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NAS OT&E/INTEGRATION OF THE MMS

LETTER OF FINDINGS

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3. TESTING.

3.1 DATE.

The NAS OT&E/Integration of MMS, version A03.01, was conducted from November 27, 1989 through January 31, 1990. Subsequent testing using version A03.2 was conducted on March 9, 1990 to verify possible corrections to the two major exceptions identified during the A03.01 testing. The NAS OT&E/Integration of MMS version A03.2 was conducted from March 19, 1990 through April 4, 1990.

3.2 LOCATION.

The NAS OT&E/Integration of MMS was conducted on the ACN-230 MPS, at the FAA Technical Center, Atlantic City International Airport, N.J.

3.3 PARTICIPANTS.

The participants of the NAS OT&E/Integration of MMS were as follows:

a.	F. Bayne	ACN-230
b.	C. Bolling	ACN-230/CTA
c.	C. Krouse	ACN-230
d.	E. Palka	ACN-230/CTA
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4. MMS VERSION A03.01 INTEGRATION TEST RESULTS AND RECOMMENDATIONS.

4.1 IT1 - MMS/IMCS INITIALIZATION/LOADING TEST.

The MMS/IMCS Initialization/Loading Test validates that the MMS software can be properly installed on the MPS. The PATHWAY configuration has been verified for MMS version A03.01 and IMCS version PCB0703.

4.1.1 IT1 Results.

The MMS release tape mailed to ACN-230 by Transportation System Center (TSC) and the IMCS release tape handed over to ACN-230 by ANA-160 were installed on the ACN-230 MPS. In order to replicate the proposed field installation, ACN-230 used the configuration supplied by ASM-450 to integrate the versions of MMS and IMCS. The MMS passed all IT1 integration test sequences with the following exceptions:

a. MMS was unable to properly acknowledge alarms/warnings due to an omission of an assignment statement in a PATHWAY configuration file. The line that was accidentally omitted was re-entered in a file named CONLOG which was located on the $SYSTEM volume and IMCSPWAY subvolume. The assignment statement deleted was SET SERVER (ASSIGN DBUSERH-FILE, $VOL.MCSDB.DBUSERH). Once added, the MMS was able to acknowledge alarms.

b. Inconsistencies were noted on the IMCS release tape after it was installed. The subvolume MCS71DB, where IMCS servers and other files were to reside in the target $SYSTEM volume, did not match the IMCS PATHWAY configuration. ACN-230 changed the IMCS PATHWAY configuration to match MCS71DB. The IMCS was then initiated with OBEY PATHCOLD and an earlier version of IMCS (PCB0601) was brought up rather than the current version (PCB0703). Many files within the IMCS server classes were hard-coded with $SYSTEM.MCSDB.<filename>. Important files such as the IMCS History, Current Status, Current Status Table, Adaptation File, etc. were being referenced from earlier versions of IMCS which happened to be located in $SYSTEM.MCSDB. To alleviate the problem, all files in the MCS71DB subvolume were copied back into the MCSDB subvolume. In addition, the IMCS PATHWAY configuration was altered with ASSIGN statements to reflect the installed resident files.

c. The appearance of the MCSDB subvolume name within the CONLOG file conflicts with supportive documentation.

4.1.2 IT1 Recommendations.

ACN-230 recommends the following:

a. If MMS and IMCS are to be fielded with an integrated configuration, this assignment statement must be resident in the CONLOG file.

b. IMCS must have a consistent PATHWAY configuration subvolume associated with its IMCS module subvolume counterparts. Also, we recommend that all references to hard-coded file names be replaced with generic volume and subvolume names. This will allow for making changes easily throughout all IMCS servers from the IMCS PATHWAY configuration. This will also expedite the installation process in the future.

c. The MCSDB subvolume name within the CONLOG file must be consistent with supportive documentation to eliminate confusion.

These are minor exceptions.

NOTE: The OT&E/Integration of MMS, version A03.2, verified that "a" and "b" are no longer exceptions. The A03.2 System

Administrator's Guide shows the corrected MCSDB subvolume within the CONLOG files. Hence, "c" is no longer an exception.

4.2 IT2 - MMS SECURITY INTERFACE TEST.

The MMS Security Interface Test validates that MMS provides the following: controls for logon access, MMS screen time-out periods, the means to turn off MMS periodic maintenance and certification scheduling, new security interface functionality, and no degradation to the operation of the NAS.

4.2.1 IT2 Results.

The MMS passed all IT2 integration test sequences with the following exceptions:

a. Some of the screens show erroneous data while in transition. This appeared especially when voiding LFC and LAD log records.

b. When adding a new record or modifying an existing record, specific fields (highlighted) are required for which the HELP function may be accessed. However, after pressing F1 = PROCEED to return to the previous screen, the highlights did not appear on the PMM, FEQ, and FPF function screens.

4.2.2 IT2 Recommendations.

ACN-230 recommends the following:

a. All screen buffers should be cleared in the software before a transition is made from one MMS screen to another.

b. All required/optional highlighted fields should remain highlighted after returning from the HELP screen.

These are minor exceptions.

NOTE: The OT&E/Integration of MMS, version A03.2, verified that these exceptions still exist.

4.3 IT3 - MMS REPORT GENERATION SUBSYSTEM TEST.

The MMS Report Generation Subsystem Test validates that MMS users can generate reports and utilize the Tandem PERUSE utility as part of the MMS application, print standard reports for each MMS subsystem, and obtain the status of any reports generated. This test validates that modifications to the Report Generation Subsystem, included in the MMS version A03.01, do not degrade operations of the NAS.

4.3.1 IT3 Results.

The MMS passed all IT3 integration test sequences with the following exceptions:

a. The FORECAST report could not be generated. The process $WORK.MMSREP.FORECASO was allowed to run up to six hours before being manually terminated. During this time, CPU utilization for the CPU on which FORECASO resided was at 100 percent.

b. Some report titles in the MMS User's Manual, report menu, and the hard copy report are inconsistent.

c. The PSSUMRP report does not appear in the list of report names. The F7 (SELECTION CRITERIA) key was pressed, and the normal display consistent with any report appeared on the screen. The F10 (PRODUCE REPORT) key was pressed, and the "***USER NOT AUTHORIZED FOR THIS REPORT***" message appeared on the 24th line. This report is not included in the documentation nor is it included in the list of report names. The 24th line warning message is not consistent.

4.3.2 IT3 Recommendations.

ACN-230 recommends the following:

a. The MMS developers should investigate the processing problem associated with the FORECAST report.

b. Report titles in the MMS User's Manual, report menu, and hard copy report should be consistent.

c. The PSSUMRP report should either be available to the user and documented as such or be deleted from the software.

"a" is a major exception. "b" and "c" are minor exceptions.

NOTE: The testing on March 9, 1990 using version A03.2 verified that the FORECAST report processed and terminated normally. Hence, "a" is no longer an exception. The OT&E/Integration of MMS, version A03.2, verified that "b" and "c" are still exceptions.

4.4 IT4 - MMS FACILITY/SERVICE/EQUIPMENT PROFILE (FSEP) SUBSYSTEM TEST.

The MMS FSEP Subsystem Test demonstrates that MMS provides the mechanism for maintaining a record of all facilities, services, and profiles that constitute the NAS and for generating standard Facility Master File (FMF) data sets.

4.4.1 IT4 Results.

The MMS passed all IT4 integration test sequences with the following exception:

When in the MMS Precommissioned Facility File Update Record function, function key F15 locked the keyboard (i.e., KBD LOCK mode did not transition to BLOCK mode). The user had to stop the MMS process via the "PATH MMS" command through the PATHWAY utility. "STATUS TERM *" and "ABORT <terminal name>" were entered to abort the locked terminal.

4.4.2 IT4 Recommendations.

ACN-230 recommends the following:

No function key, when pressed, should place the user's keyboard into the KBD LOCK mode for more than a few seconds. The software should be modified to correct the problem.

This is a major exception.

NOTE: The testing on March 9, 1990 using version A03.2 verified that this exception no longer exists.

4.5 IT5 - MMS LOGGING ACTIVITY SUBSYSTEM TEST.

The MMS Logging Activity Subsystem Test validates that a maintenance management data base for chronological facility maintenance logs exists, that the user can make log entries of equipment problems and failures in a timely manner, and that version A03.01 modifications are consistent with supportive documentation.

4.5.1 IT5 Results.

The MMS passed all IT5 integration test sequences.

4.6 IT6 - MMS PERIODIC MAINTENANCE AND CERTIFICATION SCHEDULING SUBSYSTEM TEST.

The MMS Periodic Maintenance and Certification Scheduling Subsystem Test validates the automatic support for the scheduling, tracking, and recording of facility and equipment certification activities, and that periodic and corrective maintenance activities are available to the MMS user on the MMS version A03.01 integrated system.

4.6.1 IT6 Results.

The MMS passed all IT6 integration test sequences with the following exception:

Two reports are placed into the spooler queue when the user requests a report. The first is identified as a report for the MMS Manager. It is a single page and indicates which ENFORM file was used to define the content of the report. The second report is the actual report the user requested. The MMS Manager report does not appear to be documented.

4.6.2 IT6 Recommendations.

ACN-230 recommends the following:

Documentation should be modified to explain to the user or operator that an additional MMS Manager report will be placed in the spooler queue and that both reports must be printed.

This is a minor exception.

NOTE: The OT&E/Integration of MMS, version A03.2, verified that this exception still exists.

4.7 IT7 - MMS ADMINISTRATION SUBSYSTEM TEST.

The MMS Administration Subsystem Test validates that MMS provides mechanisms for the following: establishing valid access to the MMS; giving the technician the proper authorization to make certification and recertification log entries for facilities, services, and equipment; maintaining personnel information; initiating the archive of data base records; defining the file of associated and related facilities and frequencies; and maintaining system control parameter information for each sector sharing this MPS site.

4.7.1 IT7 Results.

The MMS passed all IT7 integration test sequences with the following exception:

The MMS System Administrator's Guide states that in order to produce an ARCHLOG report using the data from an older ARCHIVE file that has been stored on magnetic tape, a RESTORE command, with the specified options, must be executed. A FUP COPY command must then be executed to copy the restored file to its proper subvolume. However, the FUP COPY to $TAPE command is resident in the obey file, ARCOBEY1, which copies the ARCHIVE file from disk to tape. Hence, the FUP COPY command must be used to copy the ARCHIVE file from tape to disk. The RESTORE command can only be used if the BACKUP command was initially used to store the file on magnetic tape.

4.7.2 IT7 Recommendations.

ACN-230 recommends the following:

The RESTORE command should be deleted from the MMS System Administrator's Guide.

This is a minor exception.

NOTE: The OT&E/Integration of MMS, version A03.2, verified that the RESTORE command was deleted from the MMS System Administrator's Guide, dated February 22, 1990. Hence, this is no longer an exception.

4.8 IT8 - MMS ELECTRONIC MESSAGE ACCESS COMPONENT TEST.

The MMS Electronic Message Access Component Test validates the capability for users to transmit messages and performance data via Tandem's Transfer/Mail Delivery System to other terminals at the MPS node and to other MPS nodes.

4.8.1 IT8 Results.

The MMS passed all IT8 integration test sequences with the following exception:

Error messages overwrite function key selections when using Electronic Message Access (EMA) System.

4.8.2 IT8 Recommendations.

ACN-230 recommends the following:

A separate line should be provided for error messages.

This is a minor exception.

NOTE: The OT&E/Integration of MMS, version A03.2, verified that this exception still exists. However, ACN-230 found that the function key window may be recovered by the use of the function key SF14 within the Transfer/Mail Utility. ACN-230 recommends that the available functions associated with the function keys be included in the MMS System Administrator's Guide.

4.9 IT9 - MMS DATA ENTRY/HELP FUNCTION KEY TEST.

The MMS Data Entry/HELP Function Key Test validates that users can enter data and access functions easily and successfully. The test also validates that the HELP function provides information.

4.9.1 IT9 Results.

The MMS passed all IT9 integration test sequences with the following exception:

There is inconsistent placement of the following: shifted function key selections, spacing around the equals sign (=), and spacing between function key selections.

The following table indicates these inconsistencies for each MMS subsystem and its functions. The description for each column heading in the table is as follows:

SF LAST ASCEND	Shifted function key selections are listed in ascending order after non-shifted function key selections.
SF MIXED IN ORDER	Shifted function key selections are mixed in with the non-shifted function key selections (in ascending order).
SF MIXED NO ORDER	Shifted function key selections are mixed in with the non-shifted function key selections (no order).
= NO SPACE	There is no spacing to the left and right of the equals sign.
= SPACE	There is spacing to the left and right of the equals sign.
MIXED SPACE	There is spacing/no spacing to the left and right of the equals sign.

4.9.2 IT9 Recommendations.

To improve user interface, the function key menu at the bottom of the screens should be consistent in format. To provide a consistent format with the least impact to the software, ACN-230 recommends the following:

a. All function key selections should be in ascending order, left to right across the screen.

b. All non-shifted function key selections should be placed before all shifted function key selections (e.g., F1, F2, F3, F7, F16, SF7, SF10, SF16).

c. There should be no spacing to the left or right of the equals sign (=) (e.g., F1=GO TO).

d. There should be only two or three spaces between function key selections.

These are minor exceptions.

NOTE: The OT&E/Integration of MMS, version A03.2, verified that these exceptions still exist.

MMS DATA ENTRY/HELP FUNCTION KEY TEST

MMS SUBSYSTEMS/FunctionS TESTED

SCREEN	SF LAST ASCEND	SF MIXED IN ORDER	SF MIXED NO ORDER	= NO SPACE	= SPACE	MIXED SPACE
ADM	***** NO SF KEYS *****				X	
AAR	X			X		
ACC	X				X	
AFA		X				X
ALF		X		X		
APR		X			X	
ARC		X			X	
ASY		X			X	
LOG	***** NO SF KEYS *****				X	
LAD	X					X
LCM	X			X		
LCE	X			X		
LEQ	X			X		
LEM	X			X		
LFC	X					X
LFL	X					X
LIR	X			X		
LLF	X			X		
LPM	X			X		
LRM	X					X
LST	X					X
LSM	X					X
LTE	X					X
LCO	X					X
LRV	X					X
LSR	***** NO SF KEYS *****				X	
FSE	***** NO SF KEYS *****				X	
FFA			X	X		
FSU			X	X		
FEQ			X			X
FMO			X			X
FPF			X	X		
FPS			X	X		
FDS	***** NO SF KEYS *****				X	
REP	***** NO SF KEYS *****			X		
PMS	***** NO SF KEYS *****				X	
PMM			X	X		
PMT			X		X	
PMC		X				X

An "X" in any row/column indicates the type of shifted function key selection order used and/or spacing around the equals sign for the specified subsystem/function screen.

4.10 IT10 - IMCS INTERFACE TEST.

The IMCS Interface Test demonstrates that MMS users are provided the capability of acknowledging and displaying alarms via the IMCS interface provided.

4.10.1 IT10 Results.

The MMS passed all IT10 integration test sequences with the following exceptions:

a. From the IMCS screens, the MMS Main Menu screen was only accessible by exiting out of IMCS and logging back onto MMS. This is inconsistent with all other subsystems, including the EMA, which return directly to the MMS Main Menu screen without the logon requirement.

b. Alarms are displayed differently within MMS and IMCS. The MMS REMOTE ALARMS screen (F5) displays unacknowledged alarms in reverse video (highlighted) and acknowledged alarms in normal text mode. The IMCS Active Alarms screen (F4) displays unacknowledged alarms in reverse video (highlighted) and blinking; and acknowledged alarms in reverse video (highlighted). Therefore, when the operator has access to MMS and IMCS, a highlighted alarm has two meanings. To the MMS user, the alarm has not been acknowledged; to the IMCS user, the alarm has already been acknowledged.

4.10.2 IT10 Recommendations.

ACN-230 recommends the following:

a. ACN-230 was informed that the decision to require a logon to MMS (via the System Access screen) upon exiting from IMCS was made for security purposes. This procedure should be documented in the MMS User's Manual.

b. A consistent standard for the display of all alarms should be applied to both software applications.

These are minor exceptions.

NOTE: The OT&E/Integration of MMS, version A03.2, verified that these exceptions still exist.

4.11 IT11 - MMS/NAPRS CONVERSION TEST.

The MMS/NAPRS Conversion Test validates the capability of utility software to extract MMS interrupt reports and other log entries and format them into a National Airspace Performance Reporting System (NAPRS) transfer file. This test also demonstrates the successful downloading of daily NAPRS data files, automatic

generation of NAPRS reports, and support of the downloading of these files to a PC from an MPS node.

4.11.1 IT11 Results.

The MMS passed all IT11 integration test sequences without exception.

4.12 IT12 - TRANSFER NETWORK UPDATE INTERFACE TEST.

The Transfer Network Update Interface Test demonstrates the capability of the Tandem Transfer/Mail Delivery System to transmit FSEP Subsystem file updates, which contain replicated data and designated entries in the Logging Activity Subsystem, to the MMS application running on another MPS node.

4.12.1 IT12 Results.

The MMS passed all IT12 integration test sequences.

4.13 IT13 - SOFTWARE PROBLEM REPORT (SPR) TEST.

The Software Problem Report (SPR) Test demonstrates the verification of outstanding SPRs and Problem Trouble Reports (PTRs) associated with earlier releases of the MMS software.

4.13.1 IT13 Results.

The MMS passed all SPR and PTR items with the following exceptions:

a. The LSEFUP file still exists in the MMSPWAY subvolume. According to SPR No. 9211, the LSEFUP file should have been removed from the MMSPWAY subvolume.

b. LSEOBEY file in the MMSPWAY subvolume still contains the FUP commands to create a copy of the LSE file for use by the LSEREPO program. According to SPR No. 92, the FUP commands to create this copy should have been removed.

c. The DBUSERH-IMCS USER HISTORY REPORT has not been added to the IMCS PATHWAY configuration. According to SPR No. 1138, this report should have been added.

d. The LPM function has not been modified to accept the new interval code for daily administration (DA). According to SPR No. 42, this should have been modified.

4.13.2 IT13 Recommendations.

ACN-230 recommends the following:

All SPRs and PTRs should be validated prior to any subsequent releases of MMS.

These are minor exceptions.

NOTE: The OT&E/Integration of MMS, version A03.2, verified that these exceptions no longer exist.

5. MMS VERSION A03.2 INTEGRATION TEST RESULTS.

5.1 IT1 - MMS/IMCS INITIALIZATION/LOADING TEST.

The MMS/IMCS Initialization/Loading Test validates that the MMS/IMCS software can be properly installed on the MPS. The PATHWAY configuration has been verified for MMS version A03.1, MMS version A03.2, and IMCS version PCB0703.

5.1.1 IT1 Results.

The MMS/IMCS passed all IT1 integration test sequences with the following exceptions:

NOTE: "a" refers to the MMS VERSION PIB03/IMCS VERSION PCB07 INSTALLATION INSTRUCTIONS. "b" through "e" refer to the DATALOAD Program for IMCS.

a. The tape device is required to be $TAPE1 in the documentation (p. 4, step 2).

b. "Site type" referred to throughout the DATALOAD documentation is the "Site Concentrator type" according to the IMCS Operator's Manual.

c. The volume name $DATA2 is where files reside on the release tape which is sent to the field.

d. The User's Manual for DATALOAD, page 8, does not clearly state, that there are two distinct methods of running DATALOAD--i.e., with or without an "EDIT type file." Also, although the manual refers to the "EDIT type file," it does not clearly state that this file should contain the site information described in paragraph 3.2, INPUT.

e. If the user follows the procedures on page 8 to run DATALOAD, and the ASSIGN statements are missing, the program will abend after prompting the user for the site and type information. The required ASSIGN statements are included only in the Summary and on page 9. When the user runs DATALOAD, the missing ASSIGN statements are not obvious, since the user is immediately prompted for site and type information.

5.1.2 IT1 Recommendations.

ACN-230 recommends the following:

a. The user should be prompted for the tape device name rather than requiring the tape device name to be $TAPE1 (p. 4, step 2).

b. The DATALOAD documentation and the IMCS documentation must be consistent in their use of terms.

c. The volume name $SYSTEM should be changed to $DATA2 in the description of ASSIGN statements (p. iv).

d. The User's Manual for DATALOAD should describe the two methods for running DATALOAD in two separate paragraphs. The manual should clearly describe the contents of the "EDIT type file."

e. The required ASSIGN statements should be included on page 8 prior to the DATALOAD run command. Also, upon running DATALOAD, if ASSIGN statements are missing, the program should display an error message to indicate which ASSIGN statements are missing and abend immediately.

These are minor exceptions.

5.2 IT2 - MMS SECURITY INTERFACE TEST.

The MMS Security Interface Test validates that the MMS provides the following: controls for logon access, MMS screen timeout periods, the means to turn off MMS periodic maintenance and certification scheduling, new security interface functionality, and that there is no degradation to the operation of the NAS.

5.2.1 IT2 Results.

The MMS passed all IT2 integration test sequences.

5.3 IT3 - MMS REPORT GENERATION SUBSYSTEM TEST.

The MMS Report Generation Subsystem Test validates that MMS users can generate reports and utilize the Tandem PERUSE utility as part of the MMS application, print standard reports for each MMS subsystem, and obtain the status of any reports generated. The test also validates that modifications to the report generation subsystem included in MMS version A03.2 do not degrade operations of the NAS.

5.3.1 IT3 Results.

The MMS passed all IT3 integration test sequences.

5.4 IT4 - MMS FACILITY/SERVICE/EQUIPMENT PROFILE (FSEP) SUBSYSTEM TEST.

The MMS FSEP Subsystem Test demonstrates that the MMS provides the mechanism for maintaining a record of all facilities, services, and profiles that constitute the NAS and for generating standard FMF data sets.

5.4.1 IT4 Results.

The MMS passed all IT4 integration test sequences with the following exception:

After accessing the FDS function, C (FMF DATA SET FOR ASW) was selected. The F10 (CREATE DATA SET) key was pressed which should have produced a report. The report, however, was never completed, and COBOL library error 074 SEQUENTIAL FILE OVERFLOW appeared on the OSP terminal. This error indicated that the file created for the report was not large enough to store the report data. The output file extent size for SELECTION C was EXT (4 pages, 20 pages). The output files' extent sizes for options A, B, and D were EXT (442 pages, 440 pages).

5.4.2 IT4 Recommendations.

ACN-230 recommends the following:

The software should be modified so that the output file extent size for SELECTION C is large enough to accommodate the FMF data set for ASW.

This is a minor exception.

5.5 IT5 - MMS LOGGING ACTIVITY SUBSYSTEM TEST.

The MMS Logging Activity Subsystem Test validates that a maintenance management data base for chronological facility management logs exists, that the user can make log entries of equipment problems and failures in a timely manner, and that modifications are consistent with supportive documentation.

5.5.1 IT5 Results.

The MMS passed all IT5 integration test sequences with the following exception:

When retrieving a record, the message RETRIEVING RECORD is displayed once, and then the message RECORD RETRIEVED is not displayed. This is not consistent with the other subsystems of the MMS where the message RECORD RETRIEVED is displayed.

5.5.2 IT5 Recommendations.

ACN-230 recommends the following:

After retrieving a record, the message RECORD RETRIEVED should stay displayed until further action is taken.

This is a minor exception.

5.6 IT6 - MMS PERIODIC MAINTENANCE AND CERTIFICATION SCHEDULING SUBSYSTEM TEST.

The MMS Periodic Maintenance and Certification Scheduling Subsystem Test validates the automatic support for the scheduling, tracking, and recording of facility and equipment certification activities, and that periodic and corrective maintenance activities are available to the MMS user on the integrated system.

5.6.1 IT6 Results.

The MMS passed all IT6 integration test sequences.

5.7 IT7 - MMS ADMINISTRATION SUBSYSTEM TEST.

The MMS Administration Subsystem Test validates that MMS provides mechanisms for the following: establishing valid access to the MMS; giving the technician the proper authorization to make certification and recertification log entries for facilities, services, and equipment; maintaining personnel information; initiating the archive of data base records; defining the file of associated and related facilities and frequencies; and maintaining system sharing for this MPS site.

5.7.1 IT7 Results.

The MMS passed all IT7 integration test sequences.

5.8 IT8 - MMS ELECTRONIC MESSAGE ACCESS COMPONENT TEST.

The MMS Electronic Message Access Component Test validates the capability for users to transmit messages and performance data via Tandem's Transfer/Mail Delivery system to other terminals at the MPS node and to other MPS nodes.

5.8.1 IT8 Results.

The MMS passed all IT8 integration test sequences with the following exception:

The use of function key SF14 from the Electronic Message System Help screen is not included in the MMS supportive documentation.

5.8.2 IT8 Recommendations.

ACN-230 recommends the following:

The function key SF14 and all other available function keys should be explained in section 7.0 of the MMS System Administrator's Guide, dated February 22, 1990.

This is a minor exception.

5.9 IT9 - MMS DATA ENTRY/HELP FUNCTION KEY TEST.

The MMS Data Entry/HELP Function Key Test validates that users can enter data and access functions easily and successfully. The test also validates that the HELP function provides users with pertinent user information.

5.9.1 IT9 Results.

The MMS passed all IT8 integration test sequences with the following exception:

The MMS User's Manual, paragraph 3.5 and figure 3-4, refers to the "MMS Main Menu" and the "MMS Main Menu Screen." Yet, the Screen Title Area, in both the documentation and the software, contains the words SYSTEM ACCESS.

5.9.2 IT9 Recommendations.

ACN-230 recommends the following:

The Screen Title Area for the MMS Main Menu, in both the documentation and the software, should contain the words MAIN MENU.

This is a minor exception.

5.10 IT10 - IMCS INTERFACE TEST.

The IMCS Interface Test demonstrates that MMS users are provided the capability of acknowledging and displaying alarms via the IMCS interface provided.

5.10.1 IT10 Results.

The MMS passed all IT10 integration test sequences.

5.11 IT11 - MMS/NAPRS Conversion Test.

The MMS/NAPRS Conversion Test validates the capability of utility software to extract MMS interrupt reports and other log entries and format them into a National Airspace Performance Reporting System (NAPRS) transfer file. This test also demonstrates the successful downloading of daily NAPRS data files, automatic generation of NAPRS reports, and support of downloading these files to a PC from an MPS node.

5.11.1 IT11 Results.

The MMS passed all IT11 integration test sequences with the following exception:

Pressing the Shift and F5 keys failed to print the NAPRS Control File screen. The "Print failed. Fatal error occurred during printout" message was displayed. ACN-230 verified the print failure on the ASM-450 MPS.

5.11.2 IT11 Recommendations.

ACN-230 recommends the following:

The print screen problem should be corrected.

This is a minor exception.

5.12 IT12 - TRANSFER NETWORK UPDATE INTERFACE TEST.

The Transfer Network Update Interface Test demonstrates the capability of the Tandem Transfer/Mail Delivery System to transmit FSEP Subsystem file updates of replicated data and designated entries in the Logging Activity Subsystem to the MMS application running on another MPS node.

5.12.1 IT12 Results.

The MMS passed all IT12 integration test sequences.

5.13 IT13 - SOFTWARE PROBLEM REPORT (SPR) TEST.

The Software Problem Report (SPR) Test demonstrates the verification of outstanding SPRs associated with earlier releases of the MMS software.

5.13.1 IT13 MMS Version A03.1 SPR Results.

The MMS passed all SPR items with the following exception:

Once a user has been added as a valid Extended Functions Subsystem user (SPR# 985 and SPR# 1958), the user never has to go

through the EXT System Access screen which requires the entry of sector, initials, and password. The user is automatically allowed access to the EXT menu.

NOTE: SPRs #104 and #1829, related to TRANSFER and NAPRS, respectively, will be verified at a future date.

5.13.2 IT13 MMS Version A03.2 SPR Results.

The MMS passed all SPR items with the following exceptions:

a. ACN-230 investigated SPR #1977 for both the FFA and FPF functions within the Facility/Service/Equipment Profile Subsystem. The Facility Types table that FVLO (FSEP Validation Server) accesses has added the following facility types: MLSA, MLSB, MLSE, MLSF, and PAPI. However, MLS and RMCF have not been removed.

b. ACN-230 investigated SPR #1951 for LNDETRP, R60407, and R60407D reports within the Report Generation Subsystem. The "?" that should be printed under the appropriate OTHER or TELCO category was not observed. A blank appears when the log entry does not contain the line responsibility code.

NOTE: SPR #2133, related to NAPRS, will be verified at a future date.

5.13.3 IT13 Recommendations.

ACN-230 recommends the following:

All SPRs and PTRs should be validated prior to any subsequent releases of MMS.

These are minor exceptions.

5.14 IT14 - MMS EXTENDED FUNCTIONS SUBSYSTEM TEST.

The MMS Extended Functions Subsystem provides access to MMS Phase II capabilities that are not fully integrated into the MMS. It also provides the mechanism to maintain access authority information for Phase II subsystems that are not fully integrated into MMS. The MMS Extended Functions Subsystem Test validates that the software is consistent with the MMS Extended Functions Subsystem User's Manual.

5.14.1 IT14 Results.

The MMS passed all IT14 integration test sequences with the following exception:

The F10 (PRODUCE REPORT) key was pressed in the Test Equipment and Calibration Review (TCR) function and should have produced a report. The report was never produced, and a COBOL library error 019 was displayed at the OSP terminal as follows:

```
??:080
$TCR1 - ***COBOL LIBRARY ERROR 019 AT USER LOCATION 003443
UC.00***
$TCR1 - $WORK.MMSSERV.TCRO - <date>
$TCR1 - 'OPEN' OPERATION FAILED
$TCR1 - FILE TCM-FILE,\ACTA.$DATA1.MMSDATA.TCM:CLOSED
```

5.14.2 IT14 Recommendations.

ACN-230 recommends the following:

The cause of the error 019 message should be identified and corrected.

This is a minor exception.