional lighting for runways, taxiways, and parking areas. All components can be remotely controlled by radio signal using a hand-held master switching unit.

i. Field Marker Light. The FML is a battery-operated, omni-directional, incandescent lighting fixture used to provide temporary airfield lighting along Minimum Operating Strips, Vertical Take-Off and Landing Sites, and other Tactical Landing Zones (TLZ). Five lenses are available for use with the FML. A clear lens is used for airfield approach and runway or TLZ edge lighting. Red lenses are used to mark obstructions and runway departure end thresholds. Blue lenses mark the taxiway edge. Green lenses mark runway approach end thresholds. Infrared lenses are used during operations involving night vision devices. FMLs have the capability to be turned on and off remotely. Remote control is accomplished by transmitting a signal from the speaker of the AN/PRC-139 Radio to remote control devices located between each FML and its battery. Power is provided to the FML by either a BA-4386 magnesium battery or a BA-5598 lithium-sulfur dioxide battery.

j. AN/PRC-139 Radio. The AN/PRC-139 Radio consists of a receiver-transmitter, antenna assemblies, audio accessories, camouflage carrying bag, programmer unit, and battery charger.

The receiver-transmitter includes three interchangeable transceiver modules and a hand-held radio chassis. Use of the interchangeable transceiver modules provides the capability of operating at tactical frequency, high frequency, or ultra-high frequency bands. When the receiver modules are changed, the antenna is also changed to match the selected frequency. The receiver-transmitter has the capability to be operated either as a stand-alone unit or as part of a base station.

Audio accessories include a palm handset, H-250/U handset, headset, and ear microphone. The palm handset is the standard handset for the receiver-transmitter and consists of a loudspeaker, microphone, and push-to-talk switch. The H-250/U handset is the recommended government inventory handset. It is a rugged speaker-microphone. The ear microphone allows the operator to discreetly monitor, send, or receive transmissions. The receiver-transmitter is equipped with a camouflage carrying bag that is used in the field to provide storage for the receiver-transmitter, a spare battery, handset, and antennas. The MX-11531/U programmer device provides a means of viewing and changing the receiver-transmitter's programmable parameters such as output power, channel frequencies, and squelch levels. The battery charger has the capability to initially charge, deep discharge and recharge, or fast charge up to four Nickel Cadmium (NiCad) batteries at one time.

k. Mark 8 Fresnel Lens Optical Landing Systems. The portable shore based Mark 8 FLOLS is a trailer-mounted, electro-optical landing system used at permanent and expeditionary airfields. The Mark 8 FLOLS provides a horizontal bar of lights that appears in the cell assembly. The position of the bar of lights with respect to a set of fixed horizontal datum

lights indicates to the Pilot of an approaching aircraft whether the aircraft is above, below, or on the correct glide slope. The bar of lights is formed by the combined actions of the source lights, Fresnel lenses, and lenticular lenses. When the Pilot aligns the bar of light with the horizon datum lights, the aircraft's approach is correct for a runway landing.

l. Expeditionary Airfield 2000 Lighting and Marking System. The EAF 2000 LMS, also known in the fleet as "Hardwire," is the primary runway lighting and marking system used to support flight operations at EAF sites. Major components of the EAF 2000 LMS include an electrical distribution system and workshop that distributes power to lighting control circuits and to the FLOLS and provides a work space equipped with special tools and equipment used to support field lighting components, remote control panels used to activate and adjust lighting systems, and constant current regulators that provide a steady load current when connected to a power source. Additionally, the EAF 2000 LMS includes runway edge marker lights, threshold lights, taxiway lights, approach lights, strobe lights, line-up lights, illuminated wind cones, and the associated cables required to connect the components.

2. Physical Description

a. Precision Approach Path Indicator. Physical dimensions of major PAPI components are as follows:

ASSEMBLY	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
	HEIGHT	WIDTH	DEPTH	
Base Assembly	7.75	17.38	29.38	50
Module Assembly	6.50	6.00	19.50	20
Tilt Switch Assembly	4.00	5.25	3.03	1
Hood Assembly	8.50	14.19	32.06	5
Leg Cap Assembly	5.50	3.00	3.00	2
Power Adapter Assembly	20.00	20.00	11.50	75

b. Improved Fresnel Lens Optical Landing System. Physical dimensions of major IFLOLS components are as follows:

ASSEMBLY	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
	HEIGHT	WIDTH	DEPTH	
Trailer	102.0	84.0	144.0 (length)	2333.0
Indicator Display Assembly	73.0	17.0	42.0	1350.0
Landing Signal Officer (LSO) Control Panel Assembly	18.5	13.0	24.5	70.0

ASSEMBLY	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
	HEIGHT	WIDTH	DEPTH	
Mounting Structure Assembly	65.0	51.0	51.8	800.0
Port Datum Arm Assembly	50.0	27.0	70.0	100.0
Starboard Datum Arm Assembly	50.0	27.0	70.0	100.0
Distribution Junction Box	17.5	6.2	15.0	20.0
Port Wave Off and Cut Lamp Arm Assembly	57.0	33.0	40.0	120.0
Starboard Wave Off and Cut Lamp Arm Assembly	57.0	33.0	40.0	120.0
Lighting Junction Box Assembly	7.6	11.4	13.4	16.9

c. Manually Operated Visual Landing Aid System. Physical dimensions of major MOVLAS components are as follows:

ASSEMBLY	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
	HEIGHT	WIDTH	DEPTH	
Light Box (A-100A)	60.5	12.0	5.5	46.0
LSO Controller (A-200)	61.0	6.3	16.8	25.0
* Power Control Box (A-300A)	23.0	16.0	8.0	96.0
Datum Light Boxes (A-400A and A-401A)	25.5	66.0	4.75	17.5
* Datum Control Box (A-500A)	23.0	16.0	8.0	75.0
Transformer (A-600A)	23.0	16.0	8.0	105.0
Dual Connector Box (A-1000)	23.0	16.0	8.0	42.0
Light Box Monitor (A-1100)	11.0	7.0	7.3	20.0
Junction Box (A-1200)	16.0	12.0	7.2	40.0

*** Note:** Power required to operate the Power Control Box is 115 volts alternating current, 60 cycle (Type 1), single phase, 20 amperes, (maximum). Power required to operate the Datum Control Box is 115 volts alternating current, 60 cycle (Type 1), single phase, 25 amperes, (maximum).

d. E28 Emergency Runway Arresting Gear. The E28 Emergency Runway Arresting Gear general arrangement consists of two arresting engine assemblies and two runway,

edge sheave assemblies installed on concrete foundations on opposite sides of the runway. Purchase tapes from each arresting engine assembly are coupled to a common deck pendant assembly. Major components include a tape drum and capstan assembly, a retrieve drive sprocket and bearing assembly, and a vaned rotor mounted on a common shaft assembled in a vaned housing. An engine absorber unit is mounted on a steel base, on which are also mounted a retrieve engine, an arrester sheave, and a tape pressure arm pivot. Leading E28 Emergency Runway Arresting Gear particulars are as follows:

CHARACTERISTIC	SPECIFICATION
ARRESTING ENGINE	
Gross Weight	11,700 pounds
Length	13 feet
Width	33 inches
Rewind System Power	Gasoline engine
Purchase Tape Data	Nylon, 8 inches wide, 0.344 inches thick
Deck Pendant Construction	1¼ inch diameter, non-rotating wire rope
Run-out	1,000 feet
TORQUE CONVERTER	
Maximum Input Speed	3000 revolutions per minute
Maximum Input Torque	270 pounds per foot
Maximum Torque Multiplication Ratio	3.42 to 1
Charging Oil Capacity	12 gallons per minute at 1800 revolutions per minute
Weight	250 pounds
RETRIEVE ENGINE	
Number of Cylinders	4
Bore and Stroke	3¾ inches by 4 inches
Piston Displacement	177 cubic inches
Electrical System	12 volt direct current
Cooling	Air
Horsepower	65
Weight	530 pounds

e. AM2 Airfield Matting. AM2 Airfield Matting and related components are packaged for deployment in the following configuration:

PACKAGE DESCRIPTION	DIMENSIONS (FEET)			WEIGHT (POUNDS)
	LENGTH	WIDTH	HEIGHT	
Run-Up Anchor Package Assembly	6.6	4.6	2.1	1348
Grout Drum Package Assembly	6.2	2.5	2.5	1005
Keylock Package Assembly	12.2	2.5	2.5	2600
Tool Kit Assembly	8.0	5.0	7.0	6000
12-Foot Airfield Mat Package Assembly	12.2	2.5	2.5	2880
Six-Foot Airfield Mat Package Assembly	6.2	2.5	2.5	1475
Heavy Duty Mat Package Assembly	6.2	2.5	2.5	2210
Stake and Edge Clamp Package Assembly	6.2	2.5	2.5	1775
Driveable Earth Anchor Package Assembly	6.2	2.5	2.5	1421
Lightweight Earth Anchor Package Assembly	6.2	2.5	2.5	1960
H-Connector Package Assembly	6.2	2.5	2.5	2125
Spacer Mat Package Assembly	12.2	2.5	2.5	2894
Aircraft Tie-Down Package Assembly	6.2	2.5	2.5	1350
Edge Clamp Adapter/Concrete Anchor Bolt Package Assembly	6.2	2.5	2.5	1510
Blast Deflector Adapter Package Assembly	6.2	2.5	2.5	2600
Steel Strapping Package Assembly	6.2	2.5	2.5	2350
Dual-Mass Dynamic Cone Penetrometer	4.3	1.0	.42	65

f. M21 Marine Corps Expeditionary Arresting Gear System. Leading M21 MCEAGS particulars are as follows:

CHARACTERISTIC	SPECIFICATION
Aircraft Weight Capacity	10,000 pounds (maximum)
Run-Out	765 feet
Tape Length	700 feet
Tape Thickness	0.3 inch

CHARACTERISTIC	SPECIFICATION
Tape Width	11.0 inches
Tape Preload	1,000 pounds
Brake Holding Torque	1,000 pounds
Tape Useful Strength	80,000 pounds (maximum) 10,000 pounds (minimum)
Pendant Diameter	1¼ inches
Retrieve Time	¾ to1 minute (with a skilled crew)
Hydraulic Fluid Capacity	350 gallons
Arrester Engine Length	118 inches
Arrester Engine Width	113 inches
Arrester Engine Height	48 inches
Arrester Engine Weight	9,225 pounds
Retrieve Engine Length	73 inches
Retrieve Engine Width	30 inches
Retrieve Engine Height	65 inches
Retrieve Engine Weight	2,200 pounds

g. M31 Marine Corps Expeditionary Arresting Gear System. Leading M31 MCEAGS particulars are as follows:

CHARACTERISTIC	SPECIFICATION
Aircraft Weight Capacity	65,000 pounds (maximum)
Run-Out	Up to 1000 feet
Tape Length	653 or 894 feet
Tape Thickness	0.3 inch
Tape Width	10.0 inches
Brake Holding Torque	1,000 pounds
Pendant Diameter	1.25 inches
Retrieve Time	1 minute (with a skilled crew)
Cooling System Volume	104 gallons
Normal Arrestment Rate	Six aircraft per hour for 12

CHARACTERISTIC	SPECIFICATION
	hours per day
Rapid Cycle Capacity	20 aircraft per hour
Absorber Fluid	Arctic Type A-A 52629 Pre-Mixed Antifreeze
Retrieve System	4 cylinder, 4 cycle, 75 horse power multi fuel Duetz engine
Trailer Length	25 feet including tow bar
Trailer Width	7 feet 2 inches
Trailer Height	6 feet 1 inch
Trailer Weight	17,400 pounds configured for KC-130 aircraft transport

h. Marine Corps Minimum Operation Strip Lighting System. Physical dimensions of major MOSLS components are as follows:

ASSEMBLY	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
	HEIGHT	WIDTH	DEPTH	
MOSKIT Trailer Assembly	70.8	146.8	64.6	3,435.0
Tactical Precision Approach Path Indicator	16.7	16.1	23.6	31.0
Night Vision Goggle Tactical Precision Approach Path Indicator	16.7	12.5	19.0	23.0
Uni-Directional Approach Light	12.0	7.7	7.7	14.0
Omni-Directional Runway Edge Light	12.0	7.7	7.7	16.0
Generator Set	22.0	16.0	30.0	140.0
Battery Charger	10.5	19.0	14.0	95.0
Master Switching Unit	12.0	3.2	2.7	2.5
SALKIT Trailer	70.8	146.8	64.6	3650.0

i. Field Marker Light. Physical dimensions of major FML components are as follows:

COMPONENT	DIMENSIONS (INCHES)			WEIGHT (OUNCES)
	HEIGHT	WIDTH	DEPTH	
FML	4.50	3.00	3.00	8.0
Battery	2.25	3.50	9.50	2.0
Code Controller	1.50	2.73	3.75	4.5
Remote Control Unit	1.50	3.00	3.00	7.5

j. AN/PRC-139 Radio. The AN/PRC-139 Radio includes a receiver-transmitter, two rechargeable batteries, four interchangeable antennas, audio accessories, camouflage carrying bag, and lanyard. AN/PRC-139 Radio leading particulars are as follows:

CHARACTERISTIC	SPECIFICATION
Length	9.1 inches
Width	3.0 inches
Height	1.8 inches
Weight	3.3 pounds
Electrical Power Requirements	10 volts direct current rechargeable NiCad or non-rechargeable lithium battery
Frequency Range	30-88 megahertz 136-174 megahertz 403-470 megahertz
Transmitter Output	0.5 and 2.0 watts programmable
Security	TEMPEST chip
Channels	14 programmable

k. Mark 8 Fresnel Lens Optical Landing Systems. The Mark 8 FLOLS is mounted on a modified ¼-ton, two-wheel cargo trailer, upon which a frame assembly, cell assembly, junction box, spare parts box, control box reel assembly, separate wave-off intensity control box, source light failure indicator, trailer jack assemblies, and sighting mirror assembly are mounted. The total weight of the Mark 8 FLOLS is 1,417 pounds. Physical dimensions of major components are as follows:

ASSEMBLY	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
	HEIGHT	WIDTH	DEPTH	
Control Box	20.00	36.25	20.00	250
Junction Box	6.75	22.50	20.25	50
Source Light Failure Indicator	10.50	6.47	4.75	10
Wave-Off Intensity Control	16.25	14.25	8.75	25
Jack and Level Assemblies	22.00	8.00	3.00	25
Frame Assembly	66.50	204.00	14.50	90
Cell Assemblies (five each)	10.00	22.75	32.50	50
Sighting Mirror Assembly	97.00	1.5 (diameter)	NA	35

l. Expeditionary Airfield 2000 Lighting and Marking System. The EAF 2000 LMS is packaged in reusable aluminum and wooden shipping boxes. The contents, size, and weight of each container is as follows:

CONTAINER NUMBER	COMPONENTS	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
		HEIGHT	WIDTH	LENGTH	
L24	Approach lights	44.5	64.0	148.0	4,600
L29	Wind indicator and cables	44.5	76.0	124.0	2,600
L33	Electrical cable reels	50.0	44.0	70.0	1,900
L34	Electrical cable reels	50.0	44.0	70.0	1,300
L36	Electrical cable reels	50.0	54.0	54.0	2,000
L37	Electrical cable reels	45.0	44.0	44.0	1,250
L43	Runway lights	44.5	76.0	124.0	3,900
L49	Taxiway lights	44.5	76.0	124.0	4,100
L52	Wind cone and cables	44.5	76.0	124.0	2,500

CONTAINER NUMBER	COMPONENTS	DIMENSIONS (INCHES)			WEIGHT (POUNDS)
		HEIGHT	WIDTH	LENGTH	
L53	Electrical cables, lights, and transformers	68.5	75.0	124.0	5,900
L54	Electrical cables, lights, and transformers	44.5	76.0	124.0	4,800
L62	Runway lights	44.5	76.0	124.0	4,200
L63	Approach lights and cables	44.5	74.0	124.0	3,300
L74	Surface mounting hardware	27.5	46.0	64.0	2,700
L86	Runway and taxi lights	44.5	76.0	124.0	4,650
L87	Runway and taxi lights	44.5	76.0	124.0	4,575
L88	Surface mounting hardware	37.5	46.0	64.0	4,416
L89	Current regulators	46.5	45.0	48.0	1,816
L90	Current regulators	46.5	45.0	48.0	1,446
L91	Current regulators	46.5	45.0	48.0	1,235
L95	Electrical distribution system and workshop	102.0	96.0	238.5	10,000

Note: The referenced weight is the gross weight of the container and includes the weight of the empty container, dunnage, packing cartons, and components.

3. New Development Introduction

a. Precision Approach Path Indicator. The PAPI was introduced as new equipment at selected shore based activities.

b. Improved Fresnel Lens Optical Landing System. IFLOLS is being introduced through new production as a replacement for existing shore based Mark 8 FLOLS.

c. Manually Operated Visual Landing Aid System. The MOVLAS was procured as new equipment.

d. E28 Emergency Runway Arresting Gear. The E28 Emergency Runway Arresting Gear was installed as new equipment.

e. AM2 Airfield Matting. The AM2 Airfield Matting was procured as new equipment.

f. M21 Marine Corps Expeditionary Arresting Gear System. The M21 MCEAGS was introduced as new production equipment.

g. M31 Marine Corps Expeditionary Arresting Gear System. The M31 MCEAGS is being introduced as a new procurement to replace the M21 MCEAGS.

h. Marine Corps Minimum Operation Strip Lighting System. MOSLS was introduced as new production equipment.

i. Field Marker Light. The FML was introduced as new production equipment.

j. AN/PRC-139 Radio. The AN/PRC-139 Radio is being procured as new equipment through an Air Force contract.

k. Mark 8 Fresnel Lens Optical Landing Systems. The Mark 8 FLOLS was introduced as a retrofit replacement for the Mark 10 FLOLS.

l. Expeditionary Airfield 2000 Lighting and Marking System. The EAF 2000 LMS was introduced as new production equipment.

4. Significant Interfaces

a. Precision Approach Path Indicator. The PAPI requires an electrical power source. It does not interface with any other systems.

b. Improved Fresnel Lens Optical Landing System. The IFLOLS requires an electrical power source. It does not interface with any other systems.

c. Manually Operated Visual Landing Aid System. The MOVLAS is self-contained and does not interface with any other systems.

d. E28 Emergency Runway Arresting Gear. The E28 Emergency Arresting Gear requires an electrical power source. It does not interface with any other systems.

e. AM2 Airfield Matting. The AM2 Airfield Matting does not interface with any other systems.

f. M21 Marine Corps Expeditionary Arresting Gear System. The M21 MCEAGS is self-contained and does not interface with any other systems.

g. M31 Marine Corps Expeditionary Arresting Gear System. The M31 MCEAGS is self-contained and does not interface with any other systems.

h. Marine Corps Minimum Operation Strip Lighting System. MOSLS is completely self-contained.

i. Field Marker Light. The FML is turned on and off in the remote control mode by signals transmitted from a AN/PRC-139 Radio.

j. AN/PRC-139 Radio. The AN/PRC-139 Radio interfaces with other communications equipment and the FML.

k. Mark 8 Fresnel Lens Optical Landing Systems. The Mark 8 FLOLS requires an electrical power source. It does not interface with any other systems.

l. Expeditionary Airfield 2000 Lighting and Marking System. The EAF 2000 LMS requires an electrical power source and interface with other EAF lighting and marker systems.

5. New Features, Configurations, or Material. NA

H. CONCEPTS

1. Operating Concept. The ALRE addressed in this NTSP is operated by Marine Corps LSOs with Military Occupational Specialty (MOS) 7549, Marine Corps Aircraft Recovery Specialist (MCARS) with MOS 7011, and civilian personnel.

a. Precision Approach Path Indicator. Once energized, the PAPI operates completely automatically. No operator is required.

b. Improved Fresnel Lens Optical Landing System. The IFLOLS is only used by the Marine Corps at two locations, MCAS Miramar, California and MCAS Beaufort, North Carolina, and is operated by civilian contractor personnel.

c. Manually Operated Visual Landing Aid System. MOVLAS is only used by the Marine Corps at two locations, MCAS Miramar and MCAS Cherry Point, North Carolina, and is operated by civilian contractor personnel.

d. E28 Emergency Runway Arresting Gear. The E28 Emergency Runway Arresting Gear is activated when an aircraft's tail-hook engages the deck pendant. No operator is required unless an arrestment has occurred. Once an arrestment occurs a crew of three operators is required to retract the arresting gear so that the equipment is prepared for the next arrestment.

e. AM2 Airfield Matting. Once assembled, no operator is required for the AM2 Airfield Matting.

f. M21 Marine Corps Expeditionary Arresting Gear System. The M21 MCEAGS is activated when an aircraft's tail-hook engages the deck pendant. No operator is required.

g. M31 Marine Corps Expeditionary Arresting Gear System. The M31 MCEAGS will be automatically activated when an aircraft's tail-hook engages the deck pendant. No operator will be required.

h. Marine Corps Minimum Operation Strip Lighting System. Once activated, the MOSLS requires no operator.

i. Field Marker Light. Once activated, the FML requires no operator.

j. AN/PRC-139 Radio. AN/PRC-139 Radios are operated by personnel engaged in all phases of EAF operations.

k. Mark 8 Fresnel Lens Optical Landing System. The Mark 8 FLOLS is operated by LSOs assigned to the squadron performing the landings.

l. Expeditionary Airfield 2000 Lighting and Marking System. The EAF 2000 LMS is operated by MCARS with MOS 7011.

2. Maintenance Concept

a. Precision Approach Path Indicator. The PAPI is maintained at two levels, organizational and intermediate, under the Reliability Centered Maintenance concept prescribed by the Naval Aviation Maintenance Program (NAMP), Office of the Chief of Naval Operations Instruction (OPNAVINST) 4790.2H.

(1) Organizational. Organizational level maintenance consists of both Preventive Maintenance (PM) and Corrective Maintenance (CM). Organizational level maintenance is performed by contractor personnel.

(a) Preventive Maintenance. PM includes cleaning, inspection, lubrication, alignment, adjustments, and operational and functional testing of the arresting gear in accordance with specific requirements identified in the PAPI Maintenance Plan, NAVAIR Lakehurst-M85094002.

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

(2) Intermediate. Intermediate maintenance is performed by contractor personnel and consists of both PM and CM. PM tasks include those actions that require non-destructive testing and calibration. CM actions include all other maintenance actions beyond the capability of organizational maintenance.

(3) Depot. NA

(4) Interim Maintenance. NA

(5) Life Cycle Maintenance Plan. Major components of the PAPI are replaced with new components when no longer economically serviceable.

b. Improved Fresnel Lens Optical Landing System. A remove and replace maintenance concept is applied to IFLOLS. Fault isolation is accomplished through the use of

Built-In Test Equipment and common test equipment. IFLOLS maintenance is performed at two levels, organizational and depot.

(1) Organizational. Organizational level maintenance consists of both PM and CM performed by civilian contractor personnel.

(a) Preventive Maintenance. PM is conducted at specific intervals as prescribed by the Maintenance Requirements Cards (MRC). PM actions include corrosion inspection, cleaning, lubricating, alignment, adjustment, pre-operational inspections, post-operational inspections, and functional testing.

(b) Corrective Maintenance. CM consists of fault isolation, replacement of failed modules, functional testing, corrosion treatment, and system calibration.

(2) Intermediate. NA

(3) Depot. Depot level is responsible for rework and overhaul of the IFLOLS repairable assemblies. CM actions include repair or complete restoration, manufacture of parts and assemblies, and functional testing. Naval Aviation Depot (NADEP) North Island, California, is the designated depot level repair activity for IFLOLS.

(4) Interim Maintenance. NAVAIR Lakehurst will provide interim support for IFLOLS prior to the Navy Support Date (NSD) scheduled for June 2003.

(5) Life Cycle Maintenance Plan. NA

c. Manually Operated Visual Landing Aid System. MOVLAS maintenance is conducted only at the organizational level, following the direction and guidance outlined in OPNAVINST 4790.2H.

(1) Organizational. Organizational level maintenance is performed by contractor personnel and consists of both PM and CM.

(a) Preventive Maintenance. PM is performed at specific intervals in accordance with procedures detailed in the MOVLAS Maintenance Plan, NAWCADLKE-M84096002. PM actions include cleaning, inspection, alignment, adjusting, and functional testing.

(b) Corrective Maintenance. CM includes functional testing, fault isolation to the failed component, removal, and repair or replacement.

(2) Intermediate. NA

(3) Depot. NA

(4) Interim Maintenance. Interim maintenance is not required. The NSD for MOVLAS was reached in September 1969.

(5) Life Cycle Maintenance Plan. NA

d. E28 Emergency Runway Arresting Gear. All maintenance is performed at the organizational level. No intermediate or depot level repair is required.

(1) Organizational. Organizational level maintenance consists of both PM and CM and is performed by MCARS.

(a) Preventive Maintenance. PM includes cleaning, inspection, lubrication, alignment, adjustments, and operational and functional testing of the arresting gear in accordance with specific requirements identified in the E28 Emergency Runway Arresting Gear Maintenance Plan, SSIED MP N0. 009-81.

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

(2) Intermediate. NA

(3) Depot. No repair is performed at the depot level; however, the disassembly and assembly of the arresting gear on-site is considered a depot level procedure.

(4) Interim Maintenance. NA

(5) Life Cycle Maintenance Plan. The E28 Emergency Runway Arresting Gear is replaced on a 15-year life cycle. It is more cost effective to replace the E28 Emergency Runway Arresting Gear every 15 years than to establish an organic or commercial rework program. Activities where the equipment is exposed to adverse environmental conditions may employ a shorter replacement cycle.

e. AM2 Airfield Matting. Once installed, all maintenance of AM2 Airfield matting is performed at the organizational level.

(1) Organizational. Organizational level maintenance consists of both PM and CM. MCARS perform organizational level maintenance.

(a) Preventive Maintenance. PM consists of routine inspections to identify broken hardware, damaged panels, and loose anchors.

(b) Corrective Maintenance. CM includes replacement of broken hardware and damaged panels and securing of loose anchors.

(2) Intermediate. NA

(3) Depot. NA

(4) Interim Maintenance. NA

(5) Life Cycle Maintenance Plan. NA

f. M21 Marine Corps Expeditionary Arresting Gear System. The maintenance concept for the M21 MCEAGS is based upon three levels of maintenance, organizational, intermediate, and depot as defined in the NAMP.

(1) Organizational. The M21 MCEAGS is maintained by Marine Corps personnel with MOS 7011. Since the M21 MCEAGS is designed as a rapidly deployable system, unpacking, set-up, breakdown, and repacking is considered an organizational level maintenance function.

(a) Preventive Maintenance. PM consists of inspections, servicing, and handling. Particular attention is focused on removing the M21 MCEAGS from storage, pre-operational and post-operational servicing, and preservation for short or long term storage or for Maritime Prepositioned Force deployment.

(b) Corrective Maintenance. CM consists of fault isolation, removal and replacement of Weapon Replaceable Assemblies (WRA) and Shop Replaceable Assemblies (SRA), and operational test to verify repairs.

(2) Intermediate. Marine Aviation Logistics Squadrons (MALS) are tasked with providing intermediate level maintenance support in accordance with the NAMP. Typical intermediate level maintenance includes inspection, servicing, handling, PM, corrosion control, fault isolation, removal and replacement of defective assemblies, and testing.

(3) Depot. Depot level maintenance for the M21 MCEAGS consists of all repair actions beyond the capability of intermediate level maintenance activities. Depot level maintenance is performed by the contractor.

(4) Interim Maintenance. NA

(5) Life Cycle Maintenance Plan. NA

g. M31 Marine Corps Expeditionary Arresting Gear System. The maintenance concept for the M31 MCEAGS is based upon three levels of maintenance as defined in the NAMP. Maintenance of the M31 MCEAGS and all repairable sub-assemblies will be performed at the lowest level that ensures optimum readiness and economic use of resources. An M31 maintenance plan developed by NAVAIR Lakehurst was completed in December 2002.

(1) Organizational. MCARS will maintain the M31 MCEAGS. Since the M31 MCEAGS is designed as a rapidly deployed system, unpacking, set-up, breakdown, and repacking will be considered an organizational level maintenance function.

(a) Preventive Maintenance. PM consists of inspections, servicing, and handling. Particular attention will be focused on removing the M31 MCEAGS from storage, pre-operational and post-operational servicing, and preservation for short or long term storage or for Maritime Prepositioned Force deployment.

(b) Corrective Maintenance. CM will consist of fault isolation, removal, and replacement of WRAs and SRAs. CM will also include removal and replacement of WRAs and SRAs, and operational test to verify repairs.

(2) Intermediate. Intermediate level maintenance of the M31 MCEAGS will typically be performed in the field by MCARS. Intermediate level maintenance includes inspection, servicing, handling, PM, corrosion control, fault isolation, removal and replacement of defective assemblies, components, and consumable parts, repair of selected defective assemblies and components, and testing.

(3) Depot. Depot level maintenance will consist of all repair actions beyond the capability of the intermediate level maintenance activities. The general rework and manufacture of items coded for depot repair, assembly, or manufacture will be in accordance with the M31 Maintenance Plan. Depot level maintenance requirements include both organic and commercial depot repair sites. The manufacturer will perform depot level repairs.

(4) Interim Maintenance. Technical assistance will be available from the contractor, NAVAIR Lakehurst, and Expeditionary Airfield Services Unit (EASU) personnel. EASU personnel are assigned to the Marine Air Wings and provide technical support and training to fleet personnel. NSD is scheduled for April 2003.

(5) Life Cycle Maintenance Plan. The Life Cycle Maintenance Plan was developed in conjunction with the Maintenance Plan.

h. Marine Corps Minimum Operation Strip Lighting System. The maintenance concept for the MOSLS is based on two levels of maintenance, organizational and intermediate. The objective of the MOSLS maintenance plan is to prevent deterioration of inherent system reliability, and ensure operative safety of the equipment and the aircraft it supports with minimum expenditure of maintenance and support resources. MCARS perform all organizational level preventive maintenance and repairs of the MOSLS. Intermediate level personnel perform all maintenance actions requiring soldering, repairs to circuit boards, and extensive engine repairs. There are no scheduled depot level maintenance actions associated with the maintenance of MOSLS.

(1) Organizational. Organizational level maintenance consists of CM and PM. Additionally, since MOSLS is designed as a rapidly deployed system, unpacking, set-up, breakdown, and repacking of the MOSLS is an organizational level maintenance function.

(a) Preventive Maintenance. PM includes performing visual inspections, standard serviceability tests, cleaning lenses, and lubricating trailer chassis and generator set engines.

(b) Corrective Maintenance. CM consists of removal and replacement of subassemblies and piece parts, system adjustments, system alignments, and serviceability testing.

(2) Intermediate. The nearest MALS provides intermediate level maintenance of the MOSLS. Intermediate level repair actions consist of all maintenance actions beyond the capability of organizational level maintenance and those actions that must be performed in a workshop environment such as soldering, repairs to printed circuit boards, and extensive engine maintenance.

(3) Depot. Scheduled depot level maintenance is not required for the MOSLS. However, the manufacturer is providing depot level maintenance support on a case-by-case basis for maintenance actions such as trailer chassis repair or modification and optical alignment.

(4) Interim Maintenance. NA

(5) Life Cycle Maintenance Plan. NA

i. Field Marker Light. The FML is a consumable assembly. Maintenance of FMLs is performed at the organizational level only.

(1) Organizational. Organizational level maintenance consists of both PM and CM. MCARS perform organizational level maintenance.

(a) Preventive Maintenance. PM consists of cleaning, battery recharging, and operational checks.

(b) Corrective Maintenance. CM includes battery replacement and replacement of defective bulbs and lenses.

(2) Intermediate. NA

(3) Depot. NA

(4) Interim Maintenance. NA

(5) Life Cycle Maintenance Plan. NA

j. AN/PRC-139 Radio. The AN/PRC-139 Radio is maintained at two levels, organizational and depot.

(1) Organizational. Limited organizational level maintenance of the AN/PRC-139 Radio is performed by MCARS.

(a) Preventive Maintenance. PM consists of cleaning, battery charging, and functional testing.

(b) Corrective Maintenance. CM includes changing the AN/PRC-139 Radio's programmable parameters, such as power output, channel frequencies, and squelch level using the MX-11531/U Programmer Unit, and replacement of defective antennas and handsets. No internal repairs are authorized at the organizational level.

(2) Intermediate. NA

(3) Depot. Depot level repair is performed by the contractor and includes everything from battery replacement to complete overhaul.

(4) Interim Maintenance. NA

(5) Life Cycle Maintenance Plan. NA

k. Mark 8 Fresnel Lens Optical Landing Systems. A remove and replace maintenance concept is applied to Mark 8 FLOLS. Fault isolation is accomplished through the use of Built-In Test Equipment and common test equipment. Maintenance of the Mark 8 FLOLS is performed at three levels, organizational, intermediate, and depot.

(1) Organizational. Organizational level maintenance consists of both PM and CM and is performed by MCARS.

(a) Preventive Maintenance. PM is conducted at specific intervals as prescribed by the applicable MRCs. PM actions include corrosion inspection, cleaning, lubricating, alignment, adjustment, pre-operational inspections, post-operational inspections, and functional testing.

(b) Corrective Maintenance. CM consists of fault isolation, replacement of failed modules, functional testing, corrosion treatment, and system calibration.

(2) Intermediate. Intermediate level maintenance is restricted to the periodic calibration of digital multimeters used in the system.

(3) Depot. Depot maintenance consists of repair or complete restoration, manufacture of parts assemblies, and functional testing of assemblies. NADEP North Island is the designated depot level maintenance activity for Mark 8 FLOLS.

(4) Interim Maintenance. Interim maintenance support was provided by NAVAIR Lakehurst prior to the NSD of May 1988.

(5) Life Cycle Maintenance Plan. NA

l. Expeditionary Airfield 2000 Lighting and Marking System. The maintenance concept for the EAF 2000 LMS is based on two levels of maintenance, organizational and intermediate in accordance with the EAF 2000 LMS, MAPL-GSE-0452, dated July 1978.

(1) Organizational. Organizational level maintenance consists of CM and PM. Additionally, since EAF 2000 LMS is designed as a rapidly deployed system, unpacking, set-up, breakdown, and repacking of the EAF 2000 LMS is an organizational level maintenance function.

(a) Preventive Maintenance. PM includes performing visual inspections, standard serviceability tests, and cleaning lenses.

(b) Corrective Maintenance. CM consists of removal and replacement of subassemblies and piece parts, system adjustments, system alignments, and serviceability testing.

(2) Intermediate. MCARS perform all intermediate level repairs of the EAF 2000 LMS in the field with the exception of soldering or repairs to circuit boards. The nearest MALS provides intermediate level maintenance support for repair actions requiring soldering or repairs to circuit boards.

(3) Depot. NA

(4) Interim Maintenance. NA

(5) Life Cycle Maintenance Plan. NA

3. Manning Concept. MCARS with MOS 7011, Marine Corps LSOs with secondary MOS 7594, and contractor personnel operate and maintain the ALRE addressed in this NTSP. Qualitative and quantitative manpower requirements are driven by the total workload associated with Marine Wing support of expeditionary airfield and squadron operations. The manpower requirements identified in established Marine Corps Tables of Organization are adequate to support current and future Shore Based and EAF workloads, and will not change as a result of this NTSP.

4. Training Concept. The overall objective of the training program is to provide selected Marine Corps personnel the training required to operate and maintain the systems addressed in this NTSP. Initial operator and maintainer training for all ALRE have been completed with the exception of the M31 MCEAGS. Follow-on LSO training is established and on-line at the LSO School, Naval Air Station (NAS) Oceana, Virginia. Follow-on Marine Expeditionary Airfield Equipment training is established and on-line at the Naval Air Technical Training Center (NATTC) Pensacola, Florida.

a. Initial Training. The contractor provided M31 MCEAGS initial training to OPEVAL and TECHEVAL team members in March 2001. Additional M31 MCEAGS initial training will be provided to a cadre of instructor, EASU, and MWSS personnel beginning in May 2003.

Title	**M31 MCEAGS Initial Training**
Description	This course will provide M31 MCEAGS initial training for instructor, EASU, and MWSS personnel.
Location	NAVAIR Lakehurst, and at installation sites
Length	5 days (estimated)
RFT date	May 2003

TTE/TD	One M31 MCEAGS will be used as Technical Training Equipment (TTE). No Training Devices (TD) are required.
Prerequisite	MOS 7011

b. Follow-on Training. Follow-on maintenance training for the M31 MCEAGS will be incorporated into course *C-604-2015, Marine Expeditionary Airfield Equipment*, conducted at NATTC Pensacola. Both the M21 MCEAGS and M31 MCEAGS will be presented in C-604-2015 until the M21 MCEAGS is removed from service.

Title	**Initial Formal Ground Training**
CIN	D-2G-0001
Model Manager ...	Navy LSO School
Description	This course provides training to the prospective Squadron LSO, including: ° LSO Administrative and Operational Responsibilities, including Shore Based and Shipboard Equipment ° Glideslope Geometry ° Aircraft Recovery Bulletins ° Aircraft Characteristics ° Waving Concepts and Techniques ° Field Carrier Landing Practice ° Fleet Automated Performance Assessment and Readiness Training Systems Upon completion, the student will be able to perform the duties of a squadron LSO without supervision.
Location	Navy LSO School, NAS Oceana
Length	10 days
RFT date	Currently available
Skill identifier	None
TTE/TD	Refer to element IV.A.1 for TTE. TD is NA.
Prerequisites	° Designator 1311 ° Designation as LSO Trainee

Title	**Advanced Formal Ground Training**
CIN	D-2G-0002
Model Manager ...	Navy LSO School
Description	This course provides training to the prospective Airwing or Staff LSO, including: ° Administrative and Operational Responsibilities of an Airwing or Staff LSO ° Platform Strategy ° Barricade ° Pitching Deck Recoveries ° LSO Training and Evaluation ° Fleet Automated Performance Assessment and Readiness Training System Upon completion, the student will be able to perform the duties of a Wing or Staff LSO without supervision.
Location	Navy LSO School, NAS Oceana
Length	3 days
RFT date	Currently available
Skill identifier	None
TTE/TD	Refer to element IV.A.1 for TTE. TD is NA.
Prerequisites	° Designator 1311 ° D-2G-0001, Initial Formal Ground Training ° Wing LSO Designation

Title	**Fleet Replacement Squadron Training Command**
CIN	D-2G-0003
Model Manager ...	Navy LSO School
Description	This course provides training to the prospective Fleet Readiness Squadron (FRS) or Training Command LSO, including: ° Administrative and Operational Responsibilities of a Training LSO ° Teaching Waving Techniques and Considerations ° Conducting Ground Training and Field Carrier Landing Practice ° Initial Carrier Qualification Requirements ° FRS Automated Performance Assessment and Readiness Training System Upon completion, the student will be able to perform the duties of an FRS or Training Command LSO without supervision.
Location	Navy LSO School, NAS Oceana
Length	3 days
RFT date	Currently available
Skill identifier	None
TTE/TD	Refer to element IV.A.1 for TTE. TD is NA.
Prerequisites	° Designator 1311 ° D-2G-0002, Initial Formal Ground Training ° Squadron LSO Designation

Title ..... Marine Expeditionary Airfield Equipment

CIN C-604-2015

Model Manager ... NATTC Pensacola

Description ..... This course provides training to the Marine Corps Technician including:

- ° Mark 8 FLOLS Maintenance
- ° EAF 2000 LMS Maintenance
- ° E28 Emergency Runway Arresting Gear Maintenance
- ° AM2 Airfield Matting Installation
- ° M21 MCEAGS Installation, Maintenance, and Operation
- ° M31 MCEAGS Installation, Maintenance, and Operation
- ° MOSLS Installation, Maintenance, and Operation
- ° FML Installation, Maintenance, and Operation
- ° AN/PRC-139 Radio Operation and Maintenance

Upon completion, the student will be able to perform the duties of a MCARS under limited supervision.

Location ..... NATTC Pensacola

Length ..... 46 days. 59 days with M31 MCEAGS included.

RFT date ..... Currently available. January 2004 with M31 MCEAGS included

Skill identifier ..... MOS 7011

TTE/TD ..... Refer to element IV.A.1 for TTE. TD is NA.

Prerequisite ..... None

c. Student Profiles

SKILL IDENTIFIER	PREREQUISITE SKILL AND KNOWLEDGE REQUIREMENTS
MOS 7011	° None
MOS 7594	° Designated Pilot

d. Training Pipelines. No new training pipelines are required to support the training addressed in this NTSP.

I. ONBOARD (IN-SERVICE) TRAINING

1. Proficiency or Other Training Organic to the New Development

a. Maintenance Training Improvement Program. NA

b. Aviation Maintenance Training Continuum System. NA

2. Personnel Qualification Standards. NA

3. Other Onboard or In-Service Training Packages. Marine Corps onboard training is based on the current series of MCO P4790.12, Individual Training Standards System. The Marine Corps Aviation Training and Readiness Manual, MOCP 3500.29,Volume 7, Airfield Services is used to provide in-service training to MOS 7011 personnel. MOS 7011 personnel do not participate in the Maintenance Training Management and Evaluation Program (MATMEP).

J. LOGISTICS SUPPORT

1. Manufacturer and Contract Numbers

a. Precision Approach Path Indicator

CONTRACT NUMBER	MANUFACTURER	ADDRESS
N68335-95-C-0049	Multi Electric Manufacturing, Inc.	4223-43 West Lake Street Chicago, IL 66061

b. Improved Fresnel Lens Optical Landing System

CONTRACT NUMBER	MANUFACTURER	ADDRESS
N00019-96-D-0159	Raytheon Technical Services Company	6821 Pierson Drive Indianapolis, IN 46241

c. Manually Operated Visual Landing Aid System

CONTRACT NUMBER	MANUFACTURER	ADDRESS
Information not available. Delivery completed in 1970s.	Oxford Corporation A Subsidiary of American Precision Industries, Inc.	1000 Oxford Circle Buffalo, NY 14201

d. E28 Emergency Runway Arresting Gear

CONTRACT NUMBER	MANUFACTURER	ADDRESS
Information not available. All deliveries have been completed.	All American Engineering (Now known as ESCO Engineering)	2550 Market Street Saton, PA 19014

e. AM2 Airfield Matting

CONTRACT NUMBER	MANUFACTURER	ADDRESS
Information not available. All deliveries have been completed.	Martin Marietta Aluminum	19200 South Western Ave. Torrance, CA 90509

f. M21 Marine Corps Expeditionary Arresting Gear System

CONTRACT NUMBER	MANUFACTURER	ADDRESS
Information not available. All deliveries have been completed.	All American Engineering (Now known as ESCO Engineering.)	6 Lewis Circle Wilmington, DE 19804

g. M31 Marine Corps Expeditionary Arresting Gear System

CONTRACT NUMBER	MANUFACTURER	ADDRESS
N68335-98-C-0225	ESCO Engineering	2550 Market Street Aston, PA 19014

h. Marine Corps Minimum Operation Strip Lighting System

CONTRACT NUMBER	MANUFACTURER	ADDRESS
N68335-98-D-0052	Metalite Aviation Lighting A Division of Metalline International LTD	Winster Grove, Great Barr Birmingham B44 9EJ United Kingdom

i. Field Marker Light

CONTRACT NUMBER	MANUFACTURER	ADDRESS
N68335-93-C-0254	ACR Electronics, Inc.	5757 Ravenswood Road Fort Lauderdale, FL 33312

j. AN/PRC-139 Radio

CONTRACT NUMBER	MANUFACTURER	ADDRESS
F19628-91-D-0012 MIPR N68335-93-MP-33208	RACAL Communications (now owned by Thales Communications, Inc.)	5 Research Place Rockville, MD 20850

k. Mark 8 Fresnel Lens Optical Landing Systems

CONTRACT NUMBER	MANUFACTURER	ADDRESS
Information not available. All deliveries have been completed.	S. W. Electronics and Manufacturing Corporation	619 Hollywood Avenue Cherry Hill, NJ

l. Expeditionary Airfield 2000 Lighting and Marking System. Over the life of the EAF 2000 LMS many different manufacturers provided EAF 2000 LMS components under many different contract numbers. All EAF 2000 LMS deliveries have been completed and there are no outstanding delivery contracts.

2. Program Documentation

a. Precision Approach Path Indicator. The PAPI Maintenance Plan, NAWCADLKE-M85094002, was approved in May 1996. The PAPI Users Logistics Support Summary (ULSS), NAWCADLKE-U85094002, was approved in September 1997.

b. Improved Fresnel Lens Optical Landing System. A ULSS, NAWCADLKE-U82093001, is being developed by NAVAIR Lakehurst. The Draft ULSS is dated March 2001. The IFLOLS Maintenance Plan, NAWCADLKE M82093001, was approved in May 1997.

c. Manually Operated Visual Landing Aid System. The updated MOVLAS Maintenance Plan, NAWCADLKE-M85094002, was approved in April 1996. No Integrated Logistics Support Plan (ILSP) will be developed for MOVLAS.

d. E28 Emergency Runway Arresting Gear. The E28 Emergency Runway Arresting Gear Maintenance Plan, SSIED MP Number 009-81, was approved in May 1982. No ILSP was developed for the E28 Emergency Runway Arresting Gear.

e. AM2 Airfield Matting. The revised AM2 Airfield Matting Maintenance Plan NAWCADLKE-MISC-48J200-0021 was approved in July 1998. No other program documentation will be generated.

f. M21 Marine Corps Expeditionary Arresting Gear System. NA

g. M31 Marine Corps Expeditionary Arresting Gear System. The ORD for the M31 MCEAGS, Number ASS 59, was approved in June 1997. The Aviation Logistics Support Plan (ALSP), NAWCADLKE-ALSP-A80097001, July 1999, is currently in review. A ULSS for the M31 MCEAGS will be prepared and available for each installing activity no less

than 180 days prior to operational use of the equipment at that site. A Maintenance Plan for the M31 MCEAGS was completed in December 2002.

h. Marine Corps Minimum Operation Strip Lighting System. An ILSP, NAWCADLKE I85093002, was revised and approved in May 1997. ORD 464-88-97, published by the Marine Corps Combat Development Command (MCCDC), Quantico, Virginia, was revised and approved on 5 June 1997. The ULSS, NAWCADLKE U85099002, was published on 29 January 1999.

i. Field Marker Light. The FML is a consumable item that was developed as a result of a need to provide a portable, light-weight, rapidly installed, short term use airfield marker system. This requirement was identified in Commandant of the Marine Corps (CMC) letter 13800, ASL-45, dated 1 June 1993. No other program documentation was required or developed for the FML program.

j. AN/PRC-139 Radio. The Marine Corps acquired the AN/PRC-139 Radio from the Air Force. No specific Navy program documentation such as an ULSS or ILSP was developed.

k. Mark 8 Fresnel Lens Optical Landing Systems. No ILSP was developed for Mark 8 FLOLS; however, an updated Operational Logistics Support Plan (OLSP), NAEC 51-8044 dated December 1987, has been prepared and is available.

l. Expeditionary Airfield 2000 Lighting and Marking System. No ILSP or OLSP was developed for the EAF 2000 LMS. A Maintenance Plan, MAPL-GSE-0452, dated July 1978 is available.

3. Technical Data Plan

a. Precision Approach Path Indicator. All required technical manuals, including the Installation, Service, Operation, and Maintenance Instructions with Illustrated Parts Breakdown (IPB), and MRCs have been approved, published, and distributed.

b. Improved Fresnel Lens Optical Landing System. All required technical manuals, including the Installation, Service, Operation, and Maintenance Instructions with IPB, and MRCs have been approved, published, and distributed.

c. Manually Operated Visual Landing Aid System. All required technical manuals, including the Installation, Service, Operation, and Maintenance Instructions with IPB, and MRCs have been approved, published, and distributed.

d. E28 Emergency Runway Arresting Gear. All required technical manuals including, the Installation, Service, Operation, and Maintenance Instructions with IPB, and MRCs have been approved, published, and distributed.

e. AM2 Airfield Matting. All required technical manuals, including the Installation, Service, Operation, and Maintenance Instructions have been approved, published, and distributed.

f. M21 Marine Corps Expeditionary Arresting Gear System. All required technical manuals, including the Installation, Service, Operation, and Maintenance Instructions with IPB, and MRCs have been approved, published, and distributed.

g. M31 Marine Corps Expeditionary Arresting Gear System. All required technical manuals, including the Installation, Service, Operation, and Maintenance Instructions with IPB, and MRCs have been approved and published.

h. Marine Corps Minimum Operation Strip Lighting System. Technical manuals associated with MOSLS consist of organizational and intermediate level Maintenance Manuals with IPBs. These manuals, along with the Maintenance Index Page and associated MRCs, were printed and distributed by NAVAIR Lakehurst in fourth quarter FY99.

i. Field Marker Light. All required technical manuals, including the Installation, Service, Operation, and Maintenance Instructions have been approved, published, and distributed.

j. AN/PRC-139 Radio. All required technical publications have been approved and published by the Air Force. Publication distribution is controlled by the Air Force Publications Center, McClellan Air Force Base, Sacramento, California.

k. Mark 8 Fresnel Lens Optical Landing Systems. All required technical manuals, including the MRCs and Installation, Service, Operation, and Maintenance Instructions with IPB, have been approved, published, and distributed.

l. Expeditionary Airfield 2000 Lighting and Marking System. All required technical manuals, including the MRCs and Installation, Service, Operation, and Maintenance Instructions with IPB, have been approved, published, and distributed.

4. Test Sets, Tools, and Test Equipment

a. Precision Approach Path Indicator. Two special tools are required to support the PAPI. The special tools are a PAPI Aiming Device and a PAPI Optical Gauge. Both of these tools are included with each PAPI System.

b. Improved Fresnel Lens Optical Landing System. No special tools, test sets, or test equipment are required to support the IFLOLS.

c. Manually Operated Visual Landing Aid System. No special tools, test sets, or test equipment are required to support the MOVOLS.

d. E28 Emergency Runway Arresting Gear. No special tools, test sets, or test equipment are required to support the E28 Emergency Runway Arresting Gear.

e. AM2 Airfield Matting. The tools required to install and support the AM2 Airfield Matting are identified in element IV.A.1 of this NTSP.

f. M21 Marine Corps Expeditionary Arresting Gear System. The tools required to install and support the M21 MCEAGS are identified in element IV.A.1 of this NTSP.

g. M31 Marine Corps Expeditionary Arresting Gear System. The tools required to install and support the M31 MCEAGS are identified in element IV.A.1 of this NTSP.

h. Marine Corps Minimum Operation Strip Lighting System. No special tools, test sets, or test equipment are required to support the MOSLS.

i. Field Marker Light. No special tools, test sets, or test equipment are required to support the FML.

j. AN/PRC-139 Radio. One MX-11531 Programmer is required at each EAF to support the AN/PRC-139 Radio.

k. Mark 8 Fresnel Lens Optical Landing Systems. All special tools required to support the Mark 8 FLOLS have been procured and distributed.

l. Expeditionary Airfield 2000 Lighting and Marking System. The tools required to install and support the EAF 2000 LMS are identified in element IV.A.1 of this NTSP.

5. Repair Parts

a. Precision Approach Path Indicator. Repair parts for PAPI are managed by the Naval Inventory Control Point (NAVICP) Philadelphia, Pennsylvania. Requests for parts are processed through normal supply channels.

b. Improved Fresnel Lens Optical Landing System. Prior to the scheduled October 2004 Material Support Date (MSD), repair parts will be contractor provided. After the MSD, repair parts will be managed by NAVICP, Philadelphia. Requests for parts will be processed through normal supply channels.

c. Manually Operated Visual Landing Aid System. Repair parts for the MOVLAS are managed by the NAVICP, Philadelphia. Requests for parts are processed through normal supply channels.

d. E28 Emergency Runway Arresting Gear. Repair parts for the E28 Emergency Runway Arresting Gear are managed by the NAVICP, Philadelphia. Requests for parts are processed through normal supply channels.

e. AM2 Airfield Matting. Repair parts for the AM2 Airfield Matting are managed by the NAVICP, Philadelphia. Requests for parts are processed through normal supply channels.

f. M21 Marine Corps Expeditionary Arresting Gear System. Repair parts for the M21 MCEAGS are managed by the NAVICP, Philadelphia. Requests for parts are processed through normal supply channels.

g. M31 Marine Corps Expeditionary Arresting Gear System. The contractor will support the M31 MCEAGS from the initial delivery of the prototype units through the MSD scheduled for April 2003. After MSD, the M31 MCEAGS will be commercially supported by the contractor under the cognizance of NAVICP, Philadelphia. No repair or replacement parts will be stocked in the Navy Supply System.

h. Marine Corps Minimum Operation Strip Lighting System. Repair parts for the MOSLS are managed by the NAVICP, Philadelphia. A majority of the MOSLS components are currently cataloged through the North America Treaty Organization (NATO) Supply System. Consumable spares, repairable assemblies, and any parts not already in the NATO Supply System will be added to the NATO inventory.

i. Field Marker Light. Replacement parts for the FML are managed by the NAVICP, Philadelphia. Requests for parts are processed through normal supply channels.

j. AN/PRC-139 Radio. Replacement parts for the AN/PRC-139 Radio are managed by the Air Force. Requests for parts are processed through normal supply channels.

k. Mark 8 Fresnel Lens Optical Landing Systems. Repair parts for the Mark 8 FLOLS are managed by NAVICP, Philadelphia. Requests for parts are processed through normal supply channels.

l. Expeditionary Airfield 2000 Lighting and Marking System. Repair parts for the EAF 2000 LMS are managed by NAVICP, Philadelphia. Requests for parts are processed through normal supply channels.

6. Human Systems Integration. Although the various disciplines of Human Systems Integration have been applied to varying degrees to the development of the systems addressed in this NTSP, no Human Systems Integration Plan has been developed. All new design systems and software will address the human-machine interface for operators, maintainers, and support personnel. The design processes conformed to best standard human engineering practices as defined in existing human factors engineering design standards.

All future CBT, CAI and ICW training material will be sharable content object reference model conformant and conform with the technical standards to run in the intended environment: classroom automated electronic classroom or learning resource center, Navy e-learning, AMTCS, or desktop (NMCI ashore or IT21 afloat).

The ECP process, in accordance with NAVAIRINST 4130.1C, is utilized to initiate upgrades to operational and training systems and allows for inputs to the affect on the human and MPT. All new engineering change proposals for EAF take into consideration the human-machine interface for Operators, Maintainers and Support Personnel.

This system has no habitability impact. Manpower issues are covered in part II and III of this document.

Environmental and Occupational Safety and Health requirements meet federal, state, and local standards, regulations, and directives and are enforced by respective agencies, as applicable.

K. SCHEDULES

1. Installation and Delivery Schedules

a. Precision Approach Path Indicator. All PAPI Systems have been delivered and installed.

b. Improved Fresnel Lens Optical Landing System. IFLOLS is being installed at two Marine Corps locations. Installation of IFLOLS at MCAS Beaufort was completed in July 2002. Installation of IFLOLS at MCAS Miramar is scheduled for completion in April 2003.

c. Manually Operated Visual Landing Aid System. Delivery of the MOVLAS was completed in the 1970s.

d. E28 Emergency Runway Arresting Gear. All E28 Emergency Runway Arresting Gear has been delivered and installed.

e. AM2 Airfield Matting. All AM2 Airfield Matting has been delivered.

f. M21 Marine Corps Expeditionary Arresting Gear System. Delivery of the M21 MCEAGS was completed in the 1970s.

g. M31 Marine Corps Expeditionary Arresting Gear System. The M31 MCEAGS used for Marine Suitability Testing was updated by the contractor to the production configuration and delivered to NAVAIR Lakehurst in October 2002. New production deliveries will be made in accordance with the following schedule:

ACTIVITY	SERIAL NUMBER	DELIVERY DATE
2nd Marine Air Wing (MAW)	1	December 2002
2nd MAW	2	February 2003
2nd MAW	3	April 2003
2nd MAW	6	April 2003
2nd MAW	4	June 2003

ACTIVITY	SERIAL NUMBER	DELIVERY DATE
1st MAW	7	June 2003
1st MAW	5	August 2003
1st MAW	8	August 2003
1st MAW	9	October 2003
1st MAW	10	December 2003
1st MAW	11	February 2004
1st MAW	12	April 2004
2nd MAW	13	June 2004
2nd MAW	14	July 2004
2nd MAW	15	September 2004
3rd MAW	16	November 2004
3rd MAW	17	January 2005
2nd MAW	18	March 2005
3rd MAW	19	May 2005
3rd MAW	20	June 2005
3rd MAW	21	August 2005
3rd MAW	22	September 2005
3rd MAW	23	December 2005
3rd MAW	24	February 2006
4th MAW	25	March 2006
4th MAW	26	May 2006

h. Marine Corps Minimum Operation Strip Lighting System. Delivery of MOSLS was completed in July 2001.

i. Field Marker Light. Delivery of FML was completed in August 1997.

j. AN/PRC-139 Radio. Delivery of the AN/PRC-139 Radio was completed in 1996.

k. Mark 8 Fresnel Lens Optical Landing Systems. Delivery of the Mark 8 FLOLS has been completed.

l. Expeditionary Airfield 2000 Lighting and Marking System. Delivery of the EAF 2000 LMS has been completed.

2. Ready For Operational Use Schedule

a. Precision Approach Path Indicator. The PAPI is Ready For Operational Use (RFOU) upon completion of installation, testing, and certification.

b. Improved Fresnel Lens Optical Landing System. The IFLOLS is RFOU upon completion of installation. Installation includes operational inspection and certification.

c. Manually Operated Visual Landing Aid System. The MOVLAS is RFOU upon receipt.

d. E28 Emergency Runway Arresting Gear. The E28 Emergency Runway Arresting Gear is RFOU upon completion of installation and certification.

e. AM2 Airfield Matting. AM2 Airfield Matting is RFOU upon installation and certification.

f. M21 Marine Corps Expeditionary Arresting Gear System. The M21 MCEAGS is RFOU upon installation and certification.

g. M31 Marine Corps Expeditionary Arresting Gear System. The M31 MCEAGS will be RFOU upon installation and certification.

h. Marine Corps Minimum Operation Strip Lighting System. MOSLS is RFOU upon installation.

i. Field Marker Light. The FML is RFOU upon installation.

j. AN/PRC-139 Radio. The AN/PRC-139 Radio is RFOU upon receipt.

k. Mark 8 Fresnel Lens Optical Landing Systems. Mark 8 FLOLS is RFOU upon set-up.

l. Expeditionary Airfield 2000 Lighting and Marking System. The EAF 2000 LMS is RFOU upon installation.

3. Time Required to Install at Operational Sites

a. Precision Approach Path Indicator. The PAPI required five weeks to install at each site. This included construction of the reinforced concrete pad.

b. Improved Fresnel Lens Optical Landing System. The IFLOLS requires 31 days to install.

c. Manually Operated Visual Landing Aid System. The MOVLAS is a fully self-contained, portable system that can be towed into position and put into operation in less than 15 minutes by two Marines.

d. E28 Emergency Runway Arresting Gear. The E28 Emergency Runway Arresting Gear requires approximately 90 days to install.

e. AM2 Airfield Matting. AM2 Airfield Matting can be installed in as little as one day or up to three weeks depending on the size of the airfield configuration. The minimum time for installation is 24 hours.

f. M21 Marine Corps Expeditionary Arresting Gear System. The M21 MCEAGS will be capable of installation in less than six hours by a crew of 16 Marines, on all surfaces with a California Bearing Ratio (CBR) of 15:25. The M21 MCEAGS will be capable of installation by a crew of 16 Marines on all other surfaces in less than 24 hours.

g. M31 Marine Corps Expeditionary Arresting Gear System. The M31 MCEAGS will be capable of installation in less than two hours by a crew of 16 Marines on all surfaces with a CBR of 15:25. The M31 MCEAGS will be capable of installation by a crew of 16 Marines on all other surfaces in less than four hours.

h. Marine Corps Minimum Operation Strip Lighting System. The MOSLS is a fully self-contained, portable system that can be transported by aircraft, ship, or truck to the desired operating location and be fully deployed in less than one hour by not more than five Marines.

i. Field Marker Light. A system of FMLs can be installed in as little as one hour or up to several hours depending on airfield configuration.

j. AN/PRC-139 Radio. The AN/PRC-139 Radio requires no installation.

k. Mark 8 Fresnel Lens Optical Landing Systems. The Mark 8 FLOLS requires three weeks to install.

l. Expeditionary Airfield 2000 Lighting and Marking System. The time required to install EAF 2000 LMS varies by the complexity of the EAF site and could range from a few hours to several days.

4. Foreign Military Sales and Other Source Delivery Schedule. Information regarding FMS of the equipment addressed in this NTSP may be obtained from NAVAIR PMA 251.

5. Training Device and Technical Training Equipment Delivery Schedule

a. Precision Approach Path Indicator. NA

b. Improved Fresnel Lens Optical Landing System. NA

c. Manually Operated Visual Landing Aid System. No TDs are required to support MOVLAS training. All TTE required to support MOVLAS training has been delivered and is identified in element IV.A.1 of this NTSP.

d. E28 Emergency Runway Arresting Gear. No TDs are required to support E28 Emergency Runway Arresting Gear training. All TTE required to support E28 Emergency Runway Arresting Gear training has been delivered and is identified in element IV.A.1 of this NTSP.

e. AM2 Airfield Matting. No TDs are required to support AM2 Airfield Matting training. All TTE required to support AM2 Airfield Matting training has been delivered and is identified in element IV.A.1 of this NTSP.

f. M21 Marine Corps Expeditionary Arresting Gear System. No TDs are required to support M21 MCEAGS training. TTE consists of one set of M21 MCEAGS.

g. M31 Marine Corps Expeditionary Arresting Gear System. No TDs are required to support M31 MCEAGS training. TTE will consist of one set of M31 MCEAGS. The TTE will be provided by NAVAIR Lakehurst and will be located at the EAF School at NATTC Pensacola. The projected delivery date is March 2003.

h. Marine Corps Minimum Operation Strip Lighting System. No TDs are required to support the MOSLS. TTE consisting of one MOSKIT and one SALKIT is currently at NATTC Pensacola. There may be a requirement to upgrade some of the components of the TTE to conform to the latest configuration of the system being manufactured.

i. Field Marker Light. No TDs are required to support FML training. All TTE required to support FML training has been delivered and is identified in element IV.A.1 of this NTSP.

j. AN/PRC-139 Radio. No TDs are required to support AN/PRC-139 Radio training. All TTE required to support AN/PRC-139 Radio training has been delivered and is identified in element IV.A.1 of this NTSP.

k. Mark 8 Fresnel Lens Optical Landing Systems. No TDs are required to support Mark 8 FLOLS training. All TTE required to support Mark 8 FLOLS training has been delivered and is identified in element IV.A.1 of this NTSP.

l. Expeditionary Airfield 2000 Lighting and Marking System. No TDs are required to support EAF 2000 LMS training. All TTE required to support EAF 2000 LMS training has been delivered and is identified in element IV.A.1 of this NTSP.

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
Integrated Logistics Support Plan for the Minimum Operating Strip Lighting System	ILSP-I85093002	PMA251	Approved May 97
Operational Requirements Document for the Minimum Operating Strip Lighting System	ORD-464-88-97	MCCDC-C44	Approved Jun 97
Users Logistics Support Summery for the Minimum Operating Strip Lighting System	ULSS-U85099002	PMA251	Approved Jan 99
ALSP M31 Expeditionary Arresting Gear System	NAWCADLKE ALSP-A80097001	PMA251	Approved May 99
Operational Requirements Document for the Marine Corps Expeditionary Arresting Gear System	AAS 59	N8	Approved Jun 97
Maintenance Plan for the Precision Approach Path Indicator	NAWCADLKE-M85094002	NAVAIR Lakehurst	Approved May 96
User's Logistics Support Summary for the Precision Approach Path Indicator	NAWCADLKE-U85094002	NAVAIR Lakehurst	Approved Sep 97
Maintenance Plan for the Manually Operated Visual Landing Aid System	NAWCADLKE-M84096002	NAVAIR Lakehurst	Approved Apr 96
Maintenance Plan for the E28 Emergency Runway Arresting Gear	SSIED MP NO. 009-81	NAVAIR Lakehurst	Approved May 82
Human Systems Integration Plan for the Improved Fresnel Lens Optical Landing System	NAWCADLKE-MISC-05-SR-0117	NAVAIR Lakehurst	Approved Sep 93
Operational Logistics Support Plan for the Fresnel Lens Optical Landing System	NAEC 51-8044	NAVAIR Lakehurst	Approved Dec 87

DOCUMENT OR NTSP TITLE	DOCUMENT OR NTSP NUMBER	PDA CODE	STATUS
User's Logistics Support Summary for the Improved Fresnel Lens Optical Landing System	NAWCADLKE-U82093001	NAVAIR Lakehurst	Draft Mar 01
User's Logistics Support Summary for the Long Range Line-Up System	NAWCADLKE-ULSS-92057A	NAVAIR Lakehurst	Draft Jan 01
Maintenance Plan for the Glide Slope Indicator	SSIED MP NO. 006-86	NAVAIR Lakehurst	Approved Aug 86
Maintenance Plan for the Improved Fresnel Lens Optical Landing System	NAWCADLKE-M82093001	NAVAIR Lakehurst	Approved May 97
Revised Maintenance Plan for the AM2 Airfield Matting	NAWCADLKE-MISC-48J200-0021	NAVAIR Lakehurst	Approved Jul 98

PART II - BILLET AND PERSONNEL REQUIREMENTS

The following elements are not affected by the Marine Corps Shore Based and Expeditionary Airfield Aircraft Launch and Recovery equipment 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

SOURCE OF SCHEDULE: NAVAIR Lakehurst **DATE:** October 2002
SOURCE OF MANPOWER: Extract from Marine Corps Tables of Organization **DATE:** December 2002

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

ACTIVITY, UIC		PFYs	CFY03	FY04	FY05	FY06	FY07
OPERATIONAL ACTIVITIES - USMC							
VMA 223	09438	1	0	0	0	0	0
VMA 231	09498	1	0	0	0	0	0
VMA 311	09416	1	0	0	0	0	0
VMA 542	52847	1	0	0	0	0	0
VMAQ 1	41345	1	0	0	0	0	0
VMAQ 2	42362	1	0	0	0	0	0
VMAQ 3	42363	1	0	0	0	0	0
VMAQ 4	67837	1	0	0	0	0	0
VMFA (AW) 224	09439	1	0	0	0	0	0
VMFA (AW) 332	09501	1	0	0	0	0	0
VMFA (AW) 533	09193	1	0	0	0	0	0
VMFA 115	09234	1	0	0	0	0	0
VMFA 122	09407	1	0	0	0	0	0
VMFA 142	08966	1	0	0	0	0	0
VMFA 212	09413	1	0	0	0	0	0
VMFA 251	09241	1	0	0	0	0	0
VMFA 312	09253	1	0	0	0	0	0
VMFA 321	09265	1	0	0	0	0	0
VFMA 112	00215	1	0	0	0	0	0
VMA 211	09412	1	0	0	0	0	0
VMA 214	09436	1	0	0	0	0	0
VMA 513	53822	1	0	0	0	0	0
VMFA (AW) 121	09257	1	0	0	0	0	0
VMFA (AW) 225	09232	1	0	0	0	0	0
VMFA (AW) 242	09255	1	0	0	0	0	0
VMFA 134	09365	1	0	0	0	0	0
VMFA 232	09235	1	0	0	0	0	0
VMFA 314	09230	1	0	0	0	0	0
VMFA 323	09242	1	0	0	0	0	0
TOTAL:		29	0	0	0	0	0
FLEET SUPPORT ACTIVITIES - USN							
VT 19	09177	1	0	0	0	0	0
VT 23	0402A	1	0	0	0	0	0
VT 21	0400A	1	0	0	0	0	0
VT 22	0401A	1	0	0	0	0	0
VT 7	0398A	1	0	0	0	0	0
TOTAL:		5	0	0	0	0	0

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

ACTIVITY, UIC		PFYs	CFY03	FY04	FY05	FY06	FY07
FLEET SUPPORT ACTIVITIES - USMC							
4TH MAW Headquarters	67811	1	0	0	0	0	0
Blount Island Command	38450	1	0	0	0	0	0
Fixed Wing Support Squadrons	00000	1	0	0	0	0	0
H&HS Beaufort	60169	1	0	0	0	0	0
H&HS Cherry Point	44701	1	0	0	0	0	0
Headquarters Marine Corps	00027	1	0	0	0	0	0
Headquarters MWSG	00000	1	0	0	0	0	0
Headquarters MWSG 47	67242	1	0	0	0	0	0
MATSG 21	67389	1	0	0	0	0	0
MAW Headquarters	00000	1	0	0	0	0	0
Mountain Warfare Training Center	64495	1	0	0	0	0	0
MWSS 472	09388	1	0	0	0	0	0
H&HS Camp Pendleton	09808	1	0	0	0	0	0
H&HS MCAS Iwakuni	57079	1	0	0	0	0	0
H&HS Miramar	67865	1	0	0	0	0	0
H&HS Yuma	62974	1	0	0	0	0	0
Headquarters MARFORPAC	57079	1	0	0	0	0	0
MCAF Kaneohe Bay	02300	1	0	0	0	0	0
MWSS 374	09246	1	0	0	0	0	0
MWSS 471	48041	1	0	0	0	0	0
MWSS Augment, Twentynine Palms	67399	1	0	0	0	0	0
Rotary Wing Support Squadrons	00000	1	0	0	0	0	0
TOTAL:		22	0	0	0	0	0

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

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
OPERATIONAL ACTIVITIES - USMC					
VMA 223, 09438					
USMC	1	0	CAPT	7509	7594
	1	0	LT	7509	7594
ACTIVITY TOTAL:	2	0			
VMA 231, 09498					
USMC	1	0	CAPT	7509	7594
	1	0	LT	7509	7594
ACTIVITY TOTAL:	2	0			
VMA 311, 09416					
USMC	1	0	CAPT	7509	7594
	1	0	LT	7509	7594
ACTIVITY TOTAL:	2	0			
VMA 542, 52847					
USMC	1	0	CAPT	7509	7594
	1	0	LT	7509	7594
ACTIVITY TOTAL:	2	0			
VMAQ 1, 41345					
USMC	1	0	CAPT	7543	7594
ACTIVITY TOTAL:	1	0			
VMAQ 2, 42362					
USMC	1	0	CAPT	7543	7594
ACTIVITY TOTAL:	1	0			
VMAQ 3, 42363					
USMC	1	0	CAPT	7543	7594
ACTIVITY TOTAL:	1	0			
VMAQ 4, 67837					
USMC	1	0	CAPT	7543	7594
ACTIVITY TOTAL:	1	0			
VMFA (AW) 224, 09439					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			

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

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
VMFA (AW) 332, 09501					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			
VMFA (AW) 533, 09193					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			
VMFA 115, 09234					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			
VMFA 122, 09407					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			
VMFA 142, 08966					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			
VMFA 212, 09413					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			
VMFA 251, 09241					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			
VMFA 312, 09253					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			
VMFA 321, 09265					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			

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

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
VFMA 112, 00215					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			
VMA 211, 09412					
USMC	1	0	CAPT	7509	7594
	1	0	LT	7509	7594
ACTIVITY TOTAL:	2	0			
VMA 214, 09436					
USMC	1	0	CAPT	7509	7594
	1	0	LT	7509	7594
ACTIVITY TOTAL:	2	0			
VMA 513, 53822					
USMC	1	0	CAPT	7509	7594
	1	0	LT	7509	7594
ACTIVITY TOTAL:	2	0			
VMFA (AW) 121, 09257					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			
VMFA (AW) 225, 09232					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			
VMFA (AW) 242, 09255					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			
VMFA 134, 09365					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			
VMFA 232, 09235					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			

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

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
VMFA 314, 09230					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			
VMFA 323, 09242					
USMC	1	0	CAPT	7523	7594
ACTIVITY TOTAL:	1	0			
FLEET SUPPORT ACTIVITIES - USN					
VT 19, 09177					
USMC	1	0	CAPT	7594	
ACTIVITY TOTAL:	1	0			
VT 23, 0402A					
USMC	1	0	CAPT	7594	
ACTIVITY TOTAL:	1	0			
VT 21, 0400A					
USMC	1	0	CAPT	7594	
ACTIVITY TOTAL:	1	0			
VT 22, 0401A					
USMC	1	0	CAPT	7594	
ACTIVITY TOTAL:	1	0			
VT 7, 0398A					
USMC	1	0	CAPT	7594	
ACTIVITY TOTAL:	1	0			
FLEET SUPPORT ACTIVITIES - USMC					
4TH MAW Headquarters, 67811					
SMCR	0	1	MSGT	7011	
ACTIVITY TOTAL:	0	1			
Blount Island Command, 38450					
USMC	0	1	GYSGT	7011	
ACTIVITY TOTAL:	0	1			

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

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
Fixed Wing Support Squadrons, 00000					
USMC	0	45	CPL	7011	
	0	5	GYSGT	7011	
	0	80	LCPL	7011	
	0	30	SGT	7011	
	0	15	SSGT	7011	
	0	5	MSGT	7011	
ACTIVITY TOTAL:	0	180			
H&HS Beaufort, 60169					
USMC	0	6	CPL	7011	
	0	1	GYSGT	7011	
	0	9	LCPL	7011	
	0	3	SGT	7011	
	0	2	SSGT	7011	
	0	1	SSGT	7011	9954
SMCR	0	7	CPL	7011	
	0	3	LCPL	7011	
	0	2	SGT	7011	
	0	2	SSGT	7011	
ACTIVITY TOTAL:	0	36			
H&HS Cherry Point, 44701					
USMC	0	9	CPL	7011	
	0	2	GYSGT	7011	
	0	25	LCPL	7011	
	0	8	SGT	7011	
	0	4	SSGT	7011	
SMCR	0	25	CPL	7011	
	0	1	GYSGT	7011	
	0	8	SGT	7011	
	0	3	SSGT	7011	
ACTIVITY TOTAL:	0	85			
Headquarters Marine Corps, 00027					
USMC	0	1	MGYSGT	7011	
ACTIVITY TOTAL:	0	1			
Headquarters MWSG, 00000					
USMC	0	1	GYSGT	7011	
ACTIVITY TOTAL:	0	1			

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

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
Headquarters MWSG 47, 67242					
SMCR	0	1	GYSGT	7011	
ACTIVITY TOTAL:	0	1			
MATSG 21, 67389					
USMC	0	2	CPL	7011	
	0	4	GYSGT	7011	
	0	1	LCPL	7011	
	0	1	MGYSGT	7011	
	0	2	SSGT	7011	
ACTIVITY TOTAL:	0	10			
MAW Headquarters, 00000					
USMC	0	3	MSGT	7011	
ACTIVITY TOTAL:	0	3			
Mountain Warfare Training Center, 64495					
USMC	0	1	GYSGT	7011	
ACTIVITY TOTAL:	0	1			
MWSS 472, 09388					
USMC	0	1	CPL	7011	
	0	1	SSGT	7011	
SMCR	0	1	CPL	7011	
	0	1	GYSGT	7011	
	0	5	LCPL	7011	
	0	1	SGT	7011	
	0	1	SSGT	7011	
ACTIVITY TOTAL:	0	11			
H&HS Camp Pendleton, 09808					
USMC	0	4	CPL	7011	
	0	1	GYSGT	7011	
	0	6	LCPL	7011	
	0	2	SSGT	7011	
ACTIVITY TOTAL:	0	13			

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

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
H&HS MCAS Iwakuni, 57079					
USMC	0	6	CPL	7011	
	0	1	GYSGT	7011	
	0	1	GYSGT	7011	9954
	0	10	LCPL	7011	
	0	5	SGT	7011	
	0	3	SSGT	7011	
	0	1	MSGT	7011	
ACTIVITY TOTAL:	0	27			
H&HS Miramar, 67865					
USMC	0	6	CPL	7011	
	0	11	LCPL	7011	
	0	3	SGT	7011	
	0	1	SSGT	7011	
	0	1	MSGT	7011	
SMCR	0	14	CPL	7011	
	0	3	LCPL	7011	
	0	2	SGT	7011	
	0	1	SSGT	7011	
ACTIVITY TOTAL:	0	42			
H&HS Yuma, 62974					
USMC	0	9	CPL	7011	
	0	3	GYSGT	7011	
	0	10	LCPL	7011	
	0	4	SGT	7011	
	0	2	SSGT	7011	9954
SMCR	0	5	CPL	7011	
	0	2	LCPL	7011	
	0	2	SGT	7011	
	0	2	SSGT	7011	
ACTIVITY TOTAL:	0	39			
Headquarters MARFORPAC, 57079					
USMC	0	1	MGYSGT	7011	
ACTIVITY TOTAL:	0	1			
MCAF Kaneohe Bay, 02300					
USMC	0	2	CPL	7011	
	0	2	SGT	7011	
	0	1	SSGT	7011	
ACTIVITY TOTAL:	0	5			

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

ACTIVITY, UIC, PHASING INCREMENT	BILLETS OFF	BILLETS ENL	DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS
MWSS 374, 09246					
USMC	0	6	CPL	7011	
	0	1	GYSGT	7011	
	0	18	LCPL	7011	
	0	4	SGT	7011	
	0	2	SSGT	7011	
ACTIVITY TOTAL:	0	31			
MWSS 471, 48041					
USMC	0	1	SGT	7011	
SMCR	0	7	CPL	7011	
	0	1	GYSGT	7011	
	0	11	LCPL	7011	
	0	3	SGT	7011	
	0	2	SSGT	7011	
	0	1	MSGT	7011	
ACTIVITY TOTAL:	0	26			
MWSS Augment, Twentynine Palms, 67399					
USMC	0	2	CPL	7011	
	0	12	LCPL	7011	
	0	4	SGT	7011	
	0	1	SSGT	7011	
	0	1	MSGT	7011	
ACTIVITY TOTAL:	0	20			
Rotary Wing Support Squadrons, 00000					
USMC	0	8	CPL	7011	
	0	4	GYSGT	7011	
	0	20	LCPL	7011	
	0	4	SGT	7011	
	0	8	SSGT	7011	
ACTIVITY TOTAL:	0	44			

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

DESIG/ RATING	PNEC/SNEC PMOS/SMOS		PFYs OFF	PFYs ENL	CFY03 OFF	CFY03 ENL	FY04 OFF	FY04 ENL	FY05 OFF	FY05 ENL	FY06 OFF	FY06 ENL	FY07 OFF	FY07 ENL
USMC OPERATIONAL ACTIVITIES - USMC														
CAPT	7509	7594	7		0		0		0		0		0	
CAPT	7523	7594	18		0		0		0		0		0	
CAPT	7543	7594	4		0		0		0		0		0	
LT	7509	7594	7		0		0		0		0		0	
USN FLEET SUPPORT ACTIVITIES - USMC														
CAPT	7594		5		0		0		0		0		0	
USMC FLEET SUPPORT ACTIVITIES - USMC														
CPL	7011			106		0		0		0		0		0
GYSGT	7011			25		0		0		0		0		0
GYSGT	7011	9954		1		0		0		0		0		0
LCPL	7011			202		0		0		0		0		0
MGYSGT	7011			3		0		0		0		0		0
SGT	7011			68		0		0		0		0		0
SSGT	7011			42		0		0		0		0		0
MSGT	7011			11		0		0		0		0		0
SSGT	7011	9954		3		0		0		0		0		0
USMC FLEET SUPPORT ACTIVITIES - SMCR														
CPL	7011			59		0		0		0		0		0
GYSGT	7011			4		0		0		0		0		0
LCPL	7011			24		0		0		0		0		0
SGT	7011			18		0		0		0		0		0
SSGT	7011			11		0		0		0		0		0
MSGT	7011			2		0		0		0		0		0

SUMMARY TOTALS:

USMC OPERATIONAL ACTIVITIES - USMC														
			36		0		0		0		0		0	
USN FLEET SUPPORT ACTIVITIES - USMC														
			5		0		0		0		0		0	
USMC FLEET SUPPORT ACTIVITIES - USMC														
				461		0		0		0		0		0
USMC FLEET SUPPORT ACTIVITIES - SMCR														
				118		0		0		0		0		0

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

DESIG/ RATING	PNEC/SNEC PMOS/SMOS	PFYs OFF	PFYs ENL	CFY03 OFF	CFY03 ENL	FY04 OFF	FY04 ENL	FY05 OFF	FY05 ENL	FY06 OFF	FY06 ENL	FY07 OFF	FY07 ENL
GRAND TOTALS:													
USN - USMC		5		0		0		0		0		0	
USMC - USMC		36	461	0	0	0	0	0	0	0	0	0	0
USMC - SMCR			118		0		0		0		0		0

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

DESIG RATING	PNEC/SNEC PMOS/SMOS	PFYs OFF	PFYs ENL	CFY03 OFF	CFY03 ENL	FY04 OFF	FY04 ENL	FY05 OFF	FY05 ENL	FY06 OFF	FY06 ENL	FY07 OFF	FY07 ENL
TRAINING ACTIVITY, LOCATION, UIC: Landing Signal Officer School, Oceana, 68788													
INSTRUCTOR BILLETS													
USN													
1312		3	0	3	0	3	0	3	0	3	0	3	0
TOTAL:		3	0	3	0	3	0	3	0	3	0	3	0
TRAINING ACTIVITY, LOCATION, UIC: MATSG 21, NATTC, Pensacola, 67389													
INSTRUCTOR BILLETS													
USMC													
GYSGT	7011	0	4	0	4	0	4	0	4	0	4	0	4
SSGT	7011	0	2	0	2	0	2	0	2	0	2	0	2
SUPPORT BILLETS													
USMC													
CPL	7011	0	2	0	2	0	2	0	2	0	2	0	2
LCPL	7011	0	1	0	1	0	1	0	1	0	1	0	1
MGYSGT	7011	0	1	0	1	0	1	0	1	0	1	0	1
TOTAL:		0	10	0	10	0	10	0	10	0	10	0	10

II.A.4. CHARGEABLE STUDENT BILLET REQUIREMENTS

ACTIVITY, LOCATION, UIC	USN/ USMC	PFYs OFF	PFYs ENL	CFY03 OFF	CFY03 ENL	FY04 OFF	FY04 ENL	FY05 OFF	FY05 ENL	FY06 OFF	FY06 ENL	FY07 OFF	FY07 ENL
Landing Signal Officer School, Oceana, 68788													
	USMC	0.3	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.3	0.0
MATSG 21, NATTC, Pensacola, 67389													
	USMC	0.0	13.5	0.0	13.5	0.0	13.5	0.0	13.5	0.0	13.5	0.0	13.5
SUMMARY TOTALS:													
	USMC	0.3	13.5	0.3	13.5	0.3	13.5	0.3	13.5	0.3	13.5	0.3	13.5
GRAND TOTALS:													
		0.3	13.5	0.3	13.5	0.3	13.5	0.3	13.5	0.3	13.5	0.3	13.5

II.A.5. ANNUAL INCREMENTAL AND CUMULATIVE BILLETS

DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS	BILLET BASE	CFY03 +/-	CFY03 CUM	FY04 +/-	FY04 CUM	FY05 +/-	FY05 CUM	FY06 +/-	FY06 CUM	FY07 +/-	FY07 CUM
a. OFFICER - USN													
Staff Billets ACDU and TAR													
1312			3	0	3	0	3	0	3	0	3	0	3
TOTAL USN OFFICER BILLETS:													
Staff			3	0	3	0	3	0	3	0	3	0	3
b. ENLISTED - USN			Not Applicable										
c. OFFICER - USMC													
Operational Billets USMC and AR													
CAPT	7509	7594	7	0	7	0	7	0	7	0	7	0	7
CAPT	7523	7594	18	0	18	0	18	0	18	0	18	0	18
CAPT	7543	7594	4	0	4	0	4	0	4	0	4	0	4
LT	7509	7594	7	0	7	0	7	0	7	0	7	0	7
Fleet Support Billets USMC and AR													
CAPT	7594		5	0	5	0	5	0	5	0	5	0	5
Chargeable Student Billets USMC and AR													
			1	0	1	0	1	0	1	0	1	0	1
TOTAL USMC OFFICER BILLETS:													
Operational			36	0	36	0	36	0	36	0	36	0	36
Fleet Support			5	0	5	0	5	0	5	0	5	0	5
Chargeable Student			1	0	1	0	1	0	1	0	1	0	1
d. ENLISTED - USMC													
Fleet Support Billets USMC and AR													
CPL	7011		106	0	106	0	106	0	106	0	106	0	106
GYSGT	7011		25	0	25	0	25	0	25	0	25	0	25
GYSGT	7011	9954	1	0	1	0	1	0	1	0	1	0	1
LCPL	7011		202	0	202	0	202	0	202	0	202	0	202
MGYSGT	7011		3	0	3	0	3	0	3	0	3	0	3

II.A.5. ANNUAL INCREMENTAL AND CUMULATIVE BILLETS

DESIG/ RATING	PNEC/ PMOS	SNEC/ SMOS	BILLET BASE	CFY03 +/-	CFY03 CUM	FY04 +/-	FY04 CUM	FY05 +/-	FY05 CUM	FY06 +/-	FY06 CUM	FY07 +/-	FY07 CUM
SGT	7011		68	0	68	0	68	0	68	0	68	0	68
SSGT	7011		42	0	42	0	42	0	42	0	42	0	42
MSGT	7011		11	0	11	0	11	0	11	0	11	0	11
SSGT	7011	9954	3	0	3	0	3	0	3	0	3	0	3
Staff Billets USMC and AR													
CPL	7011		2	0	2	0	2	0	2	0	2	0	2
GYSGT	7011		4	0	4	0	4	0	4	0	4	0	4
LCPL	7011		1	0	1	0	1	0	1	0	1	0	1
MGYSGT	7011		1	0	1	0	1	0	1	0	1	0	1
SSGT	7011		2	0	2	0	2	0	2	0	2	0	2
Chargeable Student Billets USMC and AR													
			14	0	14	0	14	0	14	0	14	0	14
SMCR Billets													
CPL	7011		59	0	59	0	59	0	59	0	59	0	59
GYSGT	7011		4	0	4	0	4	0	4	0	4	0	4
LCPL	7011		24	0	24	0	24	0	24	0	24	0	24
SGT	7011		18	0	18	0	18	0	18	0	18	0	18
SSGT	7011		11	0	11	0	11	0	11	0	11	0	11
MSGT	7011		2	0	2	0	2	0	2	0	2	0	2
TOTAL USMC ENLISTED BILLETS:													
Fleet Support			461	0	461	0	461	0	461	0	461	0	461
Staff			10	0	10	0	10	0	10	0	10	0	10
Chargeable Student			14	0	14	0	14	0	14	0	14	0	14
SMCR			118	0	118	0	118	0	118	0	118	0	118

II.B. ANNUAL TRAINING INPUT REQUIREMENTS

CIN, COURSE TITLE: D-2G-0001, Initial Formal Ground Training
COURSE LENGTH: 1.6 Weeks
ATTRITION FACTOR: Navy: 0% USMC: 0% **BACKOUT FACTOR:** 0.00

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY03 OFF	CFY03 ENL	FY04 OFF	FY04 ENL	FY05 OFF	FY05 ENL	FY06 OFF	FY06 ENL	FY07 OFF	FY07 ENL
Landing Signal Officer School, Oceana												
	USMC	USMC	7		7		7		7		7	
		TOTAL:	7		7		7		7		7	

CIN, COURSE TITLE: D-2G-0002, Advanced Formal Ground Training
COURSE LENGTH: 0.6 Weeks
ATTRITION FACTOR: Navy: 0% USMC: 0% **BACKOUT FACTOR:** 0.00

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY03 OFF	CFY03 ENL	FY04 OFF	FY04 ENL	FY05 OFF	FY05 ENL	FY06 OFF	FY06 ENL	FY07 OFF	FY07 ENL
Landing Signal Officer School, Oceana												
	USMC	USMC	10		10		10		10		10	
		TOTAL:	10		10		10		10		10	

CIN, COURSE TITLE: D-2G-0003, Fleet Replacement Squadron Training Command
COURSE LENGTH: 0.6 Weeks
ATTRITION FACTOR: Navy: 0% USMC: 0% **BACKOUT FACTOR:** 0.00

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY03 OFF	CFY03 ENL	FY04 OFF	FY04 ENL	FY05 OFF	FY05 ENL	FY06 OFF	FY06 ENL	FY07 OFF	FY07 ENL
Landing Signal Officer School, Oceana												
	USMC	USMC	0		1		0		0		0	
		TOTAL:	0		1		0		0		0	

CIN, COURSE TITLE: C-604-2015, Marine Expeditionary Airfield Equipment
COURSE LENGTH: 6.8 Weeks
ATTRITION FACTOR: Navy: 0% USMC: 0% **BACKOUT FACTOR:** 0.14

TRAINING ACTIVITY	SOURCE	ACDU/TAR SELRES	CFY03 OFF	CFY03 ENL	FY04 OFF	FY04 ENL	FY05 OFF	FY05 ENL	FY06 OFF	FY06 ENL	FY07 OFF	FY07 ENL
MATSG 21, NATTC, Pensacola												
	USMC	USMC		107		107		107		107		107
		SMCR		11		11		11		11		11
		TOTAL:		118		118		118		118		118

PART III - TRAINING REQUIREMENTS

The following elements are not affected by the Marine Corps Shore Based and Expeditionary Airfield Aircraft Launch and Recovery equipment and, therefore, are not included in Part II of this NTSP:

III.A.2. Follow-on Training

III.A.2.b. Planned Courses

III.A.2.c. Unique Courses

III.A.3. Existing Training Phased Out

III.A.1. INITIAL TRAINING REQUIREMENTS

COURSE TITLE: M31 MCEAGS Initial Training
COURSE DEVELOPER: NAVAIR Lakehurst
COURSE INSTRUCTOR: NAVAIR Lakehurst
COURSE LENGTH: 5 Days
ACTIVITY DESTINATIONS: EASU
MWSS
NATTC Pensacola

LOCATION, UIC	BEGIN DATE	STUDENTS OFF	ENL	CIV	
NAVAIR Lakehurst, 48558	May 03	0	20	0	Input
		.	0.3		AOB Chargeable

III.A.2. FOLLOW-ON TRAINING

III.A.2.a. EXISTING COURSES

CIN, COURSE TITLE: D-2G-0001, Initial Formal Ground Training
TRAINING ACTIVITY: Landing Signal Officer School
LOCATION, UIC: Oceana, 68788

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

CFY03		FY04		FY05		FY06		FY07		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
7		7		7		7		7		ATIR
7		7		7		7		7		Output
0.2		0.2		0.2		0.2		0.2		AOB
0.2		0.2		0.2		0.2		0.2		Chargeable

CIN, COURSE TITLE: D-2G-0002, Advanced Formal Ground Training
TRAINING ACTIVITY: Landing Signal Officer School
LOCATION, UIC: Oceana, 68788

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

CFY03		FY04		FY05		FY06		FY07		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
10		10		10		10		10		ATIR
10		10		10		10		10		Output
0.1		0.1		0.1		0.1		0.1		AOB
0.1		0.1		0.1		0.1		0.1		Chargeable

CIN, COURSE TITLE: D-2G-0003, Fleet Replacement Squadron Training Command
TRAINING ACTIVITY: Landing Signal Officer School
LOCATION, UIC: Oceana, 68788

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

CFY03		FY04		FY05		FY06		FY07		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
0		1		0		0		0		ATIR
0		1		0		0		0		Output
0.0		0.0		0.0		0.0		0.0		AOB
0.0		0.0		0.0		0.0		0.0		Chargeable

III.A.2.a. EXISTING COURSES

CIN, COURSE TITLE: C-604-2015, Marine Expeditionary Airfield Equipment
TRAINING ACTIVITY: MATSG 21
LOCATION, UIC: NATTC, Pensacola, 67389

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

CFY03		FY04		FY05		FY06		FY07		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	107		107		107		107		107	ATIR
	107		107		107		107		107	Output
	13.5		13.5		13.5		13.5		13.5	AOB
	13.5		13.5		13.5		13.5		13.5	Chargeable

SOURCE: USMC **STUDENT CATEGORY:** SMCR

CFY03		FY04		FY05		FY06		FY07		
OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	OFF	ENL	
	11		11		11		11		11	ATIR
	11		11		11		11		11	Output
	1.4		1.4		1.4		1.4		1.4	AOB
	0.0		0.0		0.0		0.0		0.0	Chargeable

PART IV - TRAINING LOGISTICS SUPPORT REQUIREMENTS

The following elements are not affected by the Marine Corps Shore Based and Expeditionary Airfield Aircraft Launch and Recovery Equipment 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: D-2G-0001, Initial Formal Ground Training (Track D-2G-0001)
TRAINING ACTIVITY: Landing Signal Officer School
LOCATION, UIC: NAS Oceana, 68788

ITEM NO.	EQUIPMENT / TYPE OR RANGE OF REPAIR PARTS	QTY REQD	DATE REQD	GFE CFE	STATUS
TTE					
001	LSO Head-Up Display (HUD) Console	1	Jan 00	GFE	Onboard
002	CV Configured LSO Workstation	1	Jan 00	GFE	Onboard
003	MK-8 Portable Fresnel Lens Optical Landing System	1	Jan 00	GFE	Onboard
004	Improved Fresnel Lens Optical Landing System	1	Dec 01	GFE	Onboard
005	Long Range Line-Up System	1	Mar 01	GFE	Onboard
006	Manually Operated Visual Landing Aid System	1	Jan 00	GFE	Onboard
007	Precision Approach Path Indicator	1	Jan 00	GFE	Onboard

CIN, COURSE TITLE: D-2G-0002, Advanced Formal Ground Training (Track D-2G-0002)
TRAINING ACTIVITY: Landing Signal Officer School
LOCATION, UIC: NAS Oceana, 68788

ITEM NO.	EQUIPMENT / TYPE OR RANGE OF REPAIR PARTS	QTY REQD	DATE REQD	GFE CFE	STATUS
TTE					
001	LSO Head-Up Display (HUD) Console	1	Jan 00	GFE	Onboard
002	CV Configured LSO Workstation	1	Jan 00	GFE	Onboard
003	MK-8 Portable Fresnel Lens Optical Landing System	1	Jan 00	GFE	Onboard
004	Improved Fresnel Lens Optical Landing System	1	Dec 01	GFE	Onboard
005	Long Range Line-Up System	1	Mar 01	GFE	Onboard
006	Manually Operated Visual Landing Aid System	1	Jan 00	GFE	Onboard
007	Precision Approach Path Indicator	1	Jan 00	GFE	Onboard

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

CIN, COURSE TITLE: D-2G-0003, Fleet Replacement Squadron Training Command (Track D-2G-0003)
TRAINING ACTIVITY: Landing Signal Officer School
LOCATION, UIC: NAS Oceana, 68788

ITEM NO.	EQUIPMENT / TYPE OR RANGE OF REPAIR PARTS	QTY REQD	DATE REQD	GFE CFE	STATUS
TTE					
001	LSO Head-Up Display (HUD) Console	1	Jan 00	GFE	Onboard
002	CV Configured LSO Workstation	1	Jan 00	GFE	Onboard
003	MK-8 Portable Fresnel Lens Optical Landing System	1	Jan 00	GFE	Onboard
004	Improved Fresnel Lens Optical Landing System	1	Dec 01	GFE	Onboard
005	Long Range Line-Up System	1	Mar 01	GFE	Onboard
006	Manually Operated Visual Landing Aid System	1	Jan 00	GFE	Onboard
007	Precision Approach Path Indicator	1	Jan 00	GFE	Onboard

CIN, COURSE TITLE: C-604-2015, Marine Expeditionary Airfield Equipment Course
TRAINING ACTIVITY: Marine Aviation Training Support Group 21
LOCATION, UIC: NATTC, Pensacola, 67389

ITEM NO.	EQUIPMENT / TYPE OR RANGE OF REPAIR PARTS	QTY REQD	DATE REQD	GFE CFE	STATUS
TTE					
006	Manually Operated Visual Landing Aid System	1	Jan 00	GFE	Onboard
008	E28 Emergency Runway Arresting Gear	1	Jan 00	GFE	Onboard
009	AM2 Airfield Matting	5	Jan 00	GFE	Onboard
010	M21 Marine Corps Expeditionary Arresting Gear System	1	Jan 00	GFE	Onboard
011	M31 Marine Corps Expeditionary Arresting Gear System	1	Dec 02	GFE	Pending
012	Marine Corps Minimum Operation Strip Lighting System	2	Jan 00	GFE	Onboard
013	Field Marker Light	20	Jan 00	GFE	Onboard
014	AN/PRC-138 Radio	5	Jan 00	GFE	Onboard
015	MK-8 Fresnel Lens Optical Landing System	1	Jan 00	GFE	Onboard
GPTE					
150	Torque Wrench, 0 to 50 lb-ft	1	Jan 00	GFE	Onboard
151	Torque Wrench, 0 to 350 lb-ft	1	Jan 00	GFE	Onboard

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

152	Pliers, Retaining Ring, 315448-6/8	1	Jan 00	GFE	Onboard
154	Steel Tape, 6 feet, GGG-T-106	1	Jan 00	GFE	Onboard
155	Thickness Gauge, (.0015 to .025), GGG-G-17	1	Jan 00	GFE	Onboard
156	Level and Plumb, GGG-L-211	1	Jan 00	GFE	Onboard
157	Chalk Line and Reel	1	Jan 00	GFE	Onboard
158	Transit, Tripod and Equipment	1	Jan 00	GFE	Onboard
159	Inflating Pump, XX-P-746	1	Jan 00	GFE	Onboard
160	Steel Tape, 200 feet	1	Jan 00	GFE	Onboard
ST					
016	Wrecking Bar, GGG-B-101	1	Jan 00	GFE	Onboard
017	Adapter Setting Bar, 626442-4	1	Jan 00	GFE	Onboard
018	Torque Tube Assembly, 523595-1	1	Jan 00	GFE	Onboard
019	Drill Steel Extension, 523588-1	1	Jan 00	GFE	Onboard
020	Drill Steel, 72-inch, 523583-3	1	Jan 00	GFE	Onboard
021	Drill Steel, 48-inch, 523583-2	1	Jan 00	GFE	Onboard
022	Moil Point, 72-inch, 522551-3	1	Jan 00	GFE	Onboard
023	Moil Point, 48-inch, 522551-2	1	Jan 00	GFE	Onboard
024	Retrieving Tool Assembly, 514223-1	1	Jan 00	GFE	Onboard
025	Driving Rod Assembly, 512867-1	1	Jan 00	GFE	Onboard
026	Driver Coupling, 512848-1	1	Jan 00	GFE	Onboard
027	Extension Driver, 4-feet, 512847-2	1	Jan 00	GFE	Onboard
028	Extension Driver, 2-feet, 512847-1	1	Jan 00	GFE	Onboard
029	Primary Driver, 512846-1	1	Jan 00	GFE	Onboard
030	Driving Head, 512845-1	1	Jan 00	GFE	Onboard
031	Cartridge Installation Tool, 419489-1	1	Jan 00	GFE	Onboard
032	Cable Sling, 6-feet, 522561-1	1	Jan 00	GFE	Onboard
033	Air Compressor, Hydraulic, 626542-1	1	Jan 00	GFE	Onboard
034	Hydraulic Power Unit, 626538-1	1	Jan 00	GFE	Onboard
035	Pull Tester, Hydraulic, 626442-1	1	Jan 00	GFE	Onboard

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

036	Cutoff Saw, Hydraulic, 627220-1	1	Jan 00	GFE	Onboard
037	Edge Tool, 510827-1	1	Jan 00	GFE	Onboard
038	Moil Point, 18-inch, 522551-1	1	Jan 00	GFE	Onboard
039	Drill Steel, 24-inch, 523583-1	1	Jan 00	GFE	Onboard
040	Sinker Drill, Hydraulic, 626539-1	1	Jan 00	GFE	Onboard
041	Breaker, Hydraulic, 626541-1	1	Jan 00	GFE	Onboard
042	Pump Oiler, GGG-O-591	1	Jan 00	GFE	Onboard
043	Auger Flight, 3-inch, 522442-1	1	Jan 00	GFE	Onboard
044	Auger Flight, 2-inch, 522442-2	1	Jan 00	GFE	Onboard
045	Auger Flight, 1.5-inch, 522442-3	1	Jan 00	GFE	Onboard
046	Auger Flight, Extension 3-inch, 522442-5	1	Jan 00	GFE	Onboard
047	Auger Flight, Extension 2-inch, 522442-6	1	Jan 00	GFE	Onboard
048	Auger Flight, Extension 1.5-inch, 522442-7	1	Jan 00	GFE	Onboard
049	Chain Shackle, AN116-22	1	Jan 00	GFE	Onboard
050	Anchor Driving Tool, Extension, 626693-4	1	Jan 00	GFE	Onboard
051	Anchor Driving Tool, Drive End, 626693-3	1	Jan 00	GFE	Onboard
052	Anchor Driving Tool, Shank, 626693-2	1	Jan 00	GFE	Onboard
053	Pneumatic Hose Assembly, 523594-1	1	Jan 00	GFE	Onboard
054	Hydraulic Hose Assembly, 523593-1	2	Jan 00	GFE	Onboard
055	Face Shield, L-F-36	1	Jan 00	GFE	Onboard
056	Anchor Driving Tool, Coupler, 626693-5	1	Jan 00	GFE	Onboard
057	Bit Holder, 626540-4	1	Jan 00	GFE	Onboard
058	Chuck Adapter, 626540-3	1	Jan 00	GFE	Onboard
059	Drill Chuck, 626540-2	1	Jan 00	GFE	Onboard
060	Hammer Drill, Hydraulic, 626540-1	1	Jan 00	GFE	Onboard
061	Torque Tube Adapter, 523578-1	1	Jan 00	GFE	Onboard
062	Auger Flight Adapter, 522442-4	1	Jan 00	GFE	Onboard
063	Pull Tester Base, 626442-2	1	Jan 00	GFE	Onboard

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

064	Stake Removal Tool, 515956-1	1	Jan 00	GFE	Onboard
065	Stake Removal Tool, 515944-1	1	Jan 00	GFE	Onboard
066	Single Leg Chain Assembly, 9-feet, MIL-C-6458	1	Jan 00	GFE	Onboard
067	Blasting Machine, W-B-411	1	Jan 00	GFE	Onboard
068	Keylock Tool, 624986-1	1	Jan 00	GFE	Onboard
069	Push-Pull Tool, 621604-1	1	Jan 00	GFE	Onboard
070	Pull Test Tool, 419500-1	1	Jan 00	GFE	Onboard
071	Driving Rod Wrench, 417803-1	1	Jan 00	GFE	Onboard
072	Firing Lead, 10-feet, MIL-C-915/16	1	Jan 00	GFE	Onboard
073	Hydraulic Power Unit Spare Parts Kit, 626538-2	1	Jan 00	GFE	Onboard
074	Sinker Drill Spare Parts Kit, 626539-2	1	Jan 00	GFE	Onboard
075	Breaker Spare Parts Kit, 626541-2	1	Jan 00	GFE	Onboard
076	Cruciform Stake Driver, 509595-1	1	Jan 00	GFE	Onboard
077	Cruciform Stake Driver, 421642-1	1	Jan 00	GFE	Onboard
078	Driving Cap Assembly, 419540-1	1	Jan 00	GFE	Onboard
079	Reducer Bushing, AN912-4J	1	Jan 00	GFE	Onboard
080	Air Compressor Spare Parts Kit, 626542-2	1	Jan 00	GFE	Onboard
081	Hammer Drill Spare Parts Kit, 626540-5	1	Jan 00	GFE	Onboard
082	Pull Tester Spare Parts Kit, 626442-3	1	Jan 00	GFE	Onboard
083	Pneumatic Hose Assembly Quick-Connect, 523592-1	1	Jan 00	GFE	Onboard
084	Hydraulic Hose Assembly Quick-Connect, 523592-1	1	Jan 00	GFE	Onboard
085	Auger Bit, Soft Earth, 1.5-inch, 522444-3	1	Jan 00	GFE	Onboard
086	Auger Bit, Soft Earth, 2-inch, 522444-2	1	Jan 00	GFE	Onboard
087	Auger Bit, Soft Earth, 3-inch, 522444-1	1	Jan 00	GFE	Onboard
088	Auger Bit, Hard Earth, 1.5-inch, 522443-3	1	Jan 00	GFE	Onboard
089	Auger Bit, Hard Earth, 2-inch, 522443-2	1	Jan 00	GFE	Onboard
090	Auger Bit, Hard Earth, 3-inch, 522443-1	1	Jan 00	GFE	Onboard
091	Drill Steel Coupling, 426854-1	1	Jan 00	GFE	Onboard

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

092	Cartridge Socket, 419488-1	1	Jan 00	GFE	Onboard
093	Carset Bit, 3-inch, 522540-3	1	Jan 00	GFE	Onboard
094	Carset Bit, 1.63-inch, 522540-2	1	Jan 00	GFE	Onboard
095	Carset Bit, 2.25-inch, 522540-1	1	Jan 00	GFE	Onboard
096	Hole Saw Blade, 4.5-inch, A-A-51135	1	Jan 00	GFE	Onboard
097	Hole Saw Blade, 2 3/8-inch, A-A-51135	1	Jan 00	GFE	Onboard
098	Hole Saw Arbor, A-A-51135	1	Jan 00	GFE	Onboard
099	Hydraulic Earth Drill Two-Man Handle Drill Attachment, 521358-1	1	Jan 00	GFE	Onboard
100	Dynamometer, 10,000 lb Capacity	1	Jan 00	GFE	Onboard
101	Grout Mixing Container Assembly, 514218-1	1	Jan 00	GFE	Onboard
102	Grout Funnel Assembly, 514216-1	1	Jan 00	GFE	Onboard
103	Mixing Rod, 514215-4	1	Jan 00	GFE	Onboard
104	Metal Saw Blade, 64597-B	1	Jan 00	GFE	Onboard
107	Height Gage, Deck Cable, 320632-1	1	Jan 00	GFE	Onboard
108	Lifting Tool, absorber, 506604-1	1	Jan 00	GFE	Onboard
109	Davit Assembly, 506602-2	1	Jan 00	GFE	Onboard
110	Spanner Wrench, Absorber and Sheave Bearing, 506605-1	1	Jan 00	GFE	Onboard
111	Stand Assembly, Tape Reel, 612395-4	1	Jan 00	GFE	Onboard
112	Sling Absorber, 415333-1	1	Jan 00	GFE	Onboard
113	Sling, Wire Rope, 510092-1	1	Jan 00	GFE	Onboard
114	Cable, Manual Retract, 415321-1	1	Jan 00	GFE	Onboard
115	Wrench, Bladder Installation, 510093-1	1	Jan 00	GFE	Onboard
116	Wrench Assembly, Bushing	1	Jan 00	GFE	Onboard
117	Sling Reel, 421417-1	1	Jan 00	GFE	Onboard
118	Light Assembly, 415325-1	1	Jan 00	GFE	Onboard
119	Gauge, Calibration, 417316-1	1	Jan 00	GFE	Onboard
120	Air Bladder Installation Tool, 417578-1	1	Jan 00	GFE	Onboard
121	Header Tool, 415014-1	1	Jan 00	GFE	Onboard

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

122	Installation Tool, 418108-1	1	Jan 00	GFE	Onboard
123	Dynamometer, 311942-2	1	Jan 00	GFE	Onboard
124	Accumulator Charging Kit, 514049-1	1	Jan 00	GFE	Onboard
125	Wrench, Brake Piston Bushing, 423541-1	1	Jan 00	GFE	Onboard
126	Lifting Tool, Deck Sheave, 516181-1	1	Jan 00	GFE	Onboard
127	Retaining Ring, Lifting Sling, 626171-1	1	Jan 00	GFE	Onboard
130	PRC-139 Programmer Unit, MX-11531/U	1	Jan 00	GFE	Onboard
131	Bolt Cutter, GGG-C-740	1	Dec 02	GFE	Pending
132	Engineer's Hammer, GGG-H-86	1	Dec 02	GFE	Pending
133	Oiler, GGG-O-591	1	Dec 02	GFE	Pending
134	Power Crimping Tool, MIL-C-22520/23	1	Dec 02	GFE	Pending
135	Installing and Removing Tool, MS90455-12	1	Dec 02	GFE	Pending
136	Turret Head Assembly Tool, M22520/1-2	1	Dec 02	GFE	Pending

IV.B. COURSEWARE REQUIREMENTS

IV.B.1. TRAINING SERVICES

COURSE / TYPE OF TRAINING	SCHOOL LOCATION, UIC	NO. OF PERSONNEL	MAN-WEEKS REQUIRED	DATE BEGIN
M31 MCEAGS Initial Training	NAVAIR Lakehurst, 48558	2	2	May 03

IV.B.2. CURRICULA MATERIALS AND TRAINING AIDS

CIN, COURSE TITLE: D-2G-0001, Initial Formal Ground Training (Track D-2G-0001)
TRAINING ACTIVITY: Landing Signal Officer School
LOCATION, UIC: NAS Oceana, 68788

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Curriculum Outline	10	Jan 00	Onboard
Instructor Guide	2	Jan 00	Onboard
Lesson Guide	5	Jan 00	Onboard
Overhead Projector	1	Jan 00	Onboard
Student Evaluations	5	Jan 00	Onboard
Transparencies	2 Sets	Jan 00	Onboard

CIN, COURSE TITLE: D-2G-0002, Advanced Formal Ground Training (Track D-2G-0002)
TRAINING ACTIVITY: Landing Signal Officer School
LOCATION, UIC: NAS Oceana, 68788

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Curriculum Outline	10	Jan 00	Onboard
Instructor Guide	2	Jan 00	Onboard
Lesson Guide	5	Jan 00	Onboard
Overhead Projector	1	Jan 00	Onboard
Student Evaluations	5	Jan 00	Onboard
Transparencies	2 Sets	Jan 00	Onboard

CIN, COURSE TITLE: D-2G-0003, Fleet Replacement Squadron Training Command (Track D-2G-0003)
TRAINING ACTIVITY: Landing Signal Officer School
LOCATION, UIC: NAS Oceana, 68788

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Curriculum Outline	10	Jan 00	Onboard
Instructor Guide	2	Jan 00	Onboard
Lesson Guide	5	Jan 00	Onboard
Overhead Projector	1	Jan 00	Onboard
Student Evaluations	5	Jan 00	Onboard
Transparencies	2 Sets	Jan 00	Onboard

CIN, COURSE TITLE: C-604-2015, Marine Expeditionary Airfield Equipment Course
TRAINING ACTIVITY: Marine Aviation Training Support Group 21
LOCATION, UIC: NATTC, Pensacola, 67389

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Instructor Guide	8	Jan 00	Onboard
Lesson Guide	22	Jan 00	Onboard
Instructor Guide Updated with M31 MCEAGS Information	8	Jun 03	Pending
Lesson Guide Updated with M31 MCEAGS Information	22	Jun 03	Pending

IV.B.3. TECHNICAL MANUALS

CIN, COURSE TITLE: D-2G-0001, Initial Formal Ground Training (Track D-2G-0001)
TRAINING ACTIVITY: Landing Signal Officer School
LOCATION, UIC: NAS Oceana, 68788

TECHNICAL MANUAL NUMBER / TITLE	MEDIUM	QTY REQD	DATE REQD	STATUS
NA 00-801-104 LSO Naval Air Training and Operating Procedure Standardization (NATOPS)	Hard copy	5	Jan 00	Onboard
NA 00-801-105 Aircraft Carrier NATOPS Manual	Hard copy	5	Jan 00	Onboard
NA 51-40-ACA-2 Manually Operated Visual Landing Aid System Installation, Operation, and Maintenance IPB	Hard copy	5	Jan 00	Onboard
NA 51-40ABA-10 Fresnel Lens Optical Landing System MK-6 MOD 3 Installation, Service, Operation, and Maintenance Manual	Hard copy	5	Jan 00	Onboard
NA 51-40ABA-11 IPB for the MK-6 MOD 3 Fresnel Lens Optical Landing System	Hard copy	5	Jan 00	Onboard
NA 51-40ABA-21 Improved Fresnel Lens Optical Landing System Operation and Maintenance Manual with IPB	Hard copy	5	Jan 00	Onboard
NA 51-50ABA-2 Visual Landing Aids on Aircraft Carriers	Hard copy	5	Jan 00	Onboard
NA 51-60-9 MK-1 MOD 0 LSO HUD Maintenance and Overhaul Manual with IPB	Hard copy	5	Jan 00	Onboard
NA 51-60-9.1 MK-1 MOD 0 Console System IPB	Hard copy	5	Jan 00	Onboard
NA 51-ABA-6 Long Range Line-Up Operation and Maintenance Manual with IPB	Hard copy	5	Jan 00	Onboard
OPNAVINST 3710.7P General NATOPS	Hard copy	5	Jan 00	Onboard

IV.B.3. TECHNICAL MANUALS

CIN, COURSE TITLE: D-2G-0002, Advanced Formal Ground Training (Track D-2G-0002)
TRAINING ACTIVITY: Landing Signal Officer School
LOCATION, UIC: NAS Oceana, 68788

TECHNICAL MANUAL NUMBER / TITLE	MEDIUM	QTY REQD	DATE REQD	STATUS
NA 00-801-104 LSO NATOPS	Hard copy	5	Jan 00	Onboard
NA 00-801-105 Aircraft Carrier NATOPS Manual	Hard copy	5	Jan 00	Onboard
NA 51-40-ACA-2 Manually Operated Visual Landing Aid System Installation, Operation, and Maintenance	Hard copy	5	Jan 00	Onboard
NA 51-40ABA-10 Fresnel Lens Optical Landing System MK-6 MOD 3 Installation, Service, Operation and Maintenance Manual	Hard copy	5	Jan 00	Onboard
NA 51-40ABA-11 IPB for the MK-6 MOD 3 Fresnel Lens Optical Landing System	Hard copy	5	Jan 00	Onboard
NA 51-40ABA-21 Improved Fresnel Lens Optical Landing System Operation and Maintenance Manual with IPB	Hard copy	5	Jan 00	Onboard
NA 51-50ABA-2 Visual Landing Aids on Aircraft Carriers	Hard copy	5	Jan 00	Onboard
NA 51-60-9 MK-1 MOD 0 LSO HUD Maintenance and Overhaul Manual with IPB	Hard copy	5	Jan 00	Onboard
NA 51-60-9.1 MK-1 MOD 0 Console System IPB	Hard copy	5	Jan 00	Onboard
NA 51-ABA-6 Long Range Line-Up Operation and Maintenance Manual with IPB	Hard copy	5	Jan 00	Onboard
OPNAVINST 3710.7P General NATOPS	Hard copy	5	Jan 00	Onboard

IV.B.3. TECHNICAL MANUALS

CIN, COURSE TITLE: D-2G-0003, Fleet Replacement Squadron Training Command (Track D-2G-0003)
TRAINING ACTIVITY: Landing Signal Officer School
LOCATION, UIC: NAS Oceana, 68788

TECHNICAL MANUAL NUMBER / TITLE	MEDIUM	QTY REQD	DATE REQD	STATUS
NA 00-801-104 LSO NATOPS	Hard copy	5	Jan 00	Onboard
NA 00-801-105 Aircraft Carrier NATOPS Manual	Hard copy	5	Jan 00	Onboard
NA 51-40-ACA-2 Manually Operated Visual Landing Aid System Installation, Operation, and Maintenance Instruction with IPB	Hard copy	5	Jan 00	Onboard
NA 51-40ABA-10 Fresnel Lens Optical Landing System MK-6 MOD 3 Installation, Service, Operation and Maintenance Manual	Hard copy	5	Jan 00	Onboard
NA 51-40ABA-11 IPB for the MK-6 MOD 3 Fresnel Lens Optical Landing System	Hard copy	5	Jan 00	Onboard
NA 51-40ABA-21 Improved Fresnel Lens Optical Landing System Operation and Maintenance Manual with IPB	Hard copy	5	Jan 00	Onboard
NA 51-50ABA-2 Visual Landing Aids on Aircraft Carriers	Hard copy	5	Jan 00	Onboard
NA 51-60-9 MK-1 MOD 0 LSO HUD Maintenance and Overhaul Manual with IPB	Hard copy	5	Jan 00	Onboard
NA 51-60-9.1 MK-1 MOD 0 Console System IPB	Hard copy	5	Jan 00	Onboard
NA 51-ABA-6 Long Range Line-Up Operation and Maintenance Manual with IPB	Hard copy	5	Jan 00	Onboard
OPNAVINST 3710.7P General NATOPS	Hard copy	5	Jan 00	Onboard

IV.B.3. TECHNICAL MANUALS

CIN, COURSE TITLE: C-604-2015, Marine Expeditionary Airfield Equipment Course
TRAINING ACTIVITY: Marine Aviation Training Support Group 21
LOCATION, UIC: NATTC, Pensacola, 67389

TECHNICAL MANUAL NUMBER / TITLE	MEDIUM	QTY REQD	DATE REQD	STATUS
A5-120AA-WUC-800 Work Unit Code Manual for EAF	Hard copy	22	Jan 00	Onboard
CNET 1500.20 Safety Procedures for Conducting Training	Hard copy	1	Jan 00	Onboard
Commercial #1 Owner/Operator Guide to the High Speed Cutting Saw	Hard copy	1	Jan 00	Onboard
Commercial #2 Owner/Operator Guide to the Bux Drill	Hard copy	1	Jan 00	Onboard
NA 00-25-100 NAVAIR Technical Manual Program	Hard copy	1	Jan 00	Onboard
NA 00-80T-115 Expeditionary Airfields NATOPS Manual	Hard copy	1	Jan 00	Onboard
NA 17-1-108 Torque Tool, Use, Care, and Testing	Hard copy	1	Jan 00	Onboard
NA 51-35-7 Logistics Data Initial Staging Area to Field Installation	Hard copy	1	Jan 00	Onboard
NA 51-40ABA-14 Portable Shore-Based Fresnel Lens Optical Landing System MK-8 MOD 0	Hard copy	22	Jan 00	Onboard
NA 51-40ABA-7 Lighting and Marking System for Expeditionary Airfields	Hard copy	22	Jan 00	Onboard
NA 51-40ABA-7.1 Regulator Assembly, Constant Current 4 and 15 kW	Hard copy	22	Jan 00	Onboard
NA 51-5-31 E28 Emergency Runway Arresting Gear	Hard copy	22	Jan 00	Onboard
NA 51-5-35 Expeditionary Airfield Mechanical Workshop Van	Hard copy	2	Jan 00	Onboard
NA 51-5EAA-2 M21 Expeditionary Aircraft Recovery System	Hard copy	22	Jan 00	Onboard
NA 51-60A-1 AM2 Airfield Landing Mat and Accessories	Hard copy	22	Jan 00	Onboard

IV.B.3. TECHNICAL MANUALS

NAVAIRENGCEN-MRC Maintenance Requirement Cards	Hard copy	7	Jan 00	Onboard
NAVEDTRA 10085-B2 Tools and Their Uses	Hard copy	1	Jan 00	Onboard
NAVICP 00-35T-37-4 NAVAIR Allowance List	Hard copy	1	Jan 00	Onboard
NAWCADLKE-4800-0020 Field Marker Lights	Hard copy	1	Jan 00	Onboard
OPNAVINST 4790.2 Series Naval Aviation Maintenance Program	Hard copy	1	Jan 00	Onboard
OPNAVINST 5100.23 Navy Occupational Safety and Health Program Manual	Hard copy	1	Jan 00	Onboard
TO 31R2-2PRC139-1 Radio Set AN/PRC-139C	Hard copy	22	Jan 00	Onboard
NAVAIR 51-5FAA-1 M31 Maintenance Manual with IPB	Hard copy	22	Dec 02	Pending
NAVAIR 51-5FAA-2 M31 MRC Deck	Hard copy	22	Dec 02	Pending
NAVAIR 51-5FAA-3 M31 Preoperational Cards	Hard copy	22	Dec 02	Pending

PART V - MPT MILESTONES

COG CODE	MPT MILESTONES	DATE	STATUS
PDA	Conducted AM2 Airfield Matting OPEVAL and TECHEVAL	FY61	Complete
PDA	Conducted M21 MCEAGS OPEVAL and TECHEVAL	FY62	Complete
PDA	Achieved MOVLAS NSD	FY69	Complete
PDA	Conducted E28 Emergency Runway Arresting Gear OPEVAL and TECHEVAL	FY80	Complete
PDA	Conducted Mark 8 FLOLS OPEVAL and TECHEVAL	FY80	Complete
PDA	Achieved Mark 8 FLOLS NSD	May 88	Complete
PDA	Conducted AN/PRC-139 Radio OPEVAL and TECHEVAL	Jun 92	Complete
PDA	Conducted FML OPEVAL	May 95	Complete
PDA	Conducted IFLOLS TECHEVAL	Sep 96	Complete
PDA	Conducted MOSLS FCTP	Mar 97	Complete
PDA	Conducted ALRE Integrated Logistics Support Management Team Meeting	Apr 01	Complete
PDA	Conducted M31 MCEAGS DT	Jun 01	Complete
TSA	Developed Shore-Based ALRE NTSP	Jul 01	Complete
PDA	Developed EAF Draft NTSP	Dec 01	Complete
TSA	Delivered IFLOLS TTE to LSO School	Dec 01	Complete
PDA	Completed M31 MCEAGS Suitability Testing	Mar 02	Complete
TSA	Began Teaching IFLOLS at LSO School	Apr 02	Complete
TSA	Developed Proposed NTSP	Feb 03	Complete
PDA	Deliver M31 MCEAGS TTE	Mar 03	Complete
PDA	Achieve M31 MCEAGS IOC	Mar 03	Complete
PDA	Achieve M31 MCEAGS NSD	Apr 03	Complete
PDA	Achieve M31 MCEAGS MSD	Apr 03	Complete
PDA	Conduct M31 MCEAGS Initial Training	May 03	Complete
TA	Begin M31 MCEAGS Follow-on Maintenance Training	Jan 04	Pending

PART VI - DECISION ITEMS / ACTION REQUIRED

DECISION ITEM OR ACTION REQUIRED	COMMAND ACTION	DUE DATE	STATUS
No NTSP decisions items or actions are pending.			

PART VII - POINTS OF CONTACT

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