NAVY TRAINING SYSTEM PLAN

FOR THE

AMTCS CBTSI "TECHNOLOGY INFUSION"

INITIATIVE

N88-NTSP-A-50-9907/D

JUNE 2001

AMTCS " TECHNOLOGY INFUSION
EXECUTIVE SUMMARY

This Navy Training System Plan for the Aviation Maintenance Training Continuum System (AMTCS) provides early estimates of the manpower, personnel, and training requirements needed to support and sustain the CBTSI "Technology Infusion" initiative. AMTCS will support schoolhouse and fleet training objectives described in the Computer Based Training (CBT) Systems Initiative Project Master Plan, dated 4 April 1995, and the approved Training Device Requirements Document, dated 10 May 1996. CBTSI is an Acquisition Category IV: M2 program and meets milestone requirements set by Department Of Defense. Initial Operational Capability is driven by the CBT development schedule for each weapon platform or system.

AMTCS is comprised of the technical training and associated infrastructure supporting naval aviation maintenance. A primary goal of AMTCS is to provide a seamless technical training continuum for sailors and marines. Currently there are several on going coordinated programs to modernize naval aviation technical training through the infusion of technology, CBTSI is one of these initiatives. Through the CBTSI "Technology Infusion" initiative, AMTCS achieves a level of integration between the schoolhouse and the fleet in-service technical training. This integrated system meets the goal of AMTCS and provides the sailors and marines with career path training starting from their initial skills training through the end of their military career. As an integrated system, AMTCS satisfies the training and administrative requirements of both the individual and the organization. The benefits are manifested in the increased effectiveness of the technicians and the increased efficiencies of the management of the training business process. By capitalizing on technological advances and integrating systems and processes where appropriate, the right amount of training can be provided at the right time, thus meeting the Chief of Naval Operation's mandated "just-in-time" training approach.

AMTCS CBTSI "Technology Infusion" initiative objectives are to:

- Increase knowledge and performance of the technicians
- Provide state of the art training tools for the Fleet
- Increase quality of instruction
- Retire obsolete training devices – panel trainers
- Reduce the work-load of the Sailor and Marine
- Training anytime anyplace
- Improve life-cycle support of training systems (courseware/hardware)

AMTCS CBTSI “Technology Infusion” initiative will provide the means for aviation technicians to access and continually improve their level of technical proficiency. Through this initiative state-of-the-art training electronic tools will empower the technicians to gain the essential knowledge so that problem solving and troubleshooting tasks of complex aircraft systems are met with increased skill and confidence. This is the end-state of the AMTCS "Technology Infusion" initiative.

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LIST OF ACRONYMS

2D	Two Dimensional
3D	Three Dimensional
AAEC	Advanced Automated Electronic Classroom
AEC	Automated Electronic Classroom
AIMD	Aircraft Intermediate Maintenance Department
AIRTMPS	Air Training Management and Planning System
AMO	Assistant Maintenance Officer
AMTCS	Aviation Maintenance Training Continuum System
ASM	AMTCS Software Module
ATD	AMTCS Training Device
Ao	Operational Availability
CAI	Computer Aided Instruction
CANDI	Commercial And Non Developmental Item
CBT	Computer Based Training
CBTS	Computer Based Training System
CD-ROM	Compact Disc-Read Only Memory
CINCLANTFLT	Commander-In-Chief, Atlantic Fleet
CINCPACFLT	Commander-In-Chief, Pacific Fleet
CMC	Commandant of the Marine Corps
CMI	Computer Managed Instruction
CNET	Chief of Naval Education and Training
CNO	Chief of Naval Operations
COMNAVRESFOR	Commander, Naval Reserve Force
COTS	Commercial Off-The-Shelf
DA	Developing Agency
DW	Desktop Workstation
EQCR	Electronic Qualification/Certification Record
FTD	Fleet Training Device
GOTS	Government Off-The-Shelf
GPTE	General Purpose Test Equipment
GPETE	General Purpose Electronic Test Equipment
IAEC	Introductory Automated Electronic Classroom
ICW	Interactive Courseware
I-Level	Intermediate Level Maintenance
IL	Instructor Lead
ILSP	Integrated Logistic Support Plan

LIST OF ACRONYMS

ISTT	Instructional Systems Technology Team
IT	Information Technology
LAN	Local Area Network
LCM	Life-cycle Management
LRFS	Logistics Requirements and Funding Summary
LRU	Lowest Replaceable Unit
MALS	Marine Aviation Logistics Squadron
MATMEP	Maintenance Training Management and Evaluation Program
MCCDC	Marine Corps Combat Development Command
MOS	Military Occupational Specialty
MPT	Manpower Personnel and Training
MTIP	Maintenance Training Improvement Program
MTL	Master Task List
NALCOMIS	Naval Aviation Logistics Command Management Information System
NAMP	Naval Aviation Maintenance Program
NAMTRAGRU	Naval Air Maintenance Training Group
NAMTRAGRUDET	Naval Air Maintenance Training Group Detachment
NAMTRAU	Naval Air Maintenance Training Unit
NAVAIRSYSCOM	Naval Air Systems Command
NAVPERSCOM	Naval Personnel Command
NEC	Navy Enlisted Classification
NITRAS	Navy Integrated Training Resource Administration System
NTCSS	Naval Tactical Command Support System
NTSP	Navy Training System Plan
NUWC-DK	Naval Undersea Warfare Center, Keyport, Washington
OATMS	OPNAV Aviation Training Management System
OEM	Original Equipment Manufacturer
OJT	On-the-Job Training
OPNAV	Office of the Chief of Naval Operations
OPNAVINST	Office of the Chief of Naval Operations Instructions
OPO	OPNAV Principal Official
OT&E	Operational Test and Evaluation
PMA	Program Manager, Aviation
PW	Portable Workstation
SPAWAR	Space and Naval Warfare Systems Command
SPTE	Special Purpose Test Equipment
SPETE	Special Purpose Electronic Test Equipment
ST	

LIST OF ACRONYMS

STASS	Standard Training Activity Support System
TA	Training Agent
TEE	Training Effectiveness Evaluation
TEV	Test and Evaluation
T/M/S	Type/Model/Series
TSA	Training Support Agent
TTCMS	Training Tool Change Management System
TTE	Technical Training Equipment
TYCOM	Type Commander
WAN	Wide Area Network

PREFACE

The AMTCS CBTSI "Technology Infusion" initiative augments paper based Instructor Led (IL) training processes with Computer Based IL training and provides standardized technical training for fleet activities in Interactive Courseware (ICW) format. This will include the baseline for Instructional Delivery System development of all out of production platforms (T/M/S systems and subsystems) within the Aviation Maintenance Training Continuum System (AMTCS) for shore based (Class "C" Schools) and fleet based (In-Service Training or IST) training programs. The CBTSI guides development of the Computer-Based Training (CBT) and supports design/acquisition of associated Life Cycle Support (LCS) systems.

The CBT acquisition is divided into three separate initiatives, the Courseware Development effort, the Hardware Acquisition & System Integration process, and the establishment of the Life-cycle Support infrastructure.

- The courseware development relates to the design and production of software that will support the implementation of CBT based curricula into the training process. CBT includes Computer Assisted Instruction (CAI), Interactive Courseware (ICW) programs, and the Learning Management System (LMS). Initially, courseware has been designed for delivery via CD-ROM. Presently courseware is being designed to be WEB capable with the ultimate design goal to have all courseware WEB delivered and compliant with all applicable standards including the Aviation Industry CBT Committee (AICC) and the Sharable Courseware Object Reference Model (SCORM).

- The Hardware acquisition is focused on the purchase of computer hardware. The CBT hardware requirements to support the associated courseware delivery includes Automated Electronic Classrooms (AECs), Introductory Automated Electronic Classrooms (IAECs), and Fleet Training Devices (FTDs). System Integration efforts furnish the interfaces needed to support the integration of the hardware and courseware, the development of the AMTCS Software Modules (ASM) software application, and current or planned external data bases (such as NALCOMIS/NTMPS/RSTARS).

- Life-cycle Support relates to the Fleet and Schoolhouse upkeep, and revision of the training procedures/applications software/hardware that make up CBT. Life-cycle Management (LCM) process is implemented through the Training Tool Change Management System (TTCMS) and the Logistics Requirements and Funding Summary (LRFS) application programs.

This Navy Training System Plan (NTSP) contains billet and personnel requirements needed to support AMTCS CBTSI "Technology Infusion" initiative, and the establishment of an Integrated Training Data Environment. The development of this Draft NTSP is in accordance with the procedures outlined in the Training Planning Process Methodology Manual and Guide.

PART I - TECHNICAL PROGRAM DATA

A. NOMENCLATURE-TITLE-PROGRAM

1. **Nomenclature-Title-Acronym.** AMTCS CBTSI "Technology Infusion" Initiative

2. **Program Element.** 0804731N

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 (N789)

Developing Agency..... NAVAIRSYSCOM (PMA205)

Training Agency (TA)..... CINCLANTFLT (N721)
CINCPACFLT (N321)
CNET (ETE32)
CMC (ASL)
COMNAVRESFOR (N7)

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

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

Director of Naval Training ..... CNO (N79)

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

D. SYSTEM DESCRIPTION

1. Operational Uses. The mission of naval aviation maintenance training is to train tactically and technically skilled aircrews and maintenance personnel who are able to win wars. Naval aviation training supports the Naval Services mission to project sea power ashore, as well as the operational requirements of the Combatant Commanders In Chief. As stated in the Navy and Marine Corps White Paper *Forward...From The Sea*: "fiscal realities and a newly defined littoral naval focus require new thinking, significant changes, and a commitment to undertake the challenging task." Naval expeditionary forces, capable of joint operations, operating forward from the sea in the littoral areas of the world is the vision and becomes the essence for future planning. *Forward…From The Sea* requires unit self-sufficiency. The ability to sustain fleet operations in remote areas for long periods is dependent on well-trained, effective organizational and intermediate level aviation maintenance technicians.

The increasing complexity of weapons systems coupled with reductions in force (and training) and the Navy's Advanced Distributed Learning initiative to convert instruction to CBT, distribute training to alternative locations, and develop reusable courseware, embedded training, etc. – mandates the transition to a digitized environment with a transportable media of standardized training. This standardized training will be responsive to the dynamics of Naval Aviation, provides a quality training reference, which is current, and identifies individual knowledge and skill deficiencies in real time allowing for immediate remediation.

The Navy and Marine Corps have undergone a paradigm shift from event-based to mission requirements-based training. The key is to establish training requirements based on wartime missions. This new approach is based in a concept of training to a list of Mission Essential Tasks that the commander uses to prioritize and focus unit training. AMTCS enhances the operational commander's war-fighting capability by providing qualified maintenance personnel and state-of-the-art training tools to advance the fleet's In-Service Training process.

Under AMTCS, Naval Aviation Technical Training is a sequential process (with a flexible integrated curriculum design) that spans a sailor or marine's entire career. The continuum begins with the formal "A" Schools at Naval Air Technical Training Center, which provides initial skills training. The next level of instruction is provided by the "C" Schools, which provides specific training for Type/Model/Series (T/M/S) weapons systems, associated components, and support equipment at the Naval Aviation Maintenance Training Unit (NAMTRAU) and Naval Aviation Maintenance Training Group Detachments (NAMTRAGRUDET). Finally, the In-service training element includes fleet weapon system specific OJT syllabus and instruction at the unit level.

The infusion of "technology" into the training continuum influences the way training is designed, delivered, and implemented, both in the fleet and the schoolhouse. Class "A" and "C" Schools with classroom and laboratory time provide the student technicians with the knowledge and skills required to perform scheduled and unscheduled maintenance under supervision. Once technicians have transitioned from "A" and "C" Schools to an apprentice and journeyman-level craftsman, follow-on OJT, supplemented by command-sponsored instruction (using CAI and ICW on FTDs), and Career "C" School attendance with additional OJT advances the technician to a master level. Fundamental and refresher technical training are conducted on a case-by-case basis through the

use of a combination of existing and newly developed tools such as CBT managed via ASM, under local command cognizance to meet individual and command requirements at the work center level.

The AMTCS CBTSI "Technology Infusion" initiative is designed to support the fleet and schoolhouse training requirements as outlined in the OPNAVINST 4790.2 series, Naval Aviation Maintenance Program (NAMP), and any additional requirements identified through the front-end analysis of the Instructional Development Process, by providing state-of-the-art tools in support of refresher training for maintenance personnel who have been working outside their rating for an extended period, initial training for tasks not taught in a formal schoolhouse environment, fleet OJT syllabus, and administrative support for the in-service training process.

The combination of the technologies – digital courseware in the form of self-paced ICW with Computer Managed Instruction (CMI) and CAI accessible on FTDs in a stand-alone or Local Area Network (LAN)/Wide Area Network (WAN) environment, or at the Advanced Automated Electronic Classrooms (AAECs) – provide unprecedented flexibility for maintaining individual technical currency or advancing one's system knowledge. The capability of today's technology to deliver in digital format sophisticated system simulations and provide limitless access to training data, i.e. "knowledge management" in the form of intelligent tutoring programs, present new challenges to the training community.

The AMTCS Software Module (ASM) is designed to administer an individual's career path training. The four primary elements of the ASM program are the Master Task List (MTL) module that hosts the tasks and their supporting data elements, the Test and Evaluation (TEV) module that provides a means of assessing the knowledge level of individual technicians, the Feedback Module which provides the data required to conduct statistical analysis to identify and support training system revisions, and the Electronic Qualification/Certification Record (EQCR) for recording accomplished training and other critical individual technician training management data. CBT interfaces and communicates through the ASM application program and is hosted and fielded with the appropriate AMTCS Training Device (ATD) hardware. The ATD provides an integrated hardware-software training system to support instructor training preparation and delivery in the "A" and "C" schoolhouse environment and with the Fleet OJT syllabus training. The ATD increases training effectiveness and efficiency, and enhances the overall quality of training through the use of computer technology. The ATD consists of COTS hardware, operating software, and custom application software. ASM in the fleet is planned to function on the NTCSS-NALCOMIS LAN and on the CNET WAN for the schoolhouse. CBT will initially be delivered on CD-ROM with an eventual transition to the WEB as bandwidth issues are resolved. ASM data will reside on local network servers and interface with STASS, NTMPS, NALCOMIS, RSTARS, the Electronic Field Service Record, the Navy Learning Network, and a variety of other learning, maintenance, and personnel management databases.

Fleet commands are provided with sufficient ATD based upon an analysis of the requirements that have the Windows NT operating system, Learning Management System, and the initial data elements pre-loaded and integrated upon delivery to the activity. Access to the ASM application in Fleet activities is planned to initially be from the FTD, with future access be available from the NTCSS workstations as well. While the ASM application will initially reside on a server within the ATD suite, it is planned to transition to the NTCSS application server. NALCOMIS-completed maintenance action data will be transferred between the NALCOMIS server and the ASM Oracle database

application via a real-time automated software interface (similar interface method currently in use between NALCOMIS and Shipboard Uniform Automatic Data Processing System applications).

The AMTCS is naval aviation maintenance's primary technical training system. The goals and objectives of the AMTCS CBTSI "Technology Infusion" initiative are to enhance the naval aviation maintenance community's technical training program, produce qualified maintenance personnel in an efficient and effective manner, provide the tools for these personnel to maintain their proficiency via "Just-in-Time" training, and provide the means to implement, then maintain, a flexible training continuum to meet emerging war fighting requirements.

a. AMTCS Implementation Goals. There are three goals that must be accomplished to implement AMTCS for the naval aviation maintenance community. The first is to ensure the reengineered AMTCS is in effect as soon as possible, so that all newly accessed naval aviation maintenance personnel receive quality and effective "just-in-time" training. The second goal is to invest in technologically advanced training tools and support structures that enhance the development, implementation, and future integrity of the "Technology Infusion" initiative. Finally, to ensure that all Naval Aviation Technical Training management and technical training systems are interoperable, forming a seamless training continuum infrastructure that supports leveraging across communities and capitalizes on program investments.

b. AMTCS Implementation Objectives. To achieve these three AMTCS implementation goals, several measurable objectives must be accomplished. These objectives are:

- Provide an Integrated Training System to support operational readiness that satisfies the AMTCS training requirements and optimizes throughput.
- Develop training measures of effectiveness, by Navy Enlisted Classification (NEC) and Military Occupational Specialty (MOS), that measures a technician's proficiency as he or she progresses through the training continuum.
- Develop an integrated curriculum for AMTCS to meet the requirements of the reengineered training continuum, taking full advantage of current and future technologies.
- Continuously improve fleet and schoolhouse instructional systems.
- Develop all courseware and associated media databases to operate in network, web, and stand-alone environments.
- Develop all management systems to accommodate Higher Level Architecture.
- Solicit fleet and schoolhouse feedback through an automated system and incorporate results into future planning.

2. Mission. The AMTCS CBTSI "Technology Infusion" initiative will offer software applications in the form of knowledge, management, and architecture electronic tools supporting both the fleet and the schoolhouse. These "e-tools" will provide weapon system and subsystem task knowledge and information through Interactive Courseware (ICW) and Computer Aided Instruction (CAI), thus supporting the Fleet In-service and schoolhouse training requirements with an integrated, deployable tool set. Naval aviation technicians will be able to access digital training information, anytime and anyplace, to continually improve and increase their level of technical proficiency. Training managers, work center supervisors, and schoolhouse instructors

will be able to assess training needs based on the actual job performance of the technicians, measure their proficiency, and provide feedback. Commanders will be able to identify maintenance training's contribution to readiness. Training data developers and course managers will have ready means to maintain courseware currency with the parent weapon system or subsystem.

The success of these e-tools depends on their seamless operation, function, and interoperability across the numerous internal and external systems, processes, and organizations of the training continuum. Design, development, and implementation considerations include the clear identification of each user's requirements, existing capabilities and limitations, and balancing the alternatives provided by the new initiatives through a thorough analysis of the training business process, information architecture, and enterprise-wide Information Technology (IT) infrastructure.

a. Training Business Process

(1) Output Goal #1. The first Training Business Process Output Goal is to increase fleet readiness and decrease operational costs through the enhanced troubleshooting capabilities of maintenance technicians. Key performance parameters:

- Aircraft availability to support Fleet mission requirements
- Manpower, Personnel, and Training Program proficiency

(2) Output Goal #2. The second Training Business Process Output Goal is to elevate the level of training at both at the schoolhouse and fleet through increased cognitive and troubleshooting skill training, using state-of-the-art instructional methodologies. Key performance parameters include:

- Implementation of ICW and CAI courseware as performance support tools for the learner-technician
- Revision of existing curricula materials to incorporate most appropriate media for support of training content
- Reductions in attrition, setback rates and time to train for existing curricula. Reductions in time to train may not be realized if added training requirements are identified during the application of sound Instructional Systems Design processes as the reengineering effort is conducted resulting in course content increases.
- Personnel gains in total qualifications, reductions in time to achieve individual qualifications, and activity maintenance trend factors.

(3) Output Goal #3. The third Training Business Process Output Goal is to reduce work load (i.e. do not burden the Sailor and Marine. Key performance parameters include:

- Implementation of training management software (e-tools) whose design and development are based on an analysis of the actual business process and business rules of the user and the using activity
  - ◦

(4) Output Goal #4. The fourth Training Business Process Output Goal is to field training business process application systems in support of AMTCS. Key performance parameters include:

- Utilization of automated management and administrative tools (i.e. ASM) to:
  - ◦ Identify and validate requirements for the training continuum
  - ◦ Track and record individual training accomplishments and deficiencies
  - ◦ Identify deficiencies in training system's tools
- Utilization of Decision Support System tools, either Commercial Off-The-Shelf (COTS) or Government Off-The-Shelf (GOTS), to facilitate the business process.
- Integration of AMTCS processes and tools to support cross functional activities:
  - ◦ Navy Training Management Planning System and Air Training Management Planning System (AIRTMPS)
  - ◦ Naval Aviation Logistics Command Management Information System (NALCOMIS)
  - ◦ Standard Training Activity Support System (STASS)
  - ◦ Navy Integrated Training Resource Administration System (NITRAS)
  - ◦ XXXX (RSTARS)
- Identification of life-cycle support requirements for AMTCS tools and insertion of resource requirements into the Future Year Defense Plan

(5) Output Goal #5. The fifth Training Business Process Output Goal is to optimize training and future savings in travel costs and training dollars through the use of CBT. Key performance parameters:

- En-route training
- Cross platform training

b. Information Architecture (Software Applications and Data)

(1) Output Goal #1. The first Information Architecture Output Goal is to capitalize on current and emerging technologies in the development of ICW and CAI for the fleet and the schoolhouse. Key performance parameters include:

- Utilization of object oriented programming in CBT development processes to facilitate reuse
- Ability to "reuse" materials developed for other applications such as Interactive Electronic Technical Manuals to support the CBT development processes
- Ability to leverage across aircrew and maintenance training communities to reduce development costs
- Implementation of automated analysis and decision support tools (COTS/GOTS) to facilitate Instructional System Development and Front End Analysis process, i.e. Training System Requirement Analysis Program

(2) Output Goal #2. The second Information Architecture Output Goal is to field training business process application systems in support of AMTCS. Key performance parameters include:

- Utilization of application programs and common standards that enable transportability between platforms and communities. Examples include the use of:
  - Structured Query Language
  - Shareable Courseware Object Reference Model
  - DOD Data Element Dictionary
  - Institute of Electrical and Electronics Engineers
  - Search engines

c. Enterprise-Wide Information Technology Infrastructure: Local Area Network (LAN)/Wide Area Network (WAN) Hardware and Software. The Enterprise-Wide IT Infrastructure Output Goal is unrestricted access to quality digital training product information to accomplish weapon system acquisition, deployment, operations, and maintenance activities.

- Leverage:
  - Navy and Marine Corps Intranet
  - Navy E-Learning Infrastructure
  - Naval Tactical Command Support System (NTCSS) Investment for Afloat infrastructure
  - Other existing infrastructure

- Establish an Integrated Training Data Environment for all technical training functions and organizations
- Implement a common operating environment for sharing technical training information through accepted standards:
    - Defense Information Infrastructure Common Operating Environment (DII COE)
    - Fleet IT 21
- Ensure AMTCS Training Devices are compatible with the latest technology and available at the user activities, both fleet and schoolhouse, on the Ready For Training date:

3. Naval Aviation Maintenance. AMTCS provides the essential support for naval aviation maintenance that is founded upon the three-level maintenance concept of organizational level, intermediate level, and depot level. Navy and Marine Corps aviation maintenance technicians, possessing various NECs and MOSs, in operational units and at the intermediate level activities perform maintenance tasks on aircraft, systems, and equipment. Depot level maintenance is conducted at Naval Aviation industrial establishments and is manned by a civilian workforce.

Every Navy and Marine Corps aviation maintenance activity is responsible for performing their assigned range of maintenance tasks. However, these tasks do not determine whether a maintenance activity is capable of performing its mission, they are adequately manned and equipped, or the personnel are adequately trained. The basis for measuring the efficiency and effectiveness of a maintenance activity, and of individual technicians, is the ability to find and fix problems efficiently. Maintenance activities are judged on their ability to support the launching of full mission capable aircraft, and to keep the aircraft and aircrew safely in the air to complete their mission.

The success of aviation maintenance activities, and of Naval Aviation to carry out is mission, depends on properly trained technicians. These requirements are no different than those for any other profession that involves both diagnostic and psychomotor skills. The most valued maintenance abilities are also the most difficult to acquire and practice. Research, on-the-job observations, and experience have demonstrated that it is much easier to teach and learn psychomotor skills than diagnostic (or troubleshooting) skills. The training of these technicians to meet Naval Aviation's mission requirements depends on developing training tools enabling sailors and marines, in their first enlistment, to perform maintenance tasks previously performed by the more senior technicians. To accomplish this, the navy must look towards technology to increase efficiencies, reduce costs, and produce superior trained technicians.

The challenge, then, for the AMTCS CBTSI "Technology Infusion" initiative is to provide the right training tools and environment to produce Navy and Marine Corps aviation maintenance technicians with well-honed cognitive skills characteristic of the finest troubleshooters.

4. Foreign Military Sales. Applicable to platforms in the Foreign Military Sales program.

E. DEVELOPMENTAL TEST AND OPERATIONAL TEST

1. Test and Evaluation for Interactive Courseware and Computer Aided Instruction. For more than a decade, ICW and CAI, integrated with multimedia, have been a viable means for delivering training commercially, as well as in military and educational environments. More powerful and cheaper microprocessors developed in recent years provide the essential tools for developing (or enhancing) existing, creative training applications. Naval Aviation Technical Training must capitalize on these benefits. Fundamental questions must be answered to ensure that our decision to invest in the type and level of ICW and CAI, and the right mix of multimedia, meets the need of the fleet. We must be assured that multimedia interactive learning is effective and that the products we procure can teach.

a. Formative and Summative Evaluation. MIL-HBK-29612 Instructional Systems Development/Systems Approach to Training and Education offers the following guidance for conducting formative and summative evaluation on training products designed under the Instructional System Development process.

(1) Developmental Test and Evaluation. Developmental Test and Evaluation is an active part of training system development. As a formative evaluation activity, it is conducted to demonstrate that training system equipment design and development are complete, design risks have been minimized, and the system meets performance requirements. It ensures the effectiveness of the manufacturing process, equipment, and procedures.

(2) Operational Test and Evaluation. Operational Test and Evaluation (OT&E) completes the formative evaluation process for training system equipment. This formative evaluation activity evaluates the system's operational effectiveness, maintainability, supportability, and suitability. It identifies any operational and logistic support deficiencies, and the need for modification. In addition, OT&E provides information on organizational structure, personnel requirements, support equipment, doctrine, training, and tactics. It should also provide data to verify operating instructions, maintenance procedures, training programs, publications, and handbooks.

(3) Summative Evaluation. With the conclusion of small-group tryouts, formative evaluation activities are complete. Summative evaluation is the next stage in the continuous evaluation process. This stage of evaluation involves trying out the instruction on the target audience in an operational environment. In some organizations, summative evaluations are conducted after the instructional system becomes operational and include two components: internal and external evaluation. Summative evaluation is a form of evaluation designed to collect data and information during the operational (field) tryouts in order to determine the "summed" effect of the instruction under operational conditions and to make any changes or revisions to the system prior to becoming operational. Summative evaluations are also conducted when significant revisions or updates have been made to the instructional system. The only summative evaluation activity is the operational tryouts. Operational tryouts are used to determine if the training system works under operational conditions, provide feedback from a large sample of the target audience to be used for revisions, implement a prior training system, identify possible implementation or operational problems, determine if training is cost effective, determine if training is adequate and required, and provide validation data for acceptance testing.

(4) Evaluation Schedule. Separate formative evaluation is conducted for each weapon system ICW and CAI software development. The formative evaluation process normally follows the project's In-Process Review schedule. Deficiencies identified during storyboard reviews are reconciled at the In-Process Reviews, then corrections are reviewed at subsequent In-Process Reviews.

b. Training Effectiveness and Evaluation. The purpose of the Training Effectiveness and Evaluation (TEE) is to provide accurate information upon which to base instructional decisions. It is not enough to know that a particular multimedia program is effective, but it must be understood as to why it is effective. The scope of the TEE must capture the relevant variables involved in learning and provide the types of information educators and designers need.

The TEE must address CAI and ICW relative to traditional stand-up instruction and OJT. The majority of previous evaluations frequently yielded no significant differences between the interactive systems and conventional instruction. The few that reported statistically significant differences offered little insight to the problems of designing future multimedia instructions. Each segment of the AMTCS must be examined to determine if the type of interactivity and the instructional strategies built in to the lessons provide results. Specifically, CBT materials must embrace the full potential and the power of the interactive environment, thus ensuring that our sailors and marines are using this technology to learn.

The Naval Aviation Maintenance Training Group (NAMTRAGRU) validation team will assist the NAVAIRSYSCOM Program Manager, Air (PMA205-3) in the design and conduct of planned TEEs. The TEE will be employed to evaluate the student, instructor, and Fleet technicians perceptions of the AMTCS training system and its components to identify the instructional effectiveness of the courseware, the soundness of the ATD design, and identify potential areas which require revision.

(1) AMTCS Software Module (ASM) Software Test and Validation. Testing of the ASM application program will follow the guidelines and methods called for in the Software Test Plan and Procedures for ASM Naval Undersea Warfare Center Division Keyport (NUWC DK) Document Number V1.1-515. ASM is a Software Configuration Item of the Automated Electronic Classroom (AEC) and FTD subsystems, which form the ATD system. Therefore, the ASM software development and testing will be accomplished in accordance with the "Test and Validation Plan for the AMTCS Training Device," V2.0-504. ASM testing will be accomplished on its individual components (Level I Testing) as well as on the integrated subsystem itself (Level II Testing) within the AEC and FTD hardware environments.

(2) AMTCS Training Device Test and Validation. NUWC DK Document Number V2.0-504, "Test and Validation Plan for the AMTCS Training Device," outlines testing procedures for the ATD comprised of the AEC and FTD. This Test and Validation Plan defines NUWC DK's role and responsibilities as the Integration and Deployment Agent for the NAVAIRSYSCOM ATD. In addition, the "Test and Validation Plan for the AMTCS Training Device" defines NUWC DK's responsibilities and system acceptance actions for technical and life-cycle development of the ATD production baselines. It defines the technical documentation and testing responsibilities in support of new AEC and FTD production baselines.

Test procedures and results for the ATD are provided in two documents: "Test Procedures for the AMTCS Training Devices," NUWK DK Document Number V2.0-401, and "System Acceptance Test And Operational Test Procedures For The Aviation Maintenance Training Continuum System AEC," NUWC DK Document Number V2.0-404.

F. AIRCRAFT AND/OR EQUIPMENT/SYSTEM/SUBSYSTEM REPLACED. Prior to October 1994, the Aviation Maintenance Training Continuum for enlisted personnel consisted of an "A" School for a specific rating (career field), which was followed by an aircraft T/M/S-specific "C" School (see Figure I-1 below).

AVIATION MAINTENANCE TECHNICAL TRAINING CONTINUUM (Pre-OCT 94)

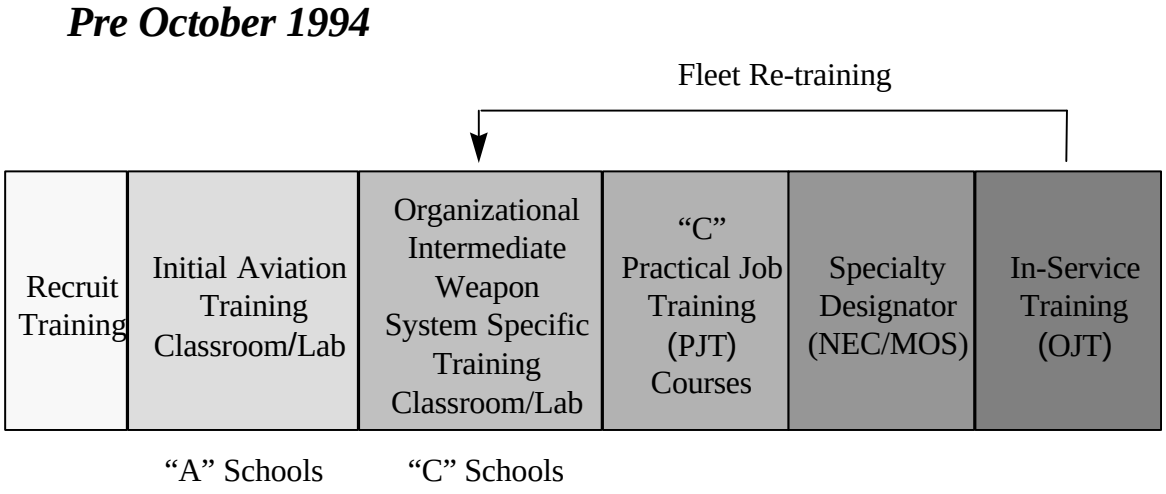

Figure I-1. Pre-October 1994 Maintenance Training Continuum

Following the "C" School, enlisted personnel received little more than OJT for the remainder of their career. While effective, this continuum provided too much training early on and not enough in the latter part of an individual's career. In fact, this continuum had virtually no vehicle or media to provide career individuals with maintenance training after they completed the "C" School. Additionally, quality state-of-the-art training tools did not exist at the schoolhouse and the tools that were there were not deployable. This lack of deployable training only exacerbated the fleet's training problem.

G. DESCRIPTION OF NEW DEVELOPMENT. Recent technological advances in hardware and software have significant potential for improving Navy and Marine Corps aviation technical training. These advances can strengthen training capabilities across many areas by providing the ability to create and quickly modify training situations, improving and facilitating training delivery system development, and enhancing general all-around training simulations, thereby, increasing learning and improving performance. The AMTCS CBTSI "Technology Infusion" initiative, to date, has contracted and begun to deliver CBT materials to the fleet and the schoolhouse. The ATD, comprising of FTD and AECs, hosts the various training materials.

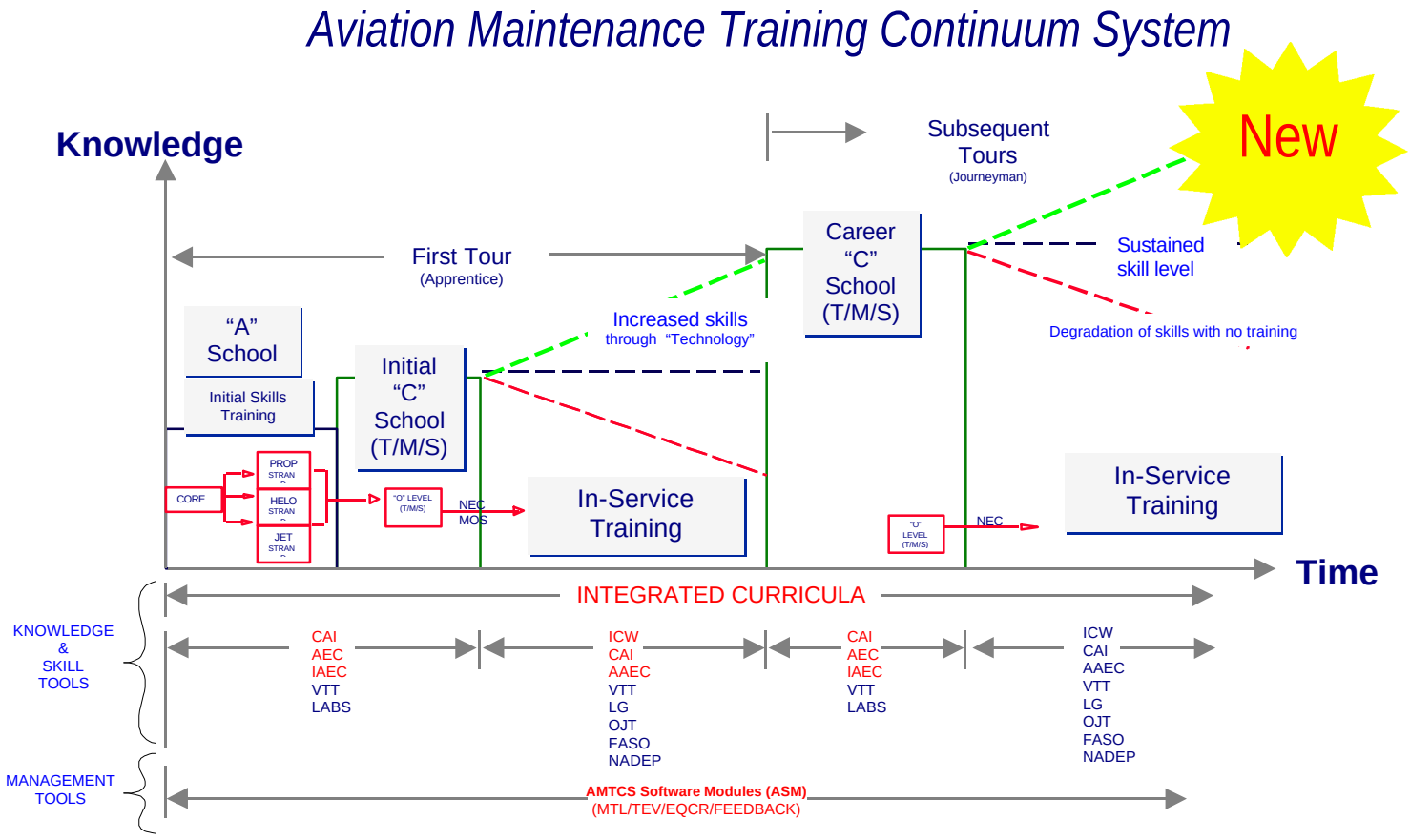

Figure I-2. AMTCS Model

1. Functional Description

a. Computer Based Training. CBT is developed in two forms. ICW provides the capability for stand-alone system specific training that can be either self-paced or instructor-lead. CAI augments and enhances the existing courseware in "A" and "C" School classrooms and can be used to support group-paced instruction in the Fleet. Both ICW and CAI may be operated through the LMS application program. LMS allows the capture of critical usage data for instructors, students, Fleet management personnel, and Fleet maintenance personnel.

(1) Interactive Courseware. ICW is a type of computer-controlled training where the learning experience is based on the interaction between an individual and computer. The word "interactive" describes a process by which the computer not only presents instruction, but also responds individually to each user's input. "Courseware" is a combination of "course" and "software," since course materials are integrated with the computer's programming. In this instructional setting, the user interacts with the computer at his or her own pace by using an input device such as a keyboard or mouse to select menu options, make decisions, choose paths, and respond to test questions. The user's decisions and inputs to the computer determine the level, order, and pace of instruction, as well as the type of feedback generated.

ICW relies on user input to determine the pace, sequence, and content of training delivery using more than one type medium to convey the content of instruction. ICW can link a combination of media including, but not limited to, programmed instruction, video tapes, slides, film, television, text, two-dimensional (2D) and three-dimensional (3D) graphics, digital audio, animation, and full motion video to enhance the learning process. ICW training, if designed properly, yields significant results: the media provides the stimuli, which affect all sensory elements of a learner to understand complex topics faster with better retention and deliver real-time simulation to practice complex tasks refining the cognitive skills. The capability of ICW offers trainees, technicians, and supervisors a number of possibilities to conduct training. Technicians can refresh systems knowledge, theory of operations, fundamentals, practice testing and troubleshooting, or engage in problem solving scenarios.

The instructional design strategy for ICW is capable of presenting troubleshooting problems using the Expert System technology. An Expert System-based troubleshooting and problem solving program incorporates the use of a weapon system or subsystem specific knowledge base, an inference engine, an expert model, instructor model, and a user model which offers a robust diagnostic training and practice environment. This functional modeling technique supports the development of cognitive tasks that are necessary to perform fault isolation and diagnosis. The Intelligent Tutoring technique allows an user to learn how-to-solve a problem, and in it lies its true instructional value. Rather than learning a lock-step approach to troubleshooting and problem solving, Expert System provides the user a "real world" scenario, relevant to the task and the situation he or she encounters on the job. This is particularly significant in the "transfer of learning" process. Expert System-based systems facilitate the process of "transfer" by giving the students opportunities to apply their learning to a variety of high-fidelity circumstances. The above tasks can be performed either at the discretion of the individual sailor and marine or the shop supervisor – all for a one-time investment. ICW is a performance tool to deliver "knowledge" – the specific information

required for the student-technician to develop the skills and attitudes for effective accomplishment of his job, duties, and tasks.

Functionality required for each weapon system and subsystem includes a simulation function to give the user the ability to operate and maintain the equipment under a given scenario, a monitoring function to watch the actions taken by the user under the given scenario and to provide advice, an information presentation function to provide both the theory of the operations and functions of various components, a justification component to ask the user to specify a reason for the particular action, a recording function to store the student's actions, and a replay function to be used by the student to observe the actions taken and justifications given by an expert as well as by the instructor/supervisor to review the user's actions and justifications for those actions.

(2) Computer Aided Instruction. CAI is the use of computers to aid in the delivery of instruction in a group-paced learning environment where the instructor controls the pace and sequence of the presentation. CAI exploits the computer technology to provide for the storage and retrieval of information for both the instructor and technician/student. CAI is a media package providing weapon system and subsystem operation functionality, for courseware support in the schoolhouse and fleet units for group-paced instruction. The design and content of the media package for CAI is consistent with the above description for ICW.

The CAI functionality is different from other CBT instructional approaches, and its design and development differ from that of conventional courseware. The overall design strategy begins with the end item (e.g., aircraft or weapon system) and progresses through levels of system detail. The designer must use imagination and all available technical data to realize the full value of this medium. The maintenance manuals and existing training aids are the starting point for designing the presentations. Consideration should always be given to including material taken in part, or completely, from intermediate maintenance, depot, and industry sources. The goal is to stimulate the technician's full understanding of the concept as rapidly as possible.

Consideration for the use of all available graphic materials including 2D and 3D animation, actual photos, digitized video, etc., will employ a development structure similar to the Maintenance Instruction Manual work package. For example, the segment of a CAI lesson covering fuel control could include an on-aircraft view showing the relative positions of significant components, regardless of the rating or skill designator assigned repair responsibility. Designing to a system, vice a course, means that the same graphics may be used in more than one module, reducing development time, effort, and ultimately, cost. Additionally, it can readily display the system's interface.

(3) Learning Management System (LMS). The use of computers and software to manage the instructional process is achieved through a LMS program. LMS is a software application that allows navigation in an ICW or CAI designed course while collecting valuable statistical data. It includes a management administration system designed to log in and out, track user performance over a period of time, provide information concerning performance trends, administer testing, record individual and group performance data, schedule training, and provide support for other training management functions including report generation.

b. AMTCS Software Module Application. ASM is a software application for training management and is designed to identify task requirements, track training exposure, and records knowledge for all Navy and Marine Corps aviation maintenance personnel. ASM functions in a relational database environment providing the following capabilities: data management MTL module which provides the capability to produce task lists relating to weapons platforms, systems/subsystems, and components; TEV module used as a diagnostic tool that tests a technician's knowledge within an NEC/Rating, MOS, Billets, or Collateral Billets Assignment; EQCR module for recording accomplished training; and Feedback module which provides the capability for tracking training tool effectiveness feedback to the training activities. ASM's design and functionality is centered on the actual tasks and sub-tasks that a technician performs on a specific weapon system or subsystem. The task list encompasses each occupational field's (rating) functional area including maintenance, administration, and safety. A technician enters the task list depending on his or her billet and unit assignment at a specific point and time in his or her career. ASM has the additional capability of creating Unit Task Lists (UTL); through the UTLs non-platform related task lists can be created locally and are for site-specific use only.

(1) Master Task List. The MTL contains multiple task lists. Taken in total, these task lists identify all the tasks required to maintain/support a weapon system or platform. These task lists reside in a database within the AMTCS environment. A technician will have multiple task lists, each task list housed within its own domain within the database. Specifically, a F-14 technician will have a MTL housed in the F-14 Domain that contains all F-14 peculiar tasks, and a task list within the NAMP domain that houses all NAMP specific requirements. The hierarchical structure of the MTL is based on the weapon system and subsystem breakdown in accordance with the Work Unit Code Manual, and its relationship to the maintenance tasks performed on each piece of equipment to the standards identified in the Occupational Standard Manual. Tasks are correlated with ratings, NECs, MOSs, lowest grade expected to perform the task, billet and collateral duty assignments. The tasks reside in ASM's MTL database and are linked to the relevant Course Identification Number, learning objectives, assessment questions and answer banks, and the available training tools.

(2) Electronic Qualification/Certification Record. The EQCR records technical training data throughout an aviation maintenance technician's career. It contains the individual's personal training information, Individual Training Plan, and training status for both formal and informal training. It provides the means for individuals to view their Individual Task Lists and Training Plans generated from their assigned task lists (MTL/UTLs). Both knowledge-based and skills-based training will be tracked in the EQCR. The EQCR is designed to be transferable, following an individual from duty station to duty station.

(3) Testing and Evaluation. The TEV module serves as a diagnostic tool that tests an individual's knowledge within his or her rating, NEC, MOS, and billet and collateral duty assignments, as well as Naval Standards. TEV provides the capability to generate tests, take tests, and grade tests. The test results from TEV are used to determine remediation training needs, update the individual's Individual Task List and Individual Training Plan, and provide data to the Feedback module.

(4) Feedback. The Feedback module provides the capability for tracking training tool effectiveness, Wing, squadron, and work center readiness, and MTL question and answer

bank effectiveness information. With the Feedback module, AMTCS will be provided with continual product and training improvement information.

d. The AMTCS Training Device. The ATD consists of COTS hardware, software, and custom application software.

(1) Automated Electronic Classroom (AEC). The AEC provides the capability to use instructional guides, CAI, and ICW as an integrated media for group-paced instruction on one or more designated aviation systems or subsystems. The AEC provides the student with the ability to access instructional material, individual data, and course data under the control of the instructor. It provides the instructor with the ability to administer tests, control the pace of instruction, and monitor student access to instructional material. The two basic configurations for an AEC are: (1) Advanced AECs (AAECs), and (2) Introductory AECs (IAECs). AAECs are designed primarily to support self-paced remediation by fleet activities and students. AAECs include student stations and may be used for group-paced or self-paced instruction as well as an ASM testing lab. IAECs does not contain student stations and support only group-paced instruction.

The AAEC will also function as a central repository for all training materials delivered on digital media to a schoolhouse. The AAEC provides instructional materials such as CAI, ICW, trainee guides, and simulation software for user self-paced, refresher study to supplement formal classroom training. The AAEC's Developer Station will provide a workbench and development tools for instructors to review, update, and maintain instructional materials. As noted above, the AAEC functions as an AAEC for backup or overflow classroom training. The primary components of the AAEC subsystem are the Developer Station, Student Stations, Presentation Device, Video Controller, network, network server, CBT materials, and the ASM application program.

(a) Instructor Station. The Instructor Station for the AEC supports required capabilities of all instructor and administrator training activities. It provides the platform for the instructor to present CBT materials, the ASM application program, and access instructor guides and ICW. The Instructor Station will operate with the classroom Presentation Device to provide instructor annotations and drawings on training materials and allow their presentation.

(b) Student Station. The Student Station for the AEC supports student-user requirements in the instructor-led or self-paced training activity. The Student Station will provide the platform for students to view and interact with instructional materials, LMS program, and the ASM. Student Stations will be capable of operating CAI and ICW materials. Training site requirements will determine the quantity of Student Stations in each classroom.

(c) Presentation Device. The Presentation Device for the AEC provides a large screen display for instructional material presentation to students in the classroom.

(d) Video Controller. The Video Controller for the AEC provides the instructor with operational control capabilities.

(e) Network. The AEC contains a LAN for transmission of data between the Instructor Station, Developer Station, Student Stations, and network server. The

network will support all user and all AEC functions. The network design will provide for a stand-alone AEC or inter-networked AECs. The stand-alone AEC will function as an individual sub-net, which is connected to the training site LAN and other AECs. Network designers will determine the optimum network layout at each training facility. Network hardware/software that is common to multiple AECs will be inventoried against the AAEC.

(f) Network Server. The network server will support all users and all AEC activities. The network server may be either a dedicated server or a server shared by multiple AECs. Network designers will determine the optimum server configuration at each training facility. In both configurations, the network server will provide for electronic storage of instructional materials, LMS data, and ASM data. It will support simultaneous student access to stored training materials and data. The network server will also provide storage for individual and course data collected through the LMS and ASM software. The network server operating system will provide user-controlled access to instructional materials. It will be capable of downloading instructional materials to Instructor and Student Stations, and uploading individual, course, and test data from student stations.

(g) Network Printer. A network printer for individual AECs will provide printing services for instructor and student stations. A color printer will provide color printing for the developer workstation.

(2) Fleet Training Device. The FTD provides a standardized, fleet-managed, deployable, documented training system for in-service training. It will support fleet implementation of ICW, CAI, and the ASM application program. It will enhance the quality of training at the squadron level by providing real-time assessment of personnel training and on-demand refresher CBT.

The FTD functional requirements define capabilities, conditions, and constraints of the training device. As a self-paced training device, the user will interact with training materials (ICW) to learn at his or her own pace. The FTD will provide users with the ability to perform real-time remediation and refresher training of identified individual training deficiencies, the ability to select, view, and navigate through training materials such as CAI software, ICW, and lesson guides, and the ability to play CBT audio on individual headsets. The FTD will also provide users with the ability to perform self-paced training in both deployed and non-deployed environments.

As a group-based training device, Fleet In-service Training instructors control the delivery of training to one or more individuals in the same manner as in the formal schoolhouse. In a training management role, the FTD provides users with the capability to manage in-service training via the ASM application program. The FTD will support shore-based and shipboard training management activities by providing users with the ability to perform standardized training management tasks in both stand-alone and multi-user environments, identify individual task requirements, validate an individual's knowledge and identify knowledge deficiencies, track an individual's training exposure, collect question response data for the evaluation and improvement of courses and questions, and compile and generate individual/group training reports.

(a) Training Program Administration. Training Program Administration accommodates administrative activities required to sustain the fleet in-service training program. These activities are in direct support of AMTCS objectives. The following paragraphs

describe the functional requirements of FTD components with respect to the training states and modes they support.

1. Portable Workstation. The Portable Workstation (PW) will provide a transportable and deployable platform for delivery of CBT materials and the ASM application program. The PW will support required capabilities of all training states. PWs may operate as stand-alone devices, but normally will be integrated into the FTD server network. PWs may be either laptop or workstations. The number of each will be determined via individual analysis of the numbers required to support the activity's mission.

2. FTD Server. The FTD server will support CBT and ASM operation at shore based facilities and shipboard. The server will support required capabilities of all training requirements within the activity. Servers will be capable of operating as a stand-alone device or networked with other FTDs, LANs, and peripheral devices. Due to space constraints aboard ships and for ease of transportation, the server will be compact. The server will act as a central repository for the ASM data associated with the fleet environments to which it is deployed.

3. Optical Mark Reader. The Optical Mark Reader will provide the capability to grade paper tests generated by the TEV function of the ASM.

4. Printer. The printer will provide the capability to print paper tests generated by the TEV function of ASM. The printer will also be used to print a number of training reports as well as supplemental training materials needed for group-based training.

5. Presentation Device. The Presentation Device will provide desktop projection capability. It will display computer-based information on a large screen to facilitate group-based training. The presentation device will be portable so that it can be used in both deployed and non-deployed environments.

2. Physical Description

a. Computer-Based Training. ICW, CAI, and CMI software is delivered on Compact Disk-Read Only Memory (CD-ROM). Plans are to eventually transition to the WEB as bandwidth issues are resolved.

b. AMTCS Software Module. ASM application software is installed and delivered on the host hardware (ATD).

c. AMTCS Training Device and Computer Resource Requirements. Computer resources will comply with commercial form and fit standards. Computer resource Lowest Replaceable Units (LRU) will be of standard size and replaceable with off-the-shelf vendor products. Proprietary parts, equipment, and designs will be avoided when possible, however, LRU sub-components may contain proprietary parts such as processor chips and integrated circuits. The ECR computer components are the Instructor Station, Student Stations, network server, and network printer. Table G.1 in the ATD Integrated Logistics Support Plan (ILSP), V1.0-506, provides the ATD physical description and the associated software requirements.

d. Automated Electronic Classroom (AEC) Physical Layout. The classroom layout will provide for an effective learning arrangement, which satisfies fire and safety regulations. The following requirements apply:

- Viewing depth from each student to the Presentation Device will be no less than two times the screen width and no greater than five times the screen width.
- Viewing angle of the Presentation Device from each Student Station will be no wider than 45 degrees from the center point of the screen to either outside edge of the Presentation Device.
- A minimum of 24 net square feet will be allocated for each student workspace.
- A minimum of three feet will be allocated between rows and aisles in the classroom.

3. New Development Introduction. The initial requirement is to develop the AMTCS application, a software package, which contains and integrates the MTL, TEV, Feedback, and EQCR modules. Following prototype demonstration, general fielding can begin.

4. Significant Interfaces

a. External Interface Requirements. ICW and CAI functional requirements identify the need for the CBT courseware to be operational in a stand-alone mode with a LMS program or the ASM application program. CBT courseware delivered on CD-ROM will require the capability to operate on any server/individual work station computer meeting the minimum standards outlined in the user's manual.

b. Internal Interface Requirements. The ICW authoring tool for designing ICW identifies internal interface requirements. All ICW development should strive to use Object Oriented Programming to allow maximum "interactivity" within a lesson. Additionally, any CBT development effort commencing after FY-01 shall be "WEB-ready."

c. AMTCS Software Module (ASM) Application

(1) External Interface Requirements. ASM will be capable of performing required functions without external interface requirements to any other system or subsystem. However, external interfaces have been identified for the purpose of sharing common data between systems.

The NALCOMIS interface will provide individual data relative to the number of times individuals have performed a task and the hours expended by personnel in performing specific tasks to ASM. Reference "Application for AMTCS Digital Tools Integration with the Afloat It-21 Network" December 1999 document. The STASS/NITRAS interface will provide personal data (personnel information and historical training data), class schedules, and rosters as a minimum to ASM. The NTMPS interface will provide a repository to "warehouse" individual and program data. These interfaces are planned to be fully operational and seamless to the users by Version 2.0 of the ASM software. RSTARS.

(2) Internal Interface Requirements. The Conceptual Data Model (provided in Appendix C of the ILSP) depicts a high-level view of the internal interface requirements for the ASM database itself. Detailed identification of these internal requirements is included in the Software Design Document.

d. AMTCS Training Device

(1) Automated Electronic Classroom

(a) External Interface Requirements. The AEC will be a self-contained subsystem capable of operation without external interface requirements to any other system or subsystem.

(b) Internal Interface Requirements. The AEC internal interfaces will provide for transfer of data files between the network server, Instructor, and Student Stations. Data files will contain audio, video, graphics, or text-based data.

(2) Fleet Training Device

(a) External Interface Requirements. The FTD will be capable of performing required functions without external interface requirements to any other system or subsystem.

(b) Internal Interface Requirements. The FTD will support manual and automated functions to transfer information between modes of operation. The FTD will support transfer of information via floppy disk, CD-ROM, the WEB, or printed reports. DWs will have a network interface capability to perform electronic transfer of information.

5. New Features, Configurations, or Material. NA

H. CONCEPTS

1. Operational Concept. The Navy and Marine Corps intend to use AMTCS to provide "just-in-time" training; technology, through integrated media and methodology supports initial skills training at the "A" School, weapon system-specific (T/M/S) training at the "C" School, fleet OJT syllabus, and refresher training based on trainee and technician performance and evaluation. This shall be accomplished by use of an integrated training system consisting of materials that can be used throughout an individual's career, delivered on open-architecture hardware capable of interfacing with other personnel, maintenance, and training databases.

a. Computer-Based Courseware. CBT materials shall be developed in multiple formats to support validated training requirements. Specific formats include, but are not limited to: ICW, CAI, Intelligent Tutors, and simulators. These tools will greatly enhance technical training in the fleet. Well-designed and utilized ICW will provide the fleet technician with a high quality, formal

means of training to support the in-service OJT training syllabus. The fleet uses ICW training materials as individualized learning tools to reinforce cognitive skills and knowledge in a variety of maintenance subjects and training environments. Used as a reinforcement tool, ICW allows technicians the opportunity to refresh their knowledge of basic systems or to practice cognitive skills associated with the performance of specific tasks. ICW is also effectively used at the "A" and "C" Schools. ICW frees the instructor to concentrate on individuals requiring personal attention. ICW is ideal for courses that require lab periods or when waiting for the lab to become available.

When CAI is used for group-paced instruction, the instructor uses a computer to fully utilize motion, sound, and visual concepts during training. CAI provides the instructor with greater range and enhanced control of the classroom media. Many video effects, including 3D modeling with animation, will be used where applicable. As technology progresses, the capabilities of CAI to further enhance the instructor's ability to display complex concepts will increase likewise. This will enable the instructor to stimulate the technician's senses more effectively. CAI enhances sensory elements of the instructional environment, while leaving the instructor in control of the instructional tempo. The more visual and aural senses are involved in the learning process, the greater the potential for retention.

b. AMTCS Software Module. The primary objective of ASM is to enhance the quality of training at the schoolhouse and in the fleet by providing the capability for real-time assessment and identification of individual training deficiencies and, then, recommending and providing the appropriate refresher training tools. The ASM application program monitors training progress and effectiveness down to the individual task level across the training continuum and functions as a testing, recording, and feedback system for training product data, information users, and managers. ASM's reporting capabilities exist as necessary to higher echelon commands such as Wings, Type Commanders (TYCOMs), Office of the Chief of Naval Operations (OPNAV), and Commandant of the Marine Corps (CMC). In the fleet, ASM is maintained at the shop level, administers an aviation maintenance technician's training progress, and is accessible on all ATDs.

c. AMTCS Training Device. Fleet squadrons will be provided with FTDs and servers. The FTD will host the ASM application program and provide weapon-specific systems training to the technicians via the ICW and CAI training materials, which are accessible from various sources including LAN, WAN, or CD-ROM. The server configured with the ASM application will administer the squadron's technical training activities, uploading the training information from the work center PWs. The overall capabilities and functionality of the fleet devices will be identical in shore and shipboard environments. The AECs will be capable of facilitating group-paced instruction, supported by CAI, ICW, a LMS program, and the ASM application program. The AAECs will be for self-paced study to supplement formal and refresher training. They will operate as a courseware repository, graphics depot, and development facility.

2. Maintenance Concept. Courseware and hardware Configuration Maintenance is implemented through the various process established in the life-cycle support plans, all activities will use the Training Tool Change Management System (TTCMS) software tool to maintain software and hardware concurrency and to facilitate the requisite changes.

a. Computer-Based Courseware.

(1) Operational and Functional Revisions. Revisions required as a result of changes in the operational and functional characteristics of a weapons system will be identified during the Engineering Change Proposal (ECP) or the Operational Safety Improvement Program (OSIP) reviews. NAVAIRSYSCOM (PMA205) will coordinate funding for courseware revisions concurrent with logistical support elements necessary to conduct weapons system changes.

(2) Desired Revisions. Revisions that are desired, but not the result of ECP/OSIP changes in the operational and functional characteristics of a weapon system, will be made by an Integrated Project Team consisting of subject matter experts from Maintenance Training Activities and AMTCS support personnel. Revisions will be made by the Curriculum Model Manager, and coordinated with other teaching locations and senior commands. Revisions will be incorporated on-site whenever practical. Revisions exceeding on-site capabilities will be forwarded to the designated Training Agent/Training Support Activity for action. Once a revision has been completed, executables and their source files for weapon systems/platform specific CBT will be forwarded to NAMTRAGRU Headquarters. For non-weapon system/platform CBT, source files will be retained by the developing activity or disposed of in accordance with guidance provided by the development activity's sponsor or claimant. NAMTRAGRU HQ will provide reproduction and distribution services as requested by the TSA/TA for all AMTCS CBT training materials.

(3) Source File Maintenance. NAMTRAGRU will be responsible for coordinating the review of updated courseware source files and providing necessary life-cycle support materials for CBT materials. NAMTRAGRU will store all final and approved courseware source files for weapon system/platform specific CBT materials and providing them, upon request, to activities (contractor or government) performing future courseware revision and maintenance functions. These will be the only official files should CBT courseware configuration questions arise. NAMTRAGRU will be responsible for performing product quality assurance checks for ICW and CAI program compliance prior to the reproduction and distribution of any courseware.

b. AMTCS Software Module. COMNAVAIRSYSCOM PMA205 is responsible for the life-cycle management and support of ASM. Currently, they are utilizing the program's OEM, NUWC Keyport, to perform revisions to the ASM application program. MTL database development and management for aircraft platforms/systems resides within the NAMTRAGRU. Aviation Maintenance Training Program Managers (AMTPMs) are responsible for ensuring the data within specific MTLs meet Fleet needs. Non-platform-specific MTLs are currently developed under OPNAV direction; management and life-cycle support activities will be identified as appropriate.

c. AMTCS Training Device Maintenance Concept. Details of the ATD maintenance concept are available in the ATD ULSS, NUWC Document Number V1.0-506, for the initial installation and interim support periods. Maintenance for the ATD will consist of two levels: organizational and depot. COMNAVAIRSYSCOM PMA205 has been designated as the life-cycle support activity for all hardware and courseware materials . NUWC DK, as the Original Equipment Manufacturer (OEM), has been providing the depot level support under PMA205 guidance.

(1) Organizational Level. Organizational level repair will consist of removal and replacement of LRUs at the equipment and unit level (i.e., CPU, monitor, keyboard, printer, etc.). LRUs are not to be opened to remove or exchange internal piece parts.

Each training facility will be provided with a spares kit containing mission-critical and high-failure items. The facility will use fault isolation techniques to locate the failed unit. Once the failed component is identified, the training facility will contact the designated ATD Customer Support Center to obtain technical assistance, report problems, or request parts replacement. The Customer Support Center will send a replacement and provide direction for the disposition of the failed unit.

In the fleet, spares kits for the FTDs will be maintained at the Type Wing for squadrons, and at Aircraft Intermediate Maintenance Department (AIMD) and Marine Aviation Logistics Squadrons (MALS) in their own support. Designated Fleet personnel will contact the Customer Support Center for technical assistance to report problems or to order spare parts for the FTDs.

(a) Preventive Maintenance. Preventive maintenance will consist of scheduled system backups, periodic defragmentation of disk drives, and general cleaning. Maintenance actions will be identified in the applicable operations manuals.

(b) Corrective Maintenance. Corrective maintenance will consist of removing and replacing failed LRUs and rebuilding corrupt files. Detailed procedures will be documented in the applicable operations manuals.

(2) Intermediate Level. NA

(3) Depot Level. Depot Level Repair will consist of warranty management and equipment repair. NUWC DK will maintain appropriate repair and maintenance contracts as required. NUWC DK will maintain an inventory of spares for replacement of failed equipment and modules. Upon request, these replacement spares will be shipped immediately to training facilities or fleet activities in order to decrease their training downtime.

3. Manning Concept. No unique or new skills will be required to operate and maintain the ASM, ICW, or CAI application. As a result, the ASM and ICW management will be operated and maintained by personnel in the existing Navy Officer Billet Code, Navy enlisted rating, and Marine Corps MOS structures.

The fleet squadron and work center ASM, ICW, and FTD management will be the responsibility of the AMO. Manpower requirements are to support the AMTCS program are identified in Parts II and IV of this NTSP. Final analysis may identify additional personnel requirements, pending ASM Operational Evaluation test results and the development of subsequent implementation and configuration plans for fielding and integrating the ASM application software.

The workload associated with AMTCS CBTSI "Technology Infusion" initiative falls into the following categories:

- **Officers.** Officer and senior enlisted personnel who supervise and manage the AMTCS unit training requirements.

- **Functional Operators and Managers.** Those personnel who use ASM as a tool to accomplish training management and support tasks, to carry out the unit's essential training requirements. The job tasks associated with this activity reside with the squadron's Training Petty Officer.

- **System Administrators.** Those personnel who operate the squadron's LAN, assist functional operators and managers with network and software-related problems, and perform system administration and database administration duties. Job tasks for System Administrators fall within the Information Systems Technician (formerly Radioman) occupational specialty.

a. Estimated Maintenance Man Hour per Operating Hour/Flight Hour. NA

b. Proposed Utilization. ASM, ICW, and the ATDs will be used to support multiple training environments including, but not limited to, the following: Group-paced instruction, self-paced instruction, and individual refresher and remediation.

c. Recommended Qualitative and Quantitative Manpower Requirements. For the Navy, the manpower presently in place to support MTIP will transition to support AMTCSinitiatives. Billets at the Wing level have been established to provide each Type Wing with a training team whose responsibilities include the planning, development, and implementation of the MTIP process. Their responsibilities for the MTIP program are outlined in the NAMP. Table I-1 and Appendix A contain a compilation of the billet requirements at the Type Wing, NAMTRAU, NAMTRAGRUDET, and AIMD that are specifically designated by their title as MTIP support. (Are these current? NAMTG no longer has MTIP billets; they have been converted to support AMTCS.) Note: Incorporate the content in II.A.3 to satisfy this requirement.

For the Marine Corps, Maintenance Training Management and Evaluation Program (MATMEP) coordinator positions are filled as a collateral duty at each Marine aircraft squadron, MALS, Wing, etc. These MATMEP coordinator positions are necessary and will continue to be required to support AMTCS initiatives for the Marine Corps.

Table I-1 and Appendix A display the existing Marine Corps MATMEP manpower requirements.

TABLE I-1 CURRENT TRAINING/MATMEP BILLET REQUIREMENTS

TITLE	GRADE	LANT/PAC	TOTALS
Maintenance Training Officers	O3-O4	0 / 0	0
Administrators	E7-E9	25 / 18	43
MTIP Coordinators and Instructors	E5-E6	43 / 53	96
MATMEP Officers	W3-W4	1 / 1	2
MATMEP Maintenance Training Model Managers	E5-E9	13 / 8	21
MATMEP Coordinators	E5-E9	63 / 90	153

MTIP site support personnel requirements for Type Wings and AIMDs (both ashore and afloat) that are currently used to support the MTIP will be used to support AMTCS initiatives. Although there is no standard MTIP billet structure at these activities, Tables I-2 and I-3, below, display requirements that are representative of the infrastructure that is currently in place at these activities to support the MTIP program. Table I-2 displays the typical Maintenance Training Team and Ashore AIMD requirements and Table I-3 displays the typical AIMD afloat requirements. These typical requirements will be reprogrammed to support the AMTCS initiatives.

TABLE I-2 MAINTENANCE TRAINING TEAM MANNING FOR TYPE WING AND ASHORE AIMD

TITLE	GRADE	QUANTITY	DESIG/NEC
Maintenance Training Officer	O3-O4	1	1520, 1527, Limited Duty Officer
Instructional System Specialist	GS-12	1	1750
Administrator	E7-E9	1	9502
MTIP Coordinators/Instructors	E5-E6	2	9502

TABLE I-3
MAINTENANCE TRAINING TEAM MANNING FOR AIMD AFLOAT

TITLE	GRADE	QUANTITY	DESIG/NEC
Administrator	E7-E9	1	9502
MTIP Coordinators/Instructors	E5-E6	2	9502

4. Training Concept.

a. Initial Training

(1) AMTCS Software Module

(a) Fleet. The NUWC-DK installation team will provide on-site initial ASM operator and user training to Type Wing fleet activities ashore and afloat and AIMD Maintenance Training Teams upon receipt and installation of the ASM application program and the FTD equipment. This training will be informal using the ASM and CBT Training System Utilization Handbooks, instruction manuals, configuration guides, user's manuals, software manuals, and installation guides provided with each system. ICW is being developed to support both initial and follow-on training requirements.

(b) Schoolhouse. Initial training will be provided to program operators and support personnel as outlined in ATD ULSS (NUWC Document Number V1.0-506). The NUWC DK installation team will conduct on-site training for instructors, operation, and support personnel. The training will include instruction on system operation and scheduled and corrective maintenance.

(2) AMTCS Training Device

(a) Fleet. No formal or OJT initial training will be necessary. Use of the ATD will be easily learned through user manuals and help screens.

(b) Schoolhouse. Initial training will be provided for instructors, operators, and support personnel as outlined in ATD ILSP (NUWC Document Number V1.0-506). The NUWC DK installation team will conduct on-site training for these personnel. The training will include instruction on system operation and scheduled and corrective maintenance.

b. Follow-on Training

(1) Computer-Based Training Courseware

(a) Fleet. CBT courseware for technicians will be accessible on FTDs and is delivered on CD-ROMS. User Handbooks and help files will be provided by the CBT developers.

(b) Schoolhouse. CBT courseware will be hosted on LAN Servers and will be accessible on Instructor Stations and Student Stations. Instructor Training in the methodologies of using the new training devices – Train the Trainer course. Courseware development and Revision and Maintenance training for staff personnel will be provided by the on-site Field Training Specialist and regional development centers are coordinated through NAMTRAGRU Headquarters.

(2) AMTCS Software Module

(a) Fleet. Follow-on ASM training will be via OJT using the accompanying AMTCS and CBT System Utilization Handbooks, instruction manuals, configuration guides, user's manuals, software manuals, and installation guides.

(b) Schoolhouse. Follow-on training will be the responsibility of the AMTCS ATD System Administrator. System Administrator training is the responsibility of NAMTRAGRU TIS.

(3) AMTCS Training Device

(a) Fleet. Follow-on ATD training will be via OJT using the accompanying AMTCS and CBT System Utilization Handbooks, instruction manuals, configuration guides, user's manuals, software manuals, and installation guides.

(b) Schoolhouse. Follow-on training will be the responsibility of the AMTCS ATD System Administrator. System Administrator training is the responsibility of NAMTRAGRU.

c. Student Profiles. NA

d. Training Pipelines. NA

I. ONBOARD (IN-SERVICE) TRAINING. In-service training is a major contributor to the Navy's overall training effort. Lectures and practical training are integral parts of a successful program and must be coordinated to satisfy each individual activity's particular requirements. Remedial training requirements are identified through ASM diagnostic testing and is an integral component of the unit's in-service training.

Formal in-service training is conducted through formal and informal lectures supplemented with required reading. This type of in-service training focuses on the individual. Designated officers, petty officers, staff noncommissioned officers, and Navy Technical and Engineering Services personnel, when so directed by the AMO prepare formal lectures. Instructors are usually detailed from the maintenance department and are responsible for presentations and reports of student progress.

Informal training is conducted via OJT. OJT is the practical training of personnel in the performance of maintenance tasks, by demonstration and simulation, under the supervision of designated, qualified personnel. Experienced personnel are used in instructing, demonstrating, and imparting their skills to the less experienced. Only the job and tools are required to perform OJT. The striker or trainee learns by seeing the job done and gains experience by participating in the work. A report of practical training accomplished is made to division officers at regular intervals and final attainment of satisfactory skill levels is recorded in appropriate records. The

records indicate required training in special areas, document OJT completed, and certify qualifications for the individual's advancement in rate.

The Reserve Job Qualification Requirement Program creates and implements standardized OJT syllabi that satisfy the training requirements for OJT-awardable NECs for aviation selected reservists.

1. Proficiency or Other Training Organic to the New Development. Onboard proficiency training will use the ASM Software User Manual and the CBT System Utilization Handbooks, which will be available at each site. Multimedia training packages in the form of ICW, or video are being considered.

a. Aviation Maintenance Training Continuum System. As outlined previously and in-depth, the CBTSI "Technology Infusion" initiative is designed to support the fleet and schoolhouse training requirements as outlined in the NAMP and any additional requirements identified through the front-end analysis of the Instructional Development Process. By providing state-of-the-art tools, AMTCS will support refresher training for maintenance personnel who have been working outside their rating for an extended period, fleet OJT syllabus, and administrative support for the in-service training process.

b. Aviation Training Improvement Program. The Aviation Training Improvement Program is a training management system, which, through diagnostic testing procedures, identifies training deficiencies for Naval Air Reserve Force personnel. The program is compatible with MTIP and is supported by the Reserve Training Support System.

2. Personnel Qualification Standards. NA

3. Other Onboard or In-Service Training Packages. MATMEP is a Marine Corps-peculiar program that offers standardized, documentable, level-progressive, technical skills training management and evaluation for enlisted aviation MOSs. MATMEP is intended to be a dynamic and progressive program that increases maintenance productivity by increased training efficiency and effectiveness. MATMEP identifies the tasks, skills, and knowledge requirements of each MOS.

J. LOGISTICS SUPPORT

Life-cycle support requirements will be documented in the appropriate Logistics Support Pans or User's Logistics Support Summary (ULSS). These comprehensive documents will address Life-cycle Maintenance issues for both hardware and software: Training Tool Change Management System (TTCMS), Aviation Maintenance Training Continuum System (AMTCS) computer-based training products (Interactive Courseware, Computer Aided Instruction, etc.), Commercial off the Shelf/Government off the Shelf Software, AMATCS Software Modules application software, Fleet Training Devices and Advanced/Introductory Automated Electronic Classroom trainers.

1. Manufacturer and Contract Numbers. NAVAIRSYSCOM has designated NUWC-DK as the OEM for ATD hardware procurement. As such, they will provide the logistics support for all hardware.

Currently, there are three active contracts in place to provide the CBT courseware (ICW and CAI) for F-14, SH-60, S-3, EA-6B, E-6, H-53, H-1, H-46, F/A-18, and selected support equipment. Additional contracts for CBT courseware for other aircraft will be awarded as the CBTS program progresses. (What about TSC 2000?)

TABLE I-4 CBT COURSEWARE CONTRACTS

CONTRACTOR	CONTRACT NUMBER
AERA, Inc.	N00600-97-D-0161
GPFS	N00600-97-D-1594
LSI, Inc.	N00600-97-D-1595

2. Program Documentation. Several program documents have been developed by NUWC-DK for various aspects of the AMTCS. These include:

- ILSP for the ATD, Version A, V1.0-506, dated October 1998,
- Configuration Management Plan for the ATD, V2.0-515, dated December 1999,
- User's Logistics Support Summary (ULSS) for the AMTCS, V2.0-516, dated December 1999,
- OEM Technical Management Plan for the ATD, V1.0-501, dated January 1997, and
- Test and Validation Plan for the ATD, V2.0-504, dated August 1997.

3. Technical Data . To be responsive to the dynamics of weapon and training system changes management of Technical Data for Life-cycle support is a critical task for the program manager. Requirements for Life-cycle maintenance data include Course Conduct Information Package, Training Conduct Support Document, Instructional Performance Requirements Document, Instructional Media Requirements Document, Instructional Media Design Package, and other source information used in the development of instructional materials including the MTLs. The management of this information includes the achieving (warehousing) of the technical data in readily accessible repositories.

4. Test Sets, Tools, and Test Equipment.

a. Life-cycle Management Tools. The Training Tool Change Management System (TTCMS) was designed to facilitate the submission and tracking of changes recommended to Aviation Maintenance Training Continuum System (AMTCS) computer-based training products (Interactive Courseware, Computer Aided Instruction, etc.), Commercial off the Shelf/Government off the Shelf Software, AMATCS Software Modules application software, Fleet Training Devices and Advanced/Introductory Automated Electronic Classroom trainers. NAVAIRSYSCOM sponsored Logistics Requirements and Funding Summary (LRFS) vs 4, located at the nalda.navy.mil web page.

b. Instructional System Development Tools. The application of proven Instructional System Development (ISD) principles in the design and development of all training tools require a thorough front-end analysis (FEA) and media selection process. This is imperative whether a training course is a new development or is under a conversion revision process. The acquisition and use of automated analysis tools (COTS/GOTS) to facilitate ISD/FEA process, i.e. Training System Requirement Analysis (TSRA) Program or Media Selection tool will greatly enhance the effort.

c. Software Support Activities (SSA). The following organization are listed as the responsible SSAs for the corresponding application tools and technical data management:

NAMTRAGRU – All CBT courseware materials (ICW, CAI), MTLs (Technical/Soft Skills), ASM ICW Tool, ISD Media Selection Tool

NUWC-DK, Key Port – AMTCS Software Modules (ASM), Training Tool Change Management System (TTCMS), Learning Management System (LMS), Operating/Network Systems for ATDs.

5. Repair Parts. Each primary site (i.e. Type Wing, AIMD, MALS, NAMTGRUDET) will be supplied with a spares kit to decrease down time. Failed equipment and modules will be shipped to NUWC-DK or its designated repair facility for repair or replacement. Replacement or replenishment of the spares kit will be shipped back to the site by NUWC-DK. The spares kit will be developed by identifying mission critical and high failure items. Mission critical items are those items that would cause the system not to perform or perform at a greatly reduced mode of operation. Site spare kits will be continually replenished from OEM spares to maintain Operational Availability (Ao).

The system consists entirely of COTS and Commercial And Non Developmental Item (CANDI) hardware; therefore, a redesign remedy for defects is impractical. The continuous upgrade of hardware in the field is expected to provide a retrofit remedy for defects. System components will be procured as spares to ensure Ao is maintained.

It is estimated that a new generation of technology may appear as frequently as every 12 to 18 months. Semi-annually, NUWC-DK will perform a market search to determine if any currently used COTS/CANDI components are scheduled to be discontinued or modified. If an item is to be discontinued or modified from a market line, NUWC-DK will generate an analysis report that

identifies the optimal solution(s) and make a recommendation to the Program Manager on the best course of action.

Potential ATD upgrades and enhancements will be tested by NUWC-DK to determine compatibility with existing ATDs and to fully evaluate the impact of the potential upgrade. Once the Training Device Configuration Control Board has approved an upgrade or enhancement, a Physical and Functional Configuration Audit will be conducted at NAMTRAGRU Headquarters on the First Articles prior to distribution to user activities.

NAVAIRSYSCOM (PMA205) has life-cycle support responsibility for all resources associated with maintenance, modification, sustainment, and technology refreshment requirements of the AMTCS suite of e-tools including hardware and software.

The Training Tool Change Management System has been developed to facilitate the submission and tracking of changes recommended to AMTCS computer-based training products (ICW, CAI, etc.), COTS/GOTS software, ASM, FTDs and AECs.

6. Human Systems Integration. NA REVISIT

K. SCHEDULES

1. Installation and Delivery Schedules. . The CBT platform priorities and milestones for implementation were established by the Chief of Naval Operations (N789H) based on inputs received from the TYCOMs, and are shown in Figure I-2, below. ASM will be delivered in conjunction with the CBT development priority schedule.

2. Ready For Operational Use Schedule. Software will be installed at NUWC-DK Keyport, the integration activity. The system will be ready for operational use upon receipt and installation at each site.

3. Time Required to Install at Operational Sites. The time required to install software and hardware will vary from site to site. All required software would be installed prior to receipt at the operational sites. Each site will install the hardware in the appropriate work centers at which time the system will be ready for operational use.

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

5. Training Device and Technical Training Equipment Delivery Schedule. Platform start dates and completion dates are listed and projected in Figure 3.

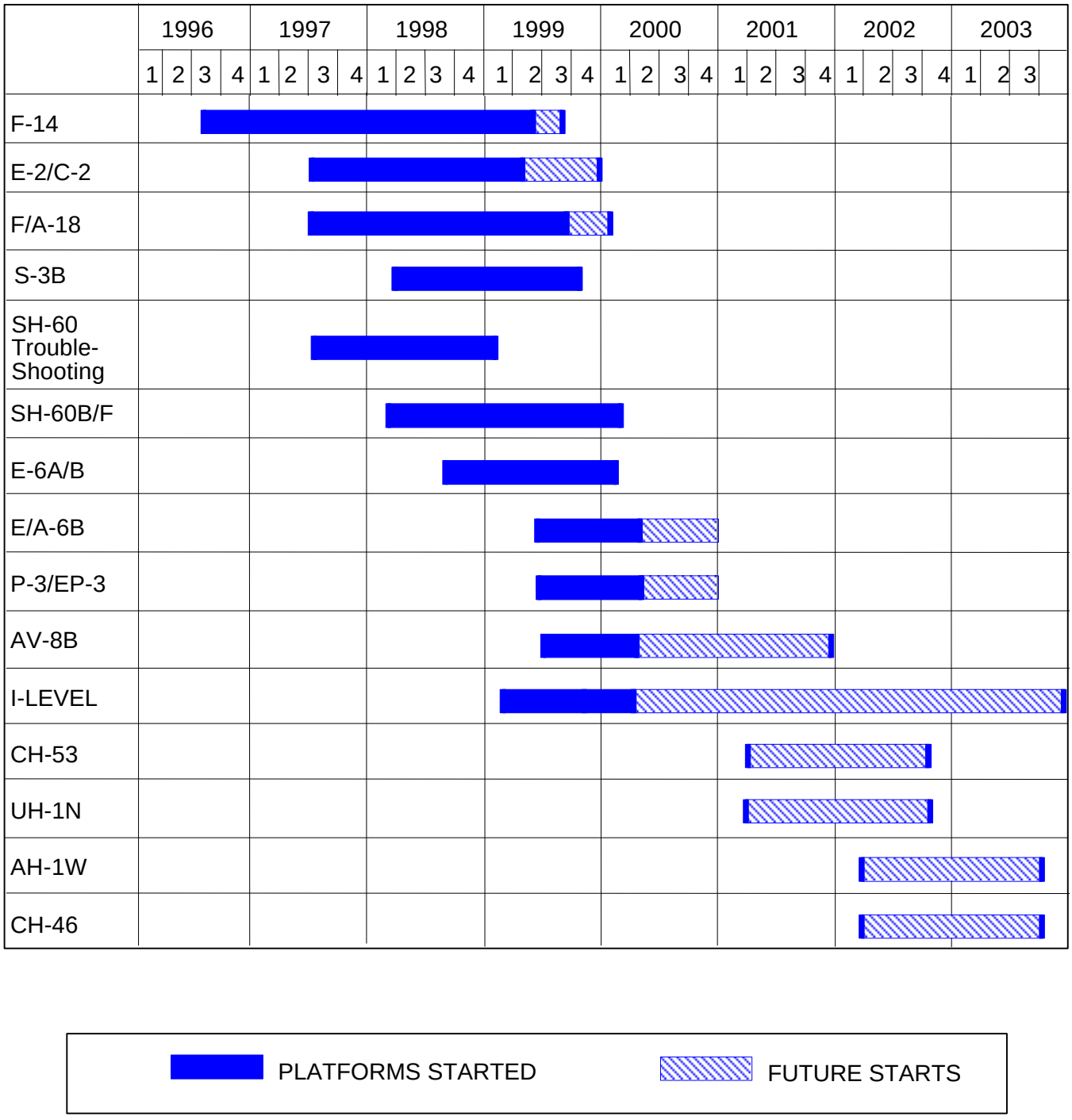

Figure I-3 CBTSI BY PLATFORM BY FISCAL YEAR

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
Configuration Management Plan for the ATD	NUWC-DK Document Number V2.0-515	PMA205-3D	Approved Dec 99
Integrated Logistics Support Plan (ILSP) for the Management of the ATD	NUWC-DK Document Number V1.0-506	PMA205-3D	Approved Jun 97
Computer-Based Training Systems Initiative (CBTSI)	Training Device Requirements Document	PMA205-3D	Approved 29 Feb 96
Training Device System Specification for the Aviation Maintenance Training Continuum System (AMTCS)	NUWC DK 200	PMA205-3D	Approved Sep 00
Test and Validation Plan for the Aviation Maintenance Training Continuum System Training Device	NUWC DK Document V2.0-504	PMA205-3D	Approved Aug 97
User's Logistics Support Summary (ULSS) for the Aviation Maintenance Training Continuum System (AMTCS)	NUWC DK Document V2.0-516	PMA205-3D	Approved Dec 99
Training Tool Change Management System (TTCMS) Procedures	NAMTRAGRUNOTE 1500	NAMTRAGRU HQ	Approved Jan 01
Logistics Requirements and Funding Summary (LRFS) vs 4	Nalda.navy.mil	NAVAIRSYSCOM	Approved Dec 96
OEM Technical Management Plan for the AMTCS Training Device	NUWC-DK Document Number V1.0-501	PMA205-3D	Preliminary Jan 97

DOCUMENT OR NTSP TITLE	DOCUMENT OR NTSP NUMBER	PDA CODE	STATUS
AMIST Implementation Strategy		PMA205	Approved Oct 95
Concept of Operations for AMTCS Integrated Training Data Environment		OPNAV N789H	Draft May 99
Application for AMTCS Digital Tools Integration with the Afloat It-21 Network		PMA205	In Progress Dec 99
Aviation Training Support System (ATSS) NTP	A-50-8506/A	PMA205	Approved Jun 89
Maintenance Training Improvement Program	COMNAVAIRPACINST 1543.1B	PMA205	Approved Oct 95
Maintenance Training Improvement Program	COMNAVAIRLANTINST 1510.22B	PMA205	Approved Sep 94
E-2C Aircraft	A-50-8716DE/A	PMA231	Approved Nov 97
F-14A, F-14B, and F-14D Aircraft	A-50-8511C/D	PMA241	Draft Nov 00
F/A-18 Aircraft	A-50-7703H/D	PMA265	Draft Nov 00
C-2A Reprocured Aircraft	A-50-8308B/A	PMA221	Approved Oct 96

PART II - BILLET AND PERSONNEL REQUIREMENTS

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

II.A. Billet Requirements

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

II.B. Personnel Requirements

- II.B.1. Annual Training Input Requirements

PART II - BILLET AND PERSONNEL REQUIREMENTS

II.A. BILLET REQUIREMENTS

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

SOURCE: PMA205 **DATE:** 11/2000

ACTIVITY, UIC		PFYs	CFY01	FY02	FY03	FY04	FY05
LAPTOP COMPUTERS FOR OPERATIONAL ACTIVITIES							
NAS Oceana (F-14)	00000	0	0	113	13	0	0
NAS Oceana (VF-101)	00000	0	0	0	6	0	0
NAS Oceana (VFA-106)	00000	0	0	0	4	0	0
NAS Norfolk (VAW-120 & VAW-78)	00000	0	0	0	12	0	0
NAS Point Mugu (VAW-117)	00000	0	0	0	8	0	0
MCAS Beaufort (VMFA-533)	00000	0	0	0	13	0	0
NAS Norfolk (E-2/C-2)	00000	0	0	0	96	0	0
NAS New Orleans (4th MAW)	00000	0	0	0	1	0	0
NAS Oceana (F/A-18 Strike Wing Lant)	00000	0	0	0	1	0	0
NAS Jacksonville (COMWINGLANT)	00000	0	0	0	1	0	0
TOTAL:		**0**	**0**	**113**	**155**	**0**	**0**
DESKTOP COMPUTERS FOR OPERATIONAL ACTIVITIES							
NAS Oceana (F-14)	00000	0	0	13	0	0	0
NAS Oceana (VF-101)	00000	0	0	0	15	0	0
NAS Oceana (VFA-106)	00000	0	0	0	11	0	0
NAS Norfolk (VAW-120 & VAW-78)	00000	0	0	0	6	0	0
NAS Point Mugu (VAW-117)	00000	0	0	0	1	0	0
MCAS Beaufort (VMFA-533)	00000	0	0	0	1	0	0
TOTAL:		**0**	**0**	**13**	**34**	**0**	**0**
NETWORK SERVERS FOR OPERATIONAL ACTIVITIES							
NAS Oceana (VF-101)	00000	0	0	0	2	0	0
NAS Oceana (VFA-106)	00000	0	0	0	1	0	0
NAS Norfolk (VAW-120)	00000	0	0	0	1	0	0
TOTAL:		**0**	**0**	**0**	**4**	**0**	**0**
ADVANCED ELECTRONIC CLASSROOMS FOR FLEET SUPPORT ACTIVITIES							
NAMTRAU Oceana	66045	1	8	0	0	0	0
NAMTRAU Norfolk	66046	1	1	3	0	0	0
NAMTRAU Lemoore	66060	11	0	0	0	0	0
NAMTRAGRU Det Cecil Field (NOTE)	66050	10	0	0	0	0	0
Naval Training Support Unit Tinker AFB	47372	0	0	0	3	0	0
NAMTRAGRU Det Mayport	66069	0	0	0	3	0	0
NAMTRAU North Island	66065	0	0	5	5	0	0
NAMTRAU Jacksonville	66051	0	0	3	6	0	0
NAMTRAGRU Det Cherry Point	66047	0	0	0	2	0	0
NAMTRAGRU Det Point Mugu	00000	0	0	0	3	0	0
NAMTRAU Whidbey Island	66058	0	0	0	7	0	0
TOTAL:		**23**	**9**	**11**	**29**	**0**	**0**

NOTE: Assets originally delivered to NAS Cecil Field were transferred to NAS Oceana when NAS Cecil Field closed.

II.A. BILLET REQUIREMENTS

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

SOURCE: USN: Total Force Manpower Management System **DATE:** 11/2000

ACTIVITY, UIC		PFYs	CFY01	FY02	FY03	FY04	FY05
INTRODUCTORY ELECTRONIC CLASSROOMS FOR FLEET SUPPORT ACTIVITIES							
NAMTRAU Oceana	66045	0	1	0	0	0	0
NAMTRAU Norfolk	66046	0	0	3	0	0	0
Naval Training Support Unit Tinker AFB	47372	0	0	0	4	0	0
NAMTRAGRU Det Mayport	66069	0	0	0	3	0	0
NAMTRAU North Island	66065	0	0	8	2	0	0
NAMTRAU Jacksonville	66051	0	0	3	7	0	0
NAMTRAGRU Det Point Mugu	00000	0	0	0	3	0	0
NAMTRAU Whidbey Island	66058	0	0	0	8	0	0
TOTAL:		**0**	**1**	**14**	**27**	**0**	**0**
LEARNING RESOURCE CENTERS FOR FLEET SUPPORT ACTIVITIES							
NAMTRAU Oceana	66045	0	1	0	0	0	0
NAMTRAU Norfolk	66046	0	0	1	0	0	0
NAMTRAU Lemoore	66060	1	0	0	0	0	0
NAMTRAGRU Det Cecil Field (NOTE)	66050	1	0	0	0	0	0
Naval Training Support Unit Tinker AFB	47372	0	0	1	0	0	0
NAMTRAGRU Det Mayport	66069	0	0	1	0	0	0
NAMTRAU North Island	66065	0	0	1	0	0	0
NAMTRAU Jacksonville	66051	0	0	1	0	0	0
NAMTRAGRU Det Camp Pendleton	66063	0	0	0	1	0	0
NAMTRAGRU Det McCutcheon Field	66062	0	0	0	1	0	0
NAMTRAGRU Det Miramar	66064	0	0	0	1	0	0
NAMTRAGRU Det New Bern	66047	0	0	0	1	0	0
NAMTRAGRU Det New River	66048	0	0	0	1	0	0
NAMTRAGRU Det Point Mugu	00000	0	0	0	1	0	0
NAMTRAU Whidbey Island	66058	0	0	0	1	0	0
TOTAL:		**2**	**1**	**5**	**7**	**0**	**0**

ACTIVITY, UIC		PFYs	CFY01	FY02	FY03	FY04	FY05
BUILDING SERVERS FOR FLEET SUPPORT ACTIVITIES							
NAMTRAU Oceana	66045	0	4	0	0	0	0
NAMTRAU Norfolk	66046	0	0	3	0	0	0
NAMTRAU Lemoore	66060	12	0	0	0	0	0
NAMTRAGRU Det Cecil Field (NOTE)	66050	11	0	0	0	0	0
Naval Training Support Unit Tinker AFB	47372	0	0	0	3	0	0
NAMTRAGRU Det Mayport	66069	0	0	0	3	0	0
NAMTRAU North Island	66065	0	0	4	4	0	0
NAMTRAU Jacksonville	66051	0	0	4	1	0	0
NAMTRAGRU Det Cherry Point	66047	0	0	0	3	0	0
NAMTRAGRU Det Point Mugu	00000	0	0	0	3	0	0
NAMTRAU Whidbey Island	66058	0	0	0	3	0	0
TOTAL:		**23**	**4**	**11**	**20**	**0**	**0**

NOTE: Assets originally delivered to NAS Cecil Field were transferred to NAS Oceana when NAS Cecil Field closed.

II.A.3. Training Activities Instructor and Support Billet Requirements

SOURCE: (1) Computer-Based Training Systems Initiative Training Device Requirements Document **DATE**: 29 Feb 96
(2) CNO ltr 1500 Ser N889H2/6U665311 **DATE**: 10 May 96
(3) ILSP for NAMRAGRU for the Management of AMTCS Program **DATE**: 31 Oct 97
(4) CNO ltr 1540 Ser N789H/1U656077 **DATE**: 05 Mar 01

TRAINING ACTIVITY, UIC: NAMTRAGRU HQ, 66315	**PFYs**	**CFY01**	**FY02**	**FY03**	**FY04**	**FY05**
O-3 AMTCS Division Officer	1	0	0	0	0	0
GS-1750-11 (AMTCS Analyst)	1	0	0	0	0	0
GS- (AMTCS Mathematician)	1	0	0	0	0	0
ATCS (0000)	1	0	0	0	0	0
AD1 (0000)	1	0	0	0	0	0
AE1 (0000)	1	0	0	0	0	0
SSGT (0000)		1	0	0	0	0
0						
GS-334-12 (ATD Specialist)	1	0	0	0	0	0
GS-334-11 (ATD Specialist)	1	0	0	0	0	0
GS-344-12 (AMTCS Media Database Management)	0	0	0	0	0	1
LI1 (0000) AMTCS Reproduction/Distribution	1	0	0	0	0	0
LI2 (0000) AMTCS Reproduction/Distribution	1	0	0	0	0	0
GS-1750-11 (Instructional Systems Specialist)	1	0	0	0	0	0
GS-334-09 (AMTCS Software Speialist)	1	0	0	0	0	0
GS-1084-XX (AMTCS Visual Information Spec)	1	0	0	0	0	0
TRAINING ACTIVITY, UIC: NAMTGD Mayport,						
ITC (2735) ATD Administrator	1	0	0	0	0	0
AOC (9502) AMTCS Coordinator	1	0	0	0	0	0
AT1 (9502) AMTCS SME	1	0	0	0	0	0
TRAINING ACTIVITY, UIC: NAMTGD Tinker						
GS-344-12 ATD Specialist	0	0	0	0	1	0
IT1 (2735) ATD Administrator	1	0	0	0	0	0
ATCS (9502) AMTCS Coordinator	1	0	0	0	0	0
AD1 (9502) AMTCS SME	1	0	0	0	0	0
GS-1084-XX AMTCS Visual Information Specialist	0	0	0	0	1	0
TRAINING ACTIVITY, UIC: NAMTGD Milton						
DP1 (2735) ATD Administrator	1	0	0	0	0	0
ATC (9502) AMTCS Coordinator	1	0	0	0	0	0
AD1 (9502) AMTCS SME	1	0	0	0	0	0
TRAINING ACTIVITY, UIC: NAMTGD Pt. Mugu						
GS-344-12 ATD Specialist	0	0	0	0	1	0
IT1 (2735) ATD Administrator	1	0	0	0	0	0
ATC (8305) AMTCS Coordinator	1	0	0	0	0	0
AD1 (9502) AMTCS SME	1	0	0	0	0	0
GS-1084-XX AMTCS Visual Information Specialist	0	0	0	0	1	0

TRAINING ACTIVITY, UIC: NAMTRAU Jacksonville	**PFYs**	**CFY01**	**FY02**	**FY03**	**FY04**	**FY05**
GS-334-11 ATD Specialist	0	0	0	0	1	0
ITC (2735) ATD Administrator	1	0	0	0	0	0
IT2 (2750) ATD Administrator	1	0	0	0	0	0
ATCS (9502) AMTCS Coordinator	1	0	0	0	0	0
AEC (9502) AMTCS SME	1	0	0	0	0	0
AMS1 (9502) AMTCS SME	1	0	0	0	0	0
AD1 (9502) AMTCS SME	1	0	0	0	0	0
AS1 (9502) AMTCS SME 0		1	0	0	0	0
AT2 (9502) AMTCS SME	1	0	0	0	0	0
GS-1750-11 Instructional Systems Specialist	1	0	0	0	0	0
GS-1084-XX AMTCS Visual Information Specialist	0	0	0	0	1	0
TRAINING ACTIVITY, UIC: NAMTRAU Cherry Point						
GS-334-11 ATD Specialist	0	0	0	1	0	0
SSGT (4068) ATD Administrator	0	0	1	0	0	0
SSGT (4071) ATD Administrator	0	0	0	0	1	0
GYSGT (6316) AMTCS Coordinator	1	0	0	0	0	0
SSGT (6015) AMTCS SME	0	0	0	1	0	0
SGT (6315) AMTCS SME	0	0	0	1	0	0
SSGT (6016) AMTCS SME	0	0	0	1	0	0
SSGT (6316) AMTCS SME	0	0	0	0	0	1
GS-1750-11 Instructional Systems Specialist	0	0	0	0	0	1
GS-1084-XX AMTCS Visual Information Specialist	0	0	0	0	0	1
TRAINING ACTIVITY, UIC: NAMTRAU New River						
GS-334-11 ATD Specialist	0	0	0	0	0	1
SSGT (4068) ATD Administrator	0	0	0	1	0	0
SSGT (4071) ATD Administrator	0	0	0	0	1	0
GySGT (6112) AMTCS Coordinator	1	0	0	0	0	0
SGT (6322) AMTCS SME	0	0	0	0	1	0
SGT (6115) AMTCS SME	0	0	0	0	1	0
SSGT (6113) AMTCS SME	0	0	0	0	1	0
SGT (6323) AMTCS SME	0	0	0	0	0	1
GS-1750-11 Instructional Systems Specialist	0	0	0	0	0	1
GS-1084-XX AMTCS Visual Information Specialist	0	0	0	0	0	1
TRAINING ACTIVITY, UIC: NAMTRAU Norfolk						
GS-334-11 ATD Specialist	0	0	0	0	1	0
ITC (2735) ATD Administrator	1	0	0	0	0	0
IT2 (2750) ATD Administrator	1	0	0	0	0	0
ATC (9502) AMTCS Coordinator	1	0	0	0	0	0
AME1 (9502) AMTCS SME	1	0	0	0	0	0
AD1 (9502) AMTCS SME	1	0	0	0	0	0
ABH1 (9502) AMTCS SME	1	0	0	0	0	0
AE2 (9502) AMTCS SME	1	0	0	0	0	0
GS-1750-11 Instructional Systems Specialist	0	0	0	0	1	0
GS-1084-XX AMTCS Visual Information Specialist	0	0	0	0	1	0

TRAINING ACTIVITY, UIC: NAMTRAU Oceana	**PFYs**	**CFY01**	**FY02**	**FY03**	**FY04**	**FY05**
GS-334-11 ATD Specialist	0	0	0	0	1	0
IT1 (2735) ATD Administrator	1	0	0	0	0	0
IT2 (2750) ATD Administrator	1	0	0	0	0	0
ATCS (9502) AMTCS Coordinator	1	0	0	0	0	0
AT1 (9502) AMTCS SME	1	0	0	0	0	0
AD1 (8345) AMTCS SME	1	0	0	0	0	0
AMS2 (8345) AMTCS SME	1	0	0	0	0	0
AMS1 (8342) AMTCS SME	1	0	0	0	0	0
AE2 (9502) AMTCS SME	1	0	0	0	0	0
AO1 (9502) AMTCS SME	1	0	0	0	0	0
GS-1750-11 Instructional Systems Specialist	0	0	0	0	1	0
GS-1084-XX AMTCS Visual Information Specialist	0	0	0	0	1	0
TRAINING ACTIVITY, UIC: NAMTRAU Whidbey Island						
GS-334-11 ATD Specialist	0	0	0	0	1	0
IT1 (2735) ATD Administrator	1	0	0	0	0	0
ATCS (9502) AMTCS Coordinator	1	0	0	0	0	0
ATC (9502) AMTCS SME	1	0	0	0	0	0
AMH1 (9502) AMTCS SME	1	0	0	0	0	0
AD1 (9502) AMTCS SME	0	1	0	0	0	0
AE2 (9502) AMTCS SME	0	1	0	0	0	0
GS-1750-11 Instructional Systems Specialist	0	0	0	0	1	0
GS-1084-XX AMTCS Visual Information Specialist	0	0	0	0	1	0
TRAINING ACTIVITY, UIC: NAMTRAU Lemoore						
GS-334-11 ATD Specialist	0	0	0	0	1	0
IT1 (2735) ATD Administrator	1	0	0	0	0	0
ATCS (9502) AMTCS Coordinator	1	0	0	0	0	0
AMEC (9502) AMTCS SME	1	0	0	0	0	0
AEC (9502) AMTCS SME	1	0	0	0	0	0
AD1 (9502) AMTCS SME	0	1	0	0	0	0
AO1 (9502) AMTCS SME	0	1	0	0	0	0
GS-1750-11 Instructional Systems Specialist	0	0	0	0	1	0
GS-1084-XX AMTCS Visual Information Specialist	0	0	0	0	1	0
TRAINING ACTIVITY, UIC: NAMTRAU North Island						
GS-334-11 ATD Specialist	0	0	0	0	1	0
ITC (2735) ATD Administrator	1	0	0	0	0	0
IT2 (2750) ATD Administrator	1	0	0	0	0	0
ATCS (9502) AMTCS Coordinator	1	0	0	0	0	0
ADC (9502) AMTCS SME	1	0	0	0	0	0
AMS1 (9502) AMTCS SME	1	0	0	0	0	0
ASC (9502) AMTCS SME	1	0	0	0	0	0
AO1 (9502) AMTCS SME	1	0	0	0	0	0
ABE1 (9502) AMTCS SME	0	1	0	0	0	0
AE1 (9502) AMTCS SME	0	1	0	0	0	0
GS-1750-11 Instructional Systems Specialist	0	0	0	0	1	0
GS-1084-XX AMTCS Visual Information Specialist	0	0	0	0	1	0

TRAINING ACTIVITY, UIC: NAMTRAU Camp Pendleton	**PFYs**	**CFY01**	**FY02**	**FY03**	**FY04**	**FY05**
GS-334-11 ATD Specialist	0	0	0	0	1	0
SSGT (4068) ATD Administrator	0	0	1	0	0	0
SSGT (6114) AMTCS Coordinator	1	0	0	0	0	0
SGT (6324) AMTCS Coordinator	0	0	1	0	0	0
SGT (6324) AMTCS Coordinator	0	0	0	1	0	0
GS-1750-11 Instructional Systems Specialist	0	0	0	0	1	0
GS-1084-XX AMTCS Visual Information Specialist	0	0	0	0	1	0
TRAINING ACTIVITY, UIC: NAMTRAUNORISDet Miramar						
DP1 (2735) ATD Administrator	1	0	0	0	0	0
ATC (9502) AMTCS SME	1	0	0	0	0	0
TRAINING ACTIVITY, UIC: Joint Strike Fighter (TBD)						
GS-334-11 ATD Specialist	0	0	0	0	0	1
ITC (2735) ATD Administrator	0	0	0	0	0	1
ATCS (9502) AMTCS Coordinator	0	0	0	0	0	1
ADC (9502) AMTCS SME	0	0	0	0	0	1
AMS1 (9502) AMTCS SME	0	0	0	0	0	1
AE1 (9502) AMTCS SME	0	0	0	0	0	1
GS-1750-11 Instructional Systems Specialist	0	0	0	0	0	1
GS-1084-XX AMTCS Visual Information Specialist	0	0	0	0	0	1

PART III - TRAINING REQUIREMENTS

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

III.A.1. Initial Training Requirements

III.A.2. Follow-on Training

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

III.A.3. Existing Training Phased Out

PART IV - TRAINING LOGISTICS SUPPORT REQUIREMENTS

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

IV.A. Training Hardware

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

IV.A.2. Training Devices

IV.B. Initial Training

IV.B.1. Training Services

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.B.2. CURRICULA MATERIALS AND TRAINING AIDS

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAGRU Det
LOCATION, UIC: NAS Whidbey Island, 66058

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Advanced Electronic Classroom	7	Oct 02	Pending
Advanced Electronic Classroom	2	Oct 02	Pending
Advanced Electronic Classroom	3	Oct 02	Pending
Advanced Electronic Classroom	3	Oct 02	Pending
Building Servers	11	Oct 98	On board
Building Servers	3	Oct 02	Pending
Building Servers	3	Oct 02	Pending
Building Servers	3	Oct 02	Pending
Building Servers	3	Oct 02	Pending
Desktop Computer	1 (E-2C)	Oct 02	Pending
Desktop Computer	1	Oct 02	Pending
Introductory Electronic Classroom	3	Oct 02	Pending
Introductory Electronic Classroom	8	Oct 02	Pending
Introductory Electronic Classroom	3	Oct 02	Pending
Laptop Computer	8 (E-2C)	Oct 02	Pending
Laptop Computer	96	Oct 02	Pending
Laptop Computer	13	Oct 02	Pending
Learning Resource Center	1	Oct 02	Pending
Learning Resource Center	1	Oct 98	On board
Learning Resource Center	1	Oct 02	Pending
Learning Resource Center	1	Oct 02	Pending
Learning Resource Center	1	Oct 02	Pending
Learning Resource Center	1	Oct 01	Pending
Learning Resource Center	1	Oct 02	Pending
Learning Resource Center	1	Oct 02	Pending
Learning Resource Center	1	Oct 02	Pending

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAU
LOCATION, UIC: NAS Oceana, 66045

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Advanced Electronic Classroom	1	Oct 98	On board
Advanced Electronic Classroom	8	Oct 00	Pending
Advanced Electronic Classroom	6	Oct 02	Pending
Advanced Electronic Classroom	3	Oct 01	Pending
Advanced Electronic Classroom	1	Oct 98	On board
Advanced Electronic Classroom	1	Oct 00	Pending
Advanced Electronic Classroom	3	Oct 01	Pending
Advanced Electronic Classroom	5	Oct 01	Pending
Advanced Electronic Classroom	11	Oct 98	On board
Advanced Electronic Classroom	5	Oct 02	Pending
Building Servers	4	Oct 01	Pending
Building Servers	4	Oct 02	Pending
Building Servers	12	Oct 98	On board
Building Servers	3	Oct 01	Pending

IV.B.2. CURRICULA MATERIALS AND TRAINING AIDS

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Building Servers	4	Oct 00	On board
Building Servers	4	Oct 01	Pending
Building Servers	1	Oct 02	Pending
Desktop Computer	11	Oct 02	Pending
Desktop Computer	6 (E-2C)	Oct 02	Pending
Desktop Computer	28 (F-14)	Oct 02	Pending
Introductory Electronic Classroom	2	Oct 03	Pending
Introductory Electronic Classroom	7	Oct 02	Pending
Introductory Electronic Classroom	3	Oct 01	Pending
Introductory Electronic Classroom	8	Oct 01	Pending
Introductory Electronic Classroom	1	Oct 00	Pending
Introductory Electronic Classroom	3	Oct 01	Pending
Laptop Computer	24	Oct 02	Pending
Laptop Computer	113	Oct 01	Pending
Learning Resource Center	1	Oct 98	On board
Learning Resource Center	1	Oct 00	On board
Learning Resource Center	1	Oct 01	Pending
Learning Resource Center	1	Oct 01	Pending
Learning Resource Center	1	Oct 01	Pending
Network Server	1	Oct 02	Pending
Network Server	2 (F-14)	Oct 02	Pending
Network Server	1 (E-2C)	Oct 02	Pending

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: Naval Training Support Unit
LOCATION, UIC: Tinker AFB, 47372

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Advanced Electronic Classroom	3	Oct 02	Pending
Building Servers	3	Oct 02	Pending
Introductory Electronic Classroom	4	Oct 02	Pending
Learning Resource Center	1	Oct 01	Pending

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAGRU Det
LOCATION, UIC: NAS Cecil Field, 66050

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Advanced Electronic Classroom	10	Oct 98	NOTE

NOTE: NAS Cecil Field assets were transferred to NAS Oceana

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAU
LOCATION, UIC: NAS Norfolk, 66046

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Advanced Electronic Classroom	1	Oct 98	On board
Advanced Electronic Classroom	1	Oct 00	On board
Advanced Electronic Classroom	3	Oct 01	Pending

IV.B.2. CURRICULA MATERIALS AND TRAINING AIDS

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Building Servers	3	Oct 01	Pending
Desktop Computer	13	Oct 01	Pending
Desktop Computer	32	Oct 02	Pending
Introductory Electronic Classroom	3	Oct 01	Pending
Laptop Computer	113	Oct 01	Pending
Laptop Computer	131	Oct 02	Pending
Learning Resource Center	1	Oct 01	Pending
Network Server	1	Oct 02	Pending

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAGRU Det
LOCATION, UIC: NAS Mayport, 66069

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Advanced Electronic Classroom	3	Oct 02	Pending
Introductory Electronic Classroom	3	Oct 01	Pending
Learning Resource Center	1	Oct 01	Pending
Building Servers	3	Oct 02	Pending

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAU
LOCATION, UIC: NAS North Island, 66065

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Advanced Electronic Classroom	5	Oct 01	Pending
Advanced Electronic Classroom	5	Oct 02	Pending
Building Servers	4	Oct 01	Pending
Building Servers	4	Oct 02	Pending
Introductory Electronic Classroom	8	Oct 01	Pending
Introductory Electronic Classroom	2	Oct 02	Pending
Learning Resource Center	1	Oct 01	Pending

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAU
LOCATION, UIC: NAS Lemoore, 66060

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Advanced Electronic Classroom	11	Oct 98	On board
Building Servers	12	Oct 98	On board
Learning Resource Center	1	Oct 98	On board

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAU
LOCATION, UIC: NAS Jacksonville, 66051

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Advanced Electronic Classroom	3	Oct 01	Pending
Advanced Electronic Classroom	6	Oct 02	Pending
Building Servers	4	Oct 01	Pending
Building Servers	1	Oct 02	Pending

IV.B.2. CURRICULA MATERIALS AND TRAINING AIDS

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Introductory Electronic Classroom	3	Oct 01	Pending
Introductory Electronic Classroom	7	Oct 02	Pending
Laptop Computer	1	Oct 02	Pending
Learning Resource Center	1	Oct 01	Pending

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAGRU Det
LOCATION, UIC: MCAS Cherry Point, 66047

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Advanced Electronic Classroom	2	Oct 02	Pending
Building Servers	3	Oct 02	Pending

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAGRU Det
LOCATION, UIC: NAS Point Mugu, 00000

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Advanced Electronic Classroom	3	Oct 02	Pending
Building Servers	3	Oct 02	Pending
Desktop Computer	1	Oct 02	Pending
Introductory Electronic Classroom	3	Oct 02	Pending
Laptop Computer	8	Oct 02	Pending
Learning Resource Center	1	Oct 02	Pending

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAGRU Det
LOCATION, UIC: MCAS Camp Pendleton, 66063

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Learning Resource Center	1	Oct 02	Pending

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAGRU Det
LOCATION, UIC: McCutcheon Field, 66062

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Learning Resource Center	1	Oct 02	Pending

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAGRU Det
LOCATION, UIC: MCAS Miramar, 66064

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Learning Resource Center	1	Oct 02	Pending

IV.B.2. CURRICULA MATERIALS AND TRAINING AIDS

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAGRU Det
LOCATION, UIC: MCAS New Bern, 66047

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Learning Resource Center	1	Oct 02	Pending

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAGRU Det
LOCATION, UIC: MCAS New River, 66048

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Learning Resource Center	1	Oct 02	Pending

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: 4th MAW
LOCATION, UIC: NAS New Orleans, 00000

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Laptop Computer	1	Oct 02	Pending

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: VMFA 533
LOCATION, UIC: MCAS Beaufort, 00000

TYPES OF MATERIAL OR AID	QTY REQD	DATE REQD	STATUS
Laptop Computer	13	Oct 02	Pending
Desktop Computer	1	Oct 02	Pending

IV.B.3. TECHNICAL MANUALS

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAGRU Det
LOCATION, UIC : MCAS New Bern, 66047

TECHNICAL MANUAL NUMBER / TITLE	MEDIUM	QTY REQD	DATE REQD	STATUS
0001 AMTCS System Utilization Handbook	CD ROM	25	Oct 02	Pending
0001 AMTCS System Utilization Handbook	CD ROM	25	Oct 98	On board
0001 AMTCS System Utilization Handbook	CD ROM	25	Oct 02	Pending
0001 AMTCS System Utilization Handbook	CD ROM	25	Oct 01	Pending
0001 AMTCS System Utilization Handbook	CD ROM	25	Oct 02	Pending
0001 AMTCS System Utilization Handbook	CD ROM	25	Oct 02	Pending
0001 AMTCS System Utilization Handbook	CD ROM	25	Oct 02	Pending
0002 AMTCS Instruction Manual	CD ROM	5	Oct 02	Pending
0002 AMTCS Instruction Manual	CD ROM	5	Oct 01	Pending
0002 AMTCS Instruction Manual	CD ROM	5	Oct 02	Pending
0002 AMTCS Instruction Manual	CD ROM	5	Oct 02	Pending
0002 AMTCS Instruction Manual	CD ROM	5	Oct 02	Pending
0002 AMTCS Instruction Manual	CD ROM	5	Oct 02	Pending
0002 AMTCS Instruction Manual	CD ROM	5	Oct 98	On board

IV.B.3. TECHNICAL MANUALS

0003 AMTCS Configuration Guides	CD ROM	5	Oct 02	Pending
0003 AMTCS Configuration Guides	CD ROM	5	Oct 02	Pending
0003 AMTCS Configuration Guides	CD ROM	5	Oct 02	Pending
0003 AMTCS Configuration Guides	CD ROM	5	Oct 02	Pending
0003 AMTCS Configuration Guides	CD ROM	5	Oct 02	Pending
0003 AMTCS Configuration Guides	CD ROM	5	Oct 98	On board
0003 AMTCS Configuration Guides	CD ROM	5	Oct 01	Pending
0004 AMTCS User's Manual	CD ROM	25	Oct 01	Pending
0004 AMTCS User's Manual	CD ROM	25	Oct 02	Pending
0004 AMTCS User's Manual	CD ROM	25	Oct 02	Pending
0004 AMTCS User's Manual	CD ROM	25	Oct 02	Pending
0004 AMTCS User's Manual	CD ROM	25	Oct 98	On board
0004 AMTCS User's Manual	CD ROM	25	Oct 02	Pending
0004 AMTCS User's Manual	CD ROM	25	Oct 02	Pending
0005 AMTCS Software Manual	CD ROM	10	Oct 02	Pending
0005 AMTCS Software Manual	CD ROM	10	Oct 98	On board

IV.B.3. TECHNICAL MANUALS

0005 AMTCS Software Manual	CD ROM	10	Oct 02	Pending
0005 AMTCS Software Manual	CD ROM	10	Oct 02	Pending
0005 AMTCS Software Manual	CD ROM	5	Oct 02	Pending
0005 AMTCS Software Manual	CD ROM	10	Oct 01	Pending
0005 AMTCS Software Manual	CD ROM	10	Oct 02	Pending
0006 AMTCS Installation Guide	CD ROM	5	Oct 02	Pending
0006 AMTCS Installation Guide	CD ROM	5	Oct 01	Pending
0006 AMTCS Installation Guide	CD ROM	5	Oct 98	On board
0006 AMTCS Installation Guide	CD ROM	5	Oct 02	Pending
0006 AMTCS Installation Guide	CD ROM	5	Oct 02	Pending
0006 AMTCS Installation Guide	CD ROM	5	Oct 02	Pending
0006 AMTCS Installation Guide	CD ROM	5	Oct 02	Pending

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAU
LOCATION, UIC : NAS Norfolk, 66046

TECHNICAL MANUAL NUMBER / TITLE	MEDIUM	QTY REQD	DATE REQD	STATUS
0001 AMTCS System Utilization Handbook	CD ROM	25	Oct 01	Pending
0001 AMTCS System Utilization Handbook	CD ROM	50	Oct 01	Pending

IV.B.3. TECHNICAL MANUALS

0001 AMTCS System Utilization Handbook	CD ROM	25	Oct 02	Pending
0001 AMTCS System Utilization Handbook	CD ROM	50	Oct 98	On board
0001 AMTCS System Utilization Handbook	CD ROM	50	Oct 00	On board
0001 AMTCS System Utilization Handbook	CD ROM	50	Oct 98	On board
0001 AMTCS System Utilization Handbook	CD ROM	25	Oct 00	On board
0002 AMTCS Instruction Manual	CD ROM	5	Oct 02	Pending
0002 AMTCS Instruction Manual	CD ROM	10	Oct 98	On board
0002 AMTCS Instruction Manual	CD ROM	10	Oct 01	Pending
0002 AMTCS Instruction Manual	CD ROM	10	Oct 98	On board
0002 AMTCS Instruction Manual	CD ROM	5	Oct 00	On board
0002 AMTCS Instruction Manual	CD ROM	5	Oct 00	On board
0002 AMTCS Instruction Manual	CD ROM	5	Oct 01	Pending
0003 AMTCS Configuration Guides	CD ROM	5	Oct 01	Pending
0003 AMTCS Configuration Guides	CD ROM	5	Oct 01	Pending
0003 AMTCS Configuration Guides	CD ROM	5	Oct 98	On board
0003 AMTCS Configuration Guides	CD ROM	5	Oct 02	Pending

IV.B.3. TECHNICAL MANUALS

0003 AMTCS Configuration Guides	CD ROM	5	Oct 00	On board
0003 AMTCS Configuration Guides	CD ROM	5	Oct 00	On board
0003 AMTCS Configuration Guides	CD ROM	5	Oct 98	On board
0004 AMTCS User's Manual	CD ROM	25	Oct 00	On board
0004 AMTCS User's Manual	CD ROM	25	Oct 98	On board
0004 AMTCS User's Manual	CD ROM	25	Oct 01	Pending
0004 AMTCS User's Manual	CD ROM	25	Oct 00	On board
0004 AMTCS User's Manual	CD ROM	25	Oct 02	Pending
0004 AMTCS User's Manual	CD ROM	25	Oct 01	Pending
0004 AMTCS User's Manual	CD ROM	25	Oct 98	On board
0005 AMTCS Software Manual	CD ROM	10	Oct 01	Pending
0005 AMTCS Software Manual	CD ROM	10	Oct 98	On board
0005 AMTCS Software Manual	CD ROM	5	Oct 02	Pending
0005 AMTCS Software Manual	CD ROM	5	Oct 00	On board
0005 AMTCS Software Manual	CD ROM	10	Oct 98	On board
0005 AMTCS Software Manual	CD ROM	5	Oct 00	On board

IV.B.3. TECHNICAL MANUALS

0005 AMTCS Software Manual	CD ROM	5	Oct 01	Pending
0006 AMTCS Installation Guide	CD ROM	5	Oct 02	Pending
0006 AMTCS Installation Guide	CD ROM	5	Oct 98	On board
0006 AMTCS Installation Guide	CD ROM	5	Oct 01	Pending
0006 AMTCS Installation Guide	CD ROM	5	Oct 00	On board
0006 AMTCS Installation Guide	CD ROM	5	Oct 01	Pending
0006 AMTCS Installation Guide	CD ROM	5	Oct 00	On board
0006 AMTCS Installation Guide	CD ROM	5	Oct 98	On board

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAGRU Det
LOCATION, UIC : MCAS Camp Pendleton, 66063

TECHNICAL MANUAL NUMBER / TITLE	MEDIUM	QTY REQD	DATE REQD	STATUS
0001 AMTCS System Utilization Handbook	CD ROM	25	Oct 02	Pending
0001 AMTCS System Utilization Handbook	CD ROM	25	Oct 02	Pending
0001 AMTCS System Utilization Handbook	CD ROM	25	Oct 02	Pending
0001 AMTCS System Utilization Handbook	CD ROM	25	Oct 02	Pending
0002 AMTCS Instruction Manual	CD ROM	5	Oct 02	Pending
0002 AMTCS Instruction Manual	CD ROM	5	Oct 02	Pending

IV.B.3. TECHNICAL MANUALS

0002 AMTCS Instruction Manual	CD ROM	5	Oct 22	Pending
0002 AMTCS Instruction Manual	CD ROM	5	Oct 02	Pending
0003 AMTCS Configuration Guides	CD ROM	5	Oct 02	Pending
0003 AMTCS Configuration Guides	CD ROM	5	Oct 02	Pending
0003 AMTCS Configuration Guides	CD ROM	5	Oct 02	Pending
0003 AMTCS Configuration Guides	CD ROM	5	Oct 02	Pending
0004 AMTCS User's Manual	CD ROM	25	Oct 02	Pending
0004 AMTCS User's Manual	CD ROM	25	Oct 02	Pending
0004 AMTCS User's Manual	CD ROM	25	Oct 02	Pending
0004 AMTCS User's Manual	CD ROM	25	Oct 02	Pending
0005 AMTCS Software Manual	CD ROM	10	Oct 02	Pending
0005 AMTCS Software Manual	CD ROM	10	Oct 02	Pending
0005 AMTCS Software Manual	CD ROM	10	Oct 02	Pending
0005 AMTCS Software Manual	CD ROM	10	Oct 02	Pending
0006 AMTCS Installation Guide	CD ROM	5	Oct 02	Pending
0006 AMTCS Installation Guide	CD ROM	5	Oct 02	Pending

IV.B.3. TECHNICAL MANUALS

0006 AMTCS Installation Guide	CD ROM	5	Oct 02	Pending
0006 AMTCS Installation Guide	CD ROM	5	Oct 02	Pending

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: NAMTRAU
LOCATION, UIC : NAS North Island, 66065

TECHNICAL MANUAL NUMBER / TITLE	MEDIUM	QTY REQD	DATE REQD	STATUS
0001 AMTCS System Utilization Handbook	CD ROM	50	Oct 01	Pending
0001 AMTCS System Utilization Handbook	CD ROM	25	Oct 02	Pending
0001 AMTCS System Utilization Handbook	CD ROM	50	Oct 98	On board
0002 AMTCS Instruction Manual	CD ROM	10	Oct 98	On board
0002 AMTCS Instruction Manual	CD ROM	10	Oct 01	Pending
0002 AMTCS Instruction Manual	CD ROM	5	Oct 02	Pending
0003 AMTCS Configuration Guides	CD ROM	5	Oct 01	Pending
0003 AMTCS Configuration Guides	CD ROM	5	Oct 02	Pending
0003 AMTCS Configuration Guides	CD ROM	5	Oct 98	On board
0004 AMTCS User's Manual	CD ROM	25	Oct 98	On board
0004 AMTCS User's Manual	CD ROM	25	Oct 01	Pending
0004 AMTCS User's Manual	CD ROM	25	Oct 02	Pending

IV.B.3. TECHNICAL MANUALS

0005 AMTCS Software Manual	CD ROM	5	Oct 02	Pending
0005 AMTCS Software Manual	CD ROM	10	Oct 98	On board
0005 AMTCS Software Manual	CD ROM	10	Oct 01	Pending
0006 AMTCS Installation Guide	CD ROM	5	Oct 98	On board
0006 AMTCS Installation Guide	CD ROM	5	Oct 01	Pending
0006 AMTCS Installation Guide	CD ROM	5	Oct 02	Pending

CIN, COURSE TITLE: AMTCS OJT
TRAINING ACTIVITY: Naval Training Support Unit
LOCATION, UIC : Tinker AFB, 47372

TECHNICAL MANUAL NUMBER / TITLE	MEDIUM	QTY REQD	DATE REQD	STATUS
0001 AMTCS System Utilization Handbook	CD ROM	25	Oct 01	Pending
0001 AMTCS System Utilization Handbook	CD ROM	25	Oct 02	Pending
0002 AMTCS Instruction Manual	CD ROM	5	Oct 01	Pending
0002 AMTCS Instruction Manual	CD ROM	5	Oct 02	Pending
0003 AMTCS Configuration Guides	CD ROM	5	Oct 01	Pending
0003 AMTCS Configuration Guides	CD ROM	5	Oct 02	Pending
0004 AMTCS User's Manual	CD ROM	25	Oct 01	Pending
0004 AMTCS User's Manual	CD ROM	25	Oct 02	Pending

IV.B.3. TECHNICAL MANUALS

0005 AMTCS Software Manual	CD ROM	10	Oct 01	Pending
0005 AMTCS Software Manual	CD ROM	5	Oct 02	Pending
0006 AMTCS Installation Guide	CD ROM	5	Oct 02	Pending
0006 AMTCS Installation Guide	CD ROM	5	Oct 01	Pending

PART V - MPT MILESTONES

COG CODE	MPT MILESTONES	DATE	STATUS
DA	Develop improved training management system (AMTCS)	FY 95	Complete
DA	Develop Preliminary ILSP for AMTCS Training Devices	Dec 96	Complete
DA	Award initial contracts	FY 97	Complete
DA	Distribute Initial NTSP	Feb 98	Complete
OPO	Begin fleet deployment of AMTCS	FY 00	On going
OPO	Analyze Navy and Marine Corps Manpower	Dec 00	Pending
DA	Offload MTIP data to AMTCS	Apr 01	On going

PART VI ACTION ITEMS/ACTION REQUIRED

There are no overdue actions or decisions for the AMTCS "Technology Infusion" Initiative.

PART VII - POINTS OF CONTACT

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AVIATION MAINTENANCE

TRAINING CONTINUUM SYSTEM

APPENDIX A

CURRENT TRAINING AND MATMEP

BILLETS AND POSITIONS

JUNE 2001

CURRENT TRAINING BILLETS AND POSITIONS

UNIT AND LOCATION	GRADE	QUANTITY
Strike Fighter Wing, U.S. Pacific Fleet, NAS, Lemoore, California	1520	1
Electronic Combat Wing, U.S. Pacific Fleet, Whidbey Island, Washington	6330	1
Airborne Early Warning Wing, U.S. Pacific Fleet, San Diego, California	7340	1
Naval Air Warfare Center-Aircraft Division, Patuxent River, Maryland	E5-E6	1
Pacific Missile Range Facility Hawaiian Area, Barking Sands, Kekaha, Hawaii	E7-E9	1
Airborne Early Warning Wing, U.S. Atlantic Fleet, NAS Norfolk, Virginia	E7-E9 E5-E6	2
Strike Fighter Wing, U.S. Atlantic Fleet, NAS Oceana, Florida	E7-E9 E5-E6	3
Fighter Wing , U.S. Atlantic Fleet, NAS Oceana, Virginia	E7-E9	3
Fleet Air Western Pacific, Atsugi, Japan	E5-E6	1
Commander, Patrol Wings Pacific, NAS Barbers Point, Hawaii	E7-E9	2
Strike Fighter Wing, U.S. Pacific Fleet, NAS Lemoore, California	E7-E9 E5-E6	3
AIMD, NAS Jacksonville, Florida	E7-E9 E5-E6	4
AIMD, NAS Lemoore, California	E5-E6	5
AIMD, NAS Oceana, Virginia	E5-E6	3
AIMD, NAF Diego Garcia, British Indian Ocean Territory	E5-E6	1
Helicopter Tactical Wing, U.S. Atlantic Fleet, NAS Norfolk, Virginia	E5-E6	3
NAMTGD, Tinker AFB, Oklahoma	E7-E9 E5-E6	3
Sea Control Wing, U.S. Atlantic Fleet, NAS Jacksonville, Florida	E7-E9 E5-E6	3
Patrol ReconnaissanceWing 5, NAS Brunswick, Maine	E5-E6	1
Patrol Reconnaissance Wing 11, NAS Jacksonville, Florida	E5-E6	2

UNIT AND LOCATION	GRADE	QUANTITY
Patrol Wing 10, NAS Whidbey Island, Oak Harbor, Washington	E7-E9 E5-E6	2
Helicopter Anti-Submarine Light Wing, U. S. Atlantic Fleet, NAS Mayport, Florida	E7-E9 E5-E6	5
Strategic Communications Wing 1, Tinker AFB, Oklahoma City, Oklahoma	E7-E9 E5-E6	4
Electronic Combat Wing, U.S. Pacific Fleet, NAS Whidbey Island, Washington	E5-E6	2
Light Airborne Multi-Purpose Strike Wing, U.S. Pacific Fleet, NAS North Island, California	E5-E6	2
Sea Control Wing, U.S. Pacific Fleet, NAS North Island, California	E5-E6	2
Airborne Early Warning Wing, U.S. Pacific Fleet, San Diego, California	E5-E6	2
Helicopter Tactical Wing, U.S. Pacific Fleet, North Island, California	E5-E6	2
Helicopter Anti-Submarine Wing, U.S. Pacific Fleet, North Island, California	E5-E6	2
NAMTGD, NAS Oceana, Virginia	E7-E9 E5-E6	5
NAMTGD, NAS Norfolk, Virginia	E7-E9 E5-E6	6
NAMTGD, NAS Jacksonville, Florida	E7-E9 E5-E6	9
NAMTGD, NAS Whidbey Island, Oak Harbor, Washington	E7-E9	1
NAMTGD, NAS Lemoore, California	E7-E9	7
NAMTGD, NAS Miramar, San Diego, California	E7-E9 E5-E6	15
NAMTGD, NAS North Island, San Diego, California	E7-E9 E5-E6	9
NAMTGD, Naval Station, Mayport, Florida	E7-E9 E5-E6	3
Helicopter Anti-Submarine Wing, U.S. Atlantic Fleet, NAS Jacksonville, Florida	E7-E9 E5-E6	4
AIMD, NAS Norfolk, Virginia	E7-E9 E5-E6	4
AIMD, NSA Mayport, Florida	E7-E9	1

CURRENT MATMEP COORDINATOR POSITIONS

TYPE UNIT	AIRCRAFT	QUANTITY
Marine Attack Squadron (VMA)	AV-8B	10
Marine Aerial Refueler/Transport Squadron (VMGR)	C-130	6
Marine Electronic Warfare Squadron (VMAQ)	EA-6B	5
Marine Fixed-Wing Fighter Attack (VMFA)	F/A-18	15
Marine Medium Helicopter Squadron (HMM)	CH-46	18
Marine Heavy Helicopter Squadron (HMH)	CH-53	14
Marine Light Attack Helicopter Squadron (HMLA)	U/AH-1	11
Marine Helicopter Squadron Experimental (HMX)	VH-3D/60N	1
Marine Aircraft Wing (MAW) (4 Wings)	Wing Headquarters	4
Marine Corps Air Station (MCAS)	Headquarters & Headquarters Squadron (H&HS)	11
Marine Tactical Air Command Squadron (MTACS)		4
Marine Air Control Squadron (MACS)		8
Air Traffic Control Detachment (ATC Det)		12
Marine Air Support Squadron (MASS)		5
Marine Aviation Logistics Squadron (MALS)		14
Marine All-Weather Fighter Attack Squadron (VMFAAW)		6
Marine Transport Squadron (VMG)		2
Light Anti-Aircraft Missile (LAAM) includes H&HS Detachments		10
Light Anti-Aircraft Defense Battalion (LAADBN) includes H&HS Detachments		6
Marine Unmanned Aerial Vehicle Squadron (VMU)		2

TYPE UNIT	AIRCRAFT	QUANTITY
Marine Aviation Logistic Support Element (MALSE)		1
Combined Marine Corps Tactical Systems Support Activity (MCTSSA)		1
Marine Corps Logistics Base (MCLB)	Supply Center	2
Marine Corps Air Ground Combat Control (MCAGCC)		2
Marine Aviation Training Support Group (MATSG) Combined, includes Enlisted Aviation Maintenance Training Unit (EAMTU)	Schools Command	2
Marine Fighter Training Squadron (VMFT)		1
Marine Aviation Weapons & Tactics Squadron (MAWTS)		1