CT
TN
90/4
COPY 2

Flight Service Automation System, Model 1 Full Capacity, NAS Operational Test and Evaluation Integration Test Plan

Frances A. Mackuse
Robert F. Havel (DTC)

SEP 17 1990
TECHNICAL CENTER LIBRARY
ATLANTIC CITY, N.J. 08405

August 1990

DOT/FAA/CT-TN90/4

Document is on file at the Technical Center
Library, Atlantic City International Airport, N.J. 08405

U.S. Department of Transportation
Federal Aviation Administration

Technical Center
Atlantic City International Airport, N.J. 08405

technical note technical note

NOTICE

This document is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The United States Government assumes no liability for the contents or use thereof.

The United States Government does not endorse products or manufacturers. Trade or manufacturers' names appear herein solely because they are considered essential to the objective of this report.

Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
DOT/FAA/CT-TN90/4		

4. Title and Subtitle	5. Report Date
FLIGHT SERVICE AUTOMATION SYSTEM, MODEL 1 FULL CAPACITY, NAS OPERATIONAL TEST AND EVALUATION INTEGRATION TEST PLAN	August 1990
	6. Performing Organization Code
7. Author(s) Frances A. Mackuse Robert F. Havel (DTC)	8. Performing Organization Report No. DOT/FAA/CT-TN90/4
9. Performing Organization Name and Address U.S. Department of Transportation FAA Technical Center Atlantic City International Airport Atlantic City, New Jersey 08405	10. Work Unit No. (TRAIS)
	11. Contract or Grant No.
12. Sponsoring Agency Name and Address U.S. Department of Transportation FAA Technical Center Atlantic City International Airport Atlantic City, New Jersey 08405	13. Type of Report and Period Covered
	14. Sponsoring Agency Code

15. Supplementary Notes

16. Abstract

This document provides the overall philosophy and approach for the National Airspace System (NAS) Operational Test and Evaluation (OT&E)/Integration Test of the Flight Service Automation System (FSAS) Model 1 Full Capacity (M1FC). The M1FC System consists of three subsystems: (1) the Aviation Weather Processor (AWP), (2) the Flight Service Data Processing System (FSDPS), and (3) the Automated Flight Service Station (AFSS). This document addresses the integration requirements from the NAS Specifications (NAS-SS-1000), which will provide the basis for the OT&E/Integration testing of this particular subsystem.

This test plan addresses M1FC only, and does not address FSAS end-state interface requirements. The only interfaces to be tested are the Weather Message Switching Center (WMSC) and the National Airspace Data Interchange Network 1A (NADIN 1A), as outlined in the Master Test Plan (MTP). The M1FC is not designed to satisfy the end-state Area Computer Control Complex (ACCC), Weather Message Switching Center Replacement (WMSCR), National Airspace Data Interchange 2 (NADIN 2), Traffic Management Processor (TMP), or Maintenance Processor Subsystem (MPS) interfaces. These end-state interface requirements are included in the NAS System Specification, and Project Compliance Plans have been written stating that these interfaces will be implemented as separate enhancements to M1FC.

17. Key Words	18. Distribution Statement
Flight Service Automation System (FSAS) Model 1 Full Capacity (M1FC) Aviation Weather Processor (AWP) Flight Service Data Processing System(FSDPS) Automated Flight Service Station (AFSS)	This document is on file at the FAA Technical Center Library, Atlantic City International Airport, Atlantic City New Jersey 08405

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
Unclassified	Unclassified	45	

Form DOT F 1700.7 (8-72) Reproduction of completed page authorized

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	vii
1. INTRODUCTION	1
1.1 Scope	1
1.2 Purpose	3
1.3 Authority to Change	3
2. APPLICABLE DOCUMENTS	3
2.1 Government Documents	4
2.2 Other Documents	4
3. TEST AND EVALUATION (T&E) PHILOSOPHY	5
4. T&E APPROACH AND CONCEPT	6
4.1 Test System Configuration	6
4.2 Test Verification Categories	6
4.3 Critical Requirements	11
4.4 Verification Methods	11
5. TEST PROGRAM FLOW DIAGRAM	11
6. ORGANIZATION ROLES AND RESPONSIBILITIES	11
6.1 Responsibilities	11
6.2 Roles	13
6.3 Support Contractors	15
7. DOCUMENT REQUIREMENTS AND CONTROL	15
7.1 Documentation Tree	15
7.2 Operating and Control Documents	15
8. TRAINING	19
9. TEST SUPPORT	19
9.1 Instrumentation	19
9.2 Data Analysis	19

TABLE OF CONTENTS (continued)

10. REVIEWS AND REPORTS 19

10.1 Test Readiness Review 19
10.2 Test Schedule Status Review Meetings 19
10.3 Post-Test Review 21
10.4 Quick Look Test Reports 21
10.5 Final Test Report 21
10.6 Deployment Readiness Review 21

11. SCHEDULES 21

11.1 General 21
11.2 Major Activities Schedule 21

12. M1FC INTEGRATION TEST VERIFICATION REQUIREMENTS TRACEABILITY MATRIX 23

13. ABBREVIATIONS AND ACRONYMS 23

APPENDIX

LIST OF ILLUSTRATIONS

Figure		Page
1-1	Model 1 Full Capacity Subsystems	2
4.1-1	M1FC OT&E/Integration Test Configuration	7
4.2-1	M1FC OT&E/Integration Test Verification Categories	8
5-1	M1FC OT&E/Integration Test Program Flow Diagram	12
7.1-1	M1FC OT&E/Integration Test Plan Documentation Tree	16
7.2.3-1	M1FC Test Log	17
7.2.4-1	M1FC Test Observer/Monitor Record Form	18
7.2.5-1	M1FC Problem/Trouble Report	20

LIST OF TABLES

Table		Page
11.2-1	M1FC Project Master Baseline Schedule	22

EXECUTIVE SUMMARY

This document provides the overall philosophy and approach for the National Airspace System (NAS) Operational Test and Evaluation (OT&E)/Integration Test of the Flight Service Automation System (FSAS) Model 1 Full Capacity (M1FC). The M1FC System consists of three subsystems: (1) the Aviation Weather Processor (AWP), (2) the Flight Service Data Processing System (FSDPS), and (3) the Automated Flight Service Station (AFSS). This document addresses the integration requirements from the NAS Specifications (NAS-SS-1000), which will provide the basis for the OT&E/Integration testing of this particular subsystem.

The primary information within this test plan consists of the following:

1. The NAS-SS-1000 OT&E/Integration requirements for the AWP, FSDPS, and AFSS subsystems;

2. The testing objectives, test configuration/verification of categories, required to satisfy the NAS requirements;

3. Configuration drawings;

4. Associated organizational test roles, responsibilities, and test activities;

5. Test Verification Requirements Traceability Matrix (TVRTM).

This test plan addresses M1FC only, and does not address FSAS end-state interface requirements. The only interfaces to be tested are the Weather Message Switching Center (WMSC) and the National Airspace Data Interchange Network 1A (NADIN 1A), as outlined in the Master Test Plan (MTP). The M1FC is not designed to satisfy the end-state Area Computer Control Complex (ACCC), Weather Message Switching Center Replacement (WMSCR), National Airspace Data Interchange Network 2 (NADIN 2), Traffic Management Processor (TMP), or Maintenance Processor Subsystem (MPS) interfaces. These end-state interface requirements are included in the NAS System Specification, and Project Compliance Plans have been written stating that these interfaces will be implemented as separate enhancements to M1FC.

1. INTRODUCTION.

The Flight Service Automation System (FSAS) is an element of the National Airspace System (NAS) modernization program. The FSAS will provide automation and improvement to Flight Service Stations (FSS) to meet the projected increases in demand for aviation services.

The FSAS is being developed and implemented in two phases, Model 1 and Model 1 Full Capacity (M1FC). The Model 1 hardware and software has been developed and tested. The first Model 1 system was commissioned in February 1986.

The M1FC will consist of the following subsystems: Aviation Weather Processors (AWP), Flight Service Data Processing Systems (FSDPS) and Automated Flight Service Stations (AFSS). (See figure 1-1.) The M1FC will build on the base provided by the Model 1 design; however, the addition of the AWP subsystems and additional processors at the FSDPS will increase the processing capabilities necessary for the completion of the FSS consolidation.

Each AWP shall be capable of receiving all weather and aeronautical data which constitute the National Data Base. These data include, but are not limited to, weather and Notice-To-Airmen (NOTAM) data, Central Flow Control advisories, law enforcement messages, etc. Each AWP shall be capable of assuming all processing, editing, and distribution functions for the entire National Data Base. The AWPs shall be capable of processing and editing all or any subset (by message type) of data as received from the Weather Message Switching Center (WMSC) and distributing the data to all FSDPSs and the other AWP.

There will be three AWPs. Two operational AWPs will be located within the National Aviation Weather Processor Facilities (NAWPF) located at Salt Lake City, Utah and Atlanta, Ga. A third AWP will be located at the Federal Aviation Administration (FAA) Technical Center for development and testing.

During M1FC implementation, all Model 1 subsystems will be converted to M1FC subsystems, and additional M1FC FSDPSs and AFSSs will be established. The final operational configuration will consist of two AWPs, 21 FSDPSs, and 60 AFSSs. Support facilities will be established at the FAA Technical Center.

1.1 SCOPE.

This document provides the overall philosophy and approach to the Operational Test and Evaluation (OT&E)/Integration test of the M1FC system. This test plan allocates interface and system-level requirements of the M1FC necessary to satisfy the NAS OT&E/Integration test requirements contained in the M1FC Test Verification Requirements Traceability Matrix (TVRTM) presented in appendix A of this document. This plan shall be reviewed and approved by the cognizant organizations prior to the preparation of detailed M1FC OT&E/Integration Test Procedures in accordance with FAA-STD-024a, appendix III.

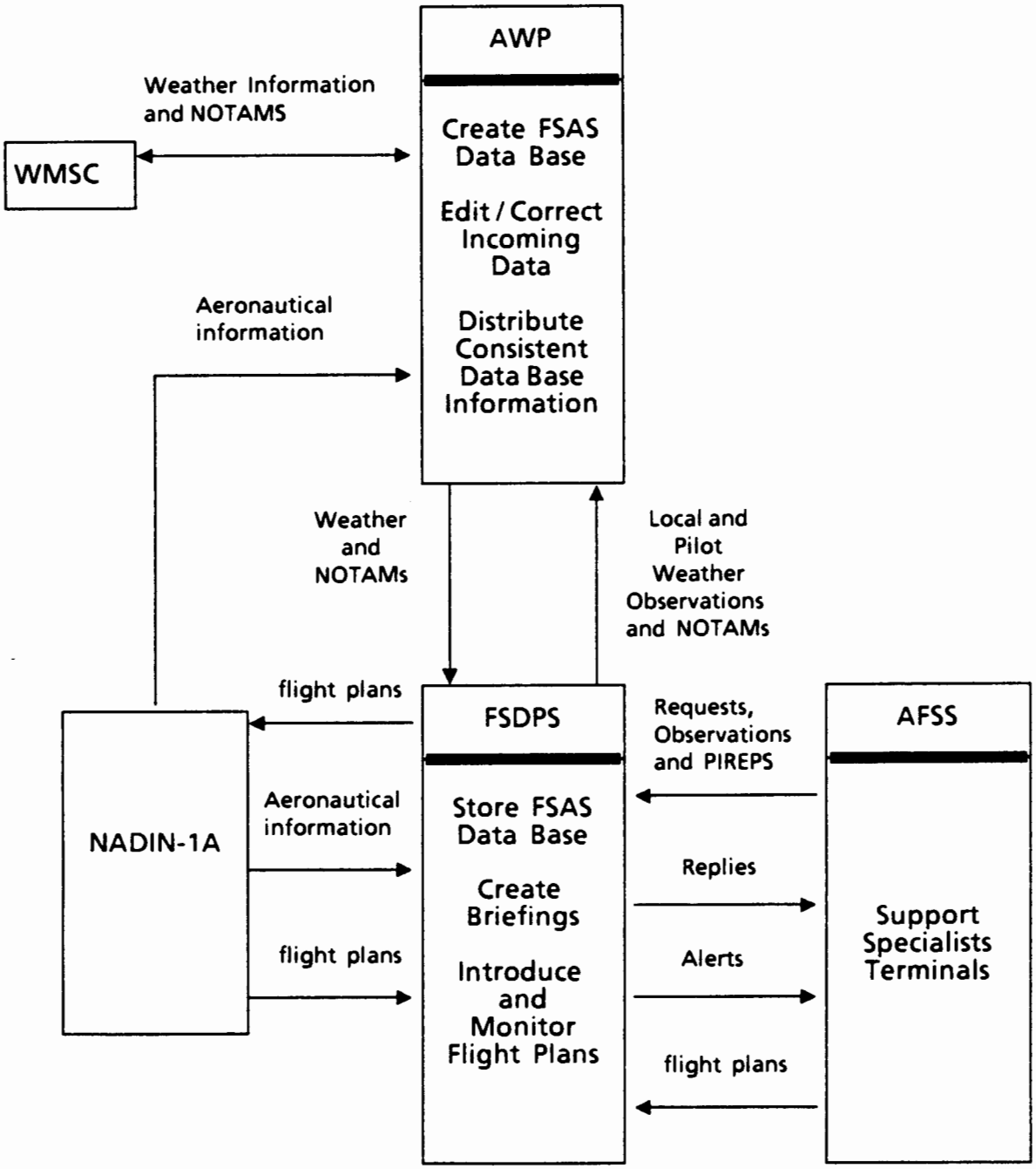


FIGURE 1-1. MODEL 1 FULL CAPACITY SUBSYSTEMS

1.2 PURPOSE.

The purpose of this plan is to define the overall OT&E/Integration testing activities necessary to ensure the integration of the FSAS M1FC within the environment of the NAS. To meet this objective, the M1FC must be operationally integrated with existing NAS subsystems.

In accordance with the FAA FSAS M1FC Master Test Plan (MTP), this test plan will not address FSAS end-state interface requirements. The only external interfaces to be tested are the WMSC and the National Airspace Data Interchange Network 1A (NADIN 1A). M1FC includes internal interfaces from the AWP to AWP, AWP to FSDPS, and FSDPS to AFSS. These interfaces will be tested during Development Test & Evaluation (DT&E) testing at the contractor's facility.

The information contained within this plan has been structured to provide the planning, coordination, and testing activities required to verify the NAS OT&E/Integration test requirements as identified in the TVRTM (appendix A).

The distribution and utilization of this plan by the appropriate organizations will provide:

a. Definition of the scope and the degree of testing during the NAS OT&E/Integration test phase at the FAA Technical Center, and the identification of related prior testing that will be conducted at other sites;

b. Identification of the resources and activities to be coordinated in preparation for, and in support of, NAS OT&E/Integration testing;

c. Direction for the development of detailed test procedures used to perform M1FC OT&E/Integration testing;

d. Assurance of compliance with FAA Order 1810.4A, FAA-STD-024a, and NAS-MD-110.

1.3 AUTHORITY TO CHANGE.

Modifications/revisions to this plan shall be proposed in writing to the FAA Technical Center Engineering Test and Evaluation Service (ACN-200) Division. The proposal shall clearly document the section number of the plan, the information currently contained in the plan, and the proposed modification. The reason for this proposed modification shall also be defined. The ACN-200 office shall maintain a record of all dispositions and subsequent revisions to the plan.

2. APPLICABLE DOCUMENTS.

This section lists the applicable documentation and reference materials which relate to the contents of this plan, and upon which this plan is based.

2.1 GOVERNMENT DOCUMENTS.

2.1.1 FAA Specifications.

FAA-E-2683c	Model 1 and Model 1 Full Capacity System and Hardware, Volume I
FAA-E-2685c	Model 1 Full Capacity Software and Hardware Specification, Volume III
NAS-SR-1000	National Airspace System Requirements Specification
NAS-SS-1000	Functional and Performance Requirement for the NAS System Specification, Volumes I and II
FAA-E-2661A	NADIN to FSAS, Model 1 Full Capacity Interface Control Document, Appendix I

2.1.2 FAA Standards.

FAA-STD-024a	Preparation of Test and Evaluation Documentation

2.1.3 FAA Orders.

Order No. 1810.4A	FAA NAS Test and Evaluation Program

2.1.4 Other FAA Documents.

FSAS M1FC	Flight Service Automation System Model 1 Full Capacity
Master Test Plan	Model 1 Full Capacity Master Test Plan
NAS-MD-110	Test and Evaluation (T&E) Terms and Definitions for the NAS

2.2 OTHER DOCUMENTS.

416-32134	FSAS M1FC Master Test Plan prepared by E-Systems.
416-32120	Update System Interface Control Document (SICD). Prepared by E-Systems.

3. TEST AND EVALUATION (T&E) PHILOSOPHY.

The M1FC OT&E/Integration Test Plan will provide assurance in the verification of the applicable requirements identified in the TVRTM, as discussed in section 4 of this plan.

FAA Order 1810.4A directs the verification of all requirements, and states that these requirements should be verified as early as possible. The FAA Program Engineering Service (APS-300) has the responsibility for developing and implementing the verification process for the requirements of each project. The FAA Technical Center Surveillance & Weather Systems Branch (ACN-230) will support the Engineering Test and Evaluation Service, FSS Branch (ANW-120) and the FSS Program Office (APS-330) throughout the verification process. APS-330 may delegate verification activities to other FAA organizations, independent contractors, and/or the prime contractor.

NAS OT&E/Integration testing is that phase of testing conducted to verify as many of the integration requirements as possible (e.g., performance, functional, and interface characteristics, etc.) on the subsystems delivered. In order to satisfy these requirements, ACN-230 personnel, in agreement with APS-330, will observe/monitor the conduct of the following test activities:

a. Design Qualification Testing (DQT) by E-Systems at the contractor's facility;

b. Post-DQT testing by Air Traffic Plans and Requirements Service, Information Systems Branch (ATR-220), and the Flight Services Weather Branch (ATR-130) at the contractor's facility;

c. System Level Verification (SLV) testing by Information Systems Branch (ATR-220) and National Automation Engineering Field Support Section (ASM-400) will be conducted at the FAA Technical Center. Upon completion of SLV testing, the M1FC software will be adapted and verified by the FAA Technical Center National Automation Flight Service Branch (ATR-260) personnel.

Upon completion of the above testing activities, test results will be verified to assure verification of the TVRTM requirements listed in appendix A. NAS system-level requirements that may be verified during the conduct of the testing activities listed above will not be duplicated in the conduct of OT&E/Integration testing. ACN-230 will verify the balance of these NAS requirements during OT&E/Integration testing at the FAA Technical Center.

In addition to the above related M1FC testing activities, ACN-230 will ensure that the following FAA Technical Center OT&E/Integration test activities/products are completed:

a. The M1FC OT&E/Integration TVRTM derived from the NAS System Specification (NAS-SS-1000), in accordance with FAA-STD-024a;

b. The M1FC OT&E/Integration Test Plan which contains a cross reference to each of the NAS OT&E/Integration test requirements in the M1FC OT&E/Integration TVRTM;

c. The M1FC OT&E/Integration test procedure for each of the tests defined in the M1FC OT&E/Integration Test Plan, in accordance with FAA-STD-024a;

d. The documentation and verification of each test with applicable success criteria that satisfies the OT&E/Integration requirement. Identification of those requirements that cannot be verified, shall be documented;

e. The status and tracking of all problems encountered during OT&E/Integration test verification;

f. Provide test reports to the APS-330 Program Office on the pass/fail of the M1FC subsystems in the area of FAA Technical Center OT&E/Integration testing.

This plan will provide a method of ensuring the operational readiness of the M1FC subsystems for NAS integration. The verification of all requirement statements identified in appendix A will determine the M1FC subsystems operational effectiveness and suitability, as well as identify operational enhancements and/or deficiencies required prior to field deployment.

4. T&E APPROACH AND CONCEPT.

In order to determine the overall operational effectiveness of the M1FC within the NAS environment, OT&E/Integration testing will require testing of the M1FC subsystem in an operational environment. The term operational relates to the final configuration into which the M1FC must be integrated. For this reason, both live and/or simulated interfacing subsystems and equipment may be used. OT&E/Integration efforts will include providing support in writing and executing the detailed OT&E/Integration test procedures that will be generated to verify the requirements identified for testing in the TVRTM. To the extent possible, the M1FC OT&E/Integration testing will be performed using all interconnections/ interfaces available as appropriate to the M1FC system. OT&E/Integration testing of the M1FC will be conducted at the FAA Technical Center by ACN-230 in parallel with shakedown testing being conducted by ASM-400. M1FC OT&E/Integration requirements which relate to end-state interfaces, that will not be available for testing, will be noted as deferred on the TVRTM.

4.1 TEST SYSTEM CONFIGURATION.

The M1FC OT&E/Integration test system configuration is shown in figure 4.1-1.

4.2 TEST VERIFICATION CATEGORIES.

Test Verification Categories (CAT) for M1FC are shown in figure 4.2-1. Each CAT corresponds to an M1FC interface. For ease of identification, a letter has been assigned to each verification category, e.g., CAT-A, CAT-B, etc. The term interface is interchangeable with the term verification category, in the same manner as the term integration and interface testing are interchangeable as defined in NAS-MD-110.

M1FC Internal Interfaces are: AWP/AWP, AWP/FSDPS, FSDPS/AFSS.

M1FC External Interfaces are: WMSC, NADIN 1A.

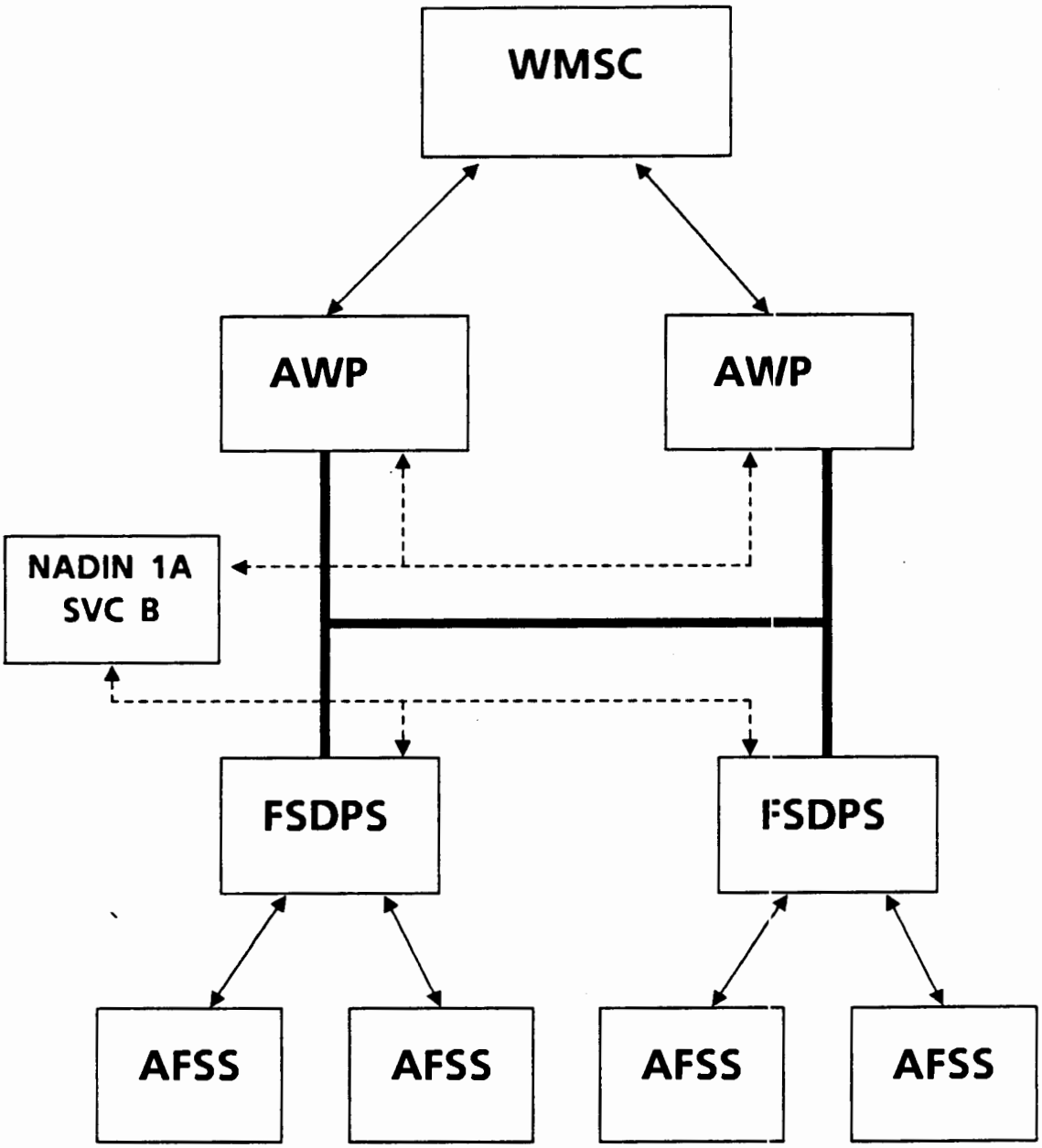


FIGURE 4.1-1. M1FC OT&E/INTEGRATION TEST CONFIGURATION

TEST CONFIGURATION

VERIFICATION CATEGORIES

Internal Interfaces

A	B	C
AWP / AWP	AWP / FSDPS	FSDPS / AFSS

External Interfaces

D	E	F
AWP / WMSC	AWP / NADIN 1A	FSDPS / NADIN 1A

FIGURE 4.2-1. M1FC OT&E/INTEGRATION TEST VERIFICATION CATEGORIES

The internal and external interfaces will be tested during DQT, post-DQT, and SLV testing. Test results that satisfy OT&E/Integration test requirements will not be repeated. Test inputs used will consist of live and/or simulated information, as necessary.

4.2.1 Test Category A - AWP/AWP.

The interface between the two AWP subsystems shall support the maintenance at each AWP of a complete current copy of the unprocessed and processed FSAS data base. Each AWP shall be capable of assuming all processing, editing, and distribution functions for the entire National Data Base.

The test objectives are the following:

a. To determine the capability to transmit, receive, and acknowledge messages transmitted between the two AWPs;

b. To determine the capability to transmit valid Service A and Service B reports from the primary AWP to the secondary AWP for processing and storage in the FSAS Data Base;

c. To identify any possible interface problems between the two AWPs.

4.2.2 Test Category B - AWP/FSDPS.

The AWP subsystem of M1FC will interface with the FSDPSs for the receipt and transmission of Service A and Service B data.

The test objectives are the following:

a. To determine if the AWP subsystem can successfully interface with the FSDPS;

b. To identify any possible interface problems with the FSDPS;

c. To verify the appropriate functional communication between the AWP and the FSDPS for the receipt and transmission of Service A and Service B data.

4.2.3 Test Category C - FSDPS/AFSS.

The FSDPS subsystem of M1FC will interface with the position equipment at the AFSS for receipt and transmission of weather information, NOTAMs, flight data, and other messages.

The test objectives are the following:

a. To determine if the FSDPS subsystem can successfully interface with the AFSS;

b. To identify any possible interface problems with the AFSS;

c. To verify the appropriate functional communication between the FSDPS and the AFSS for the receipt and transmission of weather information, NOTAMs, flight data, and other messages.

4.2.4. Test Category D - AWP/WMSC.

The AWP subsystem of M1FC will interface with the WMSC via the Service A line to obtain the required real-time National Weather Service (NWS) and NOTAM data base.

The test objectives are the following:

a. To determine if the AWP subsystem can successfully interface with WMSC;

b. To identify any possible interface problems with the WMSC;

c. To verify the appropriate functional communication between the M1FC and the WMSC for the receipt and transmission of weather information and NOTAMs.

4.2.5 Test Category E - AWP/NADIN 1A.

The AWP subsystem of M1FC will interface with NADIN 1A as a communication medium for the receipt and transmission of Service B data.

The test objectives are the following:

a. To determine if the AWP subsystem can successfully interface with NADIN 1A;

b. To identify any possible interface problems with the NADIN 1A;

c. To verify the appropriate functional communication between the AWP and NADIN 1A for the receipt and transmission of Service B messages;

d. To minimize the risks of interference with other NAS subsystems.

4.2.6 Test Category F - FSDPS/NADIN 1A.

The FSDPS subsystem of the M1FC will interface with NADIN 1A as a communication medium for the receipt and transmission of Service B data.

The test objectives are the following:

a. To determine if the FSDPS subsystem can successfully interface with NADIN 1A;

b. To identify any possible interface problems with the NADIN 1A;

c. To verify the appropriate functional communication between the FSDPS and NADIN 1A for the receipt and transmission of Service B messages;

d. To minimize the risks of interference with other NAS subsystems.

The NAS requirements to be verified for Test Categories A through F are listed in the TVRTM, appendix A.

4.3 CRITICAL REQUIREMENTS.

No critical requirements have been identified at this time.

4.4 VERIFICATION METHODS.

Two types of verification methods (per FAA-STD-024a) will be applied to the verification categories conducted. The methods of verification are defined as follows:

a. TEST (T) - Test is defined as a method of verification wherein performance requirements are verified by measurement during or after the controlled applications of functional and/or environmental stimuli. Quantitative measurements are analyzed to determine the degree of compliance. These measurements may require the use of laboratory equipment, recorded data, procedures, items, and/or services.

b. DEMONSTRATION (D) - Demonstration is defined as a method of verification denoting the qualitative determination of properties of an end-item including software and/or the use of technical data and documentation. The items being observed are visually demonstrated, but not quantitatively measured, in a dynamic state.

5. TEST PROGRAM FLOW DIAGRAM.

The M1FC OT&E/Integration Test Flow Diagram, figure 5-1, graphically displays the flow of testing activities for the conduct of the M1FC FAA Technical Center OT&E/Integration testing program.

6. ORGANIZATION ROLES AND RESPONSIBILITIES.

In accordance with FAA Order 1810.4A, ACN-230 has the responsibilities associated with the role of test director.

This section describes the roles and responsibilities of the FAA and other organizations that will be participating in the M1FC OT&E/Integration test activities.

6.1 RESPONSIBILITIES.

6.1.1 Test Management Group.

The members of this group will be comprised of FAA personnel from ACN-230 and contractor support personnel. This group will provide support services necessary to schedule, maintain, and direct test activities of the M1FC. Their responsibilities include the following:

a. Develops test plans and procedures as directed by the Program Office;

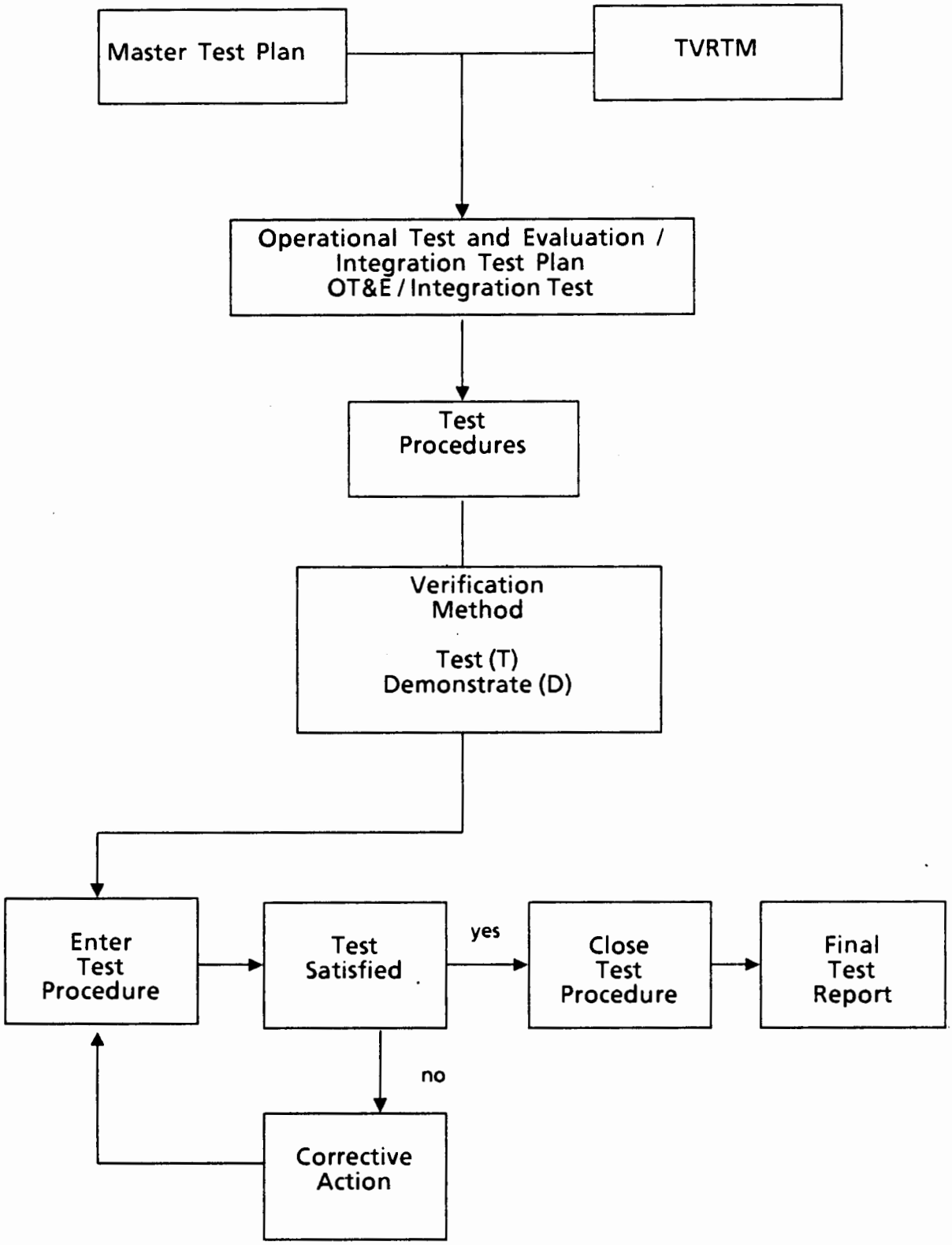


FIGURE 5-1. M1FC OT&E/INTEGRATION TEST PROGRAM FLOW DIAGRAM

b. Monitors/observes all test phases to include DT&E and Production Acceptance Test and Evaluation (PAT&E) prior to OT&E/Integration test activities;

c. Conducts OT&E/Integration testing;

d. Maintains the status of test progress and test problems;

e. Participates in matters relating to test, evaluation, and acceptance of the M1FC;

f. Participates in reviews and provides input to test plans, procedures, and reports;

g. Performs assigned test roles as directed by the APS-330 Program Office.

6.1.2 Contractor Maintenance.

The contractor will maintain the M1FC system and data base while testing is being performed.

6.2 ROLES.

6.2.1 Test Director (ACN-230).

The test director is responsible for the overall management of the M1FC OT&E/Integration test effort and will provide test management guidance to members of the test team. The test director will maintain the ultimate authority over the specific test assigned. The test director will be responsible for ensuring that the test logs and records are completed by the test monitors and will collect all recorded data upon test completion.

The test director will ensure that the test managers/coordinators are apprised of test results and that all noted deficiencies are fully documented.

The test director will review results of testing activities and provide recommendations in support of the Executive Committee (EXCOM) Deployment Readiness Review (DRR) process.

6.2.2 Test Coordinator.

The test coordinator is appointed by the test director and is responsible for the coordination of specifically assigned test activities which include the following:

a. Ensures that test objectives, plans, procedures, and reports are properly developed, and that test objectives are satisfactorily fulfilled;

b. Coordinates the requirements for on-site test support personnel;

c. Supports the test director in resolving outstanding test problems;

d. Ensures that the test activities are performed within the approved schedule;

e. Provides general support as required by the test director.

6.2.3 Test Manager.

The test manager is appointed by the test coordinator and is responsible for upholding test schedules, and maintaining authority at the test site during test conduct which include the following:

a. Ensures that required equipment is available and in satisfactory working order, and that test personnel are available and properly trained to conduct the required test;

b. Responsible for documenting test results in draft test reports to be forwarded to the test coordinator.

c. Verifies adherence to test procedures;

d. Ensures that the test coordinator is kept apprised of all test results;

e. Logs any noted test deficiencies;

f. Collects all test data for analysis.

6.2.4 Test Observer.

Under the direction of the test manager, technically qualified test observers may be assigned to observe/monitor and record the activities during each test conducted against specific test objectives and procedures which include the following:

a. Assists the test manager in verifying that test observations and/or measurements are recorded;

b. Assists the personnel operating the test positions, as directed by the test manager;

c. Maintains test logs.

6.2.5 Test Operator.

The duties of the test operator include the following:

a. Stations operational positions/systems during a particular test effort;

b. Executes test procedures;

c. Performs retesting as required.

6.3 SUPPORT CONTRACTORS.

Support contractor personnel will assist ACN-230 in the development of the OT&E/Integration Test Plan and the OT&E/Integration Test Procedures and participate in the conduct of the testing activities, as applicable.

7. DOCUMENT REQUIREMENTS AND CONTROL.

This section describes the required documents for planning, conducting, and reporting the M1FC OT&E/Integration testing activities.

7.1 DOCUMENTATION TREE.

The hierarchical dependencies of the primary documents used in the development of this plan are represented in figure 7.1-1, the M1FC OT&E/Integration Test Plan Documentation Tree. This figure indicates the documentation used in the guidance for the format and contents of this test plan.

FAA Order 1810.4A directs the organizational responsibilities for performing the test and evaluation activities throughout a project's life cycle. NAS-MD-110 presents the OT&E test terms and definitions that are utilized for the NAS. The FAA-STD-024a provides guidelines in the preparation of T&E documentation. In accordance with FAA Order 1810.4A, NAS OT&E/Integration testing will be conducted on the M1FC system delivered to the FAA Technical Center.

7.2 OPERATING AND CONTROL DOCUMENTS.

7.2.1 OT&E/Integration Test Plan.

This plan defines the specific verification categories, issues, objectives, schedules, resource requirements, test methodology, and test management organization.

7.2.2 Test Procedures.

Test procedures containing the step-by-step testing instructions and required inputs, outputs, scenarios, and expected results will be provided by ACN-230 and will address M1FC OT&E/Integration test plan requirements, as applicable.

Detailed test procedures will be developed in accordance with this test plan and FAA-STD-024a, appendix III.

7.2.3 Test Log.

An M1FC Test Log will be completed before the actual conduct of the test. One log will be prepared for each testing category. Figure 7.2.3-1 shows the form used for information to be logged.

7.2.4 Test Observer's Record.

Test Observer/Monitor notes will be recorded on the Test Observer/Monitor Record which is figure 7.2.4-1. These forms will be signed by the observer.

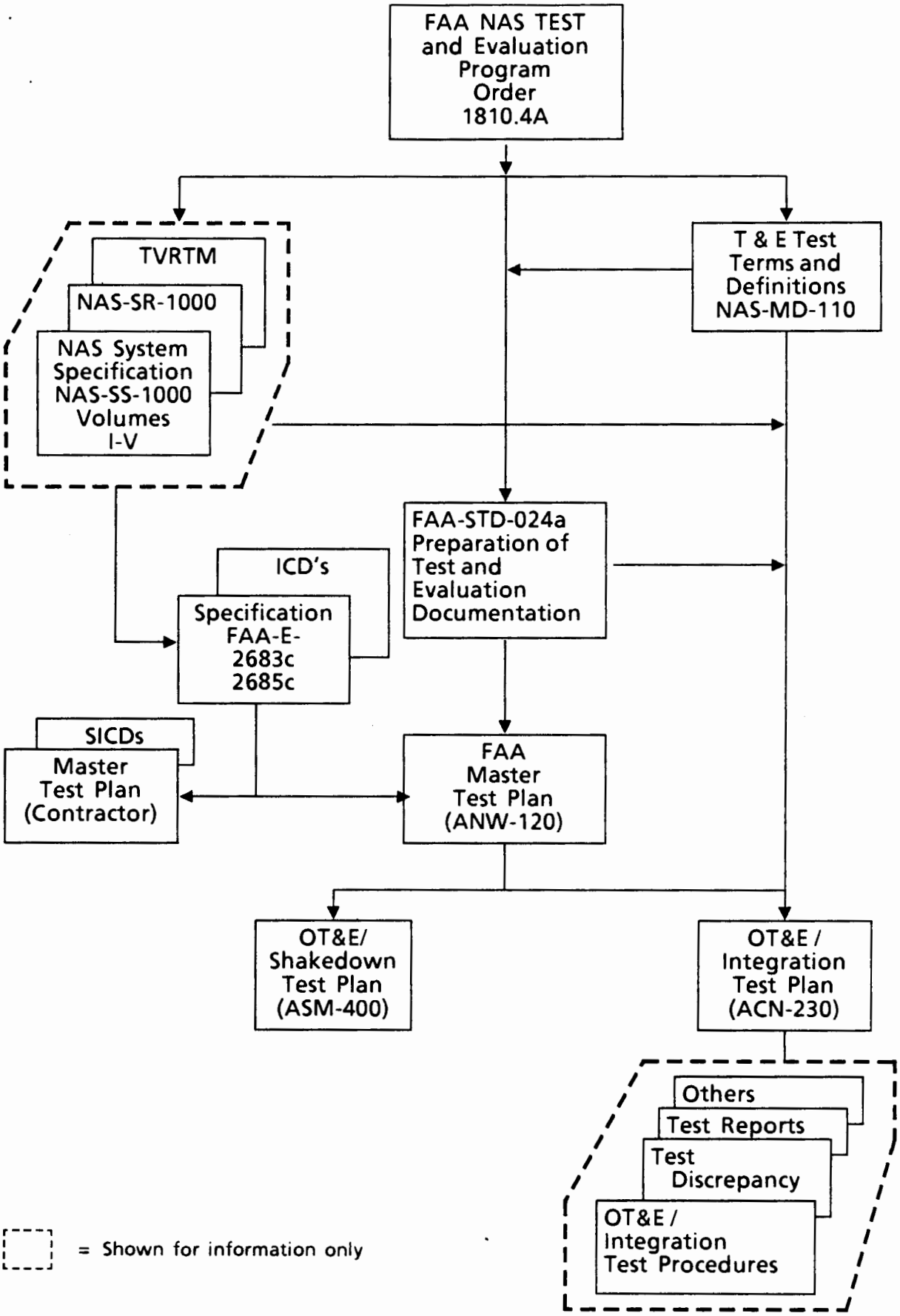


FIGURE 7.1-1. M1FC OT&E/INTEGRATION TEST PLAN DOCUMENTATION TREE

TEST CATEGORY_____ DATE_____

LOCATION:_____

INITIAL:_____ RE-TEST_____

TEST OBJECTIVE:

LIST OF PARTICIPANTS: ORGANIZATION: ROLE:

FAA TEST MANAGER:_____

CONTRACTOR TEST MANAGER:_____

FIGURE 7.2.3-1. M1FC TEST LOG

TEST CATEGORY:_____ PAGE_____OF_____

INITIAL:_____ RE-TEST:_____ DATE:_____

TEST PROCEDURE: #_____

REQUIREMENT: #_____

VERIFICATION METHOD:_____

TEST OBJECTIVE:

RESULTS:

COMMENTS:

PASS:_____ FAIL:_____

FAA TEST OBSERVER:_____

FAA TEST MANAGER:_____

CONTRACTOR:_____

FIGURE 7.2.4-1. M1FC TEST OBSERVER/MONITOR RECORD FORM

7.2.5. Problem/Trouble Report.

The Problem/Trouble Report, figure 7.2.5-1, is initiated when a problem is related to a non-M1FC subsystem/equipment maintenance type discrepancy.

8. TRAINING.

Training will be provided to FAA personnel participating in the OT&E/Integration testing of the M1FC. FAA personnel will include contract support personnel. This training is to include on-the-job training as required.

9. TEST SUPPORT.

9.1 INSTRUMENTATION.

The test equipment, used by the contractor for the DQT, will be provided to the FAA Technical Center for use in the OT&E/Integration testing.

9.2 DATA ANALYSIS.

The criteria for success will be determined by utilizing the appropriate verification method and expected output for each category. The required data will be gathered by designated test team personnel at the FAA Technical Center.

10. REVIEWS AND REPORTS.

The following subsections identify the reviews, meetings, and reports that will be conducted and/or completed prior to, during, and after OT&E/Integration testing.

10.1 TEST READINESS REVIEW.

Prior to the start of OT&E/Integration test activities, a Test Readiness Review (TRR) shall be conducted and an overall assessment of the availability and completeness of the previous testing activities/results shall be discussed.

In this review, the test director will present justification for his assessment of the readiness of the test including, but not limited to, status of all necessary documentation, the resolution of comments/ questions/problems, completion of configuration audits (software and hardware), availability of M1FC computer resources and other system facilities, potential risks, and an assessment of the overall outcome of the activity.

10.2 TEST SCHEDULE STATUS REVIEW MEETINGS.

Test Schedule Status Review (TSSR) meetings are scheduled on a monthly basis to keep the Program Office (APS-330) advised of the status of testing activities. These reviews are chaired by the ACN-230 Test Director, or his designee, in accordance with FAA Order 1810.4A.

PROBLEM TROUBLE REPORT			
REPORT NO.	DATE:	TEST ID:	REPORT BY:
CATEGORY OF FAILURE: _____ PASS _____ FAIL	TEST STEP:		
DESCRIPTION OF DISCREPANCY:			
DISPOSITION INSTRUCTIONS:			
FINAL DISPOSITION:			
APPROVALS: Test Director _____			

7.2.5-1. M1FC PROBLEM/TROUBLE REPORT

10.3 POST-TEST REVIEW.

This review will be held upon test completion. It will be chaired by the test manager and attended by all test personnel. This meeting will review the results of the test activity. Any discrepancies, anomalies, and exceptions that were recorded during the test, and their significance to the test results, will be discussed during this review.

10.4 QUICK LOOK TEST REPORTS.

These reports will be completed following the analysis of the test data, by the test director. For each test conducted, a Quick-Look Test Report will be produced. This report will give the early status information for the system while the analysis process is still underway. It will also contain the outcome of the tests, test discrepancies noted during the test execution, and their significance.

10.5 FINAL TEST REPORT.

The M1FC Test Director will be responsible for preparing a Final Test Report. A Draft report will be delivered to the program manager after the completion of testing. The Final Test Report will document the results of the detailed test analysis, and assess the conformance of each test to defined criteria. The status of problems identified previously in the Quick Look Test Reports will be updated, and a revised assessment will be made of their impact on the tested system, along with the suggested corrective actions required.

10.6 DEPLOYMENT READINESS REVIEW.

A DRR will be scheduled and conducted in accordance with FAA Order 1810.4A. The DRR process will provide the status on all of the M1FC project activities, identify open issues, and enable the formulation of conclusions and recommendations to these issues. The DRR also ensures that adequate attention and resources are focused on those issues to ensure timely resolution prior to deployment. The DRR process normally begins a minimum of 180 days prior to the scheduled deployment of the M1FC project at the first operational site and includes formal DRR presentations approximately 150 and 60 days prior to the deployment date.

11. SCHEDULES.

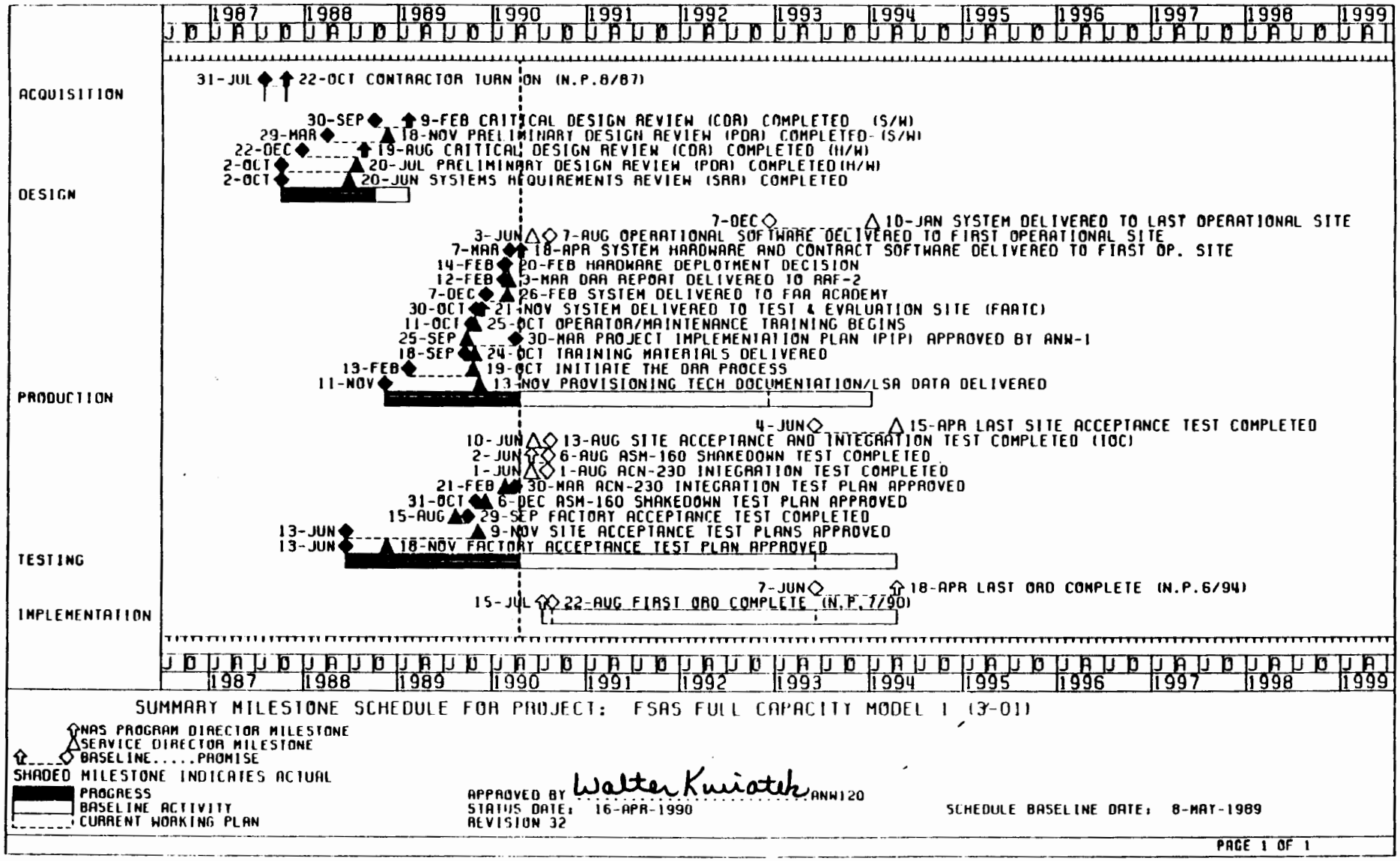
11.1 GENERAL.

This section presents the schedules for M1FC OT&E/Integration test activities and post-test activities.

11.2 Major Activities Schedule.

This section presents the schedules for the M1FC Project Delivery, Installation, OT&E/Integration Test Plan, OT&E/Integration Test Procedures, OT&E/Integration Testing and Test Reports based upon the M1FC Project Master Baseline Schedule. (See table 11.2-1 which illustrates this schedule.)

Table 11.2-1. MlFC Project Master Baseline Schedule



SUMMARY MILESTONE SCHEDULE FOR PROJECT: FSAS FULL CAPACITY MODEL 1 (3-01)

NAS PROGRAM DIRECTOR MILESTONE
SERVICE DIRECTOR MILESTONE
BASELINE.....PROMISE
SHADED MILESTONE INDICATES ACTUAL
PROGRESS
BASELINE ACTIVITY
CURRENT WORKING PLAN

APPROVED BY Walter Kwiatek ANW120
STATUS DATE: 16-APR-1990
REVISION 32

SCHEDULE BASELINE DATE: 8-MAY-1989

PAGE 1 OF 1

12. M1FC INTEGRATION TEST VERIFICATION REQUIREMENTS TRACEABILITY MATRIX.

The TVRTM, contained in appendix A, identifies the NAS requirements, per NAS-SS-1000, Volume II. This matrix was developed in accordance with appendix IV of FAA-STD-024a.

13. ABBREVIATIONS AND ACRONYMS.

ACCC	Area Control Computer Complex
ACN	Communications/Navigation/Surveillance Division
AFSS	Automated Flight Service Station
APS	Program Engineering Service
ASM	System Maintenance Service
ATR	Air Traffic Plans and Requirements Service
AWP	Aviation Weather Processor
CAT	Test Verification Category
DRR	Deployment Readiness Review
DQT	Design Qualification Test
DT&E	Development Test and Evaluation
EXCOM	Executive Committee
FAA	Federal Aviation Administration
FSAS	Flight Service Automation System
FSDPS	Flight Service Data Processing System
FSS	Flight Service Station
M1FC	Model 1 Full Capacity
MPS	Maintenance Processor Subsystem
MTP	Master Test Plan
NADIN	National Airspace Data Interchange Network (1A/2)
NAS	National Airspace System
NAWPF	National Aviation Weather Processing Facility
NOTAM	Notice to Airmen
NWS	National Weather Service
OT&E	Operational Test and Evaluation
PAT&E	Production Acceptance Test and Evaluation
PTR	Program Technical Report
SAT	Site Acceptance Test
SLV	System Level Verification
T&E	Test and Evaluation
TMP	Traffic Management Processor
TSSR	Test Schedule Status Review
TRR	Test Readiness Review
TVRTM	Test Verification Requirement Traceability Matrix
WMSC	Weather Message Switching Center
WMSCR	Weather Message Switching Center Replacement

APPENDIX A

M1FC TEST VERIFICATION REQUIREMENTS TRACEABILITY MATRIX (TVRTM)

M1FC TEST VERIFICATION REQUIREMENTS TRACEABILITY MATRIX (TVRTM)

NAS SYSTEM SPECIFICATION NAS-SS-1000 VOLUME II			TEST LEVELS VERIFICATION METHODS				CROSS REFERENCE		REMARKS
PARA. NO.	REQUIREMENT DESCRIPTION	C or N	DT&E	PAT&E	OT&E	NAS OT&E	FAA-E-2683C	FAA-E-2685C	
3.2.1.3	Auto Flight Service Subelement						Title	Title	
3.2.1.3.1	Flight Service Data Processing System						Descript.	Descript.	
3.2.1.3.1.1	Functional Characteristics						Lead-In	Lead-In	
3.2.1.3.1.1.1	Failure Resolution	N	D	X	D	D	3.3.1.3.2	3.6.2	
3.2.1.3.1.1.2	Data Acceptance	N	D	X	D	D		3.2.2	
3.2.1.3.1.1.3	AFSSWS Support	N	D	X	D	D	3.6.1.1	3.2	
3.2.1.3.1.1.4	Data Requests	N	D	X	D	D		3.2.2	
3.2.1.3.1.1.5	Data Integrity	N	D	X	D	D		3.2.1.2.5	
3.2.1.3.1.1.6	Data Processing	N	D	X	X	X		3.2.2	
3.2.1.3.1.1.6.1	Flight Data Processing	N	D	X	X	X		3.4.3	
3.2.1.3.1.1.6.1.1	Routing Determination	N	D	X	D	D		3.4.3.5.1.1	
3.2.1.3.1.1.6.1.1.1	VFR Flight Data Routing						Lead-In	Lead-In	
3.2.1.3.1.1.6.1.1.1.a	Subsystem or Direct User Submitting the Data	N	D	D	D	D		3.4.9	
3.2.1.3.1.1.6.1.1.1.b	FSDPS Associated with the Departure Point	N	D	D	D	L			
3.2.1.3.1.1.6.1.1.1.c	(Reserved - Deleted by NCP11047)								
3.2.1.3.1.1.6.1.1.1.d	(Reserved - Deleted by NCP11047)								
3.2.1.3.1.1.6.1.1.1.e	(Reserved - Deleted by NCP11047)								
3.2.1.3.1.1.6.1.1.1.f	If Departur/Arrivl Arpt is on Adptble Arpt List	N	D	D	D	D	*	*	
3.2.1.3.1.1.6.1.1.2	DVFR Flight Data Routing Determination						Lead-In	Lead-In	
3.2.1.3.1.1.6.1.1.2.a	Subsystem or Direct User Submitting the Data	N	D	D	D	D		3.4.9	
3.2.1.3.1.1.6.1.1.2.b	FSDPS Associated with the Departure Point	N	D	D	D	D			
3.2.1.3.1.1.6.1.1.2.c	(Reserved - Deleted by NCP 11047)								
3.2.1.3.1.1.6.1.1.2.d	(Reserved - Deleted by NCP 11047)								
3.2.1.3.1.1.6.1.1.2.e	(Reserved - Deleted by NCP 11047)								
3.2.1.3.1.1.6.1.1.2.f	(Reserved - Deleted by NCP 11047)								
3.2.1.3.1.1.6.1.1.2.g	If Departure/Arrival Arpt is on Adaptable Arpt List	N	D	D	D	D	*	*	
3.2.1.3.1.1.6.1.1.3	IFR Flight Data Routing Determination						LEAD-IN	LEAD-IN	
3.2.1.3.1.1.6.1.1.3.a	Subsystem Submitting the Data	N	D	D	D	D		3.4.9	
3.2.1.3.1.1.6.1.1.3.b	(Reserved - Deleted by NCP 11047)								
3.2.1.3.1.1.6.1.2.	Flight Data Evaluation	N	D	X	D	D		3.4.3.5.1	

(Verification Method) T = Test, D = Demonstration, L = Verified by Lower Level Requirement, X = Not Applicable

Legend C- Critical N = Non-critical * = No Trace Exists

M1FC TEST VERIFICATION REQUIREMENTS TRACEABILITY MATRIX (TVRTM)

NAS SYSTEM SPECIFICATION NAS-SS-1000 VOLUME II			TEST LEVELS / VERIFICATION METHODS				CROSS REFERENCE		REMARKS
PARA. NO.	REQUIREMENT DESCRIPTION	C or N	DT&E	PAT&E	OT&E	NAS OT&E	FAA-E-2683C	FAA-E-2685C	
3.2.1.3.1.1.6.1.2.1	Validity Evaluation	N	D	X	D	D		3.4.3.5.1	
3.2.1.3.1.1.6.1.2.2	Route Contiguity	N	D	X	D	D		3.4.2.5.1.1	
3.2.1.3.1.1.6.1.2.3	Transmittal for Evaluation								
3.2.1.3.1.1.6.1.2.3.a	Proposed VFR/DVFR Flight Data	N	D	D	D	D		3.3.2.2	
3.2.1.3.1.1.6.1.2.3.b	Proposed IFR Flight Data	N	D	D	D	D		3.3.2.2	
3.2.1.3.1.1.6.1.2.3.c	Selected Proposed VFR Flight Data	N	D	D	D	D		3.3.2.2	
3.2.1.3.1.1.6.1.3	Flight Data Reformatting	N	D	X	X	X	*	*	
3.2.1.3.1.1.6.1.4	Multiple Flight Plans	N	D	X	D	D		3.4.3.1	
3.2.1.3.1.1.6.1.4.a	Aircraft Identifier	N	D	X	D	D		3.4.3.1	
3.2.1.3.1.1.6.1.4.b	Type of Aircraft/Special Equipment	N	D	X	D	D		3.4.3.1	
3.2.1.3.1.1.6.1.4.c	Mode S Address	N	D	X	X	X		3.4.3.1	
3.2.1.3.1.1.6.1.4.d	True Airspeed	N	D	X	D	D		3.4.3.1	
3.2.1.3.1.1.6.1.4.e	Aircraft Home Base	N	D	X	D	D		3.4.3.1	
3.2.1.3.1.1.6.1.4.f	Color of Aircraft	N	D	X	D	D		3.4.3.1	
3.2.1.3.1.1.6.1.5	Error Correction	N	D	X	D	D		3.4.3.5.1	
3.2.1.3.1.1.6.1.6	Search and Rescue (SAR) Data Removal	N	D	X	D	D		3.4.3	
3.2.1.3.1.1.6.1.6.1	SAR Data Storage	N	D	X	D	D		3.3.2.2.1.c	
3.2.1.3.1.1.6.1.6.2	SAR Data Transmission	N	D	X	D	D		3.4.3	
3.2.1.3.1.1.6.2	Airport Lists	N	D	X	D	D		3.3.2.3	
3.2.1.3.1.1.6.3	Weather Data Processing						Lead-In	Lead-In	
3.2.1.3.1.1.6.3.1	AWP Data Products	N	D	X	D	D		3.2.2	
3.2.1.3.1.1.6.3.2	Real Time Weather Proc (RWP)/Meteorol Wx Proc (MWP)	N	D	X	X	X	*	*	
3.2.1.3.1.1.6.3.3	(Reserved - Deleted by NCP10197)								
3.2.1.3.1.1.6.3.4	NOTAM Processing	N	D	X	D	D		3.2.1.2.2	
3.2.1.3.1.1.6.3.4.1	Processed NOTAM Handling						Lead-In	Lead-In	
3.2.1.3.1.1.6.3.4.1.a	Maintain	N	D	X	D	D		3.2	
3.2.1.3.1.1.6.3.4.1.b	Update	N	D	X	D	D		3.2	
3.2.1.3.1.1.6.3.5	Military Operation/Special Use Airspace Processing						Lead-In	Lead-In	
3.2.1.3.1.1.6.3.5.a	Maint Info Re:Special Use Airspace Bounds., TIMES	N	D	D	X	X		3.3.2.2.1.b	

(Verification Method) T = Test, D = Demonstration, L = Verified by Lower Level Requirement, X = Not Applicable

Legend C- Critical N = Non-critical * = No Trace Exists

M1FC TEST VERIFICATION REQUIREMENTS TRACEABILITY MATRIX (TVRTM)

NAS SYSTEM SPECIFICATION NAS-SS-1000 VOLUME II			TEST LEVELS				CROSS REFERENCE		REMARKS
			VERIFICATION METHODS						
PARA. NO	REQUIREMENT DESCRIPTION	C or N	DT&E	PAT&E	OT&E	NAS OT&E	FAA-E-2683C	FAA-E-2685C	
3.2.1.3.1.1.6.3.5.b	Update Info Re: Spcl Use Airsp. Bounds., TIMES	N	D	D	X	X		3.3.2.2.1.b	
3.2.1.3.1.1.6.3.5.b.1	Update Info SUA Upon Bound Cng	N	D	D	X	X		3.3.2.2.1.b	
3.2.1.3.1.1.6.3.5.b.2	Update Info SUA Deactiva.	N	D	D	X	X		3.3.2.2.1.b	
3.2.1.3.1.1.6.3.6	(Reserved - Deleted by NCP10197)								
3.2.1.3.1.1.6.4	Search and Rescue Data Processing	N	D	X	D	D		3.3.2.2.1.c	
3.2.1.3.1.1.6.4.1	SAR Report Generation	N	D	D	X	X		3.4.3	
3.2.1.3.1.1.6.5	Law Enforcement Data Pro.	N	D	X	D	D		3.3.2.2.1.d	
3.2.1.3.1.1.6.6	Traffic Management Data	N	X	X	X	X	*	*	
3.2.1.3.1.1.6.7	(Reserved - Deleted by NCP11047)								
3.2.1.3.1.1.6.8	Direct User Access Processing System (DUATS)	N	D	X	X	X	*	*	
3.2.1.3.1.1.6.9	MBO Terminal Processing	N	D	X	D	D	*	*	
3.2.1.3.1.1.6.10	Gen Flight Service Msg						Lead-In	Lead-In	
3.2.1.3.1.1.6.10a	Preferred Route Information	N	D	X	D	D		3.3.2.3.4	
3.2.1.3.1.1.6.10b	Administrative Messages	N	D	X	D	D		3.3.2.2	
3.2.1.3.1.1.6.10c	General Information Messages	N	D	X	D	D		3.3.2.2	
3.2.1.3.1.1.6.11	PIREP Handling	N	D	D	X	X		3.3.2.1.2.b	
3.2.1.3.1.1.7	Flight Data Management	N	D	X	D	D		3.4.3	
3.2.1.3.1.1.7.1	Flight Data Storage	N	D	X	D	D		3.4.3.3	
3.2.1.3.1.1.7.1.1	Proposed Flight Plan Storage	N	D	X	D	D		3.4.3.3	
3.2.1.3.1.1.7.1.2	Active Flight Plan Storage	N	D	X	D	D		3.4.3.4	
3.2.1.3.1.1.7.2	Flight Data Distribution	N	D	X	D	D		3.4.3	
3.2.1.3.1.1.7.2.1	ACCC Distribution						Title	Title	
3.2.1.3.1.1.7.2.1.1	Dep ACCC Distribution						Lead-In	Lead-In	
3.2.1.3.1.1.7.2.1.1.a	IFR Flight Data	N	D	D	X	X		3.4.3.5.1.1	
3.2.1.3.1.1.7.2.1.1.b	VFR & DVFR Flight Data Affecting Departures	N	D	D	X	X	*	*	
3.2.1.3.1.1.7.2.1.2	Destination ACCC Distribution	N	D	D	X	X	*	*	
3.2.1.3.1.1.7.2.1.3	Intercept ACCC Distribution	N	D	D	X	X	*	*	
3.2.1.3.1.1.7.2.2	FSDPS Distribution						Title	Title	
3.2.1.3.1.1.7.2.2.1	FSDPS Distribution	N	D	X	D	D		3.4.5.5	

(Verification Method) T = Test, D = Demonstration, L = Verified by Lower Level Requirement, X = Not Applicable

Legend C- Critical N = Non-critical * = No Trace Exists

M1FC TEST VERIFICATION REQUIREMENTS TRACEABILITY MATRIX (TVRTM)

NAS SYSTEM SPECIFICATION NAS-SS-1000 VOLUME II			TEST LEVELS				CROSS REFERENCE		REMARKS
			VERIFICATION METHODS						
PARA. NO	REQUIREMENT DESCRIPTION	C or N	DT&E	PAT&E	OT&E	NAS OT&E	FAA-E-2683C	FAA-E-2685C	
3.2.1.3.1.1.7.2.2.1.1	Detection of Non-Acknowledgement	N	D	X	D	D		3.4.5.5	
3.2.1.3.1.1.7.2.2.1.2	Retrans of Flight Data	N	D	X	D	D		3.4.5.5	
3.2.1.3.1.1.7.2.2.1.3	Retransmittal Alert	N	D	X	D	D		3.4.5.5	
3.2.1.3.1.1.7.2.2.2	Departure FSDPS Distribution						Lead-In	Lead-In	
3.2.1.3.1.1.7.2.2.2.a	VFR, DVFR Flight Data Relat. to Prop. Flight Plans	N	D	D	D	D	*	*	
3.2.1.3.1.1.7.2.2.2.b	VFR, DVFR Flt Notification Messages	N	D	D	D	D	*	*	
3.2.1.3.1.1.7.2.2.3	Destination FSDPS Distribution						Lead-In	Lead-In	
3.2.1.3.1.1.7.2.2.3.a	VFR, DVFR Flt Notification Upon Activation	N	D	D	D	D		3.4.3	
3.2.1.3.1.1.7.2.2.3.b	VFR, DVFR F/P Activity	N	D	D	D	D		3.4.3	
3.2.1.3.1.1.7.2.2.3.c	VFR, DVFR F/P Closure Arr Msg	N	D	D	D	D		3.4.3	
3.2.1.3.1.1.7.3	SAR Data Management		D	D	D	D		3.3.2.2.1.c	
3.2.1.3.1.1.7.4	Data Management Security	N	D	X	D	D	*	*	
3.2.1.3.1.1.8	Monitor & Control Reqs.						Lead-In	Lead-In	
3.2.1.3.1.1.8.1	Computer Operator Terminal Console	N	X	D	D	D	3.7.3	3.3.5	
3.2.1.3.1.1.8.2	Display Requirements	N	D	X	X	X	3.7.3	3.3.5	
3.2.1.3.1.1.8.3	Status & Performance Cntrol	N	D	X	D	D	3.7.3	3.3.5	
3.2.1.3.1.1.9	Event Reconstruction Reqs.						Title	Title	
3.2.1.3.1.1.9.1	Recording	N	D	X	D	D		3.3.6	
3.2.1.3.1.1.9.2	Reconstruction						Lead-In	Lead-In	
3.2.1.3.1.1.9.2.a	Time Period	N	D	X	D	D		3.3.6.2	
3.2.1.3.1.1.9.2.b	Aircraft	N	D	X	D	D		3.3.6.2	
3.2.1.3.1.1.9.2.c	Specialist Position	N	D	X	D	D		3.3.6.2	
3.2.1.3.1.1.10	Coded Time Source	N	D	X	D	D	3.3.1.4	3.5.3.6	
3.2.1.3.1.2	Performance Requirements						Lead-In	Lead-In	
3.2.1.3.1.2.1	Failure Resolution	N	T	X	T	T	3.3.1.3.5		
3.2.1.3.1.2.2	Data Acceptance	N	T	X	T	T		3.4.3.1	
3.2.1.3.1.2.3	Support	N	T	T	T	T	3.6.1.1	3.2	

(Verification Method) T = Test, D = Demonstration, L = Verified by Lower Level Requirement, X = Not Applicable

Legend C- Critical N = Non-critical * = No Trace Exists

M1FC TEST VERIFICATION REQUIREMENTS TRACEABILITY MATRIX (TVRTM)

NAS SYSTEM SPECIFICATION NAS-SS-1000 VOLUME II			TEST LEVELS				CROSS REFERENCE		REMARKS
			VERIFICATION METHODS						
PARA. NO	REQUIREMENT DESCRIPTION	C or N	DT&E	PAT&E	OT&E	NAS OT&E	FAA-E-2683C	FAA-E-2685C	
3.2.1.3.1.2.4	(Reserved-Deleted by NCP 10197)								
3.2.1.3.1.2.5	Data Integrity	N	T	X	T	T		3.2.1.2.5	
3.2.1.3.1.2.6	Data Processing						Title	Title	
3.2.1.3.1.2.6.1	Multiple Flight Plans	N	T	X	T	T		3.4.3.2	
3.2.1.3.1.2.6.2	Airport List	N	D	D	D	D		3.3.2.3	
3.2.1.3.1.2.6.3	Weather Data Processing						Lead-In	Lead-In	
3.2.1.3.1.2.6.3.1	(Reserved - Deleted)								
3.2.1.3.1.2.6.3.2	RWP/MWP Data Products	N	T	X	X	X	*	*	
3.2.1.3.1.2.6.3.3	(Reserved - Deleted)								
3.2.1.3.1.2.6.3.4	NOTAM Entry Processing	N	T	X	T	T	*	3.2.1.2.2	
3.2.1.3.1.2.6.3.4.1	Processed NOTAM Handling	N	T	X	T	T		3.2	
3.2.1.3.1.2.6.3.5	Mil Op/SUA Processing						Lead-In	Lead-In	
3.2.1.3.1.2.6.3.5.a	Maintain Information	N	T	T	T	T		3.3.2.2.1.b	
3.2.1.3.1.2.6.3.5.b	Update Information	N	T	T	T	T		3.7.1.1	
3.2.1.3.1.2.6.3.5.b.1	Update Info Upon Boundary Change	N	T	T	T	T		3.7.1.1	
3.2.1.3.1.2.6.3.5.b.2	Update Info Upon Activation/Deactivation	N	T	T	T	T		3.7.1.1	
3.2.1.3.1.2.6.3.6	Weather Data Base Processing						Lead-In	Lead-In	
3.2.1.3.1.2.6.3.6.a	Purge Aeronautical Information	N	T	X	T	T		3.3.2.2.1	
3.2.1.3.1.2.6.3.6.b	Purge Individual PIREPs	N	T	X	T	T		3.3.2.1.2.b	
3.2.1.3.1.2.6.3.7	(Reserved - Deleted by NCP10197)								
3.2.1.3.1.2.6.4	SAR Data Processing	N	T	X	X	X			
3.2.1.3.1.2.6.4.1	SAR Report Generation						Lead-In	Lead-In	
3.2.1.3.1.2.6.4.1.a	QALQ	N	T	X	T	T		3.4.3	
3.2.1.3.1.2.6.4.1.b	INREQ	N	T	T	T	T		3.4.3	
3.2.1.3.1.2.6.4.1.c	ALNOT	N	T	T	T	T		3.4.3	
3.2.1.3.1.2.6.4.2	(Reserved - Deleted by NCP 11047)								
3.2.1.3.1.2.6.4.3	(Reserved - Deleted by NCP 11047)								

(Verification Method) T = Test, D = Demonstration, L = Verified by Lower Level Requirement, X = Not Applicable

Legend C- Critical N = Non-critical * = No Trace Exists

M1FC TEST VERIFICATION REQUIREMENTS TRACEABILITY MATRIX (TVRTM)

NAS SYSTEM SPECIFICATION NAS-SS-1000 VOLUME II			TEST LEVELS VERIFICATION METHODS				CROSS REFERENCE		REMARKS
PARA. NO	REQUIREMENT DESCRIPTION	C or N	DT&E	PAT&E	OT&E	NAS OT&E	FAA-E-2683C	FAA-E-2685C	
3.2.1.3.1.2.6.4.4	SAR Transmission	N	D	X	D	D		3.4.6.2	
3.2.1.3.1.2.6.5	LE Data Processing	N	T	X	T	T		3.3.2	
3.2.1.3.2.6.6	(Reserved - Deleted by NCP11047)								
3.2.1.3.1.2.6.7	(Reserved - Deleted by NCP11047)								
3.2.1.3.2.6.8	MBO Terminal	N	X	T	X	X	*	*	
3.2.1.3.1.2.6.8.1	MBO Terminal Access Times	N	T	T	X	X	*	*	
3.2.1.3.1.2.6.9	General Flight Service Message Processing						Lead-In	Lead-In	
3.2.1.3.1.2.6.9.a	Preferred Route Information	N	T	X	T	T		3.3.2.3.4	
3.2.1.3.1.2.6.9.b	Administrative Messages	N	T	X	T	T		3.3.2.2	
3.2.1.3.1.2.6.9.c	General Information Messages	N	T	X	T	T		3.3.2.2	
3.2.1.3.1.2.6.10	PIREP Handling	N	T	X	T	T		3.7.1.1	
3.2.1.3.1.2.7	Flight Data Management						Title	Title	
3.2.1.3.1.2.7.1	Proposed Flight Plan Storage	N	T	X	X	X		3.3.2	
3.2.1.3.1.2.7.2	Active Flight Plan Storage	N	T	X	X	X		3.3.2	
3.2.1.3.1.2.7.3	Flight Data Distribution	N	T	X	T	T		3.7.1.1	
3.2.1.3.1.2.8	Monitor & Control Requirements						Title	Title	
3.2.1.3.1.2.8.1	Display Requirements	N	T	X	X	X		3.7.3.1.1	
3.2.1.3.1.2.9	Event Reconstruction Requirements						Title	Title	
3.2.1.3.1.2.9.1	Data Recording	N	D		D	D		3.3.6	
3.2.1.3.1.2.9.2	(Reserved - Deleted)								
3.2.1.3.1.2.9.3	Voice Recording & Reconstruction						Reference	Reference	
3.2.1.3.1.2.10	Joint FSDPS/AFSSWS Performance Requirements						Title	Title	
3.2.1.3.1.2.10.1	Response Times						Lead-In	Lead-In	
3.2.1.3.1.2.10.1.a	Response Time	N	T	X	T	T		3.7.1.1	
3.2.1.3.1.2.10.1.b	Hazardous Weather Mean Response Time	N	T	X	T	T		3.7.1.1	
3.2.1.3.1.2.10.2	Flight Data Response	N	T	X	T	T		3.7.1.1	
3.2.1.3.1.2.10.3	AWP Data Products	N	T	T	T	T		3.7.1.1	

(Verification Method) T = Test, D = Demonstration, L = Verified by Lower Level Requirement, X = Not Applicable

Legend C- Critical N = Non-critical * = No Trace Exists

M1FC TEST VERIFICATION REQUIREMENTS TRACEABILITY MATRIX (TVRTM)

NAS SYSTEM SPECIFICATION NAS-SS-1000 VOLUME II			TEST LEVELS VERIFICATION METHODS				CROSS REFERENCE		REMARKS
PARA. NO	REQUIREMENT DESCRIPTION	C or N	DT&E	PAT&E	OT&E	NAS OT&E	FAA-E-2683C	FAA-E-2685C	
3.2.1.3.1.3	FSDPS Functional/Physical Interfaces						Lead-In	Lead-In	
3.2.1.3.1.3-1	FSDPS Interface Characteristics						Table	Table	
3.2.1.3.1.3-1.a	ACCC FSDPS	N	X	X	X	X	*	*	
3.2.1.3.1.3-1.b	FSDPS ACCC	N	X	X	X	X	*	*	
3.2.1.3.1.3-1.c	(Reserved - Deleted by NCP 10197)								
3.2.1.3.1.3-1.d	AFSSWS FSDPS	N	X	X	D	D		*	
3.2.1.3.1.3-1.e	FSDPS AFSSWS	N	X	X	D	D	*	*	
3.2.1.3.1.3-1.f	AWP FSDPS	N	X	X	D	D		3.2.1.2.2	
3.2.1.3.1.3-1.g	FSDPS AWP	N	X	X	D	D		3.2.1.2.2	
3.2.1.3.1.3-1.h	FSDPS MBO	N	X	X	D	D	*	*	
3.2.1.3.1.3-1.i	MBO FSDPS	N	X	X	D	D	*	*	
3.2.1.3.1.3-1.j	FSDPS MPS	N	X	X	X	X	*	*	
3.2.1.3.1.3-1.k	MPS FSDPS	N	X	X	X	X	*	*	
3.2.1.3.1.3-1.l	FSDPS OTHER ACCC	N	X	X	X	X		3.4.3	
3.2.1.3.1.3-1.m	OTHER ACCC FSDPS	N	X	X	X	X		3.4.3	
3.2.1.3.1.3-1.n	FSDPS OTHER FSDPS	N	X	X	D	D		3.4.3.5.1.1	
3.2.1.3.1.3-1.o	OTHER FSDPS FSDPS	N	X	X	D	D		3.4.3.5.1.1	
3.2.1.3.1.3-1.p	(Reserved - Deleted by NCP10197)								
3.2.1.3.1.3-1.q	(Reserved - Deleted by NCP10197)								
3.2.1.3.1.3-1.r	(Reserved - Deleted by NCP11047)								
3.2.1.3.1.3-1.s	(Reserved - Deleted by NCP11047)								
3.2.1.3.1.3-1.t	(Reserved - Deleted by NCP10197)								
3.2.1.3.1.3-1.u	(Reserved - Deleted by NCP10197)								
3.2.1.3.1.3-1.v	DUATS FSDPS	N	X	X	X	X	*	*	
3.2.1.3.1.3-1.w	FSDPS DUATS	N	X	X	X	X	*	*	
3.2.1.3.2	AFSS Work Station						Descript.	Descript.	
3.2.1.3.2.1	AFSSWS Functional Characteristics						Lead-In	Lead-In	
3.2.1.3.2.1.1	Data Acceptance	N	D	X	D	D		3.2.2	
3.2.1.3.2.1.2	Data Entry	N	D	X	D	D		3.2.2	

(Verification Method) T = Test, D = Demonstration, L = Verified by Lower Level Requirement, X = Not Applicable

Legend C- Critical N = Non-critical * = No Trace Exists

M1FC TEST VERIFICATION REQUIREMENTS TRACEABILITY MATRIX (TVRTM)

NAS SYSTEM SPECIFICATION NAS-SS-1000 VOLUME II			TEST LEVELS VERIFICATION METHODS				CROSS REFERENCE		REMARKS
PARA. NO	REQUIREMENT DESCRIPTION	C or N	DT&E	PAT&E	OT&E	NAS OT&E	FAA-E-2683C	FAA-E-2685C	
3.2.1.3.2.1.3	Data Processing						Title	Title	
3.2.1.3.2.1.3.1	Alphanumeric Data	N	D	X	D	D		3.2.2	
3.2.1.3.2.1.3.2	(Reserved - Deleted by NCP10197)	N							
3.2.1.3.2.1.3.2.1.1.4	Paging	N	D	X	D	D		3.4.2	
3.2.1.3.2.1.3.2.1.2.2	Display	N	D	X	D	D		3.2.2	
3.2.1.3.2.1.4	(Reserved - Deleted by 10197)								
3.2.1.3.2.1.5	PIREP Handling	N	D	X	D	D		3.3.2.1.3	
3.2.1.3.2.1.6	Monitor & Control Requirements						TBD	TBD	
3.2.1.3.2.1.6.1	Monitor & Control Reporting	N	D	X	D	D	3.7.3	3.3.5	
3.2.1.3.2.1.6.2	System Restoration	N	D	X	D	D	3.7.3	3.3.5	
3.2.1.3.2.1.7	(Reserved - Deleted by NCP10197)								
3.2.1.3.2.1.8	Data Output						Title	Title	
3.2.1.3.2.1.8.1	Display	N	D	X	X	X	3.3.2.2		
3.2.1.3.2.1.8.2	Hardcopy Support						Lead-In	Lead-In	
3.2.1.3.2.2	Performance Characteristics	N	D	L	X	X	3.3.1.1.4		
3.2.1.3.2.2.1	Data Entry	N	T	X	X	X	3.6.1.2.2		
3.2.1.3.2.3	AFSSWS Functional/Physical Interfaces						Lead-In	Lead-In	
3.2.1.3.2.3-1	AFSSWS Interface Characteristics						Table	Table	
3.2.1.3.2.3-1.a	AFSSWS FSDPS	N	X	X	D	D		3.2	
3.2.1.3.2.3-1.b	FSDPS AFSSWS	N	X	X	D	D		3.2	
3.2.1.3.2.3-1.c	AFSSWS FSS SP	N	X	X	D	D	3.3.2.3		
3.2.1.3.2.3-1.d	FSS SP AFSSWS	N	X	X	D	D	3.3.2.3		
3.2.1.3.2.3-1.e	AFSSWS VOR	N	X	X	X	X	*	*	
3.2.1.5.4	Aviation Weather Processor						Descript.	Descript.	
3.2.1.5.4.1	Functional Characteristics						Lead-In	Lead-In	
3.2.1.5.4.1.1	Data Collection						Table	Table	
3.2.1.5.4.1.1.1	Aeronautical Data						Lead-In	Lead-In	
3.2.1.5.4.1.1.1.a	Traffic Management Data	N	D	X	D	D	*	*	

(Verification Method) T = Test, D = Demonstration, L = Verified by Lower Level Requirement, X = Not Applicable

Legend C- Critical N = Non-critical * = No Trace Exists

M1FC TEST VERIFICATION REQUIREMENTS TRACEABILITY MATRIX (TVRTM)

NAS SYSTEM SPECIFICATION NAS-SS-1000 VOLUME II			TEST LEVELS VERIFICATION METHODS				CROSS REFERENCE		REMARKS
PARA. NO	REQUIREMENT DESCRIPTION	C or N	DT&E	PAT&E	OT&E	NAS OT&E	FAA-E-2683C	FAA-E-2685C	
3.2.1.5.4.1.1.1.b	NOTAMs Data	N	D	X	D	D		3.2.1.2	
3.2.1.5.4.1.1.1.c	Military Operations	N	D	X	D	D		3.2.1.2	
3.2.1.5.4.1.1.1.d	Law Enforcement Information	N	D	X	D	D		3.2.1.2	
3.2.1.5.4.1.1.1.e	Preferred Route Information	N	D	X	D	D		3.2.1.2	
3.2.1.5.4.1.1.2	Meteorological Data						Lead-In	Lead-in	
3.2.1.5.4.1.1.2.a	Surface Weather Observation	N	D	X	D	D		3.2.1.2	
3.2.1.5.4.1.1.2.b	ACF Weather Advisories	N	D	X	D	D		3.2.1.2	
3.2.1.5.4.1.1.2.c	PIREPs	N	D	X	D	D		3.2.1.2	
3.2.1.5.4.1.1.2.d	Terminal Forecasts	N	D	X	D	D		3.2.1.2	
3.2.1.5.4.1.1.2.e	Area Forecasts	N	D	X	D	D		3.2.1.2	
3.2.1.5.4.1.1.2.f	Radar Weather Reports	N	D	X	D	D		3.2.1.2	
3.2.1.5.4.1.1.2.g	Weather Warnings	N	D	X	D	D		3.2.1.2	
3.2.1.5.4.1.1.2.h	Current Weather Conditions Aloft	N	D	X	D	D		3.2.1.2	
3.2.1.5.4.1.1.2.i	Winds Aloft	N	D	X	D	D		3.2.1.2	
3.2.1.5.4.1.1.2.j	(Reserved - Deleted by NCP11047)	N							
3.2.1.5.4.1.1.2.k	Weather Information	N	D	X	D	D		3.2.1.2	
3.2.1.5.4.1.2	Data Processing						Title	Title	
3.2.1.5.4.1.2.1	General Products						Lead-In	Lead-In	
3.2.1.5.4.1.2.1.a	Manual Entries	N	D	X	D	D		3.2.1.2.4	
3.2.1.5.4.1.2.1.b	(Reserved - Deleted by NCP10197)	N							
3.2.1.5.4.1.2.1.c	(Reserved - Deleted by NCP10197)	N							
3.2.1.5.4.1.2.1.d	Generate Law Enforcement	N	D	X	D	D		3.2.1.2	
3.2.1.5.4.1.2.1.e	Perform Processing	N	D	X	X	X		3.2.1.2	
3.2.1.5.4.1.2.2	Editing	N	D	D	D	D		3.2.1.2.4	
3.2.1.5.4.1.3	Maintain Data Base	N	D	D	D	D		3.2.1.1	
3.2.1.5.4.1.4	Distribution						Lead-In	Lead-In	
3.2.1.5.4.1.4.a	Distribute All Flight Service Products	N	D	X	D	D		3.2.1.2	
3.2.1.5.4.1.4.b	Distribute AWP Spec. Gen. Products	N	D	X	D	D		3.2.1.1	
3.2.1.5.4.1.4.c	Distribute NOTAM Data	N	D	X	D	D		3.2.1.2.2	

(Verification Method) T = Test, D = Demonstration, L = Verified by Lower Level Requirement, X = Not Applicable

Legend C- Critical N = Non-critical * = No Trace Exists

M1FC TEST VERIFICATION REQUIREMENTS TRACEABILITY MATRIX (TVRTM)

NAS SYSTEM SPECIFICATION NAS-SS-1000 VOLUME II			TEST LEVELS VERIFICATION METHODS				CROSS REFERENCE		REMARKS
PARA. NO	REQUIREMENT DESCRIPTION	C or N	DT&E	PAT&E	OT&E	NAS OT&E	FAA-E-2683C	FAA-E-2685C	
3.2.1.5.4.1.4.d	Distribute PIREPs	N	D	X	D	D		3.2.1.2.2	
3.2.1.5.4.1.4.e	Distribute Processed NOTAMs	N	D	X	D	D		3.2.1.2	
3.2.1.5.4.1.4.f	Distribute Traffic Management Information	N	D	X	D	D	*	*	
3.2.1.5.4.1.5	Operation and Maintenance Monitor						Lead-In	Lead-In	
3.2.1.5.4.1.5.a	System-Health Monitoring and Data	N	D	X	X	X		3.2.1.2.6	
3.2.1.5.4.1.5.a.1	Monitor Critical Parameters	N	D	X	X	X		3.2.1.2.6	
3.2.1.5.4.1.5.a.2	Operating Status	N	D	X	D	D		3.2.1.2.6	
3.2.1.5.4.1.5.a.3	Alarm	N	D	X	D	D		3.2.1.2.6	
3.2.1.5.4.1.5.b	Maintenance Control	N	D	X	D	D	3.3.1.3.5		
3.2.1.5.4.1.5.c	Transmit	N	D	X	X	X		3.4.7	
3.2.1.5.4.1.6	System Recording and Reporting						Lead-In	Lead-In	
3.2.1.5.4.1.6.a	Products Distributed	N	D	X	D	D		3.3.6	
3.2.1.5.4.1.6.b	Text/Data Input	N	D	X	D	D		3.3.6	
3.2.1.5.4.1.6.c	Formatted Statistical Reports	N	D	X	D	D	3.7.3.1		
3.2.1.5.4.1.6.d	Information Accrued	N	D	X	D	D	3.7.3.1		
3.2.1.5.4.1.7	Standard Time Reference	N	D	X	X	X	3.3.1.4	3.5.3.6	
3.2.1.5.4.2	Performance Characteristics						Lead-In	Lead-In	
3.2.1.5.4.2.1	Hazardous Weather Processing	N	D	X	D	D	3.6.2.2.2		
3.2.1.5.4.2.2	Data Base Processing						Lead-In	Lead-In	
3.2.1.5.4.2.2.a	Purge Aeronautical Information	N	T	X	X	X		3.3.2.2.1	
3.2.1.5.4.2.2.b	Purge Individual PIREPs	N	T	X	X	X		3.3.2.1.2.b	
3.2.1.5.4.2.2.c.1	Accumulate Surface Observations	N	T	X	T	T		3.3.2.1.2.a	
3.2.1.5.4.2.2.c.2	Maintain Surface Observations	N	T	X	X	X		3.3.2.1.2.a	
3.2.1.5.4.2.2.c.3	Accumulate Weather Conditions	N	T	X	T	T		3.3.2.1.2.a	
3.2.1.5.4.2.2.c.4	Maintain Weather Conditions	N	T	X	X	X		3.3.2.1.2.a	
3.2.1.5.4.2.2.d.1	Accumulate Unexpired Terrain Forecasts	N	T	X	T	T		3.3.2.1.2.1	
3.2.1.5.4.2.2.d.2	Maintain Unexpired Terrain Forecasts	N	T	X	X	X		3.3.2.1.2.1	
3.2.1.5.4.2.2.e.1	Accumulate Unexpired Area Forecasts	N	T	X	T	T		3.3.2.1.2.j	

(Verification Method) T = Test, D = Demonstration, L = Verified by Lower Level Requirement, X = Not Applicable

Legend C- Critical N = Non-critical * = No Trace Exists

M1FC TEST VERIFICATION REQUIREMENTS TRACEABILITY MATRIX (TVRTM)

NAS SYSTEM SPECIFICATION NAS-SS-1000 VOLUME II			TEST LEVELS VERIFICATION METHODS				CROSS REFERENCE		REMARKS
PARA. NO	REQUIREMENT DESCRIPTION	C or N	DT&E	PAT&E	OT&E	NAS OT&E	FAA-E-2683C	FAA-E-2685C	
3.2.1.5.4.2.2.e.2	Maintain Unexpired Area Forecasts	N	T	X	X	X		3.3.2.1.2.j	
3.2.1.5.4.2.2.f.1	Accumulate Unexpired Wind Temperature Forecasts	N	T	X	T	T		3.3.2.1.2.m	
3.2.1.5.4.2.2.f.2	Maintain Unexpired Wind Temperature Forecasts	N	T	X	X	X		3.3.2.1.2.m	
3.2.1.5.4.2.2.g.1	Accumulate Unexpired Temperature	N	D	X	D	D		3.3.2.1.2.y	
3.2.1.5.4.2.2.g.2	Maintain Unexpired Temperature	N	D	X	X	X		3.3.2.1.2.y	
3.2.1.5.4.2.2.g.3	Accumulate Unexpired CWSU Weather	N	T	X	T	T		3.3.2.1.2.y	
3.2.1.5.4.2.2.g.4	Maintain Unexpired CWSU	N	T	X	X	X		3.3.2.1.2.y	
3.2.1.5.4.2.2.h.1	Accumulate Current Weather Warnings/Advisories	N	T	X	T	T		3.3.2.1.2.d	
3.2.1.5.4.2.2.h.2	Maintain Current Weather Warnings	N	T	X	T	T		3.3.2.1.2.d	
3.2.1.5.4.2.2.i	Unexpired Law Enforcement Information	N	D	X	D	D		3.3.2.2.1.d	
3.2.1.5.4.2.2.j	Radar Weather Reports	N	T	X	T	T		3.3.2.1.2.n	
3.2.1.5.4.2.2.k.1	Accumulate Unexpired Traffic Management Data	N	D	X	D	D	*	*	
3.2.1.5.4.2.2.k.2	Maintain Unexpired Traffic Management Data	N	D	X	D	D	*	*	
3.2.1.5.4.2.3	Specialist Support						Lead-In	Lead-In	
3.2.1.5.4.2.3.a	Display Information	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.3.b	User Friendly Interactive	N	D	X	D	D		3.4.2	
3.2.1.5.4.2.3.c	Respond to a Specialist	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.4	Data Collection						Lead-In	Lead-In	
3.2.1.5.4.2.4.a	NWS Generated Weather						Lead-In	Lead-in	
3.2.1.5.4.2.4.a.1	Terminal Forecasts	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.4.a.2	Area Forecasts	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.4.a.3	Winds Aloft Forecast	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.4.b	Current Weather						Lead-In	Lead-In	
3.2.1.5.4.2.4.b.1	Surface Weather Observation	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.4.b.2	CWSU Weather Advisories and Impact	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.4.b.3	PIREPs	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.4.b.4	Radar Weather reports	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.4.b.5	Current Weather Conditions Aloft	N	T	X	T	T	3.6.2.2.2		

(Verification Method) T = Test, D = Demonstration, L = Verified by Lower Level Requirement, X = Not Applicable

Legend C- Critical N = Non-critical * = No Trace Exists

M1FC TEST VERIFICATION REQUIREMENTS TRACEABILITY MATRIX (TVRTM)

NAS SYSTEM SPECIFICATION NAS-SS-1000 VOLUME II			TEST LEVELS VERIFICATION METHODS				CROSS REFERENCE		REMARKS
PARA. NO	REQUIREMENT DESCRIPTION	C or N	DT&E	PAT&E	OT&E	NAS OT&E	FAA-E-2683C	FAA-E-2685C	
3.2.1.5.4.2.4.c	Hazardous Weather						Lead-In	Lead-In	
3.2.1.5.4.2.4.c.1	Hazardous Weather Information-Urgent PIREPs	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.4.c.2	Hazardous Weather Information-Weather Warnings/Adv.	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.4.d	Aeronautical Information						Lead-In	Lead-In	
3.2.1.5.4.2.4.d.1	Processed NOTAMs	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.4.d.2	Traffic Management Summary	N	T	X	T	T	*	*	
3.2.1.5.4.2.4	Other Information						Lead-In	Lead-In	
3.2.1.5.4.2.4.e.1	Law Enforcement Data	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.4.e.2	Military Operations	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.4.e.3	Route Information	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.4.e.4	Administrative Information	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.5	Distribution						Lead-In	Lead-In	
3.2.1.5.4.2.5.a	Time of Receipt						Lead-In	Lead-In	
3.2.1.5.4.2.5.a.1	Data Collected & Edited	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.5.a.2	Flight Service Products	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.5.a.3	Data Collected	N	T	X	T	T	3.6.2.2.2		
3.2.1.5.4.2.5.b	Data Collected	N	D	X	D	D	3.6.2.2.2		
3.2.1.5.4.2.5.c	Unprocessed NOTAMs	N	D	X	D	D	3.6.2.2.2		
3.2.1.5.4.2.6	Storage						Lead-In	Lead-In	
3.2.1.5.4.2.6.a	Off-Line Storage	N	D	X	D	D		3.3.6	
3.2.1.5.4.2.6.b	On-Line Storage	N	T	X	X	X		3.2.1.1	
3.2.1.5.4.2.7	Static Data Base	N	T	X	X	X		3.2.1.1	
3.2.1.5.4.2.7.a	Victor	N	T	X	X	X		3.3.2.3(1)	
3.2.1.5.4.2.7.b	Selected Location	N	T	X	X	X		3.3.2.3(2)	
3.2.1.5.4.2.7.c	Departure/Arrival Routes	N	T	X	X	X		3.3.2.3(3)	
3.2.1.5.4.2.7.d	Preferred Routes	N	T	X	X	X		3.3.2.4(4)	
3.2.1.5.4.2.7.e	Weather Reporting	N	T	X	X	X		3.3.2.3(5)	
3.2.1.5.4.2.7.f	Airports	N	T	X	X	X		3.3.2.3(6)	

(Verification Method) T = Test, D = Demonstration, L = Verified by Lower Level Requirement, X = Not Applicable

Legend C- Critical N = Non-critical * = No Trace Exists

M1FC TEST VERIFICATION REQUIREMENTS TRACEABILITY MATRIX (TVRTM)

NAS SYSTEM SPECIIFICATION NAS-SS-1000 VOLUME II			TEST LEVELS				CROSS REFERENCE		REMARKS
			VERIFICATION METHODS						
PARA. NO	REQUIREMENT DESCRIPTION	C or N	DT&E	PAT&E	OT&E	NAS OT&E	FAA-E-2683C	FAA-E-2685C	
3.2.1.5.4.2.7.g	Special Use Airspace	N	T	X	X	X		3.3.2.3(7)	
3.2.1.5.4.2.8	Standard Time Reference	N	T	X	T	T	3.3.1.4	3.5.3.6	
3.2.1.5.4.3	AWP Functional/Physical Interfaces						Lead-In	Lead-In	
3.2.1.5.4.3-1	AWP Interface Characteristics						Table	Table	
3.2.1.5.4.3-1.a	AWP AWP SP	N	X	X	D	D	3.3.2.3		
3.2.1.5.4.3-1.b	AWP SP AWP	N	X	X	D	D	3.3.2.3		
3.2.1.5.4.3-1.c	AWP FSDPS	N	X	X	D	D		3.2.1.2	
3.2.1.5.4.3-1.d	FSDPS AWP	N	X	X	D	D		3.2.1.2	
3.2.1.5.4.3-1.e	AWP FSDPS AER	N	X	X	D	D	3.2.1.1		
3.2.1.5.4.3-1.f	FSDPS AER AWP	N	X	X	D	D	3.2.1.1		
3.2.1.5.4.3-1.g	AWP FSDPS TC	N	X	X	D	D	3.2.1.1		
3.2.1.5.4.3-1.h	FSDPS TC AWP	N	X	X	D	D	3.2.1.1		
3.2.1.5.4.3-1.i	AWP MPS	N	X	X	X	X	*	*	
3.2.1.5.4.3-1.j	MPS AWP	N	X	X	X	X	*	*	
3.2.1.5.4.3-1.k	AWP OTHER AWP	N	X	X	D	D		3.2.1.1	
3.2.1.5.4.3.1.l	OTHER AWP AWP	N	X	X	D	D		3.2.1.1	
3.2.1.5.4.3-1.m	TMP AWP	N	X	X	X	X	*	*	
3.2.1.5.4.3-1.n	AWP WMSCR	N	X	X	X	X	*	*	
3.2.1.5.4.3-1.o	WMSCR AWP	N	X	X	X	X	*	*	

(Verification Method) T = Test, D = Demonstration, L = Verified by Lower Level Requirement, X = Not Applicable

Legend C- Critical N = Non-critical * = No Trace Exists