

THE CASS FAMILY OTPS SUSTAINMENT PROCESS



**September 2009
Version 1.1**

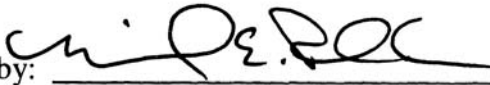
Approved by: 
Captain Michael E. Belcher, USN
Program Manager, Aviation Support Equipment

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1.0 Purpose

The purpose of this document is to detail the processes needed to provide in-service support for Operational Test Program Sets (OTPSs) developed to operate on the Consolidated Automated Support System (CASS) Family of Automatic Test Equipment (ATE).

The goal is to define the overarching standard processes to be used by all naval aviation weapon system programs for supporting and sustaining CASS Family OTPSs.

2.0 Policy

“The CASS Family OTPS Sustainment Process” is published under the authority of NAVAIRINST 5400.118B, “DESIGNATION OF AVIATION SUPPORT EQUIPMENT PROGRAM MANAGER AIR (PMA260)” which assigns PMA260 with the responsibility to manage the processes for acquisition and life cycle support of both Common Support Equipment (CSE) and Peculiar Support Equipment (PSE), including OTPSs.

NAVAIRINST 5400.118B assigns PMA260 with responsibility to develop and maintain a generic Test Program Set (TPS) procurement package and process for use by other Program Managers (PMs), NAVAIR, NAVSEA, and SPAWARS. PMA260 is also tasked with assessing planned TPS acquisitions for compliance with CASS strategies, budgeting for and acquiring new TPSs used for off-loading and retiring legacy Automatic Test Equipment, and providing TPS acquisition assessments to PMs.

NAVAIRINST 13630.2D, “OPTIMIZING THE CONSOLIDATED AUTOMATED SUPPORT SYSTEM AT ALL LEVELS OF MAINTENANCE FROM FACTORY TO FIELD”, establishes policy, assigns responsibilities, and provides procedures for optimizing the use of CASS and associated TPSs by the Naval Aviation Systems Team. It assigns PMA260, the CASS PM, with responsibility for:

- (1) budgeting, acquisition and support of CASS,
- (2) budgeting and acquisition of new TPSs used to offload existing legacy ATE to CASS,
and
- (3) initial assessment of weapon system program TPS acquisitions prior to proposal initiation and again prior to fielding.

In synopsis, PMA260 budgets for and manages the acquisition of all CSE (e.g., CASS itself) and TPSs being offloaded from legacy ATE. Life cycle support and sustainment of CSE, including CASS, is the responsibility of PMA260. The respective weapon system PMs budget for and manage the acquisition of TPSs for new weapons systems, their subsystems and components, as well as the sustainment of Legacy ATE "Offloaded" TPSs transitioned from PMA260. Life cycle support and sustainment of PSE, which includes weapon system OTPSs, is the responsibility of the weapon system program that has cognizance over the PSE.

The processes used to support and sustain fielded OTPSs are the same, regardless of original funding source.

Further, PMA260 has a vested interest in all software programs (e.g., TPS software) that interface with CASS Family members to meet information assurance (IA) requirements. In this context, IA requirements are defined broadly to include all IA mandates that can be interpreted as being relevant for software programs and their interfaces/interactions with their execution environment, or to software in general. IA requirements may derive from any of the following:

- Department of Defense (DoD), Intelligence Community, and Federal directives (e.g., DoD Directive No. 8500.1E)
- Instructions (e.g., DoD Instruction No. 8500.2P)
- Manuals (e.g., Chairman of the Joint Chiefs of Staff Manual (CJCSM) No. 6510.01A)
- Memoranda (e.g., DoD Chief Information Officer (CIO) Memorandum No. 6-8510)
- Mandated configuration guides (e.g., the Defense Information Systems Agency (DISA) Security Technical Implementation Guides (STIGs))
- Other significant guidance documents (e.g., the National Security Agency's (NSA) Guidance for Addressing Malicious Code Risk, or the Common Criteria (CC) for Information Technology Security Evaluation.)

In the event of conflict between local procedures and the processes in this document, those processes detailed in this document take precedence. The information in this document will be reviewed annually and updated as necessary to reflect the most recent NAVAIR policy, guidance and lessons learned for both OTPSs and CASS. To obtain the latest version of this document contact NAVAIR PMA260D2 or visit the NAVAIR PMA260 web site (<https://pma260.navair.navy.mil>).

3.0 Introduction and Definitions

3.1 Common Support Equipment

SE acquired for use on multiple weapon systems and on multiple platforms is designated as CSE. CASS is one example of CSE. Life Cycle support of CSE is the responsibility of PMA260.

3.2 Peculiar Support Equipment

SE acquired for use on a single weapon system regardless of number of platforms is designated as PSE. Life Cycle support of PSE is the responsibility of the cognizant weapon system PM for the PSE.

3.3 Automatic Test System (ATS)

An ATS includes ATE hardware, documentation and its operating software; OTPSs, which include the hardware, software and documentation required to interface with and test individual weapon system component items; and associated TPS software development tools, referred to as ATE Support Software. The term ATS also includes ATE self-test and calibration elements.

An ATS is the complete system used to identify failed components, adjust components to meet specifications, and assure that an item meets required performance specifications in support of a ready for issue (RFI) certification.

3.4 Automatic Test Equipment (ATE)

ATE refers to the test set (also known as (AKA) station) hardware and its operating software. The hardware itself may be as small as a man-portable suitcase or it may consist of eight or more racks of equipment weighing over 8,000 pounds. ATE is often ruggedized commercial equipment for use aboard ships or in mobile maintenance facilities (MMFs). ATE used at fixed, non-hostile environments such as depots or factories may consist purely of commercial off-the-shelf (COTS) equipment.

The heart of the ATE is its primary computer which is used to control complex test instruments such as digital voltmeters, waveform analyzers, signal generators, and switching assemblies. This equipment operates under control of test software to provide a stimulus to a particular circuit or component in the unit under test (UUT), and then measure the response at various pins, ports or connections to determine if the UUT has performed to its specifications.

The ATE has its own operating and support software which performs housekeeping duties such as self-test, tracking preventative maintenance requirements, test procedure sequencing, and storage and retrieval of digital technical manuals (TMs).

ATE is typically very flexible in its ability to test different kinds of electronics. It can be configured to test both black boxes (AKA Weapons Replaceable Assemblies (WRAs)) and circuit cards (AKA Shop Replaceable Assemblies (SRAs)). When connected to the ATE, the WRAs and SRAs are usually referred to as Units Under Test (UUTs).

The CASS Family of ATE is depicted in Figure 1 and includes Mainframe CASS (Hybrid, RF, EO, High Power and CNI configurations), Reconfigurable Transportable CASS (RTCASS) and the modernized future CASS test set known as eCASS. CASS functionality is augmented by

ancillary equipment when needed, typically when supporting new, advanced weapon systems. Ancillary equipment is limited to weapon systems special needs and is fielded based on work load. eCASS will include some of the capabilities within each station that are now satisfied by CASS ancillary equipment. Lists of all current CASS configurations and ancillary equipment are included in Attachment 1.

CASS is used afloat (CV and L-Class ships) and ashore at COMNAVAIRFOR, COMNAVAIRESFOR, COMNAVSURFOR, NAVAIR, NAVSEA, CNATT, SPAWAR, SOCOM, USMC and FMS sites as well as Fleet Readiness Centers and Depots.



Figure 1 – The CASS Family Members

3.5 Test Program Set (TPS)/Operational Test Program Set (OTPS)

A TPS consists of the software, hardware, and documentation (beyond that associated with the ATE or weapon system technical manual) needed to test, fault detect and isolate, or perform any other evaluation of a specific UUT.

An OTPS is a logically-bundled group of TPSs which use the same set of hardware items (interface devices, cables, mounting plates, etc). An OTPS usually contains TPSs that test one or more WRAs and their SRAs. OTPSs contain the following elements:

- Operational Test Program Hardware (OTPH) – The hardware portion of the OTPS typically consists of the following:
 - Interface Device (ID) – The OTPH component that mates with the ATE's main interface panel and the UUT. IDs, which are often the largest OTPH component, are designed to facilitate connection and enable communication between the ATE and UUT.
 - Test Fixture – A device which provides additional active and passive circuitry to resolve incompatibilities between the UUT and the ATE, which is not appropriate for inclusion in the ID because of weight, size, circuit proximity or heat limitations. It may also be used as a holding fixture to secure the UUT.
 - Holding Fixture – A device designed to maintain proper positioning of an UUT during testing on ATE. It may also be used to direct facility cooling air to the UUT. The holding fixture does not contain any circuitry.
 - Cables – Specifically designed items, with or without branches, having one or more ends processed or terminated in fittings for use between UUTs, OTPH (e.g., interface device) and ATE. These cables can be very specialized, consisting of special materials and fabrication processes to preserve signal integrity and UUT compatibility.

OTPH may also include special connectors, plugs, adapters, alignment tools, specialized electronic test equipment, etc.

Examples of OTPH components are shown in Figure 2.

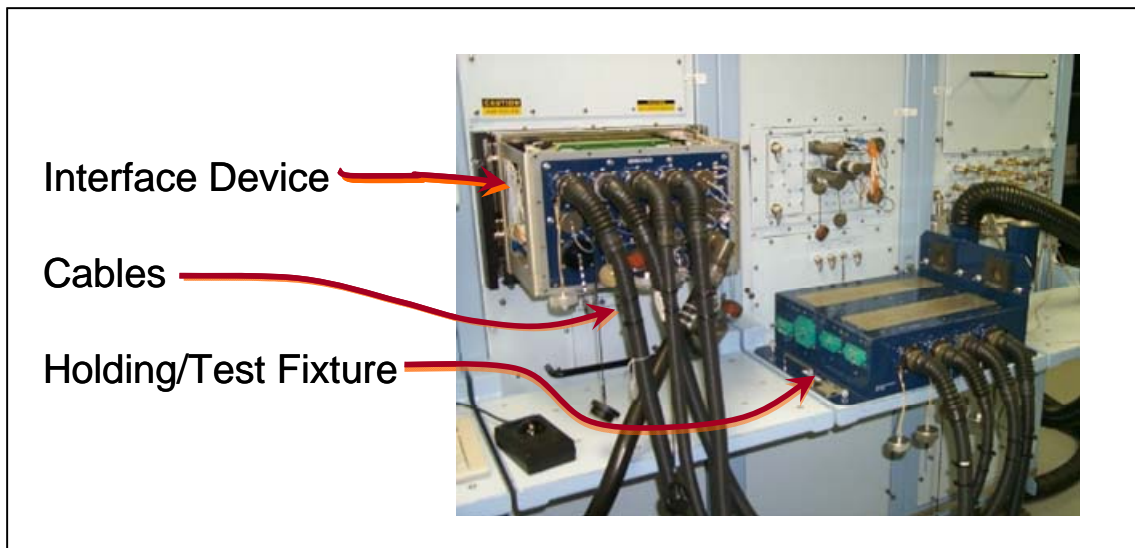


Figure 2 – OTPH Components

- Operational Test Program Medium (OTPM) – The OTPM contains the executable software used to test, fault isolate and adjust/align the applicable UUTs and/or OTPH components.
- Operational Test Program Instruction (OTPI) – The OTPI is the resultant merger of all Test Program Instructions (TPIs) associated with an OTPM. Each TPI consists of information needed to support the TPS.
- Master Test Program Set Index (MTPSI) – The MTPSI contains a list of all items required to test a unique UUT on a specific ATE.
- OTPH Technical Manual (TM) – The TM contains OTPH-related information including description, principles of operation, testing and troubleshooting information for parts removal/installation; the Group Assembly Parts List (GAPL); the Illustrated Parts Breakdown (IPB); and Source, Maintenance and Recoverability Codes (SM&R)
- User Logistic Support Summary (ULSS) – The ULSS identifies the logistics and maintenance support required to operate and maintain the OTPS.

3.6 CASS and RTCASS Operational Test Program Media (OTPM)

CASS and RTCASS OTPMs are end user (e.g., Fleet) deliverable configuration items (CIs) that contain TPS executable software. CASS OTPMs are issued on older Magneto-Optical (MO) media while RTCASS OTPMs are issued on newer Digital Versatile Disk (DVD) media. RTCASS is also compatible with compact disk (CD) media; however, the total set of RTCASS TPSs require the larger amount of storage space that DVDs provide.

As depicted in Figure 3, the RTCASS OTPM CI (AKA the "Green" disk) is created from the same set of TPS software source code used to create CASS OTPM CIs (AKA the "Blue" disks).

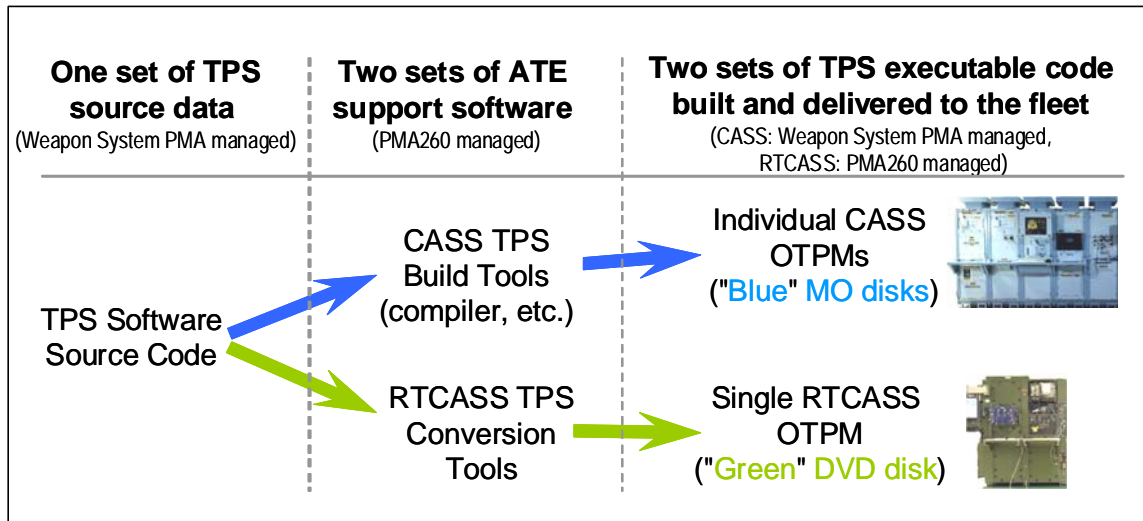


Figure 3 – CASS and RTCASS OTPM Configuration Items (CIs)

Although built from the same source code, the CASS and RTCASS OTPM CIs are significantly different as shown in Table 1. RTCASS, as a modernized ATE, provides the opportunity to use technology to improve current processes and allow OTPS products to be delivered to the Fleet more efficiently.

ATTRIBUTE	CASS	RTCASS¹
Physical type of OTPM:	Magneto-optical (MO) disk	Digital Versatile Disc (DVD)
OTPI:	Separate CD	Combined with DVD
MTPSI:	Separate CD and/or hardcopy	Combined with DVD
Number of OTPMs required:	At least one MO disk per OTPS. Some CASS OTPSs require multiple MO disks due to storage limitations of MOs.	One (contains all RTCASS TPS executable code)
ATE Support Software:	CASS TPS development and build tools	RTCASS TPS conversion and build tools
Format of distributed TPS code:	Compiled token files, which are interpreted by the CASS Interpreted Program Language (IPL) processor and cannot be easily rehosted onto future generations of ATE	XML files, which are interpreted by the RTCASS test exec

Table 1: CASS and RTCASS OTPM Differences

Note 1: All RTCASS TPS executables are generated by PMA260's representative using RTCASS TPS conversion and build tools.

3.7 CASS TPS Development and RTCASS Conversion Tools

Development or sustainment of an OTPS for the CASS Family requires access to a variety of documentation, hardware, and software tools. Attachment 1 provides information about those elements.

Attachment 1 does not list any RTCASS TPS software development tools because RTCASS stations are not TPS development stations. Instead, in accordance with (IAW) the NGOR, each TPS targeted for use on RTCASS is initially developed, integrated and tested on CASS. Once success is achieved on CASS, RTCASS-compatible TPS executable code is generated using RTCASS conversion tools and the TPS source code developed on CASS.

3.8 CASS Implementation Plan (CIP)

The CIP is an automated on-line data management and modeling tool used by PMA260 to determine and track user requirements to support outfitting of CASS test sets, ancillary equipment and OTPSs by configuration, quantity and location. As inputs, the CIP uses Naval Aviation Logistics Data Analysis (NALDA) induction data, flight hour data by type model series, OTPS data, weapon system and avionics configuration data, ATS Source Data Repository (ASDR), and Support Equipment Resources Management Information System (SERMIS) data. The CIP model calculates requirements based on aircraft type and quantity, weapon systems being supported, flight hours, UUT failure rates, mean time on station to repair UUTs, and test set availability.

The CIP is used to determine quantities of CASS Family station and ancillary equipment to be procured. The CIP also determines the quantities of CASS OTPSs required by each user site based on workload calculations. In addition, the CIP hosts and maintains the master list of all UUTs repaired on the CASS Family of ATE.

OTPS data in the CIP is initially provided to PMA260 by the procuring activity with input from the TPS Developer and Government Acceptance Integrated Product Team (IPT). Accuracy of the data in the CIP is essential. Any impact to CIP data due to an OTPS change, including the addition or removal of a weapon system from an OTPS group, must be reported to PMA260 by the cognizant OTPS PM representative using the user-friendly CIP electronic worksheet.

3.9 ATS Source Data Repository (ASDR)

The ASDR is a centralized data management system that stores all pertinent data from OTPS acquisitions and is used to support the sustainment of OTPS data, the development of future ATS, and the maintenance of existing CASS CIs. ASDR and the CSE CIs within ASDR are owned and supported by NAVAIR PMA260. However, the PSE (e.g, TPS source data) within ASDR will continue to be owned and supported by the cognizant weapon system PMs.

ASDR physically resides at NAVAIR Lakehurst and is maintained by the CASS Software Support Activity (SSA), a Capability Maturity Model (CMM) Level 3 certified organization. The ASDR server is networked, providing connectivity between the CASS SSA and other government entities, such as weapon system FSTs and ATS developers located at the NAVAIR In-Service Support Centers (ISSCs). Access to data in ASDR is controlled via user accounts with varying degrees of read, write, edit, and delete privileges. ASDR will be certified and accredited IAW DoD and Navy Certification and Accreditation (C&A) policy and guidance.

ASDR is populated with CASS TPS source code used to produce the current Fleet OTPMs (i.e., TPS executable code). Older TPS data must be ported to the modern ASDR structure by re-organizing the data into the “standardized” OTPS data directory structure, transferring the re-organized TPS data from the obsolete native CASS VAX/VMS environment to the PC/Windows environment, and uploading the data into the ASDR software configuration management (CM) tool. Although the TPS source data in ASDR was re-organized from its original state and transferred to a modern environment, it is functionally equivalent to the VAX/VMS version used to produce the currently fielded Fleet OTPMs.

In addition, all new OTPS data deliverables except for Support Equipment Requirements Data (SERDs) and CIP data will be entered into ASDR to establish the data baseline and to be placed under CM.

Weapon system PMs and their representatives are responsible for:

- Ensuring ASDR reflects the latest Fleet (i.e., fielded) version of their respective TPS code.
- Providing ASDR with copies of all of their updated OTPS CIs and adequate supporting data no later than initial Fleet release of any associated OTPS CI. Adequate supporting data includes completed version description documents (VDDs), Attachment 2, that thoroughly describe each OTPS CI change.
- Ensuring all OTPS data elements delivered to or uploaded into ASDR complies with the Standard OTPS Data Directory Structure (shown in Appendix K of the CASS User's Guide For TPS Developers).
- Ensuring their OTPS source data within ASDR is managed on a file-by-file basis to provide traceability of all changes.

Additional information about ASDR is provided in Attachment 3. Help Desk and point of contact (POC) information as well as details about accessing and using ASDR are provided in the ASDR Basic Users Guide and ASDR CM Users Guide. These documents are available on the PMA260 web site.

3.10 OTPS Migration

PMA260 has undertaken an initiative to update selected OTPS products to support all existing (i.e., CASS, RTCASS) and future (e.g., eCASS) CASS Family ATE members. This update process is referred to as “OTPS migration” and includes a standardization process that ensures compatibility with RTCASS and eCASS while maintaining functionality on mainframe CASS.

This migration process produces well-documented updates to OTPS products (e.g., TPS source code, TPIs) and related OTPS CIs. One critical objective of the migration process is to not affect the integrity or functionality of the OTPS.

For each selected OTPS, migration is a “one time” process that results in common TPS source code compatible with all CASS Family members. OTPSs that are not targeted for use on RTCASS or eCASS may never be selected for migration. Recently developed and future OTPSs will not require migration since those OTPSs will be compliant with standardization requirements when delivered IAW the “NAVAIR Generic OTPS Request for Proposal” (NGOR).

Figure 4 provides an overview of the OTPS Migration Process. The steps in this process are as follows:

1. Retrieve current Fleet version of TPS source data provided by weapon system PM
2. Port from VAX to PC environments
3. Place in Standard File Directory Structure IAW current TPS development guidelines
4. Place in ASDR
5. Standardize operator instructions (i.e., “Make Generic”) IAW current TPS development guidelines
6. Update ASDR
7. Use standardized/generic source code to create new "Blue" (i.e., CASS) version of TPS executable code on MO disk for testing
8. Convert to "Green" (i.e., create an RTCASS DVD or CD version of TPS executable code) for testing
9. Test Blue and Green disks
10. If failure(s); fix code, update ASDR, then go to step 7.
11. If no failure, process and release updated code to cognizant TPS representative for inclusion in the TPS baseline (Master) release.

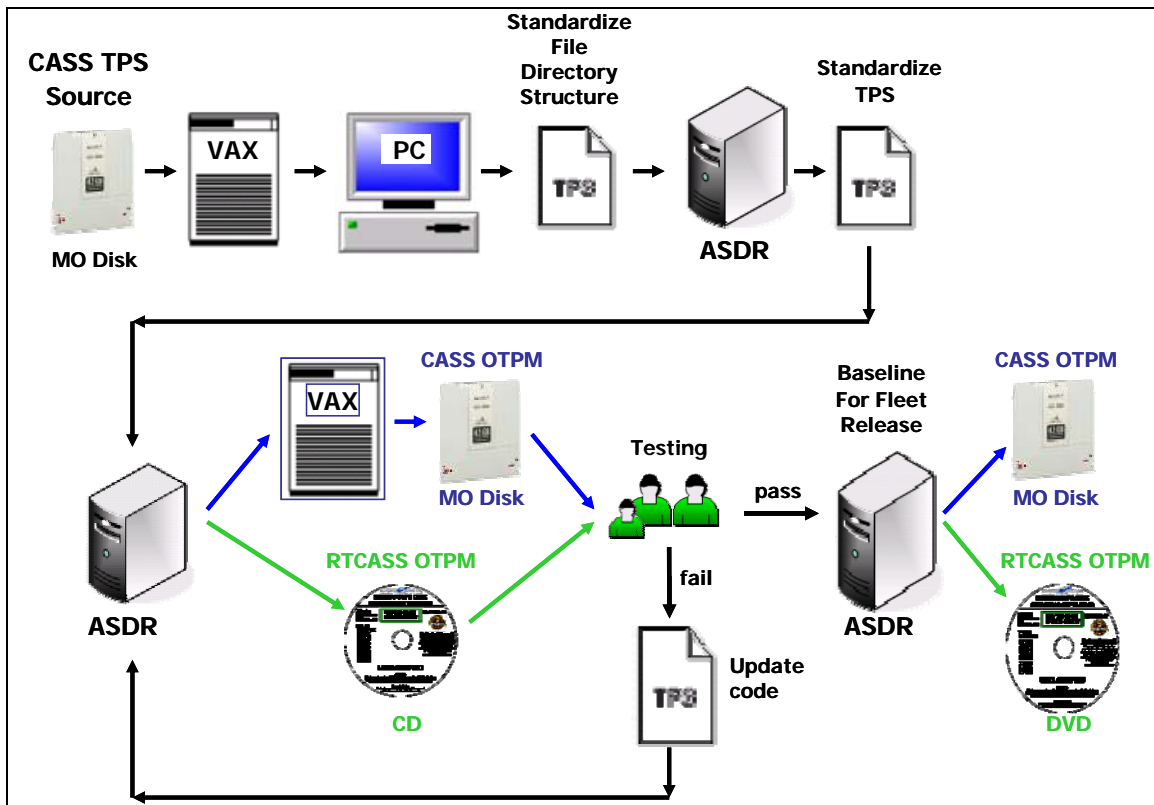


Figure 4 – OTPS Migration Process

Attachment 4 presents a detailed flowchart of the OTPS Migration process and PM responsibilities.

3.11 OTPS Sustainment

Sustainment involves the supportability of fielded OTPSs during the Operations & Support phase of the DoD 5000 model (shown in Figure 5). Sustainment begins when any portion of the production quantity has been fielded for operational use.

Per SECNAVINST 5400.15B, weapon system PMs will establish IPTs to execute their responsibilities, including in-service support.

From DoDI 5000.02: Life-cycle sustainment considerations include initial provisioning; supply; maintenance; transportation; sustaining engineering; data management; configuration management; environment, safety, and occupational health; inventory management; supportability; and interoperability.

As specifically related to OTPS sustainment, functions required to be performed include hardware and software configuration management, inventory management (including interfacing with Fleet users), in-service engineering, data management, and OTPS maintenance.

4.0 OTPS Development and Initial Deliveries

4.1 OTPS Requirements

OTPS development requirements are contained in the following series of documents:

- The CASS Operational Requirements Document (approved 3 July 2001) includes OTPS Key Performance Parameters in Appendix (A), “Guidance for OTPS Development in Support of Weapons Systems Tested on CASS”.
- MIL-PRF-32070, “Performance Specification, Test Program Sets”, provides detailed technical requirements for development of TPSs.
- The NAVAIR Generic OTPS RFP (AKA Red Team Package or “NGOR”) tailors MIL-PRF-32070 and adds specific Navy requirements for development of CASS TPSs. It contains the following elements:
 1. Language for contract Sections B through M
 2. Attachments:
 - (1) SOW for Intermediate Level TPS/OTPS Development for UUTs for Use with CASS
 - (1a) SOW Appendix A - UUT Listing
 - (2) Performance Specification Supplement (Addendum to MIL-PRF-32070)
 - (3) General Acceptance Test Procedure (GATP) For TPS/OTPS
 - (4) Technical Data Package (TDP) Contract Requirements
 - (5) Technical Manual Contract Requirements (TMCR)
 - (6) Provisioning Statement of Work (PSOW)
 - (7) Addressee List
 - (8) Distribution Statements
 - (9) DD Form 254 (Contract Security Classification Specification)
 3. Contracts Data Requirements Lists (CDRLs)
- DoDI 8500.2P, “Information Assurance (IA) Implementation”, provides information on Mission Assurance Category II software/application IA controls that must be incorporated during OTPS development. An IA control is defined as an objective IA condition of integrity, availability, or confidentiality achieved through the application of specific safeguards or through the regulation of specific activities that is expressed in a specified format. Each IA Control is uniquely named and formally catalogued, and can therefore be referenced, measured, and reported against. As such, it will be the responsibility of the software engineers to discover how to incorporate the applicable IA controls.

TPSs targeted for use on RTCASS are initially developed, integrated and accepted on mainframe CASS because RTCASS was not designed to serve as a TPS development platform.

Compatibility of these TPSs with RTCASS is verified prior to final TPS acceptance and delivery to CASS and RTCASS.

4.2 OTPS Development Products and Data

The OTPS development process provides OTPS products for the end users (e.g., the Fleet) as well as OTPS products and data for OTPS sustainment. The standard OTPS development products/data are listed in Table 2. Some OTPS related data listed in Table 2 are kept for sustainment purposes while others are stored for reference or historical purposes.

OTPSs may also contain supplemental software and/or documentation beyond those listed in Table 2. For example, additional software on separate media may be needed to repopulate memory within UUTs after testing and repairs are complete. Also, OTPI Supplements in hardcopy format are typically used to manage and distribute classified data associated with TPSs rather than embedding classified data within TPS software. None of the CASS OTPMs are classified.

Platform representatives are responsible for maintaining the product baseline of the OTPS throughout the life cycle of the OTPS consistent with the latest specifications, standards and acquisition guidance.

Configuration Items (CIs)		Prepared By TPS Dev.	Prepared By Gov't	Fleet Delivery	Sustaining CI and Data	Reference Data	Description/Comments
OTPS Hardware and Software	OTPH	X		X	X		Sets of OTPH. Includes ID, Test Fixtures, Holding Fixtures, Cables, etc.
	OTPM	CASS	X		X	X	MO disk containing TPS executable code and MTPSI data.
		RTCASS	X		X	X	DVD containing OTPS executable code and MTPSI data. Merged by gov't onto RTCASS TPS disk, which is reproduced and distributed by gov't.
OTPS Data	MTPSI	CASS	X		X	X	*.tpsi files (included in TPS source data)
		RTCASS	X		X	X	*.uut files (included in RTCASS OTPM)
	OTPI	X		X	X	CD containing OTPI in PDF format.	
	OTPH TM	X		X	X	Fleet version on CD in PDF format; distributed via Naval Air Technical Data and Engineering Services Command (NATEC) web site and Automatic Data Requirements List (ADRL).	
	ULSS		X	X	X	In PDF format.	
	Technical Data Package (TDP)	X			X	Includes source data and copy of JEDMICS files.	
	TPS Software Source Data	X			X	Includes build files/procedures, unique software tools, etc.	
	MTPSI Source Data	X			X	*.tpsi files in CASS OTPM and *.uut files in RTCASS OTPM. Also in TPS software source data.	
	OTPI Source Data	X			X		
	OTPH TM Source Data	X			X	Developed IAW MIL-STD-3001	
	ULSS Source Data		X		X		
	Engineering Support Data	X			X		
	Logistics Management Information (LMI) Data	X			X		
	Maintenance Plan (MP)	X			X	Signed MP in Microsoft Word format	
	CIP Data		X		X	Resident in CIP database	
	SERDs	X			X	Resident in SEMS database	
	Interim Support Items List	X				X	
	TECHEVAL Report		X			X	
	PPAT Report	X				X	
	Fleet Introduction Report	X				X	
	Production Status Report	X				X	
	Program Progress & Milestones		X			X	
	Cost Schedule Status Reports		X			X	Final delivery in ASDR
Statement of Prior Submission		X			X		
OPSEC Plan		X			X		

Table 2: OTPS Products and Data

4.3 Deliveries of OTPS Products and Data

4.3.1 Initial Deliveries from Developers

The TPS developer and Government Acceptance IPT are responsible for delivering the OTPS CIs (i.e., products and data) indicated in Table 2. All products from the TPS developer are delivered and received per the NAVAIR Generic OTPS RFP CDRLs.

All but the following OTPS products and data will be entered into ASDR to establish a data baseline placed under CM control:

- OTPH – Delivered/received per direction of cognizant PM (e.g., sent to staging facility, final Fleet destination, etc). The SERMIS process must be used to log and track all OTPH deliveries.
- SERDs – Will be entered by Government Acceptance IPT into SEMS.
- CIP data – Will be forwarded by Government Acceptance IPT to PMA260 for inclusion in the CIP database.

4.3.2 Initial Outfittings

An organization designated by the cognizant PM is responsible for coordinating the delivery of all TPS products to end users per Commander, Naval Air Forces (CNAF) / Type Commander (TYCOM) direction. The associated software and data may be incrementally reproduced, packaged, and shipped in parallel with the OTPH to end users.

The PM-designated organization will ensure that the correct versions of all OTPS components and data are delivered to the end users as follows:

- OTPH – Delivered as directed by cognizant PM and CNAF/TYCOM. The SERMIS process must be used to log and track all OTPH deliveries.
- OTPM
 - CASS – Per cognizant PM direction, software media are reproduced in sufficient quantity and delivered to Fleet sites with CASS stations as sets of corresponding OTPH are delivered. The cognizant PM directs “limited” release of OTPM to specific sites as required.
 - RTCASS
 - Per PMA260 direction, RTCASS TPS executables are merged into the RTCASS TPS DVD, part number (P/N) RT-TPS-xxx (which contains all RTCASS TPSs), then reproduced and delivered to Fleet sites. PMA260 directs "limited" release of RTCASS TPS DVD to specific sites as required.
 - or
 - Per weapon system PM direction, PM representatives may build/reproduce/deliver OTPM for OTPS Initial Operational Capability (IOC)

events. See Note 2 below. This software will be distributed on the next periodic release of the RTCASS TPS DVD, P/N RT-TPS-xxx.

- OTPI
 - CASS – Reproduced and delivered with OTPM.
 - RTCASS
 - Per PMA260 direction, merged into the RTCASS TPS DVD, P/N RT-TPS-xxx (which contains all RTCASS OTPIs) and delivered as described above.
 - or
 - Per weapon system PM direction, PM representatives may build/reproduce/deliver OTPI as part of the OTPS IOC. See Note 2 below. This OTPI will be distributed on the next periodic release of the RTCASS TPS DVD, P/N RT-TPS-xxx.

- MTPSI
 - CASS – Deliverable (i.e., paper, CD) produced from MTPSI source data (*.tpsi) files and delivered to Fleet as required.
 - RTCASS
 - Merged into the RTCASS TPS DVD, P/N RT-TPS-xxx (which contains all RTCASS MTPSI data) and delivered as described above.
 - or
 - PM representatives may build/reproduce/deliver MTPSI as part of the OTPS IOC. See Note 2 below. This MTPSI data will be distributed on the next periodic release of the RTCASS TPS DVD, P/N RT-TPS-xxx.

- TM – PDF to NATEC for reproduction/distribution to all sites.

- ULSS – Reproduced and distributed by Government Acceptance IPT to Fleet with initial OTPH only.

- Supplemental Data – Any supplemental OTPS software and documentation (e.g., Supplemental OTPI), including classified, will be distributed by the weapon system PM representatives.

Note 2: When directed by weapon system PM, PM representatives may distribute OTPMs, OTPIs, and MTPSI data for IOC events IAW the following process:

- a. Milestone Decision Authority (MDA) declares IOC
- b. PM representatives:
 1. Accept TPS source code from developer
 2. Upload ASDR with source code
 3. If necessary; build/test/reproduce one or more distributable disks for RTCASS TPS IOC events containing:
 - OTPS software
 - OTPI

- MTPSI
4. Inscribe unique P/N(s) on disk label(s). These P/Ns are temporary identifiers that adhere to the following format:

RTTPSaaa-bb-xxx

where:

"aaa" - represents the applicable weapon system PM's numerical identifier (e.g., "209" for PMA209)

"bb" - represents a two-character-long integer (with a leading zero, if necessary), unique for each disk. Typically, this number will be "01" for each PM's first disk and will be incremented by one for every new disk. If more than 99 disks are assigned temporary P/Ns, then the dash ("-") preceding "bb" should be replaced by a third integer, allowing "100", etc. to be used.

"xxx" - represents the disk's version number, a three-character-long integer (with leading zeros). Ideally, this number will be "001" for the first version of each disk and will be never be incremented.

5. Release IOC naval message
 6. Distribute RTCASS TPS IOC OTPS disk(s) to sites
 7. Forward copy of disk(s) to ASDR
- c. PMA260 representatives:
1. Merge new OTPM, OTPI, and MTPSI data into RT-TPS-xxx disk
 2. Release updated RT-TPS-xxx disk via a TD, which indicates disposal of each temporary OTPS disk explicitly identified by (temporary) P/N.

5.0 OTPS Sustainment

An introduction to OTPS sustainment is in Section 3.11.

5.1 OTPS Sustainment Responsibilities

The cognizant PM and their representatives are responsible for sustainment of OTPS products and data. Weapon system PMs are responsible for their respective PSE OTPS CIs. PMA260 is responsible for sustainment of CSE OTPS CIs, ASDR, common ATS hardware, station software, support software, maintenance software, documentation, and related data.

PM representatives are responsible for:

- Maintaining OTPS CIs IAW the processes documented herein and the following documents, which are available on the PMA260 web site:
 - CASS User's Guide for TPS Developers (AKA T00K)
 - CASS Station Interface and GPI Pin-out Data (Appendix C of T00K)

- Prime Item Development Specification for CASS (AKA CASS B1 Spec)
- Requirements Verification Traceability Matrix (RVTM) - performance and verification requirements specification for RTCASS
- NAVAIR Generic OTPS RFP (AKA Red Team Package)
- PMA260 CM Plan for Aviation Support Equipment
- ASDR CM Users Guide
- TPS Advisories
- Reporting any problem with the CIs listed in Attachment 1 via CASS/RTCASS System Problem Report (SPR) to PMA260D2. The "CASS/RTCASS SPRs" link on the PMA260 web site can be used to access this database.
- Ensuring their respective data within ASDR is current with, or more advanced than, the latest Fleet release. Sites that use ASDR for CM workflow (e.g., check-in, check-out) will routinely have OTPS data within ASDR that is beyond the latest Fleet release.
- Providing ASDR with thorough descriptions of, and all relevant, supporting data about each software update. This includes a completed VDD form (shown in Attachment 2) and the following:
 - A copy of all affected source data including an updated MTPSI *.tpsi file and build files/procedures
 - Difference listings that readily identify the specific changes (before and after) made to each source file
 - A copy of each applicable reference document (e.g., Engineering Investigation Request, software change request (SCR), Support Software Change (SSC)/Technical Directive (TD) describing the relevant problem(s) and solution(s)
 - Updated header information in the main TPS program that provides appropriate revision information.
 - Updated comments field near the affected code change that describes the code change rationale IAW best software CM practices.
 - Test results (e.g., electronically-captured, end-to-end runs of all updated TPS software on the targeted ATE) that demonstrate the code changes were successfully implemented without negative consequences
 - A zipped copy of all affected CASS-compatible TPS executable code as it appears on the Fleet release MO disk (i.e., in back-up saveset *.BCK format)
 - A zipped copy of all affected RTCASS-compatible TPS executable code as it should appear on a Fleet-distributable disk
- Ensuring their respective data within the CIP is current and accurate; any needed changes must be relayed to PMA260D2.
- Working with PMA260 representatives to identify and maintain all peculiar software tools used to sustain their respective OTPS CIs.
- Establishing depot rework capability per NAVAIRINST 13680.1C (“DEPOT LEVEL REWORK PROGRAM FOR SUPPORT EQUIPMENT END ITEMS”) for OPH if required.
- Managing and delivering all OTPS supplemental software and documentation, including classified, using existing processes.

5.1.1 CASS Family Sustainment OIPT

The CASS Family Sustainment Overarching Integrated Product Team (OIPT) ensures a systems level approach is taken during sustainment of the CASS Family. This OIPT is depicted in Figure 6. OIPT membership includes the Director of Logistics (DOL) or their designated representative from every applicable weapon system PMA as well as stakeholders from the CASS Family FSTs and the CASS SSA. This OIPT is chaired by the PMA260 DOL with direct interface with the Platform PMA DOLs or their designated representatives and other agencies concerning their respective OTPSs. The OIPT Functional Chair is the PMA260 CASS Class Desk or their designated representative. The OIPT Functional Chair primarily provides guidance to the platform representatives, especially regarding certain deficiency reports and their resolution. This functional chair is supported by subject matter experts (SMEs) who have extensive knowledge about ATE capabilities, OTPS development, test strategies, etc., and is the facilitator for tasking SMEs in support of the OIPT.

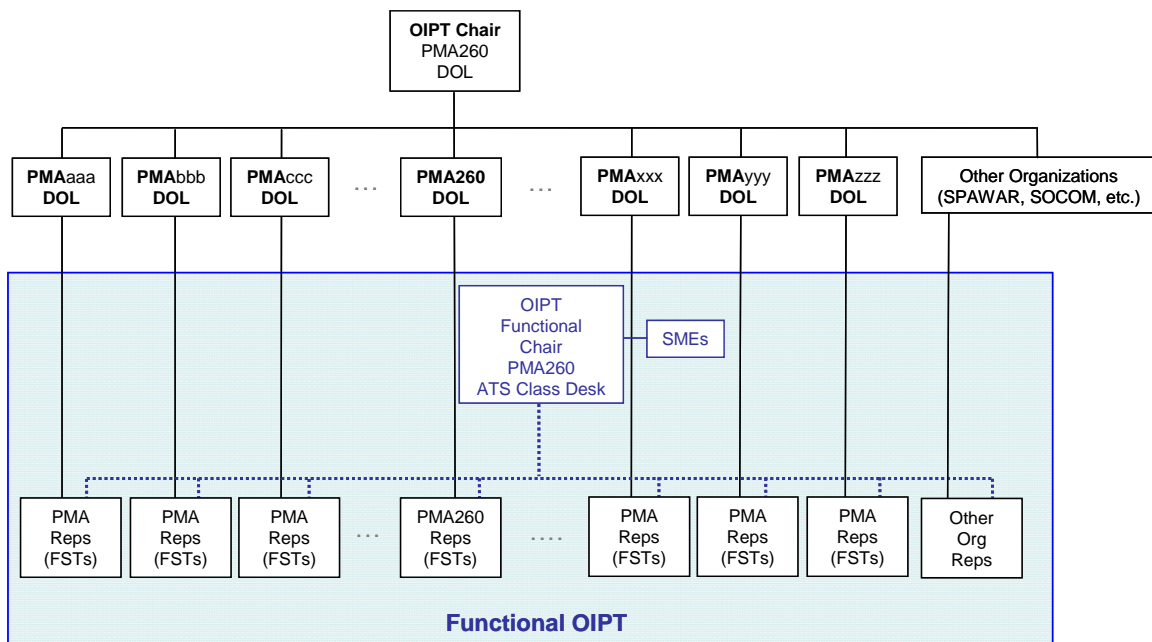


Figure 6 – CASS Family Sustainment OIPT

5.2 OTPS Products and Data

5.2.1 Configuration Items

Table 2 identifies the types of OTPS products and data that are sustained.

The following CIs will be updated and/or replenished by the cognizant PM's representatives as needed to meet user end requirements:

- OTPM
- MTPSI
- OTPI
- ULSS
- OTPH TM
- OTPH

The following CIs will be sustained by the cognizant PM's representatives, as needed, to help meet near and long term weapon system/ATS program objectives:

- TDP
- TPS Software Source Data, including MTPSI Source
- OTPI Source Data
- OTPH TM Source Data
- ULSS Source Data
- Engineering Support Data
- LMI Data
- Maintenance Plan
- CIP Data
- SERDs
- Historical Archives (CDRL deliverables, Government documents/reports)

5.2.2 Configuration Baseline

The configuration baseline for each OTPS shall be maintained as directed by the applicable PM.

ASDR is initially populated with the baseline CIs through:

- delivery by a TPS Developer and Government Acceptance IPT as described in Section 4.4
- upload of data for currently fielded OTPSs by the applicable PM or PMA260 representatives
- OTPS migration as described in Section 3.10 and acceptance by the applicable PM representatives

Once an OTPS baseline is established in ASDR, this baseline will be maintained to reflect the latest Fleet version or beyond. Platform Representatives that also use ASDR as a tool for internal CM workflow (e.g., check-in, check-out) will routinely have OTPS data within ASDR that is beyond the latest Fleet release (i.e., incremental baseline).

All OTPS source data CIs in ASDR will be maintained on a file-by-file basis to ensure traceability of all changes.

5.3 OTPS Sustainment Requirements

PM representatives will sustain OTPS products and data IAW the processes documented herein and the following documents:

- CASS User's Guide for TPS Developers (AKA T00K)
- CASS Station Interface and GPI Pin-out Data (Appendix C of T00K)
- Prime Item Development Specification for CASS (AKA CASS B1 Spec)
- RVTM - performance and verification requirements specification for RTCASS
- NAVAIR Generic OTPS RFP (AKA Red Team Package)
- PMA260 CM Plan for Aviation Support Equipment
- ASDR CM Users Guide
- CASS TPS Advisories

In addition, OTPS CIs are subject to their respective PM's program-peculiar guidance and requirements (e.g., Platform CM Plan), none of which should conflict with the processes documented herein or the documents listed above.

5.4 OTPS Sustainment Tools

Attachment 1 lists hardware, software, and documentation used to sustain CASS OTPSs. PMA260 through the OIPT will assist PM representatives in obtaining and maintaining the tools necessary for initial FST stand-up and sustainment of these tools.

PM representatives are required to obtain, if necessary, and maintain all peculiar hardware (e.g., VAX support computer), software, and documentation needed to sustain their respective OTPSs.

5.5 OTPS Change Processes

5.5.1 Change Control Boards (CCB)

All OTPS changes shall be processed IAW the weapon system PM CM Plan and approved via the NAVAIR Change Control Board (CCB) or other authorized change control authority.

In an effort to streamline the Support Equipment (SE) change process, AIR-1.1 chartered PMA260 as a Decentralized Change Control Board (DCCB) authority for SE software changes which do not have any hardware impact. This designation is IAW NAVAIRINST 00-25-300, Section 2.3 and NAVAIRINST 4130.1D, Section 5.4.3.

Weapon system representatives have the option of processing SE software only changes via the PMA260 DCCB, the NAVAIR CCB or other authorized DCCBs. Any PSE OTPS software changes not processed via the PMA260 DCCB will be routed to PMA-260 for concurrence/information (to assess potential CSE impacts) as an associate member of the NAVAIR CCB IAW NAVAIRINST 4130.1D, Section 5.5.1.

All other OTPS changes (i.e., those that affect hardware) will still require approval through the normal NAVAIR Change Control Board (CCB) or other approved change control authority. In

the case that an OTPS software change is part of an overarching ECP which does have hardware impact, the OTPS software change should be addressed by the overarching ECP. The ECP will then be routed for concurrence/information to PMA260 as an associate member of the NAVAIR CCB IAW NAVAIRINST 4130.1D, Section 5.5.1.

Regardless of the applicable CCB, all changes that affect OTPS software that is used in conjunction with the CASS Family of ATE require PMA260 oversight and concurrence.

5.5.2 OTPH Changes

Any proposed OTPS change that involves a change to hardware (OTPH) that affects form, fit, or function must be documented and processed as a Class I ECP. These ECPs must address all impacts to all affected OTPS CIs (e.g., OTPH TM) and must be approved through the normal NAVAIR CCB or other approved change control authority. Only ECPs with corresponding changes to OTPS software will be routed for concurrence/information to PMA260 as an associate member of the NAVAIR CCB IAW NAVAIRINST 4130.1D, Section 5.5.1.

Approved OTPH changes along with any corresponding CASS OTPS software updates are usually packaged as change kits and released via Support Equipment Change (SEC) Technical Directives (TDs) IAW NAVAIR 00-25-300, Section 3.4.19. Corresponding RTCASS OTPS software updates will be part of the next scheduled RTCASS TPS release distributed via a SSC TD IAW NAVAIR 00-25-300, Section 3.4.19.

A Rapid Action Minor Engineering Change (RAMEC) can be used to authorize and direct end users (e.g., Fleet sites) to incorporate approved OTPH changes if those changes can be implemented by using only materials commonly on-hand at each site and/or readily available through normal supply channels. RAMECs are issued via SEC TD naval messages.

5.5.3 OTPS Software Changes

A proposed OTPS software change that does not involve a hardware change must be documented and processed as a Software ECP IAW the PM's CM Plan or an SCP IAW the PMA260 CM Plan for Aviation Support Equipment when using the PMA260 DCCB. These ECPs and SCPs must address all impacts to all affected OTPS CIs. Platform representatives have the option of processing software-only ECPs via the NAVAIR CCB or a chartered DCCB but all PSE with a potential CSE impact will be routed for concurrence/information to PMA260 as an associate member of the NAVAIR CCB IAW NAVAIRINST 4130.1D, Section 5.5.1. The PMA260 CM Plan for Aviation Support Equipment contains a copy of the SCP form and describes the SCP process. SCPs are submitted to the PMA260 DCCB for approval. An approved OTPS "software-only" change is released as a SSC TD IAW NAVAIR 00-25-300, Section 3.4.19. CASS-compatible OTPS software updates (unrelated to hardware changes) are packaged as SSC kits and include any corresponding updated OTPI and CASS MTPSI cards. Corresponding RTCASS-compatible OTPS software updates (unrelated to hardware changes) will be included in the next scheduled RTCASS TPS release.

OTPS software changes will incorporate applicable DoDI 8500.2P Mission Assurance Category II software/application IA controls per Section 4.2.

CASS OTPM Fleet releases will be scheduled on an as-needed basis.

RTCASS OTPM (P/N RT-TPS-xxx) Fleet releases will be scheduled on a periodic (e.g., quarterly) basis or when warranted by RTCASS System Software updates. Information about each scheduled release, including its cut-off date for submission of updated TPSs, will be formally disseminated to all stakeholders by email. TPS updates that do not meet the cut-off date for one scheduled release will normally be incorporated into the following release. Emergent requirements will be communicated by the relevant PM representatives to PMA260 representatives. When required, a "limited" release of the RTCASS TPS media (P/N RT-TPS-xxxLx) may be issued by PMA260 to selected sites on a case-by-case basis.

5.5.4 OTPS Documentation Changes

Any proposed OTPS documentation (e.g., OTPH drawing, OTPH TM) change related to a hardware change must be addressed in the relevant Class I ECP described in Section 5.5.2.

OTPI changes unrelated to a hardware change are processed as described in Section 5.5.3.

MTPSI data changes unrelated to a hardware change must be updated in the applicable OTPS software. The MTPSI card(s) are included in the subsequent SSC kit described in Section 5.5.3. Changes to both software and cards must meet standard MTPSI requirements defined in Appendix J of the CASS User's Guide for TPS Developers.

Updates to the TDP should only result from a properly documented ECP. A proposed TDP change that does not involve a Class I ECP is documented and processed as a Class II ECP as directed by the cognizant PM's CM Plan. Class II ECPs will not impact the OTPM or OTPI.

Proposed OTPH TM changes are documented, tracked and processed by the applicable PM representative via Technical Manual Source Data Record (TMSDR). When a TM change is deemed to be urgent, the cognizant PM representative pushes an Interim Rapid Action Change (IRAC) or electronic Rapid Action Change (eRAC) to the Fleet, providing updated data in advance of the formal TM update. After all appropriate TM changes have been incorporated into the editable TM source data and a distributable version of the TM is made, the cognizant PM representative pushes the updated TM to NATEC for distribution and archiving.

5.5.5 Validation of Updated OTPS Products

Validation of updated OTPS products must be conducted to ensure suitability for Fleet release. OTPS validation methods include analysis, test sampling, and/or full verification OTPS end-to-end/diagnostics testing. Validation will be the responsibility of the functional OIPT. Although the OIPT member who introduced a particular OTPS change is primarily responsible for its validation, the other affected OIPT members must be notified and, when appropriate, involved

with validation efforts. Regression testing will be coordinated through the OIPT and results will be shared.

Weapon system PM representatives will be responsible for validating their proposed TPS software changes for all applicable ATE variations (e.g., CASS and RTCASS).

PMA260 will be primarily responsible for validation of distributed RTCASS TPS software changes caused by RTCASS conversion tool changes; however, the affected OIPT stakeholders may take active roles in validation of the executable TPS code.

Regardless of the origin of the TPS changes, all validation efforts will be accomplished via the OIPT to ensure a systems level approach is taken and to avoid adverse impacts to software release schedules. All validation results will be documented, submitted to ASDR, and communicated by email to all affected OIPT functional stakeholders. All required validations will be performed prior to TD verification.

5.5.6 Technical Directive (TD) Verification

TD verification must be conducted IAW NAVAIR 00-25-300.

5.6 Distribution of Updated OTPS Products and Data

Updated OTPS components, related end items, and data will be distributed as follows:

- OTPH Changes – Will be distributed/incorporated via RAMEC or SEC TD at the direction of the cognizant PM. The SERMIS process must be used to log and track all OTPH shipments that affect the serial numbers, part numbers or quantities of CIs at an end user site.
- OTPM
 - CASS – Reproduced and distributed per direction of the cognizant PM.
 - RTCASS – TPS executables merged into RTCASS TPS DVD (containing all RTCASS TPSs), then reproduced and distributed on a periodic basis by PMA260. PMA260 may direct "limited" release of RTCASS TPS DVD to specific sites to meet high-priority requirements.
- OTPI
 - CASS – Reproduced and distributed per direction of the cognizant PM.
 - RTCASS – TPIs merged into RTCASS TPS DVD.
- MTPSI data (CD, card(s), etc)
 - CASS – Reproduced and distributed per direction of the cognizant PM
 - RTCASS – Embedded in OTPM. Separate delivery not required. Viewed or printed by end users on-demand.
- Supplemental software and documentation – Reproduced and distributed per direction of the cognizant PM.

- TM
 - Platform representative provides NATEC with the updated TM. NATEC pushes the updated TM to Fleet activities via the Automatic Distribution Requirement List (ADRL), loads a copy into TMAPS and pushes a copy of the PDF file to its data repository for archival purposes.
 - Partial TM updates may be issued by the cognizant PM representative as Interim Rapid Action Changes (IRACs) until they are replaced by the next full TM release. IRACs are issued as naval messages IAW NAVAIR 00-25-100, the Naval Air Systems Command Technical Manual Program. Extensive IRACs and/or those with figures/illustrations are also issued in hardcopy format.

- ULSS – Reproduced and distributed by cognizant PM representative

- TDP/Drawings – The cognizant PM representative pushes updated TDPs (editable native source files and PDF images) to ASDR and JEDMICS (C4 raster scan format file or PDF image) IAW the NAVAIR Technical Data Package Acquisition Guide (Air-3.3, 11 May 2004).

- CIP Data – Pushed by cognizant PM representative to PMA260
 - TPS Software Source Data – ASDR and, if applicable, PM-assigned configuration manager
 - MTPSI Source Data – ASDR and, if applicable, PM-assigned configuration manager
 - OTPI Source Data – ASDR and, if applicable, PM-assigned configuration manager
 - OTPH TM Source Data – ASDR and, if applicable, PM-assigned configuration manager
 - ULSS Source Data – ASDR and, if applicable, PM-assigned configuration manager
 - Engineering Support Data – ASDR and, if applicable, PM-assigned configuration manager
 - LMI Data – ASDR and, if applicable, PM-assigned configuration manager
 - Maintenance Plan – ASDR and, if applicable, PM-assigned configuration manager
 - SERDs – SEMS database

The term “TPS software source data” above also includes build files as described in Table 2. ASDR should also be updated with a copy of the delivered end items (e.g., CASS TPS executable code) as described in Section 5.1.

All updated OTPS CIs sent to Fleet sites should be addressed to "CTPL/QA" at Fleet sites for inventory tracking purposes.

5.7 OTPM Update Process Summary

The following is a summary of steps taken by weapon system PM representatives and the OIPT to update OTPS software source code:

- a. Pull applicable TPS source data from CM baseline library
- b. Make appropriate changes to source data
- c. Build updated CASS (Blue) and RTCASS* (Green) TPS disks
- d. Validate changes for CASS and RTCASS*
- e. Generate and submit SCP/ECP and draft TD for CASS (Blue) release
- f. Update ASDR as described in Section 5.1
- g. Verify CASS (Blue) TD
- h. Reproduce and ship CASS (Blue) disk and TD to Fleet Sites

* when applicable

The following is a summary of steps taken by PMA260 representatives for a quarterly RTCASS OTPM release:

- a. Establish proposed list of changes for next quarterly RTCASS TPS release
- b. Ensure ASDR contains the required TPS source code and related data (e.g., VDD)
- c. Assess RTCASS system software changes (e.g., VDD) for possible impact on TPSs
- d. Pull applicable TPS source code from ASDR
- e. When applicable, run pertinent TPS source code through conversion tool and assess for impacts
- f. Run DTU assessment tool if RTCASS DTU COTS software or TPS conversion tool have changed
- g. Engineering team assess TPS risk areas (high, medium, low)
- h. Build RTCASS TPS DVD using relevant system software
- i. Validate updated software (e.g., OIPT coordinate TPS regression testing on selected TPSs)
- j. Ensure TPS run sheets are captured, if applicable
- k. Update CIP to identify TPSs approved for RTCASS, if changed
- l. Generate SCP and draft TD
- m. Update ASDR (e.g., TPS Green code)
- n. Build final media (i.e., RT DVD, P/N RT-TPS-xxx)
- o. Verify TD
- p. Submit SCP and draft TD to PMA260
- q. Upon signature of SCP and release of TD by PMA260, reproduce and ship disks to Fleet sites

5.8 Interim Changes and Work-Arounds

Other than IRACs and eRACs, interim changes to fielded CIs shall not be released to end user sites.

To mitigate a problem with fielded OTPS software and/or hardware, PM representatives may, upon weapon system PM direction, issue a temporary workaround procedure (TWP) via naval message and accompanying hardcopy (if required). These paper-only TWPs authorize end user sites to work around existing problems with fielded OTPS elements until an official update can be processed and released via TD. TWPs are not a method of releasing software CIs to end users and are not to be used for distributing software OTPM changes to end user. Each TWP shall have a unique identifier (i.e., part number) for CM and tracking purposes and shall not remain active for more than one year. The TD that renders a TWP obsolete shall state that the TWP has been superseded. Any TWP that has not been resolved within twelve months from its release shall be reissued.

5.9 Configuration Status Reporting

PM representatives shall maintain a list of all of their program's current Fleet release versions of OTPMs, OTPIs, MTPSI decks (if applicable), and OTPH TMs. The list shall also include all outstanding TWPs and IRACs. This configuration status information shall be made available to all end users.

5.10 Discrepancy Reports and Their Resolution

5.10.1 Discrepancy Reporting

There are multiple methods available to identify and report OTPS related discrepancies. Many of these methods can also be used to identify and submit proposed enhancements to a single or a multitude of OTPSs.

Various entities can identify deficiencies with OTPS CIs, including ATE developers, TPS developers, CASS technical working group (TWG) members, engineering activities, FSTs, NATEC representatives, FMS customers, and Fleet users.

IAW CNAFINST 4790.2A, the Fleet officially reports discrepancies with OTPSs exclusively as engineering investigation (EI) requests, product quality deficiency reports (PQDRs), and technical publication deficiency reports (TPDRs).

EIs and PQDRs are submitted IAW CNAFINST 4790.2A using the Joint Deficiency Reporting System (JDRS), which is accessible via web site:

<https://jdrs.mil>

TPDRs are submitted IAW CNAFINST 4790.2A using the Technical Manual Application System (TMAPS) available via the NATEC web site:

<https://mynatec.navair.navy.mil>

Users may propose an enhancement to a single OTPS or all OTPSs via naval message, during Fleet user forums, boots-on-the-ground inspections, etc. For example, many of the CASS Fleet Support Review (FSR) Action Chits identify proposed OTPS enhancements. The database for FSR action chits is on the PMA260 web site portal (<https://pma260.navy.mil>). PMA260 will forward the action chit to the OIPT for processing.

Non-Fleet users may report OTPS deficiencies via the PMA260 web site.

PMA260 has developed an OTPS SPR Database which is available at the PMA260 web site for the purpose of reporting deficiencies identified during sustainment of PMA260 CASS Family products.

PM representatives shall record and track all types of deficiencies with their respective OTPSs. This information shall be made available to the CASS Family Sustainment OIPT.

5.10.2 Handling Discrepancies

Discrepancies will be handled IAW the following procedures utilizing the CASS Family Sustainment OIPT depicted in Figure 6. In addition, all EIs and PQDRs will be processed IAW CNAFINST 4790.2A and established processes. Discrepancy handling involves initial investigation through discovery of its root cause and its proposed resolution.

All OTPS discrepancies are routed to the cognizant PM representatives for initial investigation. The cognizant representative will inform (via email, inclusion in INFO list on EI responses, etc.) the OIPT Functional Chair of the discrepancy and the progress of its investigation. The OIPT Functional Chair will involve all appropriate stakeholders under the OIPT and will ensure that a systems-level approach is taken in the proposed resolution. The OIPT Functional Chair may also provide SMEs, as appropriate, to assist in investigations, root cause determination, and development of proposed resolutions, including depot rework. Any conflict or issue at the functional level OIPT will be reported to the OIPT chair for coordination with applicable Platform PMA DOL(s).

PMA260 may lead the investigation/resolution of specific OTPS-related discrepancies or proposed enhancements using the functional OIPT. For example, an FSR action chit that describes a proposed enhancement to many or all OTPSs would typically be led by PMA260, and implementation would be coordinated with all affected PM representatives. OTPS Migration described in Section 3.10 is an example of a major OTPS enhancement effort led by PMA260.

Functional OIPT representatives of each PMA will have visibility into the status of all discrepancies being worked by the functional OIPT, fostering communication of systemic problems and reinforcing accountability for all reported problems. Functional OIPT representatives will be given accounts for the CASS/RTCASS SPR database, which stores details about:

- CASS/RTCASS station software and support software problems, proposed enhancements, and resolution status
- OTPS problems identified by PMA260 representatives (i.e., ATE Engineers)

Platform PM representatives will ensure the OIPT Functional Chair is carbon copied on all EI responses. In addition, PM representatives must ensure the OIPT Functional Chair is informed of all other deficiencies with their respective OTPSs tracked via local procedures/databases.

The proposed resolution of each discrepancy will be forwarded to the appropriate PM and the OIPT Functional Chair for review. The appropriate PM(s) will make the final implementation decisions.

The OIPT Functional Chair will assist the coordination of resolutions involving multiple PMAs.

Proposed resolutions that will not be implemented due to limited funding/resources will be tracked as unresolved problem reports as described in Section 5.9.1. Investigation results may avoid future investigations of the same problem by keeping all stakeholders informed about known, unresolved problems. Solutions to unresolved problems may be implemented at a future date.

Discrepancies or resolutions involving external interfaces (e.g., training, CASS, facilities) beyond OTPS CIs will be coordinated by the OIPT Chair.

5.10.3 Implementing Discrepancy Changes

IAW PM direction, all approved OTPS changes will be implemented into all affected CIs listed in Section 5.2.1. Changes will be documented, processed, and validated as described in Section 5.5.

Attachment 1 - CASS Family OTPS Development/Sustainment Tools and Equipment

Development or sustainment of an OTPS for the CASS Family of Testers requires access to a variety of documentation, hardware, and software tools.

PMA260 is responsible for maintaining and providing PM representatives with access to or copies of the items listed in Table 1 below.

PMA260 will work within the CASS Family Sustainment OIPT to help obtain and support any peculiar tools not listed in Table 1 that are used to sustain CASS OTPSs. This list of known peculiar tools used to support CASS Family OTPSs will be populated and maintained with the assistance of representatives from all CASS Family Sustainment OIPT members and will be made available on the PMA260 web site.

Table 1: PMA260-Maintained Tools and Equipment

Tools and Equipment	ATE Configuration	Ancillary		Software	Documentation	Description/Comments
CASS User's Guide for TPS Developers					X	AKA T00K. Contains multiple volumes and appendices. Part of CASS Test Program Set Developers Hypertext Guide (THG).
CASS Station Interface and GPI Pinout Data					X	AKA T00K Appendix C. Part of CASS THG.
Prime Item Development Specification for CASS					X	AKA CASS B1 Spec. Part of CASS THG.
Software User's Manual (SUM) for Support Software (SUPR)					X	Part of CASS THG
Tailored Version - SUM for the Station Control Software (SCSW)					X	Part of CASS THG
Tailored Version - SUM for the Intermediate Maintenance Operations Management System (IMOM)					X	Part of CASS THG
Requirements Verification Traceability Matrix (RVTM)					X	Performance and verification requirements specification for RTCASS
NAVAIR Generic OTPS RFP					X	AKA Red Team Package
PMA260 CM Plan for Aviation Support Equipment					X	
ASDR Basic Users Guide					X	
ASDR CM Users Guide					X	
RTCASS Technical Manuals					X	
CASS Technical Manuals					X	

Tools and Equipment	ATE Configuration	Ancillary		Software	Documentation	Description/Comments
CASS TPS Advisories					X	
CASS Family OTPS Sustainment Process document					X	
CASS Block I Communication, Navigation, and Interrogation (CNI) test set	X					Part number (P/N) 2048AS775-03
CASS Block I Hybrid test set	X					P/N 2048AS775-01
CASS Block I Radio Frequency (RF) test set	X					P/N 2048AS775-02
CASS Block II CNI test set	X					P/N 2054AS400-03
CASS Block II Electro-Optical (EO) test set	X					P/N 2054AS400-04
CASS Block II High Power Device Test Set (HPDTS) test set	X					P/N 2054AS400-05
CASS Block II Hybrid test set	X					P/N 2054AS400-01
CASS Block II RF test set	X					P/N 2054AS400-02
CASS Block III Hybrid test set	X					P/N 2056S800-01
CASS Block III RF test set	X					P/N 2056S800-02
CASS Reconfigurable Transportable (RT) test set	X					AKA RTCASS. P/N 3841AS0101-01.
Air Data Test Set (ADTS)		X				ADTS405-8325-M4
Air Flow Management Set (AFM)		X				2060-AS10-01
Auxiliary Equipment Fixture		X				AKA "AGCS Worksurface" 2057AS050-01
Common Interface Device (CID)		X				2051AS610-01
Enhanced External Hard Drive (EEHD)		X				2056AS133-02
EO+ Cart		X				63E919617G1
EO+ Laser Safe ModKit Set		X				74D061416-1001
EO+ Optical Equipment Set		X				74D061415-1001
IDTS Shore Antenna Kit		X				26020909-101
IDTS Van Antenna Kit		X				26020943-101
Inertial Device Test Set (IDTS)		X				2056AS953-01
Mounting Ancillary Set		X				3947AS0100-01
Multiple Analog Capability (MAC)		X				D0030004-1001
Multi-Purpose Stroke/Raster Display (MPSRD) Ancillary Set		X				2055AS833-01
Power Inverter		X				2057AS310-01
Power Strip Ancillary Set		X				2055AS815-03
Printer		X				Multiple P/Ns (e.g. 2T-LA48W-AA)
RF Probe		X				2046AS926-01

Tools and Equipment	ATE Configuration	Ancillary		Software	Documentation	Description/Comments
RS-485 Manchester/HARPOON Bus Interface		X				2051AS163-06
Synchro Generator/Measurement Assembly (SGMA) Ancillary Set		X				2055AS831-01
Test Equipment Dolly		X				D0030021-1001
UUT Loads Ancillary Set (ULAS)		X				2056AS631-02
UUT Power/Ground Cable Set		X				000CT001
Video Pattern Generator (VPG) Ancillary Set		X				2055AS808
CASS Block I Applications Software				X		P/N CASS-1-xxx
CASS Block I Operating System Software				X		P/N CASS-2-xxx
CASS Block II and Block III Applications Software				X		P/N VECP-1-xxx
CASS Block II and Block III Operating System Software				X		P/N CASS-4-xxx
CASS Support Software				X		P/N VECP-SUP-xxx. OpenVMS 6.2 compatible. Components: ATLAS Compiler, Test Executive Simulator, Test Program Software Development Shell, etc.
CASS TPS Development Tools				X		P/N CASS-PC1-xxx. Windows compatible. Components: MTPSI Development Tool, etc.
Direct Instrument Control Software (DICONs)		X		X		Lockheed Martin Commercial-off-the-shelf (COTS) software. "Global" license purchased for US Government-owned CASS Block I and Block II test sets. No licenses purchased for CASS Block III test sets.
MemTest		X		X		Teradyne COTS software. "Global" license purchased for US Government-owned CASS Block I test sets. Seventy-five licenses purchased for CASS Block II and III test sets.
RTCASS Applications Software				X		P/N RT-APS-xxx
RTCASS Operating System Software				X		P/N RT-OPSYS-xxx
RTCASS TPS Tools				X		P/N RT-DEV1-xxx. Components: VisualMTPSI, etc.
System Problem Report (SPR) database						Tailored version of Pragma processMax software on a CASS SSA server. Used by non-Fleet sites to record and track CASS related system problem reports (SPR). Currently used for CASS and RTCASS system anomalies. Will be used for CASS TPS anomalies of interest to PMA260.
ATS Source Data Repository (ASDR)						Tailored version of Serena's Dimensions CM tool on a CASS SSA server. Populated with CASS related data.
CASS Implementation Plan (CIP) database						Oracle database on a PMA260 server. Stores and processes CASS ATE and TPS related data for multiple purposes.

Attachment 2 - Version Description Document Form

VERSION DESCRIPTION DOCUMENT (VDD)

This VDD identifies and describes an updated version of TPS software and related data provided by FST to ASDR

VDD Date: Reference documents (e.g., SCR #s):

POC Name: email: phone:

Platform(s) supported (e.g., F/A-18, AV-8B):

OTPS Nomenclature (e.g., AN/APG-73 WRA):

 Part number (P/N) (e.g., 5121110-100):

OTPM P/N (e.g., 5121110-100-B8-10): Previous Current: :

 Revision/Version number/letter: Previous Current: :

 Date: Previous Current: :

OTPI P/N (e.g., TI5121110-100A):

Authorizing Technical Directive (i.e., SSC/SEC) number:

LIST OF TPSs AFFECTED

(insert additional rows as necessary)

TPS P/Ns	Corresponding UUT P/Ns	New	Modified	Deleted
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

VERSIONS OF CASS SUPPORT SOFTWARE USED

VECP-SUP- CASS-PC1- RT-DEV1- RT-DEV2-

Others (specify):

LIST OF SOURCE CODE MODULES/FILES AFFECTED

(insert additional rows as necessary)

Name	New	Modified	Deleted
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CHECKLIST

	Yes	N/A		Yes	N/A
Updated MTPSI *.tpsi file included?	<input type="checkbox"/>	<input type="checkbox"/>	Copy of ref docs (e.g., SCRs) included?	<input type="checkbox"/>	<input type="checkbox"/>
All other affected source/build files included?	<input type="checkbox"/>	<input type="checkbox"/>	CASS test results included?	<input type="checkbox"/>	<input type="checkbox"/>
Files comply w/ Standard OTPS Data Directory Structure?	<input type="checkbox"/>	<input type="checkbox"/>	RTCASS test results included?	<input type="checkbox"/>	<input type="checkbox"/>
All file difference listings included?	<input type="checkbox"/>	<input type="checkbox"/>	CASS TPS executable code included?	<input type="checkbox"/>	<input type="checkbox"/>
Revision data in main TPS header(s) updated?	<input type="checkbox"/>	<input type="checkbox"/>	RTCASS TPS executable code included?	<input type="checkbox"/>	<input type="checkbox"/>

Change description: The TPS configuration items described by this VDD has been revised as indicated below:

Comments:

Method of delivery to ASDR: CD/DVD Directly uploaded into ASDR

Attachment 3 - ATS Source Data Repository (ASDR) Overview

The ASDR is an internet-accessible, centralized database used to store critical ATS-related data. ASDR provides the following functions and features:

- Provides Enterprise repository for all CASS Family data owners and users
- Standard Enterprise CM tool to support ATE/TPS Development
- Provides a common CM tool to support In-Service Engineering (ISE) functions
- Provides repository to facilitate efforts to migrate OTPSs to newer ATE configurations
- Helps optimize ISE among all CASS Family FSTs
- Sets standard directory structures for CASS Family source data
- FSTs may use ASDR data to support non-organic CASS users

ASDR and the CSE CIs within ASDR are owned and supported by NAVAIR PMA260.

However, the PSE within ASDR will continue to be owned and supported by the cognizant weapon system program.

The following types of OTPS CIs cannot reside within the ASDR database itself:

- OTPS hardware components -- for obvious reasons
- OTPI Supplements -- because the ASDR server is an unclassified system
- CASS OTPM MO disks -- due to technical reasons - the electronic label on MO disks cannot be readily saved or reproduced without making a physical duplicate of the disk

However, the OTPI Supplements sent to ASDR are stored in a secure location and tracked separately. Likewise, the CASS OTPM MO disks sent to ASDR are also stored and tracked separately.

ASDR Users

Access to data in ASDR is controlled via user accounts. ASDR users will be assigned specific roles which will determine the degree of read, write, edit, and delete access to specific data within ASDR.

Accessing Data

ASDR data is accessible via the PMA260 web site.

Access to ASDR will require a DoD Public Key Infrastructure (PKI) certificate.

Details about accessing ASDR and its data are provided in the ASDR Basic Users Guide and ASDR CM Users Guide.

Updating Data

PM representatives (e.g., FSTs) can update ASDR with TPS data using any of the following methods:

- (A) email or ship updated TPS CIs and all relevant, supporting data to CASS SSA, who will upload it into ASDR
- (B) upload updated TPS CIs and relevant data into a temporary storage location within ASDR
- (C) upload updated TPS CIs and relevant data directly into ASDR

Method (C) requires a PM representative sufficiently knowledgeable about CM, in general, and the Dimensions software CM tool, in particular, to update their respective ASDR data without accidental corruption. Therefore, it is recommended that every PM representative with write/edit/delete access to ASDR be adequately trained prior to directly updating data within ASDR.

However, regardless of the method used to update TPS data within ASDR, all data delivered to or uploaded into ASDR will comply with the Standard OTPS Data Directory Structure. All source data within ASDR will be managed on a file-by-file basis to ensure traceability of all changes.

Details relative to updating data in ASDR are provided in the ASDR CM Users Guide.

ASDR Directory Structure

OTPS data within ASDR must conform with the Standard CASS OTPS Data Directory Structure.

ASDR Help Desk

A help desk is maintained for ASDR users to provide support as needed. Refer to the ASDR Basic Users Guide or ASDR CM Users Guide for specific POCs and operating hours.

ASDR Infrastructure

- Server - ASDR is hosted on a high-end server located at NAVAIR Lakehurst, Building 678, Room 119. This system has terabytes of storage space, which can be easily increased as necessary.
- Software - The ASDR system software is a set of COTS products. The heart of the ASDR software is Dimensions, a software CM tool produced by Serena Software, Inc. and tailored to meet CASS requirements. All ASDR software is controlled, maintained, and upgraded on the ASDR server by the ASDR system administrators. Service patches, especially those dealing with Information Assurance Vulnerability Alerts (IAVAs), are the responsibility of the ASDR system administrators.

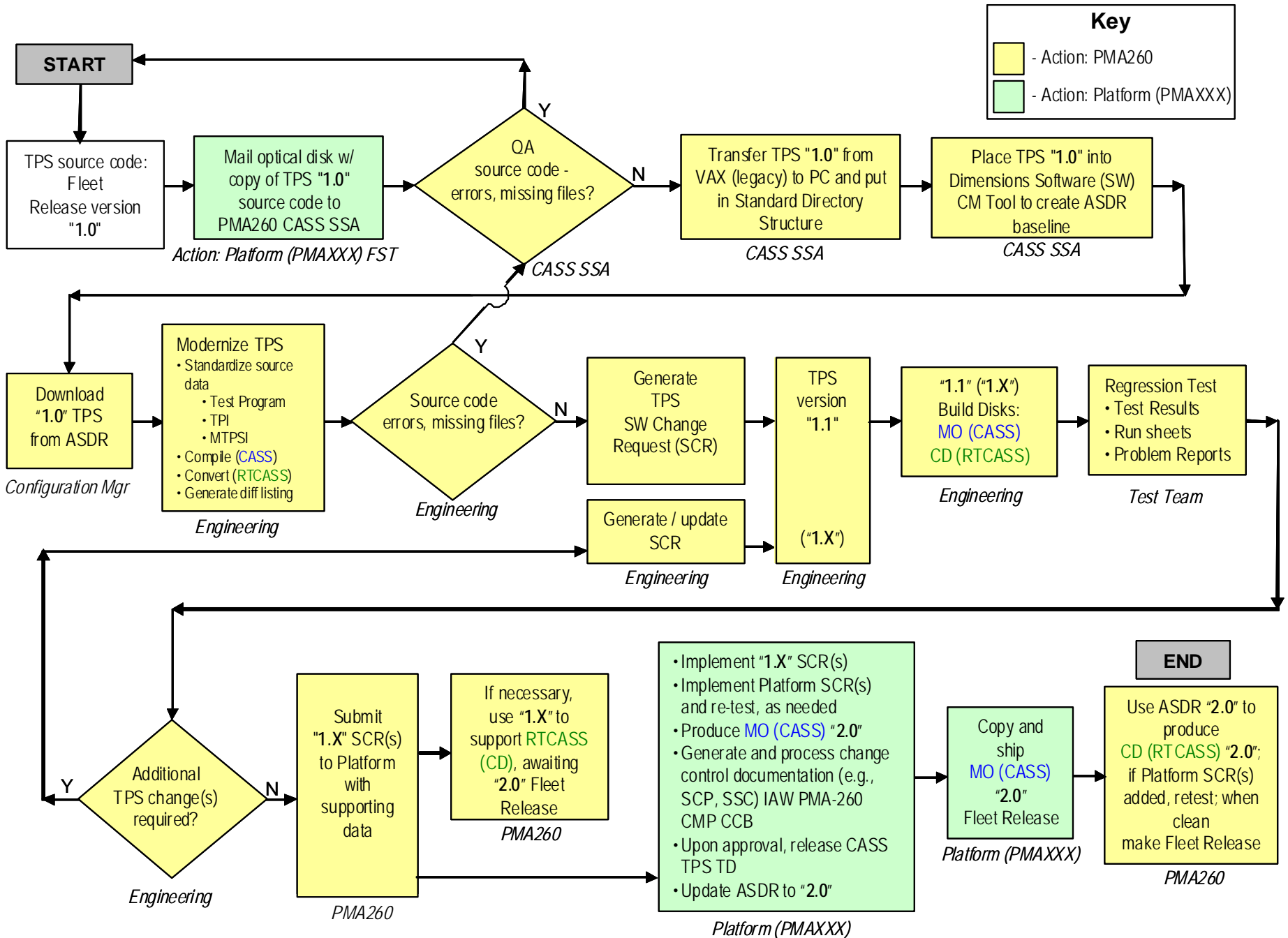
Symantec antivirus and firewall software is used for security. Web security is provided using SSL. PKI certificates will be used necessitating the use of a CAC card.

- Documentation - The following documents describe how to access, use, and support ASDR:
 - ASDR Basic Users Guide
 - ASDR CM Users Guide
 - ASDR System Administrator Users Guide

Copies of these documents will be available via the PMA260 web site.

- Data Back-up - Data stored in ASDR will be backed up nightly by the ASDR system administrator. At least weekly, the latest copy of the back-ups will be forwarded to an off-site facility to mitigate any risk of catastrophic data loss.

Attachment 4 - Legacy CASS TPS Migration to New CASS TPS Standards



Attachment 5 - Acronym List

ADRL	Automatic Distribution Requirement List
ADSR	ATS Source Data Repository
AKA	Also Known As
ATE	Automatic Test Equipment
ATS	Automatic Test System
C&A	Certification and Accreditation
CASS	Consolidated Automated Support System
CASS B1 Spec	Prime Item Development Specification for CASS
CC	Common Criteria
CCB	Change Control Board
CDRL	Contracts Data Requirements List
CI	Configuration Item
CIO	Chief Information Officer
CIP	CASS Implementation Plan
CJCSM	Chairman of the Joint Chiefs of Staff Manual
CM	Configuration Management
CMM	Capability Maturity Model
CMP	Configuration Management Plan
CNAF	Commander, Naval Air Forces
CNI	Communication, Navigation, and Interrogation
CSE	Common Support Equipment
DCCB	Decentralized Change Control Board
DISA	Defense Information Systems Agency
DoD	Department of Defense
DOL	Director of Logistics
DVD	Digital Versatile Disk
eCASS	modernized (future) CASS
ECP	Engineering Change Proposal
EO	Electro-Optical
eRAC	electronic Rapid Action Change
FEP	Functional Extension Program
FSR	Fleet Support Review
FST	Fleet Support Team
GATP	General Acceptance Test Procedure
HPDTS	High Power Device Test Set
IA	Information Assurance
IAVA	Information Assurance Vulnerability Alert
ID	Interface Device
IOC	Initial Operational Capability
IPT	Integrated Product Team or Integrated Program Teams
IRAC	Interim Rapid Action Change
ISE	In-Service Engineering

ISSC	In-Service Support Center
JDRS	Joint Deficiency Reporting System
JEDMICS	Joint Engineering Data Management Information and Control System
LMI	Logistics Management Information
MMF	Mobile Maintenance Facility
MO	Magneto-Optical
MP	Maintenance Plan
MTPSI	Master Test Program Set Index
NALDA	Naval Aviation Logistics Data Analysis
NATEC	Naval Air Technical Data and Engineering Services Command
NGOR	NAVAIR Generic OTPS Request for Proposal
NSA	National Security Agency
OIPT	Overarching Integrated Product Team
OPSEC	Operational Security
OTPH	Operational Test Program Hardware
OTPI	Operational Test Program Instruction
OTPM	Operational Test Program Medium
OTPS	Operational Test Program Set
PDF	Portable Data Format
PKI	Public Key Infrastructure
PM	Program Manager
PMA	Program Manager Air
POC	Point of Contact
PPAT	Pilot Production Acceptance Test
PQDR	Product Quality Deficiency Report
PSE	Peculiar Support Equipment
PSOW	Provisioning Statement of Work
RAMEC	Rapid Action Minor Engineering Change
RF	Radio Frequency
RFP	Request for Proposal
RTCASS	Reconfigurable Transportable CASS
SCR	Software Change Request
SCSW	Station Control Software
SE	Support Equipment
SERD	Support Equipment Requirements Data
SERMIS	Support Equipment Resources Management Information System
SME	Subject Matter Expert
SOW	Statement of Work
SPR	System Problem Report
SRA	Shop Replaceable Assemblies
SSA	Software Support Activity
SSC	Support Software Change
STIG	Security Technical Implementation Guide
SUM	Software User's Manual
SUPR	Support Software
T00K	CASS User's Guide for TPS Developers

TD	Technical Directive
TDP	Technical Data Package
TM	Technical Manual
TMAPS	Technical Manual Application System
TMCR	Technical Manual Contract Requirements
TMSDR	Technical Manual Source Data Record
TPDR	Technical Publication Discrepancy Report
TPI	Test Program Instructions
TPS	Test Program Set
TWG	Technical Working Group
TWP	Temporary Workaround Procedure
TYCOM	Type Commander
ULSS	User Logistic Support Summary
UUT	Unit Under Test
VDD	Version Description Documents
VMS	Virtual Memory System
WRA	Weapons Replaceable Assembly