Alcatel·Lucent

5ESS® Switch 5E16.2 Large Terminal Growth Procedures

5E16.2 Software Release

235-106-306
Issue 2.02
April 2009

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Acknowledgment

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1. INTRODUCTION

1.1 PURPOSE

This **5ESS®** *Switch Large Terminal Growth Procedures* document, 235-106-306, provides a general overview, planning information, and detailed Large Terminal Growth (LTG) procedures to install large line and trunk data in an operational *5ESS* switch on the 5E16.2 software release.

Note: These LTG procedures are **not** supported on the *5ESS* Very Compact Digital Exchange (VCDX).

Unless otherwise specified, in the term "LTG" refers to the merging of the precut office data into the existing database of an operational *5ESS* switch.

This document is intended to be used by several different types of users. Customer managers and planners will use Sections 1 through 4 to schedule jobs and plan for LTGs. Office technicians will use Sections 4, 5, 8 and 9 when performing the LTG. Sections 6 and 7 will be used only in the event of a Retrofit failure and only in consultation with technical support staff. Support personnel will use the entire document.

Both the office technicians and the designated customer LTG coordinator should have a good knowledge of the *5ESS* switch and its normal operation and maintenance.

1.2 UPDATE INFORMATION

When this document is updated, the reason(s) for the update will be listed here.

- Section 3.9.2 has been updated for technical issue, CAUTION statement added.

1.3 DOCUMENT CONTENTS

This document provides descriptive and procedural information in the following areas:

- ***Section 1 – Introduction:*** Contains a brief introduction to the document and a general overview of software release LTG. It also provides a brief overview of the remaining sections of the document.
- ***Section 2 – Planning:*** Contains the planning requirements necessary to effect an efficient and timely LTG.
- ***Section 3 – Advance Preparation:*** Contains information and procedures to prepare the switch for the LTG. This includes ensuring adequate memory is available and performing a database dump.
- ***Section 4 – System Evaluation:*** Contains a series of procedures to ensure the switch is in an operating condition suitable for the LTG.
- ***Section 5 – LTG Implementation:*** Contains the specific, detailed procedures required on site to perform the LTG. It does not include information or procedures for LTG work that occurs off site such as merging of the new data.
- ***Section 6 – Recovery Procedures:*** Contains procedures to recover from various LTG-related troubles. It does not include information or procedures for LTG work that occurs off site. It will handle a majority of the error conditions that can occur during a LTG. In most cases, the LTG can be continued after clearing a particular trouble.
- ***Section 7 – Backout Procedures:*** Contains procedures to back out of various LTG-related troubles. This section provides procedures and different entry points

(depending on how far the office has progressed into the LTG) for returning to the old ODD and duplexing the system. This section is used only in a very small number of offices attempting an LTG.

- ***Section 8 – Non-Off-Line Boot Recovery Procedures:*** Contains procedures to recover in the event that the Proceed stage cannot be run due to the inability to perform an off-line boot on the switch.
- ***Section 9 – Worksheets and Tables:*** Contains information concerning LTG worksheets that will be used throughout the LTG interval to record information important to the LTG. Review them before starting the LTG.
- ***Section 10 – Reference Documents and Required Materials:*** Contains a list of reference documents and required materials.

A ***Glossary*** and ***Index*** are also included at the back of the document.

1.4 GENERAL COMMENTS

The primary goal during the actual LTG interval is to install large line and trunk data in an operational *5ESS* switch while maintaining service and reliability. Utmost care must be used when using this document to ensure that the impact on the subscribers is minimized. This can be done only by following the steps in this document in the order given. Remember, ***software release LTG is a service-effecting activity.***

The procedures must only be used in stable offices that are performing within all parameters normally used to measure office performance. The LTG is not a means of fixing problems in an office and should never be used as such.

Many of the procedures in this document are not used in day-to-day office operations and should be fully reviewed before using.

LTG-related trouble and fault resolution are provided in the Recovery Procedures and Backout Procedures and Non-Off-line Boot Procedures (Sections 6, 7, and 8 respectively). If problems arise and you are uncertain about options regarding continuation of the LTG or backing out of it, you should escalate to your next level of support.

Any deviation from the procedures could jeopardize the LTG and result in service interruptions beyond the control of this document.

1.5 LARGE TERMINAL GROWTH OVERVIEW

The LTG provides the ability to add large quantities of lines, trunks, and other switch data to an operational *5ESS* switch. The LTG allows the bulk loading of new, nonoperational, precut office data. Manually input data or existing switch owner database information is used to generate the new office data to be loaded during the LTG.

The new office data is then merged with the existing *5ESS* switch Office Dependent Data (ODD), using off-site Office Data Administration (ODA) processing.

The LTG provides the ability to copy the existing *5ESS* switch ODD, reverse map the data to forms data, merge the new forms data, produce the new ODD, reload the newly merged ODD, and reapply the database changes that occurred while the ODD was off-site being processed. During this off-site processing, the office data is checked for inconsistencies and errors. Any inconsistencies and errors are corrected before the final LTG load date.

Use of LTG eliminates the need to manually populate line, trunk, and other switch data (using the recent change/verify mechanism) during terminal growth on the *5ESS* switch. If Off-Site Recent Change Reapplication (OFFRCR) is not used, the *5ESS* switch will have to reapply changes to the data made via Recent Change (RC) during the 17-day, off-site ODD processing interval. If OFFRCR is used there will only be 5 days of recent changes to reapply on the switch. The RC reapplication rate is approximately 400 RCs per hour.

Through *5ESS* switch Office Data Administration (5 ODA), LTG interfaces with the developed *5ESS* switch Conversion (5ECONV) process. The 5ECONV provides processes and procedures that facilitate the translation and input (or merging) into an existing *5ESS* switch database of subscriber and other switching data from existing databases. These databases include:

- Switching office databases such as the 1 *ESS*™ switch, 1A *ESS* switch, and 2B *ESS* switch.
- Switch owner Operations System (OS) facilities database such as Computer System for Main Frame Operations (COSMOS), Automated Inventory Record System (AIRS), etc.

Line, trunk, and other switch data can be supplied to the LTG process using a batch interface tape. Refer to 235-080-100, *Translations Guide, 5ODA Batch Load Interface*, Division 1, Section 9, for the tape format specification.

The LTG allows addition of line and trunk data, both analog and digital, along with other switch data such as:

- Switching Module (SM), Remote SM (RSM), Optically Integrated Remote Switching Module (ORM), etc.
- Thousands group(s)
- Trunk group(s) and/or trunk member(s)
- New digit interpreter data tables
- Additional routing and charging data
- Operator service position system data
- Other switch data that can be rendered inactive at load switch forward time.

The LTG ***does not*** allow:

- Modification to existing *5ESS* switch office data (rehosting, rehoming, routing modifications, etc.)
  - — ***Rehosting:*** Transferring an RSM from one host SM to another host SM within an office
  - — ***Rehoming:*** Transferring an RSM or multimodule RSM from one office to another, as SMs or RSMs
- Addition of lines into an existing thousands group
- Addition to and/or modification of Multiline Hunt Group (MLHG) lines associated with existing MLHG groups
- Any hardware growth or modification.

1.6 SIMPLIFIED MAINTENANCE AND REDUCED TRANSLATION (SMART) CONVERSION SERVICE

The SMART Conversion Service is a modified Large Terminal Growth (LTG) procedure. The Main areas of difference include.

- A modified timeline of activities.
- No use of the OFFRCR procedure, but POSTRCR will be used for CORC data.
- During the night of conversion, the double logging period in recent change must be inhibited. There may be an exception to this rule, if so, there will be additional restrictions on Recent Change Views that can be modified during the double logging period. Contact your Lucent Technologies SUMS center for more information.
- A different address for mailing the preliminary dump tapes.
- Final dump tapes will be processed on-site on the day of the conversion LTG.
- No changes in SM configuration, memory or disk equipage. No changes other than those performed by the SMART conversion will be allowed (The Smart Conversion does NOT use ODA.)

It is important that all required diagnostics are executed and that the AM Off-Line Boot and SM Off-Line Pump tests are performed to insure that the switch will be able to load the new ODD and successfully execute the switchforward stage. If any failures occur during these tests that will impact the timeline of the SMART Conversion LTG, the conversion coordinator should be notified immediately.

A seven-week timeline of events is a suggested maximum interval between preliminary dump and the night of the LTG.

1.7 HIGH-LEVEL PROCEDURAL OVERVIEW

1.7.1 GENERAL

The major sections of the LTG interval are as follows:

- Planning
- Advance Preparation
- System Evaluation
- LTG Implementation (which includes a section on Duplex Regression Tests).

1.7.2 PLANNING

Detailed information on scheduled maintenance activities will be referenced throughout the document in preparation for a successful 5E16.2 LTG.

1.7.3 ADVANCE PREPARATION

Advance Preparation starts at a maximum of 9 weeks before the LTG. It runs for 6 weeks and is completed 17 days before the LTG. In addition to ensuring certain supplies are on hand, you will have to:

- Ensure a tape unit is available and functional.
- Prepare an acceptance test plan to verify lines/trunks for use after the LTG.
- Verify office disk configuration.

- Ensure that the CCS links on GSMs are provisioned in an optimal duplex configuration so that CCS signaling can be maintained during the LTG.
- Make a tape containing the "other-switch" translations data 8 weeks before the LTG load date.
- Ensure all growth activity is completed.
- Clean, test, and verify tape drive.
- Perform preliminary dumps of the *5ESS* switch ODD and Equipment Configuration Data (ECD) databases 5 weeks before the LTG load date.
- Perform cutover relation checks.
- Ensure all growth activity is completed.
- Make office backups for system Moving Head Disks (MHDs).
- Assign test lines.
- Plan for Foreign Exchange (FX) lines at central office and remote sites.
- Test SMs for off-line pump capability.
- Test the AM off-line boot capability.
- Check for blank tapes and spare disks.
- Ensure the office is up to date on hardware Change Notices (CNs) and Software Updates (SUs).
- Ensure the system is running in root partition on the Emergency Action Interface (EAI) page.
- Ensure the system is running duplex with no major off-normal indications.
- Check for utility breakpoints.
- Place any nonrequired trunks in Out-Of-Service Circuit Administration (OOS-CADN) (optional).
- Start double-logging of RCs and Customer-Originated Recent Changes (CORCs).
- Perform the final *5ESS* switch ODD and ECD database dumps 5 days before the LTG load date.

During the advance preparation interval, the switch owner's LTG managers, planners, line/trunk engineers, and the Lucent Technologies Systems Equipment Engineer (SEE) should refer to the Translations Guide (TG-5), Division 1, Section 12, ODA Off-Line LTG Plan for detailed information regarding the schedule and processing responsibilities of each of the parties involved.

1.7.4 SYSTEM EVALUATION

Pre-LTG system evaluation consists of a set of tests and exercises designed to demonstrate that the switch is in an operating condition suitable for LTG. The tests will normally take about 2 days to run and must be performed within the period 10 days before the LTG. The following must be done:

- Verify that all major units successfully pass diagnostics and can run duplex with either unit active.
- Perform AM off-line boot check.

- Perform SM off-line pump check.
- Perform optional Off-Site Recent Change Reapplication (OFFRCR) Reverse Software Change Administration and Notification System (RSCANS) transmission (at -4 days).

1.7.5 LTG IMPLEMENTATION

1.7.5.1 General

LTG implementation begins the morning of the planned transition to the newly merged ODD and consists of twelve separate and distinct stages followed by duplex regression tests.

1.7.5.2 System Setup Stage

The System Setup stage should begin the morning of the LTG. The system setup consists of the following:

- Prepare environment.
- Check office records queue.
- Check/remove utility breakpoints.
- Perform final Software Update (SU) check.
- Make office backups.
- Run Module Controller/Time Slot Interchanger (MCTSI) diagnostics.
- Run Communications Module Processor (CMP) diagnostics.
- Clean and test the tape drive.
- Install LTG software tools.
- Select the proper tapes to be used in the Enter stage.
- Run a tape header check.
- Perform final Out-Of-Service (OOS) dumps.
- Check the Automatic Customer Station Rearrangement (ACSR) queue.
- Start a Backup ODD.
- Verify a quiet duplex system.

Caution: All input messages must be entered at the Master Control Center (MCC) or Switching Control Center (SCC). Failure to do so could result in missing the output responses to messages and jeopardize the transition because of differences in the MCC or SCC and other terminals in the office.

1.7.5.3 Begin Stage

The Begin stage is the starting point for the LTG and should last approximately 1 to 2½ hours. In the Begin stage, the technician should do the following:

- Check the automatic Office Dependent Data (ODD) backup schedule.
- Run an AMA session.
- Start the LTG process.
- Stop any active or scheduled Routine Exerciser (REX) diagnostics.

- Perform a backup ODD.
- Tape Read Header Check.

1.7.5.4 Enter Stage

In the Enter stage, the ODD and ECD databases are loaded from tape to the off-line disks. A full tape should take about 30 minutes to read. At the end of this stage, the odd numbered disks will contain the new ODD and ECD databases.

In the Enter stage, each SM will be forced simplex (MCTSI side 0 ACTF/MCTSI side 1 UNV). All MCTSIs side 1 will be off-line pumped with the new software release data.

The procedure will take from 2 to 4 hours (or more) depending on office size. Other activities in this stage are:

- Execute Enter Preparation.
- Disk Preparation X
- Wait Backup ODD.
- Mount Off-Line Partitions.
- Execute CNI_UPDATE.
- Execute Automatic/Manual Offline Pump.

1.7.5.5 Proceed Stage

The Proceed Stage is expected to last from approximately 1 to 2 hours. Activities in this stage include:

- Prepare the Environment.
- Perform EAI Setup.
- Prepare ECD.
- Execute VTOC changes.
- Start WRTAMA.
- Execute AMA session.
- Execute ALLOW CHECKS.
- Execute TSM OLD.
- Prepare TSMU.

1.7.5.6 Switchforward Stage

In the Switchforward Stage, the Administrative Module (AM), Communication Module Processor (CMP) and MCTSIs of each SM are switched to the new merged ODD. During the switch forward, 2-port stable calls with a talking path are maintained and all transient calls are routed to reorder. New originations are also routed to reorder. Because stable calls are maintained, the switch forward may be scheduled earlier in the evening at a time acceptable to the operating company. Recent change is allowed and the AM and CMP are duplexed on the new ODD.

The switch (with the exception of the SMs and disk drives) is duplexed after the transition on the new ODDs.

Activities included in this stage are:

- Confirm Switchforward.
- Execute APPLHOOK.
- Execute Old Side SM Manager.

1.7.5.7 Recovery Preparation Stage

Activities included in this stage are:

- Prepare environment.
- Execute APPLHOOK.
- Execute New Side SM Manager.

1.7.5.8 Post-boot Stage

Activities included in this stage are:

- Execute TSM NEW.
- Stop Off-Line Boot.

1.7.5.9 Soak Stage

The Soak stage consists of acceptance testing, reconfiguring AMA disk partitions (if necessary), and the starting of the reapplication of RCs and CORCs.

Acceptance testing is expected to last up to 1 hour. During this interval, the operating company performs a series of locally-developed tests to assess the reliability of the new merged ODD before committing the switch to full-duplex operation. Other activities in this stage include executing manual actions such as CORC and Recent Change Reapplication.

1.7.5.10 Commit Stage

During the Commit stage, the remaining units will be duplexed.

In the Commit stage, the disks containing the old software release ODDs are off-line until all SMs are duplex on the new ODD. (This ensures a clean backout possibility until the even-numbered disks are committed to the new ODD.)

Duplexing the disks is the last major task. This stage is expected to last from 1½ to 6 hours depending on the number of disks in the office. Other activities in this stage are:

- Duplex the SMs.
- Execute reapplication check.
- Execute Duplex MHDs.
- Execute APPLHOOK.
- Execute CMTHOOK.

1.7.5.11 End Stage

The End stage completes the LTG interval. During this stage, the LTG cycle is completed, and RC and REX are allowed. This is followed by a series of general cleanup steps to reset Automatic Line Insulation Testing (ALIT) parameters, AMA passwords, automatic ODD backup schedule, and call trace lines.

The final task is to make full office backups. As the backups are essential for system recovery, they should be made at this time.

Discounting full office backups, the End stage is expected to last approximately 30 minutes to 1 hour. Additional time for full office backups is dependent on office size/equipage and should be calculated into the overall LTG planning schedule. Other activities in this stage are:

- Execute APPLHOOK.
- Execute ENDHOOK.
- Execute RMVTOOLS.
- Pauses and prompts for the technician not to resume until all RC and CORC Reapplication activity is complete.
- Removing ECD modifications that made it possible to restart the LTG if interrupted by an unexpected AM INIT.

1.7.5.12 Duplex Regression Tests

The operating company should monitor office performance for several days following the LTG. This should include 1 full, normal business day. Any abnormal conditions that arise should be promptly reported per local procedures.

1.8 MISCELLANEOUS

1.8.1 COMMENTS, NOTES, CAUTIONS, AND WARNINGS

Four levels of notation are used in this document for adding supportive information to the text. The four levels and their implications are as follows:

1. Comment: Additional information for clarification or further explanation.
2. ***Note:*** Important information that could affect the procedures.
3. ***Caution: Very important information. If cautions are not heeded, there could be an adverse impact on the operating company subscribers or on the ability to successfully complete the procedures.***
4. ***Warning: Critical information. If warnings are not heeded, there will probably be an adverse impact on the operating company subscribers and/or the ability to successfully complete the procedures will be in jeopardy.***

1.8.2 FORMAT AND USE OF DOCUMENT

1.8.2.1 Overview

In this document, special message formats and conventions have been used. The user should be aware of these message formats and conventions and their meaning. They include the following:

- [ ] (brackets)

- ❒ (box)
- { } (braces)
- | (pipes)
- **=> *Read:*** (read icon)

1.8.2.2 Brackets [ ]

Information (equipment unit, output response, tape, etc.) that appear inside brackets indicate that this information may be applicable to your office. In most cases, the user can easily determine from the information if it applies to the office. Output responses, equipment units, tapes, etc., inside the brackets may or may not be output, equipped, or loaded depending on the office. Brackets around an output response indicate that only some offices will receive the output response depending on equipage or configuration in the office. For example:

[RST MHD 4 COMPLETED].

The restore MHD 4 completed message will only be output if an office has an MHD 4 equipped.

1.8.2.3 Box

Information and input messages that are boxed provide additional information to the user that may be helpful in the procedures that follow. If an input message appears in a box, the user should be aware that it is *not* necessary to enter the message(s) at that point in the procedure to continue. The user should read and be aware of the special instructions, messages, or information shown in a box. Boxes are also used to show examples.

1.8.2.4 Braces { } and Pipes |

The brace and pipe symbols are used to indicate conditions where two or more responses, options, arguments, etc., are possible. In output responses that are shown with the brace and pipe symbols, they may be used to show the different possible output responses that can be received. For example,

OP SYSSTAT SUMMARY {**FIRST** | **NEXT** | **LAST** }

1.8.2.5 Read Icon => *Read:*

The read icon provides useful information for the user that will be of assistance when performing the procedures that follow.

1.8.3 ENTERING COMMANDS

1.8.3.1 Overview

When performing these procedures, it is necessary to input (or enter) machine commands to successfully complete the required task. Currently, there are two primary methods of entering commands. One method is by using an **input message**, the other is a **poke command**.

While both methods of entering data are performed from the Master Control Center (MCC), input messages are entered in the message mode; poke commands are entered in command mode. To toggle between the two modes, the **CMD/MSG** key (on the MCC keyboard) is used.

1.8.3.2 Input Messages

Input messages are given for Man-Machine Language (MML) and are as follows:

MSG **INPUT MESSAGE**

Caution: Input messages must be entered exactly as printed with regard for upper case and lower case, punctuation, and spacing. The final character of each message ";" is not actually typed, but appears when the RETURN key is depressed to enter the message.

Unless otherwise specified:

- All input messages and commands will be entered at the MCC.
- It is assumed that the technician will wait for a successful response from an input message or command before continuing to the next step.

1.8.3.3 Poke Commands

While input messages can be entered from any MCC page, poke commands ***must be*** input from the referenced MCC page. Poke commands will be given in the following format:

CMD **poke command**

1.8.4 TERMINOLOGY

Unless otherwise stated, the term Switching Module (SM) refers to Local Switching Module (LSM), Host Switching Module (HSM), Optically Integrated Remote Switching Module (ORM), Remote Switching Module (RSM), Multimodule Remote Switching Module (MMRSM), 2-mile Optically Remoted Module (TRM), and Switch Module-2000 (SM-2000).

Some examples include **<cr>** to indicate "carriage return." In these cases, "nothing" is input; the RETURN key (or the ENTER key) is pressed.

1.8.5 WORKSHEETS

Section 9 of this document contains several worksheets that are to be used throughout each stage of the LTG process. It is very important to enter data on the worksheets as specified throughout the document. Some of the data on the worksheets are entered at intervals before the LTG and are referenced and used on the night of the actual LTG. If the key fields in the worksheets are not filled in by the time of the actual LTG, they will cause delay or cancellation of the LTG.

1.9 SOFTWARE RELEASE RETROFIT TECHNICAL ASSISTANCE — SUMS CENTERS

Technical assistance for Software Release Retrofits is provided by the Lucent Technologies Software Update Management Service (SUMS) Centers. If there are any questions regarding the Software Release Retrofit/LTG/SRU, call your Lucent Technologies SUMS Center support indicated in Table 1-1.

Table 1-1 — SUMS Centers

SUMS	LOCATION	TELEPHONE NUMBER
South	Birmingham, AL	1-800-824-1626 (NAT.) 1-205-560-2174 FAX 1-205-560-2188
Western	Denver, CO	1-877–295–0084 1-720-482-4267 FAX

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For technical assistance, call Technical Support Services (TSS) at:

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Technical Support Services is staffed 24 hours a day, 7 days a week.

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2. PLANNING

2.1 INTERVALS AND TIMING CONSTRAINTS

In addition to the standard ordering interval, there are certain LTG-related site activities that must be planned. Table 2-1 should be used as a guide for site activity planning. Also, refer to Figure 2-1 for a high-level LTG time line. The *5ESS*® switch Product Offer and Realization (POR) organization has final approval on all shortened LTG intervals. The entire 5E16.2 LTG timeline supports a maximum interval of 13 weeks.

This *5ESS* Switch Large Terminal Growth (LTG) Procedures 5E16.2 document will walk you through the standard 13 week interval.

Table 2-1 — Site Activities Guide

STAGE	TIME	ACTIVITY
Advance Prep	-9 wks	Tape unit verify
		Ensure proper AM and SM memory
		Verify office disk configuration
		Run GSM CCS Link Configuration Check
	-8 wks	"Other system" translations data dump
		Growth check
	-5 wks	Preliminary *5ESS* switch ODD/ECD dumps
	-4 wks	Cutover relation checks/ODD finals in
		Tape unit verify
		Disk verify
		Office backups
	-3 wks	SM off-line pump check
		AM off-line boot check
		Software update check
		Utility breakpoint check
		Final *5ESS*-2000 switch ODD and ECD dumps
		OOS-CADN trunk configuration
		LTG equipment begins arriving on-site (tapes, documents, etc.)
System Evaluation	-1 wk	Begin final office baseline tests (REX) and system evaluation tests
	-4 days	RSCANS transmission if using OFFRCR
	-3 days	Final Software Updates (SUs)
		Quiet Duplex system
		Tape unit verify
	-1 day	Review checklist and procedures
Implementation	0	Disk backups
		MCTSI diagnostics
		CMP Diagnostics

Table 2-1 — Site Activities Guide (Contd)

STAGE	TIME	ACTIVITY
		LTG
		Duplex tests and observation

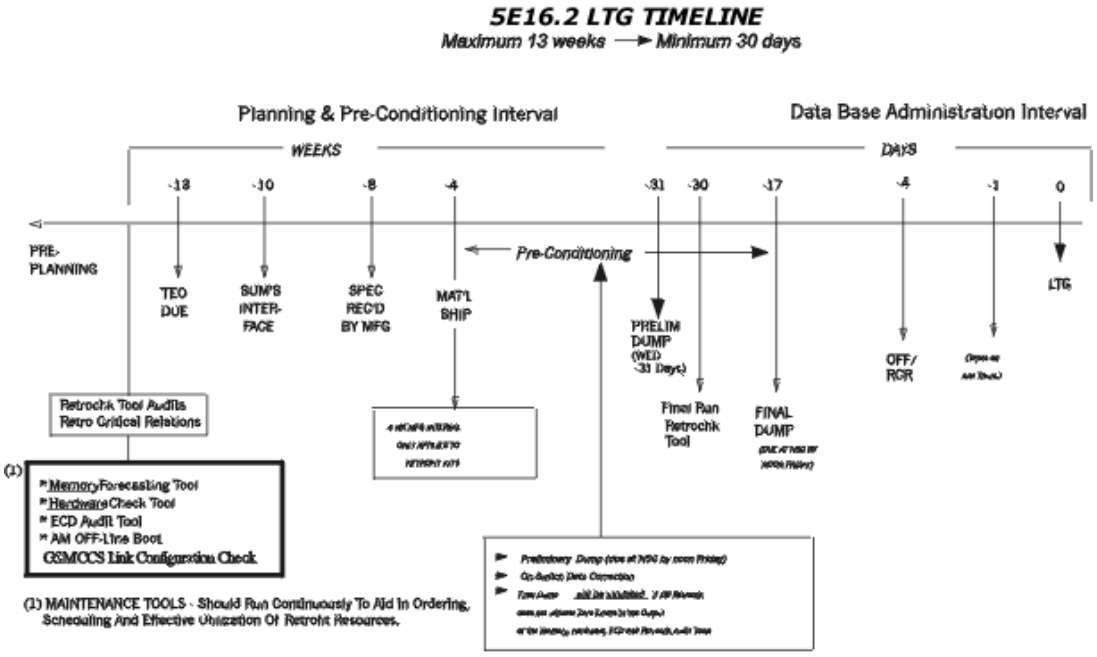

Figure 2-1 — High-Level LTG Time Line

The importance of meeting the time intervals shown in Table 2-1 cannot be overstated. The processes used for the database merge by Lucent Technologies are long and

involved. Since that group is involved in many LTGs, any slip in the initial time intervals may delay the LTG.

2.2 5E16.2 RETROFIT ENHANCEMENTS

2.2.1 RETROFIT CONTROL LANGUAGE PAGE

2.2.1.1 1984 Page Description

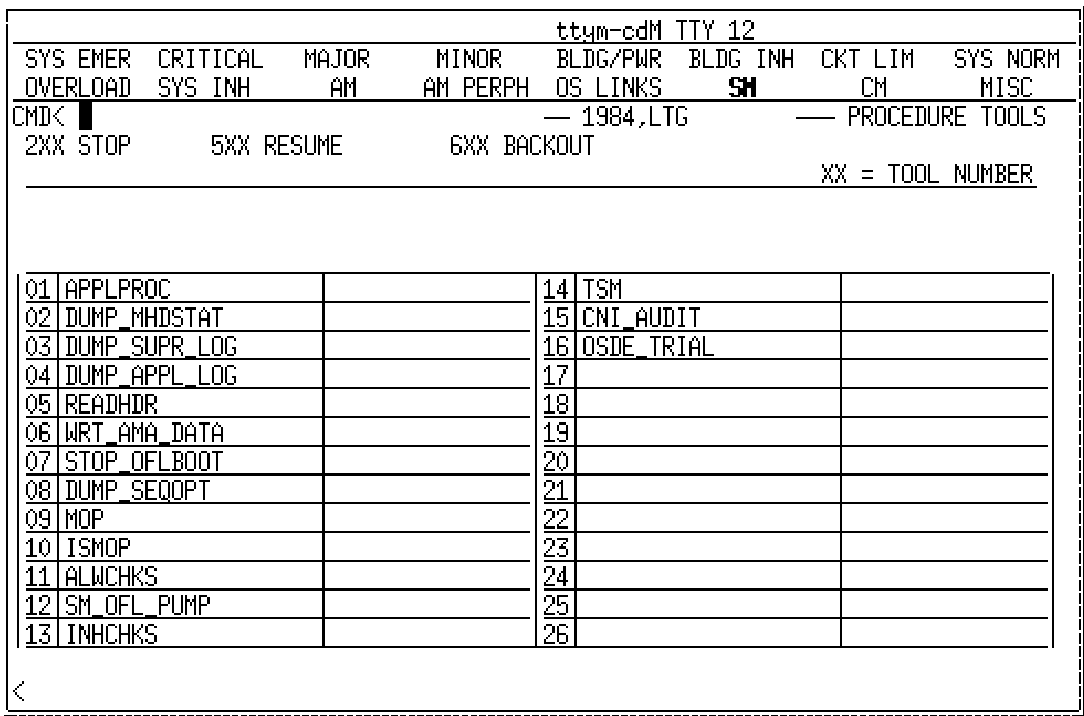

Figure 2-2 — MCC Page 1984

The pokes available on the 1984 page perform the following actions:

- **2XX** - Stop procedure.
- **5XX** - Resume the procedure.
- **6XX** - Backout of the procedure.

There are two ways to initialize tools from the 1980 MCC page:

1. If a **3XX** command has not been entered and no procedures are running, enter **801**. The 1984 page is then displayed showing all the associated tools so that the appropriate tool may be selected.

   Or,

2. Enter **3XX** directly from the 1980 page. This starts the procedure while displaying the 1985 page without accessing the 1984 page. The 1984 page may be entered to view the procedure at this point but an **801** command will not be accepted.

Tables 9-15 through 9-24 show the various commands, arguments and tools used in association with MCC pages 1980, 1984, 1985, and 1989.

2.2.2 AUTOMATE 1984 PAGE COMMANDS

The creation of the 1984 MCC page accomodates the need for tools that cannot be automated or that need to be run at any time, including the preparation period. Besides allowing the execution of retrofit tools the 1984 page provides all the current RCL capabilities by implementing tools as special steps within RCL.

2.2.3 AUTOMATE SM OFFLINE PUMP

Automated offline pump automates the following actions:

- Switch PPCs
- Inhibit CLNK normalization
- Force requested SMs active on one side of the MCTSI
- Inhibit hardware and software checks on the requested SMs
- Start the requested SMs offline pump
- Monitor the success/failure of the offline SM pump.

The 1984 page is used to enter the poke to execute the "SM Offline Pump" tool. A required argument of "act" or "off" (for example: 3XX,act) determines if the active or offline disk image is pumped into offline SM memory. While the SM offline pumps are in progress, the SM Offline Pump tool's status indicator displays the percentage of SMs that have completed their offline pumps.

When the offline pumping of the SM has completed, the status indicator displays "COMPLETE" or "FAILURE". If there are failures and the appropriate corrective actions have been taken, re-execute the "SM Offline Pump" tool to attempt to offline pump the SMs that are not at the "MATE PUMPED" status.

Automated offline pump monitoring provides the following features:

- Lack-of-activity check that sets the the step indicator to "FAILED"
- Print a periodic report on the ROP showing the number of SMs (out of the total number) that have completed offline pump.

SM Offline pumps can fail due to hardware or data problems, or because the SM is in the grow state. In this case, after all the other SMs have completed their offline pumps, set the "Automated SM Offline Pump " option on the 1989 MCC page to "**N**" and continue the procedure. This causes the "AUTO PUMP" step to complete and the remainder of the ENTER stage to continue. The failed SMs can be isolated and recovered after the new software release is operational.

2.2.4 ON-SWITCH OFF-LINE BOOT CHECK

The On-switch off-line boot check is an LTG pre-conditioning tool. The purpose of the tool is to ensure that an off-line boot has been completed successfully before performing a database dump. If a successful off-line boot has not been completed, the database dump will be inhibited. In this case, the condition responsible for the off-line boot failure will need to be corrected before continuing.

The output from the **OP:RETROCHK** command was modified to include this new check. Before the database dump may be performed, offices will need to ensure that

the OFFLINE BOOT check reports a status of "COMPLETED" and a summary of "NO ERROR". For more information on the **OP:RETROCHK** change, see Section 3.8.4.9.

2.2.5 LTG PRE-CONDITIONING CHECKS

The **OP:RETROCHK** command checks all summary report files generated by the pre-conditioning processes i.e., Memory Forecasting Tool, and the ODD Retrochk Tool and the offline boot check tool. This command assists the switch owner in determining whether the above mentioned processes have been run, if run was error-free, and if not error-free a summary of the errors. The output of this command will be sent to the ROP. In order to be able to perform the database dump, the new OFFLINE BOOT check audit must be completed without error.

2.2.6 GLOBAL SWITCHING MODULE (GSM) CCS LINK CONFIGURATION CHECK

The GSM CCS link configuration check will examine the CCS link configuration on each GSM to determine the impact a SwitchForward will have on the CCS signaling.

If a GSM is provisioned with an optimal duplex CCS link configuration, the GSM will be able to maintain 50% CCS signaling capacity to all destinations (i.e. DPCs, clusters, and networks) during the SwitchForward. If a GSM is not provisioned with an optimal configuration, the GSM may experience reduced CCS signaling capacity, or an extended CCS signaling outage to some destinations during the SwitchForward.

Instructions for provisioning the GSM CCS links in an optimal duplex configuration can be found in 235-200-116, *Signaling Gateway Common Channel Signaling* document.

GSM CONSIDERATIONS

Note: **The SwitchForward of the processors will behave differently for switches that are equipped with Global Switching Modules (GSMs) for CCS signaling.**

For each GSM (host or island) which has a supported (duplex) CCS link configuration, the system will attempt to preserve CCS signaling on the GSM during SwitchForward by performing the following tasks:

- simplexing the CCS links (i.e. removing one half of the links by removing PSUPHs)
- Switching Forward
- initializing the removed links on the new release
- restoring the links
- performing the same tasks for the other half of the links (which were left activated during the switch forward)

When these tasks are performed, one or more of the following output messages may be printed on the ROP before the switch forward begins:

```
TST CCS GSMCFG

RMV PSUPH

REPT GLOBAL FUNCTIONALITY IMPAIRED - QPH_OFFN CCS_LNK

REPT CCSLK - UNAVAIL MAN MTCE OOSF-PH

REPT QPHPIPE RECOVERY
```

The “GSM CCS Link Configuration Check” will be performed for the Host GSM prior to switching the processors forward to determine if the CCS signaling links have been provisioned in an optimal duplex configuration. (*) See Table 2-2 for possible GSM SwitchForward configurations.

a. **Optimally Duplexed (i.e. fully supported)**

   50% CCS signaling capacity maintained to all destinations during the switch forward of the processors.

   For each GSM that has a fully supported CCS link configuration, the following message will be printed on the ROP:

```
TST CCS GSMCFG SM=SM# LS/CLS=
  GRSI MAY PROCEED WITH MINIMAL CCS CAPABILITY LOSS
```

b. **Non-optimally Duplexed (i.e. partially supported)**

   The signaling capacity to some of the destinations will be less than 50% for several minutes. In the worst case, some destinations will be completely isolated.

   The system can be forced to perform the SwitchForward of the processors using the "CCS Preserving" sequence by entering a Poke (500) RESUME command, or backed out to the beginning of the SwitchForward Stage by entering a Poke (600) BACKOUT command.

c. **Non-duplexed (i.e. non-supported)**

   There will be no signaling capability to all of the destinations for several minutes (i.e. all destinations will be isolated).

   The system can be forced to perform the Switchforward of the processors using the "Default" sequence by entering a Poke (500) RESUME command, or backed out to the beginning of the Switchforward Stage by entering a Poke (600) BACKOUT command.

Table 2-2 — Possible GSM SwitchForward Configurations

GSM — CCS SIGNALING CONFIGURATION DETECTED ON THE SWITCH	SWITCHFORWARD PROCESSOR SWITCHING SEQUENCE	MCC SCREEN AND ROP MESSAGE DISPLAYED
No GSM equipped	The system will perform the SwitchForward of the processors using the "Default" processor switching sequence, with no additional pauses.	NON GSM SWITCH CONFIGURATION RUNNING DEFAULT SWITCH SEQUENCE
One or more Island GSMs equipped (but no Host GSMs)		ISLAND ONLY GSM CONFIGURATION RUNNING DEFAULT SWITCH SEQUENCE
*** Host GSM with an optimally duplexed (i.e. fully supported) CCS signaling configuration**	The system will perform the SwitchForward of the processors using the "CCS Preserving" processor sequence, with no additional pauses.	GSM CONFIG - FULLY SUPPORTED RUNNING CCS-PRESERVING SWITCH SEQUENCE
*** Host GSM with a non-optimally duplexed (i.e. partially supported) CCS signaling configuration**	The system will pause. See MCC Screen and ROP Message Display for instructions. **NOTE:** This is an additional 500/600 Poke Command, not identified in the main procedure which reflects fully supported CCS signaling.	GSM CONFIG - WITH LINK AND ROUTE LOST ENTER 500 TO SWITCH FORWARD WITH CCS_PRESERVE SEQ ENTER 600 TO BACK OUT
*** Host GSM with a non-duplexed (i.e. non-supported) CCS signaling configuration**	The system will pause. See MCC Screen and ROP Message Display for instructions. **NOTE:** This is an additional 500/600 Poke Command, not identified in the main procedure which reflects fully supported CCS signaling.	GSM CONFIG - NOT SUPPORTED ENTER 500 TO SWITCH FORWARD WITH DEFAULT SWITCH SEQ ENTER 600 TO BACK OUT

2.3 IMPACT OF A LTG

2.3.1 OVERVIEW

The 5E16.2 LTG may impact the *5ESS* switch in the following areas:

- Hardware
- Data (ODD/ECD)
- Service
- Technician
- Operator Services Position System (OSPS).

- The ODD is updated.

2.3.2 HARDWARE IMPACT

2.3.2.1 Overview

The hardware required for the *5ESS* switch for a LTG on 5E16.2 Software Release consists of sufficient AM and SM memory and sufficient disk space. Hardware Change Notices (CNs) may also need to be applied.

Any additional memory or disk drives must be added before the dump. If memory or disk growth is required, the growth procedures must also be completed before the dump.

It is recommended that the memory requirements for the 5E16.2 Software Release be determined well in advance of the dump interval to allow sufficient time for ordering and installation.

Refer to the following for information on memory requirements and procedures for growing memory and disks:

- 235-070-100, *Administration and Engineering Guidelines*, for the 5E16.2 memory and disk requirements.
- See Section 2.3.2.3.2, **Disk Space** for information on the necessary items that are used in determining the 5E16.2 disk space.
- 235-105-231, *Hardware Change Procedures - Growth*, for procedures for growing AM/SM memory.
- See Section 2.3.2.2.3, **Memory Tool** for procedures on memory projections.

2.3.2.2 Memory Requirements

2.3.2.2.1 Is the type of LTG being performed a SMART Conversion LTG?

- If **YES**, skip these steps and go to Step 2.3.2.3 since additional memory is not required.
- If **NO**, continue with the next step.

2.3.2.2.2 Overview

The memory forecasting tool is suggested as a "predictor" for memory requirements specific to the target release. This tool is only a predictor and profiles approximately 90% of the switch in an office. For the 5E16.2 LTG, additional memory for the AM and each SM may be needed. If additional memory is needed, it must be added before the database dump. The memory forecasting tool is provided as a predictor that enables offices to determine the amount of memory needed to LTG from the current software release ODD to a specified subsequent software release ODD.

2.3.2.2.3 Memory Forecasting Tool (SUGGESTED)

Because of memory requirement projections for the 5E16.2 Software Release, a feature (the memory forecasting tool) is available to forecast the amount of memory required for an office to support LTG to the merged ODD.

This tool will aid the customer in determining memory usage, trigger procurement of additional memory, and allow more flexibility in the scheduling of LTGs. This tool also provides the office's current AM, CMP, and SM memory equipage as well as the projected memory usage for the switch.

In preparation for the LTG, this tool should be run well in advance of the Telephone Equipment Order (TEO). If the report indicates that memory is needed in any of the processors, the appropriate memory should be grown. In some cases this tool may reduce the default ODD freespace percentage of 30% used in its calculations in order to limit a specific processor's forecasted memory requirements to a value equal to the current memory equipage. Therefore, the "%FREE" column of the report output should be examined to determine if the values are acceptable to the office.

This tool should still be run on a regular basis to verify that memory needs do not increase in the weeks before the LTG.

To run the memory forecasting tool, enter the following message:

MSG **OP:MEMSIZE,TORELEASE=5E162;**

OP MEMSIZE **PAGE** *x* **OF** *y*
BASE & CONTROL:*xxxx*
FROM: *5E16.2* **TO** *5E16.2*

PROC NO	TYPE	RETROFIT CONFIG	SABM	RTBM	MEG MEM EQUIPD	KILO ODD NEEDED	MEG TOTAL NEEDED (MIN)	% FREE	MEM NEEDED
xxx	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*

OP MEMSIZE **PAGE** *x* **OF** *y*
BASE & CONTROL: *xxxx*
FROM: *5E16.2* **TO** *5E16.2*

PROC NO	CORE BOARD	TN56 2MEG	TN2012 4MEG	TN1374 4MEG	TN1376 8MEG	TN1661 16MEG	TN1685 32MEG	TN1806 64MEG	TOTAL MEG	TOTAL MEG
xxx	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxxxxx*	

For additional information on the I/O messages supporting the memory forecasting tool, refer to 235-600-700, *Input Messages Manual* and 235-600-750, *Output Messages Manual*.

2.3.2.2.4 SM Memory

2.3.2.2.4.1 Overview

The SM memory size for the 5E16.2 software release depends on the SM software configuration and the SM ODD requirements. The 5E16.2 software release SM memory requirements for your office should be determined. The ODD requirements for your office may not be typical. Calculations and guidelines for determining the exact memory requirements are given in 235-070-100, *Administration and Engineering Guidelines*. The SM memory projections may also be obtained from the output of the memory forecasting tool. See Section 2.3.2.2.3.

The SM memory requirements need to be determined well in advance of the database tape dump.

2.3.2.3 Disk Equipage

2.3.2.3.1 Is the type of LTG being performed a SMART Conversion LTG?

- If **YES**, skip these steps and go to Step 2.3.2.4 since disk equipage modifications are not required.

- If **NO**, continue with the next step.

2.3.2.3.2 Disk Space

LTG planning requires proper disk equipage so that the office will have enough disk space on the new software release side to accommodate the ODD and Automatic Message Accounting (AMA) data. All SM static ODD memory must have sufficient disk space to be backed up on disk. If additional SMs will be added in the near future, this should be considered in determining the total disk requirements for SM static ODD and AMA data. After the LTG to the merged ODD, additional features and capabilities are available which have an impact on the storage requirements.

The following listing includes several different types of procedures that deal with MHDs (or disks). Some of these procedures may need to be performed ***before the LTG*** in a 5E16.2 Software Release office to meet the disk requirements for the 5E16.2 Software Release ODD.

- ***Disk Growth:*** The disk growth procedures allow an office to grow an additional disk on to the existing disk system. After hardware growth, one of three disk options will be selected to increase the AMA and/or SM ODD space.
- ***Disk Reconfiguration:*** The disk reconfiguration procedure maximizes the storage space of the SM ODD by consolidating and reconfiguring the SM ODD space. The SM ODD disk partitions are changed to efficiently utilize the ODD space. A disk reconfiguration is required after a disk conversion.

For further information on disk engineering, see Section 2.3.2.3.5, Disk Engineering Guidelines, and 235-070-100, *Administration and Engineering Guidelines*.

2.3.2.3.3 5E16.2 Disk Configurations

In the 5E16.2 Software Release only the 2020 disk configuration is used and offices must be equipped with a 3B21D processor.

The number of MHDs is the number of disk pairs that are included as part of the actual disk configuration. These disk pairs are referred to as "base disks." Base disks do not include any optional disk pairs that may be equipped.

2.3.2.3.4 5E16.2 Disk Options

Each disk configuration in the 5E16.2 Software Release may use any of the following disk options. These disk options refer to the type of data stored on the optional disk pairs. The ***03xx*** and ***03xxx*** options are for 322 Mb SCSI MHDs. The ***06xx*** and ***06xxx*** options are for the 600 Mb SCSI MHDs. The ***10XX*** options are for 1GB/2GB SCSI MHDs.

- ***0300 or 0600 or 1000:*** All of the data on the outboard disks (an outboard disk is any disk other than the required MHDs) is AMA.
- ***0325 or 0625 or 1025:*** With this option, 75 percent of the disk space on the outboard disks is allocated for AMA, and the other 25 percent is allocated for the SM ODD.
- ***0350 or 0650 or 1050:*** With this option, 50 percent of the disk space on the outboard disks is allocated for AMA and the other 50 percent is allocated for the SM ODD.
- ***0375 or 0675:*** With this option, 25 percent of the disk space on the outboard disks is allocated for AMA and the other 75 percent is allocated for the SM ODD.

- ***03100 or 06100:*** All of the disk space on the outboard disks is allocated for SM ODD.

2.3.2.3.5 Disk Engineering Guidelines

2.3.2.3.5.1 Overview

Engineering of the disk space is based on the office requirements for storage space on disk to back up the SM ODD and to store AMA data. These items are used to determine which disk configuration should be used.

Two optional simplexed software backup disks (1 disk pair) may also be equipped in the office. MHDs 14 and 15 are reserved for optional software backup disks.

Various combinations of disk layouts are available for the different levels of disk space required for the SM ODD and AMA storage for your particular office. It is recommended that there be sufficient disk memory for storing 5 days of AMA billing data to ensure the accuracy of the billing records.

Remember that for disk conversions, the new hardware must be ordered, installed, and the disk conversion and reconfiguration procedure performed prior to the database dump. Also, if the office requires additional disk pairs, the new disk pairs must be ordered and installed prior to the database dumps.

Hardware growth must be done before the LTG. The number and type of disks needed should be determined in advance of the LTG. If any type of disk growth is required, use 235-105-231, *Hardware Change Procedures - Growth*.

Refer to 235-070-100, *Administration and Engineering Guidelines* for complete disk engineering guidelines.

Customers can also call their SUMS Center (Table 1-1) for assistance.

2.3.2.3.5.2 Calculation of SM ODD Current Usage

The output from the "OP:ODD" input message may be used to obtain the total SM ODD current usage for the office. The "OP:ODD" input message is entered at the MCC and the output response will be printed at the Read-Only Printer (ROP).

MSG **OP:ODD, SM=1&&*x*;**

Where: x = highest numbered SM

The output response from the "OP:ODD" input message will also contain the memory usage for the "APPCP" (ODD availability report in the central processor) and the "APPCP DISK" (ODD availability report for the disk). ***Do not add the "APPCP" and the "APPCP DISK" usage to the total SM usage.*** The SM ODD space for all SMs should be added together to obtain the total SM ODD current usage for the office.

For more information, refer to 235-070-100, *Administration and Engineering Guidelines*.

2.3.2.3.5.3 Calculation of AMA Current Usage

Items to consider when determining the total 5E16.2 AMA storage space include:

- Call types - the AMA record length varies depending on the call type.
- Number of calls for each call type.

The percentage of AMA disk space being used off-line at any time in the office can be determined by entering **"OP:AMA:DISK"** . Keep in mind that this is a dynamic number that changes as calls are being billed.

For more information, refer to 235-070-100, *Administration and Engineering Guidelines*.

2.3.2.4 Hardware Change Notice Requirements

2.3.3 DATA IMPACT (DATABASE DUMP)

The ODD database must be updated for compatibility with the new software release ODD. Seventeen days before the LTG, the ODD and ECD databases are dumped to tape and mailed to Lucent Technologies for off-line processing of the databases (to arrive 15 days before the LTG). This off-line processing converts the ODD and ECD databases to a compatible format.

After the dump is made, RC activity should be minimized.

2.3.4 DATA IMPACT

For LTG, the ODD database must be updated. The following actions must be performed:

1. Eight weeks before the LTG load date, the telephone company must supply Lucent Technologies with an approved tape containing data (for example, line or trunk) from the existing other switch being merged with an existing *5ESS* switch.

   Refer to 235-080-100, *Translations Guide*, Division 1, Section 9, for 5ODA Batch Load Interface Specifications for further instructions regarding how to build and ship the tape(s).

2. Five weeks before the LTG load date, the *5ESS* switch ODD and ECD databases are dumped to tape and mailed to Lucent Technologies for an initial review.

   The switch databases are checked for errors and inconsistencies. Telephone company managers, planners, line/trunk engineers, and the Lucent Technologies Systems Equipment Engineer (SEE) should refer to the *TG-5* (235-080-100), Division 1, Section 12, ODA Off-Line LTG Plan, for detailed information regarding the schedule and processing responsibilities for each party involved.

   ⇒ ***Important*** The telephone company and the Lucent Technologies systems equipment engineer ***must*** clean up any errors detected by the processing of the preliminary dump data. ***Delaying the error cleanup effort until the final dump could jeopardize the LTG load date.*** The final dump processing interval does not permit enough time to perform extensive error correction without delaying the LTG load date.

   The preliminary dump process is designed to permit the location and analysis of database inconsistencies. Consultation with the telephone company is provided so that solutions to any errors found can be corrected in the database of the switch before the final dump. Error correction would include using Recent Change (RC) and, if necessary, Office Data Base Editor (ODBE) changes to the on-site switch database.

3. Seventeen days before the LTG load date, the *5ESS* switch ODD and ECD databases are dumped to tape again and mailed to Lucent Technologies for off-line processing and merging with the "other-switch" translation data. Before

the growth data ("other-switch" translation data) is merged with the final dump data, error checking is performed. Any errors found are corrected. When all errors have been corrected, the growth data and final dump data are merged. Magnetic tapes are written with the updated ODD. Hard copies of the office records, functional listings, and the new ODD tapes are then shipped to the office for the LTG load date.

4. In offices using OFFRCR, four days before the LTG load date, the collected recent changes are dumped and shipped via RSCANS to Lucent Technologies.

5. All modifications performed via the Office Data Base Editor (ODBE) after the final dump has been made should be kept and reapplied after the LTG. Changes made after the final dump with the ODBE will not be carried over to the new database load.

After the final ODD and ECD dumps are made, RC activity should be minimized.

2.3.5 SERVICE IMPACT

2.3.5.1 Overview

The following assumptions can be made regarding the impact on service during the LTG:

a. The disk subsystem will be simplex for 4 to 6 hours during the LTG procedure. This time is determined by several factors which include tape reading time during the "Enter Stage," office size, and the duration of the acceptance testing in the "Soak Stage."

b. All SMs will be simplex for 2 to 4 hours during the LTG procedure.

c. A subset of line and trunk RC forms and all Customer-Originated Recent Changes (CORCs) will be carried over to the new ODD via OFFRCR. See Section 2.5. Recent change is inhibited during the night of LTG interval, with the exception of verifies. The CORCs will be inhibited briefly prior to the Switch Forward.

   Recent changes will be applied at a rate of approximately 400 to 800 per hour using the RC batch insert mechanism. Reapplication time is dependent on the complexity of the RC view to be applied, the number of RCs to be applied, and the amount of traffic.

   The CORCs will be applied at a rate of approximately 4,000 to 5,000 per hour depending on office size and equipage.

d. During the AM and/or SM Switch Forward:

   - Calls maintained over the switch forward are those 2-port calls in the talking state of the following types:

     — Analog line calls (voice or data, that is, modem).

     — Analog or digital trunk calls (for DCS, trunk calls will **NOT** be preserved over the Switch Forward).

     — Integrated Services Digital Network (ISDN) BRI circuit-switched voice and data calls.

     — ISDN Primary Rate Interface (PRI) circuit-switched voice and data calls.

All other calls will be routed to reorder. Packet switched calls are not saved during the initialization on the new software ODD. All calls that are saved can only disconnect. They cannot activate features and cannot be billed.

- Transient call processing will be suspended for a short period of time. ISDN call processing may not be available for a longer period of time depending on equipage. New originations will be routed to reorder.
- All pending billing data residing in buffers which have not been written to disk will be lost. Billing data for stable calls will be lost.
- All pending traffic and plant measurement data will be lost.
- Out-Of-Service (OOS) status for all faulty equipment will be lost. Lists dumped during the Begin Stage can be used to manually remove the previous OOS equipment after the system recovers.
- For each GSM with a duplex CCS link configuration, approximately one half of the CCS links will be deactivated during the GSM switch forward for up to 5 minutes.

e. If the Off-Site Recent Change Reapplication (OFFRCR) process is not used, customer lines modified by RCs after the database dump will not contain those modifications until after the RCs are reapplied to the new database the night of the LTG. If the OFFRCR process is used, accumulated RCs since the database dump are electronically data linked to Lucent Technologies Network Software Center (NSC) -4 days before the LTG using Reverse Software Change Administration and Notification System (RSCANS). The Lucent Technologies ODD/ECD tape processing group applies the accumulated RCs to the ODD via OFFRCR. The LTG tapes (ODD/ECD) are then shipped to the office for the LTG. Recent changes made after the -4 day RSCANS transmission for OFFRCR are reapplied to the merged ODD after the switch has recovered on the new ODD.

2.3.5.2 ACSR Customer Notification

All Automatic Customer Station Rearrangement (ACSR) customers will be impacted by the transition and therefore should be notified in advance. The ACSR feature is inhibited from the Begin Stage until the End Stage. When notified, advise the customers of the date of your upcoming LTG so they can adjust their schedules accordingly. They should not move their terminal equipment (i.e. use ACSR) the day or the weekend of the LTG.

2.4 OFFICE PREPARATION AND SUPPORT

2.4.1 CRITICAL ITEM LIST

Table 2-3 contains a listing of items that are critical to performing a 5E16.2 LTG. The operating company has responsibility for ensuring that all items listed are ordered and are on hand for the LTG.

Table 2-3 — 5E16.2 LTG Critical Item List

ITEM	SUPPORT INFORMATION
Ensure ODD critical relations are error-free	Execute ODD Retrochk tool (Section 3.8.2)
Ensure office has sufficient AM/SM Memory	Refer to the output from the memory forecasting tool (Section 2.3.2.2.3) and 235-070-100, *Administration and Engineering Guidelines*
Tape Unit	The 3B21 Requires KS-23909, L10 or L21. Also for DAT, Model 35470A, NCR Specification NCR006-3503341/60, Rev. A.
Blank Tapes	Refer to J5D008T-1 (latest issue)
Software Update Level	From LTG Notes obtained via the Internet or the SUMS center.
5E16.2 Documents	235-001-001, *Documentation Description and Ordering Guide*
Database Tapes (two full sets)	From Network Software Center in Lisle, Illinois
LTG Notes	Latest Issue from Network Software Center (CTS LTG Support Group) in Lisle, Illinois
Foreign Exchange Lines	There should be at least two FX lines in the central office. There should also be one at each remote site and at least one FX for each NXX in the office. These FX lines are for use on the day of the LTG.

2.4.2 LTG NOTES

A copy of the LTG notes will be arriving (from Lucent Technologies) with the LTG tapes. The LTG Notes provide additional information and procedures for the upcoming LTG that are not included in this document. Supplemental information and procedures that may not have been available at publication of this document may be included in the LTG Notes. A copy of the LTG Notes may also be obtained by contacting your technical support organization (SUMS Center). It is critical to obtain the ***latest*** copy of the LTG Notes, as the notes are updated weekly.

LTG Notes are also available on the web at ***http://www.lucent.com/support***. All current 5ESS RETROFIT/SRU/ LTG users MUST REGISTER to access this website.

To register: Click on the "Register Now" link and complete the required fields on the form.

Follow these steps to get to the Retrofit Index Page:

Note: You must be logged into this site in order to follow the steps below.

- Place your mouse over the "Documentation and Downloads" link at the top of the screen.
- Click on the "Product Index" link.
- Click on the "5ESS Switch" link.

- Click on the "Release Information" link. Here you will find access to the most current Retrofit and LTG Notes, the SU Compatibility Notice, and Current CFT Descriptions.

2.4.3 LTG TOOLS

The LTG tools are included and are therefore already present on the* 5ESS *switch. However, additional LTG tools may be needed for your LTG. If additional tools are needed, the ***LTG Notes*** which arrive with the LTG package will contain more detailed information and tape loading procedures.

2.4.4 SOFTWARE UPDATE AND CN LEVELS

The office must attain a level of Software Updates (SUs) and hardware Change Notices (CNs) to ensure a successful LTG. In general, SU and CN application should be finished before the database dump. Offices must be at the SU and CN level indicated in the Software Update Compatability Notice before the dump. Contact your SUMS Center to obtain current information about the minimum requirements or you can access the the web for your generic on the Internet at url: ***http://www.lucent.com/support.*** If any additional SUs, CFTs, or TMPs are needed after the dump, contact the SUMS center to determine if these can be loaded into your office. If inappropriate updates (SU, CFTs or TMPs) are loaded, there is a possibility that critical fixes will be overwritten.

2.4.5 GROWTH ITEMS

All required growth must be completed before the final database dump so that any database errors introduced by the growth can be detected and corrected. If any units are in a growth state at the database dump, these units will be OOS after the ODD evolution.

If any units are in any growth state (that is, unequipped, grow, special grow, etc.), there are two available options:

1. Make the unit fully operational.
2. Degrow the unit.

Use 235-105-231, *Hardware Change Procedures - Growth*, and 235-105-331, *Hardware Change Procedures - Degrowth*, for any required unit growth and/or degrowth.

Use the AM Off-Line Boot Verification procedure in 235-105-210, *Routine Operations and Maintenance Procedures* to insure the switch can be off-line booted. This procedure will, as part of its pre-checks, verify many hardware units.

2.4.6 TAPE DRIVE

One tape drive is required to perform a LTG. The tape drive will be used for writing the database dumps to tape and for reading in the updated ODD, and ECD during the LTG.

2.4.7 TEST LINES

At least one test line per SM should be defined in the office database before the final database dump takes place. These lines should be single-party lines. Do not use multiline hunt lines.

As a further check, every exchange in the office should be tested.

2.4.8 FX LINES

Two Foreign Exchange (FX) lines are recommended for the central office on the night of the LTG. The FX lines are used for voice and data communication with off-site support centers during the LTG. One FX line should also be supplied for each remote site [that is, Remote Switching Module (RSM), Multimodule Remote Switching Module (MMRSM), Optically Remote Module (ORM), etc.]. Plans should be made now to have these lines available 1 day before the LTG.

Data sets may be required to support any FX lines. The following data set, adapter, and cable (or equivalents) may be used:

- ITE-6134 212AR data set.
- ITE-9839A Adapter for 212A data set.
- ITE-8962 Read-only printer data cable.

2.4.9 DOCUMENTATION

The documentation supporting the 5E16.2 Software Release is available from the Customer Information Center and is listed in 235-001-001, *Documentation Description and Ordering Guide*. To order documentation, refer to Section 1.11. Most of the *5ESS* switch documents are available on paper as well as on electronic media (CD-ROM, magnetic tape, and on-line dial-up). Consult 235-001-001 for availability.

The following documents are referenced at various locations within the document and should definitely be on site:

- 235-070-100, *Administration and Engineering Guidelines*
- 235-080-100, *Translation Guide*
- 235-105-200, *Precutover and Cutover Procedures*
- 235-105-210, *Routine Operations and Maintenance Procedures*
- 235-105-220, *Corrective Maintenance Procedures*
- 235-105-231, *Hardware Change Procedures - Growth*
- 235-105-250, *System Recovery Procedures*
- 235-105-331, *Hardware Change Procedures - Degrowth*
- 235-118-251, *Recent Change Procedures*
- 235-118-258, *Recent Change References - 5E16.2*
- 235-190-115, *Local and Toll System Features*
- 235-190-400, *Feature Descriptions*
- 235-600-700, *Input Message Manual*
- 235-600-750, *Output Message Manual*
- 235-700-200, **UNIX**[1] *System Reference Manual*

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2.4.10 TRUNK STATUS INFORMATION

2.4.10.1 Trunk Status Mapping

2.4.10.1.1 General

Trunk Status Mapping (TSM) is a mechanism which maps Out-Of-Service (OOS) trunk data across an SM LTG initialization.

TSM consists of the following two parts:

- Mapping mechanism.
- Report mechanism.

2.4.10.1.2 Mapping Mechanism

The mapping mechanism automatically maps OOS trunk data from the old side to the new side and occurs after MCTSIs are switched to the new data.

Table 9-11, Trunk Status Mapping, provides a list of supported and unsupported trunk statuses.

2.4.10.1.3 Report Mechanism

The report mechanism is technician-activated and consists of tasks before and after the initialization to the new data.

Before the initialization, UPD:GEN:TSM,OLD is automatically executed before executing PROCEED during the LTG implementation. The TSM report mechanism builds a file containing a current list of OOS trunks (which PROCEED copies to the new data).

Before the initialization, UPD:GEN:TSM,OLD is automatically executed before executing PROCEED during the Retrofit implementation. The TSM report mechanism builds a file containing a current list of OOS trunks (which PROCEED copies to the new side).

After the initialization, the technician executes **501,tsmnew** or **514,new** (UPD:GEN:TSM,NEW) on MCC page 1984. The TSM report mechanism then does the following:

- Builds a file containing a current list of OOS trunks.
- Compares the old and new trunk OOS lists.
- Prints the following "mismatch counts" to ROP:
  - — The OOS summary mismatch count shows the total number of trunks which are In-Service (IS) on the new side but were OOS on the old side. If required, the OOS report (**/updtmp/tsm/oos.report**) can be dumped to the ROP or another printer.

    The technician can then use the **501,tsmrmv** or **514,rmv** command on MCC page 1984 to remove from service all trunks listed in the OOS report.
  - — The CADN summary mismatch count shows the number of trunks that are OOS-CADN on the new side but were IS on the old side. If required, the CADN report (**/updtmp/tsm/cadn.report**) can be dumped to the ROP or another printer.

  These two reports are similar in format to the output from an OP:LIST,TRUNKS input message.

2.4.10.2 OOS-CADN Trunks

The OOS-CADN trunk status is currently the only static trunk OOS status. That is, the status is physically part of the ODD. When a trunk is put into the CADN state (for example, grown in, RMV:TRK...,CADN message, etc.) that status becomes part of the ODD. Likewise, when a trunk is removed from the CADN state (RST:TRK... message), that change also becomes part of the ODD. Refer to Table 9-12, OOS-CADN Trunk Status, and the descriptions of the following four possible scenarios of OOS trunk status during the LTG interval.

1. Trunk is in-service before the ODD dump and is placed in either a CADN or non-CADN OOS state after the dump.

   The OOS trunk status will be mapped as part of Trunk Status Mapping (TSM).

2. Trunk is OOS (non-CADN) before the dump and is placed in either a CADN or non-CADN OOS state after the dump.

   The OOS trunk status will be mapped as part of Trunk Status Mapping (TSM).

3. Trunk is OOS-CADN before the dump and remains in that state throughout the dump interval.

   The OOS-CADN status will be mapped as part of TSM.

4. Trunk is OOS-CADN before the dump and is brought into service after the dump.

   This trunk will come up OOS-CADN on the night of the LTG.

   For this particular scenario, these procedures will be performed during advance preparation.

2.5 RC/CORC EVOLUTION AND REAPPLICATION

Note: Due to the asynchronous nature of CORC and RC reapplication, a chronological mismatch possibility exists for any tuple in the database that is touched by both a RC and CORC during the double-logging period. Because of this reapplication strategy, to minimize overall reapplication time, it is possible to have a feature activated/deactivated by a CORC be overridden by a chronologically older feature which is activated/deactivated by a RC. Thus the feature activation/deactivation could be in the wrong state at the end of the RC/CORC reapplication.

2.5.1 OVERVIEW

The RCs and CORCs made during the final 17 days are "double logged" for LTG processing. The remaining subset of RC forms will be reapplied during the POSTRCR process. All RCs and CORCs will be reapplied after the initialization on the office to the new merged databases. Table 9-13 lists the OFFRCR supported RC views. Table 9-14 lists the OFFRCR unsupported RC views.

2.5.2 RECENT CHANGE EVOLUTION REPORTS

Once double-logging is started 17 days before the LTG, RC evolution report files (RCtype.rpt) are generated automatically after each ODD backup. The report file provides an analysis and detailed activity report for each RC. The file may be dumped to indicate the number of RCs that have been done since the last dump.

2.5.3 COPIES OF RCs AND CORCs

The RC and CORC evolution processes will save a full copy of the original version of the RCs and CORCs. The files (**full.old**xxx [xxx refers to the SM number] for CORCs, **full.RCOLD** for RCs, and **full.OSPS** for OSPS RCs) will be saved in **/rclog** and will be automatically moved to **/updtmp** if **/rclog** is 75 percent full. These files can be dumped to tape if space in **/updtmp** becomes a problem.**Seek technical assistance before moving/removing any files.**

2.5.4 RC Activity Report File

At the time of each ODD backup during the final 3 weeks, when RCs and CORCs are evolved automatically, an RC evolution report file is generated (RCtype.rpt). The report file provides summary and detailed reports of the RC evolution activity. Information in the file consists of the number of RC/Vs logged, supported RC/Vs, non-supported RC/Vs, and detailed evolution activity information on specific RC Views.

2.5.5 RECENT CHANGE REAPPLICATION OPTIONS

2.5.5.1 Overview

Recent change reapplication refers to the reapplication of RCs made since the database dump or the RSCANS transmission to the new ODD. Table 9-13 lists the RC forms that are supported by OFFRCR for the 5E16.2 Software Release. There are two options in which the telephone company may choose to use:

a. ***RC reapplication without OFFRCR [Post-Recent Change Reapplication (POSTRCR) only]***

b. ***RC reapplication with Off-Site Recent Change Reapplication (OFFRCR).***

The procedures in this document accommodate both RC reapplication methods. The telephone company should consider the benefits of each method and determine before the LTG if OFFRCR will be used.

Note: POSTRCR will be used the night of LTG to reapply RCs occurring after the RSCANS transmission at -4 days before the LTG or to reapply the full 17 days of RCs if OFFRCR is not used.

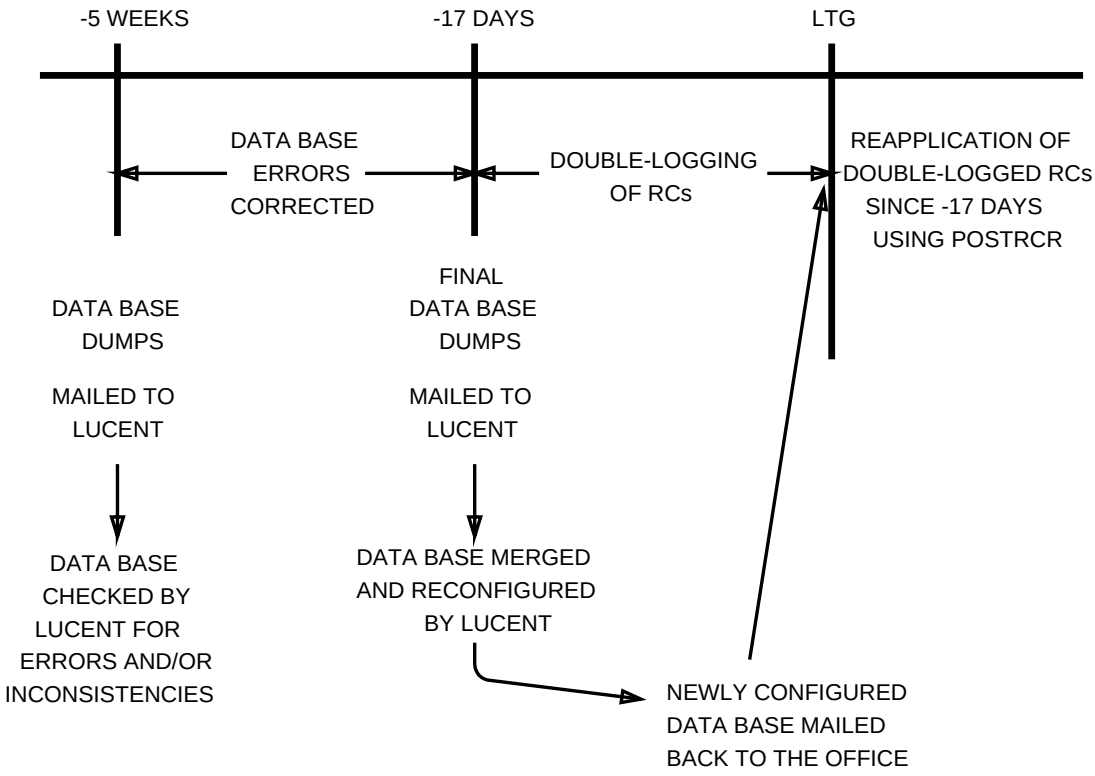
2.5.5.2 RC Reapplication Without OFFRCR (POSTRCR Only)

Post-recent change reapplication refers to the reapplication of accumulated RCs after the switch has successfully initialized and recovered on the new data. Refer to Figure 2-3 for an RC time line for POSTRCR.

The RCs and CORCs entered since the dump will not be active until reapplied to the new data in the "Soak Stage" after the initialization.

The RC reapplication rate is approximately 400 to 800 RCs per hour, which is an average value. The CORC reapplication is approximately 4,000 to 5,000 per hour.

Note: The preceding reapplication rates are average values and are influenced by the type and complexity of the CORCs and RCs.



RC Timeline without OFFRCR (POSTRCR only)

tpa 821850/01

Figure 2-3 — RC Time Line Without OFFRCR (POSTRCR Only)

2.5.5.3 RC Reapplication With OFFRCR

1. Is the type of LTG being performed a SMART Conversion LTG?
   - If **YES**, skip the following step and go to Paragraph 3.
   - If **NO**, continue with the next step.

The advantage of using the OFFRCR feature is that the number of RCs to be reapplied to the ODD on the night of the LTG is greatly reduced. Refer to Figure 2-4 for an RC time line with OFFRCR.

The number of RCs that will be reapplied on the night of the LTG consists of the RCs made since the RSCANS for the OFFRCR process until the day of the LTG (4 days of

RCs). The office using OFFRCR only reapplies 4 days of accumulated RCs with POSTRCR as opposed to 17 days of RCs without OFFRCR. The disks stay off-line the night of the LTG for a shorter time since the reapplication time is reduced. Offices with a large number of RCs since the database dump benefits the most from using this feature.

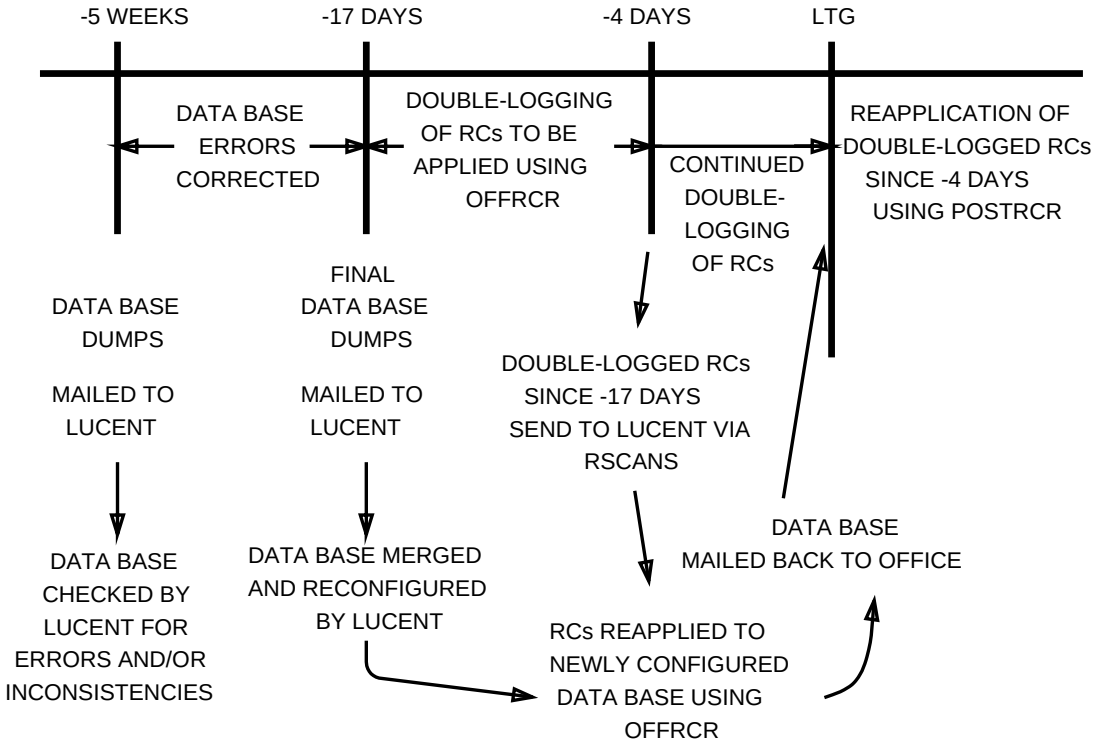


Figure 2-4 — RC Time Line with OFFRCR

If the telephone company decides to use the OFFRCR feature, the following tasks must be performed:

1. Four days before the LTG, the RCs made since the database dump is data linked to Lucent Technologies using RSCANS.

2. The RCs made since the database dump are applied off site to the office's ODD database by the Lucent Technologies tape processing group.
3. The ODD tapes with the RSCANS RCs reapplied are shipped to the office for the LTG. If both OFFRCR and POSTRCR fail to reapply an RC, the RC must be manually reinput after LTGing to the new data.

5E16.2 Large Terminal Growth Procedures

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3. ADVANCE PREPARATION

3.1 OVERVIEW

3.1.1 ADVANCE PREPARATION

Advance Preparation starts at a maximum of 9 weeks before the LTG. It runs for 6 weeks and is completed 17 days before the LTG. In addition to ensuring certain supplies are on hand, you will have to:

- Ensure a tape unit is available and functional.
- Prepare acceptance test plan to verify lines/trunks for use after the LTG.
- Review critical item list (Table 2-3) and verify materials.
- Ensure that office has sufficient number of disk pairs, using the 2020 configuration, to support the office after the LTG.
- Verify SM configuration parameter. Complete any processor conversion changes [Switching Module Processor Unit (SMPU) to Module Controller and Time Slot Interchanger Unit (MCTU), etc.].
- Ensure that the CCS links on GSMs are provisioned in an optimal duplex configuration so that CCS signaling can be maintained during the LTG.
- Execute ODD Retrochk tool to audit ODD critical checks needed for LTG.
- Verify CNI routing data and destination point codes.
- Ensure that all growth activity is complete before the database dump.
- Re-run memory forecasting tool and ensure site has sufficient Administration Module (AM) and SM memory.
- Verify office disk configuration.
- Make a tape containing the "other-switch" translations data 8 weeks before the LTG load date.
- Ensure all growth activity is completed.
- Clean, test, and verify tape drive.
- Perform preliminary dumps of the *5ESS*® switch ODD and Equipment Configuration Data (ECD) databases 5 weeks before the LTG load date.
- Perform cutover relation checks.
- Ensure all growth activity is completed.
- Make office backups for system Moving Head Disks (MHDs).
- Assign test lines.
- Plan for Foreign Exchange (FX) lines at central office and remote sites.
- Test SMs for off-line pump capability.
- Test the AM off-line boot capability.
- Check for blank tapes and spare disks.
- Ensure the office is up to date on hardware Change Notices (CNs) and Software Updates (SUs).

- Ensure the system is running in root partition on the Emergency Action Interface (EAI) page.
- Ensure the system is running duplex with no major off-normal indications.
- Check for utility breakpoints.
- Place any nonrequired trunks in Out-Of-Service Circuit Administration (OOS-CADN) (optional).
- Start double-logging of RCs and Customer-Originated Recent Changes (CORCs).
- Perform the final *5ESS* switch ODD and ECD database dumps.
- Perform full office backups.
- Diagnose, exercise, and ensure that tape unit is functional.
- Re-run memory forecasting tool and ensure that office has sufficient Administration Module (AM) and Switching Module (SM) memory.
- Re-run ODD Retrochk tool to audit ODD critical checks.
- Ship the database tapes to the Lucent Technologies tape processing department in Lisle, IL (to arrive -15 days, Friday).
- Verify a list of lines/trunks to be tested after the LTG.
- Review the procedures to perform the LTG.

After completing the Advance Preparation section, the technician should review the remaining sections (System Evaluation, LTG Implementation, Recovery Procedures, Backout Procedures, Worksheets, and Reference Documents and Required Materials) to become familiar with Non-Off-Line Boot Recovery Procedures.

Note: The SMART Conversion LTG will take less time, 7 weeks. When an action for the SMART Conversion LTG appears, follow the directions given.

3.2 Is the type of LTG being performed a SMART Conversion LTG?

- If **YES**, continue with the next step.
- If **NO**, go to Step 3.4.

3.3 SEVEN WEEKS BEFORE THE SMART CONVERSION LTG

3.3.1 General

The activities in this section take place at a maximum of 7 weeks before the LTG.

3.3.2 Continue to Prepare Acceptance Test Plan Step

Go to Step 3.4.2.

3.4 NINE WEEKS BEFORE THE LTG

3.4.1 GENERAL

The activities in this section take place at a maximum of 9 weeks before the LTG.

3.4.2 PREPARE ACCEPTANCE TEST PLAN

Prepare an acceptance test plan to be used the night of the LTG to verify call processing after the transition to the new data. The test plan should include a prioritized list, with the most important test calls at the top. Included in this list

should be fire, police, the 911 dispatcher, hospitals, and other emergency numbers as determined by local practices.

There should also be at least one test line per SM. These lines should be single-party lines. Do not use multiline hunt lines. One line from each NXX exchange in the office should also be tested.

Trunk types such as Multifrequency (MF), Common Channel Signaling (CCS), and Inward Wide Area Telecommunications Service (INWATS) trunks may also be tested. If the office is equipped with the optional Common Network Interface (CNI) ring, then copies of RC views 15.1, 15.2, and 15.3 may be used for reference when the testing is being performed.

3.4.3 MATERIALS ON HAND

a. Office backup supplies:

   - Sufficient certified writable tapes.

b. Database dump supplies:

   - New certified write-enabled tapes and labels. Two copies of each database will be made for the database dump.

c. One software release text tape (current software release) to be used during tape unit verification.

d. Tape drive cleaning supplies and equipment.

3.4.4 TERMINAL ACCESS

The AM off-line boot feature impacts the states of the various terminals (MCC, STLWS, RC/V, *UNIX*[1], etc.) connected to the *5ESS* switch during the LTG. These terminals will appear in states different than in previous software releases. The state of a specific terminal depends on which IOP the terminal is connected. The AM off-line boot process isolates equipment on side 1 of the switch. IOP 1 is taken out of service. Therefore, terminals connected to the off-line side of the switch will provide invalid information on the status of the switch. If the MCC is connected to IOP 1, the AM off-line boot process called by the proceed poke in Section 5.6.4 will automatically execute a port switch. When the port switch is executed, the MCC will go blank and is then initialized on IOP 0. ***It is very important to ensure that all messages/commands required to perform the LTG and all preliminary activities are input at the Master Control Center (MCC) or Switching Control Center (SCC). The MCC or SCC are the only terminals that will always depict the true status of the switch.***

3.4.5 VERIFY DISK EQUIPAGE

3.4.5.1 Is the type of LTG being performed a SMART conversion LTG?

- If **YES**, skip these steps and go to Step 3.4.6 since verification of disk equipage is not required.
- If **NO**, continue with the next step.

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3.4.5.2 Overview

The disk requirements for 5E16.2 are contained in 235-070-100, Administration and Engineering Guidelines. In order to verify that the correct number of disk pairs are equipped in the office to support the office after the LTG, perform the following steps:

1. Access MCC page 123 (and MCC page 125 if more than 2 DFCs are equipped).
2. Verify that each of the disk pairs required to support the office after LTG is ACT (active).

   Caution: If the correct disks are not present and ACT, disk pairs must be grown before the* 5ESS *switch database dump or the system cannot be LTGed.

3.4.5.3 Office Disk Configuration Check

The only disk configuration for the 5E16.2 software release is:

- ***2020***: 2 GB SCSI — One MHD pair (0 and 1). 1 GB SCSI — One MHD pair (2 and 3). The 2020 configuration is used for 3B21D offices.

The number of MHDs is the number of disk pairs that are included as part of the actual disk configuration. These disk pairs are referred to as "base disks." Base disks do not include any optional disk pairs that may be equipped.

In all 5E16.2 disk configurations, the following rule should be used (this may involve several disk replacement/reconfiguration procedures):

- All primary disks consist of 1 Gb SCSIs with a disk configuration of 2020.

All required growth must be completed before the database dump. Disk engineering should be completed or near completion at this point in the procedures.

3.4.6 VERIFY 5E16.2 SM CONFIGURATION PARAMETER

1. Is the type of LTG being performed a SMART Conversion LTG?
   - If **YES**, skip this step and go to Step 3.4.7 since verification of the 5E16.2 SM Configuration Parameter is not required.
   - If **NO**, perform the following:

Refer to the data in Table 3-1 for an explanation of the various SM configurations available on the 5E16.2 software releases.

Caution: An SM configuration change may require SM memory growth. The SM configurations (basic, standard, and loaded) have different memory requirements. For more details on SM memory requirements for each configuration, refer to Section 2.3.2.2.4.

For the purpose of modifying the SM configuration transition to 5E16.2, the following procedure is provided. There is no conversion process from any SM type to an SM-2000.

=> ***Important:*** The Lucent Technologies Database Evolution group uses RCV 18.1 field 35 to determine which SM configuration an SM will have after the LTG. Please verify this field for each SM.

1. To determine the SM office configurations, enter message:

   MSG **OP:SYSSTAT,UCL;**

Response: *(sample output shown)*

OP SYSSTAT	**SUMMARY {FIRST|NEXT|LAST} RECORD**
SYS:	**INHIBITS-MSG-MISC**
AM:	**NORMAL**
CM:	**NORMAL**
CMP x**-0 P:**	**NORMAL**
CMP y**-0 M:**	**NORMAL**
S LSM a,x**:**	**NORMAL**
B LSM b,x**:**	**NORMAL**
L HSM c,x**:**	**NORMAL**
L ORM d,x**:**	**NORMAL**
L TRM e,x**:**	**NORMAL**
G RSM f,x**:**	**NORMAL**
S HSM g,x**:**	**NORMAL**
X LSM j,x**:**	**NORMAL**
L RSM w,x**:**	**NORMAL**
K LSM z,x**:**	**NORMAL**

Comment: An example of the output is shown. Refer to the left-hand column of the output for each SM. The **S** indicates a standard SM. The **B** indicates a basic SM. The **L** indicates a loaded SM. An SM-2000 is indicated by the **K**. The **G** indicates a Global SM and the **X** indicates a signaling SM.

2. Determine which SMs (if any) should change configurations (that is, basic, standard, loaded).

   Caution: Consult your office engineer before changing an SM configuration parameter.

3. At an RCV terminal or the MCC, access MCC page 196.

4. Enter the following data:

```
Form              18.1V


*1. SM            SM number (RC view 18.1 is displayed)
```

```
                          5ESS SWITCH
SCREEN 1 OF 5             RECENT CHANGE 18.1
                          SWITCHING MODULE

*1. SM         _____      9. EVEN NCT CTS ___       ROUTE INDEXES
  . . .

Enter ...        4  (Accesses Screen 4 of 5)
```

```
                          5ESS SWITCH
SCREEN 4 OF 5             RECENT CHANGE 18.1
                          SWITCHING MODULE

    SM CONFIGURATION                      SM ODD PARTITION
    ----------------                      ----------------

#44.  CONFIGURATION      _______________      PARTITION NUM __
      STAND ALONE        _
      STAND ALONE BILLING _                 DLTU/DLTU2 UNIT 0 ASSIGNMENT
 45.  SM LTG _                    ----------------------
                                           47. DLTU TYPE
   MULTIWAY RINGBACK
   -----------------
#46. INH RINGBACK _
```

Table 3-1 — Field 45 SM LTG Value

CURRENT CONFIG.	FIELD 45 SM LTG VALUE	NEW CONFIG.
Basic	0	Basic
Basic	1	Standard
Basic	2	Loaded
Standard	1	Basic
Standard	2	Loaded
Loaded	0	Loaded
SM2K	0	SM2K
Signaling	0	Signaling

3.4.7 VERIFY SM MEMORY EQUIPAGE

1. Is the type of LTG being performed a SMART Conversion LTG?

   - If **YES**, skip this step and go to Step 3.4.8 since verification of the SM Memory Equipage is not required.
   - If **NO**, perform the following:

The SM memory requirements for 5E16.2 are contained in 235-070-100, Administration and Engineering Guidelines, or may be obtained by running the memory forecasting tool. If the memory forecasting tool has been run at an earlier date, for example at -13 weeks, the output obtained at that time may also be used. See Section 2.3.2.2.3 for the input message used to run this tool. In order to verify that the correct SM memory equipage is entered in the database, perform the following steps:

1. Access MCC page 196.
2. Enter the following data:

```
Form              18.4V

*1. SM            SM number

*2. MC            0 or 1 (MCTSI controller side)

 3. PHYMEMSZE     ______ (the rest of the attributes are displayed)

                  EQSTAT       CLI             EQSTAT     CLI
PACK 0              _           _     PACK 6     _         _
PACK 1              _           _     PACK 7     _         _
PACK 2              _           _     PACK 8     _         _
PACK 3              _           _     PACK 9     _         _
PACK 4              _           _     PACK 10    _         _
PACK 5              _           _     PACK 11    _         _
```

Comment: The Physical Memory Size (PHYMEMSZE) for the SM and Module Controller and Time Slot Interchanger (MCTSI) controller is displayed. The Equipment Status (EQSTAT) and Change Level Indicator (CLI) are displayed for each pack position (memory pack positions 1 through 11 are shown). Refer to 235-080-100, *Translation Guide*, Division 8, Section 1, for EQSTAT and CLI values.

The **SM** memory boards are as follows:

TN2012	4 Mb
TN13744	Mb (Used in SMs equipped with SMP20s only)
TN1376	8 Mb (Used in SMs equipped with SMP20s only)
TN1661	16 Mb (Used in SMs equipped with SMP20s only)

The TN2012 memory board ***cannot*** be mixed within the same SM.

The TN1374, TN1376, and TN1661 memory boards ***can*** be mixed within the same SM.

The **SM-2000** memory boards are as follows:

TN1685	32 Mb
TN1806	64 Mb
UN560	64 Mb

The **MCTU3** memory boards are as follows:

KBN21	32 Mb
KBN21	64 MB

3. Repeat Step 2 for each equipped SM and RSM.
4. Exit from RC.
5. Resolve any discrepancies between database and actual physical memory equipage.

Caution: If the correct SM/RSM memory is not present, it must be grown before the database dump or the system will not run after the switch forward. Refer to 235-105-231, *Hardware Change Procedures - Growth****, to grow in proper SM memory if necessary.***

3.4.8 AM OFF-LINE BOOT

The AM off-line boot must be run to verify the ability to boot the switch. Even though the AM will be simplexed while this is being done, call processing is not affected.

=> *Read:* The AM OFLBOOT feature, as documented in 235-105-210, *Routine Operations and Maintenance Procedures* is recommended to be run on a periodic basis in all offices to determine the bootability of the switch. When run in this maintenance mode, the recommended syntax of the input command is "exc:oflboot".

The AM OFLBOOT feature is required to be run during the LTG -9 week interval and also at the -7 day interval. When run at this -9 week interval, more restrictive parameters are passed to the OFLBOOT feature since these parameters are used during the night of LTG. Offices which do not use the AM OFLBOOT feature in the maintenance mode (as described in the previous paragraph) risk uncovering hardware problems in the switch which might be difficult to correct during the LTG interval.

If a failure occurs during the off-line boot, analyze the ROP message, take corrective action, and re-run the off-line boot. If you are unable to get off-line boot to complete successfully, escalate to your next level of support. **You will not be able to complete the LTG procedure if off-line boot cannot be run successfully in your office.**

The OFLBOOT feature is a powerful tool that must be used cautiously. It is important that the entire procedure be closely monitored by the technician. During the OFLBOOT procedure, the AM and its disks, CM, and CNI ring will be simplex. IOP 1 and all units attached to it will be removed. During this procedure there is an increased risk of system outage from a hardware failure associated with the on-line side. **It is recommended that OFLBOOT be used during low-traffic hours.**

Before initiating the procedure, ensure the system is healthy, with no known hardware faults associated with the AM, CM, IOP, DFC, and CNI.

All IOP subunits and Operational Support System (OSS) links, provided by IOP 1 will not be available to the system during the OFLBOOT procedure (for example, tape drives, TTYs, SDLs, AMA teleprocessing, data links, etc).

Root ECD (that is, disk) recent changes will be allowed on the off-line side. Office-Dependent Data recent changes are not inhibited. It is recommended that technicians NOT apply software updates, grow hardware, or perform ODD recent changes during this procedure.

1. Enter message:

   MSG **OP:SYSSTAT,UCL;**

   Response: *(sample output shown)*

```
OP SYSSTAT  SUMMARY {FIRST|NEXT|LAST} RECORD
SYS:        MISC
AM:         NORMAL
CM:         NO_REQ_PEND
CMP x-0 P:  NORMAL
CMP y-0 M:  NORMAL
S LSM a,x:  [...]
B LSM b,x:  [...]
L HSM c,x:  [...]
L ORM d,x:  [...]
L TRM e,x:  [...]
...
L RSM z,x:  [...]
```

2. Verify that the AM and CM are NORMAL.
   a. If the AM and/or CM are not NORMAL, access MCC pages 111 and 115 and restore any out-of-service hardware.
   b. After all units are duplex, re-enter OP:SYSSTAT,UCL.
   c. Access MCC page 115. Verify all units, including CLNKS are normal. Take corrective action for any units which are not normal.
   d. Access MCC page 111, Verify all units, including the CNI, DFC, and IOP are normal. Take corrective action for any units which are not normal.
3. Verify SCC link functionality. If your office uses its SCC links to perform LTGs, both links must be verified to insure communication to the office is not lost during AM off-line boot.
   a. Go to page 113 and enter message:

      MSG **RMV:SCC=x;**

      Where: x = is the number of the primary/sec SCC link.
   b. Verify that the remaining SCC link is active and is operating.
   c. Restore the SCC link using message:

      MSG **RST:SCC=x;**

      Where: x = is the number of the Out-Of-Service (OOS) SCC link.
   d. Repeat this procedure for the other SCC link.

4. To check current ODD backup schedule, enter message:

   MSG **OP:BKUPSTAT;**

   Response: **OP BKUPSTAT**
   AM NRODD= 1 TO 192 RODD= EVERY= x **AT=** y
   or
   NG - NO SCHEDULE REQUEST

   Comment: Record current backup schedule in Automatic ODD Backup Schedule Worksheet (Table 9-2), if present.

   If NG - NO SCHEDULE REQUEST is output, then automatic backups are not scheduled.

5. To ensure automatic ODD backup will not start, enter message:

   MSG **CLR:ODDBKUP;**

   Response: **CLR ODDBKUP COMPLETED**

   Comment: Ensure schedule was removed by entering the previous OP:BKUPSTAT command.

6. To ensure automatic hash reorganization will not start, enter message:

   MSG **INH:REORG;**

   Response: **INH:REORG;OK**

7. In the following steps, AM REX is inhibited.

   a. Enter message:

      MSG **INH:DMQ,SRC=REX;**

      Response: **INH:DMQ,SRC=REX;OK**

   b. To verify AM REX is inhibited, enter message:

      MSG **OP:DMQ;**

      Response: **OP DMQ**

      REQUEST ACTIVE
      NONE
      REQUEST WAITING
      NONE
      INHIBIT SOURCES
      REX
      OP DMQ COMPLETED

8. To inhibit REX, enter message:

   MSG **INH:REX;**

   Response: **OK**

9. To inhibit DMQ, enter message:

   MSG **INH:DMQ:SRC=ADP;**

   Response: **OK**

10. To inhibit Recent Change, enter message:

    MSG **INH:RC;**

    Response: **INH RC COMPLETED**

11. Other Office Notification:

    If appropriate notify effected SCC, TCC, STPs, etc., that CCS7 alarms may occur due to running of off-line boot.

12. On MCC page 111, verify that the AM is duplex with AM 0 ACT and AM 1 STBY.

    a. If the AM is not duplex, restore the OOS AM.

    b. If AM 0 is STBY and AM 1 is ACT, enter command on MCC page 111:

       CMD **400**

       Response: **SW CU 0 COMPLETED**

       Comment: Verify AM 0 is ACT and AM 1 is STBY before proceeding.

13. Access the EAI Page

    Note: With software releases prior to 5E16.2, the secondary MHDs were selected on the EAI Page. With the AM off-line boot feature, it is necessary to select the primary MHDs.

14. Enter the following EAI commands:

```
CMD   14 clear eai page

CMD    20 select primary mhd
```

15. Ensure odd-numbered EAI commands 31 through 43 are backlit and the indicator for the primary MHDs show SET before proceeding.

16. Access normal display (NORM DISP).

17. To switch ports, enter command on MCC page 111:

```
CMD     401
```

    Response:

```
SW:PORTSW; PF
REPT ROP x STOPPED
REPT ROP y STARTED
SW PORTSW COMPLETED FOR ROP

Screen blanks while ports are being switched.

REPT MTTY x STOPPED
REPT MTTY y STARTED
SW PORTSW COMPLETED FOR MTTY
```

    EAI page comes up followed by MCC page 111.

    Comment: If the port switch fails, ensure that the switches on the EAI boards are in the auto position.

18. Repeat Steps 13 and 17 for the other port.
19. To start the off-line boot of the AM, enter message:

    MSG **EXC:OFLBOOT,IOP1=MAX,MONITOR;**

    Comment: If the MTTY and ROP are connected to IOP1, a port switch will be performed automatically at this point.

    Response:

```
EXC:OFLBOOT,TRACE,MONITOR,OOS; IP
EXC OFLBOOT STARTED
EXC OFLBOOT IN PROGRESS
RMV DFC x COMPLETED
RMV IOP 1 COMPLETED
RMV MHD x COMPLETED

(A RMV message appears for each AM/CM hardware unit)

SET FRC MSCU=0 COMPLETED
SET FRC ONTCCOM=0 COMPLETED
SET FRC NCOSC=0 COMPLETED
CU RECOVERY COMPLETE
REPT DEGROWTH TTY x COMPLETED
REPT DEGROWTH TTYC x COMPLETED
REPT DEGROWTH SDL x COMPLETED

(A DEGROWTH message appears for each AM/CM hardware unit)

(The following messages print every 5 minutes)

EXC OFLBOOT INFO
BOOT IN PROGRESS
OLBSTATE     LASTATE     FUNCTION     LINE
SENDBOOT     EXC_AIMECD     MON_BOOT     xxxx

Switch forward PRMs are output on the ROP.

Depending on office conditions, the PRMs received

 by your office may differ slightly from this list.

If any failing PRMs are encountered,

consult the PRM manual. If only failing PRMs are output,

 escalate to your next level of support immediately.

EXC OFLBOOT COMPLETED

OFFLINE SIDE BOOT COMPLETE

 OLBSTATE        LASTATE         FUNCTION         LINE

 EXC_AFTERBOOT   EXC_AFTERBOOT   OLB_MSG_HANDLER  xxx
```

    Comment: On MCC page 111, AM 0 should be **ACT** and AM 1 should be **UNEQ**. Progress markers will show every 5 minutes even though complete message has occurred. The output responses should verify that the AM has been completely split. Verify status of all units with those in Figure 3-1.

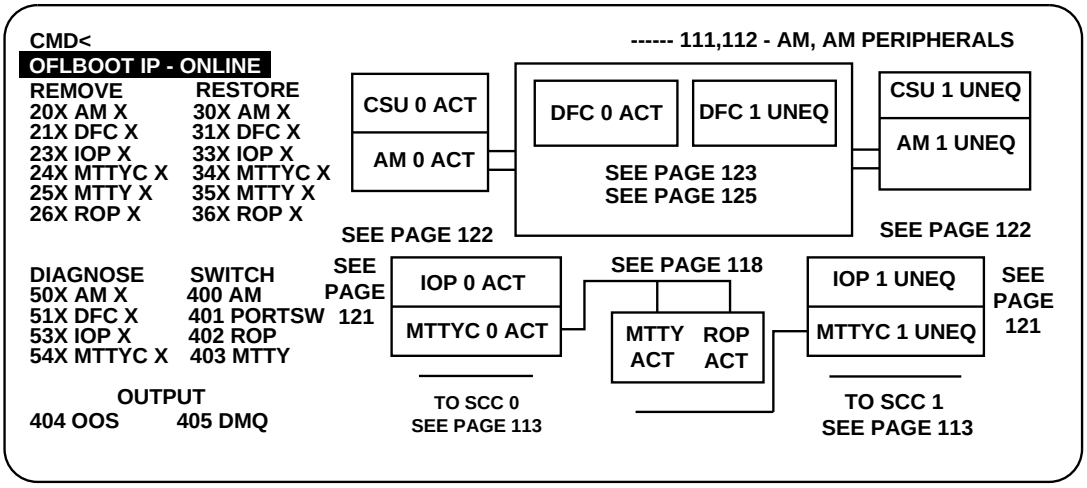

Figure 3-1 — MCC Page 111

20. To allow DMQ, enter message:

    MSG **ALW:DMQ,SRC=ADP;**

    Response: **ALW DMQ ENABLED ADP**

21. To stop the off-line boot process and reduplex the switch, enter message:

    MSG **STOP:OFLBOOT,RST;**

    Response:

```
STOP:OFLBOOT,RST;
PRM_1 E841 0001 2704 xxxx xx xx xx
PRM_0 EC00 0FDD 1234 xxxx xx xx xx
STOP:OFLBOOT,RST; IP
CLR FRC MSCU COMPLETED
REPT DFC x IN GROWTH STATE
REPT SBUS x IN GROWTH STATE
REPT MHD x IN GROWTH STATE


(A GROWTH message appears for each AM/CM hardware unit)

EXC OFLBOOT STOPPED
RST  MSGS=1 COMPLETED
CLR FRC ONTCCOM COMPLETED
STOP OFLBOOT STARTED
TYPE MANUAL
REPT GROWTH DFC x COMPLETED
REPT GROWTH SBSU x COMPLETED
REPT GROWTH MHD x COMPLETED
REPT GROWTH TTY x IN PROGRESS
REPT GROWTH TTY x COMPLETED

(A GROWTH COMPLETED message appears for each AM/CM

 hardware unit.)
```

```
REPT TTY x IN GROWTH STATE
REPT DFC x OUT OF SERVICE
REPT SBUS x OUT OF SERVICE
REPT MHD x OUT OF SERVICE
REPT IOP 1 OUT OF SERVICE

(Out-of-service messages appear for each AM/CM hardware unit.)

STOP OFLBOOT COMPLETED
EXC ODDRCVY=ALL CMP=1-0  STOPPED
REPT CMP=1-0 MATE  SWITCH FORWARD  TRIGGER=MANUAL-REQUEST
RST  CMP=1-0 COMPLETED
REPT COMMUNICATION RESTORED: AM TO CMP=1-0 MATE
INIT CMP=1-0 MATE LVL=FI,PUMP EVENT=1 COMPLETED
RST(UCL) CU 1   TASK x QUEUED
RST(UCL) DFC x   TASK x QUEUED
RST IOP 1   TASK x MESSAGE STARTED
RMV MHD x COMPLETED
RST  ONTCCOM=1 COMPLETED
RST IOP 1 COMPLETED
RST ROP 1 COMPLETED
RST MTC 1 COMPLETED
RST TTY x COMPLETED
RST  CLNK=x-1-1-1 COMPLETED STATE = ACTIVE
RST DFC x   TASK x MESSAGE STARTED
RST DFC x IN PROGRESS
RST DFC x COMPLETED
REPT DFC x  AUTO PUMP STARTED
REPT DFC x  AUTO PUMP COMPLETED
RST MHD x IN PROGRESS
ST MHD x COMPLETED
RST CU 1 IN PROGRESS
RST CU 1 COMPLETED

(RST messages appear for each AM/CM hardware unit.)
```

Comment: On the MCC page 111, the AM and all of its associated hardware should return to an ACT/STBY state.

22. To set the automatic ODD backup schedule (see Table 9-2) to perform a daily backup, enter message:

    MSG **BKUP:ODD:EVERY=1,AT=** *y*;

    Where: y = the time of day in hours and minutes (0000-2359) when the ODD is to be backed up.

    Response: **OK**

23. To allow automatic relation reorganization, enter message:

    MSG **ALW:REORG;**

    Response: **ALW:REORG;OK**

24. To allow Recent Change, enter message:

    MSG **ALW:RC;**

    Response: **ALW RC COMPLETED**

25. To allow REX for CU, enter message:

    MSG **ALW:REX,CU;**

Response: **OK**

26. To allow REX for CM, enter message:

    MSG **ALW:REX,CM;**

    Response: **OK**

27. To allow REX for SM, enter message:

    MSG **ALW:REX,SM=1&&192;**

    Response: **OK**

28. To allow DMQ, enter message:

    MSG **ALW:DMQ:SRC=REX;**

    Response: **ALW DMQ ENABLED REX**

29. Clear the EAI page:

    Access EAI page and enter command:

    CMD **14**

30. Access normal display (NORM DISP):

3.4.9 GSM CCS LINK CONFIGURATION CHECK

The 5ESS is capable of maintaining CCS signaling on GSMs during the switch forward stage of the update, with only a small interval (5 to 10 seconds) of CCS signaling downtime.

However, the CCS signaling on the GSMs can be maintained during the switch forward only if the CCS links are provisioned in a duplex configuration.

Provisioning the GSM CCS links in a duplex configuration will allow the switch to maintain approximately one half of the CCS links in an active state while the other half is transitioning to the new release. The most optimal duplex configuration would yield exactly 50% CCS signaling capacity to all destinations (DPCs, clusters, and networks) during the switch forward stage.

This check will examine the CCS link configuration on each GSM to determine the impact a switch forward will have on CCS signaling.

1. Determine if there are GSMs provisioned in the switch by entering the following message:

   MSG **OP:CCS:GSM**

   Response:

```
NG – NO GLOBAL SM IN OFFICE

     or

OP CCS GSM
    SM  LINK STATUS  OPC  GSM TYPE   CMT CONNECTIVITY
    SM  LINK STATUS  OPC  GSM TYPE   CMT CONNECTIVITY
    ..  ...........  ...  .........  ..................
```

   If there are no GSMs provisioned in the switch, the remainder of the GSM CCS LINK CONFIGURATION CHECK should be skipped.

2. Execute the GSM CCS Link Configuration Check for all GSMs. One or more output messages will be generated for each GSM.

   MSG **TST:CCS:GSMCFG,OPT="-C";**

   Response 1:

```
     TST CCS GSMCFG SM=a LS/CLS
       GRSI MAY PROCEED WITH MINIMAL CCS CAPABILITY LOSS
```

   Where:

   a = the GSM number

   Response 2:

```
    TST CCS GSMCFG SM=a LS/CLS
      b
```

   Where:

   a = the GSM number

   b = one of the following:

   CCS CAPABILITY LOSS CANNOT BE MINIMIZED DURING GRSI

   GSM REQUIRES AT LEAST TWO QPHS TO REDUCE CCS CAPABILITY/LOSS DURING GRSI

   GSM REQUIRES AT LEAST TWO STPHS TO REDUCE CCS CAPABILITY/LOSS DURING GRSI

   GSM REQUIRES AT LEAST TWO OR MORE CCS LINKS TO REDUCE CCS CAPABILITY/LOSS DURING GRSI

   MUST SPLIT SDL TO NGSM ASSIGNMENT TO REDUCE CCS CAPABILITY LOSS FOR GRSI

   Response 3:

```
TST CCS GSMCFG SM=a LS/CLS=
  CCS CAPABILITY LOSS CANNOT BE MINIMIZED DURING GRSI AFFECTING
  b c INCLUDING THE FOLLOWING:
  d
```

   Where:

   a = the GSM number

   b = the total number of destinations that will be isolated.

   c = the destination type (DPCs, CLUSTERS, or NETWORKS)

   d = the first 15 destinations affected.

   Response 4:

```
TST CCS GSMCFG SM=a LS/CLS=b
  c% LINK CAPACITY DURING GRSI MAY CAUSE CONGESTION AFFECTING
  d e INCLUDING THE FOLLOWING:
  f
```

   Where:

   a = the GSM number

b = the link set or combined link set number

c = the percentage of capacity during the update (1 to 49)

d = the total number of destinations that will be affected.

e = the destination type (DPCs, CLUSTERS, or NETWORKS)

f = the first 15 destinations affected.

If **response 1** is generated for a GSM, this indicates that the GSM has an optimal duplex CCS link configuration, and the GSM will be able to maintain 50% CCS signaling capacity to all destinations during the switch forward.

If all the GSMs receive response 1, the GSM CCS Link Configuration Check is complete (go to the next step).

If **response 2** is generated for a GSM, this indicates that the GSM has an unsupported CCS link configuration. The GSM will not be able to maintain CCS signaling during the switch forward, and will experience several minutes of CCS signaling downtime to all destinations.

If **response 3 and/or 4** is generated for a GSM, this indicates that the GSM has some form of duplex CCS link configuration. However, the configuration is not optimal, and thus, some destinations will experience extended intervals (minutes) of CCS signaling downtime, and/or less than 50% signaling link capacity.,

Refer to 5ESS Document 235-200-116 Signaling Gateway Common Channel Signaling, to determine how to provision the GSM CCS links in an optimal duplex configuration

3.4.10 OSPS REQUIREMENTS

The OSPS is impacted by the 5E16.2 LTG. OSPS Service may be impacted after the transistion. For a short time (up to 5 minutes) after the completion of the switch-forward stage, customers can not connect to an OSPS operator.

3.4.11 UPDATE OSPS FOR INTERFLOW

Caution: The following procedure must be performed for all offices in the same OSPS interflow complex prior to the first LTG of any office in the complex.

For example, if an OSPS interflow complex contains four* 5ESS *switches, all four offices must perform the following procedure BEFORE the first office LTGs to the new data.

The following recent change update must be performed for all OSPS offices to ensure that the office uses valid cross generic (XGEN) translators (associated with interflow) after the LTG.

1. Access MCC page 196.
2. Enter the following data:

```
Form              27.50
Enter ...         U

*1. KEY           1

Enter ...         C
Field ?           3
Row ?             3 (First blank row number)


              3. VALID TRANSLATION IDENTIFIERS
    TRANS ID      REMARK             TRANS ID      REMARK
1.    091          5E9.1        6.    ___         ________
2.    092          5E9.2        7.    ___         ________
3.    101          5E10.1       8.    ___         ________
5.    102          5E15        10.    ___         ________

Enter ...         U
```

Response: RCV SUCCESS RINFLTRID UPDATED 1 TERM-ID=ttyx

3. Exit from Recent Change.

****

STOP

****

The work required 9 weeks before the LTG is completed.

Mark your place.

Resume work on Section 3.7 at 8 weeks before the LTG.

3.5 Is the type of LTG being performed a SMART Conversion LTG?

- If **YES**, continue with the next step.
- If **NO**, go to Step 3.7.

3.6 SEVEN WEEKS BEFORE THE SMART CONVERSION LTG

3.6.1 Overview

The work in this section takes place 7 weeks before the LTG load date. The major activity is making the “other-switch” data tape.

3.6.2 Continue to Other Switch Dump Step

Go to Step 3.7.3

3.7 EIGHT WEEKS BEFORE LTG

3.7.1 Is the type of LTG being performed a SMART Conversion LTG?

- If **YES**, skip this step and go to Step 3.7.4.
- If **NO**, continue with the next step.

3.7.2 OVERVIEW

The work in this section takes place 8 weeks before the LTG load date. The major activity is making the "other-switch" data tape.

3.7.3 OTHER SWITCH DUMP

At this time, it is the responsibility of the telephone company to supply Lucent Technologies with an approved tape containing data (for example, line and/or trunk) from the existing mechanized switching system being replaced by an existing *5ESS* switch.

Refer to 235-080-100, *Translations Guide*, Division 1, Section 9, for 5ODA Batch Load Interface specifications for building and shipping the tape(s).

3.7.4 GROWTH ITEMS

In general, hardware should not be in any "growth" state for the LTG. However, some hardware units are allowed to be in the "growth" state without jeopardizing the LTG.

For example, the Module Message Processor (MMP) Synchronous Data Line Controller (SDLC) can be in one of three states: operational, growth, or special growth. The MMP SDLC may be in a growth state and the office can still perform the LTG.

Any growth required for the office that has not yet been accomplished must be completed before the database dump.

There are two available options:

1. Make the unit operational
2. Degrow the unit.

Use 235-105-231, *Hardware Change Procedures - Growth* and 235-105-331, *Hardware Change Procedures - Degrowth*, for any required growth/degrowth, respectively.

Use the following steps to determine the equipment presently in a growth state.

1. To list Administrative Module (AM) equipment that is in a growth state, enter message:

   MSG **OP:CFGSTAT,GROW,AM;**

   Response:
   OP CFGSTAT MESSAGE STARTED
   UNIT MTCE INH DGN
   ...
   [OP CFGSTAT IN PROGRESS]
   OP CFGSTAT COMPLETED

2. To list Communication Module (CM) equipment that is in a growth state, enter message:

   MSG **OP:EQSTAT,GROWTH;**

   Response:
   OP EQSTAT CM {FIRST|NEXT|LAST} RECORD
   UNIT EQUIPAGE STATE
   ...
   or
   OP EQSTAT CM HAS NO UNITS IN THE REQUESTED STATE

3. To list Switching Module (SM) equipment that is in a growth state, enter message:

   MSG **OP:CFGSTAT,SM=1&& *x*,GROWTH;**

   Where: x = highest-numbered SM

Response: **OP CFGSTAT SM** y **{FIRST|NEXT|LAST} RECORD**
UNIT MTCE STATE ACTIVITY HDWCHK DGN RESULT
...
or
OP CFGSTAT SM y **HAS NO CIRCUITS IN THE REQUESTED STATE**

Where: y = SM number.

3.7.5 TAPE DRIVE

A functional tape drive is required to perform the LTG. If verification of the Tape Drive is required refer to Section 3.10.7 (TAPE DRIVE CLEANING, TESTING, AND VERIFICATION).

****

STOP

****

The work required 8 weeks before the LTG is completed.

Mark your place.

Resume work on Section 3.8 at 5 weeks before the LTG.

3.8 FIVE WEEKS BEFORE LTG

3.8.1 OVERVIEW

The work in this section takes place 5 weeks before the LTG load date. The major activity is performing the preliminary dumps of the *5ESS* switch ODD and ECD databases. The dump should be performed and shipped so that the tapes will arrive at Lucent Technologies at -15 days.

3.8.2 ODD RETROCHK TOOL

The ODD Retrochk tool will report on ODD errors which effect the quality of database evolution.

Warning: Prior to executing the ODD Retrochk tool, verify that a backup ODD is not running or will not be executed. If a backup ODD is running, either cancel it or wait for it to complete.

1. From the MCC, enter message:

   MSG **EXC:AUD=SODD,RELATION=RETROCHK,AM;**

   Response:

```
OP AUD=SODD STATUS AUDIT: RELATION=RETROCHK ON THE AM
REMARKS = THE AUDIT HAS COMPLETED
THE "OP AUD=SODD ERRLOG" MESSAGE WILL FOLLOW WITH
THE TOTAL ERRORS FOUND
OP AUD=SODD ERRLOG SUMMARY
RELATION =RETROCHKS AM
ALL=Y
NUMBER OF: ERRORS = 0

DETAILED SUMMARY REPORT=

/rclog/SODD/reports/DSRETROCHK.193
```

2. If there are errors, execute the following command to format into a file:

MSG **OP:AUD=SODD,ERRLOG,all=y,relation=retrochk,am,outfile=filename;**

Response:

```
OP AUD=SODD ERRLOG STATUS
RELATION=RETROCHK, THE AM
ALL=Y
PROCESSING COMPLETED:OUTFILE=/rclog/SODD/reports/filename
```

Where: filename = a specific file name for the report

The error report generated will be located under the /rclog/SODD/reports directory for the given filename. Refer to the Automated SODD audit procedures in 235-105-210, *Routine Operations and Maintenance Procedures* and in 235-105-220, *Corrective Maintenance* for further information.

If conditions for this audit cannot be resolved, escalate to your next level of support.

Note: This tool will take from 15 minutes to 4 hours to run depending on office size.

3.8.3 VERIFY OFFICE DISK CONFIGURATION

The current office disk configuration is determined and recorded in the following steps:

1. To obtain current office disk configuration, enter message:

   MSG **OP:VERSION;**

   Response: **OP:VERSION;PF**

OP VERSION	*Day Month Time*	
PARTITION	**VERSION**	**BWM**
ECD	**5E16(2)xx.xx**	
/	**5E16xx.xx**	**BWMxx-xxxx**
/etc	**5E16xx.xx**	**BWMxx-xxxx**
/unixa	**5E16xx.xx**	**BWMxx-xxxx**
/no5odd	**5E16xx.xx**	**BWMxx-xxxx**
/no5text/im	**5E16xx.xx**	**BWMxx-xxxx**
/no5text	**5E16xx.xx**	**BWMxx-xxxx**
/diag	**5E16xx.xx**	**BWMxx-xxxx**
DISK CONFIGURATION	**{2020}**	

2. Record the office disk configuration beside the office name on the General Information Worksheet (Table 9-1).
3. Verify that both the **VERSION** and **BWM** information is correct and consistant for all partions displayed.
4. Use 235-070-100, *Administration and Engineering Guidelines*, to determine if the current office configuration is sufficient for the upcoming LTG.

3.8.4 PRELIMINARY DATABASE DUMPS

3.8.4.1 Overview

The purpose of thepreliminary database dumps is to allow detection of any inconsistencies in the databases by the off-line ODD/ECD processing center at Lucent Technologies in Illinois. The preliminary dump will not find all possible database errors. Its main purpose is to ensure the integrity of the final dump.

The databases are checked and field support personnel are notified of any errors the customer can correct using either Recent Change (RC) and/or 235-080-100, *Translations Guide*. See Division 1, Section 12, ODA Off-Line LTG Plan of the guide for detailed information regarding the schedule and processing responsibilities of each of the parties involved.

=> *Important:* The telephone company and the System Equipment Engineer ***must*** clean up any errors detected by the processing of the preliminary dump data. ***Delaying the error cleanup effort until the final dump could jeopardize the LTG load date.*** The final dump processing interval does not permit enough time to perform extensive error correction without delaying the LTG load date.

The preliminary dump process is designed to permit the location and analysis of database inconsistencies. Consultation with the telephone company is provided so that solutions to any errors found can be corrected in the switch's database before the final dump. Error correction would include using RC and, if necessary, ODBE changes to the on-site switch database.

3.8.4.2 Predump Setups

1. It is important that any incore ECD RCs be written to disk before performing the ECD dump. If required by your local office practice, obtain approval from the site coordinator before continuing.

   To ensure any ECD recent changes are copied to disk, access MCC page 199, and enter the following data:

```
1.Data base_name:          incore
2.reviewonly:              n
3.journaling:              *
Enter Form Name:           activate
1.copy_inc_to_disk:YES     <cr>
Enter Execute...           e

Enter Form Name:           <
```

2. ODD backups must not occur during the tape dump.

   To check current ODD backup schedule, enter message:

   MSG **OP:BKUPSTAT;**

   Response: **OP BKUPSTAT**
   AM NRODD= 1 TO 192 RODD= EVERY= x **AT=**y
   or
   NG - NO SCHEDULE REQUEST

   Comment: Record current backup schedule on the Automatic ODD Backup Schedule Worksheet (Table 9-2), if present.

If NG - NO SCHEDULE REQUEST is output, then automatic backups are not scheduled.

a. If an automatic ODD backup may occur during the tape dump, enter message:

MSG **CLR:ODDBKUP;**

Response: **CLR ODDBKUP COMPLETED**

Comment: Ensure schedule was removed by entering the previous OP:BKUPSTAT command.

3. To ensure automatic hash reorganization will not start up during the tape dumps, enter message:

MSG **INH:REORG;**

Response: **OK**

4. In the following steps, AM REX is inhibited.

a. Enter message:

MSG **INH:DMQ,SRC=REX;**

Response: **OK**

b. To verify AM REX is inhibited, enter message:

MSG **OP:DMQ;**

Response:

```
OP DMQ
      REQUEST ACTIVE
          NONE
     REQUEST WAITING
          NONE
     INHIBIT SOURCES
          REX
OP DMQ COMPLETED
```

5. To prepare tape dump and bring disk ODD up to date, enter message:

MSG **BKUP:ODD;**

Response: **BKUP ODD NRODD =** a **COMPLETED**
...
BKUP ODD NRODD = z **COMPLETED**
BKUP ODD CMP = 0 COMPLETED
BKUP ODD FULL RODD = xx **COMPLETED**
BKUP ODD FULL AM IN PROGRESS
BKUP ODD FULL AM COMPLETED
BKUP ODD COMPLETED

3.8.4.3 Write Database Tapes (Preliminary Dump)

In the following steps, the ODD and ECD will be written to DAT.

Note: The time it takes to perform the tape dumps will be based on the call load of the switch. If the tape dump is performed during peak load hours, the tape dump may be exceedingly longer than if performed during non-peak load time.

The copy tape process does not impact interaction with the switch while writing tapes. The tape writing process determines the highest tape speed and greatest tape density that the tape drive is capable of and then writes tapes out at these specifications.

A tape label will be printed on the ROP after the copy tape process is completed. This printed label should be removed from the ROP and affixed to the tape just written.

If the tape writing process needs to be ***stopped*** for any reason, refer to Section 6.5.14.

If a fault occurs on the tape drive or Magnetic Tape Controller (MTC), refer to Section 6.5.13.

1. Label a tape as a preliminary ODD backup tape. Include the date.
2. Mount the labeled tape into the DAT Unit 0. Make sure that the DAT tape is write-enabled.
3. Write the preliminary data base files to the tape.
    1. All data may be written on one tape.
        1. MCC Page: **1980**

            Enter Poke CMD: **80x**

        Where: x = LTG Tools

            Response: **LTG Tools page**

            Note: Wait for the 1984 page to populate the different fields.

        2. MCC Page **1984**

            Enter Poke CMD: **5yy,MTx**

        Where: yy = DUMP_ODD Tool Number
        x = 0 for TU 0 or 1 for TU 1

            Response:
            MOUNT A TAPE ON MT0
            USE RESUME TO CONTINUE OR USE STOP TO ABORT PROCEDURE
            USE BACKOUT TO EXIT
4. MCC Page: **1984**

    Enter Poke CMD: **5yy**

        Where: yy = DUMP_ODD Tool Number
5. After the tape rewinds, remove the tape from DAT Unit 0 and switch-off write-enable.
6. Label the tape using the label printed on the ROP.
7. After the copy of the database dump has completed, the following report is displayed at the MCC:

    COMPLETED *<date and time stamp>*

3.8.4.4 Is the type of LTG being performed a SMART Conversion LTG?

- If **YES**, continue with the next step.
- If **NO**, go to Step 3.8.4.6.

3.8.4.5 Shipping Instructions for Preliminary Database Tapes (SMART Conversion LTG Only)

1. Pack the database tapes in an approved container.

   Ship the database tapes to:

   Rob Goldstein
   Lucent Technologies
   500 N. Point Pky
   Alpharetta, GA 30005

2. Continue with Step 3.8.4.7.

3.8.4.6 Shipping Instructions for Preliminary Database Tapes

1. Pack the database tapes in an approved container.
2. ***It is important that the tapes arrive at the Lucent Technologies Lisle Center - Lisle, IL location promptly following the preliminary dump. Please ship tapes using an overnight carrier.***

   Ship the database tapes to:

   Lucent Technologies Network Systems
   Network Software Center
   2601 Lucent Lane
   Lisle, IL 60532–3640
   Attn: ODD/ECD Tape Processing

3.8.4.7 Post-Dump Resets

1. If the automatic ODD backup schedule was cleared before the ODD and ECD dumps, enter message:

   MSG **BKUP:ODD:EVERY=x,AT=y;**

   Where: x and y = values recorded earlier (in Table 9-2)

   Response: **OK**

2. If automatic relation reorganization had been enabled before the ODD and ECD dumps, enter message:

   MSG **ALW:REORG;**

   Response: **OK**

3. In the following steps, AM REX is allowed.

   a. Enter message:

      MSG **ALW:DMQ:SRC=REX;**

      Response: **ALW DMQ ENABLED REX**

   b. Verify REX is allowed for the CM on MCC page 110.

   c. Verify REX is allowed for the SMs on MCC pages 1271, 1272, 1273, etc.

   d. To verify AM REX is allowed, enter message:

      MSG **OP:DMQ;**

      Response: **OP DMQ**

```
REQUEST ACTIVE
     NONE
REQUEST WAITING
     NONE
INHIBIT SOURCES
     NONE
OP DMQ COMPLETED
```

3.8.4.8 Verify AM Off-Line Boot Check

AM off-line boot was supposed to be run at the -9 week interval. If it was not run, it must be run successfully prior to the final database dump. See Section 3.4.8 for instructions.

3.8.4.9 Pre-Conditioning Check Status

1. To verify the results from the pre-conditioning checks, enter message:

   ```
   MSG     OP:RETROCHK;
   ```

   Response:

OP RETROCHK	STATUS	SUMMARY
ODD RETROCHK	COMPLETED	NO ERROR
ECD AUDIT	COMPLETED	NO ERROR
MEM4CAST	See Note 'a'	See Note 'a'
HW CHECK	NOT COMPLETED	NO ERROR
OFFLINE BOOT	COMPLETED	NO ERROR

DOUBLE-LOGGING	STARTED (NOT STARTED)
DATABASE DUMP	COMPLETED (NOT COMPLETED)

   Since this is being run prior to the final database dump, the double-logging and the database dump status should read NOTSTARTED and NOT COMPLETED.

   Note:

   1. The "MEM4CAST" check appearing in the output of the **OP:RETROCHK** does not apply to this procedure because the software release is not changing. Ignore any error messages associated with this check.
   2. The "OFFLINE BOOT" check appearing in the output of **OP:RETROCHK** is a preconditioning audit designed to ensure that a successful off-line boot has been completed before the database dump is performed. For more information about this check, see Section 2.2.4.

3.8.5 VERIFY ACCEPTANCE TEST PLAN

Test lines will be required on the night of the LTG. Review the test plan prepared in Section 3.4.2. There should be at least one test line per SM assigned before the final database dump. These lines should be single-party lines. Do not use multiline hunt lines.

As a further check, at least one line from every NXX exchange in the office should be tested.

****

STOP

****

The work required 5 weeks before the LTG load date is completed.

Mark your place.

Resume work in Section 3.9 at 4 weeks before LTG.

3.9 FOUR WEEKS BEFORE THE LTG

3.9.1 GENERAL

The activities in this section take place 4 weeks before the LTG.

3.9.2 CUTOVER RELATION CHECKS

This section checks the ODD database for cutover relations, turns on the cutover program, and cuts back the office to a precut state.

=> *Read:* It is very important to delete/change the cutover relations for all traffic-carrying SMs and thousands groups. The cutover information for these SMs and thousands groups, if present, must be in a particular state before the cutover program is turned on and the office is cut back later in this section.

Caution: It is the responsibility of the operating company to understand whether the cutover program needs to be executed as part of the scheduled LTG. The existence of the cutover relations or views and the use of the cutover program can cause the loss of dial tone to working lines in the office. If the cutover program is not needed as part of the scheduled LTG there should not be cutover views present in the office.

If cutover relations are present for any postcut, traffic-carrying SMs or thousands groups, they must be in an active state. This state is indicated by **"COACTIVE"** in an ODBE batch review of the SM and thousands group cutover relation (IMCOSTAT and THCOSTAT, respectively), and by an "A" in the precut and postcut fields of the SM and thousands group cutover views (11.1 and 11.2, respectively).

If cutover relations are present for any postcut, traffic-carrying SMs or thousands groups and are in an inactive state, related lines will be removed from service either when the cutover program is turned on or when the office is cut back. The *incorrect* state is indicated by "CO**IN**ACTIVE" in an ODBE batch review of the SM and thousands group cutover relations (IMCOSTAT and THCOSTAT, respectively) and by an "I" in the precut and/or postcut fields of the SM and thousands group cutover views (11.1 and 11.2, respectively).

If the cutover relations and views contain the incorrect value (CO**IN**ACTIVE and "I", respectively), use recent change procedures to modify (delete or change) the data in the cutover views before the cutover program is turned on and the office is cut back.

Review this section with the operating company's maintenance engineer before deleting any SM or thousands groups cutover relations.

1. Access MCC page 197:

   a. If OFFICE STATE is ***PRECUT*** and ***CUTOVER ACTIVE*** is backlit, no further cutover-related work is necessary at this time. Continue with Section 3.9.3.

   b. If OFFICE STATE is ***not PRECUT*** (either blank or ***POSTCUT***), the following steps must be performed/verified.

   Note: The following sequence will use ODBE to batch review the IMCOSTAT (SM cutover status), THCOSTAT (Thousands Group cutover status), and NOCCODE relations.

2. At an RC terminal, enter message:

   MSG **RCV:MENU:ODBE;**

Response: **OFFICE DATA BASE EDITOR version 7.0**

a. To batch review the IMCOSTAT relation to a file, enter the following data:

```
Enter Processor Number (1-217):    194
Enter Relation Name:               IMCOSTAT
Enter Tuple Operation:             br
      Enter UNIX File Name:        /tmp/smcut

      Review processing completed.
      xx tuples written to file: /tmp/smcut

Enter Tuple Operation:             !
```

b. To batch review the THCOSTAT relation to a file, enter the following data:

```
Enter Relation Name:               THCOSTAT
Enter Tuple Operation:             br
      Enter UNIX File Name:        /tmp/thcut

      Review processing completed.
      xx tuples written to file: /tmp/thcut

Enter Tuple Operation:             !
```

c. To batch review the NOCCODE relation to a file, enter the following data:

```
Enter Relation Name:               NOCCODE
Enter Tuple Operation:             br
      Enter UNIX File Name:        /tmp/noccode

      Review processing completed.
      xx tuples written to file: /tmp/noccode

Enter Tuple Operation:             !
Enter Relation Name:               !

Enter Processor Number:            <control-d>
```

3. If any tuples were written to /tmp/smcut or /tmp/thcut, dump them:

   MSG **DUMP:FILE,ALL,FN="/tmp/smcut";**
   DUMP:FILE,ALL,FN="/tmp/thcut";
   DUMP:FILE,ALL,FN="/tmp/noccode";

Sample output for /tmp/smcut:

```
SM    PRECUT        POSTCUT       ALT RTE

 1    COACTIVE      COACTIVE        10
 2    COACTIVE      COACTIVE        10
 3    COACTIVE      COACTIVE        10
 4    COACTIVE      COACTIVE        10
 5    COACTIVE      COACTIVE        10
 6    COACTIVE      COACTIVE        10
```

Sample output for /tmp/thcut:

```
NOC    DIG      PRECUT        POSTCUT       ALT RTE

 1      0       COACTIVE      COACTIVE        10
 1      9       COACTIVE      COACTIVE        10
 2      3       COACTIVE      COACTIVE        10
 5      0       COACTIVE      COACTIVE        10
 5      1       COACTIVE      COACTIVE        10
 6      8       COACTIVE      COACTIVE        10
```

Sample output for /tmp/noccode:

```
NXX    NOC      NPA           RAX

220     1       815            0
440     4       815            0
459    10       815            0
```

4. Using the samples provided previously, review the batch review files.

   A value of CO**IN**ACTIVE in the ODBE batch review indicates that lines in the associated SM or thousands group *will not* receive dial tone when the office is in the state pertaining to the attribute read. For example, reading the "PRECUT" attribute of the THCOSTAT or IMCOSTAT relation and finding a value of "COINACTIVE" indicates that there will not be dial tone on those lines when the office is in the PRECUT mode.

   Conversely, a value of COACTIVE in the ODBE batch review indicates that lines in the associated SM or thousands group *will* receive dial tone when the office is in the state pertaining to the attribute read. For example, reading the "PRECUT" attribute of the THCOSTAT or IMCOSTAT relation and finding a value of "COACTIVE" indicates that there will be dial tone on those lines when the office is in the PRECUT mode.

   The NOCCODE relation output (/tmp/noccode) can be referred to find the Normalized Office Code (NOC) associated with each NXX code.

5. Using recent change procedures (RC Views 11.1 and 11.2) and local office records, delete the appropriate cutover relations for postcut, traffic carrying SMs, and/or thousands groups.

6. To remove the batch review files created by the ODBE batch review, enter messages:

   MSG **CLR:FILESYS:FILE,FN="/tmp/smcut";**
   CLR:FILESYS:FILE,FN="/tmp/thcut";
   CLR:FILESYS:FILE,FN="/tmp/noccode";

7. Rerun ODBE batch reviews in Step 2 to verify cutover relations have been deleted and/or changed to proper state.

8. To update CUTTRANS attribute in View 8.1 (Office Parameters - Miscellaneous), access MCC page 196 and enter the following data:

```
Print Option          <cr>
Detail Option          <cr>
Verbose Option          <cr>
Input CLASS . . .     8.1
Enter Database . . .     U
*1. OFFICE ID          Enter office ID
Enter Update . . .     c
Change Field:          8
8. CUTTRANS          Y
Change field:          <cr>
Enter Update . . .     u
*1. OFFICE ID          <
Input CLASS . . .     Q
```

9. On MCC pages 116 and 197, the "CUTOVER ACTIVE" fields must be backlit.
10. Enter message:

    MSG **INH:AUD=PORTLA,SM=1&&x;**

    Where: x = Highest numbered SM

    Response: **OK**
11. On MCC page 197, enter command to enable cut back:

    CMD **700**

    Response: **EXC:CO:CMD=ENCBK;OK**

    Comment: ENABLE STATE = PRECUT
    OFFICE STATE = POSTCUT
12. On MCC page 197, enter command to cut back:

    CMD **701**

    Response: **EXC:CO:CMD=CUTBK;IP**
    EXC CO SM a **CUTBACK STATUS SUCCESS**
    ...
    EXC CO SM z **CUTBACK STATUS SUCCESS**
    EXC CO CUTBACK STATUS SUCCESS

    Comment: A message will be output for each SM regardless of its PRECUT/POSTCUT status.

    ENABLE STATE => PRECUT
    OFFICE STATE => PRECUT
    CUTOVER/CUTBACK EXECUTION STATUS => MIGRATION COMPLETE
13. Enter message:

    MSG **ALW:AUD=PORTLA,SM=1&&x;**

    Where: x = highest numbered SM.

    Response: **OK**

Caution: It is the responsibility of the operating company to check call processing for all lines and trunks. If the cutback effects call processing on any lines/trunks, "recut" the office (poke 600 and poke 601 on MCC page 197) and seek technical assistance.

3.9.3 GROWTH ITEMS

In general, hardware should not be in any "growth" state for the LTG. However, some hardware units are allowed to be in the "growth" state without jeopardizing the LTG. For example, the Module Message Processor (MMP) Synchronous Data Link Controller (SDLC) can be in one of three states: operational, growth, and special growth. The MMP SDLC may be in the "growth" state and the office perform the LTG.

Any growth required for the office that has not yet been accomplished must be completed before the final *5ESS* switch ODD/ECD dump.

There are two available options:

1. Make the unit operational, or
2. Degrow the unit.

Use 235-105-231, *Hardware Change Procedures - Growth* and 235-105-331, *Hardware Change Procedures - Degrowth* for any required growth/degrowth, respectively.

Use the following steps to determine the equipment presently in a growth state.

1. To list Administrative Module (AM) equipment that is in a growth state, enter message:

   MSG **OP:CFGSTAT,GROW,AM;**

   Response:

   ```
   OP CFGSTAT MESSAGE STARTED

   UNIT          MTCE     INH     DGN

    ...

   [OP CFGSTAT IN PROGRESS]

   OP CFGSTAT COMPLETED
   ```

2. To list Communication Module (CM) equipment that is in a growth state, enter message:

   MSG **OP:EQSTAT,GROWTH;**

   Response: **OP EQSTAT CM {FIRST|NEXT|LAST} RECORD**
   UNIT EQUIPAGE STATE
   ...
   or
   OP EQSTAT CM HAS NO UNITS IN THE REQUESTED STATE

3. To list Switching Module (SM) equipment that is in a growth state, enter message:

   MSG **OP:CFGSTAT,SM=1&&x,GROWTH;**

   Where: x = highest-numbered SM

   Response: **OP CFGSTAT SM** y **{FIRST|NEXT|LAST} RECORD**
   UNIT MTCE STATE ACTIVITY HDWCHK DGN RESULT
   ...
   or
   OP CFGSTAT SM y **HAS NO CIRCUITS IN THE REQUESTED STATE**

   Where: y = SM number.

3.9.4 VERIFY HARDWARE CHANGE NOTICES

There are no hardware Change Notices (CNs) to be applied before the LTG to the new databases.

3.9.5 FULL OFFICE BACKUPS

Full office backups provide a copy of the office software (text and ODD and ECD databases) and are performed to provide a reliable vehicle for system recovery in the event that the data on both disk drives becomes mutilated. ***Full office backups should be made any time hardware changes are made in the office that would adversely affect the office's ability to recover.*** See 235-105-210, *Routine Operations and Maintenance Procedures*.

3.9.6 TERMINAL ACCESS

The AM off-line boot feature impacts the states of the various terminals (MCC, STLWS, RC/V, *UNIX*, etc.) connected to the *5ESS* switch during the LTG. These terminals will appear in states different than in previous software releases. The state of a specific terminal depends on which IOP the terminal is connected. The AM off-line boot process isolates equipment on side 1 of the switch. The IOP 1 is taken out-of-service. Therefore, terminals connected to the off-line side of the switch will provide invalid information on the status of the switch. If the MCC is connected to IOP 1, the AM off-line boot process called by the proceed poke in Section 5.6.4 will automatically execute a port switch. When the port switch is executed, the MCC will go blank and is then initialized on IOP 0. ***It is very important to ensure that all messages/commands required to perform the LTG and all preliminary activities are input at the MCC. The MCC and SCC guarantee access to the active side of the switch.***

Terminals used when performing a LTG should have access to all command groups. See Table 3-2. The command restriction feature restricts access to *5ESS* switch input commands and their associated command pokes based on command groups. To determine the authority level, enter the following message at each terminal that will be used for the new database.

MSG **VFY:AUTH;**

Response: **VFY AUTH COMPLETED**

```
TERM: a      AUTHORITY LEVEL: b      [USER: c]

 d          d          d          d          d          d

 d          d          d          d          d          d

 ...

 d          d          d          d          d          d


      or


NG - UNABLE TO ACCESS AUTHORITY ADMINISTRATION (MCC only)
```

Where: a = terminal identifier (for example, ttya)
b = auth_chk field in ECD getty form

c = user identifier
d = command group name [not output if the **AUTHORITY LEVEL** (*b*) is equal to **n**].

Comment: The value following the AUTHORITY LEVEL field for each terminal to be used during the transition should be "n" (none). If this value is not "n", the command restriction administrator for this office should be contacted to make the necessary changes.

For further information on the command restriction feature, refer to the Authority Management section of 235-105-210, *Routine Operations and Maintenance Procedures*.

Table 3-2 — Command Restriction Command Groups

COMMAND GROUP	DESCRIPTION
ADMIN	System administrator only activities
ALARM	Alarm manipulation
AM	Administrative module maintenance
AMA	Automatic message accounting
AUDIT	Audits
AUTH	Command and authority administration
CCS	Common channel signaling
CM	Communications module maintenance
FHADM	File handling and administration
MAINT	Routine maintenance activities
MEAS	Measurements
NMOC	Overload control and network management
NOCHK	No authority checking
ODD	Office Dependent Data activities
PASS	Personal password modification
RCV	Recent change and verify
SM	Switching module maintenance
SPECRCV	Special RCV commands
SFTMGT	Software management (Update, LTG)
SFTUTIL	Software utilities
SYSRCVY	System recovery
TRACE	Call trace
TRKLN	Trunk and line maintenance

3.9.7 TAPE DRIVE CLEANING AND TESTING

1. Refer to Section 3.10.7 to perform this activity.
2. After successfully completing this activity continue with Section **3.9.8.**

3.9.8 TEST LINES

At least one test line per SM should be defined in the office database before the final database dump takes place. These lines should be single-party lines. Do not use multiline hunt lines.

As a further check, every exchange in the office should be tested.

3.9.9 FX LINES

Two Foreign Exchange (FX) lines are recommended for the central office on the night of the LTG. The FX lines will be used for voice and data communication with off-site support centers during the LTG. One FX line should also be supplied for each remote site. Plans should be made now to have these lines available 1 day before the LTG.

Data sets may be required to support any FX lines. The following data set, adapter, and cable (or equivalents) may be used:

- ITE-6134 212AR data set
- ITE-9839A Adapter for 212A data set
- ITE-8962 Read-only printer data cable.

3.9.10 AMA OFF-LINE PROCESSING

An existing feature provides the ability to access AMA partitions on the off-line disks. The final AMA session, performed prior to executing the PROCEED stage, will be the last time you will teleprocess AMA data. When your switch is on the new data, your first AMA session will automatically access the AMA records on the off-line disks.

The COMMIT stage of the LTG has been enhanced to prevent the duplexing of the disks until the AMA data residing on the off-line disks has been teleprocessed or written to tape. Depending on your local procedures, special arrangements might be needed to process these AMA records.

If your office verifies the ability to process AMA records after initialization to the new LTG release, please be aware that this means 2 AMA sessions will be required after the switch is on new data. The first session will process data from the off-line disks. The second session will process data from the active disks.

****

STOP

****

The work required 4 weeks before the LTG is completed.

Mark your place.

Resume work on Section 3.10 at 3 weeks before the LTG.

3.10 THREE WEEKS BEFORE THE LTG

3.10.1 OVERVIEW

The activities in this section take place 3 weeks before the LTG. The major activity is the final dump of the databases to tape. ***The procedures in this section (Section 3.10) should be performed before the LTG, prior to the busy hour and the tapes shipped early enough to guarantee a -15 days delivery at Lucent Technologies. If there is any doubt that the tapes cannot be delivered before noon on Friday to Lucent Technologies, an earlier dump must be made.***

3.10.2 SM OFF-LINE PUMP CHECK

Note: To execute manual procedures for SM Off-Line Pump, refer to the Manual Procedures Tab and perform the actions described in Section 8.2. To perform an Automatic SM Off-Line Pump, continue with the following steps.

Off-line pump for all SMs should be checked. Even though each SM will be simplexed while it is being checked, call processing should not be affected.

If SM(s) fail to off-line pump after repeated attempts, escalate to your next level of support. Take note of any output responses that may be provided by the switch. Escalate to your next level of support before attempting any actions to accommodate SMs that will not off-line pump. Section 6.5.3 list messages and recovery actions for problems of off-line pumping from the active disks.

1. On MCC page 1209, ensure that the Office Network and Timing Complex (ONTC) is shown ACTIVE MAJOR/MINOR before proceeding.
2. Enter message:

   MSG **INH:REX;**

   Response: **OK**
3. Enter message:

   MSG **OP:SYSSTAT,UCL;**

   Response: *(sample output shown)*

```
OP SYSSTAT          SUMMARY {FIRST|NEXT|LAST} RECORD
SYS:                MISC
AM:                 NORMAL
CM:                 NO_REQ_PEND
CMP x-0 P:          NORMAL
CMP y-0 M:          NORMAL
S LSM a,x:          [...]
B LSM b,x:          [...]
L HSM c,x:          [...]
L ORM d,x:          [...]
L TRM e,x:          [...]
...
L RSM z,x:          [...]
```

4. Verify that none of the SMs have "MATE_OOD" as a status.

   a. If any SMs indicate MATE_OOD, access MCC page 1190,x and restore that SM to duplex.

   b. After all SMs are duplex, re-enter OP:SYSSTAT,UCL.

5. Ensure no off-normal status is indicated for any SM.

6. Access the Procedure Summary page by entering the following command:

   CMD **1980**

7. Access the 1984 MCC tools page by entering the following command:

   CMD **8XX**

   Where: xx = corresponds to the retrofit transition.

8. Start the automated SM off-line pump check by entering the following command:

   CMD **512,pump act mctsi1 vfy perf**

   Response:
   ORD:CPI=1&&192,CMD=SW-0;
   INH:HDWCHK,SM=1&&192;
   INH:SFTCHK,SM=1&&192;
   INH:CLNORM;
   ST:OPUMP,SM=1&&192,ACTDISK,PERF,VFY;

   Comment: All of the SMs in the office are simplexed as the automated SM offline pump from the active disk is executed.

9. Monitor SM Offline Pumps for Completion

   Periodic updates on the overall status of the automated SM offline pumps will appear on the 1984 page and the ROP. The 181 through 184 pages can also be viewed to get per SM status of the SM offline pumps. There will also be ROP output from each SM as they progress through their offline pump activities. Individual failure reports will be displayed as they occur, while the overall status will continue to be shown on the 1984 page until all SMs have completed or failed. If the reason for a particular SM offline pump failure is later corrected, then starting the tool again will pick up the failed SM(s).

   Refer to Section 8.2 for manual SM Offline Pump Check procedures.

10. Start the automated SM restorals by entering the following command:

    CMD **612**

    Response:
    ORD:CPI=1&&192,CMD=CLR;
    ALW:HDWCHK,SM=1&&192;
    ALW:SFTCHK,SM=1&&192;
    ALW:CLNORM;
    RST:MCTSI,SM=1&&192,RETRO;

    Comment: The MCTSI restoral for all SMs is started. Note that these restorals are not monitored by the automated procedure.

    Refer to Section 8.2.2 for manual SM Restoral procedures.

11. Enter the following command from MCC page 181 to stop any SMs from pumping and clear the DD status key:

    CMD **3000**

3.10.3 SOFTWARE UPDATE CHECK

Note: Using the latest issue of the Software Compatability Matrix [available at URL: ***http://www.lucent.com/support***], determine the cutoff point for SUs to current software release.

In the following SU check, the term "temporary" refers to SUs that have not yet been made official. It does not refer to **TMP** SUs or Craft (CFT) overwrites.

1. On MCC page 1950, enter command **9103** to display temporary SU(s).

   Response: In the field adjacent to poke 9103, **IN PROGRESS** backlit followed by either **COMPLETED** or **ABORTED**.

   Comment: **COMPLETED** followed by an output list of SUs to the ROP indicates there may be temporary SUs active within the switch. If all SUs have been made official, then no temporary SU is active within the switch. In addition, MCC page 1990 can be accessed to ensure there are no temporary SUs.

   ABORTED most likely indicates there are either no temporary SUs in the switch (UPD USRERR 4 on ROP) or no SUs in the switch at all (UPD USRERR 1 on ROP).

2. If any SU(s) are in a temporary state, they must be made official.

   Reference: Refer to 235-105-210, *Routine Operations and Maintenance Procedures*.

3. Have the Switching Control Center (SCC) personnel check Software Change Administration and Notification System (SCANS) and load any SUs that are required before these procedures can be successfully completed.

4. Activate SUs sent from SCANS.

   Reference: Refer to 235-105-210, *Routine Operations and Maintenance Procedures*.

3.10.4 OFFICE BACKUPS

1. To ensure the incore and disk copies of the ECD match, perform an "activate" on MCC page 199 by entering the following data:

```
1.Data base_name:          incore
2.reviewonly:              n
3.journaling:              *
Enter Form Name:           activate
1.copy_inc_to_disk:YES     <cr>
Enter Execute...           e

Enter Form Name:           <
```

2. Make full office backups.

   Reference: Refer to 235-105-210, *Routine Operations and Maintenance Procedures*.

3. Record date and time in appropriate row of the Automatic Office Dependent Data (ODD) Backup Schedule Worksheet (Table 9-3).

3.10.5 UTILITY BREAKPOINT CHECK

Warning: The following steps may involve removing utility breakpoints. Do not remove any current utility breakpoints unless they are non-essential. Obtain approval if breakpoints will be removed.

Approval to remove AM and/or CMP and/or SM Utility Breakpoints

1. Access MCC page 120.
2. Using the following steps, check for AM utility breakpoints and remove if non-essential.
   a. To list AM utility breakpoints, enter message:

      MSG **OP:UTIL;**

      Response: **OP UTIL COMPLETED #G1 - #G2**
      DTIME = a
      DCYCLE = b DEATH DELAY = c
      NO FLAGS DEFINED
      NO TRACE DEFINED

      Comment: A response of both **NO FLAGS DEFINED** and **NO TRACE DEFINED** indicates there are no AM utility breakpoints present. If the indicated responses are not received, there are AM breakpoints in the system.

   b. If the AM breakpoints are to be ***removed*** , enter message:

      MSG **CLR:UTIL;**

      Response: **CLR UTIL COMPLETED #G3**
3. Using the following steps, check for CMP utility breakpoints and remove if non-essential.
   a. To list utility breakpoints for the primary CMP, enter message:

      MSG **OP:UT:CMP=0,PRIM,UTIL;**

      Response: **OP UT CMP=**x**-0 PRIM UTIL COMPLETED - NO WHENS**

      Comment: A response of NO WHENS indicates there are no utility breakpoints present for the primary CMP. Any other response indicates that breakpoints are present. If breakpoints exist, they must be removed.

   b. If the primary CMP breakpoints are to be ***removed***, enter message:

      MSG **CLR:UT:CMP=0,PRIM,UTIL;**

      Response: **CLR UT CMP=**x**-0 PRIM UTIL {COMPLETED|NO WHENS TO CLEAR}**

   c. To list utility breakpoints for the mate CMP, enter message:

      MSG **OP:UT:CMP=0,MATE,UTIL;**

      Response: **OP UT CMP=**x**-0 MATE UTIL COMPLETED - NO WHENS**

      Comment: A response of NO WHENS indicates there are no utility breakpoints present for the mate CMP. Any other response

indicates that breakpoints are present. If breakpoints exist, they must be removed.

d. If the mate CMP breakpoints are to be ***removed*** , enter message:

MSG **CLR:UT:CMP=0,MATE,UTIL;**

Response: **CLR UT CMP=**x**-0 MATE UTIL {COMPLETED|NO WHENS TO CLEAR}**

4. Using the following steps, check for SM utility breakpoints and remove if non-essential.

a. To list per SM utility breakpoints, enter message for each SM:

MSG **OP:UT:SM=1&&** *x***,UTIL;**

Where: x = highest-numbered SM

Response: **OP UT SM=***a* **UTIL COMPLETED - NO WHENS** *(Output for each SM)*

Where: a = SM number

Comment: A response of NO WHENS indicates there are no utility breakpoints present for the indicated SM. Any other response indicates that breakpoints are present.

If an "OP UT SM.....PAGING FAILURE" message is output, re-enter the output SM utility breakpoint message for the SM with the paging failure.

b. ***This step is only necessary if the previous step failed.*** If the previous **OP:UT:SM=1&&x,UTIL** message failed, use the following message for each SM:

MSG **OP:UT:SM=***y***,UTIL;**

Where: y = any numbered SM (1,2,3,....n).

Note: Repeat input message for each SM in the office.

c. If the SM breakpoints are to be ***removed*** , enter message:

MSG **CLR:UT:SM=x[&&y],{UTIL | UTILFLAG=z};**

Where: x = the SM number or the lower limit of a range of SM numbers on which utility breakpoints are to be removed.
y = the upper limit of a range of SM number on which utility breakpoints are to be removed.
UTIL = option to remove ***all*** utility breakpoints on indicated SM.
UTILFLAG = option to remove ***specific*** utility breakpoints (z = specific breakpoint) on indicated SM.

Comment: Either UTIL *or* UTILFLAG must be used.

Response: **CLR UT SM=**x **UTIL {COMPLETED|NO WHENS TO CLEAR}**

3.10.6 TRUNK STATUS (OOS-CADN)

1. To list all trunks in an Out-Of-Service Circuit-Administration (OOS-CADN) state, enter message:

MSG **OP:LIST,TRUNKS,FULL,OOS,CADN;**

Response: A trunk status list is dumped to the ROP.

2. From the output, identify all trunks marked with an OOS state of "CADN" which should be restored to service prior to backing up the ODD (in preparation for the database tape dump).

   => *Read:* If a trunk is in the OOS-CADN state ***before*** the database tape dump, it will be OOS-CADN when the system is switched to the new data (even if the trunk status is manually brought into service ***after*** the database tape dump). Therefore, any trunk status changes related to the "CADN" state should be made prior to the ODD backup which is done in preparation for the database tape dump. If the trunks are in the desired state (OOS CADN or in-service), the following steps (a and b) are not necessary. For more information, refer to Section 2.4.10.

   a. For any trunk which is in the CADN state that should be in-service (at the switch forward), enter message:

      MSG **RST:TRK,TKGMN=a-b,ALL;**

      Where: a = trunk group number
      b = trunk member number

   b. For any trunk that should be OOS-CADN (at the switch forward), enter message:

      MSG **RMV:TRK,TKGMN=a-b,CADN;**

      Where: a = trunk group number

      b = trunk member number

3. To ensure that all trunks are in the desired state, enter message:

   MSG **OP:LIST,TRUNKS,FULL,OOS,CADN;**

   Response: A trunk status list is dumped to the ROP.

   Comment: This list can be compared to the one dumped previously to ensure correctness. After the comparison is made, record this information in Table 9-6, Trunk Status Worksheet.

Caution: Any trunks that are OOS-CADN at the time of the ODD tape dump will be OOS-CADN after switching to the new database. It is critical to record this information to help prevent loss of service on these trunks after the switch forward.

3.10.7 TAPE DRIVE CLEANING, TESTING, AND VERIFICATION

3.10.7.1 DAT Tape Drive Procedure

1. Clean the tape drive using cleaning cassette KS-23860, L800. To clean the drive, insert the "cleaning" cassette in the drive. The drive will automatically load the cassette, clean the heads, and eject the cassette when the operation is complete. The date should be recorded on the "cleaning" cassette label to maintain a history of use.

2. Power cycle the tape drive.

3. To diagnose, exercise, and restore the tape drive, enter message:

   MSG **RST:MT=0;**

Response: **RMV MT 0 COMPLETED**
RST MT 0 COMPLETED

4. **The DAT drive cassette is loaded in the drive by inserting it label up, in the loading slot on the UN376 circuit pack front panel**. (Refer to 235-105-510 **5ESS** *Switch 3B21D Hardware Reference Manual*.) If the drive has power applied, the cassette will be drawn into the mechanism and positioned for use.

   Caution: Do not force the cassette into the drive. The cassette should be inserted gently into the drive. Very little force is required to cause the drive to grab the cassette, after which the drive will pull the cassette in. Excessive force in insertion of the cassette can damage the drive mechanism components.

5. Insert the cartridge tape (cassette) into the drive until the drive takes hold of the cartridge.

6. To verify the tape drive, enter message:

   MSG **VFY:TAPE,TD="/dev/mt00";**

   Response: **VFY TAPE STARTED**
   VFY TAPE COMPLETED RETRIES x HEADER MISMATCHES x DATA MISMATCHES x

   Comment: This message may take 15 to 20 minutes to complete.

7. If the tape fails to verify, retry the check with another LTG software release text tape. If it still fails, escalate to your next level of support.

8. If your office is equipped with two tape drives, repeat Steps 1 through 7 for the MTC=1 **and "/dev/mt10"**.

9. Record time and date in appropriate row of Tape Drive Testing Worksheet (Table 9-4).

3.10.8 FINAL DATABASE DUMP

3.10.8.1 Is the type of LTG being performed a SMART Conversion LTG?

- If **YES**, skip the following steps and go to Step 3.10.9. The Final Database Dump will be done at a later time.
- If **NO**, continue with the next step.

3.10.8.2 Overview

The database dumps should be performed before the LTG, prior to the busy hour and shipped so the tapes will arrive by -15 days before the LTG at Lucent Technologies in Illinois. ***If there is any doubt that the tapes from the database dump will not arrive at Lucent Technologies by –15 days, an earlier database dump must be made.***

If there is a problem with the tape drive or MTC, go to Section 6.5.13.

Before the backup, double-logging, and the database dump, verify the "OP:RETROCHK" command has been run in Step 3.8.4.9. Critical errors may be found at this time. These errors need to be corrected before continuing.

3.10.8.3 Pre-Dump Setups

1. It is important that any incore ECD Recent Changes (RCs) be written to disk before performing the ECD dump. If required by your local office practice, obtain approval from the site coordinator before continuing.

   To ensure any ECD Recent Changes are copied to disk, access MCC page **199**, and enter the following data:

```
1.Data base_name:        incore
2.reviewonly:            n
3.journaling:            *
Enter Form Name:         activate
1.copy_inc_to_disk:YES   <cr>
Enter Execute...         e

Enter Form Name:         <
```

2. To check current ODD backup schedule, enter message:

   MSG **OP:BKUPSTAT;**

   Response: **OP BKUPSTAT**
   AM NRODD= 1 TO 192 RODD= EVERY= x **AT=** y
   or
   NG - NO SCHEDULE REQUEST

   Comment: Verify the current backup schedule in Automatic ODD Backup Schedule Worksheet (Table 9-2), if present.

   If NG - NO SCHEDULE REQUEST is output, then automatic backups are not scheduled.

3. If an automatic ODD backup may occur during either tape dump, enter message:

   MSG **CLR:ODDBKUP;**

   Response: **CLR ODDBKUP COMPLETED**

   Comment: Ensure schedule was removed by entering the previous OP:BKUPSTAT command.

4. To ensure automatic hash reorganization will not start up during the tape dumps, enter message:

   MSG **INH:REORG;**

   Response: **OK**

5. In the following steps, AM REX is inhibited.

   a. Enter message:

      MSG **INH:DMQ,SRC=REX;**

      Response: **OK**

   b. To verify AM REX is inhibited, enter message:

      MSG **OP:DMQ;**

      Response:

```
OP DMQ
```

```
REQUEST ACTIVE
     NONE
REQUEST WAITING
     NONE
INHIBIT SOURCES
     REX
OP DMQ COMPLETED
```

3.10.8.4 RC/CORC Evolution and Double-Logging of RCs and CORCs

1. Recent change batch clerk entry is inhibited during the double-logging period due to file space limitations. (Double-logging will be turned on in Step 8 of this procedure.) To list the active recent change clerk files, enter message:

   MSG **REPT:RCHIST,ACTIVITY;**

   Response: **REPT RCHIST CLERK = HISTACT STARTED**

   Comment: Delayed Release Summary Report is printed at ROP within 15 minutes. Clerk name "full.RCOLD" (recent changes) may be empty or non-existent at this time.

   A "HISTACT ABORTED" response and the associated error message indicate that no clerk files exist in the system. This is not an error. Clerk files will be created during the next backup ODD.

   A "HISTACT CLERK FILE DOES NOT EXIST OR CANNOT BE OPENED" response indicates that a clerk file should exist but does not. This will occur if a BKUP ODD was performed after RC double-logging was started, but no recent changes were made.

2. The batch release of any existing clerk files should be performed now. Once the clerk files are released, they should be removed. Obtain approval from the Site Coordinator before removing any of the clerk files.

Remove RC clerk files

3. For each clerk file being removed, enter message:

   MSG **EXC:RCRMV,CLERK=a,ALL,COMPLETE,DEMAND;**

   Where: a = clerk file name from RCHIST dump

4. To inhibit batch RC cleanup, access MCC page 196 and enter the following data:

```
Print Option          n
Detail Option         n
Summary Option        y
Input Class...        B.2
Enter Update...       U
*1.OFFICEID           enter office ID
Enter Update...       c
Change Field:         8
Should Cleanup Process
  Be Inhibited?       y
Change Field:         <cr>
Enter Update          u
*1.OFFICEID           <
INPUT CLASS...        Q
```

5. To dump a list of all terminals currently using RC, enter message:

   MSG **OP:RCUSER;**

   Response: **OP RCUSERx ACTIVE RC USERS**
   RC PROCESS TTY/LOGICAL/CLERK-ID PART 1 OF 1
   RCV:MENU, APPRC TERM-ID= xxxx
   or
   OP RCUSER 0 ACTIVE RC USERS

   Comment: Notify all users that RC will be inhibited.

6. To inhibit new RC sessions, enter message:

   MSG **INH:RC;**

   Response: **INH RC COMPLETED**

   SYS INH system status indicator is backlit.

7. In the next step, double-logging of RCs is started.

   Caution: Do not print office records while double-logging is active. The office records process uses the same disk space as the double-logging process. If this disk space is full, recent changes will be lost.

8. The CORCs will be evolved automatically at the end of each ODD backup run after double-logging starts. An output similar to the following should be expected from each manual or automatic BKUP:ODD from now until the LTG interval ends.

   If your office contains the OSPS feature, the following ODD backup should be performed at approximately the same time of day that the System Switch Forward will occur (during execution of Section 5). For example, if the switch forward will occur at 2 a.m., the final ODD backup should be performed at 2 a.m. While this is not mandatory, it will help insure that the same operator configuration exists when the system initializes on the new data.

   Caution: The following message removes recent change evolution files if they exist. Therefore, this message should be entered one time, and one time ONLY during the entire LTG process. If for some reason there is a need to back out and the transition is postponed for a short interval, do not re-enter this message.

   To back up ODD and start double-logging of RCs and CORCs, enter message:

MSG **BKUP:ODD,ODDEVOL,TOGENERIC=162;**

Response: *(A copy of the memory forecasting tool output is printed on the ROP. See Section 2.3.2.2.3.)*

```
[BKUP ODD FULL AM IN PROGRESS]
[OSPS EVOLUTION AM COMPLETED]
[BKUP ODD  FULL AM IN PROGRESS]
[OSPS EVOLUTION AM COMPLETED]
BKUP ODD  FULL AM COMPLETED
[OSPS EVOLUTION SM=xxx COMPLETED]
[BKUP ODD  NRODD = xxx IN PROGRESS]
BKUP ODD  NRODD = xxx COMPLETED (once for each SM)
[OSPS EVOLUTION CMP COMPLETED]
BKUP ODD   CMP = 0 COMPLETED
[OSPS EVOLUTION RODD COMPLETED]
BKUP ODD   RODD = x COMPLETED
[ASOSPSON: OSPS LTG BIT HAS BEEN SET]
BKUP ODD   COMPLETED

(The next two messages may appear at any time

 during the BKUP:ODD.)

[AUTOEVOL INVOKES MOVELOG TO RECLAIM SPACE IN /rclog]
     [THE /rclog DOES NOT HAVE ENOUGH SPACE]
     [TOTAL NUMBER OF FREE SPACE ON /rclog is xxxx]
[DB LTG PROCESS MOVELOG COMPLETED]
     [DETAIL INFO IN /rclog/mvlog.README]

AUTOMATIC CORC AND RECENT CHANGE LTG PROCESS STARTED
AUTOMATIC CORC AND RECENT CHANGE LTG PROCESS
EVOLUTION PROCESS TARGET SOFTWARE RELEASE IS 5E162
DB LTG PROCESS KEEPLOG COMPLETED
     DETAILED INFO IN /rclog/kplog.err
AUTOMATIC CORC AND RECENT CHANGE LTG PROCESS
     RECENT CHANGE EVOLUTION STARTED
[CNVT RCLOG EVOLUTION INITIALIZATION STARTED]
[CNVT RCLOG DATA TABLES INITIALIZED]
[CNVT RCLOG EVOLUTION INITIALIZATION IN PROGRESS]
[INITIALIZING NEW VIEW TABLE: RCnewvwtab_tab[ ]]
[INITIALIZING OLD VIEW TABLE: RColdvwtab_tab[ ]]
[CNVT RCLOG EVOLUTION INITIALIZATION COMPLETE]
[CNVT RCLOG EVOL: RC EVOLUTION RC STEP STARTED]
     [CURRENT ERROR FILE IS /rclog/RCERRx]
[CNVT RCLOG EVOL: RC EVOLUTION RC STEP IN PROGRESS]
     [VIEW NUMBER xxxx HAS BEEN READ]

     (Output approximately every two hundred views)

CNVT RCLOG EVOL: RC EVOLUTION RC STEP COMPLETION SUMMARY
     xxx VIEWS READ
     xxx VIEWS CREATED
     xxx VIEWS IN ERROR
     FIRST ERROR FILE IS /rclog/RCERRxx
     LAST ERROR FILE IS /rclog/RCERRxx
[RC EVOLUTION LOGFILE ANALYSIS PROCESS STARTED]
[RC EVOLUTION LOGFILE ANALYSIS PROCESS COMPLETED]
     [xxxx VIEWS LOGGED]
     [DETAIL ANALYSIS REPORT FILE IS /rclog/RCtype.rpt]
```

Note: The next four messages are only output by OSPS offices that have used recent changes that are supported by OSPS evolution.

```
[CNVT RCLOG EVOLUTION: OSPS STEP STARTED]
     [CURRENT ERROR FILE IS /rclog/RCOSPSERRx]
[CNVT RCLOG EVOLUTION: OSPS STEP COMPLETION SUMMARY]
     [xxx VIEWS READ]
     [xxx VIEWS CREATED]
     [xxx VIEWS IN ERROR]
     [FIRST ERROR FILE IS /rclog/RCOSPSERRx]
     [LAST ERROR FILE IS /rclog/RCOSPSERRx]
[RC EVOLUTION: OSPS LOGFILE ANALYSIS PROCESS STARTED]
[RC EVOLUTION: OSPS LOGFILE ANALYSIS PROCESS COMPLETED]
     [xxxx VIEWS LOGGED]
     [DETAIL ANALYSIS REPORT FILE IS /rclog/RCosps.rpt]
CNVT RCLOG EVOL COMPLETE
AUTOMATIC CORC AND RECENT CHANGE LTG PROCESS
     CORC EVOLUTION STARTED
[CNVT CORCLOG EVOL AM COMPLETE]
     [xxxx CORCS EVOLVED]
     [xxxx CORCS IN ERROR]
     [xxxx RDNT CORCS RMVD]
[CNVT CORCLOG EVOL CMP COMPLETE]
     [xxxx CORCS EVOLVED]
     [xxxx CORCS IN ERROR]
     [xxxx RDNT CORCS RMVD]
[CNVT CORCLOG EVOL IN PROGRESS]
     [CORC NUMBER xxx HAS BEEN READ]
[CNVT CORCLOG EVOL SM = a COMPLETE]
     [xxxx CORCS EVOLVED]
     [xxxx TRNCORCS EVOLVED]
     [xxxx CORCS IN ERROR]
     [xxxx TRNCORCS IN ERROR]
     [xxxx RDNT CORCS RMVD]
     [xxxx RDNT TRNCORCS RMVD]
[CNVT CORCLOG EVOL IN PROGRESS]
   [CORC NUMBER xxx HAS BEEN READ]
[xxxx CORCS xxxx TRNCORCS HAVE BEEN LOGGED IN THE CORC]
   [EVOLVED LOGFILES]
CNVT CORCLOG EVOL COMPLETE
AUTOMATIC CORC AND RECENT CHANGE LTG PROCESS COMPLETED
```

The ODD backup process invokes the memory forecasting tool automatically when it turns on double-logging. If problems associated with the memory forecasting tool are encountered, refer to Section 6.5.12.3.

If OSPS evolution errors are output, proceed to Section 6.5.10.3.

If RC or CORC evolution errors are output, proceed to Section 6.5.10.

Note: This causes subsequent recent changes and CORCs to be logged in special evolution log files.

Due to the double-logging that takes place, batch recent change clerk entry cannot be performed and will not be accepted by the recent change subsystem until the LTG interval is completed.

The MISC system status indicator will remain backlit until the transition interval is completed (about 2 weeks). A SYS NORM indication will not be possible during the remainder of the LTG interval.

9. To allow RC, enter message:

   MSG **ALW:RC;**

   Response: **ALW RC COMPLETED**

=> ***Read:*** During the remainder of the LTG interval, it is important to check the output from each ODD backup due to the additional RC/CORC evolution-related messages that are generated. This is especially important if the backups take place while the office is unattended. ***Escalate to your next level of support immediately if the evolution-related outputs are not received.***

Warning: Double-logging only occurs when the ODD EVOL box on MCC page 116 is backlit. The OSPS recent change evolution only occurs when the OSPS EVOL box on MCC page 116 is also backlit. The database LTG process has been enhanced to reset double-logging if a manual 54 initialization is performed any time between now and the actual LTG. If at any time you find the ODD EVOL or the OSPS EVOL (for OSPS offices) boxes are not backlit, contact your Lucent Technologies Software Update Management System (SUMS) Center and proceed immediately to Section 6.5.11.

3.10.8.5 Tape Dump Checklist

Ensure the following items are accounted for prior to making the tape dump (Table 3-3):

Table 3-3 — Tape Dump Checklist

ITEM	SIGN OFF
All ECD errors resolved and corrected	
ODD Retrochk started	
Disk Configurations Adequate for New Software Release	
AM/SM Memory Growth Complete	
SM Configuration Parameter Verified/ Set (all SMs)	
Test Lines Defined in ODD	
Growth Items Complete	
Recent Office Backups Available	
Breakpoint Checked/Removed	
Tape Drive Cleaned, Tested and Verified	
ODD Evolution Started	
AM off-line boot was run successfully at least once between the -9 week interval and now	

3.10.8.6 Write Database Tapes

In the following steps, the ODD and ECD will be written to magnetic tape.

Note: The time it takes to perform the tape dumps will be based on the call load of the switch. If the tape dump is performed during peak load hours, the tape dump may be exceedingly longer than if performed during non-peak load time.

The copy tape process does not impact interaction with the switch while writing tapes. The tape writing process determines the highest tape speed and greatest tape density that the tape drive is capable of and then writes tapes out at these specifications.

The copy tape process has been enhanced to check the memory forecasting report file for the database dump. If a memory shortage is detected during the database dump, the copy tape process will fail. See Section 2.3.2.2.3 for additional information on the memory forecasting tool.

If problems associated with the tape dump or the memory forecasting tool are encountered, refer to Section 6.5.12.

Note: Two sets of database dump tapes are required for the database dump. After the first set of tapes has been written, ROP messages will direct the technician to make a second set of tapes.

A tape label will be printed on the ROP after the copy tape process is completed. This printed label should be removed from the ROP and affixed to the tape just written.

If the tape writing process needs to be ***stopped*** for any reason, refer to Section 6.5.14.

If a fault occurs on the tape drive or Magnetic Tape Controller (MTC), refer to Section 6.5.13.

1. Check to ensure that the **ODD EVOL ACT** box on MCC page 116 is backlit. If the **ODD EVOL ACT** box is not backlit, escalate to your next level of support. For

OSPS offices, **OSPS EVOL ACT** box on MCC page 116 should also be backlit. If the **OSPS EVOL ACT** box is not backlit, escalate to your next level of support.

2. Obtain and label an empty tape as a final ODD copy.
3. Mount the labeled tape into the DAT Unit 0. Make sure that the DAT tape is write-enabled.
4. Write the final data base files to the tape.
    1. All data will be written on one tape.
        1. MCC Page: **1980**

            Enter Poke CMD: **80x**

        Where: x = LTG Tools

            Response: **LTG Tools page**

            Note: Wait for the 1984 page to populate the different fields.

        2. MCC Page: **1984**

            Warning: The following command must have a `space` ***between the*** **"MTx"** ***and*** **"final"** ***arguments.***

            Enter Poke CMD: **5yy,MTx final**

        Where: yy = DUMP_ODD Tool Number
        x = 0 for TU 0 or 1 for TU 1

            Response:
            MOUNT A TAPE ON MTx
            USE RESUME TO CONTINUE OR USE STOP TO ABORT PROCEDURE
            USE BACKOUT TO EXIT PROCEDURE
5. MCC Page: **1984**

    Enter Poke CMD: **5yy**

        Where: yy = DUMP_ODD Tool Number
6. After the tape rewinds, remove the tape from DAT Unit 0 and switch-off write-enable.
7. Label the tape using the label printed on the ROP.

3.10.8.7 Shipping Instructions For the Database Tapes

1. Pack database tapes in an approved container.
2. It is important that the tapes arrive at Lucent Technologies by the -15 days following the database dump. Please ship the tapes using an overnight carrier.

Ship the tapes to:

Lucent Technologies
Network Software Center
2601 Lucent Lane
Lisle, IL 60532–3640
Attn: ODD/ECD Tape Processing

3.10.8.8 Post-Dump Resets

1. Double-logging was turned on prior to the database dump. During double-logging, the automatic ODD backup schedule should be set to perform a daily backup. The Automatic ODD backup schedule was recorded in Worksheet 9-2. To set the automatic ODD backup schedule to perform a daily backup, enter message:

   MSG **BKUP:ODD:EVERY=1,AT=y;**

   Where: y = the time of day in hours and minutes (0000-2359) when the ODD is to be backed up.

   Response: **OK**

2. If automatic relation reorganization had been enabled before the ODD and ECD dumps, enter message:

   MSG **ALW:REORG;**

   Response: **OK**

3. In the following steps, AM REX is allowed.

   a. Enter message:

      MSG **ALW:DMQ:SRC=REX;**

      Response: **ALW DMQ ENABLED REX**

   b. Verify REX is allowed for the CM on MCC page 110.

   c. Verify REX is allowed for the SMs on MCC pages 1271, 1272, 1273, etc.

   d. To verify AM REX is allowed, enter message:

      MSG **OP:DMQ;**

      Response: **OP DMQ**

```
          REQUEST ACTIVE
               NONE
          REQUEST WAITING
               NONE
          INHIBIT SOURCES
               NONE
     OP DMQ COMPLETED
```

3.10.8.9 Software Update Application

Caution: Do not apply any software updates after the database dump. Also, if your offices use the Automation BWM/software update process, you must inhibit it. This is done by entering the following message:

```
MSG     UPD:AUTO:INH;
```

If a software update is required, contact your SUMS Center for assistance. See Table 1-1.

3.10.8.10 Notes on RC/CORC Evolution and RC Reapplication

3.10.8.10.1 RC Forms

Table 9-13 lists the RC forms that are supported by OFFRCR for the 5E16.2 software release during the LTG. Table9-14 lists the RC forms that are ***not*** Supported. Unsupported views may be manually reinserted by recent change personnel after switch forward and before recent change reapplication has been started.

3.10.8.10.2 Save Files

3.10.8.10.2.1 Copies of RCs and CORCs

The RC and CORC evolution processes will save a full copy of the original version of the RCs and CORCs. The files (**full.old**xx for CORCs, **full.RCOLD** for RCs, and **full.OSPS** for OSPS RCs) will be saved in "/rclog" and will be automatically moved to "/updtmp" when "/rclog" is 75 percent full. These files can be dumped to tape if space in "/updtmp" becomes a problem.**Seek technical assistance before moving/removing any files.**

3.10.8.10.2.2 RC Activity Report File

At the time of each ODD backup during the final 3 weeks, when RCs and CORCs are evolved automatically, an RC evolution report file is generated (RCtype.rpt). The report file provides summary and detailed reports of the RC evolution activity. Information in the file consists of the number of RC/Vs logged, supported RC/Vs, non-supported RC/Vs, and detailed evolution activity information on specific RC Views.

3.10.8.10.3 CLR:CORCLOG Message

Caution: The CLR:CORCLOG input message, in addition to clearing those CORCs from the normal log files, will also clear the log files being saved for the LTG since the last ODD backup. This message should not be used during the LTG interval unless absolutely necessary. Escalate to your next level of support first.

3.10.8.10.4 Daily RC/CORC Evolution-Related Tasks

The following list of tasks should be performed on a daily basis for the remaining 3 weeks of the LTG interval. Make a copy of this section (Section 3.10.8.10.4) and post it near the MCC.

1. Check MCC page 197. OFFICE STATE must be ***PRECUT*** and "***CUTOVER ACTIVE***" field should be backlit. If either one of the indications is not present, escalate to your next level of support.

2. Make sure the **ODD EVOL** field on MCC page 116 is backlit. **If it is not, seek technical assistance before entering the following message:**

   MSG **EXC:ENVIR:UPROC,FN="/no5text/rcv/setoddevol";**

   Response: **SETODDEVOL:ODD EVOLUTION BIT HAS BEEN SET EXC ENVIR UPROC/no5text/rcv/setoddevol COMPLETED**

   Warning: If the ODD evolution had to be turned back on, seek technical assistance to check the integrity of the log files.

3. List active RC clerk and account files. Enter message:

   MSG **REPT:RCHIST,ACTIVITY;**

4. Check the ROP output for each and every BKUP:ODD ensuring that the RC and CORC evolution processes started and completed successfully. (See previous ODD Backup for an example of expected output.) Seek technical assistance if the processes abort or do not start.
5. Log all RC and CORC evolution activity from the BKUP:ODD output in the appropriate RC Evolution Worksheet (Worksheet 9-9) or the CORC Evolution Worksheet (Worksheet 9-10). Make additional copies of the worksheets as needed.
6. The recent change LTG error file "RCLTGERR" will contain summary messages on the number of RCs logged since the final ODD dump. To dump the RCLTGERR file, enter message:

   MSG **DUMP:FILE:ALL,FN="/rclog/RCLTGERR",OPL=999;**

   a. An output of "File does not exist" indicates that no RC activity has occurred since the last ODD backup. If no RC activity has occurred, this is not an error. If there has been RC activity and the response "File does not exist" is received, seek technical assistance.
   b. If there has been RC activity since the last ODD backup, the file will contain a message indicating how many RCs have been logged since the final ODD dump.
   c. If any type of error occurred during the running of the RC LTG report process, a message will appear indicating the error and giving recovery procedures.
7. Dump each newly created CORC error file (corcevl.errx). To list the files in **/rclog**, enter message:

   MSG **OP:STATUS:LISTDIR,FN="/rclog";**

   If any CORC error files have been created or updated (check date stamp on file) since the previous ODD backup, dump them and escalate to your next level of support:

   MSG **DUMP:FILE,ALL,FN="/rclog/corcevl.errx",OPL=999;**
8. The contents of the RC evolution log file analysis report file (**RCtype.rpt**) may be dumped after every BKUP:ODD to provide information on RC evolution. To dump the RC evolution log file, enter message:

   MSG **DUMP:FILE,ALL,FN="/rclog/RCtype.rpt",OPL=999;**
9. To dump the CORC evolution log file, enter message:

   MSG **DUMP:FILE,ALL,FN="/rclog/corcevl.sum",OPL=999;**
10. To dump the ISDN line growth log file, enter message:

    MSG **DUMP:FILE,ALL,FN="/rclog/RClcd.rpt",OPL=999;**

    Note: ODBE changes are not double-logged and evolved to the new ODD. Any changes to the database using the ODBE after the final tape dump will not be present on the new ODD.

11. For OSPS offices, perform the following steps:

    a. For OSPS offices, to ensure that the OSPS configuration ODD evolution bit is set, enter message:

       MSG **EXC:ENVIR:UPROC,FN="/no5text/prc/ASospson";**

       Response: **ASOSPSON: OSPS RETROFIT BIT WAS ALREADY SET** (on ROP)
       or
       [ASOSPSON: CANNOT SET OSPS RETROFIT BIT]
       EXC ENV UPROC /no5text/prc/ASospson COMPLETED

       Comment: If the following messages are received, continue with the procedures:

       ASOSPSON: OSPS RETROFIT BIT HAS BEEN SET (on ROP
       EXC ENV UPROC /no5text/prc/ASospson COMPLETED

    b. To dump a list of OSPS RCs, enter message:

       MSG **OP:STATUS:LISTDIR,FN="/updtmp/ospsevol";**

       Response: **OP STATUS LISTDIR STARTED**
       (Listing of the directory is dumped to the ROP.)

    c. Check the output for any files that have the naming convention of:

       x**.error.log**

       Where: x = the number of the processor (193=AM, 194=CMP, 255 = redlog, all others are for SMs)

       If any files are listed containing this naming convention, refer immediately to Section 6.5.10.3.

    d. Recent change evolution will evolve separately the 9 recent change views supported by OSPS evolution: 21.2, 21.4, 21.7, 21.8, 21.16, 21.17, 21.18, 21.22, and 21.27. If there has been any activity on these views since the previous ODD backup, then RC evolution will evolve the views and create at least one RCOSPSERRx file (where x = 1, 2, 3, etc.). The RCOSPSERRx file(s) should be dumped to maintain a history of RC activity and RC evolution errors, if any.

       If there was no activity on the 9 OSPS RC views, then no RCOSPSERRx file is created.

       When there has been activity on any of the 9 OSPS RC views, the following messages will appear in the ROP response to the daily ODD backup, indicating which RCOSPSERRx files should be dumped.

       Response:

```
CNVT RCLOG EVOL: OSPS STEP COMPLETION SUMMARY

     xxx VIEWS READ

     xxx VIEWS CREATED

     xxx VIEWS IN ERROR

     FIRST ERROR FILE IS /rclog/RCOSPSERRx
```

```
LAST ERROR FILE IS /rclog/RCOSPSERRx
```

Enter the following message for each RCOSPSERRx file created:

MSG **DUMP:FILE,ALL,FN="/rclog/RCERROSPSx",OPL=999;**

Look for any sort of abort or other unexpected entry in the error file, and escalate to your next level of support if anything is encountered.

e. This step is ***optional***. If there has been any activity on the 9 OSPS supported RC views, then a summary file is created that may be dumped by entering the following message:

MSG **DUMP:FILE,ALL,FN="/rclog/RCosps.rpt",OPL=99;**

12. From the output of step 7, check if file mvlog.README exists. If the file exists, perform the following steps:

a. MSG **DUMP:FILE,ALL,FN="/rclog/mvlog.README",OPL=999;**

b. The file dumped above reports the status of each execution of the mvlog process. Looking at the output of the file, seek technical assistance if there are indications that mvlog did not complete successfully and/or aborted.

3.10.9 OUT-OF-SERVICE (OOS) EQUIPMENT

1. Enter message:

MSG **OP:OOS;**

Response: Dumps AM equipment OOS list.

2. Enter message:

MSG **OP:CFGSTAT,OOS;**

Response: Dumps CM equipment OOS list.

3. Enter message:

MSG **OP:OFFNORM,CM;**

Response: Dumps CM off-normal list.

4. For (each) SM **NOT** indicating **NORMAL** on MCC pages 141, 142, etc., enter message:

MSG **OP:CFGSTAT,OOS,SM=x;**

Where: x = SM number or sequence/range of SMs

Response: Dumps circuit off-normal and OOS lists for SM(s).

5. Any essential duplex or simplex equipment appearing in the circuit OOS or OFFNRM dumps must be restored to service.

3.10.10 LIST OF LINES AND TRUNKS TO BE TESTED AFTER THE LTG

Verify the list of intra-office and interoffice lines to be tested when call processing resumes after the LTG. See Table 9-8 and Section 2.4.7

This should be a prioritized list with the most important test calls at the top. Included in this list should be police, 911 dispatcher, fire, hospitals, and other emergency numbers as determined by local practices and ***at least*** one line on each SM.

As a further check, at least one line from every NXX exchange in the office should be tested.

Trunk types such as Multifrequency (MF), Common Channel Signaling (CCS), and Inward Wide Area Telephone Service (INWATS) trunks may all be tested. If the office is equipped with the optional Common Network Interface (CNI) ring, then copies of RC Views 15.1, 15.2, and 15.3 may be used for reference when testing is performed.

3.10.11 HOST OFFICE COLLECTOR NOTIFICATION

Offices with the AMA Teleprocessing feature should notify the Host Office Collector (HOC) of the date and the approximate time of the scheduled LTG. The HOC should be instructed to poll the AMA of the transitioning office frequently (approximately once an hour) the night of the LTG. Frequent polling keeps the AMA data on the disk to a minimum. Failure to do this may significantly increase the time interval of the LTG Proceed stage.

3.10.12 REVIEW OF PROCEDURES

Section 5, LTG Implementation contains the procedures to actually perform the LTG. The requirements for starting the LTG should be reviewed at this time to become familiar with what condition the office must be in and what office equipment, other material and documentation will be required on the date of the LTG.

****

Continue with work in Section 4, SYSTEM EVALUATION
10 days before the LTG.

****

5E16.2 Large Terminal Growth Procedures

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4. SYSTEM EVALUATION

4.1 OVERVIEW

Pre-LTG system evaluation consists of a set of tests and exercises used to demonstrate that the *5ESS*® switch is capable of performing the required LTG operations.

The system evaluation tests are expected to take 2 days to run, and should be done within the period of 10 days before LTG.

Unless otherwise noted, the diagnostic portion of each restoral should return All Tests Passed (ATP). Units returning Conditional ATP (CATP) should be retested until ATP and/or repaired if necessary. Units failing diagnostics should be repaired and retested until ATP before proceeding.

The AM off-line boot feature impacts the states of the various terminals (MCC, STLWS, RC/V, *UNIX*[1], etc.) connected to the *5ESS* switch during the transition. The state of a specific terminal depends on which IOP the terminal is connected. The AM off-line boot process isolates equipment on side 1 of the switch. IOP 1 is taken out-of-service. Therefore, terminals connected to the off-line side of the switch will provide invalid information on the status of the switch. If the MCC is connected to IOP 1, the AM off-line boot process called by the proceed poke in Section 5.6.4 will automatically execute a port switch. When the port switch is executed, the MCC will go blank and is then initialized on IOP 0.

It is very important to ensure that all messages/commands required to perform the transition and all preliminary activities are input at the MCC. The MCC and SCC are the only terminals that will always have access to the active side of the switch.

When performing a SMART Conversion LTG, refer to the Method of Procedures (MOP) that is included with the Sun BLADE Processor. This processor is shipped to the site approximately 2 weeks prior to the SMART conversion.

Note: The Final Database Dump for the SMART Conversion takes place on the day of the conversion. Consult with the SMART coordinator regarding the allowing/inhibiting of Recent Change during the double logging period. Refer to Step 3.10.8 for the Final Dump procedures.

4.2 TEN DAYS BEFORE THE LTG

4.2.1 LTG NOTES

A copy of the LTG Notes will be arriving (from Lucent Technologies) with the LTG tapes. The LTG Notes provide additional information and procedures for the upcoming LTG that are not included in this document. Supplemental information and procedures that may not have been available at publication of this document or recently developed may be included in the LTG Notes. A copy of the LTG Notes may be obtained by contacting your technical support organization(s), (SUMS Center). It is critical to obtain the ***latest*** copy of the LTG Notes, as the notes are updated frequently.

LTG Notes are also available on the web at ***http://www.lucent.com/support***. All current 5ESS RETROFIT/SRU/ LTG users MUST REGISTER to access this website.

---

1. UNIX is a registered trademark, in the United States and other countries, licensed exclusively through X/Open Company, Limited

To register: Click on the "Register Now" link and complete the required fields on the form.

Follow these steps to get to the Retrofit Index Page:

Note: You must be logged into this site in order to follow the steps below.

- Place your mouse over the "Documentation and Downloads" link at the top of the screen.
- Click on the "Product Index" link.
- Click on the "5ESS Switch" link.
- Click on the "Release Information" link. Here you will find access to the most current Retrofit and LTG Notes, the SU Compatibility Notice, and Current CFT Descriptions.

4.2.2 MATERIALS ON HAND

The materials listed as follows may be arriving on site. ***This material must be on site 1 day before LTG at the very latest.***

- Two sets of new Office Dependent Data (ODD) tapes
- One LTG tools tape (if required for your office)
- Office backup media:
  - — Sufficient tapes certified at 6250 bpi for offices equipped with 340-Mb fixed-media disks.
  - — One copy of the office records and one copy of the functional listing.
  - — One or more Tape Operating Procedure (TOP) tapes.
  - — One or more text tapes.

  Note: If TOP and text tapes are received, they ***ARE NOT*** loaded as part of the LTG. These tapes are only to be used in accordance with 235-105-250, *System Recovery Procedures*.

4.2.3 DUPLEX SYSTEM TESTING

4.2.3.1 AM Testing

1. If equipped, notify Switching Control Center (SCC) of upcoming tests.
2. On MCC page 111, ensure AM 0 is **STBY** before proceeding.
3. To restore AM 0, enter command on MCC page 111:

   CMD **300**

   Response: **RST CU 0 COMPLETED**

   Comment: CATP and No Tests Run (NTR) are acceptable.
4. On MCC page 111, ensure AM 1 is **STBY** before proceeding.
5. To restore AM 1, enter command on MCC page 111:

   CMD **301**

   Response: **RST CU 1 COMPLETED**

   Comment: CATP and NTR are acceptable.

4.2.3.2 MHD Testing

Caution: The following Disk File Controller (DFC) restoral will simplex the disks as diagnostics are being run. They should only be performed during non-prime traffic periods in accordance with local practice(s).

1. On MCC page 123 and MCC page 125, verify that all MHDs are **ACTIVE** before proceeding.
2. To verify the integrity of the even-numbered Moving Head Disks (MHDs) and DFC, perform the following steps:

   Caution: The following steps will simplex the system.

   a. Enter message:

      MSG **VFY:MHD=***x***;**

      Where: x = 0, 2, [4 through 30] (all even-numbered MHDs except 14)

      Do not run verifies on MHD 14, this disk is for software backup only.

      Response: **VFY MHD** *x* **STARTED**
      VFY MHD *x* **IN PROGRESS** *(every 2 minutes)*
      ...
      VFY MHD *x* **COMPLETED**

      Comment: The amount of time necessary to complete each verify will depend upon the size of the disk. Large capacity disks will take significantly longer to run than smaller disks. Wait for completion of each disk before continuing with the next one.

   b. Enter message:

      MSG **RMV:DFC=0**

      Response: **RMV DFC 0 COMPLETED**

   c. Enter message:

      MSG **RST:DFC=0;**

      Response: **[RST DFC 0 IN PROGRESS]**
      RST DFC 0 COMPLETED
      RST MHD *x* **COMPLETED**

      Where: x = all even-numbered MHDs on MCC page 123.

      Comment: An **RST MHD** x **COMPLETED** message will be received for all even-numbered MHDs on MCC page 123.

   Caution: Do not continue until DFC 0 (and DFC 2 if equipped) and all even-numbered MHDs (0, 2, etc.) have been successfully restored.

3. To verify the integrity of the odd-numbered MHDs and DFC 1 perform the following steps:

   Caution: The following steps will simplex the system.

   a. Enter message:

      MSG **VFY:MHD=***x***;**

      Where: x = 1, 3, [5 through 31] (all odd-numbered MHDs except 15)

Do not run verifies on MHD 15, this disk is for software backup only.

Response: **VFY MHD** x **STARTED**
VFY MHD x **IN PROGRESS** (every 2 minutes)
...
VFY MHD x **COMPLETED**

Comment: The amount of time necessary to complete each verify will depend upon the size of the disk. Large capacity disks will take significantly longer to run than smaller disks. Wait for completion of each disk before continuing with the next one.

b. Enter message:

MSG **RMV:DFC=1**

Response: **RMV DFC 1 COMPLETED**

c. Enter message:

MSG **RST:DFC=1;**

Response: **[RST DFC 1 IN PROGRESS]**
RST DFC 1 COMPLETED
RST MHD x **COMPLETED**

Where: x = all odd-numbered MHDs on MCC page 123.

Comment: An **RST MHD** x **COMPLETED** message will be received for all odd-numbered MHDs on MCC page 123.

Caution: Do not continue until DFC 1 and all odd-numbered MHDs (1, 3, etc.) have been successfully restored.

4.2.3.2.1 Disk Error Resolution

Note: These procedures are only executed if a disk fails verification. If all disks pass verification, there is no need to perform the following steps, proceed to the next section (Section 4.2.3.2.2).

1. This step is only performed if a disk fails verification (the preceding procedure).

   Caution: The following messages will simplex the disks. This step should be performed during non-prime traffic periods in accordance with local practice(s).

   Enter sequence of messages:

   MSG **RMV:MHD=x;**
   INIT:MHD=x:VFY;
   RST:MHD=x;

   Response: **RMV MHD** *x* **COMPLETE**
   INIT MHD ...
   RST MHD *x* **COMPLETE**

2. If the disk drive fails the switch forward and verify sequence (Step 1), replace the disk drive.

   Reference: Refer to 235-105-210, *Routine Operations and Maintenance*.

3. If restore/diagnostics fail on the MHD again, repair per local practice.

4.2.3.2.2 VTOC Layout Check

1. Access MCC page 120.
2. To dump the Volume Table Of Contents (VTOC) for the even-numbered MHDs, enter message:

   MSG **DUMP:MHD=x:VTOC;**

   Where: x = MHD 0, 2, 4, 6, ..., 30 (all even disks)

   Response: MHDx VTOC is dumped at the ROP.
3. Using the MHD number (x) from the previous step and your office disk configuration, refer to Table 9-25 to determine which table your VTOC should match. Verify that the VTOC layout matches the data in the appropriate VTOC layout table for your particular office configuration regarding the "start" and "size" for each partition.

If your office VTOC layout does not match the data in the appropriate table, escalate to your next level of support immediately.

4.2.3.3 CM Testing

1. Verify **CM** status indicator (second line of MCC display) is normal before proceeding.
2. Enter message:

   MSG **RST:MSGS=0;**

   Response: **RST MSGS=0 COMPLETED**
3. Verify **CM** status indicator is normal before proceeding.
4. Enter message:

   MSG **RST:MSGS=1;**

   Response: **RST MSGS=1 COMPLETED**
5. On MCC page 1209, ensure ONTC 0 is **ACT MINOR** before proceeding.
6. Enter message:

   MSG **RST:ONTC=0;**

   Response: **RST ONTC=0 COMPLETED**
7. On MCC page 1209, ensure ONTC 1 is **ACT MINOR** before proceeding.
8. Enter message:

   MSG **RST:ONTC=1;**

   Response: **RST ONTC=1 COMPLETED**
9. Ensure **CM** system status indicator is normal before proceeding.
10. The Foundation Peripheral Controller (FPC) and Pump Peripheral Controller (PPC) must be running in an ACT/STBY mode (either side active).

4.2.4 MCTSI DIAGNOSTICS

The following steps will diagnose and restore Module Controller/Time Slot Interchange (MCTSI) sides 0 and 1 and the Bootstrapper (BTSR) for each SM. If equipped, the BTSR diagnostics must be run twice - once with each controller active (and the MCTSIs duplex). Use the SM Diagnostics Worksheet (Table 9-7) to keep track of SMs as diagnostics return ATP.

The diagnostics may be run in parallel on a per-side basis to save time. No more than ten diagnostics should be run at any one time.

A CATP is not acceptable for any MCTSI or BTSR phase; the only exception being a Remote SM (RSM) which may return CATP on phase 9. For any MCTSI or BTSR ***not*** returning ATP for all diagnostic phases (except as noted above), do the following:

a. Rerun the appropriate diagnostic, or
b. Repair and retest unit until ATP.

Note: If the SMs have been tested on a regularly scheduled basis by Routine Exercises (REX), the following restores may be bypassed.

1. Access MCC page 120.
2. To determine the status of the MCTSIs in all SMs, enter message:

   MSG **OP:SYSSTAT,UCL;**

   Response: *(sample output shown)*

```
OP SYSSTAT        SUMMARY {FIRST|NEXT|LAST} RECORD
AM:               NORMAL
CMP x-0 P:        [...]
CMP y-0 M:        [...]
S LSM a,x:        [...]
B LSM b,x:        [...]
L HSM c,x:        [...]
L ORM d,x:        [...]
L TRM e,x:        [...]
...
L RSM z,x:        [...]
```

   Comment: An example of the output is shown. Refer to 235-600-750, *Output Message Manual*, for more details.
3. If any SMs do not indicate **NORMAL**, restore appropriate units to obtain **NORMAL** status for each SM.
4. In this step, MCTSIs are diagnosed and restored to standby.

   Note: It is recommended that only 10 SMs be diagnosed at the same time.

   a. To conditionally restore a range of MCTSIs, enter message:

MSG **RST:MCTSI=a&&b-y,STBY;**

Where: a = first SM in a range of SMs.
b = last SM in a range of SMs.
y = MCTSI side (0 or 1).

Response: **RST MCTSI=** *x-y* **COMPLETED**

Where: x = SM number.
y = MCTSI side (0 or 1).

Comment: Some diagnostic phases may output an **NTR** response, which means "No Tests Run." This response is acceptable; it indicates that the particular phase was not necessary for that MCTSI.

b. Clear any diagnostic failures and retest until ATP or CATP.

5. Repeat Step 4 for the other MCTSI side.

6. Repeat Step 2 to ensure MCTSIs are ACT/STBY before starting the BTSR diagnostic and restoral. A **NORMAL** status from the **OP:SYSSTAT,UCL** message implies the MCTSIs are ACT/STBY.

Warning: If you need to clear a BTSR diagnostic failure by replacing a BTSR board, remove one of the MCTSI controllers from service before removing or inserting the TN878 to prevent possible internal bus errors. Restore the MCTSI to duplex before attempting diagnostics again.

7. To diagnose and restore BTSRs, enter message:

MSG **RST:BTSR=x;**

Where: x = SM number.

Response: **RST BTSR=***y* **COMPLETED** (for non-MCTU2 SMs)

Where: y = SM number.

Comment: No response will be received for SMs equipped with MCTU2s. The previous command will run diagnostics on the BTSR before restoring the unit selected.

8. At the end of testing, all MCTSIs should be ACT/STBY for all SMs, and all BTSRs should be active. This is verified on page 1190,x; where x is each SM diagnosed. On page 1190,x for some SMs, a block for the BTSR will not be shown. The bootstrapper function for some SMs in the MCTU2 has been integrated into the MCTSI, and these SMs do not have a separate BTSR board.

9. To verify that all SMs are NORMAL, enter message:

MSG **OP:SYSSTAT,UCL;**

Response: *(sample output shown)*

OP SYSSTAT	**SUMMARY {FIRST|NEXT|LAST} RECORD**
AM:	**NORMAL**
CMP x-0 P:	**NORMAL**
CMP y-0 M:	**NORMAL**
S LSM a,x:	**NORMAL**
B LSM b,x:	**NORMAL**
L HSM c,x:	**NORMAL**
L ORM d,x:	**NORMAL**
L TRM e,x:	**NORMAL**
...	
L RSM z,x:	**NORMAL**

For any SM which is not normal, verify all CLNKS, MCTSIs, and DLIs are duplex. Although the BTSR is a simplex unit, it must be tested as if it were duplex, if equipped.

4.2.5 COMMUNICATIONS MODULE PROCESSOR DIAGNOSTICS

1. From the previous OP:SYSSTAT output (Section 4.2.4), if CMP 0-0 is the **MATE** CMP, perform Steps a and b first ***then*** perform Steps c and d.

   From the OP:SYSSTAT output, if CMP 1-0 is the **MATE** CMP, perform Steps c and d first ***then*** perform Steps a and b.

   a. To diagnose CMP 0-0, on MCC page 1241, enter command:

      ```
      CMD 500,ph=1&&15
      ```

      Response:

      ```
      RST:CMP=0-0; PF
      EXC ODDRCVY=ALL CMP=1-0 STOPPED
      DGN CMP=0-0 COMPLETED ATP PH 1
      DGN CMP=0-0 COMPLETED ATP PH 2
      DGN CMP=0-0 COMPLETED ATP PH 3
      DGN CMP=0-0 COMPLETED ATP PH 4
      DGN CMP=0-0 COMPLETED ATP PH 5
      DGN CMP=0-0 COMPLETED ATP PH 11
      DGN CMP=0-0 COMPLETED ATP PH 12
      DGN CMP=0-0 COMPLETED ATP PH 13
      DGN CMP=0-0 COMPLETED ATP PH 14
      DGN CMP=0-0 COMPLETED ATP PH 15
      DGN CMP=0-0 COMPLETED ATP
      REPT CMP=0-0 MATE SWITCH FORWARD

      TRIGGER={MANUAL|CRAFT}-REQUEST

      [REPT COMMUNICATION RESTORED: AM TO CMP=0-0 MATE]

      RST CMP=0-0 COMPLETED ATP

      [EXC ODDRCVY=ALL CMP=0-0 STARTED]
      [EXC ODDRCVY=ALL CMP=0-0 {STOPPED|COMPLETED}]
      [EXC ODDRCVY=ALL CMP=1-0 STARTED]

      INIT CMP=0-0 MATE LVL=FI EVENT=xxx COMPLETED
         MANUAL-REQUEST
         [ . . . ]
      ```

```
[REPT MSKP_ENVIRONMENT:]
[CMP=0-0 PHASE 1&2 INIT COMPLETION TIME: H'xxxx

TYPE:H'x][EVENT=xxxxx]
[CMP=0-0 PHASE 3 INIT COMPLETION TIME: H'xxx

TYPE:H'x][EVENT=xxxxx]
[REPT CMP=0-0 MATE DATA=ESCAL-CNTS,x ENV=CMP-AP

 SRC=SI][EVENT=xxx]
   [ADDR=H'x]
   [...]
[REPT MSKP_ENVIRONMENT:]
[CMP=1-0 PHASE 1&2 INIT COMPLETION TIME: H'xxxx

TYPE:H'x][EVENT=xxxxx]
[CMP=1-0 PHASE 3 INIT COMPLETION TIME: H'xxx

TYPE:H'x][EVENT=xxxxx]
[REPT COMMUNICATION RESTORED: AM TO CMP=1-0 MATE]
```

Comment: When this message is entered, a 5-minute post-init delay is encountered before CMP 0-0 becomes ACTIVE. ***Also, several other types of output messages may be received indicating the CMP has been initialized.***

Do not continue until CMP 0-0 has successfully restored.

b. To restore CMP 0-0, on MCC page 1241, enter command:

```
CMD   300,ucl
```

Response: **RST:CMP=0-0; PF**

c. To diagnose CMP 1-0, on MCC page 1251, enter command:

```
CMD 500,ph=1&&15
```

Response: **RST:CMP=1-0; PF**

```
EXC ODDRCVY=ALL CMP=0-0 STOPPED
DGN CMP=1-0 COMPLETED ATP PH 1
DGN CMP=1-0 COMPLETED ATP PH 2
DGN CMP=1-0 COMPLETED ATP PH 3
DGN CMP=1-0 COMPLETED ATP PH 4
DGN CMP=1-0 COMPLETED ATP PH 5
DGN CMP=1-0 COMPLETED ATP PH 11
DGN CMP=1-0 COMPLETED ATP PH 12
DGN CMP=1-0 COMPLETED ATP PH 13
DGN CMP=1-0 COMPLETED ATP PH 14
DGN CMP=1-0 COMPLETED ATP PH 15
DGN CMP=1-0 COMPLETED ATP
REPT CMP=1-0 MATE SWITCH FORWARD

 TRIGGER={MANUAL|CRAFT}-REQUEST

[REPT COMMUNICATION RESTORED: AM TO CMP=1-0 MATE]

RST CMP=1-0 COMPLETED ATP

[EXC ODDRCVY=ALL CMP=1-0 STARTED]
[EXC ODDRCVY=ALL CMP=1-0 {STOPPED|COMPLETED}]
[EXC ODDRCVY=ALL CMP=0-0 STARTED]

INIT CMP=1-0 MATE LVL=FI EVENT=xxx COMPLETED
```

```
   MANUAL-REQUEST
   [ . . . ]
[REPT MSKP_ENVIRONMENT:]
[CMP=1-0 PHASE 1&2 INIT COMPLETION TIME: H'

xxxx TYPE:H'x][EVENT=xxxxx]
[CMP=1-0 PHASE 3 INIT COMPLETION TIME: H'xxx
 TYPE:H'x][EVENT=xxxxx]
[REPT CMP=1-0 MATE DATA=ESCAL-CNTS,x
ENV=CMP-AP SRC=SI]
   [EVENT=xxx]
   [ADDR=H'x]
   [...]
[REPT MSKP_ENVIRONMENT:]
[CMP=0-0 PHASE 1&2 INIT COMPLETION TIME: H'xxxx

TYPE:H'x][EVENT=xxxxx]
[CMP=0-0 PHASE 3 INIT COMPLETION TIME: H'xxx

 TYPE:H'x][EVENT=xxxxx]
[REPT COMMUNICATION RESTORED: AM TO CMP=0-0 MATE]
```

Comment: When this message is entered, a 5-minute post-init delay is encountered before CMP 1-0 becomes ACTIVE. ***Also, several other types of output messages may be received indicating the CMP has been initialized.***

Do not continue until CMP 1-0 has successfully restored.

d. To restore CMP 1-0, on MCC page 1251, enter command:

```
CMD   300,ucl
```

Response: **RST:CMP=1-0; PF**

e. Access MCC page 1851 and verify that CMP 0-0 is the **ACT** CMP (under the **CMP 0 PRIM STAT** box) and CMP 1-0 is the **STBY** CMP (under the **CMP 0 MATE STAT** box).

f. ***If*** CMP 0-0 is ***not*** the ACTIVE (primary) CMP, enter message:

```
MSG SW:CMP=0-0;
```

Response: **SW:CMP=0-0; PF**

```
[EXC ODDRCVY=ALL CMP=1-0 STOPPED]
[REPT CMP=1-0 MATE SWITCH FORWARD

 TRIGGER=SW-REQUEST]
[REPT MSKP_ENVIRONMENT:]
[CMP=1-0 PHASE 1&2 INIT COMPLETION TIME: xxxx

TYPE:xxx][EVENT=xxxx]
EXC ODDRCVY=ALL CMP=0-0 STARTED
SW CMP=0-0 COMPLETED
[REPT COMMUNICATION RESTORED: AM TO CMP=1-0 MATE]
[REPT MSKP_ENVIRONMENT:]
[CMP=1-0 PHASE 3;INIT COMPLETION TIME: xxxxxx

TYPE:xxx][EVENT=xxxx]
```

CMP 0-0 becomes **PRIMARY** *(active), CMP 1-0 becomes* **MATE** *(standby).*

g. To verify that both CMPs are NORMAL, enter message:

MSG OP:SYSSTAT,UCL;

Response: *(sample output shown)*

OP SYSSTAT	**SUMMARY**
SYS:	**INHIBITS_MSG**
AM:	**NORMAL**
CM:	**NO_REQ_PENDING**
CMP x**-0 P:**	**NORMAL**
CMP y**-0 M:**	**NORMAL**
S LSM a,x**:**	**NORMAL**
B LSM b,x**:**	**NORMAL**
L HSM c,x**:**	**NORMAL**
L ORM d,x**:**	**NORMAL**
L TRM e,x**:**	**NORMAL**
...	
L RSM z,x**:**	**NORMAL**

4.2.6 CNI RING NODES DIAGNOSTICS (CNI OFFICES ONLY)

4.2.6.1 RPCN and Optional DLN Nodes Diagnostics

The following procedures are used to diagnose the Ring Peripheral Controller Nodes (RPCNs) and the optional Direct Link Nodes (DLNs) equipped in the office. Each diagnostic in the following procedures should return ATP. Any CATP problems must be resolved in order to obtain an ATP result.

Caution: Before proceeding with the following, notify your applicable Signal Transfer Point (STP).

1. To diagnose RPCN00 enter message:

   MSG **RST:RPCN00=0,RAW,TLP;**

   Response: **RST RPCN00 0 COMPLETED**

   Wait until RPCN00 is restored to service before continuing.

2. To diagnose RPCN32 enter message:

   MSG **RST:RPCN32=0,RAW,TLP;**

   Response: **RST RPCN32 0 COMPLETED**

   Wait until RPCN32 is restored to service before continuing.

3. If the office is equipped with DLNs, enter the following message to diagnose DLN00:

   MSG **RST:LN00=2,RAW,TLP;**

   Response: **RST LN00 2 COMPLETED**

   Wait until LN00-2 is restored to service before continuing.

4. If the office is equipped with DLNs, enter the following message to diagnose DLN32:

MSG **RST:LN32=2,RAW,TLP;**

Response: **RST LN32 2 COMPLETED**

Wait until LN32-2 is restored to service before continuing.

5. The RPCNs and DLNs are cabled to both AMs for reliability. The AMs must be switched and the diagnostics rerun to verify that the cabling from the other AM is in working order.

   To switch AMs, enter the following command on MCC page 111:

   CMD **400**

   Response: **SW CU** x **COMPLETED**

   Where: x is the side of the AM that is now ACT.

6. Repeat Steps 1 through 4 using the other AM.

4.2.6.2 Link Nodes Diagnostics

The following procedures are used to diagnose the Link Nodes (LNs) equipped in the office.

1. On MCC page 118, choose an LN in the CNI ring to diagnose.
2. If the signaling link for this LN is ACT, then manually remove the link from service using the following message:

   MSG **CHG:SLK=xx-y,MOOS;**

   Where: xx = Ring Groups 00, 01, 03, 32, 33, or 34
   y = Member number (1,2,3,4,5,6,7,8)

   Response: **CHG SLK** *xx y* **COMPL**
   SLK *xx y* **CHANGED ACCEPTED, NEW MINOR STATE=MOOS**

3. Diagnose the LN using the following message:

   MSG **DGN:LNxx=y,RAW,TLP;**

   Where: xx = Ring Groups 00, 01, 03, 32, 33, or 34
   y = Member number (1,2,3,4,5,6,7,8)

   Response: **DGN LN***xx y* **COMPLETED ATP**

4. After an ATP message is received from the diagnostic, restore the node to service using the following message:

   MSG **RST:LNxx=y,UCL;**

   Where: xx = Ring Groups 00, 01, 03, 32, 33, or 34
   y= Member number (1,2,3,4,5,6,7,8)

   Response: **RST LN***xx y* **COMPLETED**

5. If the signaling link was removed from service in Step 2, then place it back in-service using the following message:

   MSG **CHG:SLK=xx-y,IS;**

   Where: xx = Ring Groups 00, 01, 03, 32, 33, or 34
   y = Member number (1,2,3,4,5,6,7,8)

Response: **CHG SLK *xx y* COMPL**
SLK *xx y* CHANGED ACCEPTED, NEW MINOR STATE=MOOS

Comment: The link will drop to the OOS state. After synchronizing with the far end it will transition to the ACT state.

6. Repeat Steps 1 through 5 until all LNs have been diagnosed.

****

STOP

****

The work required 10 days before the LTG load date is completed.

Mark your place.

Resume work in Section 4.3 at 7 days before the LTG.

4.3 SEVEN DAYS BEFORE THE LTG

4.3.1 GENERAL

Seven days before the LTG an off-line pump check of all SMs is performed.

4.3.2 SM OFF-LINE PUMP CHECK

Off-line pump for all SMs should be checked. Even though each SM will be simplexed while it is being checked, call processing should not be affected.

If SM(s) fail to off-line pump after repeated attempts, escalate to your next level of support. Take note of any output responses that may be provided by the switch. Escalate to your next level of support before attempting any actions to accommodate SMs that will not off-line pump. Chapter 6 list messages and recovery actions for problems of off-line pumping from the active disks.

1. On MCC page 1209, ensure that the Office Network and Timing Complex (ONTC) is shown ACTIVE MAJOR/MINOR before proceeding.
2. Enter message:

   MSG **INH:REX;**

   Response: **OK**
3. Enter message:

   MSG **OP:SYSSTAT,UCL;**

   Response: *(sample output shown)*

OP SYSSTAT	**SUMMARY {FIRST|NEXT|LAST} RECORD**
SYS:	**MISC**
AM:	**NORMAL**
CMP x-0 P:	**NORMAL**
CMP y-0 M:	**NORMAL**
S LSM a,x:	**[...]**
B LSM b,x:	**[...]**
L HSM c,x:	**[...]**
L ORM d,x:	**[...]**
L TRM e,x:	**[...]**
...	
L RSM z,x:	**[...]**

4. Verify that none of the SMs have "MATE_OOD" as a status.
   a. If any SMs indicate MATE_OOD, access MCC page 1190,x and restore that SM to duplex.
   b. After all SMs are duplex, re-enter OP:SYSSTAT,UCL.
5. Ensure no off-normal status is indicated for any SM.
6. Access the Procedure Summary page by entering the following command:

   CMD **1980**

7. Access the LTG Tools page by entering the following command:

   CMD **80x**

   Where x = LTG Tools page.

8. Start the automated SM off-line pump check by entering the following command:

   CMD **512,pump act mctsi1 vfy perf**

   Response:
   ```
   ORD:CPI=1&&192,CMD=SW-0;
   INH:HDWCHK,SM=1&&192;
   INH:SFTCHK,SM=1&&192;
   INH:CLNORM;
   ST:OPUMP,SM=1&&192,ACTDISK,PERF,VFY;
   ```

   Comment: All of the SMs in the office are simplexed as the automated SM offline pump from the active disk is executed.

9. Monitor SM Offline Pumps for Completion

   Periodic updates on the overall status of the automated SM offline pumps will appear on the 1984 page and the ROP. The 181 through 184 pages can also be viewed to get per SM status of the SM offline pumps. There will also be ROP output from each SM as they progress through their offline pump activities. Individual failure reports will be displayed as they occur, while the overall status will continue to be shown on the 1984 page until all SMs have completed or failed. If the reason for a particular SM offline pump failure is later corrected, then starting the tool again will pick up the failed SM(s).

   Refer to Section 8.2 for manual SM Offline Pump Check procedures.

10. Start the automated SM restorals by entering the following command:

    CMD **6xx**

    Where xx = SM_OFL_PUMP.

    Response:
    ```
    ORD:CPI=1&&192,CMD=CLR;
    ALW:HDWCHK,SM=1&&192;
    ALW:SFTCHK,SM=1&&192;
    ALW:CLNORM;
    RST:MCTSI,SM=1&&192,RETRO;
    ```

    Comment: The MCTSI restoral for all SMs is started. Note that these restorals are not monitored by the automated procedure.

    Refer to Section 8.2.2 for manual SM Restoral procedures.

4.3.3 AM OFF-LINE BOOT

The AM off-line boot must be run to verify the ability to boot the switch. Even though the AM will be simplexed while this is being done, call processing is not affected.

=> *Read:* The AM OFLBOOT feature, as documented in 235-105-210, *Routine Operations and Maintenance* is recommended to be run on a periodic basis in all offices to determine the bootability of the switch.

The AM OFLBOOT feature is required to be run during the LTG at -7 day interval. When run at this -7 day interval, more restrictive parameters are passed to the OFLBOOT feature since these parameters are used during the night of LTG. Offices which do not use the AM OFLBOOT feature in the maintenance mode (as described in

the previous paragraph) risk uncovering hardware problems in the switch which might be difficult to correct during the LTG interval.

If a failure occurs during the off-line boot, analyze the ROP message, take corrective action, and re-run the off-line boot. If you are unable to get off-line boot to complete successfully, escalate to your next level of support. **You will not be able to complete the LTG procedure if off-line boot cannot be run successfully in your office**.

The OFLBOOT feature is a powerful tool that must be used cautiously. It is important that the entire procedure be closely monitored by the technician. During the OFLBOOT procedure, the AM and its disks, CM, and CNI ring will be simplex. IOP 1 and all units attached to it will be removed. During this procedure there is an increased risk of system outage from a hardware failure associated with the on-line side. **It is recommended that OFLBOOT be used during low-traffic hours.**

Before initiating the procedure, the technician must ensure that the system is healthy, with no known hardware faults associated with the AM, CM, IOP, DFC, and CNI.

All IOP subunits and operational support system (OSS) links, provided by IOP 1 will not be available to the system during the OFLBOOT procedure (for example, tape drives, TTYs, SDLs, AMA teleprocessing, data links, etc).

Root ECD (that is, disk) recent changes will be allowed on the off-line side. Office-Dependent Data recent changes are not inhibited. It is recommended that technicians NOT apply software updates, grow hardware, or perform ODD recent changes during this procedure.

1. Enter message:

   MSG **OP:SYSSTAT,UCL;**

   Response: *(sample output shown)*

```
OP SYSSTAT          SUMMARY {FIRST|NEXT|LAST} RECORD
SYS:                INHIBITS MSG
AM:                 NORMAL
CM:                 NO_REQ_PEND
CMP x-0 P:          NORMAL
CMP y-0 M:          NORMAL
S LSM a,x:          [...]
B LSM b,x:          [...]
L HSM c,x:          [...]
L ORM d,x:          [...]
L TRM e,x:          [...]
...
L RSM z,x:          [...]
```

2. Verify that the AM and CM are NORMAL.
   a. If the AM and/or CM are not NORMAL, access MCC pages 111 and 115 and restore any out-of-service hardware.
   b. After all units are duplex, re-enter OP:SYSSTAT,UCL.

c. Access MCC page 115. Verify all units, including CLNKS are normal. Take corrective action for any units which are not normal.

d. Access MCC page 111, Verify all units, including the CNI, DFC, and IOP are normal. Take corrective action for any units which are not normal.

3. Verify SCC link functionality. If your office uses its SCC links to perform LTGs, both links must be verified to insure communication to the office is not lost during AM off-line boot.

   a. Go to page 113 and enter message:

      MSG **RMV:SCC=x;**

      Where: x = is the number of the ACT SCC link.

   b. Verify that the remaining SCC link is active and is operating.

   c. Now restore the SCC link, enter message:

      MSG **RST:SCC=x;**

      Where: x = is the number of the Out-Of-Service (OOS) SCC link.

   d. Repeat this procedure for the other SCC link.

4. To check current ODD backup schedule, enter message:

   MSG **OP:BKUPSTAT;**

   Response: **OP BKUPSTAT**
   AM NRODD= 1 TO 192 RODD= EVERY= x **AT=** y
   or
   NG - NO SCHEDULE REQUEST

   Comment: Verify current backup schedule in Automatic ODD Backup Schedule Worksheet (Table 9-2), if present.

   If NG - NO SCHEDULE REQUEST is output, then automatic backups are not scheduled.

5. If an automatic ODD backup may occur during either tape dump, enter message:

   MSG **CLR:ODDBKUP;**

   Response: **CLR ODDBKUP COMPLETED**

   Comment: Ensure schedule was removed by entering the previous **OP:BKUPSTAT** command.

6. To ensure automatic hash reorganization will not start up during the tape dumps, enter message:

   MSG **INH:REORG;**

   Response: **OK**

7. In the following steps, AM REX is inhibited.

   a. Enter message:

      MSG **INH:DMQ,SRC=REX;**

      Response: **OK**

   b. To verify AM REX is inhibited, enter message:

MSG **OP:DMQ;**

Response: **OP DMQ**

```
          REQUEST ACTIVE
                  NONE
          REQUEST WAITING
                  NONE
          INHIBIT SOURCES
                  REX
    OP DMQ COMPLETED
```

8. Enter message:

   MSG **INH:DMQ:SRC=ADP;**

   Response: **OK**

9. Enter message:

   MSG **INH:RC;**

   Response: **INH RC COMPLETED**

10. Other Office Notification:

    If appropriate, notify effected SCC, TCC, STPs, etc., that CCS7 alarms may occur due to running of off-line boot.

11. On MCC page 111, verify that the AM is duplex with AM 0 ACT and AM 1 STBY.

    a. If the AM is not duplex, restore the OOS AM.

    b. If AM 0 is STBY and AM 1 is ACT, enter command on MCC page 111:

       CMD **400**

       Response: **SW CU 0 COMPLETED**

       Comment: Verify AM 0 is ACT and AM 1 is STBY before proceeding.

12. Access the EAI Page

    Note: With software releases prior to 5E16.2, the secondary MHDs were selected on the EAI Page. WIth the AM off-line boot feature, it is necessary to select the primary MHDs.

13. Enter the following EAI commands:

    ```
    CMD    14 clear eai page

    CMD    20 select primary mhd
    ```

14. Ensure odd-numbered EAI commands 31 through 43 are backlit and the indicator for the primary MHDs show SET before proceeding.

15. Access normal display (NORM DISP).

16. To switch ports, enter command on MCC page 111:

    ```
    CMD     401
    ```

    Response:

    ```
              SW:PORTSW; PF
              REPT ROP x STOPPED
              REPT ROP y STARTED
              SW PORTSW COMPLETED FOR ROP
    ```

```
Screen blanks while ports are being switched.

REPT MTTY x STOPPED
REPT MTTY y STARTED
SW PORTSW COMPLETED FOR MTTY
```

EAI page comes up followed by MCC page 111.

Comment: If the port switch fails, ensure that the switches on the EAI boards are in the auto position.

17. Repeat Steps 12 and 16 for the other page.

18. To start the off-line boot of the AM, enter message:

MSG **EXC:OFLBOOT,IOP1=MAX,MONITOR;**

Comment: If the MTTY and ROP are connected to IOP1, a port switch will be performed automatically at this point.

Response:

```
EXC:OFLBOOT,TRACE,MONITOR,OOS; IP
EXC OFLBOOT STARTED
EXC OFLBOOT IN PROGRESS
RMV DFC x COMPLETED
RMV IOP 1 COMPLETED
RMV MHD x COMPLETED

(A RMV message appears for each AM/CM hardware unit)

SET FRC MSCU=0 COMPLETED
SET FRC ONTCCOM=0 COMPLETED
SET FRC NCOSC=0 COMPLETED
CU RECOVERY COMPLETE
REPT DEGROWTH TTY x COMPLETED
REPT DEGROWTH TTYC x COMPLETED
REPT DEGROWTH SDL x COMPLETED

(A DEGROWTH message appears for each AM/CM hardware unit)


(The following messages print every 5 minutes)
```

EXC OFLBOOT INFO
BOOT IN PROGRESS

OLBSTATE	LASTATE	FUNCTION	LINE
SENDBOOT	EXC_AIMECD	MON_BOOT	xxx

Initialization PRMs are output on the ROP. ***If any failing PRMs are encountered, consult the PRM document. If only failing PRMs are output, escalate to your next level of support immediately.***

EXC OFLBOOT COMPLETED

```
OFFLINE SIDE BOOT
COMPLETE
OLBSTATE    LASTATE      FUNCTION          LINE
EXC_BOOT    EXC_AIMECD   OLB_MSG_HANDLER   xxx
```

Comment: On MCC page 111, AM 0 should be **ACT** and AM 1 should be **UNEQ**. The output responses should verify that the AM has been completely split. Verify status of all units with those in Figure 4-1.

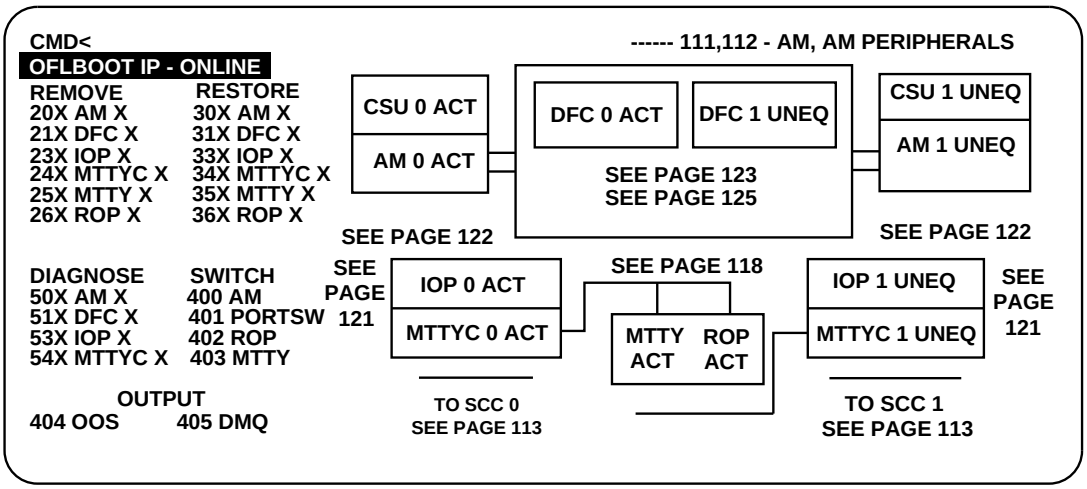

Figure 4-1 — MCC Page 111

19. Enter message:

    MSG **ALW:DMQ,SRC=ADP**

    Response: **ALW DMQ SOURCE ADP IS NOT INHIBITED**

20. To stop the off-line boot process and reduplex the switch, enter command:

    CMD **stop:oflboot,rst;**

    Response:

```
STOP:OFLBOOT,RST;
PRM_1 E841 0001 2704 xxxx xx xx xx
PRM_0 EC00 0FDD 1234 xxxx xx xx xx
STOP:OFLBOOT,RST; IP
CLR FRC MSCU COMPLETED
REPT DFC x IN GROWTH STATE
REPT SBUS x IN GROWTH STATE

REPT MHD x IN GROWTH STATE
```

```
(A GROWTH message appears for each AM/CM hardware unit)
EXC OFLBOOT STOPPED
RST  MSGS=1 COMPLETED
CLR FRC ONTCCOM COMPLETED
STOP OFLBOOT STARTED
TYPE MANUAL
REPT GROWTH DFC x COMPLETED
REPT GROWTH SBUS xCOMPLETED
REPT GROWTH MHD x COMPLETED
REPT GROWTH TTY x IN PROGRESS
REPT GROWTH TTY x COMPLETED

(A GROWTH COMPLETED message appears for each AM/CM
 hardware unit.)

REPT TTY x IN GROWTH STATE
REPT DFC x OUT OF SERVICE
REPT SBUS x OUT OF SERVICE
REPT MHD x OUT OF SERVICE
REPT IOP 1 OUT OF SERVICE

(Out-of-service messages appear for each

 AM/CM hardware unit.)

STOP OFLBOOT COMPLETED
EXC ODDRCVY=ALL CMP=1-0 STOPPED
REPT CMP=1-0 MATE INITIALIZATION TRIGGER=MANUAL-REQUEST
RST  CMP=1-0 COMPLETED
REPT COMMUNICATION RESTORED: AM TO CMP=1-0 MATE
INIT CMP=1-0 MATE LVL=FI,PUMP EVENT=1 COMPLETED
RST(UCL) CU 1   TASK x QUEUED
RST(UCL) DFC x   TASK x QUEUED
RST IOP 1   TASK x MESSAGE STARTED
RMV MHD x COMPLETED
RST  ONTCCOM=1 COMPLETED
RST IOP 1 COMPLETED
RST ROP 1 COMPLETED
RST MTC 1 COMPLETED
RST TTY x COMPLETED
RST  CLNK=x-1-1-1 COMPLETED STATE = ACTIVE
RST DFC x   TASK x MESSAGE STARTED
RST DFC x IN PROGRESS
RST DFC x COMPLETED
REPT DFC x  AUTO PUMP STARTED
REPT DFC x  AUTO PUMP COMPLETED
RST MHD x IN PROGRESS
ST MHD x COMPLETED
RST CU 1 IN PROGRESS
RST CU 1 COMPLETED
(RST messages appear for each AM/CM hardware unit.)
```

Comment: On the MCC page 111, the AM and all of its associated hardware should return to an ACT/STBY state.

21. Double-logging was turned on prior to the database dump. During double-logging, the automatic ODD backup schedule (see Table 9-2) should be set to perform a daily backup. To set the automatic ODD backup schedule to perform a daily backup, enter message:

    MSG **BKUP:ODD:EVERY=1,AT=y;**

Where: y = the time of day in hours and minutes (0000-2359) when the ODD is to be backed up.

Response: **OK**

22. If automatic relation reorganization had been disabled before the ODD and ECD dumps, enter message:

    MSG **ALW:REORG;**

    Response: **ALW:REORG;OK**

23. To allow Recent Change, enter message:

    MSG **ALW:RC;**

    Response: **ALW RC COMPLETED**

24. To allow REX for CU, enter message:

    MSG **ALW:REX,CU;**

    Response: **OK**

25. To allow REX for CM, enter message:

    MSG **ALW:REX,CM;**

    Response: **OK**

26. To allow REX for SM, enter message:

    MSG **ALW:REX,SM=1&&192;**

    Response: **OK**

27. To allow DMQ, enter message:

    MSG **ALW:DMQ:SRC=REX;**

    Response: **ALW DMQ ENABLED REX**

28. Clear the EAI page:

    Access EAI page and enter command:

    CMD **14**

****

STOP

****

The work required 7 days before the LTG is completed.

Mark your place.

Resume work in Section 4.5 at 4 days before the LTG.

4.4 Is the type of LTG being performed a SMART Conversion LTG?

- If **YES**, go to Step 4.6.
- If **NO**, continue with the next step.

4.5 FOUR DAYS BEFORE THE LTG

4.5.1 GENERAL

Four days before the LTG, the RCLOG files are transmitted to Lucent Technologies via RSCANS. This is only necessary if the Offsite Recent Change Reapplication (OFFRCR) is used.

4.5.2 OFF-SITE RECENT CHANGE REAPPLICATION (OFFRCR)

4.5.2.1 Overview

With the LTG on 5E16.2, offices have the option of using or not using the Off-Site Recent Change Reapplication (OFFRCR) feature.

The advantage of using the OFFRCR feature is that the number of RCs to be reapplied on the night of the LTG is reduced. The number of RCs that will be reapplied on the night of LTG consists of the RCs made since the RSCANS transmission for the OFFRCR process until the day of the LTG (4 days of RCs). This office only reapplies 4 days of accumulated RCs with POSTRCR as opposed to 17 days of RCs without OFFRCR. The disks are off-line for a shorter period of time since the reapplication time is reduced. Offices with large numbers of RCs to reapply benefit the most from using this feature. If OFFRCR is used, the following tasks are performed:

1. Four days before the LTG, RCs made since the database dump are electronically data linked to Lucent Technologies using RSCANS.
2. The RCs made since the database dump are applied to the evolved ODD database by the Lucent Technologies ODD tape processing group.
3. The final database tapes with the RCs reapplied from the RSCANS transmission are shipped to the office for the LTG.

=> *Read:* If your office is using the OFFRCR feature, continue with this procedure. If your office is not using the OFFRCR feature, the work required 4 days before the LTG is complete. Resume work with Section 4.6, Three Days Before the LTG, tomorrow. If the OFFRCR is not used, RC reapplication will consist of the RCs and CORCs made since the database dump. The RCs and CORCs entered since the database dump will not be active until reapplied to the new database after the initialization.

The RSCANS OFFRCR "preparation procedure" has been designed to operate locally from the switch site or remotely from the Switching Control Center (SCC). The actual RSCANS transmission procedure will be performed by the regional Lucent Technologies SUMS Center which will be supporting the office LTG on day -4 of the LTG. The planning of preparation activity should be such to allow sufficient time for the transmission activity to be completed ***as soon as possible on day -4.*** Therefore, the preparation activity (on the following pages), should be started ***early*** in the morning.

4.5.2.2 LTG With RSCANS OFFRCR

Note: If an automatic BKUP:ODD was done on the switch overnight (on Sunday night), and the site does ***not*** want to include recent changes that will be entered on Monday (day -4) in the OFFRCR transmission, proceed to Step 6 (skip Steps 1 through 5).

If the RSCANS OFFRCR feature will be used for this LTG, the following site preparation steps must first be performed from the SCC or on site by the switch administrators:

1. To dump a list of all terminals currently using RC, enter message:

   MSG **OP:RCUSER;**

   Response:

   ```
   OP RCUSER x ACTIVE RC USERS
   RC PROCESS   TTY/LOGICAL/CLERK-ID PART 1 OF 1
   RCV:MENU,APPRC    TERM-ID= xxxx
    or
   OP RCUSER 0 ACTIVE RC USERS
   ```

   Comment: Notify all users that RC will be inhibited.

2. ***Notify all local and remote RC centers that RC will be inhibited.***

3. To inhibit new RC sessions, enter message:

   MSG **INH:RC;**

   Response: **INH RC COMPLETED**

   SYS INH status indicator is backlit.

   Comment: Access MCC page 110 and verify that box 04 is backlit.

   Access MCC page 116. Verify that the ODD EVOL ACT field is backlit. For OSPS offices, verify that the OSPS EVOL ACT field is backlit.

4. Enter either message:

   MSG **BKUP:ODD;** or **BKUP:ODD,AM;**

   Response:

   ```
   [BKUP ODD FULL AM IN PROGRESS]
   [OSPS EVOLUTION AM COMPLETED]
   BKUP ODD   FULL AM COMPLETED
   BKUP ODD   COMPLETED
   (The next two messages may appear any

   time during the BKUP:ODD.)

   [AUTOEVOL INVOKES MOVELOG TO RECLAIM SPACE IN /rclog]
          [THE /rclog DOES NOT HAVE ENOUGH SPACE]
          [TOTAL NUMBER OF FREE SPACE ON /rclog is xxxx]
   [DB RETROFIT PROCESS MOVELOG COMPLETED]
          [DETAIL INFO IN /rclog/mvlog.README]
   AUTOMATIC CORC AND RECENT CHANGE RETROFIT PROCESS STARTED
   AUTOMATIC CORC AND RECENT CHANGE RETROFIT PROCESS
   EVOLUTION PROCESS TARGET SOFTWARE RELEASE IS 5E16.2
   DB RETROFIT PROCESS KEEPLOG COMPLETED
          DETAILED INFO IN /rclog/kplog.err
   AUTOMATIC CORC AND RECENT CHANGE RETROFIT PROCESS
          RECENT CHANGE EVOLUTION STARTED
   [CNVT RCLOG EVOLUTION INITIALIZATION STARTED]
   [CNVT RCLOG DATA TABLES INITIALIZED]
   [CNVT RCLOG EVOLUTION INITIALIZATION IN PROGRESS]
   [INITIALIZING NEW VIEW TABLE: RCnewvwtab_tab[ ]]
   [INITIALIZING OLD VIEW TABLE: RColdvwtab_tab[ ]]
   ```

```
[CNVT RCLOG EVOLUTION INITIALIZATION COMPLETE]
[CNVT RCLOG EVOL: RC EVOLUTION RC STEP STARTED]
       [CURRENT ERROR FILE IS /rclog/RCERRx]
[CNVT RCLOG EVOL: RC EVOLUTION RC STEP IN PROGRESS]
       [VIEW NUMBER xxxx HAS BEEN READ]
       (Output approximately every two hundred views)

CNVT RCLOG EVOL: RC EVOLUTION RC STEP COMPLETION SUMMARY
       xxx VIEWS READ
       xxx VIEWS CREATED
       xxx VIEWS IN ERROR
       FIRST ERROR FILE IS /rclog/RCERRxx
       LAST ERROR FILE IS /rclog/RCERRxx
[RC EVOLUTION LOGFILE ANALYSIS PROCESS STARTED]
[RC EVOLUTION LOGFILE ANALYSIS PROCESS COMPLETED]
       [xxxx VIEWS LOGGED]
       [DETAIL ANALYSIS REPORT FILE IS /rclog/RCtype.rpt]
```

Note: The next four messages are only output by OSPS offices that have used the 9 recent changes that are supported by OSPS evolution.

[CNVT RCLOG EVOLUTION: OSPS STEP STARTED]

```
       [CURRENT ERROR FILE IS /rclog/RCOSPSERRx]
[CNVT RCLOG EVOLUTION: OSPS STEP COMPLETION SUMMARY]
       [xxx VIEWS READ]
       [xxx VIEWS CREATED]
       [xxx VIEWS IN ERROR]
       [FIRST ERROR FILE IS /rclog/RCOSPSERRx]
       [LAST ERROR FILE IS /rclog/RCOSPSERRx]
[RC EVOLUTION: OSPS LOGFILE ANALYSIS PROCESS STARTED]
[RC EVOLUTION: OSPS LOGFILE ANALYSIS PROCESS COMPLETED]
       [xxxx VIEWS LOGGED]
       [DETAIL ANALYSIS REPORT FILE IS /rclog/RCosps.rpt]
CNVT RCLOG EVOL COMPLETE
AUTOMATIC CORC AND RECENT CHANGE LTG PROCESS
       CORC EVOLUTION STARTED
[CNVT CORCLOG EVOL AM COMPLETE]
       [xxxx CORCS EVOLVED]
       [xxxx CORCS IN ERROR]
       [xxxx RDNT CORCS RMVD]
[CNVT CORCLOG EVOL IN PROGRESS]
       [CORC NUMBER xxx HAS BEEN READ]
[xxxx CORCS xxxx TRNCORCS HAVE BEEN LOGGED IN THE CORC]
   [EVOLVED LOGFILES]
CNVT CORCLOG EVOL COMPLETE
AUTOMATIC CORC AND RECENT CHANGE LTG PROCESS COMPLETED
```

Comment: If the ODD backup fails, re-enter the **BKUP:ODD,AM** message, if successful, continue with the procedures. If the second ODD backup is unsuccessful, escalate to your next level of support.

If OSPS evolution errors are output, proceed to Section 6.5.10.3.

If RC or CORC evolution errors are output, proceed to Section 6.5.10.

5. The recent change log file must be processed on the switch before it can be transmitted using RSCANS.

Perform the following steps:

a. To determine the quantity of RCs that will be transmitted, enter message:

MSG **REPT:RCHIST,ACTIVITY;**

Response: **OFFRCR LOGFILE DUMP TOOL STARTED - DUMPING**
LTG RC LOGFILE
REPT RCHIST CLERK= HISTACT STARTED
REPT RCHIST CLERK= HISTACT COMPLETED

Comment: The data supplied under the "Demand Count" gives the pending number of RCs.

b. To prepare the rclog file for transmission, enter message:

MSG **EXC:ENVIR:UPROC,FN="/no5text/rcr/offrcdump",ARGS="LTG";**

Response:

```
.
. OFFRCR LOGFILE DUMP TOOL STARTED-DUMPING

        LTG RC LOGFILE

.
.  OFFRCR LOG FILE DUMP TOOL COMPLETED

.
```

Comment: If any warning messages are output indicating OFFRCR dump errors, escalate to your next level of support.

c. Enter message:

MSG **OP:STATUS:LISTDIR,FN="/rclog";**

Comment: A list of files is output. In addition to other files, the following file names should be output:

/rclog/full.offrc.Z
/rclog/RCrpt.offrc
/rclog/RClcd.offrc

d. To dump the hashsum value, enter message:

MSG **EXC:ENVIR:UPROC,FN="/bin/sum",ARGS="-r"-"/rclog/full.offrc.Z";**

Response: A hashsum value and block size are output.

Comment: Record the hashsum value and block size. These values can be used (if needed) by the Lucent Technologies SUMS center to check the file integrity.

6. To allow Recent Change, enter message:

MSG **ALW:RC;**

Response: **ALW RC COMPLETED**

7. To diagnose and restore the SCANS data link, enter message:

MSG **RST:SDLC=0;**

Response: **RST SDL** x **COMPLETED**

8. A transaction ID will also be required to transmit the file "full.offrc.Z" using the RSCANS procedure.

   To establish this ID, enter message:

   MSG **IN:XFER:START;**

   Response: **TRANSACTION ID =** xxxxxxxxx

   Record this ID number: _____ .

9. Once the proper log file of recent changes has been created in the **/rclog** directory and a transaction ID number has been obtained, the Lucent Technologies SUMS Center supporting the site LTG should be contacted. (See Section 1.12.) The SUMS Center will verify the following information with the site:

   - Office Base & Control
   - The SEND (DDD1) Number
   - The RECEIVE (DDD2) Number
   - The Transaction ID Number.

   The SUMS Center will also verify that the appropriate file has been created in the **/rclog** directory.

   With this information, the SUMS Center will establish communications with the Database Evolution RSCANS computer at Lucent Technologies and transmit the log file for OFFRCR processing.

10. The following steps (a and b) are for OSPS offices only:

    a. To dump a list of OSPS RCs, enter message:

       MSG **OP:STATUS:LISTDIR,FN="/updtmp/ospsevol";**

       Response: **OP STATUS LISTDIR STARTED**
       (Listing of the directory is dumped to the ROP.)

    b. Check the output for any files that have the naming convention of:

       x**.error.log**

       Where: x = the number of the processor (193=AM, 194=CMP, 255 = redlog, all others are for SMs)

       If any files are listed containing this naming convention, refer immediately to Section 6.5.10.3.

****

STOP

****

The work required 4 days before the LTG is complete.

Mark your place.

Resume work in Section 4.6 at three days before the LTG.

4.6 THREE DAYS BEFORE THE LTG

4.6.1 SOFTWARE UPDATE CHECK

Note: Using the latest issue of the Software Compatability Matrix [available at URL: ***http://www.lucent.com/support***], determine the cutoff point for SUs to current software release.

In the following Software Update (SU) check, the term "temporary" refers to SUs that have not yet been made official. It does not refer to **TMP** SUs or Craft (CFT) overwrites.

1. On Master Control Center (MCC) page 1950, enter the following command to display all non-official SU(s):

   CMD **9103**

   Response: In the field adjacent to poke 9103, **IN PROGRESS** is backlit followed by either **COMPLETED** or **ABORTED**.

   Comment: **COMPLETED** followed by an output list of temporary SUs to the Read-Only Printer (ROP) indicates there may be temporary SUs active within the switch. If all SUs have been made official, then no temporary SU is active within the switch. In addition, MCC Page 1990 can be accessed to ensure there are no temporary SUs.

   ABORTED most likely indicates there are either no temporary SUs in the switch (UPD USRERR 4 on ROP) or no SUs in the switch at all (UPD USRERR 1 on ROP).

2. If any SU(s) are in a temporary state, they must be made official or backed out. Refer to 235-105-210, *Routine Operations and Maintenance*.

3. Contact your Lucent Technologies SUMS Center to see if any additional SU's are required. DO NOT APPLY any SU's unless directed to do so by Lucent Technologies Technical Support.

4. Activate SUs sent from SCANS. Refer to 235-105-210,*Routine Operations and Maintenance*.

4.6.2 VERIFY DUPLEX SYSTEM

At this point, the system should be running full duplex in the root partition with no inhibits set (except message class), no major off-normal indicators active, and no utility breakpoints set.

1. Enter message:

   MSG **OP:STATUS:FILESYS;**

   Response:

```
OP STATUS FILESYS STARTED

/database on /dev/db read/write on Day Month Time Year.
          .                              .
/ on /dev/root read/write on Day Month Time Year

/etc on /dev/etc read/write on Day Month Time Year

        .
        .
```

.
.
.
.
.
.

Caution: To ensure that the system is running in root partition, the partitions shown must be part of the output. If these partitions are not part of the output, your system is not running in root partition. If you are NOT running on root, escalate to your next level of support before continuing.

2. On MCC page 111, verify that the AM is duplex with AM 0 ACT and AM 1 STBY.

   a. If the AM is not duplex, restore the OOS AM.

   b. If AM 0 is STBY and AM 1 is ACT, enter command on MCC page 111:

      CMD **400**

      Response: **SW CU 0 COMPLETED**

      Comment: Verify AM 0 is ACT and AM 1 is STBY before proceeding.

3. On MCC page 110, field **16** (Routine Audits) should be backlit because the SODD audit has been automatically inhibited at this point in the procedure. SODD is automatically inhibited at the -3 week point by bkup:odd:oddevol,togeneric=111 command.

4. On MCC page 115, ensure no off normal conditions appear.

5. Access EAI page.

6. On EAI page, field **31** (Backup Root) should be backlit. If field 30 is backlit, escalate to your next level of support.

7. Ensure odd-numbered EAI commands 31 through 43 are backlit.

8. Access normal display (NORM DISP).

9. To switch ports, enter command on MCC page 111:

   CMD **401**

   Response:

```
SW:PORTSW; PF
REPT ROP x STOPPED
REPT ROP y STARTED
SW PORTSW COMPLETED FOR ROP

Screen blanks while ports are switched.

REPT MTTY x STOPPED
REPT MTTY y STARTED
STARTED SW PORTSW COMPLETED FOR MTTY
```

   EAI page comes up followed by MCC page 111.

   Comment: If the port switch fails, ensure that the switches on the EAI boards are in the auto position.

10. Repeat Steps 5 through 7 for the other EAI page.

11. Access normal display (NORM DISP).
12. On MCC page 123 and MCC page 125, all disks are **ACTIVE** (with the exception of MHDs 14 and 15, if equipped).
13. Access MCC page 1851 and verify that CMP 0-0 is the **ACT** CMP (under the **CMP 0 PRIM STAT** box) and CMP 1-0 is the **STBY** CMP (under the **CMP 0 MATE STAT** box).
14. ***If*** CMP 0-0 is ***not*** the ACTIVE (primary) CMP, enter message:

    MSG **SW:CMP=0-0;**

    Response:

```
SW:CMP=0-0; PF
[EXC ODDRCVY=ALL CMP=1-0 STOPPED]
[REPT CMP=1-0 MATE  INITIALIZATION  TRIGGER=SW-REQUEST]
[REPT MSKP_ENVIRONMENT:]
[CMP=1-0 PHASE 1&2 INIT COMPLETION TIME: xxxx TYPE:xxx]
        [EVENT=xxxx]
EXC ODDRCVY=ALL CMP=1-0 STARTED
SW  CMP=0-0 COMPLETED
[REPT COMMUNICATION RESTORED: AM TO CMP=1-0 MATE]
[REPT MSKP_ENVIRONMENT:]
[CMP=1-0 PHASE 3   INIT COMPLETION TIME: xxxxxx TYPE:xxx]
        [EVENT=xxxx]

CMP 0-0 becomesPRIMARY (active), CMP 1-0 becomes

MATE(standby).
```

4.6.3 DETERMINE IF CNI IS EQUIPPED IN THE OFFICE

To determine if your office is equipped with CNI, perform the following:

1. Access MCC page 196.
2. Enter the following data:

```
Input VIEW, etc.       8.15R

*1. OFFICE ID             (enter office ID)
```

```
                            5ESS SWITCH

SCREEN 1 OF 2              RECENT CHANGE 8.15

                         CCS OFFICE PARAMETERS


*1. OFFICE ID _________     9. ADDR COMP  __        19. DIGIT      _
 2. CNI EQUIP _            10. ANSWER     _         20. BLNO RSND  __
 3. DLN EQUIP _            11. COT        _         21. UBL RSND   __
```

3. If field 2 (CNI EQUIP) is **Y**, then your office is equipped with CNI.
4. Exit recent change.

4.6.4 CNI DATABASE VERIFICATION (CNI OFFICES ONLY)

In this section, the CNI database will be audited to verify the integrity of the data.

1. If your office is equipped with CNI, on MCC page 1980, enter message:

   CMD **803**

   Response:

```
UPD:GEN:APPLPROC,ARG="cniaud";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
/no5text/cni/proc/cni.niaud
DEL:LOG,LG=MTCLOG,KW="NIDATA"; IP (ROP only)

DEL LOG FILE MTCLOG DELETION COMPLETE xx DELETED
AUD:NIDATA=1; PF
AUD NIDATA 1 COMPLETED
     xx ERRORS FOUND
     xx ERRORS CORRECTED
AUD:NIDATA=2; PF
AUD NIDATA 2 COMPLETED
     xx ERRORS FOUND
     xx ERRORS CORRECTED
AUD:NIDATA=3; PF
AUD NIDATA 3 COMPLETED
     xx ERRORS FOUND
     xx ERRORS CORRECTED
AUD:NIDATA=4; PF
AUD NIDATA 4 COMPLETED
     xx ERRORS FOUND
     xx ERRORS CORRECTED
AUD:NIDATA=5; PF
AUD NIDATA 5 COMPLETED
     xx ERRORS FOUND
     xx ERRORS CORRECTED
AUD:NIDATA=8; PF
AUD NIDATA 8 COMPLETED
     xx ERRORS FOUND
     xx ERRORS CORRECTED
AUD:NIDATA=10; PF
AUD NIDATA 10 COMPLETED
     xx ERRORS FOUND
     xx ERRORS CORRECTED
UPD GEN APPLPROC CNIAUD TOOL REPORT:
  .
 . CNI.NIAUD COMPLETED
 .
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

   Comment: If the cni.niaud fails, refer to Section 6.4.8.4.

4.6.5 VERIFY CLEANUP FROM PREVIOUS TRANSITIONS

1. Enter message:

   MSG **OP:STATUS,LISTDIR,FN="/updtmp";**

2. From the output, verify that entries for **site** or **retrofit** do ***not*** exist. If entries for **site** *or* **retrofit** do exist, they must be removed. **To successfully remove these directories, seek technical assistance from the SUMS Center.**

3. Enter message:

   MSG **OP:STATUS,LISTDIR,FN="/etc/log";**

4. If an entry for the **suprlog** directory exists, the character size should be 0 (zero). If an entry for the **suprlog** exists and the character size is ***not*** zero, escalate to your next level of support.

5. Also from the last output (from **/etc/log**), verify that ***no*** entries exist for the following:

   ```
   appllog
   appldisklog
   applgrappl
   applswfwdlog
   ```

   If any of the above files exist, they must be removed unless they end with a .sv. **To successfully remove these files, seek technical assistance from the SUMS Center.**

4.6.6 VERIFY AMA PROCESSING ARRANGEMENTS

Depending on local procedures, special arrangements might be needed to process AMA data from the off-line disks. These arrangements should have been made during the -4 week interval of this LTG. See Section 3.9.10, **AMA OFF-LINE PROCESSING**.

4.6.7 OFFICE BACKUPS

1. Make full office backups.

   Reference: Refer to 235-105-210, *Routine Operations and Maintenance*.

2. Record date and time in appropriate row of the Office Backups Worksheet (Table 9-3).

****

STOP

****

The work required 3 days before the LTG is completed.

Mark your place.

Resume work in Section 4.7 at 1 day before the LTG.

4.7 ONE DAY BEFORE THE LTG

4.7.1 PRE-LTG CHECKLIST

One day before the LTG, operating company personnel should review the Pre-LTG Office Condition Checklist (Table 4-1) as a final check to make certain the office is ready for the LTG. The LTG coordinator should sign off on the lines supplied in the checklist.

4.7.2 REMOVE UNNECESSARY FILES AND CHECK FILE SPACE

The Enter and Proceed stages save user logins and other files in the **/unixa/users** directory. To avoid lengthy Enter and Proceed stage processing times, unnecessary files, especially large unnecessary files, should be removed prior to performing the implementation procedures.

1. To produce a list of files and directories in **/unixa/users**, enter message:

   MSG **OP:STATUS:LISTDIR,FN="/unixa/users";**

   Response: **OP STATUS LISTDIR STARTED**

   Sample Response shown

```
  1  drwxrwxrwx  3  root      208   Jul  13   03:06   .
  1  drwxr-xr-x  8  root      144   Jul   8   09:16   ..
407  Crw-r--r--  1  root   208240   Jul  12   05:29   CMP.out.adr
407  Crw-r--r--  1  root   208240   Jul  12   05:21   CMP.out.sym
  1  drwxr-xr-x  2  manager    32   Jul  12   04:39   manager
 ..  ......      .  ....     ...       ..     ...     ...
```

   OP STATUS LISTDIR COMPLETED

2. Examine the list produced in the last step and remove unnecessary files. Files ending with the suffix ".adr" and ".sym" will **NOT** be saved and do not have to be removed. Also the **manager** directory should **NOT** be removed.

   If there is any doubt as to which files to remove, ESCALATE TO YOUR NEXT LEVEL OF SUPPORT.

   To remove files from the **/unixa/users** directory, enter message:

   MSG **CLR:FILESYS,FILE,FN="/unixa/users/** *filename";*

   Where: filename = name of file listed in the output from the **OP:STATUS:LISTDIR,FN="/unixa/users"** message.

   Response: **CLR FILESYS FILE COMPLETED**

   MSG **OP:STATUS:FREEDISK,FN="/";**

4.7.3 LTG IMPLEMENTATION

If the LTG tapes have arrived at the office, some work may be performed in Section 5, LTG Implementation. All work in the System Preparation stage may be performed one day before the LTG. Do not perform any procedures in the Begin stage until the day of the LTG.

4.7.4 PROCEDURES REVIEW

Section 5 contains the procedures to perform the LTG and should be reviewed at this time to become familiar with the sequence of work that will be necessary.

Table 4-1 — Pre-LTG Office Condition Checklist

ITEM	SIGN OFF
Office has been running all REX tests during the past 3 weeks.	
All REX tests passed. (If not, failing equipment has been repaired and retested ATP.)	
Hardware units in the office are not being removed automatically.	
MCTSI side 0/1 diagnostics are ATP for all SMs except as noted in MCTSI diagnostics section.	
BTSR diagnostics are ATP for both controllers on all SMs.	
CMP diagnostics are ATP (CMP 0-0 and CMP 1-0).	
Office is within limits for asserts, Single Process Purges (SPPs), call completion, etc.	
Office is up to the required CN level.	
Expiration of appropriate soak intervals since last SU, CN application, and/or growth.	
Two FX lines are available for use during the LTG.	
At least one test line per SM is available.	
Tape unit passed most recent verify.	
Correct ODD tapes are available.	
All other tests specified in the LTG procedures up to this point passed.	
AM off-line boot has been run at least once in the last 4 days.	

5E16.2 Large Terminal Growth Procedures

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5. LTG IMPLEMENTATION

5.1 REQUIREMENTS FOR STARTING THE LTG

5.1.1 OVERVIEW

This section contains the procedures to perform the Large Terminal Growth (LTG). **Work in this section is done on the day of the LTG. Work up to but not including the Begin stage can be done any time during the day or even one day before the LTG provided that the LTG tapes have arrived at the office.**

Throughout the LTG Implementation, a figure pertaining to each stage will show major actions that were performed, a drawing of the system status (at the completion of the stage), and other key indicators of successful completion. Shading is used in the figures to differentiate between the active side (not shaded) and the side of the unit that is Standby (STBY), Off-Line (OFL), Unavailable (UNV), Deactivated (DACT), etc.

The Master Control Center (MCC) pages 1980, 1984, 1985, and 1989 are the Retrofit Control Language (RCL) pages that provide the poke commands required to perform the Large Terminal Growth (see Tables 9-15 through 9-18). The 1980, 1985, and 1989 pages will do the execution of the LTG and display error messages when abnormal conditions occur. The 1984 page is a tools page that is used to manually execute LTG related tools (see Tables 9-18 and 9-24).

All MCC page statuses on the Retrofit Control Language (RCL) pages (1980, 1984, 1985, and 1989) will not be shown due to the frequency of change for each step and the quickness that they change. Only critical points in the night of LTG and at "Pause" points when a 500 poke command is needed to resume the process will be shown. MCC pages shown are for example only and may vary slightly from what is seen during your office's LTG.

Read: Section 6 and 8.4 contains detailed recovery procedures for most error situations that can occur throughout the LTG. It is important to become familiar with these sections. Contained in the first few pages of the recovery procedures is a section entitled **Error Recovery Guidelines**. ***If any unexpected error occurs during the LTG, the starting point for recovery is the* Error Recovery Guidelines *— DO NOT attempt error recovery without consulting this section first.***

Note: The two system lines at the top of all MCC Pages depicted in this manual may not match the actual appearance of these lines on your switch. The fields that are backlit in these MCC Page representations may be different than the fields actually backlit on your Office terminal.

5.1.2 MATERIALS ON HAND

The following materials must be on hand for the LTG:

- A copy of the LTG Notes.
- All items on the critical item list (Table 2-3).
- Equipment and supplies for cleaning the tape drive.
- The list of lines to be tested after the LTG.
- Sufficient supply of paper and a new ribbon for the Read-Only Printer (ROP) so these items will not have to be replenished or changed during the LTG.

- Office spares as applicable.
- For only those offices with the Operator Services Position System (OSPS) feature, OSPS Administrative Processor (OAP) application software.

5.1.3 LTG TAPES

SINGLE TAPE RETROFIT (STR)

Single Tape Retrofit is a streamlined enhancement to the LTG tape reading process. Multiple tapes are not used with STR. Only **one tape is required**. All required LTG data is contained on the STR Tape. Note that ***two copies*** of the ECD and ODD tapes are sent to the office. The duplicate tape is supplied as a ***backup*** copy.

The tapes to be used for the LTG should be removed from their shipping cases and allowed to reach room temperature and humidity before use (approximately 4 hours). Make sure all tapes are write protected.

The LTG tape and the duplicate backup copy contain the following:

- AM ODD/ECD.
- SM ODD tapes (number is dependent on office size).
- Disk Options for the optional disk pairs (MHDs 4 and higher)
- Volume Table Of Contents (VTOC).
- TOP/tools

Note: If TOP tapes are received, they ***ARE NOT*** loaded as part of the LTG. These tapes are only to be used in accordance with 235-105-250, *System Recovery Procedures*.

5.1.4 LTG NOTES

A copy of the LTG Notes will be arriving (from Lucent Technologies) with the LTG tapes. The LTG Notes provide additional information and procedures for the upcoming LTG that are not included in this document. Supplemental information and procedures that may not have been available at publication of this document may be included in the LTG Notes. A copy of the LTG Notes may also be obtained by contacting your SUMS Center (see table 1-1). It is critical to obtain the ***latest*** copy of the LTG Notes, as the notes are updated weekly.

LTG Notes are also available on the web at ***http://www.lucent.com/support***. All current 5ESS RETROFIT/SRU/LTG users MUST REGISTER to access this website.

To register: Click on the "Register Now" link and complete the required fields on the form.

Follow these steps to get to the Retrofit Index Page:

Note: You must be logged into this site in order to follow the steps below.

- Place your mouse over the "Documentation and Downloads" link at the top of the screen.
- Click on the "Product Index" link.
- Click on the "5ESS Switch" link.

- Click on the "Release Information" link. Here you will find access to the most current Retrofit and LTG Notes, the SU Compatibility Notice, and Current CFT Descriptions.

5.1.5 TERMINAL ACCESS

The AM off-line boot feature impacts the states of the various terminals (MCC, STLWS, RC/V, *UNIX*[1], etc.) connected to the *5ESS*® switch during the transition. The state of a specific terminal depends on which Input/Output Processor (IOP) the terminal is connected. The AM off-line boot process isolates equipment on side 1 of the switch. IOP 1 is taken out-of-service. Therefore, terminals connected to the off-line side of the switch will provide invalid information on the status of the switch. If the MCC is connected to IOP 1, the AM off-line boot process called by the proceed poke in Section 5.6.4 will automatically execute a port switch. When the port switch is executed, the MCC will go blank and is then initialized on IOP 0. ***It is very important to ensure that all messages/commands required to perform the transition are input at the MCC. The MCC and SCC are the only terminals that will always have access to the active of the switch.***

Terminals used when performing a LTG should have access to all command groups. See Section 3.9.6 (Table 3-2). The command restriction feature restricts access to *5ESS* switch input commands and their associated command pokes based on command groups. To determine the authority level, enter the following message at each terminal that will be used for the software release.

```
MSG     VFY:AUTH;
```

Response:

```
VFY AUTH COMPLETED

TERM: a   AUTHORITY LEVEL: b   [USER: c]
 d    d     d    d    d     d
 d    d     d    d    d     d
 ...
 d         d         d          d         d         d

      or
NG - UNABLE TO ACCESS AUTHORITY ADMINISTRATION (MCC only)
```

Where: a = terminal identifier (for example, ttya)
b = auth_chk field in ECD getty form
c = user identifier
d = command group name [not output if the **AUTHORITY LEVEL** (*b*) is equal to **n**].

Comment: The value following the AUTHORITY LEVEL field for each terminal to be used during the transition should be "n" (none). If this value is not "n", the command restriction administrator for this office should be contacted to make the necessary changes.

For further information on the command restriction feature, refer to the Authority Management section of 235-105-210, *Routine Operations and Maintenance Procedures*.

1. Registered trademark of X/Open Company Ltd.

5.1.6 OSPS OFFICE SOFTWARE

For offices equipped with the Operator Services Position System (OSPS) feature, all OSPS OAPs on the *5ESS* switch must be loaded with new software release application software (via floppy disks). The procedure for loading the application software is packaged with the floppy disks.

5.1.7 ODD AND OSPS EVOLUTION CHECK

1. The **ODD EVOL ACT** box on MCC page 116 should be backlit. If the **ODD EVOL ACT** box is not backlit, escalate to your next level of support.
2. For OSPS offices, the **OSPS EVOL ACT** box on MCC page 116 should also be backlit. If the **OSPS EVOL ACT** box is not backlit, escalate to your next level of support.

5.1.8 OFFICE STABILITY

1. The items listed in Table 4-1, Pre-LTG Condition Checklist, should be considered when determining office stability.
2. At this point, the LTG Coordinator should confirm office stability before proceeding with the LTG.

5.1.9 RCL PAGES AND AVAILABLE POKES

There are two ways to initialize tools from the 1980 MCC page:

1. If a **3XX** command has not been entered and no procedures are running, enter **8XX**. The 1984 page is then displayed showing all the associated tools so that the appropriate tool may be selected.

   Or,

2. Enter **3XX** directly from the 1980 page. This starts the procedure while displaying the 1985 page without accessing the 1984 page. The 1984 page may be entered to view the procedure at this point but an **8XX** command will not be accepted.

Tables 9-15 through 9-24 show the various commands, arguments and tools used in association with MCC pages 1980, 1984, 1985, and 1989.

The following definitions may be useful in determining how to execute the tools listed in tables 9-21 and 9-23.

Required Arguments are arguments that must be entered along with a given poke. For example: **501,sysstat** executes the "APPLPROC" tool with an argument requesting a system status to be printed.

Optional Arguments are arguments that may or may not be entered along with the poke. Also, when specified, optional arguments are separated by a white space. For example: **512,ACT NVFY NPERF** executes the "SM OFL PUMP" tool with a required argument of ACT and optional arguments of NVFY and NPERF.

Default Arguments are arguments that the tool supplies if no arguments have been specified along with the poke.

Some tools on the 1984 page have backout actions (for example, tools such as MOP, READHDR, etc). Table 9-23 provides a complete list of all tools that **do** have backout actions. Other tools do not have any backout actions (for examples, tools such as "DUMP MHDSTAT", "DUMP SUPR LOG", etc). Table 9-22 provides a complete list of

tools that **do not** have any backout actions.

5.2 SYSTEM PREPARATION

OVERVIEW

The following will be performed during this stage:

- Check office records queue
- Check/remove utility breakpoints
- Perform final Software Update (SU) check
- Make office backups
- Run Module Controller/Time Slot Interchanger (MCTSI) diagnostics
- Run Communications Module Processor (CMP) diagnostics
- Tape Drive Cleaning, Testing and Verification

Caution: All input messages must be entered at the Master Control Center (MCC). Failure to do so could result in missing the output responses to messages and jeopardize the transition because of differences in the MCC and other terminals in the office.

5.2.1 CHECK OFFICE RECORDS QUEUE

1. **Verify that no office records are PROCESSING or PENDING during the procedures:**

Enter MCC MSG: **OP:OFR:STATUS;**

Sample ROP Response:

```
OP OFR STATUS SCHED

 REQID     CAT       FORM       DEVICE     STATUS
  xx       xxx       xxxx        ttyx      xxxxxx

  OP OFR STATUS PARM

  PRINTING      MON  TUE  WED  THU  FRI  SAT  SUN
  SCHEDULE:
                xxx  xxx  xxx  xxx  xxx  xxx  xxx

  START TIME = xx  DURATION = x  STATUS = xxxxxxx

  [OP OFR STATUS KEYS]
  [CURRENT KEYS: NO OFFICE RECORDS IN PROGRESS]
```

2. **Abort any *PROCESSING* or *PENDING* office records that are indicated in the queue:**

Enter MCC MSG: **ABT:OFR;**

Response:

```
ABT OFR STATUS = SUCCESSFUL OFR ABORT
                   or
NG -- NO JOBS HAVE BEEN SCHEDULED
ABT OFR STATUS = INVALID REQUEST
```

3. **Remove the `/rclog/ORbackup` file so that the office records will be re-initialized after the system SwitchForward:**

Enter MCC MSG: **CLR:FILESYS:FILE,FN="/rclog/ORbackup";**

Response:

```
CLR FILESYS FILE COMPLETED
      – (or) –
[CLR FILESYS FILE STOPPED]
```

```
[rm: /rclog/ORbackup non-existent]
```

5.2.2 FINAL UTILITY BREAKPOINT CHECK

Note: Any utility breakpoints remaining after this check will be automatically removed during the system initialization. Record any breakpoints that may be present.

Warning: The following steps may involve removing utility breakpoints. Do not remove any current utility breakpoints unless they are non-essential. Obtain approval if breakpoints will be removed.

Approval to remove AM and/or CMP and/or SM Utility Breakpoints

1. Access MCC page 120.
2. Using the following steps, check for AM utility breakpoints and remove if non-essential.
   a. To list AM utility breakpoints, enter message:

      ```
      MSG     OP:UTIL;
      ```

      Response:

      ```
      OP UTIL COMPLETED #G1 - #G2
        DTIME = a  DCYCLE = b   DEATH DELAY = c
               NO FLAGS DEFINED
               NO TRACE DEFINED
      ```

      Comment: A response of both **NO FLAGS DEFINED** and **NO TRACE DEFINED** indicates there are no AM utility breakpoints present. If the indicated responses are not received, there are AM breakpoints in the system.

   b. If the AM breakpoints are to be ***removed***, enter message:

      ```
      MSG     CLR:UTIL;
      ```

      Response: **CLR UTIL COMPLETED #G1**
3. Using the following steps, check for Communications Module Processor (CMP) utility breakpoints and remove them if non-essential.
   a. To list utility breakpoints for the primary CMP, enter message:

      ```
      MSG     OP:UT:CMP=0,PRIM,UTIL;
      ```

      Response: **OP UT CMP=x-0 PRIM UTIL COMPLETED - NO WHENS**

      Comment: A response of NO WHENS indicates there are no utility breakpoints present for the primary CMP. Any other response indicates that breakpoints are present. If breakpoints exist, they must be removed.

   b. If the primary CMP breakpoints are to be ***removed***, enter message:

      ```
      MSG     CLR:UT:CMP=0,PRIM,UTIL;
      ```

      Response: **CLR UT CMP=x-0 PRIM UTIL {COMPLETED|NO WHENS TO CLEAR}**

   c. To list utility breakpoints for the mate CMP, enter message:

      ```
      MSG     OP:UT:CMP=0,MATE,UTIL;
      ```

      Response: **OP UT CMP=x-0 MATE UTIL COMPLETED - NO WHENS**

      Comment: A response of NO WHENS indicates there are no utility

breakpoints present for the mate CMP. Any other response indicates that breakpoints are present. If breakpoints exist, they must be removed.

d. If the mate CMP breakpoints are to be ***removed***, enter message:

```
MSG     CLR:UT:CMP=0,MATE,UTIL;
```

Response: **CLR UT CMP=x-0 MATE UTIL {COMPLETED|NO WHENS TO CLEAR}**

4. Using the following steps, check for SM utility breakpoints and remove if non-essential.

a. To list per SM utility breakpoints, enter message for each SM:

```
MSG     OP:UT:SM=1&&X,UTIL;
```

Where: X = highest-numbered SM

Response: **OP UT SM=*A* UTIL COMPLETED - NO WHENS** *(Output for each SM)*

Where: A = SM number

Comment: A response of NO WHENS indicates there are no utility breakpoints present for the indicated SM. Any other response indicates that breakpoints are present.

If an **OP UT SM.....PAGING FAILURE** message is output, re-enter the output SM utility breakpoint message for the SM with the paging failure.

b. ***This step is only necessary if the previous step failed.*** If the previous **OP:UT:SM=1&&x,UTIL** message failed, use the following message for each SM:

```
MSG  OP:UT:SM=y,UTIL;
```

Where: y = any numbered SM (1,2,3,....n), repeat message for each SM.

Note: Repeat input message for each SM in the office.

c. If the SM breakpoints are to be ***removed***, enter message:

```
MSG     CLR:UT:SM=x[&&y],{UTIL | UTILFLAG=z};
```

Where: x = the SM number or the lower limit of a range of SM numbers on which utility breakpoints are to be removed.
y = the upper limit of a range of SM number on which utility breakpoints are to be removed.
UTIL = option to remove ***all*** utility breakpoints on indicated SM.
UTILFLAG = option to remove ***specific*** utility breakpoints
z = specific breakpoint) on indicated SM.

Comment: Either UTIL *or* UTILFLAG must be used.

Response: **CLR UT SM=*X* UTIL {COMPLETED|NO WHENS TO CLEAR}**

5.2.3 FINAL SOFTWARE UPDATE CHECK

Note: Contact your SUMS Center to determine the cutoff point for Software Updates (SUs) to the current software release. No SUs are to be applied unless specifically instructed by your SUMS Center.

In the following SU check, the term "temporary" refers to SUs that have not yet been made official. It does not refer to **TMP** SUs or Craft (CFT) overwrites.

1. On Master Control Center (MCC) page 1950, enter the following command to display all non-official SU(s):

   ```
   CMD     9103
   ```

   Response: In field adjacent to poke 9103, **IN PROGRESS** is backlit followed by either **COMPLETED** or **ABORTED**.

   Comment: **COMPLETED** followed by an output list of temporary SUs to the Read-Only Printer (ROP) indicates there may be temporary SUs active within the switch. If all SUs have been made official, then no temporary SU is active within the switch. In addition, MCC page 1990 can be accessed to ensure there are no temporary SUs.

   ABORTED most likely indicates there are either no temporary SUs in the switch (UPD USRERR 4 on ROP) or no SUs in the switch at all (UPD USRERR 1 on ROP).

2. If any SU(s) are in a temporary state, they must be made official or backed out. Refer to 235-105-210, *Routine Operations and Maintenance*.

3. Contact your Lucent Technologies SUMS Center to see if any additional SU's are required. **DO NOT APPLY any SU's unless directed to do so by Lucent Technologies Technical Support.**

4. Activate SUs sent from SCANS. Refer to 235-105-210, *Routine Operations and Maintenance*.

5.2.4 FINAL OFFICE BACKUPS

If office backups were made at the -3 day interval (Section 4.6.5), this step is ***optional***. If full office backup tapes have not been made, make them now.

1. Make full office backup tapes for Moving Head Disks (MHDs).

   Reference: Refer to 235-105-210, *Routine Operations and Maintenance*.

2. Record date and time in appropriate row of Office Backups Worksheet (Table 9-3).

5.2.5 MCTSI DIAGNOSTICS

The following steps will diagnose and restore Module Controller/Time Slot Interchange (MCTSI) sides 0 and 1 and the Bootstrapper (BTSR) for each SM. If equipped, the BTSR diagnostics must be run twice - once with each controller active (and the MCTSIs duplex). Use the SM Diagnostics Worksheet (Table 9-7) to keep track of SMs as diagnostics return All Tests Passed (ATP).

The diagnostics may be run in parallel on a per-side basis to save time. No more than 10 diagnostics should be run at any one time.

A Conditional All Tests Passed (CATP) is not acceptable for any MCTSI or BTSR phase; the only exception being a Remote SM (RSM) which may return CATP on phase 9. For any MCTSI or BTSR ***not*** returning ATP for all diagnostic phases (except as noted above), do the following:

a. Rerun the appropriate diagnostic, or
b. Repair and retest unit until ATP.

Note: If the SMs have been tested on a regularly scheduled basis by Routine Exercises (REX), the following restores may be bypassed.

1. **Access MCC Page 120**.

2. **Determine the status of the MCTSIs in all SMs:**

   Enter MCC MSG: **OP:SYSSTAT,UCL;**

   Sample ROP Response:

```
OP SYSSTAT    SUMMARY    {FIRST|NEXT|LAST} RECORD
SYS:          INHIBITS-MSG MISC
AM:           NORMAL
CM:           NO_REQ_PENDING
CMP x-0 P:    [...]
CMP y-0 M:    [...]
S LSM a,x:    [...]
B LSM b,x:    [...]
L HSM c,x:    [...]
L ORM d,x:    [...]
L TRM e,x:    [...]
K LSM f,x:    [...]
...
G RSM z,x:    [...]
```

   Comment: An example of the output is shown. Refer to 235-600-750, *Output Message Manual* for more details.

3. **Restore SMs that do not indicate** `NORMAL` **to obtain** `NORMAL` **status for each SM.**

4. **Diagnose and restore MCTSIs to standby**:

   Note: It is recommended that only 10 SMs be diagnosed at the same time.

   a. **Conditionally restore a range of MCTSIs:**

      Enter MCC MSG: **RST:MCTSI=***a***&&***b***-***y***,STBY;**

      Where: **a** = first SM in a range of SMs.
      b = last SM in a range of SMs.
      y = MCTSI side (0 or 1).

Response: **RST MCTSI=*X*-*Y* COMPLETED**

Where: **x** = SM number.
y = MCTSI side (0 or 1).

Comment: Some diagnostic phases may output a No Tests Run (NTR) response. This response is acceptable; it indicates that the particular phase was not necessary for that MCTSI.

b. **Clear any diagnostic failures and retest until ATP or CATP**.

5. **Repeat Step (4) for the other MCTSI side**.

6. **Repeat Step (2) to ensure MCTSIs are ACT/STBY before starting the BTSR diagnostic and restoral.**

A NORMAL status from the OP:SYSSTAT,UCL message implies the MCTSIs are ACT/STBY.

Warning: If you need to clear a BTSR diagnostic failure by replacing a BTSR board, remove one of the MCTSI controllers from service before removing or inserting the TN1418 to prevent possible internal bus errors. Restore the MCTSI to duplex before attempting diagnostics again.

7. **Diagnose and restore BTSRs** (if equipped):

Enter MCC MSG: **RST:BTSR=*x*;**

Where: **x** = SM number.

Response: **RST BTSR=*Y* COMPLETED** (for non-MCTU2 SMs)

Where: **Y** = SM number.

Comment: No response will be received for SMs equipped with MCTU2s. The previous command will run diagnostics on the BTSR before restoring the unit selected.

8. **Verify that all MCTSIs are ACT/STBY for all SMs, and all BTSRs are active, at the end of testing:**

MCC Page: **1190,x**

Where: **x** = each SM diagnosed

Note: For some SMs, a block for the BTSR will not be shown. The bootstrapper function for some SMs in the MCTU2 has been integrated into the MCTSI, and these SMs do not have a separate BTSR board.

9. **Verify that all SMs are NORMAL:**

Enter MCC MSG: **OP:SYSSTAT,UCL;**

To verify that all SMs are NORMAL, enter message:

Sample ROP Response:

```
OP SYSSTAT    SUMMARY    {FIRST|NEXT|LAST} RECORD
SYS:          INHIBITS-MSG MISC
AM:           NORMAL
CM:           NO_REQ_PENDING
CMP x-O P:    NORMAL
```

```
CMP y-0 M:    NORMAL
S LSM a,x:    NORMAL
B LSM b,x:    NORMAL
L HSM c,x:    NORMAL
L ORM d,x:    NORMAL
L TRM e,x:    NORMAL
L RSM f,x:    NORMAL
K LSM g,x:    NORMAL
...
G RSM z,x:    NORMAL
```

10. **Verify all CLNKS, MCTSIs, and DLIs are duplex, for any SM which is not normal.**

    For any SM which is not normal, verify all CLNKS, MCTSIs, and DLIs are duplex. Although the BTSR (if equipped) is a simplex unit, it must be tested as if it were duplex .

5.2.6 COMMUNICATION MODULE PROCESSOR DIAGNOSTICS

Note: If the Communications Module Processor (CMP) has been tested on a regularly scheduled basis by REX, the following diagnostics may be bypassed.

1. **Verify the following:**

   MCC Page: **1850**

   CMP 0-0 **ACT** [under the **CMP 0 PRIM STAT** box]

   CMP 1-0 **STBY** [under the **CMP 0 MATE STAT** box]

   Note: ***If*** CMP 0-0 is ***not*** the ACTIVE (primary) CMP:

   Enter MCC MSG: **SW:CMP=0-0;**

   Sample ROP Response:

```
SW:CMP=0-0; PF
EXC ODDRCVY=ALL CMP=0-0  STOPPED
REPT MSKP_ENVIRONMENT:
  CMP=1-0 PHASE 1&2 INIT COMPLETION TIME: H
SW  CMP=0-0 COMPLETED EXC ODDRCVY=ALL
    CMP=1-0  STARTED
REPT MSKP_ENVIRONMENT:
  CMP=1-0 PHASE 3   INIT COMPLETION TIME: H
REPT COMMUNICATION RESTORED: AM TO CMP=1-0 MATE
```

   Comment: *CMP 0-0 becomes* **PRIMARY** *(active), CMP 1-0 becomes* **MATE** *(standby).*

2. **Diagnose CMP 1-0 (for CM2 only):**

   MCC Page: **1251**

   Enter Poke CMD: **500,ph=1&&15**

   Sample ROP Response:

```
DGN:CMP=1-0,RAW,TLP,ph = 1&&15; PF
EXC ODDRCVY=ALL CMP=1-0  STOPPED
DGN CMP=1-0 COMPLETED ATP PH 1
DGN CMP=1-0 COMPLETED ATP PH 2
DGN CMP=1-0 COMPLETED ATP PH 3
DGN CMP=1-0 COMPLETED ATP PH 4
DGN CMP=1-0 COMPLETED ATP PH 5
DGN CMP=1-0 COMPLETED ATP PH 11
DGN CMP=1-0 COMPLETED ATP PH 12
DGN CMP=1-0 COMPLETED ATP PH 13
DGN CMP=1-0 COMPLETED ATP PH 14
DGN CMP=1-0 COMPLETED ATP PH 15
DGN CMP=1-0 COMPLETED ATP
DGN CMP=1-0 COMPLETED
```

3. **Restore CMP 1-0 (for CM2 only):**

   MCC Page: **1251**

   Enter Poke CMD: **300,ucl**

   Note: Some of the following ROP response may not appear depending on the configuration of your switch.

   Sample ROP Response:

```
RST:CMP=1-0,ucl; PF
REPT CMP=1-0 MATE  INITIALIZATION
   TRIGGER=MANUAL-REQUEST
REPT MSKP_ENVIRONMENT:
  CMP=1-0 PHASE 1&2 INIT COMPLETION TIME: H'
  CMP=1-0 PHASE 3   INIT COMPLETION TIME: H'
INIT CMP=1-0 MATE LVL=FI,PUMP EVENT
REPT CMP=1-0 MATE DATA=ESCAL-CNTS,
REPT COMMUNICATION RESTORED: AM TO CMP=1-0 MATE
EXC ODDRCVY=ALL CMP=1-0  STOPPED
REPT MSKP_ENVIRONMENT:
  CMP=0-0 PHASE 1&2 INIT COMPLETION TIME: H'dd
     TYPE: H'
RST  CMP=1-0 COMPLETED
EXC ODDRCVY=ALL CMP=0-0  STARTED
REPT MSKP_ENVIRONMENT:
  CMP=0-0 PHASE 3   INIT COMPLETION TIME: H
REPT COMMUNICATION RESTORED: AM TO CMP=0-0 MATE
```

   Comment: When this message is entered, a 5-minute post-init delay is encountered before CMP 1-0 becomes ACTIVE. ***Also, several other types of output messages may be received indicating the CMP has been initialized.***

   Do not continue until CMP 1-0 has successfully restored.

4. **Diagnose CMP 0-0 (for CM2 only):**

   MCC Page: **1241**

   Enter Poke CMD: **500,ph=1&&15**

   Sample ROP Response:

```
DGN:CMP=0-0,RAW,TLP,ph = 1&&15; PF
EXC ODDRCVY=ALL CMP=0-0  STOPPED
DGN CMP=0-0 COMPLETED ATP PH 1
DGN CMP=0-0 COMPLETED ATP PH 2
DGN CMP=0-0 COMPLETED ATP PH 3
DGN CMP=0-0 COMPLETED ATP PH 4
DGN CMP=0-0 COMPLETED ATP PH 5
DGN CMP=0-0 COMPLETED ATP PH 11
DGN CMP=0-0 COMPLETED ATP PH 12
DGN CMP=0-0 COMPLETED ATP PH 13
DGN CMP=0-0 COMPLETED ATP PH 14
DGN CMP=0-0 COMPLETED ATP PH 15
DGN CMP=0-0 COMPLETED ATP
DGN CMP=0-0 COMPLETED
```

5. **Restore CMP 0-0 (for CM2 only):**

   MCC Page: **1241**

   Enter Poke CMD: **300,ucl**

   Note: Some of the following ROP response may not appear depending on the configuration of your switch.

   Sample ROP Response:

```
RST:CMP=0-0,ucl; PF
REPT CMP=0-0 MATE  INITIALIZATION
```

```
   TRIGGER=MANUAL-REQUEST
REPT COMMUNICATION RESTORED: AM TO CMP=0-0 MATE
EXC ODDRCVY=ALL CMP=0-0  STOPPED
CMP=0-0 PHASE 1&2 INIT COMPLETION TIME: H'
CMP=0-0 PHASE 3   INIT COMPLETION TIME: H'
INIT CMP=0-0 MATE LVL=FI,PUMP EVENT
REPT CMP=0-0 MATE DATA=ESCAL-CNTS,
REPT COMMUNICATION RESTORED: AM TO CMP=0-0 MATE
EXC ODDRCVY=ALL CMP=0-0  STOPPED
REPT MSKP_ENVIRONMENT:
  CMP=1-0 PHASE 1&2 INIT COMPLETION TIME: H
RST  CMP=0-0 COMPLETED EXC ODDRCVY=ALL
   CMP=1-0  STARTED
REPT MSKP_ENVIRONMENT:
  CMP=1-0 PHASE 3   INIT COMPLETION TIME: H
REPT COMMUNICATION RESTORED: AM TO CMP=1-0 MATE
```

Comment: When this message is entered, a 5-minute post-init delay is encountered before CMP 0-0 becomes ACTIVE. ***Also, several other types of output messages may be received indicating the CMP has been initialized.***

Do not continue until CMP 0-0 has successfully restored.

6. **Verify that both CMPs are NORMAL:**

   Enter MCC MSG: **OP:SYSSTAT,UCL;**

   Sample ROP Response:

```
OP SYSSTAT    SUMMARY   {FIRST|NEXT|LAST} RECORD
SYS:          INHIBITS-MSG MISC
AM:           NORMAL
CM:           NO_REQ_PENDING
CMP x-0 P:    NORMAL
CMP y-0 M:    NORMAL
S LSM a,x:    NORMAL
B LSM b,x:    NORMAL
L HSM c,x:    NORMAL
L ORM d,x:    NORMAL
L TRM e,x:    NORMAL
L RSM f,x:    NORMAL
K LSM g,x:    NORMAL
...
G RSM z,x:    NORMAL
```

5.2.7 TAPE DRIVE CLEANING, TESTING, AND VERIFICATION

To perform this function see Section 3.10.7.

5.2.8 SMART CONVERSION FINAL DATABASE DUMP

5.2.8.1 Is the type of LTG being performed a SMART Conversion LTG?

- If **NO**, skip the following steps and go to Step 5.3. The Final Database Dump was previously completed.
- If **YES**, continue with the next step.

5.2.8.2 Overview

The database dumps should be performed and the tape retained. Do not ship the tape. The tape will be placed in the Blade processor for SMART Conversion processing.

If there is a problem with the tape drive or MTC, go to Section 6.5.13.

5.2.8.3 Pre-Dump Setups

1. It is important that any incore ECD Recent Changes (RCs) be written to disk before performing the ECD dump. If required by your local office practice, obtain approval from the site coordinator before continuing.

To ensure any ECD Recent Changes are copied to disk, access MCC page **199**, and enter the following data:

```
1.Data base_name:        incore
2.reviewonly:            n
3.journaling:            *
Enter Form Name:         activate
1.copy_inc_to_disk:YES   <cr>
Enter Execute...         e

Enter Form Name:         <
```

2. To check current ODD backup schedule, enter message:

   MSG **OP:BKUPSTAT;**

   Response: **OP BKUPSTAT**
   AM NRODD= 1 TO 192 RODD= EVERY= x **AT=** y
   or
   NG - NO SCHEDULE REQUEST

   Comment: Verify the current backup schedule in Automatic ODD Backup Schedule Worksheet (Table 9-2), if present.

   If NG - NO SCHEDULE REQUEST is output, then automatic backups are not scheduled.

3. If an automatic ODD backup may occur during either tape dump, enter message:

   MSG **CLR:ODDBKUP;**

   Response: **CLR ODDBKUP COMPLETED**

   Comment: Ensure schedule was removed by entering the previous OP:BKUPSTAT command.

4. To ensure automatic hash reorganization will not start up during the tape dumps, enter message:

   MSG **INH:REORG;**

   Response: **OK**

5. In the following steps, AM REX is inhibited.

   a. Enter message:

      MSG **INH:DMQ,SRC=REX;**

      Response: **OK**

   b. To verify AM REX is inhibited, enter message:

      MSG **OP:DMQ;**

      Response:

```
OP DMQ
     REQUEST ACTIVE
          NONE
     REQUEST WAITING
          NONE
     INHIBIT SOURCES
          REX
```

OP DMQ COMPLETED

5.2.8.4 RC/CORC Evolution and Double-Logging of RCs and CORCs

1. Have you been instructed by the Lucent SMART coordinator to keep Recent Change inhibited during the conversion?

   - If **YES**, inhibit Recent Change at this time, go to Step 2.
   - If **NO**, go to Step 4.

   Note: If you do not know who the Lucent SMART coordinator is, contact the Lucent SUMS Center.

2. To inhibit new RC sessions, enter message:

   MSG **INH:RC;**

   Response: **INH RC COMPLETED**

   SYS INH system status indicator is backlit.

3. Go to Step 5.2.8.5.

   Warning: You have reached this step because Recent Change will be inhibited during this conversion. Make sure to go to Step 5.2.8.5.

4. Recent change batch clerk entry is inhibited during the double-logging period due to file space limitations. (Double-logging will be turned on in Step 8 of this procedure.) To list the active recent change clerk files, enter message:

   MSG **REPT:RCHIST,ACTIVITY;**

   Response: **REPT RCHIST CLERK = HISTACT STARTED**

   Comment: Delayed Release Summary Report is printed at ROP within 15 minutes. Clerk name "full.RCOLD" (recent changes) may be empty or non-existent at this time.

   A "HISTACT ABORTED" response and the associated error message indicate that no clerk files exist in the system. This is not an error. Clerk files will be created during the next backup ODD.

   A "HISTACT CLERK FILE DOES NOT EXIST OR CANNOT BE OPENED" response indicates that a clerk file should exist but does not. This will occur if a BKUP ODD was performed after RC double-logging was started, but no recent changes were made.

5. The batch release of any existing clerk files should be performed now. Once the clerk files are released, they should be removed. Obtain approval from the Site Coordinator before removing any of the clerk files.

Remove RC clerk files

6. For each clerk file being removed, enter message:

   MSG **EXC:RCRMV,CLERK=a,ALL,COMPLETE,DEMAND;**

Where: a = clerk file name from RCHIST dump

7. To inhibit batch RC cleanup, access MCC page 196 and enter the following data:

```
Print Option          n
Detail Option         n
Summary Option        y
Input Class...        B.2
Enter Update...       U
*1.OFFICEID           enter office ID
Enter Update...       c
Change Field:         8
Should Cleanup Process
  Be Inhibited?       y
Change Field:         <cr>
Enter Update          u
*1.OFFICEID           <
INPUT CLASS...        Q
```

8. To dump a list of all terminals currently using RC, enter message:

   MSG **OP:RCUSER;**

   Response: **OP RCUSERx ACTIVE RC USERS**
   RC PROCESS TTY/LOGICAL/CLERK-ID PART 1 OF 1
   RCV:MENU, APPRC TERM-ID= xxxx
   or
   OP RCUSER 0 ACTIVE RC USERS

   Comment: Notify all users that RC will be inhibited.

9. To inhibit new RC sessions, enter message:

   MSG **INH:RC;**

   Response: **INH RC COMPLETED**

   SYS INH system status indicator is backlit.

10. In the next step, double-logging of RCs is started.

    Caution: Do not print office records while double-logging is active. The office records process uses the same disk space as the double-logging process. If this disk space is full, recent changes will be lost.

11. The CORCs will be evolved automatically at the end of each ODD backup run after double-logging starts. An output similar to the following should be expected from each manual or automatic BKUP:ODD from now until the LTG interval ends.

    If your office contains the OSPS feature, the following ODD backup should be performed at approximately the same time of day that the System Switch Forward will occur (during execution of Section 5). For example, if the switch forward will occur at 2 a.m., the final ODD backup should be performed at 2 a.m. While this is not mandatory, it will help insure that the same operator configuration exists when the system initializes on the new data.

Caution: The following message removes recent change evolution files if they exist. Therefore, this message should be entered one time, and one time ONLY during the entire LTG process. If for some reason there is a need to back out and the transition is postponed for a short interval, do not re-enter this message.

To back up ODD and start double-logging of RCs and CORCs, enter message:

MSG **BKUP:ODD,ODDEVOL,TOGENERIC=162;**

Response: *(A copy of the memory forecasting tool output is printed on the ROP. See Section 2.3.2.2.3.)*

```
[BKUP ODD FULL AM IN PROGRESS]
[OSPS EVOLUTION AM COMPLETED]
[BKUP ODD  FULL AM IN PROGRESS]
[OSPS EVOLUTION AM COMPLETED]
BKUP ODD  FULL AM COMPLETED
[OSPS EVOLUTION SM=xxx COMPLETED]
[BKUP ODD  NRODD = xxx IN PROGRESS]
BKUP ODD  NRODD = xxx COMPLETED (once for each SM)
[OSPS EVOLUTION CMP COMPLETED]
BKUP ODD   CMP = 0 COMPLETED
[OSPS EVOLUTION RODD COMPLETED]
BKUP ODD   RODD = x COMPLETED
[ASOSPSON: OSPS LTG BIT HAS BEEN SET]
BKUP ODD   COMPLETED

(The next two messages may appear at any time

 during the BKUP:ODD.)

[AUTOEVOL INVOKES MOVELOG TO RECLAIM SPACE IN /rclog]
     [THE /rclog DOES NOT HAVE ENOUGH SPACE]
     [TOTAL NUMBER OF FREE SPACE ON /rclog is xxxx]
[DB LTG PROCESS MOVELOG COMPLETED]
     [DETAIL INFO IN /rclog/mvlog.README]

AUTOMATIC CORC AND RECENT CHANGE LTG PROCESS STARTED
AUTOMATIC CORC AND RECENT CHANGE LTG PROCESS
EVOLUTION PROCESS TARGET SOFTWARE RELEASE IS 5E162
DB LTG PROCESS KEEPLOG COMPLETED
     DETAILED INFO IN /rclog/kplog.err
AUTOMATIC CORC AND RECENT CHANGE LTG PROCESS
     RECENT CHANGE EVOLUTION STARTED
[CNVT RCLOG EVOLUTION INITIALIZATION STARTED]
[CNVT RCLOG DATA TABLES INITIALIZED]
[CNVT RCLOG EVOLUTION INITIALIZATION IN PROGRESS]
[INITIALIZING NEW VIEW TABLE: RCnewvwtab_tab[ ]]
[INITIALIZING OLD VIEW TABLE: RColdvwtab_tab[ ]]
[CNVT RCLOG EVOLUTION INITIALIZATION COMPLETE]
[CNVT RCLOG EVOL: RC EVOLUTION RC STEP STARTED]
     [CURRENT ERROR FILE IS /rclog/RCERRx]
[CNVT RCLOG EVOL: RC EVOLUTION RC STEP IN PROGRESS]
     [VIEW NUMBER xxxx HAS BEEN READ]

     (Output approximately every two hundred views)

CNVT RCLOG EVOL: RC EVOLUTION RC STEP COMPLETION SUMMARY
     xxx VIEWS READ
     xxx VIEWS CREATED
     xxx VIEWS IN ERROR
```

```
     FIRST ERROR FILE IS /rclog/RCERRxx
     LAST ERROR FILE IS /rclog/RCERRxx
[RC EVOLUTION LOGFILE ANALYSIS PROCESS STARTED]
[RC EVOLUTION LOGFILE ANALYSIS PROCESS COMPLETED]
     [xxxx VIEWS LOGGED]
     [DETAIL ANALYSIS REPORT FILE IS /rclog/RCtype.rpt]
```

Note: The next four messages are only output by OSPS offices that have used recent changes that are supported by OSPS evolution.

```
[CNVT RCLOG EVOLUTION: OSPS STEP STARTED]
     [CURRENT ERROR FILE IS /rclog/RCOSPSERRx]
[CNVT RCLOG EVOLUTION: OSPS STEP COMPLETION SUMMARY]
     [xxx VIEWS READ]
     [xxx VIEWS CREATED]
     [xxx VIEWS IN ERROR]
     [FIRST ERROR FILE IS /rclog/RCOSPSERRx]
     [LAST ERROR FILE IS /rclog/RCOSPSERRx]
[RC EVOLUTION: OSPS LOGFILE ANALYSIS PROCESS STARTED]
[RC EVOLUTION: OSPS LOGFILE ANALYSIS PROCESS COMPLETED]
     [xxxx VIEWS LOGGED]
     [DETAIL ANALYSIS REPORT FILE IS /rclog/RCosps.rpt]
CNVT RCLOG EVOL COMPLETE
AUTOMATIC CORC AND RECENT CHANGE LTG PROCESS
     CORC EVOLUTION STARTED
[CNVT CORCLOG EVOL AM COMPLETE]
     [xxxx CORCS EVOLVED]
     [xxxx CORCS IN ERROR]
     [xxxx RDNT CORCS RMVD]
[CNVT CORCLOG EVOL CMP COMPLETE]
     [xxxx CORCS EVOLVED]
     [xxxx CORCS IN ERROR]
     [xxxx RDNT CORCS RMVD]
[CNVT CORCLOG EVOL IN PROGRESS]
     [CORC NUMBER xxx HAS BEEN READ]
[CNVT CORCLOG EVOL SM = a COMPLETE]
     [xxxx CORCS EVOLVED]
     [xxxx TRNCORCS EVOLVED]
     [xxxx CORCS IN ERROR]
     [xxxx TRNCORCS IN ERROR]
     [xxxx RDNT CORCS RMVD]
     [xxxx RDNT TRNCORCS RMVD]
[CNVT CORCLOG EVOL IN PROGRESS]
   [CORC NUMBER xxx HAS BEEN READ]
[xxxx CORCS xxxx TRNCORCS HAVE BEEN LOGGED IN THE CORC]
   [EVOLVED LOGFILES]
CNVT CORCLOG EVOL COMPLETE
AUTOMATIC CORC AND RECENT CHANGE LTG PROCESS COMPLETED
```

The ODD backup process invokes the memory forecasting tool automatically when it turns on double-logging. If problems associated with the memory forecasting tool are encountered, refer to Section 6.5.12.3.

If OSPS evolution errors are output, proceed to Section 6.5.10.3.

If RC or CORC evolution errors are output, proceed to Section 6.5.10.

Note: This causes subsequent recent changes and CORCs to be logged in special evolution log files.

Due to the double-logging that takes place, batch recent change clerk entry cannot be performed and will not be accepted by the recent change subsystem until the LTG interval is completed.

The MISC system status indicator will remain backlit until the transition interval is completed (about 2 weeks). A SYS NORM indication will not be possible during the remainder of the LTG interval.

Warning: The next Step will Allow Recent Change. Do not perform this step unless instructed by the Lucent SMART coordinator.

12. To allow RC, enter message:

    MSG **ALW:RC;**

    Response: **ALW RC COMPLETED**

=> ***Read:*** During the remainder of the LTG interval, it is important to check the output from each ODD backup due to the additional RC/CORC evolution-related messages that are generated. This is especially important if the backups take place while the office is unattended. ***Escalate to your next level of support immediately if the evolution-related outputs are not received.***

Warning: Double-logging only occurs when the ODD EVOL box on MCC page 116 is backlit. The OSPS recent change evolution only occurs when the OSPS EVOL box on MCC page 116 is also backlit. The database LTG process has been enhanced to reset double-logging if a manual 54 initialization is performed any time between now and the actual LTG. If at any time you find the ODD EVOL or the OSPS EVOL (for OSPS offices) boxes are not backlit, contact your Lucent Technologies Software Update Management System (SUMS) Center and proceed immediately to Section 6.5.11.

5.2.8.5 Tape Dump Checklist

Ensure the following items are accounted for prior to making the tape dump (Table 5-1):

Table 5-1 — Tape Dump Checklist

ITEM	SIGN OFF
All ECD errors resolved and corrected	
ODD Retrochk started	
Disk Configurations Adequate for New Software Release	
AM/SM Memory Growth Complete	
SM Configuration Parameter Verified/ Set (all SMs)	
Test Lines Defined in ODD	
Growth Items Complete	
Recent Office Backups Available	
Breakpoint Checked/Removed	
Tape Drive Cleaned, Tested and Verified	
ODD Evolution Started if Required/Needed	
AM off-line boot was run successfully at least once between the -9 week interval and now	

5.2.8.6 Write Database Tapes

In the following steps, the ODD and ECD will be written to magnetic tape.

Note: The time it takes to perform the tape dumps will be based on the call load of the switch. If the tape dump is performed during peak load hours, the tape dump may be exceedingly longer than if performed during non-peak load time.

The copy tape process does not impact interaction with the switch while writing tapes. The tape writing process determines the highest tape speed and greatest tape density that the tape drive is capable of and then writes tapes out at these specifications.

The copy tape process has been enhanced to check the memory forecasting report file for the database dump. If a memory shortage is detected during the database dump, the copy tape process will fail. See Section 2.3.2.2.3 for additional information on the memory forecasting tool.

If problems associated with the tape dump or the memory forecasting tool are encountered, refer to Section 6.5.12.

Note: Two sets of database dump tapes are required for the database dump. After the first set of tapes has been written, ROP messages will direct the technician to make a second set of tapes.

A tape label will be printed on the ROP after the copy tape process is completed. This printed label should be removed from the ROP and affixed to the tape just written.

If the tape writing process needs to be ***stopped*** for any reason, refer to Section 6.5.14.

If a fault occurs on the tape drive or Magnetic Tape Controller (MTC), refer to Section 6.5.13.

1. Have you been instructed by the Lucent SMART coordinator to keep Recent Change inhibited during the conversion?

   - If **YES**, go to Step 3.
   - If **NO**, continue with the next step.

   Note: If you do not know who the Lucent SMART coordinator is, contact the Lucent SUMS Center.

2. Check to ensure that the **ODD EVOL ACT** box on MCC page 116 is backlit. If the **ODD EVOL ACT** box is not backlit, escalate to your next level of support. For OSPS offices, **OSPS EVOL ACT** box on MCC page 116 should also be backlit. If the **OSPS EVOL ACT** box is not backlit, escalate to your next level of support.

3. Obtain a RED label tape from your SMART conversion package as a final ODD copy.

4. Mount the labeled tape into the DAT Unit 0. Make sure that the DAT tape is write-enabled.

5. Write the final data base files to the tape.

   1. All data will be written on one tape.

      1. MCC Page: **1980**

         Enter Poke CMD: **80x**

      Where: x = LTG Tools

         Response: **LTG Tools page**

         Note: Wait for the 1984 page to populate the different fields.

      2. MCC Page: **1984**

         Warning: The following command must have a `space` ***between the*** **"MTx"** ***and*** **"final"** ***arguments.***

         Enter Poke CMD: **5yy,MTx final**

      Where: yy = DUMP_ODD Tool Number
      x = 0 for TU 0 or 1 for TU 1

         Response:
         MOUNT A TAPE ON MTx
         USE RESUME TO CONTINUE OR USE STOP TO ABORT PROCEDURE
         USE BACKOUT TO EXIT PROCEDURE

6. MCC Page: **1984**

   Enter Poke CMD: **5yy**

   Where: yy = DUMP_ODD Tool Number

7. After the tape rewinds, remove the tape from DAT Unit 0 and switch-off write-enable.

8. After the final database dump has completed, load the final dump tape (with the red label) into the DAT drive attached to the Sun Blade processor. Refer to Step F2 in the Detailed Method of Procedure (MOP) for the SMART Conversion Procedure.

5.2.8.7 Post-Dump Resets

1. If automatic relation reorganization had been enabled before the ODD and ECD dumps, enter message:

   MSG **ALW:REORG;**

   Response: **OK**

2. To restore backup ODD, enter message:

   MSG **BKUP:ODD:EVERY=***x*,**AT=***y*;

   Where: x and y = values recorded on ODD Backup Worksheet (Table 9-2) earlier in the procedures.

   Response: **OK**

3. In the following steps, AM REX is allowed.

   a. Enter message:

      MSG **ALW:DMQ:SRC=REX;**

      Response: **ALW DMQ ENABLED REX**

   b. Verify REX is allowed for the CM on MCC page 110.

   c. Verify REX is allowed for the SMs on MCC pages 1271, 1272, 1273, etc.

   d. To verify AM REX is allowed, enter message:

      MSG **OP:DMQ;**

      Response: **OP DMQ**

```
     REQUEST ACTIVE
          NONE
     REQUEST WAITING
          NONE
     INHIBIT SOURCES
          NONE
OP DMQ COMPLETED
```

5.2.8.8 Software Update Application

Caution: Do not apply any software updates after the database dump. Also, if your offices use the Automation BWM/software update process, you must inhibit it. This is done by entering the following message:

```
MSG     UPD:AUTO:INH;
```

If a software update is required, contact your SUMS Center for assistance. See Table 1-1.

5.2.8.9 Notes on RC/CORC Evolution and RC Reapplication

5.2.8.9.1 RC Forms

Table 9-13 lists the RC forms that are supported by OFFRCR for the 5E16.2 software release during the LTG. Table9-14 lists the RC forms that are ***not*** Supported.

Unsupported views may be manually reinserted by recent change personnel after switch forward and before recent change reapplication has been started.

5.2.8.9.2 Save Files

5.2.8.9.2.1 Copies of RCs and CORCs

The RC and CORC evolution processes will save a full copy of the original version of the RCs and CORCs. The files (**full.old**xx for CORCs, **full.RCOLD** for RCs, and **full.OSPS** for OSPS RCs) will be saved in "/rclog" and will be automatically moved to "/updtmp" when "/rclog" is 75 percent full. These files can be dumped to tape if space in "/updtmp" becomes a problem.**Seek technical assistance before moving/removing any files.**

5.2.8.9.2.2 RC Activity Report File

At the time of each ODD backup during the final 3 weeks, when RCs and CORCs are evolved automatically, an RC evolution report file is generated (RCtype.rpt). The report file provides summary and detailed reports of the RC evolution activity. Information in the file consists of the number of RC/Vs logged, supported RC/Vs, non-supported RC/Vs, and detailed evolution activity information on specific RC Views.

5.2.8.9.3 CLR:CORCLOG Message

Caution: The CLR:CORCLOG input message, in addition to clearing those CORCs from the normal log files, will also clear the log files being saved for the LTG since the last ODD backup. This message should not be used during the LTG interval unless absolutely necessary. Escalate to your next level of support first.

5.2.8.9.4 Daily RC/CORC Evolution-Related Tasks

The following list of tasks should be performed on a daily basis for the remaining 3 weeks of the LTG interval. Make a copy of this section (Section 5.2.8.9.4) and post it near the MCC.

1. Check MCC page 197. OFFICE STATE must be ***PRECUT*** and "***CUTOVER ACTIVE"*** field should be backlit. If either one of the indications is not present, escalate to your next level of support.

2. Make sure the **ODD EVOL** field on MCC page 116 is backlit. **If it is not, seek technical assistance before entering the following message:**

   MSG **EXC:ENVIR:UPROC,FN="/no5text/rcv/setoddevol";**

   Response: **SETODDEVOL:ODD EVOLUTION BIT HAS BEEN SET EXC ENVIR UPROC/no5text/rcv/setoddevol COMPLETED**

   Warning: If the ODD evolution had to be turned back on, seek technical assistance to check the integrity of the log files.

3. List active RC clerk and account files. Enter message:

   MSG **REPT:RCHIST,ACTIVITY;**

4. Check the ROP output for each and every BKUP:ODD ensuring that the RC and CORC evolution processes started and completed successfully. (See previous ODD Backup for an example of expected output.) Seek technical assistance if the processes abort or do not start.

5. Log all RC and CORC evolution activity from the BKUP:ODD output in the appropriate RC Evolution Worksheet (Worksheet 9-9) or the CORC Evolution Worksheet (Worksheet 9-10). Make additional copies of the worksheets as needed.

6. The recent change LTG error file "RCLTGERR" will contain summary messages on the number of RCs logged since the final ODD dump. To dump the RCLTGERR file, enter message:

   MSG **DUMP:FILE:ALL,FN="/rclog/RCLTGERR",OPL=999;**

   a. An output of "File does not exist" indicates that no RC activity has occurred since the last ODD backup. If no RC activity has occurred, this is not an error. If there has been RC activity and the response "File does not exist" is received, seek technical assistance.

   b. If there has been RC activity since the last ODD backup, the file will contain a message indicating how many RCs have been logged since the final ODD dump.

   c. If any type of error occurred during the running of the RC LTG report process, a message will appear indicating the error and giving recovery procedures.

7. Dump each newly created CORC error file (corcevl.errx). To list the files in **/rclog**, enter message:

   MSG **OP:STATUS:LISTDIR,FN="/rclog";**

   If any CORC error files have been created or updated (check date stamp on file) since the previous ODD backup, dump them and escalate to your next level of support:

   MSG **DUMP:FILE,ALL,FN="/rclog/corcevl.errx",OPL=999;**

8. The contents of the RC evolution log file analysis report file (**RCtype.rpt**) may be dumped after every BKUP:ODD to provide information on RC evolution. To dump the RC evolution log file, enter message:

   MSG **DUMP:FILE,ALL,FN="/rclog/RCtype.rpt",OPL=999;**

9. To dump the CORC evolution log file, enter message:

   MSG **DUMP:FILE,ALL,FN="/rclog/corcevl.sum",OPL=999;**

10. To dump the ISDN line growth log file, enter message:

    MSG **DUMP:FILE,ALL,FN="/rclog/RClcd.rpt",OPL=999;**

    Note: ODBE changes are not double-logged and evolved to the new ODD. Any changes to the database using the ODBE after the final tape dump will not be present on the new ODD.

11. For OSPS offices, perform the following steps:

    a. For OSPS offices, to ensure that the OSPS configuration ODD evolution bit is set, enter message:

       MSG **EXC:ENVIR:UPROC,FN="/no5text/prc/ASospson";**

       Response: **ASOSPSON: OSPS RETROFIT BIT WAS ALREADY SET** (on ROP)

or
[ASOSPSON: CANNOT SET OSPS RETROFIT BIT]
EXC ENV UPROC /no5text/prc/ASospson COMPLETED

Comment: If the following messages are received, continue with the procedures:

ASOSPSON: OSPS RETROFIT BIT HAS BEEN SET (on ROP
EXC ENV UPROC /no5text/prc/ASospson COMPLETED

b. To dump a list of OSPS RCs, enter message:

MSG **OP:STATUS:LISTDIR,FN="/updtmp/ospsevol";**

Response: **OP STATUS LISTDIR STARTED**
(Listing of the directory is dumped to the ROP.)

c. Check the output for any files that have the naming convention of:

x**.error.log**

Where: x = the number of the processor (193=AM, 194=CMP, 255 = redlog, all others are for SMs)

If any files are listed containing this naming convention, refer immediately to Section 6.5.10.3.

d. Recent change evolution will evolve separately the 9 recent change views supported by OSPS evolution: 21.2, 21.4, 21.7, 21.8, 21.16, 21.17, 21.18, 21.22, and 21.27. If there has been any activity on these views since the previous ODD backup, then RC evolution will evolve the views and create at least one RCOSPSERRx file (where x = 1, 2, 3, etc.). The RCOSPSERRx file(s) should be dumped to maintain a history of RC activity and RC evolution errors, if any.

If there was no activity on the 9 OSPS RC views, then no RCOSPSERRx file is created.

When there has been activity on any of the 9 OSPS RC views, the following messages will appear in the ROP response to the daily ODD backup, indicating which RCOSPSERRx files should be dumped.

Response:

```
CNVT RCLOG EVOL: OSPS STEP COMPLETION SUMMARY

     xxx VIEWS READ

     xxx VIEWS CREATED

     xxx VIEWS IN ERROR

     FIRST ERROR FILE IS /rclog/RCOSPSERRx

     LAST ERROR FILE IS /rclog/RCOSPSERRx
```

Enter the following message for each RCOSPSERRx file created:

MSG **DUMP:FILE,ALL,FN="/rclog/RCERROSPSx",OPL=999;**

Look for any sort of abort or other unexpected entry in the error file, and escalate to your next level of support if anything is encountered.

e. This step is ***optional***. If there has been any activity on the 9 OSPS supported RC views, then a summary file is created that may be dumped by entering the following message:

MSG **DUMP:FILE,ALL,FN="/rclog/RCosps.rpt",OPL=99;**

12. From the output of step 7, check if file mvlog.README exists. If the file exists, perform the following steps:

a. MSG **DUMP:FILE,ALL,FN="/rclog/mvlog.README",OPL=999;**

b. The file dumped above reports the status of each execution of the mvlog process. Looking at the output of the file, seek technical assistance if there are indications that mvlog did not complete successfully and/or aborted.

13. When the final conversion has completed, unload the final dump tape (with the red label) from the DAT drive attached to the Sun Blade processor. Refer to Step G15 in the Detailed Method of Procedure (MOP) for the SMART Conversion Procedure.

5.3 LTG SETUP

OVERVIEW

The following will be performed during the **LTG Setup** stage:

- Insert the STR tape.
- Select the LTG process.
- Start the LTG process.
- Verify LTG procedure options.
- Tape header check.
- Final Out-Of-Service (OOS) dumps.
- Check the Automatic Customer Station Rearrangement (ACSR) queue.
- Verify quiet duplex system.
- Miscellaneous
- Verify call processing.

5.3.1 INSERT THE STR TAPE INTO THE DAT DRIVE

Note:

- The LTG procedures will automatically access the DAT tape as needed throughout the procedure.
- If performing a SMART conversion, use the blue label that was removed from the SUN Blade.

Leave the STR Tape in the drive throughout the LTG Procedure as automated tools will access the STR Tape as needed without any interaction required by office personnel.

Users will be instructed to remove the STR Tape when appropriate.

5.3.2 SELECT THE LTG PROCESS

1. **Access the MCC Procedure Summary Page:**

   Enter Poke CMD: **1980**

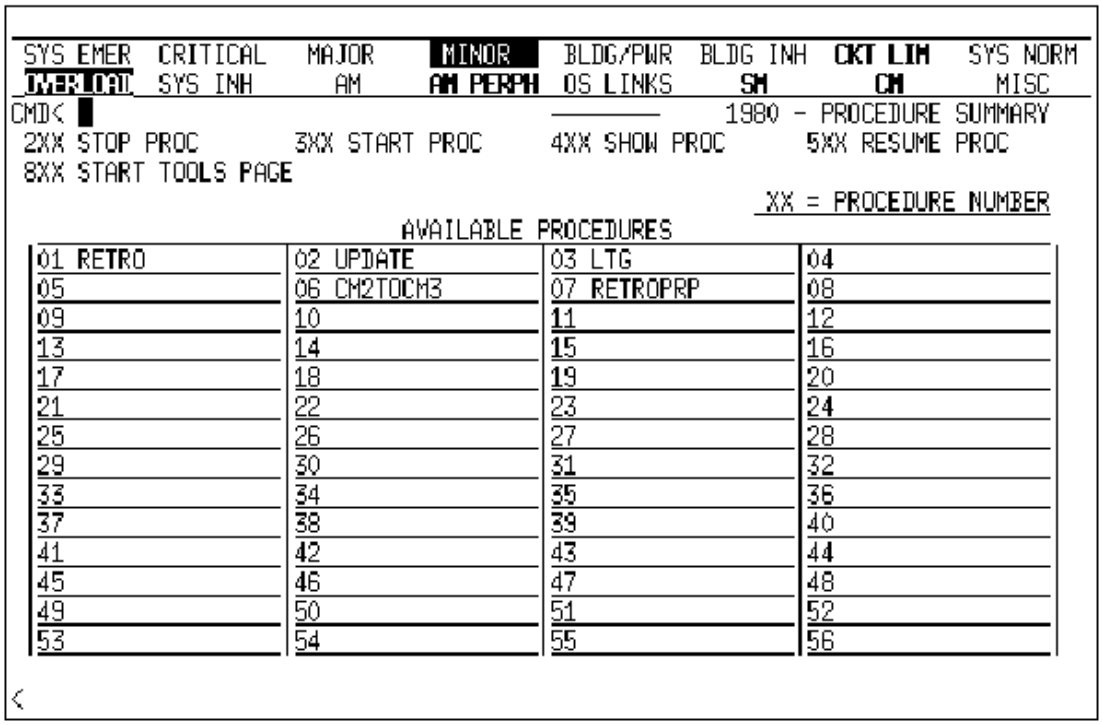


Figure 5-1 — MCC Page 1980

Figure 5-1 shows an example of MCC page 1980.

5.3.3 START THE LTG PROCESS

Start the Retrofit process:

MCC Page: **1980**

Enter Poke CMD: **3xx**

Where: **xx** = the numeric value for **LTG**

Response: **REPT PROC SCHED SETUP PAUSED AT STAGE BOUNDARY - RESUME WHEN READY**

The LTG process is selected and MCC Page **1985** (Procedure Status Page) is displayed as shown in Figure 5-2.

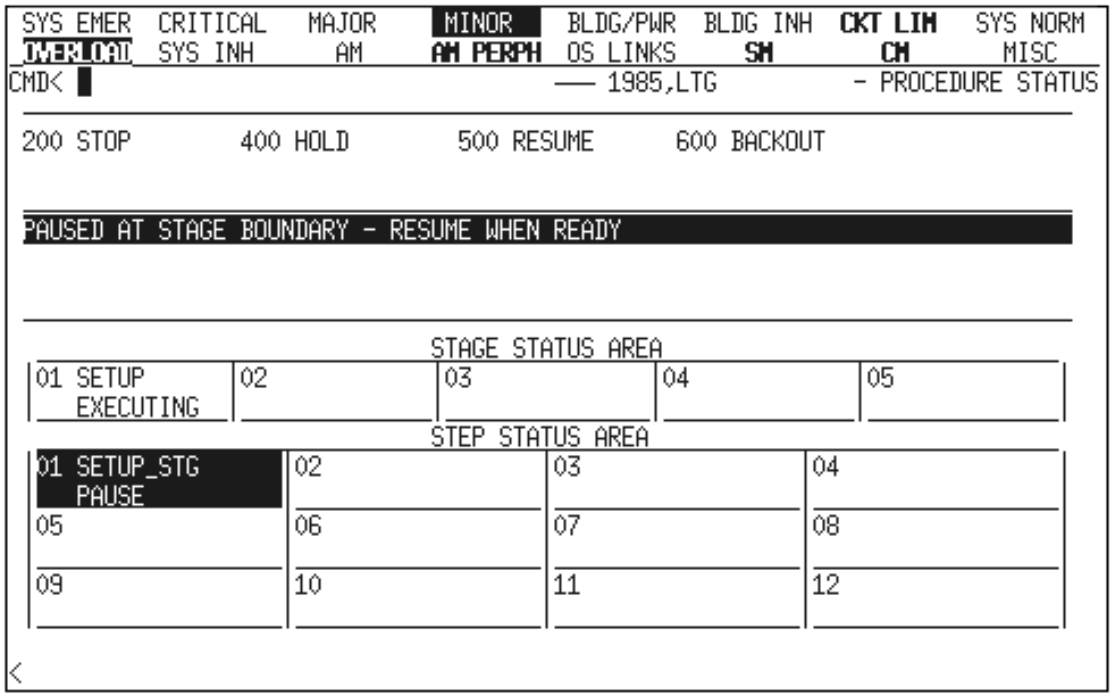


Figure 5-2 — MCC Page 1985

5.3.4 VERIFY LTG PROCEDURE OPTIONS

1. **Begin Setup**:

   MCC Page: **1985**

   Enter Poke CMD: **500**

   Response: **REPT PREP ENV SETUP CONFIGURE OPTIONS AND USE RESUME TO CONTINUE**

   This resume poke command will start the setup activity and display MCC Page 1989 (Procedure Options page), which is shown in Figure 5-3.

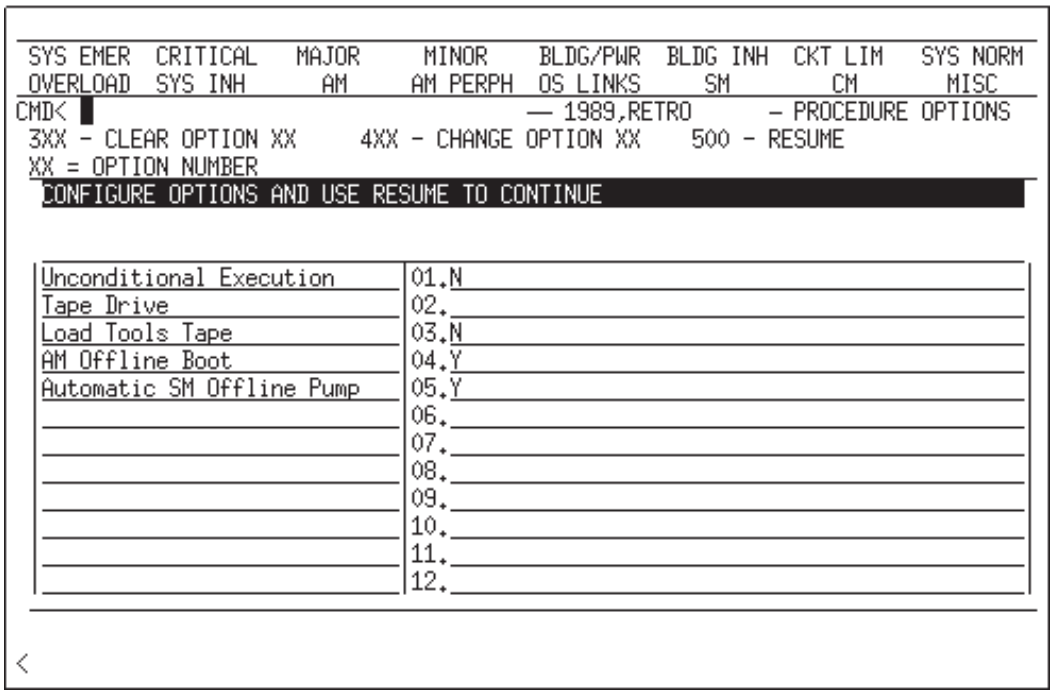


Figure 5-3 — MCC Page 1989

At this time, the following options must be set for the transition:

OPTION	VALUE
Unconditional Execution	**N** – Default
Tape Drive	**MTx** Where: **x** = 0, 1, 2, 3, or 4
Load Tools	**N** – Default
AM Offline Boot	**Y** – Default
Automatic SM Offline Pump	**Y** – Default

- The following list describes activity of the **LTG Setup** stage that will occur:
  - **PREP ENV** - This step establishes the following LTG options, via MCC page 1989:
    a. Execution mode.
    b. Tape Drive.
    c. Loading of Tools Tape (if required).
    d. AM Offline Boot.
    e. SM Offline Pump.
  - **LOAD TOOLS** - Based on the option setting on MCC page 1989, this step may or may not load tools from tape.

- **INSTL TOOLS** - This step includes:
  a. Installing private products, if necessary.
  b. Checking for enough free inodes and blocks in **/updtmp** and **/tmp**.

Note: During the **Setup** stage, you may execute a manual **BKUP ODD**. An automatic **BKUP ODD** will be executed during the **Begin** stage.

2. Verify that the options are correct for this LTG.

Warning: "Tape Drive" and "Load Tools Tape" are the only options that should be changed without direction of technical support. DO NOT CHANGE DEFAULT VALUES unless instructed to do so by next level of support.

At this point a "cleanup" should have been performed in the **/updtmp** file system (at the -3 day interval). If you are unsure that this "cleanup" has been performed, refer to Section 4.6.5, and perform these steps at this time.

The tools are included within the software release text and therefore are already present on the *5ESS* switch **However, additional Software tools may be needed for your LTG**. Consult the **LTG Notes** which should have arrived with the LTG package and perform any procedures given for loading additional tools.

If no additional tools are required, this step will automatically be skipped (based on the option set previously on the 1989 RCL options page item 3) and the transition process will also automatically execute the installtools command. The following will be displayed later on the ROP:

Response:

```
REPT LOAD TOOLS NOT LOADED DUE TO OPTIONS SETTING
UPD GEN INSTLTOOLS COMPLETED SUCCESSFULLY
```

3. **If it is necessary to change any options, enter menu command:**

MCC Page: **1989**

Enter Poke CMD: **4xx,value**

xx = option number

value = one of the following:

- **MT0, MT1, MTx** (for Tape Drive)]
- **Y** (for Load Tools Tape)

Response: The selected option is changed to the new value.

Note: **Make sure that if a tools tape is required on the 1989 page, the Load Tools Tape option is set to Y prior to executing the next step.** Installation of the software tools should be done after the tapes have been received and before reading the tape headers.

4. **Resume LTG activity:**

MCC Page: **1989**

Enter Poke CMD: **500**

MCC Page **1985** is displayed and **Setup** activity continues.

5.3.5 TAPE HEADER CHECK

OVERVIEW

The purpose of the Read Header Check Procedure is to verify that the Read Header matches the office and that the Disk Configuration for your ODDs is correct. (This information, as well as the disk options for the optional disk pairs MHDs 4 and higher, is provided in the "ECD Evolution Report" which is sent with the office records by Lucent Technologies.)

PROCEDURE

Perform the following Verification Steps when the Read Header Process has completed, and Figure 5-4 is displayed:

a. Check the ROP output and verify that the Read Header information matches the office

b. Check the ROP and verify the correct response for the MHD disk pairs equipped in your office:

Note: Each of the following /dev/vtoc destinations represents a MHD disk pair equipped in the office. (MHD 0/1 is /dev/vtoc, MHD 2/3 is /dev/vtoc1, MHD 4/5 is /dev/vtoc2, etc.)***If the ROP output is incorrect, escalate to your next level of support.***

Expected ROP Output:

```
MHD PAIR       TEXT     ODD    MERGE
DESTINATION    IMAGE    IMAGE  IMAGE
-----------    -----    ------ ------
/dev/vtoc        0        1      0
/dev/vtoc1       0        1      0
/dev/vtoc2       0        1      0
/dev/vtoc3       0        1      0
/dev/vtoc4       0        1      0
/dev/vtoc5       0        1      0
/dev/vtoc6       0        1      0
```

Caution: If any of the items listed differ, escalate to your next level of support.

Figure 5-4 shows MCC page 1985 once the tape has headers checked.

Response:

```
REPT PROC SCHED BEGIN PAUSED AT STAGE BOUNDARY -
RESUME WHEN READY
```

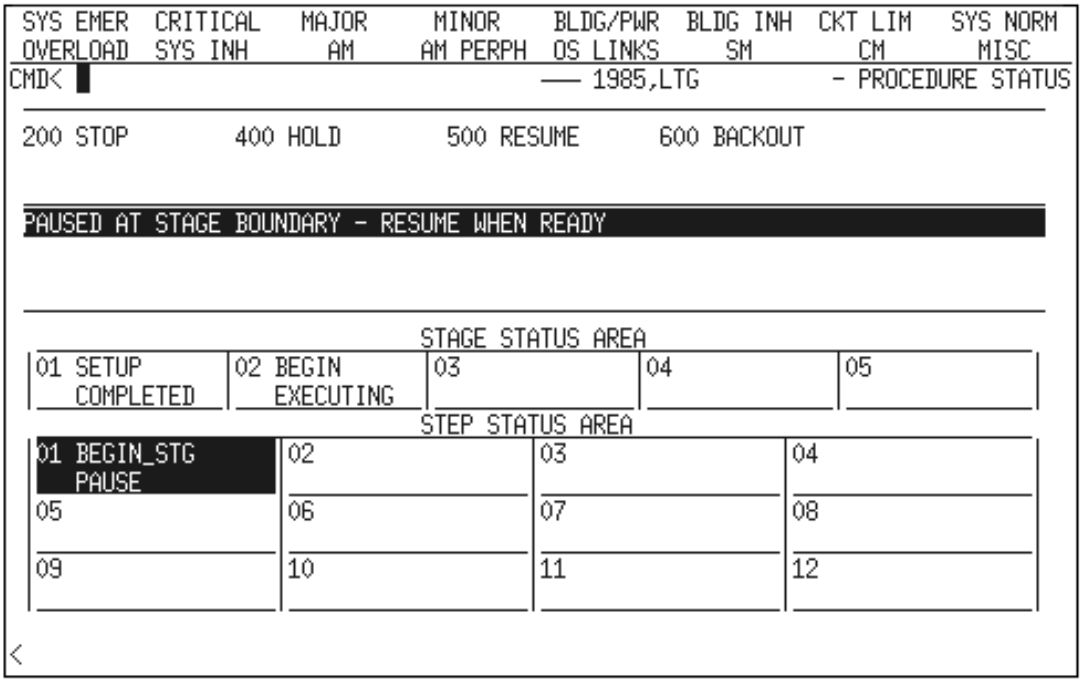


Figure 5-4 — MCC Page 1985 After Read Headers and 200 Poke Command

Note: **THE LTG SETUP STAGE HAS COMPLETED AND IS AT A PAUSE BOUNDARY.**

Figure 5-5 provides an example of the tape label for an office that has AM ODD/ECD and SM ODD tapes.

********** LTG TAPE **********	
RELEASE: 5E16(2)xx.xx[,xx]	**AM_ODD/ECD**
	SM_ODD/ECD
	[offrcr]
LTG TAPE 1 of 1	**mm/dd/yy**
office: xxxxx	**AC**
B/C: xxxxxx	**6250 BPI**
/dev/vtoc (MHD PAIR 0/1)	**(6x)**
JOB# xxxxxx RTPx	**OPR. INIT._____**
****** PROPRIETARY INFORMATION ******	

Figure 5-5 — Example of LTG Tape Label

5.3.6 FINAL OOS DUMP

1. **Save (or mark on ROP) all OOS and OFFNORMAL lists from this point on.** They can be used to remove from service any listed non-essential OOS units, trunks, and lines after initializing on the new Software Release.
2. **Enter message:**

MCC Page **120**

Enter MCC MSG: **OP:OOS;**

Sample ROP Response:

OP:OOS; PF

```
[OP OOS MESSAGE STARTED]
[UNIT   MTCE    INH     DGN]
[xxxx  x            xxx     xxx     xxx]
OP OOS COMPLETED
```

3. **Restore all units marked OOS.**

4. **Verify full system normal:**

   Enter MCC MSG: **OP:SYSSTAT,UCL;**

   Sample ROP Response:

```
OP SYSSTAT    SUMMARY   {FIRST|NEXT|LAST} RECORD
SYS:          INHIBITS-MSG MISC
AM:           NORMAL
CM:           NO_REQ_PENDING
CMP x-0 P:    NORMAL
CMP y-0 M:    NORMAL
S LSM a,x:    NORMAL
B LSM b,x:    NORMAL
L HSM c,x:    NORMAL
L ORM d,x:    NORMAL
L TRM e,x:    NORMAL
L RSM f,x:    NORMAL
K LSM g,x:    NORMAL
...
G RSM z,x:    NORMAL
```

5. **Verify that none of the SMs have MATE OOS as a status.**

6. **If a list of out-of-service trunks is required:**

   Enter MCC MSG: **OP:LIST,TRUNKS,FULL:OOS;**

   Response:

```
OP LIST TRUNKS FULL OOS SEGMENT X {STARTED | CONTINUED}
TKGMN xxx x {LTP|TEN|DEN|SLEN|ILEN|RAF} x x x x x OOS a b c
...
OP LIST TRUNKS FULL OOS NSEGS X COMPLETED
```

   Comment: Compare the ROP output list of CADN-OOS trunks with the list of CADN-OOS trunks in Table 9-6. Any trunks listed in the Table that are not on the ROP output list will go from IN-SERVICE to OOS_CADN during the SwitchForward Stage.

   Note: Table 9-6 includes a list of trunks that were OOS-CADN prior to the office database dump. The trunks listed on this worksheet will go OOS-CADN during the SwitchForward Stage during the LTG, even if they are IN-SERVICE prior to the switchforward. The automated TSM tool, TSMNEW, (run in the Postboot Stage) performs this same comparison and creates a CADN mismatch file containing trunks that go from IN-SERVICE to OOS-CADN during SwitchForward. Either the TSMNEW mismatch file or the mismatches noted here can be used to determine which trunks will be affected during the SwitchForward stage.

7. **Output a list of out-of-service lines:**

   Enter MCC MSG: **OP:LIST,LINES,FULL:OOS;**

   Response:

```
OP LIST LINES FULL OOS SEGMENT x {STARTED | CONTINUED}
```

```
DN xxxyyyy {LEN|LCEN} x x x x OOS a b c
...
OP LIST LINES FULL OOS NSEGS x COMPLETED

-------------------------------------------
    Comment:
       If no lines are in the OOS list,
       the following output will be received:

OP LIST LINES FULL OOS NO MATCH
-------------------------------------------
```

Comment: This list can be used to remove any OOS lines that go IN-SERVICE after the SwitchForward Stage. This situation occurs when lines are removed from service after the database dump was performed.

5.3.7 CHECK ACSR QUEUE

The Automatic Customer Station Rearrangement (ACSR) feature utilizes RC to activate station changes, and RC is inhibited during the Begin Stage (along with ACSR Enq/Deq). The ACSR QUEUE CHECK should be performed at this point. The ACSR queue should then be allowed to drain (or dequeue).

1. **Enter the following message:**

   Enter MCC MSG: **OP:ACSR,ALL;**

   Response:

   ```
   OP ACSR NO JOBS IN QUEUE
   ```

2. **Inhibit further enqueuing of ACSR requests prior to the Begin Stage:**

   Enter MCC MSG: **INH:ACSR,ENQ;**

   Response:

   ```
   OK
   ```

   MCC Page: **110**

   Backlit Box: **05** – (CORC)

5.3.8 VERIFY QUIET DUPLEX SYSTEM

At this point, the system should be running full duplex in the root partition with no inhibits set (except message class), no major off-normal indicators active, and no utility breakpoints set.

1. **Enter the following message:**

   Enter MCC MSG: **OP:STATUS:FILESYS;**

   To ensure that the system is running on the root partition, verify that the following output is received:

   ```
   OP STATUS FILESYS STARTED
   / on /dev/root read/write on Day Month Time Year
   ```

   If you see the following, you are running in backup root (see Caution).

   ```
   OP STATUS FILESYS STARTED
   / on /dev/broot read/write on Day Month Time Year
   ```

   Caution: The LTG procedure will fail if the system is not running in root. If you are running on broot, escalate to your next level of support before continuing.

2. **Verify that the AM is duplex:**

   MCC Page **111**

   Required:

   AM 0 ACT

   AM 1 STBY

   1. **If the AM is not duplex, restore the OOS AM.**

      MCC Page: **111**

      Enter Poke CMD: **30x**

      Where: **x** = number of the OOS AM

   2. **If AM 0 is STBY and AM 1 is ACT, enter command:**

      MCC Page: **111**

      Enter Poke CMD: **400**

      Response: **SW CU 0 COMPLETED**

      Comment: Verify **AM 0 is ACT** and **AM 1 is STBY** before proceeding.

3. **Verify that all disks are** ACTIVE, (with the exception of MHDs 14 and 15, if equipped):

   MCC Page **123**

4. **Verify the Following:**

   MCC Page **1850**

   CMP 0-0 **ACT** [under the CMP 0 PRIM STAT box]

   CMP 1-0 **STBY** [under the CMP 0 MATE STAT box]

   Note: If CMP 0-0 is ***not*** the ACTIVE (primary) CMP:

Enter MCC MSG: **SW:CMP=0-0;**

Sample ROP Response:

```
SW:CMP=0-0; PF
EXC ODDRCVY=ALL CMP=0-0  STOPPED
REPT MSKP_ENVIRONMENT:
  CMP=1-0 PHASE 1&2 INIT COMPLETION TIME: H
SW  CMP=0-0 COMPLETED EXC ODDRCVY=ALL
    CMP=1-0  STARTED
REPT MSKP_ENVIRONMENT:
  CMP=1-0 PHASE 3   INIT COMPLETION TIME: H
REPT COMMUNICATION RESTORED: AM TO CMP=1-0 MATE
```

CMP 0-0 becomes **PRIMARY** *(active), CMP 1-0 becomes* **MATE** *(standby).*

5.3.9 MISCELLANEOUS

1. If paper ROP is equipped, sufficient supply of paper and a new ribbon for the Read-Only Printer (ROP) so these items will not have to be replenished or changed during the LTG.
2. Make sure the software release database tapes are write protected. If using Digital Audio Tapes (DATs), open the write enable window for any tape where the window is closed.
3. Notify appropriate Operations Systems (OS) sites, interconnecting offices, SCC, TCC, STPs, etc., of the scheduled LTG.

5.3.10 VERIFY CALL PROCESSING

Operating company personnel should be prepared to verify call processing in all SMs when the system comes up on the new Software Release. The call processing verification worksheet (Table 9-8) is to be used for this purpose.

5.3.11 SYSTEM CONFIGURATION

Figure 5-6 shows the system configuration at the completion of the LTG Setup stage.

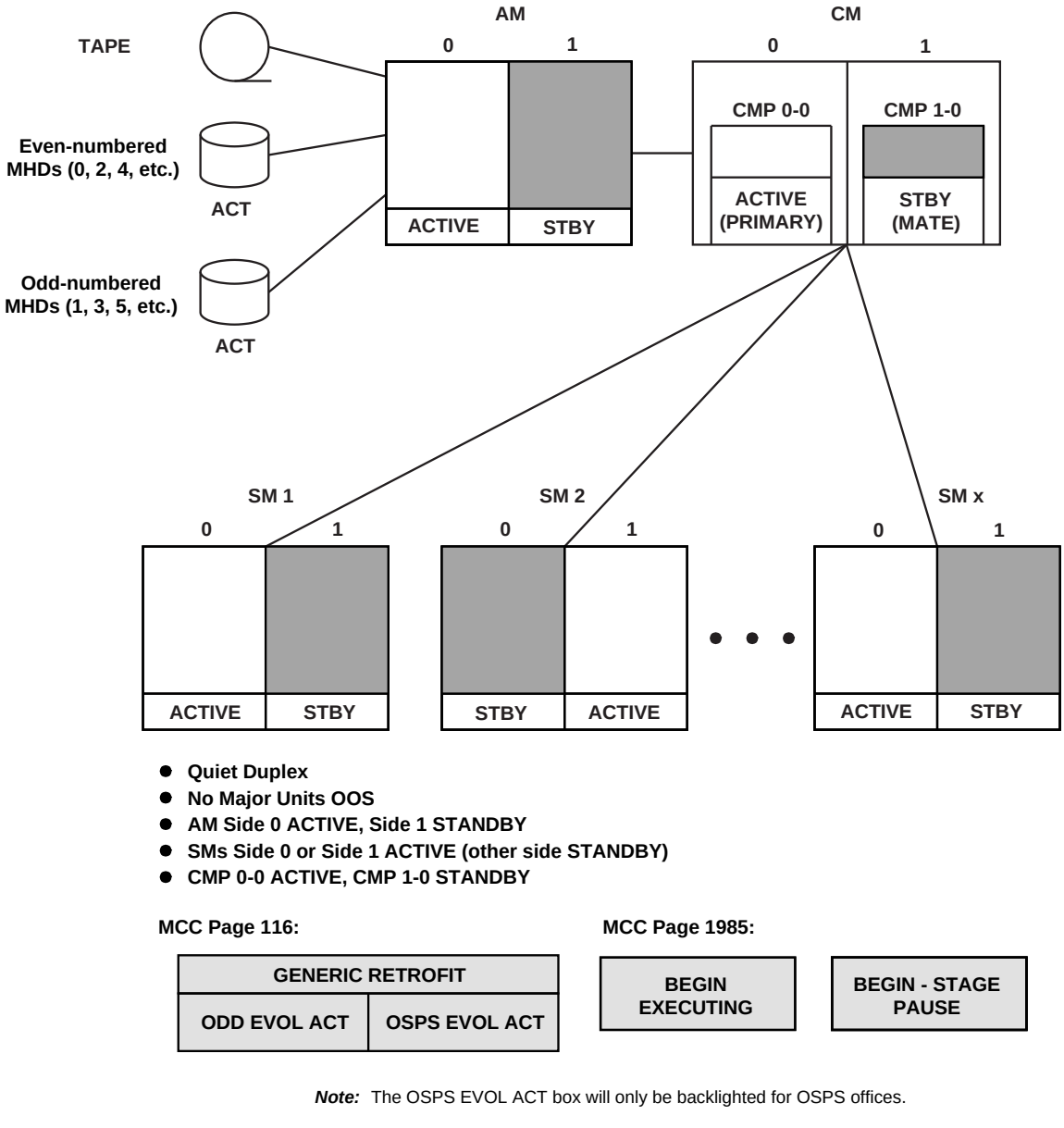


Figure 5-6 — Typical System Configuration at Completion of LTG Setup Stage

5.4 BEGIN STAGE

The **Begin** stage is the starting point for the actual LTG to the new databases and takes approximately 1 hour to complete. The following tasks will be performed during this stage:

- Run an AMA session.
- Stop any active or scheduled Routine Exerciser (REX) diagnostics.
- Inhibit RC and run ODD backup.
- Generate the appropriate SUs to be applied during the Enter Stage.
- Start the LTG process.

Warning: If the healthcheck feature is run immediately prior to beginning an LTG, the AUTO SU feature MUST be disabled. Failure to disable this feature may result in an interruption of the LTG process if the switch attempts to apply a SU while the LTG is in progress. This feature may be disabled by entering the 9926 poke command on MCC page 1941.

For offices using **cron** to automatically schedule maintenance requests, the system cron files on the old database are compared with the default cron file on the new database. Files containing the differences will be available on the old side after the completion of PROCEED. They will be available on the new side after the completion of the switch forward. The old 5E16(2) system cron files are ***NOT*** automatically installed on new 5E16(2) as part of the LTG process.

This process also saves user cron files across a LTG. User logins can be created using UNIX system administration commands. Refer to 235-700-200, **UNIX** *RTR Operating System Reference Manual* for details on the user logins and the cron commands. The user cron files are automatically installed as part of the LTG process.

The Begin stage will print out the contents of the user and system cron files for reference. Save the ROP output if needed.

Warning: The Begin Stage Pause resume command disables the system and user crons.

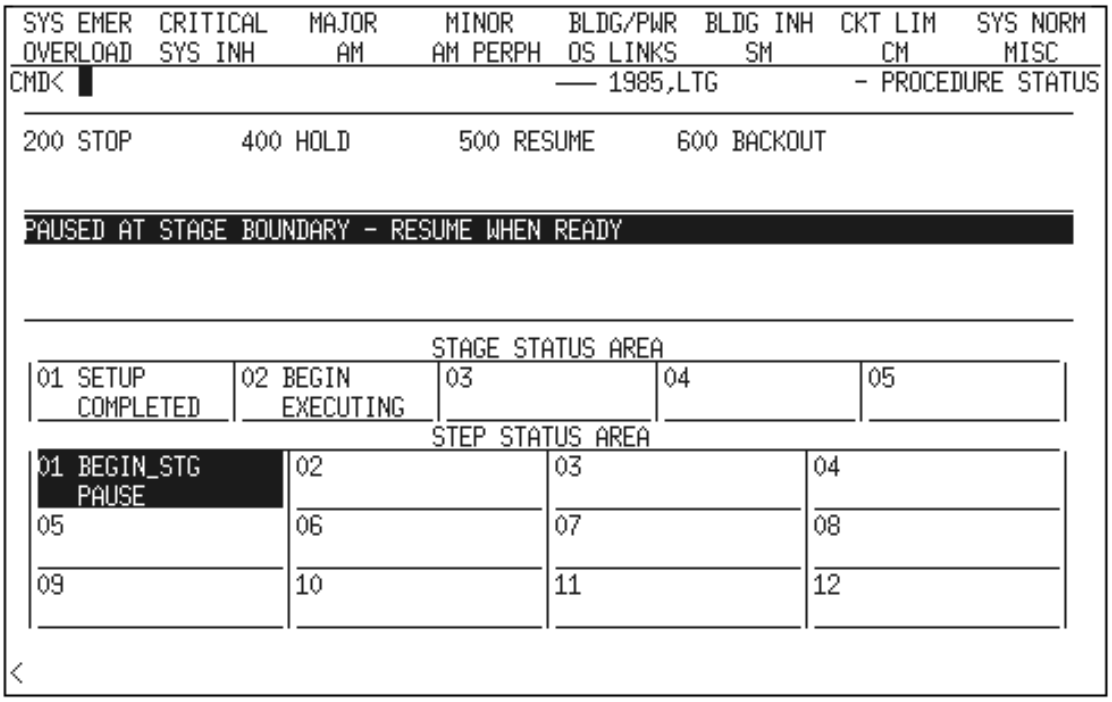


Figure 5-7 — MCC Page 1985 Paused at the Begin Stage

Figure 5-7 shows an example of MCC page 1985 paused before the start of the **Begin** stage.

The following list describes each activity that will occur during the **Begin** stage:

- **Start AMA** - Initiates a **WRT:AMA** command.
- **AMA Teleprocessing** - Prompts the technician to initiate a manual AMA Teleprocessing or tape session.
- **APPLLOG** - Preparation for the next step.
- **APPLHOOK** - Prepares the switch for LTG (i.e., inhibits REX, RC, etc.).
- **BKUP ODD** - An automatic Backup ODD is executed.
- **VFY TAPE HDR** - Verify the tape sequence. If any tape is missing, read the tape header.

5.4.1 AMA SESSION

1. To start the Begin stage, on MCC page 1985, enter command:

   ```
   CMD      500
   ```

   Caution: In the following step, AMA data that is present in the AM will be written to the MHDs. After WRTAMA completes, the data must be either written to tape or an AMA session with the Host Office Collector (HOC) must be performed (depending on your office option). Each office should estimate the amount of expected AMA data between now and the Proceed stage. If a large amount of AMA data exists during the Proceed stage, the AMA session could delay the System Switch Forward.

Therefore, it is recommended that based on expected AMA data, the following two steps be repeated throughout the LTG interval (up to the Proceed stage) to prevent the build up of AMA data.

2. This will flush (write) all AMA billing data from the AM to the active disk, which is done automatically. See ROP response for output.

   Response: *Assert 28334* ***may*** *be output which indicates that AMA records have been lost. AMA records have not been lost at this point. The assert is output because the buffer in the AM is normally written to disk only when full. If the buffer is written to disk and is not full at the time of the write, the assert may be output. The assert occurs when* **wrt:amadata** *is entered in a dual stream office, or when* **wrt:amadata** *is entered more than once in rapid succession in a single stream office, or when the* **wrt:amadata** *is entered two or more times in a dual stream office.*

```
WRT:AMADATA; PF
WRT AMA DATA HAS BEEN WRITTEN TO DISK
 READY TO TRANSFER DATA FROM DISK TO OUTPUT MEDIUM
REPT LTG BEGIN INITIATE MANUAL AMA TELEPROCESSING OR
 TAPE SESSION NOW
REPT AMA DISK WRITER FOR STREAM STx
  RECORDING TO DISK SUSPENDED
REPT AMA DISK WRITER FOR STREAM STx  TERMINATION CODE 2
REPT LTG BEGIN RESUME WHEN SESSION HAS STARTED
REPT AMA DISK WRITER FOR STREAM STx INITIALIZATION COMPLETE
REPT AMA DISK WRITER FOR STREAM STx
  RECORDING TO DISK RESUMED
```

   Comment: In the preceding response, the term **ST**x means either **ST1** or **ST2**. If your office does not use dual stream billing (ST1 ***and*** ST2), messages will only be received for ST1. If your office does use dual stream billing, a set of messages will be received for each stream (ST1 and ST2).

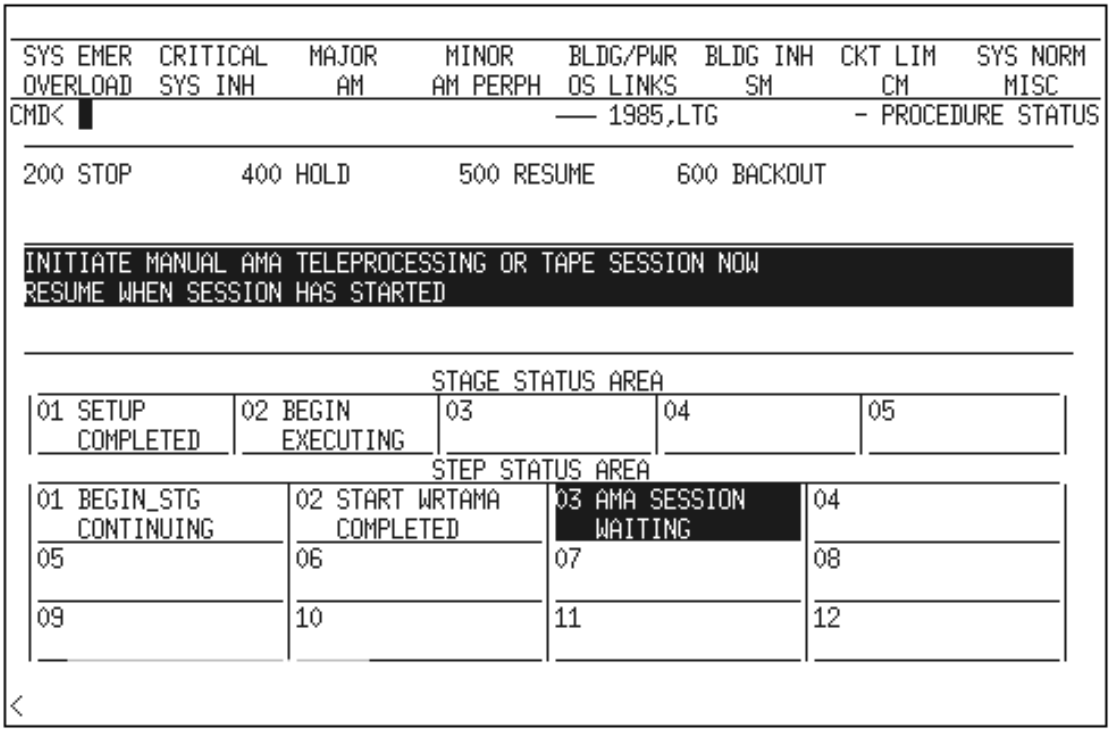


Figure 5-8 — MCC Page 1985 AMA Session Waiting

Figure 5-8 shows MCC page 1985 waiting for initiation of manual AMA teleprocessing or tape session.

3. Initiate ***manual*** AMA tape writing or teleprocessing session per local practice.

   Comment: If teleprocessing session is being run at a non-standard time, it is necessary to call personnel at the HOC to request a manual poll.

4. Once AMA tape writing or teleprocessing is started, continue with the next section.

5.4.2 STOP ANY ACTIVE/RUNNING REX DIAGNOSTICS

Note: When the Begin Stage is executed, new REX activities are inhibited. However, any REX activity already in progress must be stopped using procedures in this section.

1. **Stop AM REX diagnostics.**

   a. **List AM REX diagnostics:**

   Enter MCC MSG: **OP:DMQ;**

   Response:

```
REQUEST ACTIVE
        NONE
REQUEST WAITING
        NONE
INHIBIT SOURCES
        ADP
        REX
OP DMQ COMPLETED
```

   Comment: The output shown is for an office with no active or waiting

deferred maintenance requests in the Deferred Maintenance Queue (DMQ). If requests are waiting or active, they will be output.

b. **If REX diagnostics are running in the AM, they must be stopped.** The following message should be entered if diagnostics are running:

Enter MCC MSG: **STOP:DMQ;**

Response:

```
Report received from Maintenance Input Request Administrator (MIRA).
Major alarm received from REX.
Termination messages are received from diagnostic process.

STP DMQ COMPLETED
```

Comment: This message stops any waiting/active diagnostic request on the DMQ.

c. **If any AM units are OOS, they should be manually restored.** When REX diagnostics are stopped in the AM, some AM hardware units may be OOS.

2. **Stop CM REX diagnostics.**

a. **List possible active CM REX diagnostics:**

Enter MCC MSG: **OP:DMQ,CM;**

Response:

```
OP DMQ CM   LAST RECORD

 ACTION     UNIT    OPTION   SOURCE   STATUS
. . .
       or
OP DMQ CM HAS NO REQUESTS ON THE DMQ
```

b. **If diagnostics are running in the CM, they must be stopped.** The following messages should be entered if diagnostics are running:

Enter MCC MSG: **STP:REX,CM;**

Response: *(It may take several minutes to receive a response.)*

```
EXC REX CM DGN STOPPED
```

c. **Any units not automatically restored, when CM REX is stopped, should be restored manually.**

(The REX process typically restores any hardware which REX removes from service.)

3. **Stop SM REX diagnostics.**

1. Verify REX is inhibited in the SMs:

MCC Pages: **1271, 1272, 1273 and 1274**

2. **List possible active REX diagnostics in SMs**:

Enter MCC MSG: **OP:DMQ,SM=1&&192;**

Response: (Output for each SM; x = SM number.)

```
OP DMQ SM n LAST RECORD

ACTION UNIT SOURCE STATUS
 . . .
              or
OP DMQ SMx HAS NO REQUESTS ON THE DMQ
```

3. **If REX diagnostics are running in any SM, they must be stopped.** The following message should be entered if diagnostics are running:

   Enter MCC MSG: **STP:REX,SM=1&&192;**

   Response: *(It may take several minutes to receive a response.)*

   ```
   EXC REX SM=n DGN|ELS|FAB STOPPED
   ```

4. **Any units not automatically restored, when SM REX is stopped, should be restored manually.**

   (The REX process typically restores any hardware which REX removes from service.)

5.4.3 CHECK AND CLEAR ODD BACKUP SCHEDULE

1. **Check ODD backup schedule:**

   MCC Page **120**

   Enter MCC MSG: **OP:BKUPSTAT;**

   Response:

   ```
   OP BKUPSTAT

   AM CMP= x TO x NRODD = 1 TO 192 RODD= EVERY= x AT= x
                  or
   NG - NO SCHEDULE REQUEST
   ```

   Comment: If NG - NO SCHEDULE REQUEST is output, then automatic backups are not scheduled.

   1. **Record the Automatic ODD Backup Schedule (if present)** on Table 9-2 located in Section 9.

   2. **Clear the ODD backup schedule (if present):**

      Enter MCC MSG: **CLR:ODDBKUP;**

      Response:

      ```
      CLR ODDBKUP COMPLETED
      ```

   3. **Verify ODD backup schedule has been canceled:**

      Enter MCC MSG: **OP:BKUPSTAT;**

      Response:

      ```
      NG - NO SCHEDULE REQUEST
      ```

2. **Dump a list of all terminals currently using RC:**

   Enter MCC MSG: **OP:RCUSER;**

   Response:

   ```
   OP RCUSER x ACTIVE RC USERS
   RC PROCESS  TTY/LOGICAL/CLERK-ID PART 1 OF 1
   RCV:{MENU,APPRC | APPTEXT}    TERM-ID= xxxx
                  or
   OP RCUSER 0 ACTIVE RC USERS
   ```

   Comment: **Notify all users that RC will be inhibited.**

5.4.4 START THE LTG PROCESS

Enter the command:

MCC Page: **1985**

Enter Poke CMD: **500**

Comment: When this 500 Poke command is entered, inhibits will be set and Backup ODD will be started.

Note: The Begin Stage automatically inhibits routine exerciser (REX, AMAPS, CM), Automatic Diagnostic Process (ADP), ODD Recent Change, ACSR Enqueuing/Dequeuing, and Static ODD Audit (SODD).

A **START BKUP ODD** with status **COMPLETED** indication in the **STEP STATUS AREA** on MCC Page **1985**, will indicate the BKUP ODD has been successfully STARTED. (NOT COMPLETED, JUST STARTED). ROP reports will indicate if the BKUP ODD is still in progress. The **BKUP ODD** and its associated ROP will occur in parallel while other activities continue to execute.

Sample ROP Response:

```
REPT RETRO BEGIN CONTINUING

UPD GEN BEGIN APP EXECUTING THE FOLLOWING INPUT COMMAND
OP:VERSION
OP:VERSION; PF
OP VERSION            Day Month Time

PARTITION                VERSION               BWM

ECD                   5E16xx.xx
/                     5E16xx.xx      BWMxx-xxxx
/etc                  5E16xx.xx      BWMxx-xxxx
/unixa                5E16xx.xx      BWMxx-xxxx
/no5odd               5E16xx.xx      BWMxx-xxxx
/no5text/im           5E16xx.xx      BWMxx-xxxx
/no5text              5E16xx.xx      BWMxx-xxxx
/diag                 5E16xx.xx      BWMxx-xxxx
/no5text/rcv/SODD     5E16xx.xx      BWMxx-xxxx

DISK CONFIGURATION 2020
UPD GEN BEGIN APP EXECUTING THE FOLLOWING INPUT COMMAND
  INH:ALE,PRINT
  INH:ALE,PRINT; OK
  UPD GEN BEGIN APP EXECUTING THE FOLLOWING INPUT COMMAND
  INH:ALE,PER=GEN,SM=1&&192
  INH:ALE,PER=GEN,SM=1&&192;  PF
  INH:AUD=SODD,FULL; OK
  INH:AUD=SODD,INCR; OK
  INH:REORG; OK
  UPD GEN BEGIN INH:REORG COMMAND SENT
  INH:REX; OK
  INH:DMQ:SRC=ADP; OK
  INH:DMQ:SRC=REX; OK
  UPD GEN BEGIN REX INHIBIT SENT
  UPD GEN BEGIN RECENT CHANGE IS INHIBITED
  UPD GEN BEGIN CRAFT ACSR ENQUEUEING/DEQUEUEING INHIBIT SENT

-----------------------------------
    Comment: ASM Feature

  [ST:DBPROXY,ACTION=OFFLINE; PF]
  [ST:DBPROXY,ACTION=REMOVEALL; PF]
-----------------------------------

  UPD GEN BEGIN APP EXECUTING THE FOLLOWING INPUT COMMAND
```

```
  CHG:LPS:MSGCLS=ALL,TOBKUP
  CHG:LPS:MSGCLS=ALL,TOBKUP; OK - EXCEPT CNI MSGCLS'S NOT CHANGED
  UPD GEN BEGIN APP EXECUTING THE FOLLOWING UNIX COMMAND
   /prc/supr/opinfo 2>/dev/null &
  UPD GEN BEGIN COMPLETED SUCCESSFULLY

  CHG:LPS:MSGCLS=ALL,TOBKUP; OK - EXCEPT CNI MSGCLS'S NOT CHANGED
  CHG:LPS:MSGCLS=IOC,LOG=ON,PRINT=ON; OK
  CHG:LPS:MSGCLS=TLWS,LOG=ON,PRINT=ON; OK
  CHG:LPS:MSGCLS=AMA,LOG=ON,PRINT=ON; OK
  CHG:LPS:MSGCLS=TRCE,LOG=ON,PRINT=ON; OK
  CHG:LPS:MSGCLS=ADMN,LOG=ON,PRINT=ON; OK

  REPT AUDSTAT COMPLETED
   ROUTINE AUDIT SCHEDULING IS ALLOWED

  OP:AMALOST; PF
  OP AMALOST {ON|OFF}
  EXC:LIT,OPT=V; PF - FOR PARAMETER VERIFICATION
  EXC LIT VERIFY TYP=a RG=b TMO=c TM=d-e
  OP:CLID; PF
  OP CLID LIST CONTAINS x NUMBERS
    SECTION x OF y

  BKUP:ODD,FULL; PF

  OP:CGAP; PF
  OP CGAP COMPLETED
    CODE               PREFIX  GAP     ANN     DOM
  CHG:LPS:MSGCLS=ALL,FROMBKUP; OK

  DUMP:FILE:ALL,FN="/updtmp/retrofit/cronfile",OPL=999; PF
  DUMP FILE ALL STARTED

-------------------------------------------------
    Comment:
       <System and User Cron files dumped to ROP>
-------------------------------------------------
  REPT BEGINHOOK
    COMPLETED SUCCESSFULLY

  REPT PRECHKS
    ECD CHECK PASSED

  BKUP ODD  FULL NRODD= 1 IN PROGRESS

  REPT BEGIN OLB_CHECK
    CHECK COMPLETED

  REPT PRECHKS
     OLB CHECK PASSED

  REPT PRECHKS
    COMPLETED SUCCESSFULLY

  BKUP ODD   NRODD= 1 COMPLETED
-------------------------------------------------
    Comment:
       The BKUP ODD is continuing. Additional ROP
       relating to the BKUP ODD may be seen.
-------------------------------------------------
  REPT RETRO ENTER
    PAUSED AT STAGE BOUNDARY - RESUME WHEN READY
```

5.4.5 SYSTEM CONFIGURATION

Figure 5-9 shows a typical system configuration at the completion of the Begin stage.

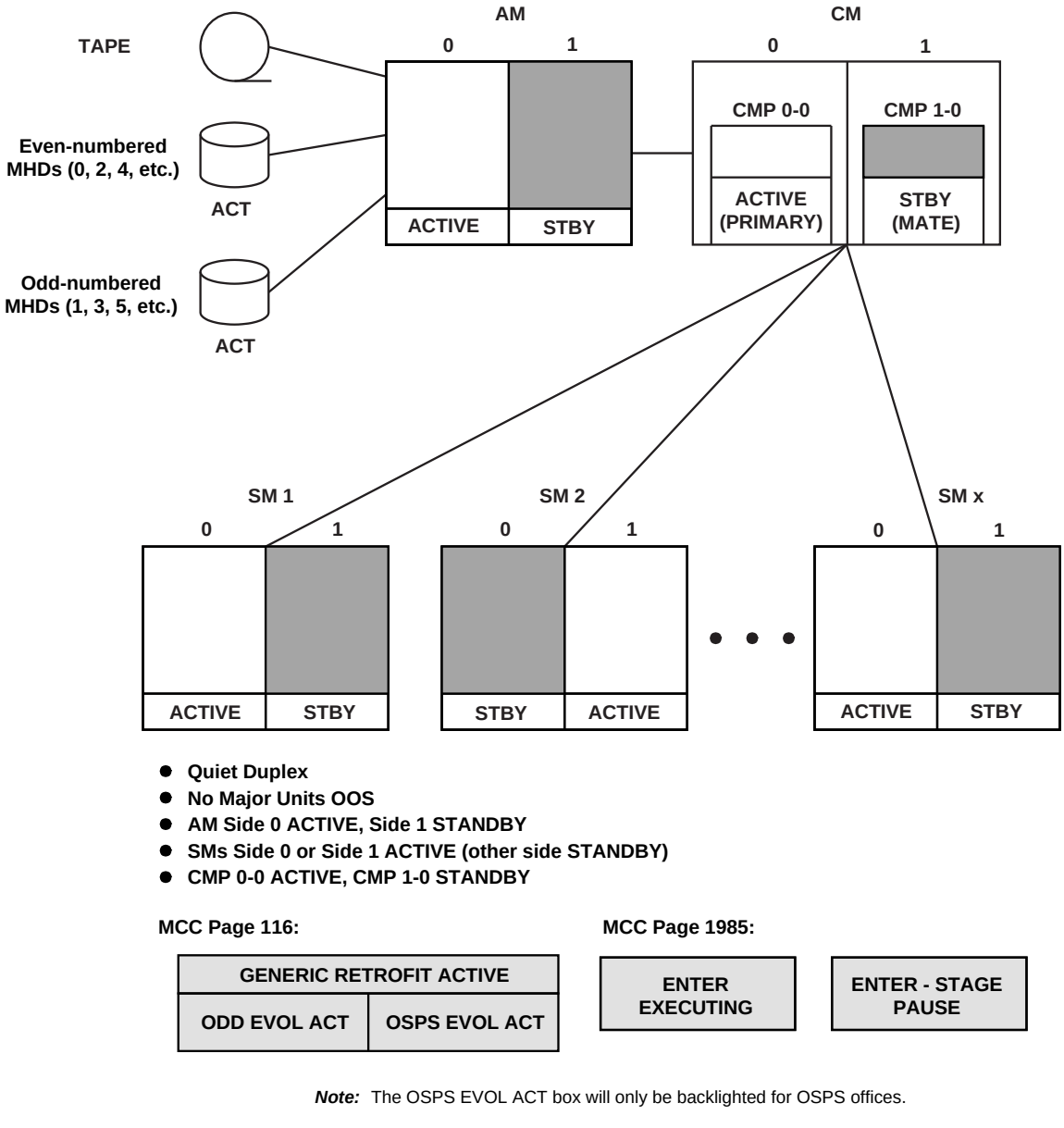


Figure 5-9 — Typical System Configuration at Completion of Begin Stage

5.5 ENTER STAGE

1. If entering this command prior to reading in the tapes, the following commands need to be executed on MCC page 1984 to indicate active disks (ACT-SYSTEM):

   ```
   CMD     502
   ```

   The following response is to MCC page 1984 poke command "502" or input message UPD:GEN:APPLPROC:ARG=MHDSTAT; in a 2-pair office before starting the transition, all disks duplex:

   Response:

   ```
   UPD:GEN:APPLPROC, ARG="MHDSTAT"-
   UPD GEN APPLPROC EXECUTING THE FOLLOWING RETROFIT TOOL:
   /PRC/SUPR/MHDSTAT
   REPT MHD STATUS:

   PAIR     EVEN           ODD
   STATUS   MHD            MHD            PAIRED
   ---------------------------------------------
   DUPLEX   0 ACT-SYSTEM   1 ACT-SYSTEM   Y
   DUPLEX   2 ACT-SYSTEM   3 ACT-SYSTEM   Y

   DUPLEX, NO DISKS SPLIT FOR LTG
   REPT TOOL DUMP MHDSTAT COMPLETED
   SUCCESSFULLY SEE ROP FOR DETAILS
   ```

2. Before proceeding with the Enter Stage, if the office has an ASM with the Proxy Database feature active, then the removal of that database should have successfully occurred during the Begin Stage. To confirm this, enter message:

   ```
   MSG     ST:DBPROXY:ACTION=SIZEREPORTALL
   ```

   Response:

   ```
   ST DBPROXY ACTION=SIZEREPORTALL STOPPED
   SPECIFIED DATABASE DOES NOT EXIST
   ```

   Any other ROP indicating the presence of any of the Proxy Database sizes is an error condition that must be resolved before continuing in the Enter Stage. **Escalate to your next level of support**.

OVERVIEW

During the **Enter** stage, new software release evolved ECD and ODD are read from tape and written to the off-line disk.

If a bad tape is encountered during the Enter stage, please mail it back to Lucent Technologies for error analysis. The return mailing address for a bad tape is on the tape label.

Also, the Enter stage will not complete until the automatic BKUP:ODD in the Begin stage completes.

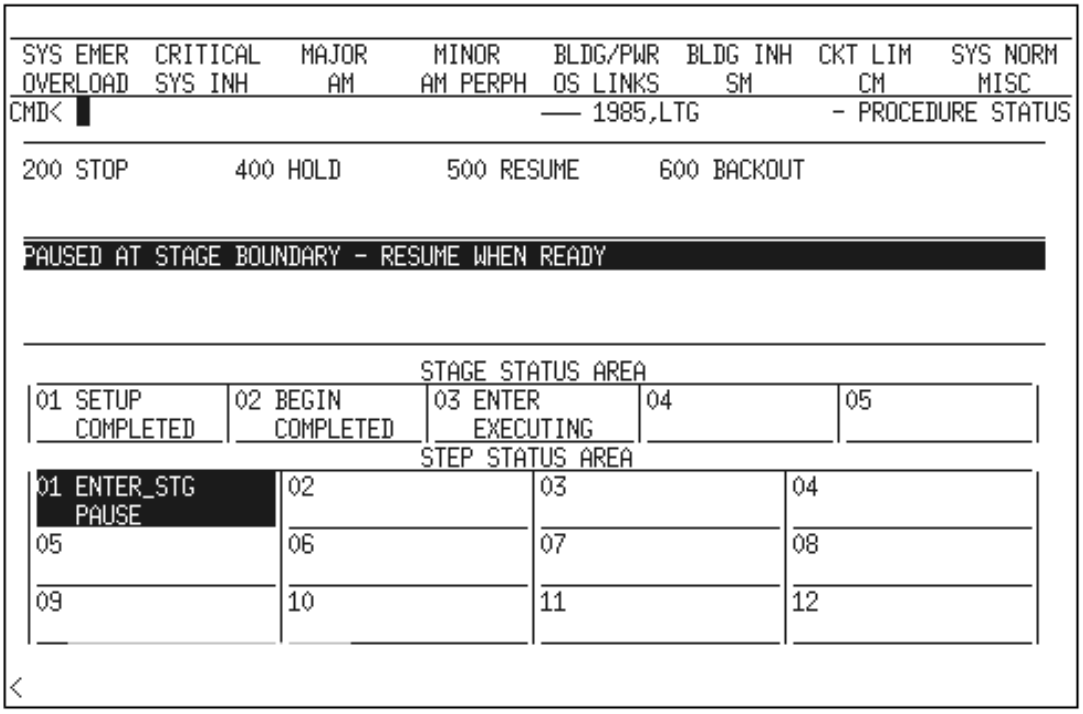


Figure 5-10 — MCC Page 1985 Paused at the Enter Stage

Figure 5-10 shows an example of MCC page 1985 paused before the start of the **Enter** stage.

The following list describes each activity that will occur during the **Enter** stage:

- **ENTER PREP** - Verifies the switch is ready to start the Enter stage.
- **LOAD_MHDS** - Reads in the new release tapes.
- **DSKPREP** - Initializes file systems on MHD, (x) for use with the new release.
- **WAIT BKUP ODD** - Waits for completion of the ODD Backup which was started in the Begin stage.
- **LOOKODD** - Checks and reports on the new software release ODD.
- **ENTERHOOK** - Starts mounting of off-line partitions.
- **MNT OFL PTNS** - Progression and completion of mounting of off-line partitions used for SM off-line pump.
- **GENDIFF SUs** - Application of GENDIFF SUs.
- **AUTOMATIC/MANUAL OFF-LINE PUMP** - Prompts the technician to manually start and wait for completion of off-line pump of SMs.

The **Enter** stage is at a pause boundary. Continue with the following manual steps.

5.5.1 STOP ANY ACTIVE/RUNNING REX DIAGNOSTICS

Note: When the Begin stage is executed, new REX activities are inhibited. However, any REX activity already in progress must be stopped using procedures in this section.

1. **Stop AM REX diagnostics.**

   1. **List AM REX diagnostics:**

      Enter MCC MSG: **OP:DMQ;**

      Response:

```
REQUEST ACTIVE
        NONE
REQUEST WAITING
        NONE
INHIBIT SOURCES
        ADP
        REX
OP DMQ COMPLETED
```

      Comment: The output shown is for an office with no active or waiting deferred maintenance requests in the Deferred Maintenance Queue (DMQ). If requests are waiting or active, they will be output.

   2. **If REX diagnostics are running in the AM, they must be stopped.** The following message should be entered if diagnostics are running:

      Enter MCC MSG: **STOP:DMQ;**

      Response:

```
Report received from Maintenance Input Request Administrator (MIRA).
Major alarm received from REX.
Termination messages are received from diagnostic process.

STP DMQ COMPLETED
```

      Comment: This message stops any waiting/active diagnostic request on the DMQ.

   3. **If any AM units are OOS, they should be manually restored.** When REX diagnostics are stopped in the AM, some AM hardware units may be OOS.

5.5.2 GENERAL CHECKS AND SETUPS

Caution: Do not change selections on the EAI page from this point on unless explicitly directed to do so by this document or from your next level of support.

1. **Verify that the AM is duplex:**

   MCC Page: **111**

   Enter Poke CMD: **30x**

   Where: **x** = OOS AM

   If the AM is not duplex, restore the OOS AM.

2. **Verify the following:**

   MCC Page: **111**

   AM 0 is **ACT**

   AM 1 is **STBY**

If AM 0 is STBY and AM 1 is ACT, enter command:

Enter Poke CMD: **400**

Response: **SW CU 0 COMPLETED**

ACTION: Verify AM 0 is ACT and AM 1 is STBY before proceeding.

3. **Ensure that all MHDs are active** with the exception of MHDs 14 and 15, (if equipped)

   MCC Page: **123**

   MCC Page: **125** [if more than 2 DFCs are equipped]

> ***Warning: DO NOT hit the <break> or <DEL> keys during the Enter stage. Hitting the <break> or <DEL> delete keys stops any active Enter stage process, INCLUDING tape reading.***

5.5.3 TAPE LOADING

5.5.3.1 General

For the LTG, only the ***ODD*** will be loaded onto the switch.

During the Enter Stage, the new data is loaded onto MHD 1 and MHD 3.

FILE	DATA	MHD
DATA.rt0	AM ODD/ECD	MHD 1
DATA.rt1	SM ODD	MHD 3

5.5.3.2 Loading Tape

All preparation steps must be completed prior to reading in the tape.

Begin MHD loading:

Reference: **Figure 5-11 at the Enter Stage Pause**

MCC Page: **1985**

Enter Poke CMD: **500**

The LOAD_MHD status is displayed on the MCC **1985** Page. Users can check the ROP to monitor the progress of the loading.

At this point, the **BKUP ODD** which was started in the Begin Stage may still be running during the MHD loading.

Read: Remember, ***two*** tapes are sent to the office but only one is loaded during the Enter stage. The second tape is for ***backup only***.

Note: **The Retrofit procedure will automatically load the MHDs. Review the following information to become familiar with the MHD loading for the LTG.**

MHD Loading:

— Data read from STR Tape in the following order:

```
TOP
DATA.rt0
DATA.rt1
```

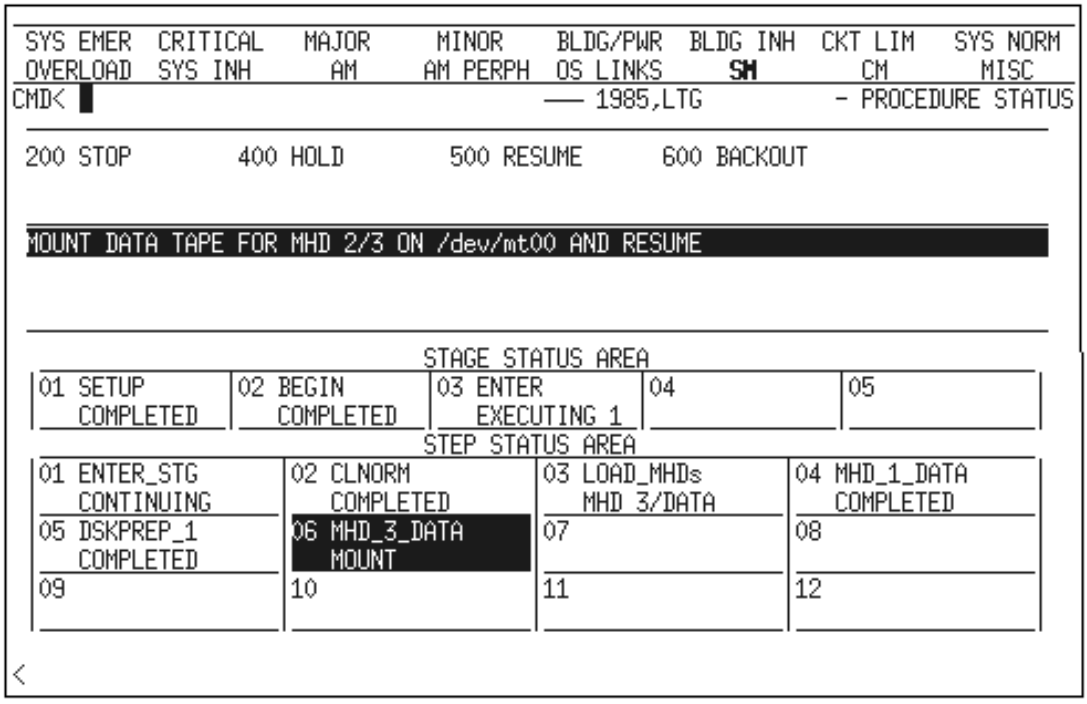


Figure 5-11 — MCC Page 1985 Paused in the Enter Stage

Note: At this point, if the **BKUP ODD** which was started in the Begin stage is running, the Enter stage will pause until the **BKUP ODD** is complete.

The Load MHD Status is displayed on the MCC **1985** Page. Users can check the ROP to monitor the progress of the MHD loading sequence.

Note: All of the following ROP output may not be in the same order as indicated due to switch activity at the time. The PRMs may come out in any order. Some of these PRMs may not appear on the ROP, and others may appear more than once.

MHD LOADING — ROP

```
RMV:MHD=1; PF
RMV MHD 1 TASK x MESSAGE STARTED
RMV MHD 1 COMPLETED
REPT DIOP SIMPLEX PROCESSING COMPLETED

REPT LOADLDFT MHD_1_DATA
     COPYING DATA FROM TAPE TO MHD 1
REPT LOADLDFT MHD_1_DATA
     LOADING DATA 1 PTN - xx
REPT LOADLDFT MHD_1_DATA
     MHD_1_DATA COMPLETED SUCCESSFULLY

RST MHD 1 TASK x MESSAGE STARTED
RST MHD 1 IN PROGRESS
RST MHD 1 COMPLETED

RMV:MHD=3; PF
RMV MHD 3 TASK x MESSAGE STARTED
RMV MHD 3 COMPLETED

REPT LOADLDFT MHD_3_DATA
     COPYING DATA FROM TAPE TO MHD 3
REPT LOADLDFT MHD_3_DATA
     LOADING DATA 3 PTN - xx
REPT LOADLDFT MHD_3_DATA
     MHD_3_DATA COMPLETED SUCCESSFULLY

RST MHD 3 TASK x MESSAGE STARTED
RST MHD 3 IN PROGRESS
RST MHD 1 COMPLETED
-------------------------------------------------------
   Comment:
      The following PRMs may be output repeatedly in
      any order. They indicate the successful mounting
      and unmounting of file systems that occurs during
      this stage of the retrofit procedure.

PRM_0 E800 0001 yyzz zzzz hh hh hh
PRM_0 E800 0002 yyzz zzzz hh hh hh
PRM_0 E800 0001 yyzz zzzz hh hh hh
PRM_0 E800 0002 yyzz zzzz hh hh hh
-------------------------------------------------------
```

MHDs 4 and Higher Equipped in Office:

Note: If the office disk configuration has more than two pairs of MHDs, there will be additional ROP output messages similar to those already seen for MHD 1 and MHD 3:

Sample ROP Output:

```
REPT LOADLDFT MHD_x_DATA
          LOADING DATA x PTN - xx

  REPT LOADLDFT MHD_x_DATA
    MHD_x_DATA COMPLETED SUCCESSFULLY

             — OR —

   REPT LOADLDFT MHD_x_DATA
    GRMKDISK LOADING DATA.rtx ON MHD x SUCCEEDED
```

Completion of the MHD loading * Signature: _____ Date/Time: _____

Note: At this point, the **BKUP ODD** which was started in the Begin Stage **could** still be running.

- If the BKUP ODD is still running, the following pause as shown in Figure 5-12 will be viewable and the Enter Stage will pause until the BKUP ODD is complete. The Retrofit process will continue automatically upon completion of BKUP ODD.

  Expected ROP Output:

```
REPT ENTER WAIT_BKUP_ODD
  WAITING FOR COMPLETION OF EVOLUTION

REPT ENTER WAIT_BKUP_ODD
  EVOLUTION COMPLETED
```

- If the BKUP ODD is already completed, Figure 5-12 will not be displayed and the LTG process will be continuing automatically.

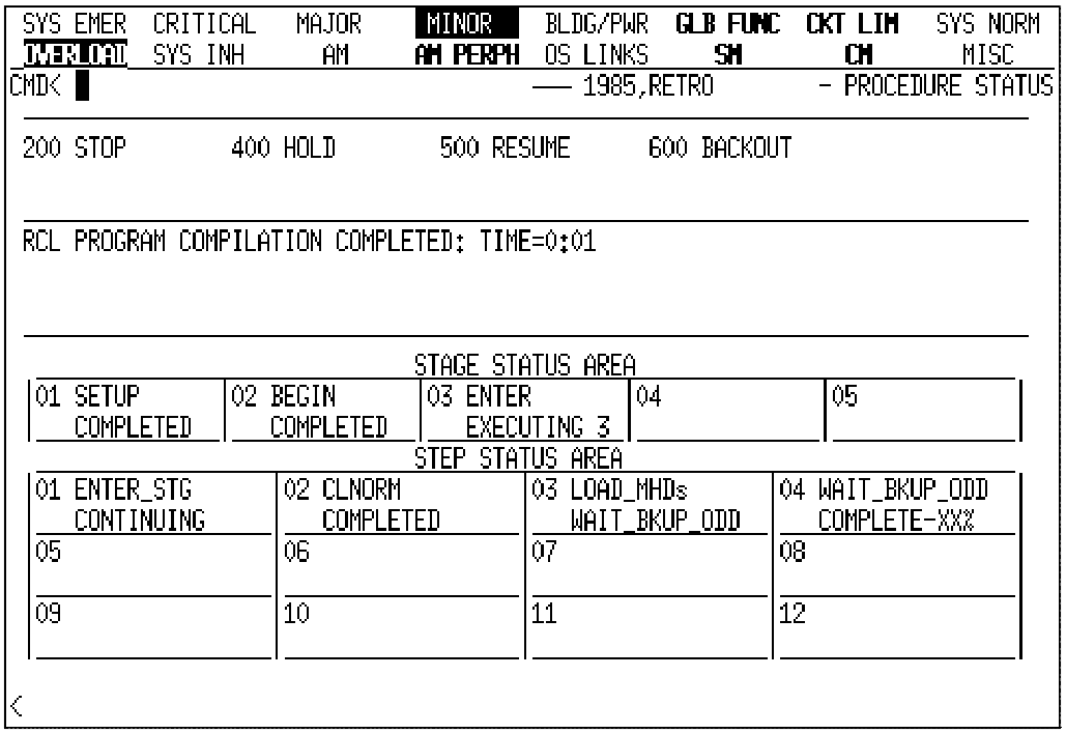


Figure 5-12 — MCC Page 1985 at the Enter Stage Load MHDs Wait_BKUP_ODD

Note: All of the following ROP output MAY NOT be in the same order as indicated due to switch activity at the time.

Sample ROP Response:

```
-----------------------------------------
    Comment: OSPS office only

  ASOSPSON: OSPS RETROFIT BIT HAS BEEN SET
-----------------------------------------

  AUTOMATIC CORC AND RECENT CHANGE RETROFIT PROCESS STARTED
  AUTOMATIC CORC AND RECENT CHANGE RETROFIT PROCESS
        EVOLUTION PROCESS TARGET SOFTWARE RELEASE IS 5E162

  DB RETROFIT PROCESS KEEPLOG COMPLETED
        DETAILED INFO IN /rclog/kplog.err

  AUTOMATIC CORC AND RECENT CHANGE RETROFIT PROCESS
        RECENT CHANGE EVOLUTION STARTED

  CNVT RCLOG EVOL: RC EVOLUTION RC STEP COMPLETION SUMMARY
        x VIEWS READ
        x VIEWS CREATED
        x VIEWS IN ERROR
        FIRST ERROR FILE IS /rclog/RCERR1
        LAST ERROR FILE IS /rclog/RCERR1

  CNVT RCLOG EVOL COMPLETE

  AUTOMATIC CORC AND RECENT CHANGE RETROFIT PROCESS
        CORC EVOLUTION STARTED
```

```
  CORC EVOLUTION STARTED
        CONCURRENT CONTROL PROCESS STARTED
  CORC EVOLUTION COMPLETED
        NO CORC LOGFILE EXISTS
  x CORCS x TRNCORCS HAVE BEEN LOGGED IN THE CORC EVOLVED LOGFILES
  CORC EVOLUTION COMPLETE
  AUTOMATIC CORC AND RECENT CHANGE RETROFIT PROCESS COMPLETED

------------------------------------------------------
    Comment:
       The following PRMs may be output repeatedly in
       any order. They indicate the successful mounting
       and unmounting of file systems that occurs during
       this stage of the retrofit procedure.

PRM_0 E800 0001 yyzz zzzz hh hh hh
PRM_0 E800 0002 yyzz zzzz hh hh hh
PRM_0 E800 0001 yyzz zzzz hh hh hh
PRM_0 E800 0002 yyzz zzzz hh hh hh
------------------------------------------------------
  CNVT AMA CONFIG
        CONFIGURATION FILE FOR STREAM 1 FOR MHD 1 HAS BEEN CONVERTED
  CNVT AMA CONFIG
        CONFIGURATION FILE FOR STREAM 2 FOR MHD 1 HAS BEEN CONVERTED
  CNVT AMA CONFIG
        CONFIGURATION FILE FOR STREAM 1 FOR MHD 3 HAS BEEN CONVERTED
  CNVT AMA CONFIG
        CONFIGURATION FILE FOR STREAM 2 FOR MHD 3 HAS BEEN CONVERTED
  CNVT AMA CONFIG
        CONVERSION OF AMA CONFIGURATION FILES HAS COMPLETED

  DUMP:FILE:ALL,FN="/updtmp/site/toolxfer/info.out"; PF
  DUMP FILE ALL COMPLETED


   ----------------------
   AMALOST feature status
   ----------------------
   OP AMALOST OFF
   ----------------------
   ALIT parameters
   ----------------------
   EXC LIT VERIFY TYP=G RG=D TMO=0 TM=2-0
   ----------------------
   CLID - Call Trace DNs
   ----------------------
   CLID LIST CONTAINS 0 NUMBERS
   ---------------------------------
   CGAP - Call Gapping Code Control
   ---------------------------------
        CODE            PREFIX  GAP     ANN     DOM

  REPT CPYFILE ENTER
     COMPLETED SUCCESSFULLY

  LOOKODD REPORT: LOOKODD COMPLETED SUCCESSFULLY

    !!!!!!!!!!!!!!!!!! LOOKODD REPORT !!!!!!!!!!!!!!!!!!
    .
    . Common Information:
    .
    .           Generic = 5eXX(x),xx.x
    .          SU Level = xxxxx-xxxx
    .              Date = mm/dd/yy
    .        Text Issue = xx.xx
    .       Destination = xxxxx
    .         ODA Issue = x.xx
    .   Mapping Version = xx
    . (SM only) RODD ID = xxxxxxxxxx
    .


!!!!!!!!!!!!!!!!! SUMMARY FOLLOWS !!!!!!!!!!!!!!!!!

     Found ODD files for the AM, CMP, and the following SMs:

       <all SMs equipped in the office should be list here>
```

```
  UPD GEN APPLPROC ISMOP REPORT

!!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!!
.
. MOP/PTNMGR IS RUNNING: MOPPID = xxxxxxx
.
. THE FOLLOWING OFFLINE PARTITIONS ARE MOUNTED:
.       /tmp/ofl/no5odd/smdata1 on /tmp/ofldevxx
.       /tmp/ofl/no5odd/cidata on /tmp/ofldevxx
.       /tmp/ofl/no5odd/data0 on /tmp/ofldevxx
.       /tmp/ofl/log on /tmp/ofldevxx
.       /tmp/ofl/smlog on /tmp/ofldevxx
.
. ISMOP COMPLETE
.
!!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!!

  REPT MNT_OFL_PTNS
     OFFLINE PUMP PARTITIONS MOUNTED

  REPT ENTERHOOK
     COMPLETED SUCCESSFULLY

  DUMP:FILE:ALL,FN="/tmp/cniupd.out",OPL=999; PF
  DUMP FILE ALL COMPLETED


    .
    . CNI.UPD COMPLETE
    .


  REPT POST_ENTER
     COMPLETED SUCCESSFULLY

  CLR:AMA:MAPS; PF
  CLR AMA MAPS
        PARTITION xx ON OFFLINE MHD 1 HAS BEEN CLEARED
  CLR AMA MAPS
        PARTITION xx ON OFFLINE MHD 1 HAS BEEN CLEARED
  CLR AMA MAPS
        PARTITION xx ON OFFLINE MHD 3 HAS BEEN CLEARED
  CLR AMA MAPS
        PARTITION xx ON OFFLINE MHD 3 HAS BEEN CLEARED
  CLR AMA MAPS
        CLEARING OF AMA MAPS AND CREATION
        OF AMA FILES HAS COMPLETED

  REPT ENTER SM_OFL_PUMP
  READY TO BEGIN OFFLINE PUMPING SMs
  ALL SMs WILL BE SIMPLEXED AND HAVE A HIGHER RISK OF SYSTEM OUTAGE
  RECOMMEND OFF-PEAK EXECUTION --- RESUME WHEN READY
```

Allow at least 25 minutes for these output messages. The UPD ENTER COMPLETED message may not print out on the ROP. You should see the process go on to LOOK ODD then see the ENTER HOOK COMPLETED SUCCESSFULLY message.

Warning: If error messages are received, escalate to your next level of support.

5.5.4 OFF-LINE DISK ODD LAYOUT CHECK

1. During the Enter stage, the procedure will automatically execute a **LOOKODD**.

   Response:

   ```
   PRM_0 E800 xxxx xxxx xxxx xx xx xx
   ```

   (Will be received several times.)

```
LOOKODD REPORT: LOOKODD COMPLETED SUCCESSFULLY

 !!!!!!!!!!!!! LOOKODD REPORT !!!!!!!!!!!!!
 .
 .   Common Information:
 .   Generic              =   5E16(2),xx.x
 .   SU Level             =   xxxxxx
 .   Date                 =   xx/xx/xx
 .   Text Issue           =   xx.xx
 .   Destination          =   xxxxxx
 .   ODA Issue            =   x.xx
 .   Mapping Version      =   xx
 .   (SM only) RODD ID    =   xxxxxxxxx
 .
!!!!!!!!!!!!!!!! SUMMARY FOLLOWS !!!!!!!!!!!!!!!!!

Found ODD files for the AM, CMP, and the following SMs:

(List of SMs is output.)

xx   xx   xx   xx   xx   xx   xx   xx   xx   xx
xx   xx   xx   xx   xx   xx   xx   xx   xx   xx
 . . .
xx   xx   xx   xx   xx   xx   xx   xx   xx   xx
```

Note: If a failure occurs, call technical support.

2. Verify that the Base & Control for your office matches the output in the Destination field of the LOOKODD report. If the Base & Control output in the Destination field of the LOOKODD report is incorrect, escalate to your next level of support immediately.

3. Verify that the data output is correct and that each SM in the office is listed in the output. If any of the data output is incorrect or any SMs are missing from the output, escalate to your next level of support immediately.

4. Before proceeding, verify that:

   All required tapes - ECD/AM ODD, and SM ODD - have been successfully read into the odd-numbered MHDs.

5. The following output will be displayed on the ROP after mounting off-line file systems.

   Response:

```
PRM_0 E800 xxxx xxxx xxxx xx xx xx

(Will be received several times.)
!!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!!

M UPD GEN APPLPROC ISMOP REPORT

!!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!!

MNT OFL PTNS OFFLINE PUMP PARTITIONS MOUNTED
REPT ENTER HOOK COMPLETED SUCCESSFULLY
REPT ENTER HOOK PROCEED WITH OFFLINE PUMP IN PARALLEL
  IF DESIRED
REPT ENTER HOOK OFFLINE PUMP CAN BE PERFORMED
```

```
 WHILE SUs ARE APPLIED
REPT POST ENTER HOOK COMPLETED SUCCESSFULLY
REPT LTG ENTER OFFLINE PUMP SMS NOW IF YOU HAVE NOT
  ALREADY DONE SO
REPT LTG ENTER DO NOT CONTINUE PAST THIS POINT UNTIL
  COMPLETED
REPT LTG ENTER RESUME WHEN OFFLINE PUMP IS COMPLETED
```

6. After reading in the tapes and upon entering the command again, the response will indicate off-line (ACT-SPLIT) disks:

   Note: The following is a response to MCC Page 1984 poke command **502** or input message UPD:GEN:APPLPROC:ARG=MHDSTAT; in a 2-pair office after completion of the ENTER stage:

   Response:

   ```
   UPD:GEN:APPLPROC, ARG="MHDSTAT"
   UPD GEN APPLPROC EXECUTING THE FOLLOWING RETROFIT TOOL:
   IPRC/SUPR/MHDSTAT REPT MHD STATUS:

   PAIR     EVEN           ODD
   STATUS   MHD            MHD           PAIRED
   ------------------------------------------
   SIMPLEX   0 ACT-SYSTEM   1 ACT-SPLIT   N
   SIMPLEX   2 ACT-SYSTEM   3 ACT-SPLIT   N

   DISKS SPLIT FOR ACTDISK LTG, SYSTEM RUNNING ON OLD SIDE
   REPT TOOL DUMP MHDSTAT COMPLETED SUCCESSFULLY
   SEE ROP FOR DETAILS
   ```

   This command can be entered any time after reading in the tapes to determine the state of the disks.

   The system is running on MHDs 0 and 2 (the status of the ACT-SYSTEM) and MHDs 1 and 3 contain the new release data (the status of ACT-SPLIT). The value of **N** in the PAIRED column indicates that MHDs 0 and 1 are not duplex paired, so they are not identical copies of each other.

The following steps in the **Enter** stage have completed:

- Enter Preparation.
- Execute Tape Read for MHDx.
- Disk preparation X.
- Wait Backup ODD.
- Execute LOOKODD.
- Execute ENTERHOOK.
- Mount off-line partitions.
- Application of GENDIFF SUs.
- Pump pause.

One of the following two screens will appear:

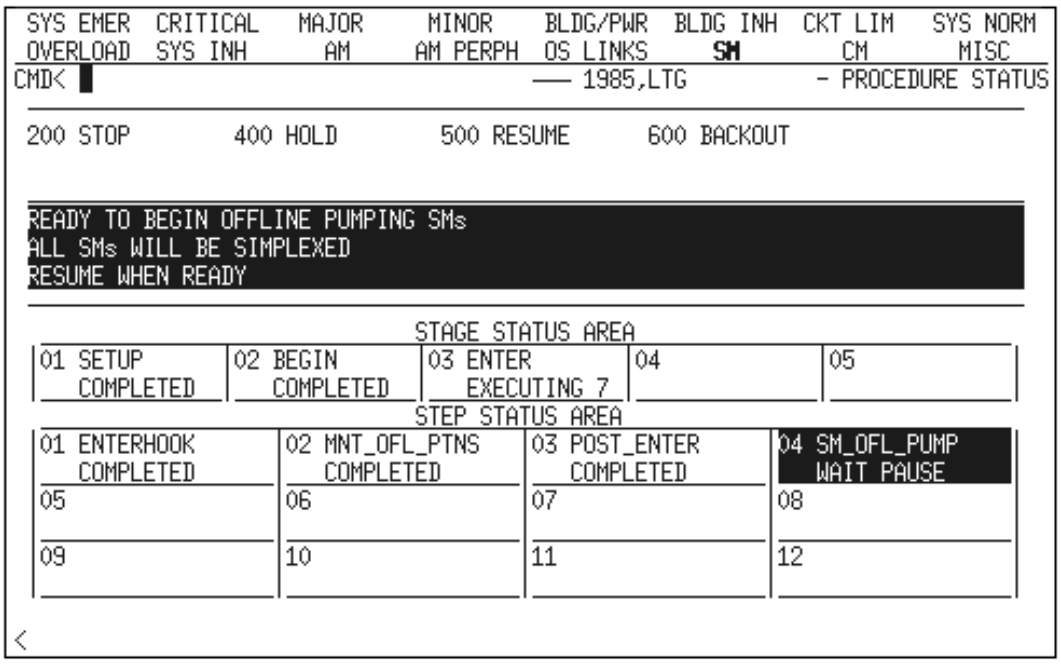


Figure 5-13 — MCC Page 1985 Pump Pause Waiting

7. If the "Automatic SM Offline Pump" option on the 1989 page is set to "Y", then the screen shown in figure 5-13 is seen.

8. If the "Automatic SM Offline Pump" option on the 1989 page is set to "N", then the screen shown in figure 5-14 is seen.

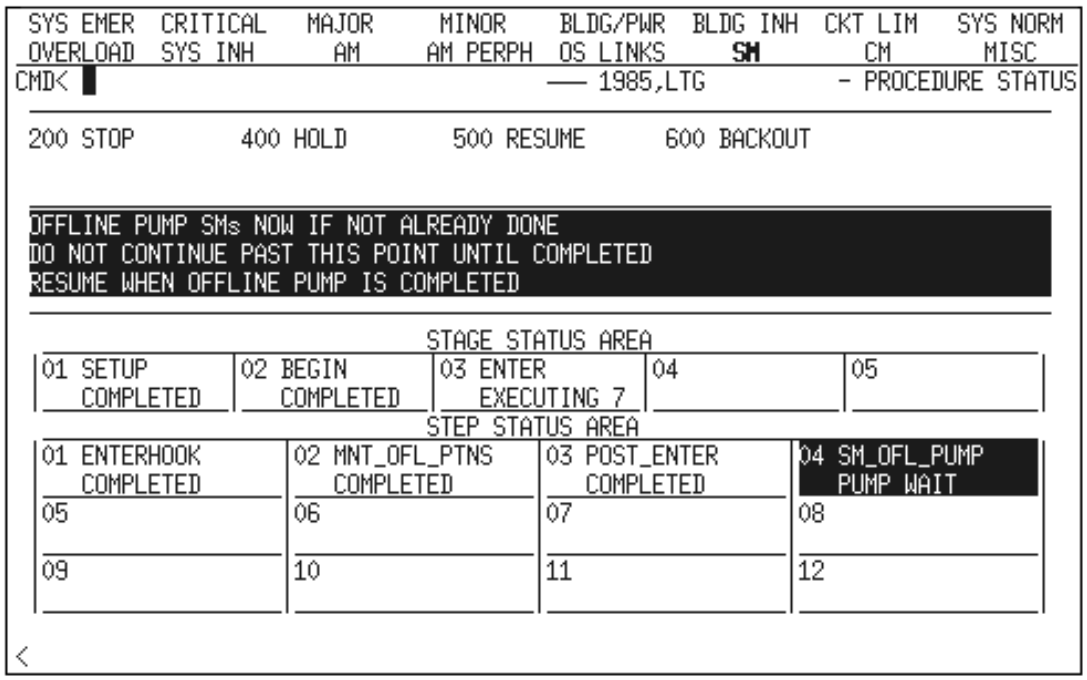


Figure 5-14 — MCC Page 1985 Pump Pause Waiting

The RCL has completed to this step of the Enter stage. However, the Enter stage has NOT been completed and off-line processor pump still needs to be executed.

Note: Do not forget to pump the SMs or the SWITCHFWD stage will fail.

1. Continue with the following steps.
2. Enter the following message to dump the VTOC for MHD 1 (**5E16.2** Software Release):

   ```
   MSG     DUMP:MHD=1:VTOC;
   ```

   Response:

   ```
   DUMP MHD 1 VTOC STARTED
   DUMP MHD 1 VTOC SEGMENT x of y

   MHD 1 VTOC is dumped at ROP.DUMP MHD 1 VTOC IN PROGRESS

   DUMP MHD 1 VTOC COMPLETED
   ```

3. Verify that the 5E16.2 VTOC layout for MHD 1 matches the data in Table 9-26 regarding "start" and "size" for each partition.

   Note: Partition 8 (LBOOT21) will have a start address of 0 instead of partition 1 (LBOOT) having a start address of 0.

4. Enter the following message to dump the VTOC for MHD 3:

   ```
   MSG     DUMP:MHD=3:VTOC;
   ```

   Response:

   ```
   DUMP MHD 3 VTOC STARTEDDUMP MHD 3 VTOC SEGMENT x of y
   ```

```
MHD 3 VTOC is dumped at ROP.

DUMP MHD 3 VTOC IN PROGRESSDUMP MHD 3 VTOC COMPLETED
```

5. Your office must have a 2020 disk configuration on 5E16.2. Verify that the 5E16.2 VTOC layout for MHD 3 matches the data in Table 5-11 regarding "start" and "size" for each partition.
6. If your office is equipped with more than two pairs of MHDs, enter the following message to dump the VTOCs for the remaining odd numbered MHDs.

   MSG `DUMP:MHD=x:VTOC;`

   Where: x = MHD number.

   Response:

   ```
   DUMP MHD x VTOC STARTEDDUMP MHD x VTOC SEGMENT x of y

   MHD x VTOC is dumped at ROP.

   DUMP MHD x VTOC IN PROGRESS

   DUMP MHD x VTOC COMPLETED
   ```

7. Verify that the VTOC layout matches the data in the appropriate 5E16.2 VTOC layout table for your particular office configuration regarding the "start" and "size" for each partition.

5.5.5 REMOVE THE STR TAPE

The STR Tape may be removed from the DAT drive at this time. (If the office is currently unmanned, the STR tape may be removed at a later time. There is no harm in leaving the tape in the drive while continuing the LTG procedures.)

5.5.6 SM OFF-LINE PUMP

OVERVIEW

Read: OFFICES WITH HEAVY ISDN EQUIPAGE

During the Proceed stage, prior to the system switch forward, you will be instructed to enter the message **CNVT:CORCLOG** (Section 5.6.1). This command flushes CORCs from the SM buffers and evolves them to the new data format. Due to the large number of CORCs logged in heavily equipped ISDN offices, this command can take up a considerable amount of time to run.

The SMs are off-line pumped with the new software data. Major tasks performed during this stage are as follows:

- Off-line file systems are mounted.
- The SMs are forced simplex.

  It should be noted that the **UPD:GEN:SWITCHFWD** command has the capability to switch SMs from MCTSI side 0 (old software release) to MCTSI side 1 (new software release) and in any combination (that is, SM 1 could be switching from MCTSI side 0 to 1, SM 2 from MCTSI side 1 to 0, and SM 3 from MCTSI side 0 to 1, etc.). In order to simplify the procedures, it is recommended that the new

software release be off-line pumped into MCTSI side 1 of all SMs. The procedures in this manual off-line pump the new software release into MCTSI side 1 of all SMs.

- All SMs are off-line pumped with the new data.
- Off-line file systems are unmounted.

5.5.6.1 OFF-NORMAL STATUS CHECK

1. To check AM, CMP, and SM status, enter message:

   ```
   MSG     OP:SYSSTAT,UCL;
   ```

   Response:

   ```
   OP SYSSTAT   SUMMARY     {FIRST|LAST|NEXT} RECORD
   SYS:         INHIBITS[-MSG][-RC] MISC
   AM:          INHIBITS-AUD-MTCE {MORE}
   CM:          INHIBITS-MTCE
   CMP x-0 P:   NORMAL
   CMP y-0 M:   NORMAL
   L LSM a,x:   INHIBITS-MTCE
    ...
   B LSM b,x:   INHIBITS-MTCE
    ...
   S LSM z,x:   INHIBITS-MTCE
   ```

   Verify that none of the SMs have "MATE_OOS" as a status.

   a. If any SMs indicate MATE_OOS, access MCC page 1190,x and restore that SM to duplex.

   b. After all SMs are duplex, re-enter the **OP:SYSSTAT,UCL** message.

   Ensure no off-normal status other than **INHIBITS-MTCE** is indicated for any SM.

   Verify that both **CMP 0-0** and **CMP 1-0** indicate **NORMAL**.

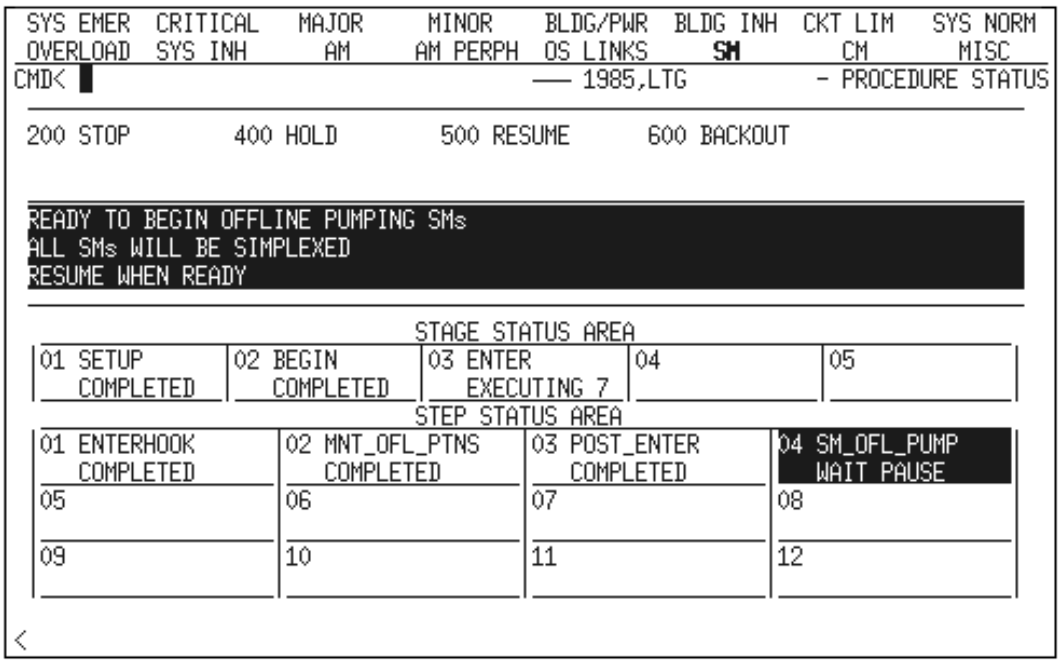


Figure 5-15 — MCC Page 1985 Paused Prior to SM Offline Pump

5.5.6.2 SMs OFF-LINE PUMP AND SUs APPLICATION OVERVIEW

With the MCC 1985 page pause as shown in figure 5-13 there are 2 more activities that need to be completed before completing the entire ENTER stage. These 2 main activities are:

1. Off-line pumping of the SMs with the new ODD.
2. Applying of SUs (imr11111xx and imr22222xx) that were generated automatically during the BEGIN stage.

   Note: Do not wait to apply SUs (imr11111xx and imr22222xx) after all SMs have been successfully pumped. Instead, it is recommended that you apply SUs (imr11111xx and imr22222xx) while off-line pumping the SMs is taking place.

   Caution: Both of the above activities must be completed successfully before attempting to continue with the LTG procedure.

3. **VERIFY ONTC LINKS**

   Verify ONTC 0 is **ACTIVE MAJOR** after loading tapes and before forcing the SMs active for offline pump.

   a. At MCC Page 1209 verify that ONTC 0 is ACTIVE MAJOR. If it is not, enter the following:

      ```
      CMD     403
                Response: SW ONTC COMPLETED
      ```

   b. If the switch of ONTC fails, escalate to your next level of support.

5.5.7 SM OFF-LINE PUMP

Note: If the “Automatic SM Offline Pump” option on the 1989 page is set to ’N’, skip to section 8 and perform the procedures listed in section 8.3 (Manual SM Offline Pump from OFLDISK). Once the SMs have started offline pumping as a result of the 2000 command entered from Section 8.3.4, Step 7, return to Section 5.5.7.2 to Apply Software Update imr111111xx through Section 5.5.7.3 Apply Software Update imr22222xx before continuing on the Section 8.3.4, Step 8.

Once the SM off-line pump is started, each SM will be forced simplex with MCTSI side 0 active-forced (ACTF) and MCTSI side 1 unavailable (UNV). The MCTSI side 1 will then be pumped with the new ODD from the off-line disk(s).

1. Start the automated SM off-line pumps by entering the following command:

   ```
   CMD     500
   ```

   Response:

   ```
   ORD:CPI=1&&192,CMD=SW-0;
   INH:HRDCHK,SM=1&&192;
   INH:SFTCHK,SM=1&&192:
   ST:OPUMP,SM=1&&192,OFLDISK,PERF,VFY;
   ```

2. Monitor SM Off-line pumps for completion.

   Periodic updates on the overall status of the automated SM offline pumps appear on the 1985 page and the ROP. The 181 through 184 pages may also be viewed to get the status of the SM offline pumps for each SM. Tables 9-19 and 9-20 list all the possible states of the mate memory that can be displayed on MCC page 181 during off-line pump. There are also ROP outputs from each SM as they progress through their offline pump activities. Individual failure reports are displayed as they occur, while the overall status continues to be shown on the 1985 page until all SMs have completed or failed. If failures occur, refer to section 6.5.4 and attempt to correct any identified failures. If the reason for a particular SM offline pump failure is later corrected, the failed SM(s) are picked up when the procedure is resumed.

3. If failures occur that can not be corrected, the SM offline pump automation can be by-passed by setting the "Automatic SM Offline Pump" option on the 1989 page to ’N’. It is then up to the craft performing the retrofit to manually (see section 8.3) offline pump the failed SM(s) or isolate the errant SM(s) at the switchforward.

4. If one or more SMs failed during the peripheral pump procedure, execute the steps listed in Recovery Section 6.5.5

5.5.7.1 SM OFF-LINE PUMP and SUs APPLICATION

As stated above, the only remaining activities to be executed as part of the ENTER stage are:

1. Off-line pumping of the SMs with the new ODD.
2. Application of SUs (imr11111xx and imr22222xx).

It should be noted that the **UPD:GEN:SWITCHFWD** command has the capability to switch SMs from MCTSI side 0 (old ODD) to MCTSI side 1 (new ODD) and in any combination (that is, SM 1 could be switching from MCTSI side 0 to 1, SM 2 from

MCTSI side 1 to 0, and SM 3 from MCTSI side 0 to 1, etc.). In order to simplify the procedures, it is recommended that the new ODD be off-line pumped into MCTSI side 1 of all SMs. The procedures in this manual off-line pump the new ODD into MCTSI side 1 of all SMs.

After the SM off-line pump is started, the first (of two) SU application is also started.

Throughout the SM off-line pump, the SU application will be monitored. Once the first SU has been successfully applied, the second SU application is performed.

5.5.7.2 Apply Software Update imr11111xx

The new MCC page 1990 consists of 3 parts. The upper part consists of the Install Stages, Status and Pokes. The Pokes provide the ability to verify, prepare, activate, soak, make official, deactivate and back-out an SU. They also provide the ability to introduce an SU package, stop the installation and print the MSGS file on the ROP.

The install stage status uses colors and text to display the status of the installation stages. The middle of the 1990 page is the Response Line indicator, which reports installation status, user errors and instructions. The lower part of the 1990 page contains the Command Line Display, which displays several command lines at a time from the MSGS file along with their respective execution status. The MSGS file, in an SU Package, contains craft input commands grouped in sections relative to different actions in the SU installation process.

The SU installation will stop if an error occurs or if the stop installation poke command is entered.

The time to apply and soak the following SU will vary, possibly taking over an hour to complete. All data in the following procedure is input as shown (that is, xx in this case is not variable, it is what was generated in the Begin Stage example. See Begin Stage in this document).

1. Any TMP SUs must be backed out at this point. Refer to 235-105-210, *Routine Operations and Maintenance*, for more information.
2. To change the install BWM name, enter the following command on MCC page 1990:

   ```
   CMD     4,imr11111xx
   ```
3. To reset the BWM soak interval timer, enter the following command on MCC page 1990:

   ```
   CMD     22,00:00
   ```
4. To make the SU official, enter the following command on MCC page 1990:

   ```
   CMD     5
   ```

   Comment: MCC page 1990 may be used to monitor the progress of the SU installation.

   Before continuing, wait until MCC page 1990 appears as shown in Figure 5-16.

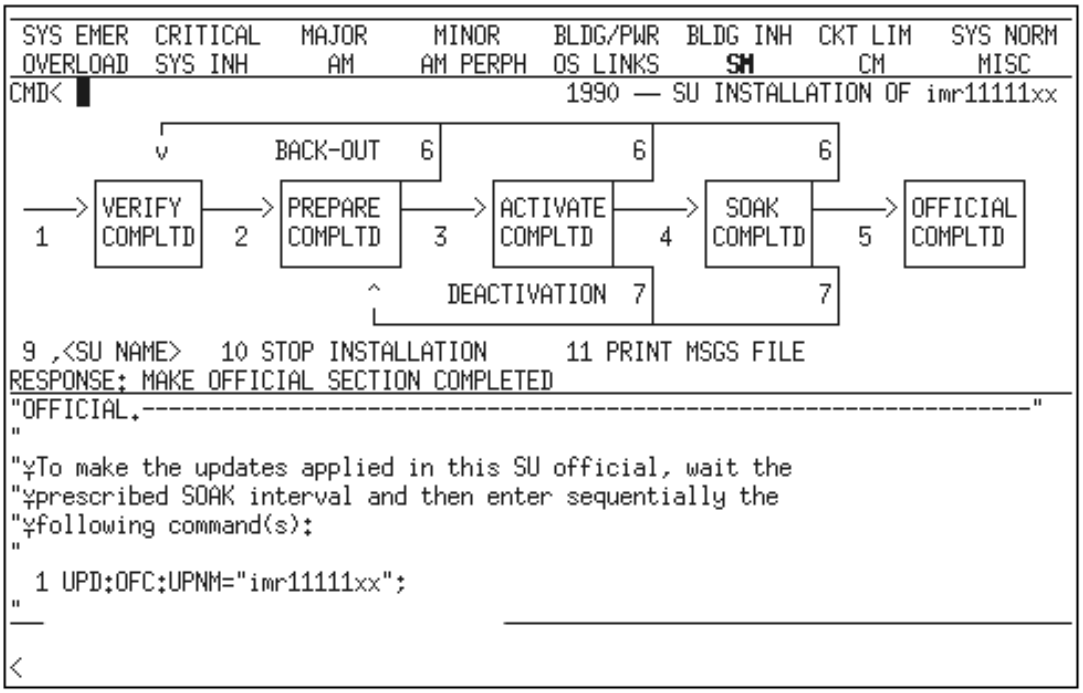


Figure 5-16 — MCC Page 1990 (SU imr11111xx)

5.5.7.3 Apply Software Update imr22222xx

The time to apply and soak the following SU will vary, possibly taking over an hour to complete. All data in the following procedure is input as shown (that is, xx in this case is not variable).

1. To change the install BWM name, enter the following command on MCC page 1990:

   ```
   CMD     4,imr22222xx
   ```

2. To reset the BWM soak interval timer, enter the following command on MCC page 1990:

   ```
   CMD     22,00:00
   ```

3. To install the SU, enter the following command on MCC page 1990:

   ```
   CMD     5
   ```

   Comment: MCC page 1990 may be used to monitor the progress of the SU installation.

4. Before continuing, wait until MCC page 1990 appears as shown in Figure 5-17.

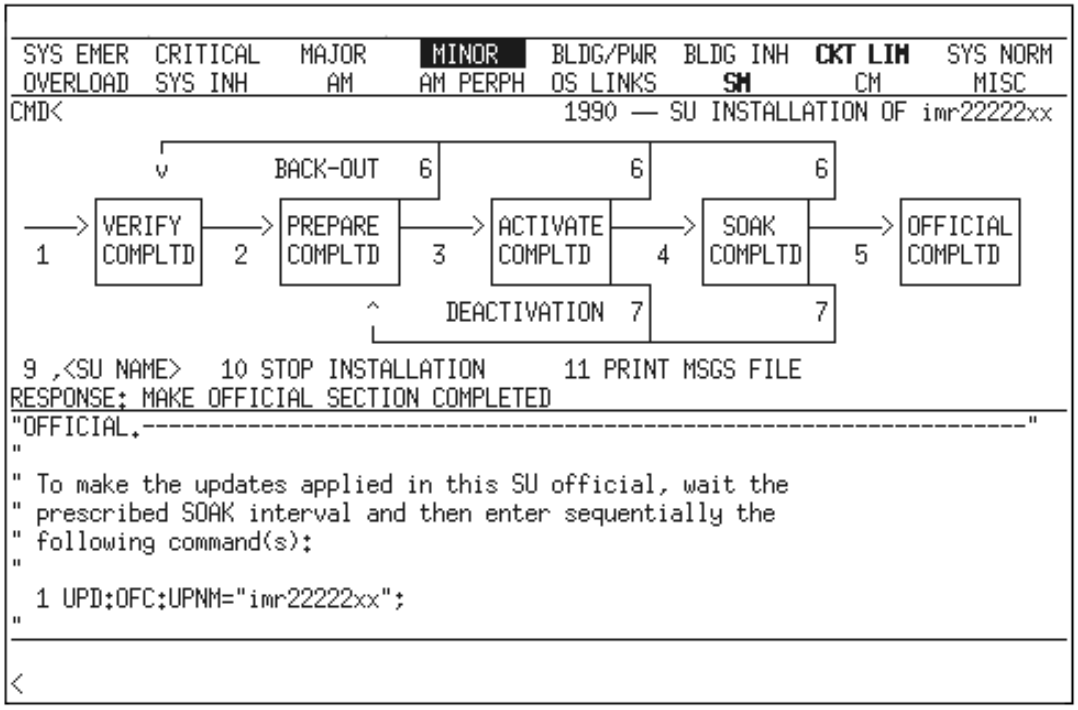


Figure 5-17 — MCC Page 1990 (SU imr22222xx)

Caution 1: On MCC pages 181, 182, etc., ensure that all SMs indicate MATE_PUMP before proceeding. See Figure 5-18.

Caution 2: On MCC page 1950, verify that both SUs (imr11111xx and imr22222xx) appear in the Official BWM History before proceeding.

SYS EMER OVERLOAD | CRITICAL SYS INH | MAJOR AM | MINOR AM PERPH | BLDG/PWR OS LINKS | BLDG INH SM | CKT LIM CM | SYS NORM MISC

CMD: _ 181 - OFFLINE SM 1-48 STATUS SUMMARY

START OPUMP	STOP OPUMP	RETRY PERF	RETORE PERF	OP OPUMP
2000 ALL SMS	3000 ALL SMS	4000 ALL SMS	5000 ALL SMS	600X SM X
200X SM X	300X SM X	400X SM X	500X SM X	600XX SM XX
20XX SM XX	30XX SM XX	40XX SM XX	50XX SM XX	

OFF LINE SWITCHING MODULES

LSM 1,0 MATE PUMP	LSM 2,0 MATE PUMP	LSM 3,0 MATE PUMP	LSM 4,0 MATE PUMP
LSM 5,0 MATE PUMP	LSM 6,0 MATE PUMP	LSM 7,0 MATE PUMP	LSM 8,0 MATE PUMP
LSM 9,0 MATE PUMP	LSM 10,0 MATE PUMP	LSM 11,0 MATE PUMP	LSM 12,0 MATE PUMP
ORM 13,0 MATE PUMP	ORM 14,0 MATE PUMP	ORM 15,0 MATE PUMP	ORM 16,0 MATE PUMP
LSM 17,0 MATE PUMP	LSM 18,0 MATE PUMP	LSM 19,0 MATE PUMP	LSM 20,0 MATE PUMP
•	•	•	•
•	•	•	•
LSM 45,0 MATE PUMP	LSM 46,0 MATE PUMP	LSM 47,0 MATE PUMP	LSM 48,0 MATE PUMP

Figure 5-18 — MCC Page 181

Figure 5-19 shows an example of MCC page 1985 paused after the completion of the Enter stage.

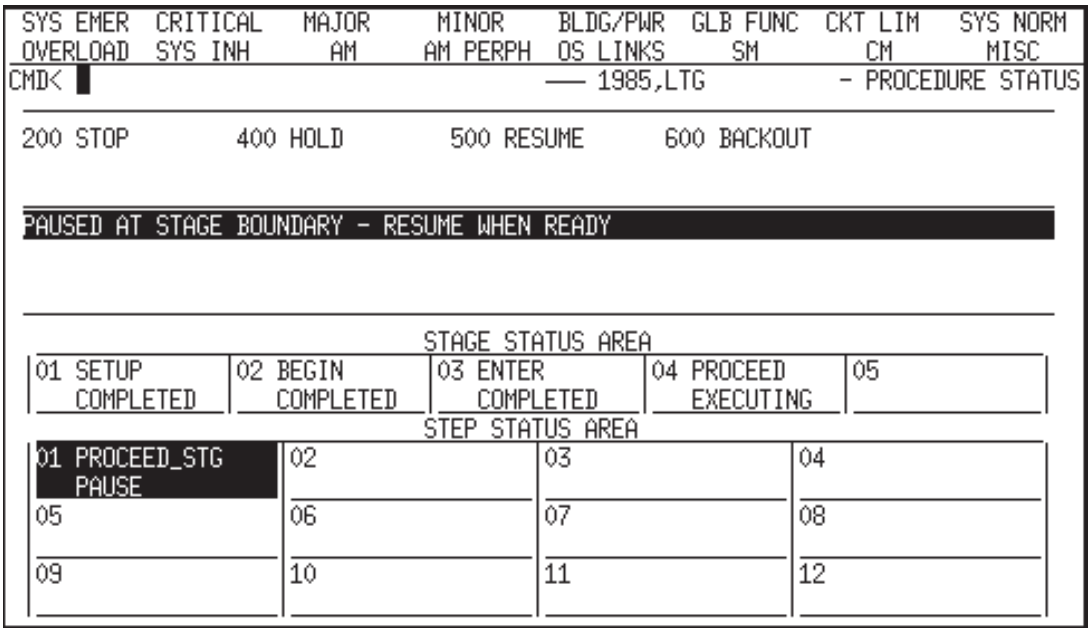


Figure 5-19 — MCC Page 1985 Paused at the Completion of the Enter Stage

5.5.8 SYSTEM CONFIGURATION

Figure 5-20 shows the system configuration at the completion of the Enter stage.

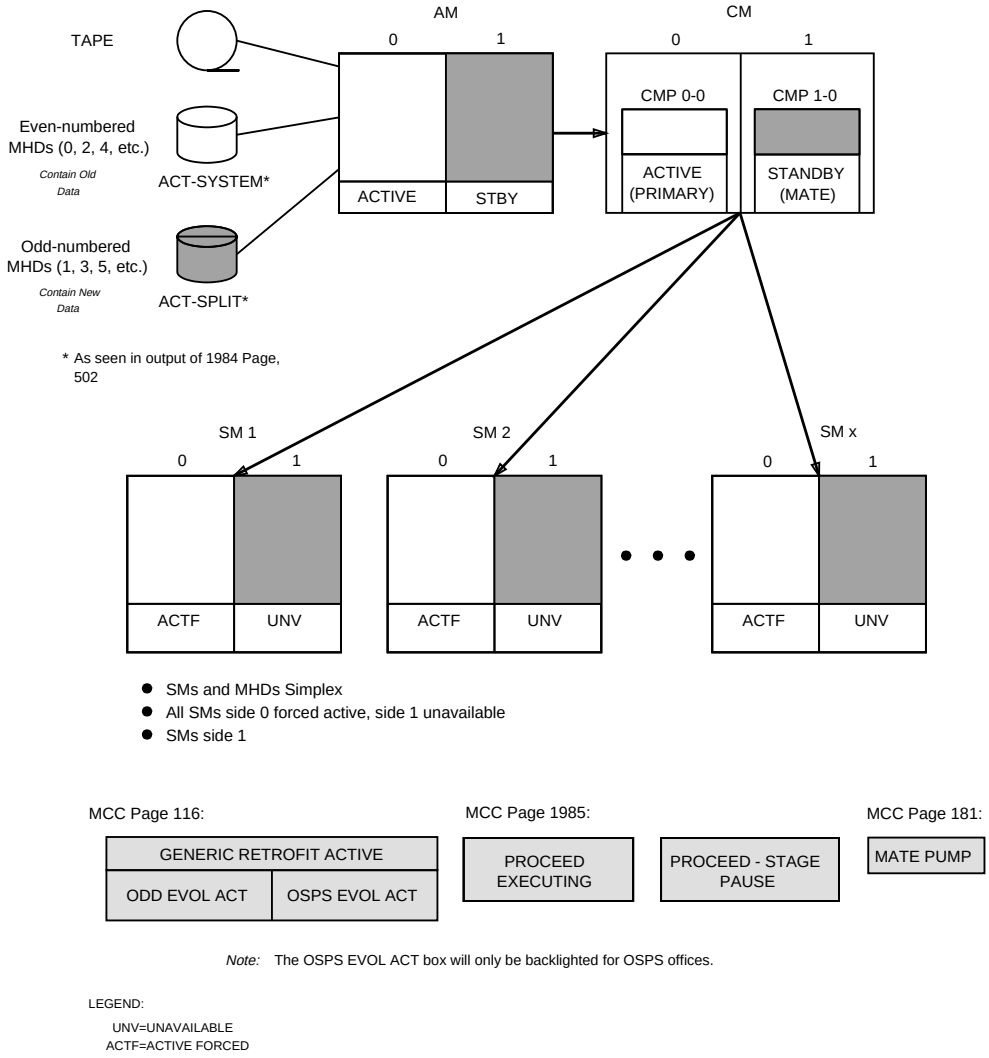


Figure 5-20 — Typical System Configuration at Completion of Enter Stage

All tasks in the Enter stage have been successfully completed.

5.6 PROCEED STAGE

Caution: Input all messages/commands required to perform the LTG at the MCC. During the Proceed stage, other terminals may not provide an accurate representation of the status of the switch.

OVERVIEW

Read: The AM off-line boot feature greatly changes the proceed stage for the LTG. Please read this overview section carefully before proceeding.

The AM off-line boot feature verifies that the AM and CM can be booted on the new database. This is done by isolating side 1 of the AM, CM, and all hardware units associated with them. Once isolated, side 1 is initialized and verified. During this process, side 0 continues to maintain call processing and other switch activities.

The AM off-line boot process is automatically invoked by the proceed command (Section 5.6.7). When the AM off-line boot process completes, a success message is sent to the ROP and the **PROCEED** stage continues.

During the execution of the AM off-line boot process, the maintenance terminals (that is, the MCC, STLWS, RC/V, UNIX, etc.) will appear in different states than they have in previous software release updates. The state of a specific terminal depends on which IOP the terminal is attached.

The AM off-line boot process isolates equipment on side 1 of the switch. Some of the impacts are described in the following paragraphs.

To perform the AM off-line boot, the MCC must be connected to IOP 0 and 1. The AM off-line boot process, called by the proceed poke on MCC page 1985, will determine if the MCC is connected to IOP 0. If it is not, a port switch is automatically executed. The MCC will go blank and will come up on IOP 0.

Other equipment, such as other terminals attached to the switch, are also impacted by the AM off-line boot. Terminals which are connected to IOP 1 will display information for the new side. At the same time, terminals which are connected to other IOPs will continue to display information for the old side.

If a problem is encountered by the AM off-line boot process, the AM, CM, and all hardware units associated with them are automatically re-duplexed on the old software database. A failure message is printed on the ROP and the proceed command fails on MCC page 1985.

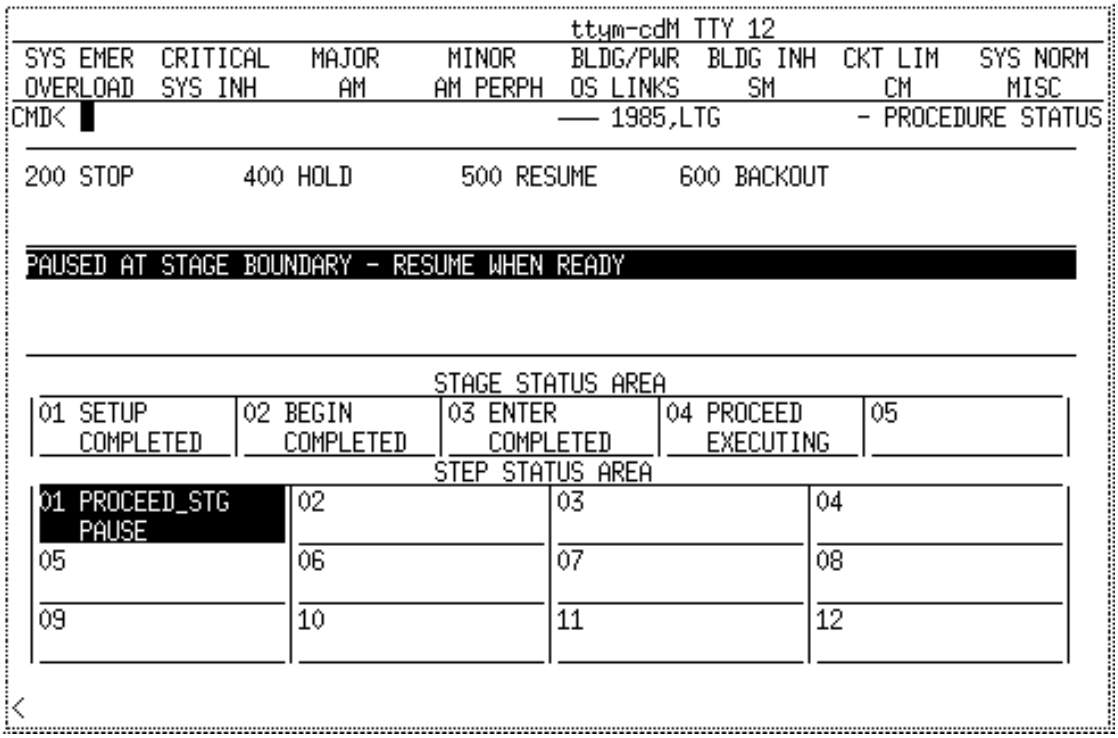


Figure 5-21 — MCC Page 1985 Paused Before the Start of the Proceed Stage

Figure 5-21 shows an example of MCC page 1985 paused before the start of the **Proceed** stage.

The following list describes each activity that will occur during the **Proceed** stage:

- **PROCEED-STAGE** - Setup for Proceed stage.
- **PREP ENV** - Save the selected options for use on the new side.
- **EAI SETUP** - Prompts the technician to manually set up the EAI page.
- **PREP ECD** - Modify old and new side ECD for recovery from the LTG boot.
- **CHG_VTOC** - Modify the new side ECD MHD status to split.
- **PRCDHOOK** - Pre-initializes and modifies user cron jobs.
- **START WRTAMA** - Initiates a **WRT:AMADATA** input command.
- **AMA SESSION** - Prompts the technician to start a manual AMA Teleprocessing or tape session.
- **TSM OLD** - Runs the Trunk Status Mapping command to gather the current status of the trunks.
- **APPLHOOK** - Copies files to the new release and performs AM Off-Line Boot.
- **START WRTAMA** - Initiates another **WRT:AMADATA** input command.
- **PAUSE** - Prior to switchforward.

5.6.1 FLUSH AND EVOLVE CORCS FROM SMS

Caution: The following command evolves and compresses CORCS. The length of time required to complete this step varies with the number of CORCs logged. Skipping this step may result in a failure or timeout of the PROCEED stage.

1. The following message cannot be executed unless ODD evolution is active. This can be verified by accessing MCC page 116 — the **ODD EVOL ACT** box should be backlit.

2. To flush CORCs from SM buffers and evolve them, enter message:

   ```
   MSG     CNVT:CORCLOG;
   ```

   Response:

   ```
   CORCFLUSH: SM=a COMPLETE (once for each SM)
   CORCFLUSH: AM COMPLETE
   ```

   (The following messages may take several minutes to complete.)

   ```
   [CNVT CORCLOG EVOL  AM  COMPLETE]
           [xxxx CORCS EVOLVED]
           [xxxx CORCS IN ERROR]
           [xxxx RDNT CORCS RMVD]
   [CNVT CORCLOG EVOL  CMP  COMPLETE]
           [xxxx CORCS EVOLVED]
           [xxxx CORCS IN ERROR]
           [xxxx RDNT CORCS RMVD]
   [CNVT CORCLOG EVOL  SM = x COMPLETE]
           [xxxx CORCS EVOLVED]
           [xxxx TRNCORCS EVOLVED]
           [xxxx CORCS IN ERROR]
           [xxxx TRNCORCS IN ERROR]
           [xxxx RDNT CORCS RMVD]
           [xxxx RDNT TRNCORCS RMVD]

   [CNVT CORCLOG EVOL IN PROGRESS]

           [CORC NUMBER xxx HAS BEEN READ]

   xxx CORCS xxxx TRNCORCS HAVE BEEN LOGGED IN THE CORC
           EVOLVED LOGFILES
   CNVT CORCLOG EVOL COMPLETED
   ```

   Comment: It may take several minutes to receive the entire response, do not proceed until the **CNVT CORCLOG EVOL COMPLETED** message is output. If **CNVT:CORCLOG** fails, rerun the preceding message. If it fails again, see Section 6.5.10 and/or escalate to your next level of support.

3. ***This step is OPTIONAL.*** The **corcevl.sum** (CORC) analysis file may be dumped which provides statistics on CORC evolution activity for each SM and/or the AM in the office.

   To dump CORC analysis file, enter message:

   ```
   MSG     DUMP:FILE:ALL,FN="/rclog/corcevl.sum",opl=999;
   ```

   Response:

   ```
   DUMP FILE ALL STARTED

           **** {SM = x | AM} ****

   CORC EVOLUTION STARTED -- Date is day mon aa bb:cc:dd yr
   ```

```
SUMMARY OF CORC ACTIVITY
   x  CORCS READ
   x  TORCS READ
   x  TRNCORCS READ
   x  CORCS EVOLVED CORRECTLY
   x  TRNCORCS EVOLVED CORRECTLY
   x  CORCS IN ERROR
   x  TRNCORCS IN ERROR

[RDNT CORC REMOVED FROM CURRENT LOG -

day mon aa bb:cc:dd yr]
    [xx yyyyyyy]

[No compression for evlxx.5E16]

[evlxx.5E16 COMPRESSION STARTED -- Date is

day mon aa bb:cc:dd yr]

[evlxx.5E16 COMPRESSION IS DONE, SUMMARY AS FOLLOWS:]

[xx CORCS READ FROM OLD evlxx.5E16]
    [xx CORCS WRITTEN INTO NEW evlxx.5E16]
    [xx TRNCORCS READ FROM OLD evlxx.5E16]
    [xx TRNCORCS WRITTEN INTO NEW evlxx.5E16]
    [FOLLOWING REDUNDANT CORCS ARE REMOVED]
        [x   yyyyyyy]
[SUMMARY OF CORCS LOGGED IN CURRENT evlxx.5E16 FILE]
   [xx yyyyyyy]

[DUMP FILE ALL IN PROGRESS SEGMENT x]

CORC EVOLUTION COMPLETED -- Date is day mon aa bb:cc:dd yr


(Reports output for each SM/AM with CORC activity)

DUMP FILE ALL COMPLETED SEGMENT x

****************************
****************************
Total Number Of CORCs Logged in Evolved Logfiles: xxx
Total Number Of TRNCORCs Logged in Evolved Logfiles: xxx
*****************************************
*************************************************
```

5.6.2 OFLBOOT STABILITY

For oflboot stability, from MCC page 1209, do the following after SM OFL-PUMP:

1. Verify that ONTC 1 is Major. If ONTC 1 is not major, switch it to major using the following message:

   ```
   MSG     SW:ONTC;
   ```

   Response: **SW ONTC COMPLETED**

2. Remove ONTC 1 using the following message:

   ```
   MSG     RMV:ONTC=1;
   ```

   Response: **RMV ONTC=1 COMPLETED**

3. If removal of ONTC 1 fails:

   a. Repeat step 1 twice.

   b. Repeat step 2.

4. If the removal of ONTC 1 fails a second time, halt RCL and escalate to your next level of support.

   Note: ONTC 1 will be OOS.

5.6.3 VERIFY SYSTEM STATUS

1. On MCC page 111, ensure the AMs are duplex (ACT/STBY). If the AMs are not duplex, restore OOS AM.

2. On MCC page 111, verify that AM 0 is **ACT**and AM 1 **STBY**. If AM 0 is STBY and AM 1 is ACT, on MCC page 111, enter command:

   ```
   CMD     400
   ```

   Response: **SW CU 0 COMPLETED**

   Comment: Verify AM 0 is ACT and AM 1 is STBY before proceeding.

3. Access MCC page 1850 and verify that CMP 0-0 is the **ACT** CMP (under the **CMP 0 PRIM STAT** box) and CMP 1-0 is the **STBY** CMP (under the **CMP 0 MATE STAT** box).

4. ***If*** CMP 0-0 is ***not*** the ACTIVE (primary) CMP, enter message:

   ```
   MSG     SW:CMP=0-0;
   ```

   Response:

   ```
   SW:CMP=0-0; PF[EXC ODDRCVY=ALL CMP=0-0 STOPPED]
   [REPT CMP=1-0 MATE  INITIALIZATION  TRIGGER=SW-REQUEST]
   [REPT MSKP_ENVIRONMENT:]
   [CMP=1-0 PHASE 1&2 INIT COMPLETION TIME: xxxx TYPE:xxx]
           [EVENT=xxxx]
   EXC ODDRCVY=ALL CMP=1-0 STARTED
   SW  CMP=0-0 COMPLETED
   [REPT COMMUNICATION RESTORED: AM TO CMP=1-0 MATE]
   [REPT MSKP_ENVIRONMENT:]
   [CMP=1-0 PHASE 3   INIT COMPLETION TIME: xxxxxx TYPE:xxx]
         [EVENT=xxxx]
   ```

   CMP 0-0 becomes **PRIMARY** *(active), CMP 1-0 becomes***MATE** *(standby).*

5. Execute the following command on MCC page 1985 to resume:

   ```
   CMD    500
   ```

   Response:

   ```
   REPT LTG PROCEED PERFORM EAI SETUP AS DIRECTED BY
     THE TRANSITION MANUAL
   REPT LTG PROCEED RESUME WHEN COMPLETE
   ```

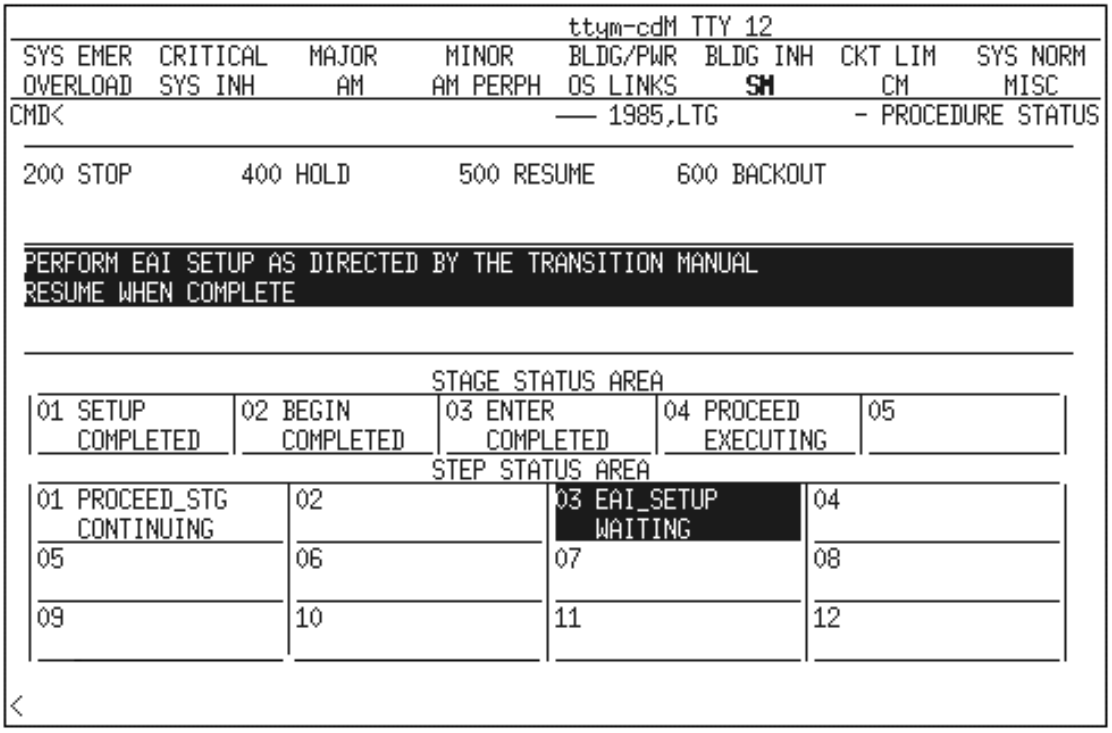


Figure 5-22 — MCC Page 1985 EAI Setup Waiting

5.6.4 EXECUTE PROCEED STAGE

Read: Read the following sequences up to Section 5.7.2 before continuing with the procedures. It is important that the sequences be followed and that you become familiar with the necessary inputs and corresponding outputs.

It is important that the persons performing the update be familiar with the various recovery and backout procedures available in Sections 6 and 7.

Prior to executing the resume **500** poke command, execute the following steps manually.

1. At this time, the operating company should notify all carrier systems connected to this office of the impending switch to the new database.
2. Inform the Update Coordinator that the switch will undergo a switch to the new database.
3. To dump the VTOC on MHD 1, enter message:

   ```
   MSG      DUMP:MHD=1,VTOC;
   ```

   Response:

   ```
   DUMP MHD 1 VTOC STARTED
   DUMP MHD 1 VTOC SEGMENT 1 OF 2
   ```

   Comment: Compare the VTOC with Table 5-16 to verify correct VTOC has been loaded on MHD 1.

5.6.5 SETUP EAI PAGE

1. Access EAI page.

Note: With software releases prior to 5E16.2, the secondary MHDs were selected on the EAI page. With the AM off line boot feature, it is necessary to select the primary MHDs.

2. Enter the following EAI commands:

```
CMD    14 clear eai page

CMD    20 select primary mhd
```

3. Ensure odd-numbered EAI commands 31 through 43 are backlit and the indicator for the primary MHDs shows SET before proceeding.
4. Access normal display (NORM DISP).
5. To switch ports, enter command on MCC page 111:

```
CMD     401
```

Response:

```
SW:PORTSW; PF
REPT ROP x STOPPED
REPT ROP y STARTED
SW PORTSW COMPLETED FOR ROP
```

Screen blanks while ports are being switched.

```
REPT MTTY x STOPPED
REPT MTTY y STARTED
SW PORTSW COMPLETED FOR MTTY
```

EAI page comes up followed by MCC page 111.

Comment: If the port switch fails, ensure that the switches on the EAI boards are in the auto position.

6. To check the AM, CMP, and SM status, enter message:

```
MSG     OP:SYSSTAT,UCL;
```

Response:

```
OP SYSSTAT   SUMMARY     FIRST RECORD
SYS:         INHIBITS-MTCE-RC MORE
AM:          INHIBITS-MTCE-SW MORE
CM:          INHIBITS-MTCE
CMP x-0 P:   NORMAL
CMP y-0 M:   NORMAL
L LSM a,0:   MATE_PUMP FORCED INHIBITS-MTCE-HW-SW CKT_OOS

 ...

B LSM b,0:   MATE_PUMP FORCED INHIBITS-MTCE-HW-SW CKT_OOS

 ...
S LSM w,0:   MATE_PUMP FORCED INHIBITS-MTCE-HW-SW CKT_OOS

 ...
G LSM z,0:   MATE_PUMP FORCED INHIBITS-MTCE-HW-SW CKT_OOS
```

7. On MCC pages 141, 142, etc., and on the previous **OP:SYSSTAT,UCL** report, verify that all SMs indicate MATE_PUMP.
8. For CNI offices, on MCC page 118, verify that all units are ACT/STBY. Notify your Signal Transfer Points (STPs) of the upcoming transition.
9. Wait for approval from Site Coordinator before proceeding beyond this step.

```
Site Coordinator Approval to Proceed.
```

10. Execute the following command on MCC page 1985 to resume:

```
CMD     500
```

Response:

```
REPT LTG PROCEED CONTINUING
REPT PREP ECD PROCEED USING '/usr/bin/rcvecd'

 FOR ULARP FORM PROCESSING
[REPT PREP ECD PROCEED WARNING: NO SPECIAL RCVECD TOOL FOUND
  USING /usr/bin/rcvecd]

REPT PREP ECD PROCEED USING '/usr/bin/rcvecd'

FOR ULARP FORM PROCESSING
UPD GEN PROCEED BEFORE GENERIC RETROFIT INITIALIZATION

 SELECT PRIMARY ROOT
UPD GEN PROCEED BEFORE GENERIC RETROFIT INITIALIZATION

 SELECT MHD 1
UPD GEN PROCEED COMPLETED
[DUMP:FILE:ALL,FN="/tmp/ofl/updtmp/LTG/cronfile"OPL=999; PF]
[DUMP FILE ALL STARTED]
REPT PRCD HOOK COMPLETED SUCCESSFULLY
WRT:AMADATA; PF
WRT AMA DATA HAS BEEN WRITTEN TO DISK
  READY TO TRANSFER DATA FROM DISK TO OUTPUT MEDIUM
*C REPT AMA DISK WRITER FOR STREAM STx
        RECORDING TO DISK SUSPENDED
*  REPT AMA DISK WRITER FOR STREAM STx  TERMINATION CODE 2
REPT AMA DISK WRITER FOR STREAM STx  INITIALIZATION COMPLETE
REPT AMA DISK WRITER FOR STREAM STx
        RECORDING TO DISK RESUMED
REPT LTG PROCEED INITIATE MANUAL AMA TELEPROCESSING OR TAPE
   SESSION NOW
REPT LTG PROCEED RESUME WHEN SESSION HAS STARTED
```

Note: In the preceding response, the term **ST**x means either **ST1** or **ST2**. If your office does not use dual stream billing (ST1 ***and*** ST2), messages will only be received for ST1. If your office does use dual stream billing, a set of messages will be received for each stream (ST1 and ST2).

5.6.6 FINAL AMA SESSION

The switch has the ability to access AMA partitions on the off-line disks. This final AMA session will be the last time you will teleprocess AMA data while on the OLD side. When your switch is on the NEW side, your first AMA session will automatically access the completed AMA records residing on the OLD side off-line disks.

1. This will flush (write) AMA billing data from the AM to the active disk, and is done automatically prior to final AMA session. See ROP for output.

   Response: *Assert 28334* ***may*** *be output which indicates that AMA records have been lost. AMA records have not been lost at this point. The assert is output because the buffer in the AM is normally written to disk only when full. If the buffer is written to disk and is not full at the time of the write, the assert may be output. The assert occurs when a*

WRT:AMADATA *is entered in a dual stream office, or when the* **WRT:AMADATA** *is entered more than once in rapid succession in a single stream office, or when the***WRT:AMADATA** *is entered two or more times in a dual stream office.*

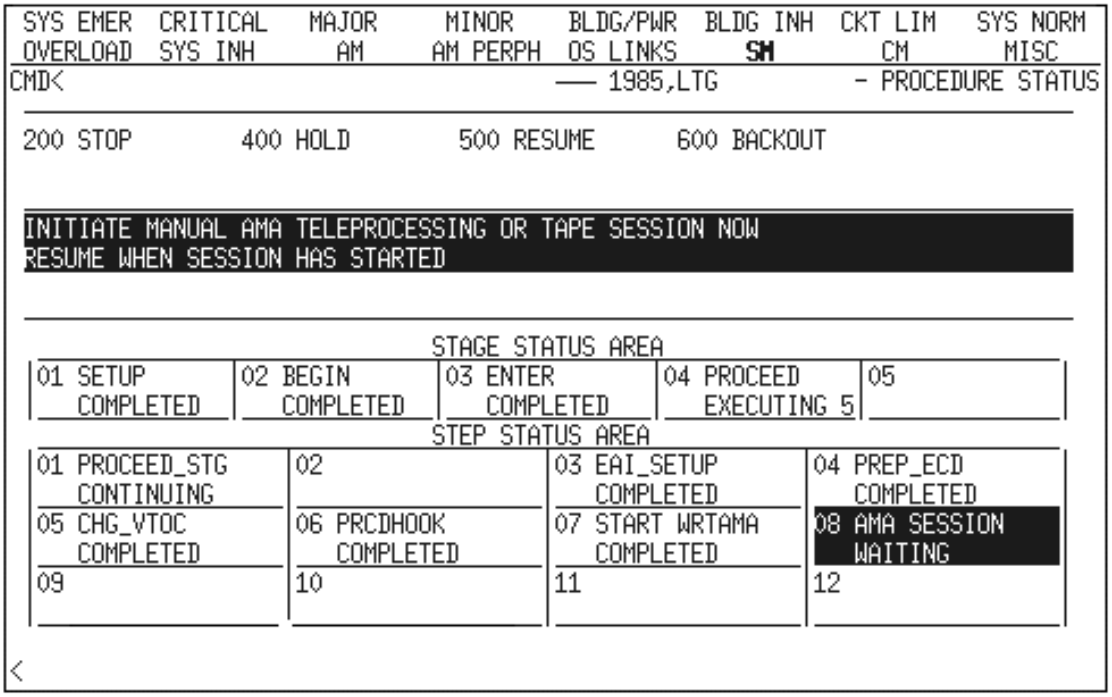


Figure 5-23 — MCC Page 1985 Proceed Stage Continuing

2. Initiate final manual AMA tape writing or teleprocessing session per local practice.

   Comment: If the teleprocessing session is being run at a non-standard time, it may be necessary to call personnel at the HOC to request a manual poll.

3. This step may be performed in teleprocessing offices to provide backup AMA data in the event that data from the final teleprocessing session is lost or mutilated at the host collector. In performing this step, the time interval from now to the system switch forward is increased by the amount of time required to generate the AMA tape.

   For offices that use teleprocessing, an ***optional*** manual AMA tape writing session to dump secondary AMA blocks can be performed at this time (see 235-105-210, *Routine Operations and Maintenance*). This tape should be saved for backup purposes.

4. To verify a successful manual AMA session, use Step 'a' (single-stream office) or Step 'b' (dual-stream office):

   a. Single-stream office - enter message:

      `MSG OP:AMA:SESSION;`

      Response: *Response for offices with AMA teleprocessing:*

```
REPT AMA TELEPROCESSING SESSION FOR STREAM STx

      PREVIOUS AMA TELEPROCESSING SESSION STATUS
   START TIME xxx x xx:xx:xx
   STOP TIME xxx x xx:xx:xx
   BLOCKS TRANSMITTED xxx
   PRIMARY POLLS REJECTED x
   SECONDARY POLLS REJECTED x
   NORMAL TERMINATION
                or
Response for offices with AMA tape writing:
REPT AMA TAPE SESSION FOR STREAM STx

   PREVIOUS AMA TAPE SESSION STATUS
   VOL SER NUMBER
   START TIME xxx x xx:xx:xx
   PRIMARY DATA
   FIRST BLOCK x xxx x xx:xx
   LAST BLOCK x xxx x xx:xx
   TAPE IS xxx% FULL
   RECORDS WRITTEN x
   NORMAL TERMINATION - NO MORE DATA
```

Comment: From the output, verify that the message **NORMAL TERMINATION** is received. If this output is not received, one of the following is true:

- There is an AMA session still in progress.
- The last AMA session was unsuccessful.

b. Dual-stream office - enter message:

```
MSG     OP:AMA:SESSION,a;
```

Where: a = ST1 or ST2. Enter message once for ST1, and once for ST2.

Comment: *See the Response and Comment for Step 'a'.*

5. To verify the percentage of disk space occupied by AMA data, use Step 'a' (single-stream office) or Step 'b' (dual-stream office):

a. Single-stream office - enter message:

```
MSG     OP:AMA:DISK;
```

Response:

```
REPT AMA DISK SUMMARY FOR STREAM STx

        DISK IS CURRENTLY xx% FULL

        NUMBER OF PRIMARY AMA BLOCKS IN USE IS

 APPROXIMATELY: xx
```

b. Dual-stream office - enter message:

```
MSG     OP:AMA:DISK,a;
```

Where: a = ST1 or ST2. Enter message once for ST1, and once for ST2.

Comment: *See the Response and Comment for Step '4a'.*

6. AMA will continue to accumulate on the OLD side until the switch is on the NEW side. Once on the NEW side, the first AMA session will automatically access the AMA records on the OLD side off-line disks.

7. To prevent the possible loss of AMA records from having an inadvertent AMA session running, enter message:

```
MSG     INH:AMA:SESSION,a;
```

Where: a = ST1 or ST2. Enter message once for ST1, and once for ST2.
Response: = **INH:AMA:SESSION,STa; IP**

```
REPT AMA CONTROL FILE FOR STREAM STa


        OFFICE ID xxxxxx
        DAYS UNTIL EXPIRATION x
        PROCESS START TIME xx:xx
        PROCESS STOP TIME xx:xx
        DEFAULT MT FOR AUTO TAPE START x
        AMA OPTION IS TELEPROCESSING
        DATA TRANSFER IS MANUALLY INHIBITED
        AMAT PASSWORD xxxxxxxxxx
        HOC PASSWORD xxxxxxxxxx
        BACKUP HOC PASSWORD xxxxxxxxxx
        PASSWORD FROM LAST SESSION xxxxxxxxxx
        TAPE SESSION IS NOT IN PROGRESS
        TELEPROCESSING SESSION IS NOT IN PROGRESS
        AUTOMATIC TAPE WRITING IS INHIBITED
        TAPE SEQUENCE NUMBER x
        TAPE DATA SET ID xxxxxxxx
```

5.6.7 PROCEED COMMAND EXECUTION

The following poke command will execute the Proceed process and automatically invoke the AM off-line boot process. The AM off-line boot process will isolate side 1 of the AM, CM, and all hardware units associated with them. Once isolated, side 1 is initialized on the new software release ODD and verified. During this process, side 0 continues to maintain call processing and other switch activities. ***All messages/commands input to the switch must be entered at the MCC or SCC from this point in the procedures until the AM, CM, and all hardware units associated with them are duplexed on the new ODD.***

1. On MCC page 1985, enter command:

```
CMD     500
```

Note: All of the following ROP output may not be in the same order as indicated due to switch activity at the time.

Response:

```
REPT LTG PROCEED CONTINUING
PRM_0 E800 xxxx xxxx xxxx xx xx xx on ROP
UPD GEN TSM  IN PROGRESS  xxx   TRUNKS LOGGED
UPD GEN TSM  COMPLETED
UPD GEN PROCEED APP EXECUTING THE FOLLOWING INPUT COMMAND
OP:AMA:CONTROLFILE
OP:AMA:CONTROLFILE; PF
(The AMA control file is dumped to the ROP.)
REPT AMA CONTROL FILE FOR STREAM ST1
[UPD GEN RETRCV WARNING: NO SPECIAL RCVECD TOOL FOUND
   USING /usr/bin/rcvecd]
[UPD GEN PROCEED APP EXECUTING CORCFLUSH]
[CORCFLUSH:  SM=X COMPLETE (once for each SM)]
CORCFLUSH:  AM COMPLETE
(A portswitch may occur sometime during this sequence.)
[ UPD GEN PROCEED APP AM SWITCH STARTED ]
```

```
[ UPD GEN PROCEED APP AM SWITCH COMPLETED ]
[ SW CU 0 COMPLETED ]
UPD GEN PROCEED APP AM OFFLINE BOOT STARTED
EXC OFLBOOT STARTED
EXC OFLBOOT IN PROGRESS

(Messages indicating stopping, removal,

 degrowth and unequipping of units are now received)

START OF CU-1 RECOVERY
CU RECOVERY COMPLETE

Initialization PRMs appear on the ROP.
If any failing PRMs are encountered, consult the PRM document.

 If only failing PRMs are output, escalate to your next

 level of support immediately.

EXC OFLBOOT INFO
BOOT IN PROGRESS
OLBSTATE   LASTATE      FUNCTION   LINE
EXC_BOOT   EXC_AIMECD   MON_BOOT   XXXX

(The above message is output several times)

UPD GEN PROCEED APP AM OFFLINE BOOT SUCCESSFUL
EXC OFLBOOT COMPLETED
OFFLINE SIDE BOOT COMPLETE

OLBSTATE   LASTATE      FUNCTION          LINE
EXC_BOOT   EXC_AIMECD   OLB_MSG_HANDLER   XXX

UPD GEN PROCEED APP EXECUTING CORCFLUSH
CORCFLUSH:  SM=X COMPLETE (once for each SM)
CORCFLUSH:  AM COMPLETE

UPD GEN PROCEED APP EXECUTING CORCEVOL

(The following messages take several minutes to complete.)

[CNVT CORCLOG EVOL  AM  COMPLETE]
        [xxxx CORCS EVOLVED]
        [xxxx CORCS IN ERROR]
        [xxxx RDNT CORCS RMVD]
[CNVT CORCLOG EVOL  CMP  COMPLETE]
        [xxxx CORCS EVOLVED]
        [xxxx CORCS IN ERROR]
        [xxxx RDNT CORCS RMVD]
[CNVT CORCLOG EVOL  SM = x COMPLETE]
        [xxxx CORCS EVOLVED]
        [xxxx TRNCORCS EVOLVED]
        [xxxx CORCS IN ERROR]
        [xxxx TRNCORCS IN ERROR]
        [xxxx RDNT CORCS RMVD]
        [xxxx RDNT TRNCORCS RMVD]
[CNVT CORCLOG EVOL IN PROGRESS]
        [CORC NUMBER xxx HAS BEEN READ]

xxx CORCS xxxx TRNCORCS HAVE BEEN LOGGED IN THE CORC
        EVOLVED LOGFILES
```

```
UPD GEN PROCEED APP AM OFFLINE BOOT SUCCESSFUL
WRT:AMADATA; PF
WRT AMA DATA HAS BEEN WRITTEN TO DISK
READY TO TRANSFER DATA FROM DISK TO OUTPUT MEDIUM
*C REPT AMA DISK WRITER FOR STREAM STx
     RECORDING TO DISK SUSPENDED
*  REPT AMA DISK WRITER FOR STREAM STx TERMINATION CODE 2
REPT AMA DISK WRITER FOR STREAM STx INITIALIZATION COMPLETE
REPT AMA DISK WRITER FOR STREAM STxLI Comment:
  RECORDING TO DISK RESUMED
REPT PROC SCHED SWITCHFWD PAUSED AT STAGE
  BOUNDARY - RESUME WHEN READY
```

Comment: On MCC page 111, AM 0 should be ACT and AM 1 should be UNEQ. The output responses should verify that the AM has been completely split.

On MCC page 111, verify that OFLBOOT IP-ONLINE appears in the upper left corner backlit in red. Notice that other workstations may show OFLBOOT IP-OFFLINE. During this time, the off-line terminals will show the SMs in COMM LOST. The on-line terminals will show SMs still in MATE PUMP.

The order of messages (particularly the PRMs) on the ROP may vary from the order of messages shown in the preceding output response.

The cronfile dumped during the Proceed stage is the 5E16.2 system cronfile which will be activated during **rmvtools**.

Read:

If the **Proceed** stage fails due to an AM off-line boot error, the AM and AM hardware units, with the exception of the off-line disk drives, should go from an UNEQ status to an OOS status. They should then automatically duplex. The duplexing of these units should start with the units connected to IOP1 (MCC page 121), then continue with units shown on MCC pages 111, 115, 118, and 1850. If this does not appear to be happening within one minute of the proceed stage failing, on MCC page 1984 enter **507** to STOP OFLBOOT.

Before continuing, you should make sure that all AM hardware units, except for the disk drives, are duplexed. Check MCC pages 111, 115, 118, and 1850 for simplexed units. See Figure 5-24. If there are any simplexed units which are not automatically duplexing, manually duplex them prior to proceeding.

If you wish to continue the LTG without using AM off-line boot, proceed to Section 8.4 of this document.

Warning: CM3 offices should NOT go forward without using AM Offline Boot. Failure to use AM Offline Boot with CM3 offices will result in unacceptably HIGH recovery times. For CM3 offices — resolve AM Offline Boot failures and retry the Switchforward with AM Offline Boot.

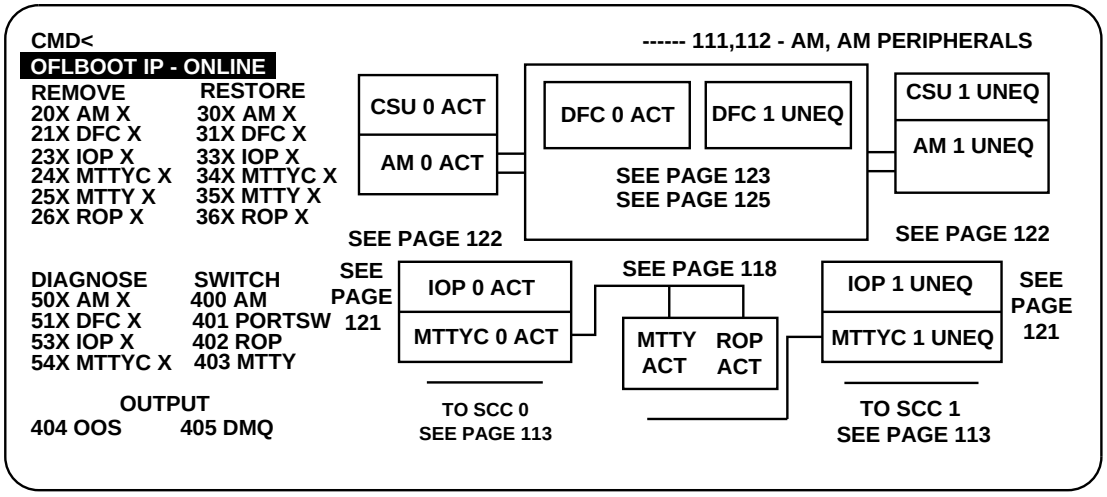


Figure 5-24 — MCC Page 111

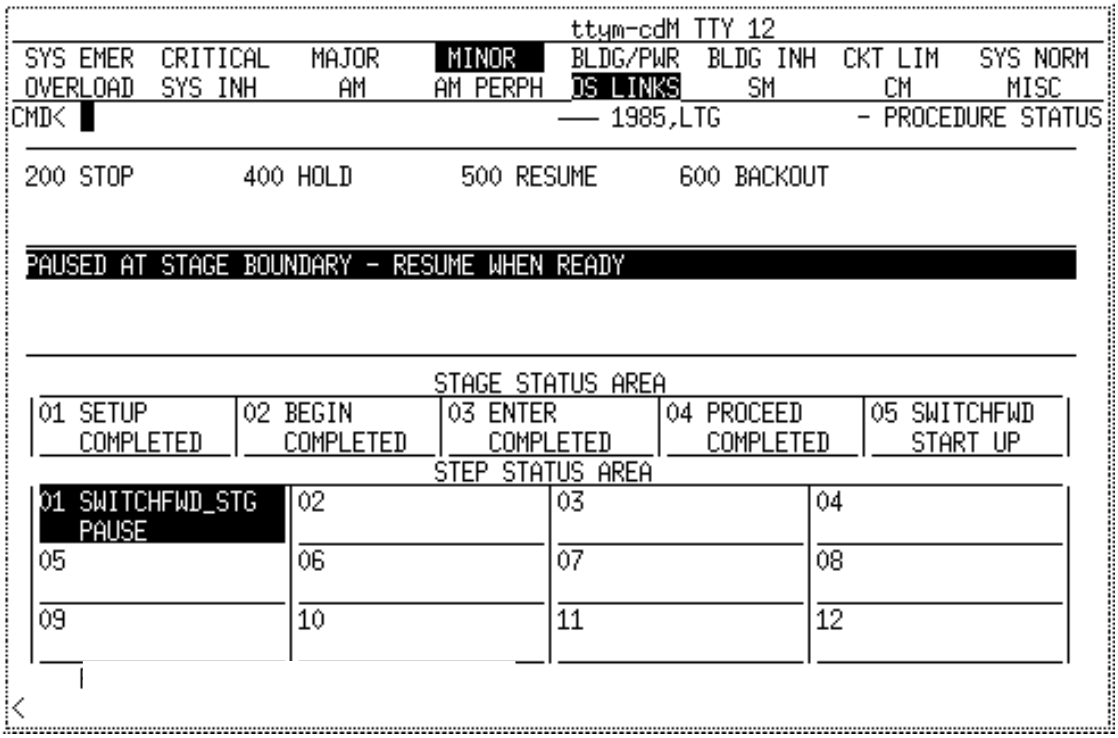


Figure 5-25 — MCC Page 1985 Paused at the Switchforward Stage

5.6.8 WRITE AMA SESSION

It is not possible to teleprocess the AMA data at this point. Your first AMA session will automatically access the AMA records on the OLD off-line disks.

This step flushes the AMA data to active disk. If this step is not executed, AMA records in the AMA buffers will be lost.

1. To flush (write) AMA billing data from the AM to the active disk, enter command:

   ```
   CMD   wrt:amadata
   ```

   Response: *Assert 28334* ***may*** *be output which indicates that AMA records have been lost. AMA records have not been lost at this point. The assert is output because the buffer in the AM is normally written to disk only when full. If the buffer is written to disk and is not full at the time of the write, the assert may be output. The assert occurs when a* **WRT:AMADATA** *is entered in a dual stream office, or when the* **WRT:AMADATA** *is entered more than once in rapid succession in a single stream office, or when the***WRT:AMADATA** *is entered two or more times in a dual stream office.*

   ```
   WRT:AMADATA;
   WRT:AMADATA; PF
   (Critical alarm sounds)
   *C REPT AMA {TELEPROCESSING SUMMARY|DISK WRITER}
    FOR STREAM STx

   RECORDING TO DISK SUSPENDED
   [REPT DKDRV INFO CODE H'260]

   (may be received several times)

   [WRT AMA DATA HAS BEEN WRITTEN TO DISK]
   [READY TO TRANSFER DATA FROM DISK TO OUTPUT MEDIUM] (on ROP)

   INIT AM SUMMARY  DLVL=x  SLVL=x  HLVL=x  CLVL=x  EVENT=xxxx
        INIT SCOPE=AM-FPI   PROCESS SCOPE=AIM PROCESS
        MODE=OPERATIONAL     RC-BACKOUT=NO
        INIT TRIGGER=AUTO SOFTWARE   INIT TIME =x SECONDS
        PROCESS            CREATED         INITIALIZED
        AMDW1                SUCCESS         SUCCESS

   * REPT AMA DISK WRITER FOR STREAM STx

   TERMINATION CODE 2
   REPT AMA DISK WRITER FOR STREAM STx  INITIALIZATION COMPLETE

   PRM_x EE00 xxxx 07DD xxxx xx xx xx

   (may appear several times)

   REPT AMA DISK WRITER FOR STREAM STx

   RECORDING TO DISK RESUMED
   ```

   Comment: In the preceding response, the term **ST**x means either **ST1** or **ST2**. If your office does not use dual stream billing (ST1 ***and*** ST2), messages will only be received for ST1. If your office does use dual stream billing, a set of messages will be received for each stream (ST1 and ST2).

2. The AMA records just written to disk will be processed when you perform your first 5E16.2 AMA session. A feature in 5E16.2 will access AMA records on the off-line disks.

3. Verify the contents of the disk maps for all partitions and the contents of the global maps for each stream.

   Enter message:

   ```
   MSG     OP:AMA:MAPS;
   ```

   Response:

   ```
            REPT AMA DISK MAPS FOR STREAM STa
                 WRITE PARTITION  x   READ PARTITION  x

                 PARTITION  x DISK MAP:

                    FPO: xx   LPO: xx   FPS: xx   LPS: xx

                    FSO: xx   LSO: xx   FSS: xx   LSS: xx

                    FBO: xx   LBO: xx   FBS: xx   LBS: xx
   ```

5.6.9 SYSTEM CONFIGURATION

Figure 5-26 shows the system configuration at the completion of the Proceed stage.

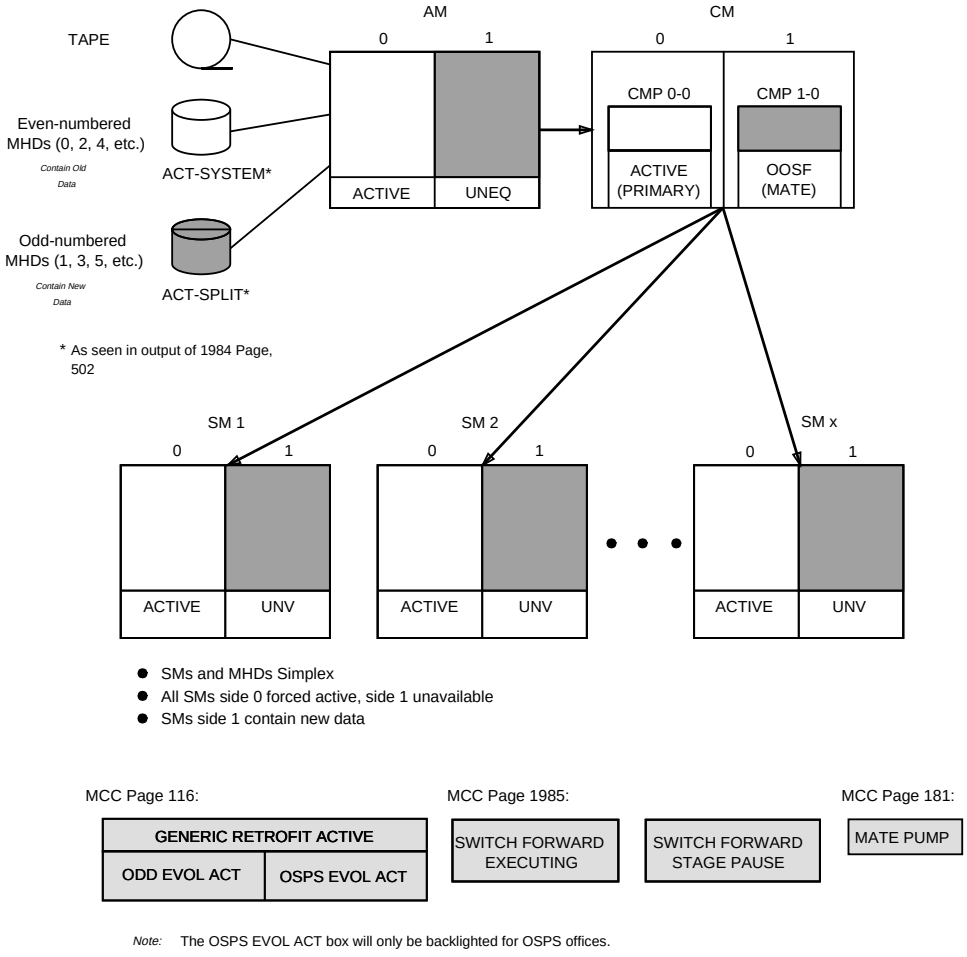


Figure 5-26 — Typical System Configuration at Completion of Proceed Process

5.7 SWITCHFORWARD STAGE

5.7.1 SM, CM, AND AM SWITCH FORWARD

Review this section to become familiar with the sequence of events before continuing.

Note: From the time the SMs are switched to side 1 until the AM and CMP recover from their switchforward (approximately **1** minute), the switch does not process new originating calls. (Two-port analog and circuit-switched ISDN stable calls with talking paths should be preserved.)

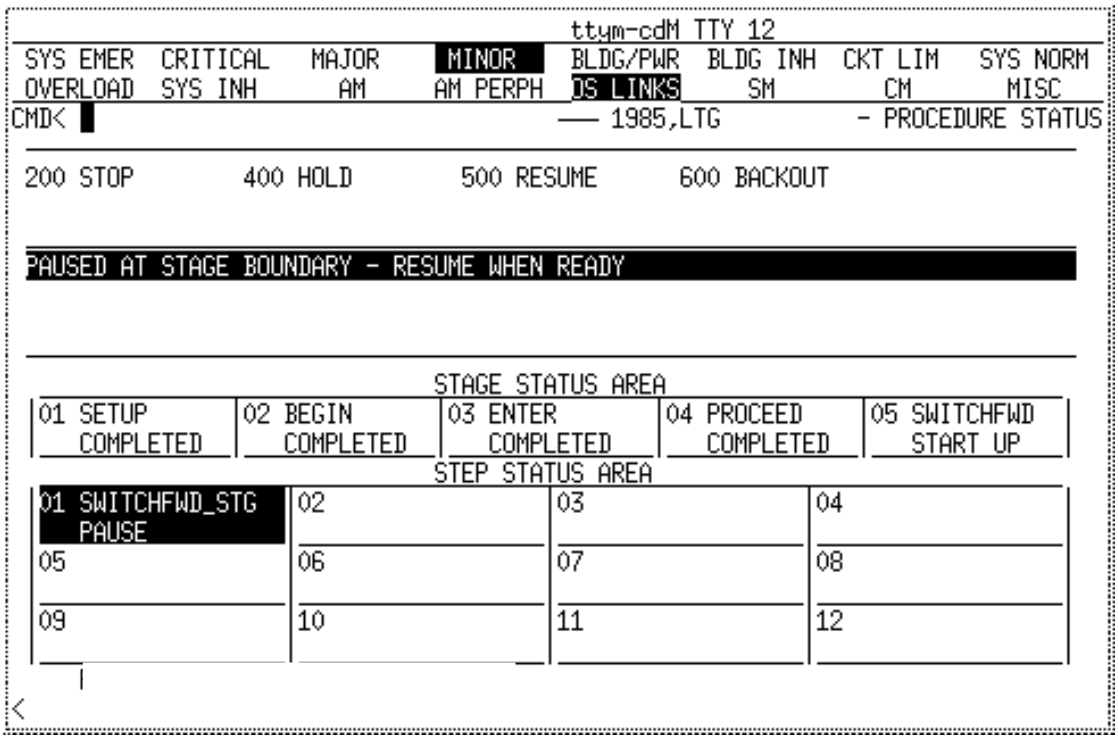


Figure 5-27 — MCC Page 1985 Paused at the Switchforward Stage

Figure 5-27 shows an example of MCC page 1985 paused before the start of the **Switchforward** stage.

The following list describes each activity that will occur during the **Switchforward** stage:

- **SWITCHFWD-STAGE** - Setup for switchforward.
- **CONFIRM SWFWD** - Requires confirmation before switching the SMs.
- **OLD SIDE SM MANAGER** - Provides (as needed) information and control for switching the SMs forward and backward.
- **APPLHOOK** - Switches the SMs and AM (using AM Off-Line Boot) to the new side.
- **SWFWD STG** - Provides information on backing the SMs out to the old side (if needed).
- The AM and CMP are switched to the new side when the SMs are switched forward.

- After the switchforward is complete, hardware on the old AM side will be Unequipped (UNEQ).

5.7.1.1 Other Office Notification

Notify appropriate Operations Systems (OS) sites, interconnecting offices, SCC, TCC, STPs, etc., of the scheduled LTG.

5.7.1.2 Verify No Emergency Calls are in Progress

Using local procedures, verify that no ***emergency calls*** are in progress.

Comment: Wait for any such calls to end before continuing. If any 911 calls are in progress during the initialization, the ability to recall the originator will be lost after the initialization.

5.7.1.3 Perform Switchforward

Warning: AM off-line boot will automatically switch to the new software release. Do NOT do a 42-S-54 boot on the EAI page.

1. Turn off External Sanity Monitor (ESM) at miscellaneous frame. This causes a major alarm. Access MCC page 116 (Miscellaneous) and verify that power has been removed from ESM. If power is off, the POWER indicator is backlit, and the word OFF is displayed. If a significant period of time has elapsed since completion of the proceed stage, it may be desirable to save any additional CORCs made during the time. If it is desired, re-execute section 5.6.1, FLUSH AND EVOLVE CORCS FROM SMS before continuing.

   Verify AM off-line boot is still running. Access MCC page 111. If all AM units on side 1 display their status as UNEQ, then AM off-line boot is still running. The message **OFLBOOT IP - ONLINE** will also appear backlit in red.

   If AM off-line boot is not running, make sure all units on MCC pages 111, 115, 118, and 1850 are duplex with the exception of the odd numbered disk driver which should be SIMPLEX. If you wish to retry AM off-line boot, on MCC page 1985, enter a resume command.

   If you wish to continue the LTG without using AM off-line boot, proceed to Section 8 of this document.

   If you have any questions as to how to proceed, contact your next level of support.

2. To confirm switchforward of SMs, the CM, and the AM, on MCC page 1985, enter command:

   ```
   CMD     500
   ```

   Response:

   ```
            REPT LTG SWITCHFWD


            WARNING THE NEXT STEP IS SERVICE AFFECTING
            NOTIFY EMERGENCY OPERATORS
            RESUME WHEN READY
   ```

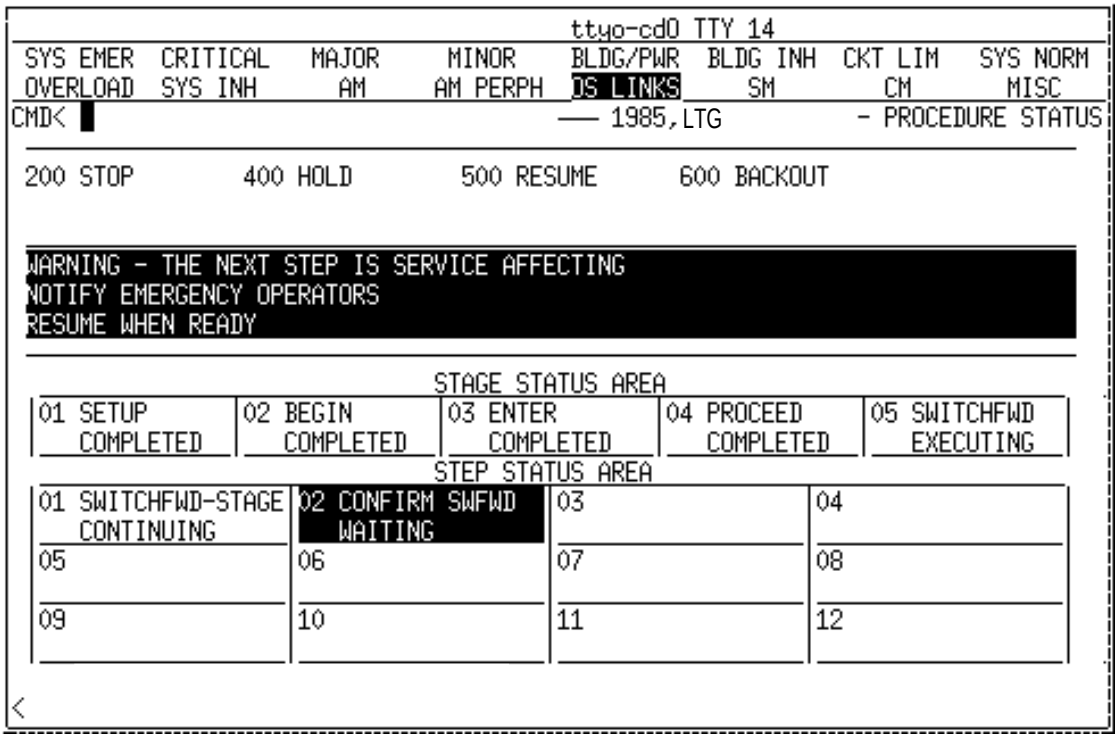


Figure 5-28 — MCC Page 1985 Confirm Switchforward Waiting

3. To switch SMs, the CM, and the AM, on MCC page 1985, enter command:

   `CMD 500`

   The following message appears on the ROP:

   WAITING TO SWITCH SMS AND AM.
   ENTER 500 TO SWITCH FORWARD.
   ENTER 600 TO SWITCH BACK.[2]

   The 1985 MCC page appears as shown in Figure 5-29:

2. The 600 command should only be used in the event of error recovery.

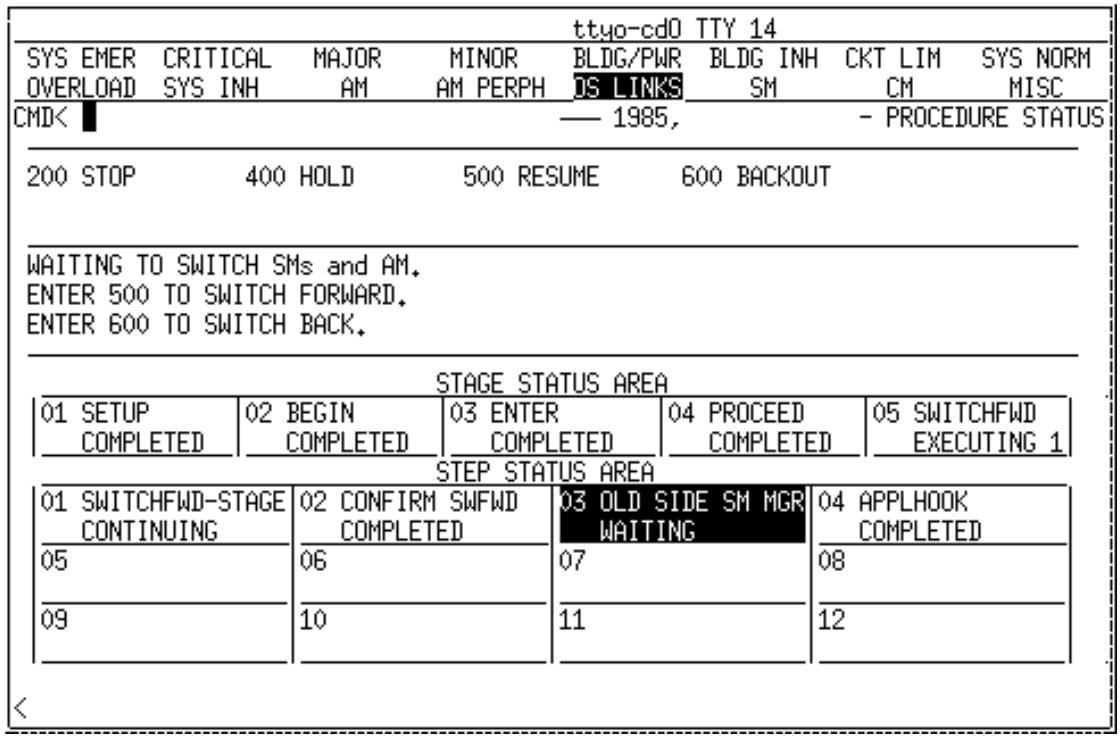


Figure 5-29 — MCC Page 1985 Old Side SM MGR

> ***Read:*** Entering the next poke/message results in switching the AM, CM, and all SMs from the current software release to the new database. During the initial **UPD:GEN:SWITCHFWD** command, if all the SMs are in the expected state (MATE_PUMP/FORCED or ISOLATED), a log file (applswfd) is written to MHDs 0 and 1. Subsequent SWITCHFWD, SWITCHBCK, or BACKOUT commands determine the destination SM MCTSI side of the Generic LTG Switch (GRSW) from the applswfwd log.

4. On MCC page 1985, enter command:

   ```
   CMD   500
   ```

   Note: Note that the PRMs may or may not be output to the ROP. This does **NOT** indicate that a problem condition exists. If the remainder of the response is seen on the ROP output, you may proceed with the next step.

   Response:

   ```
   [REPT LTG SWITCHFWD CONTINUING]
   UPD GEN SWITCHFWD SM SWITCH STARTED

   REPT OFFLINE BOOT IN PROGRESS

   UPD GEN SWITCHFWD SM SWITCH COMPLETED

   REPT CCS7 CLUSTER FAILURE XXX X X (Repeats Several Times)

   RST MTTY 1 COMPLETED

   RST ROP 1 COMPLETED
   ```

```
RST SCC 1 COMPLETED

REPT SCSDC 1 OUT OF SERVICE

RST SCSDC 1 COMPLETED

REPT ROP 1 STARTED

REPT GROWTH MTTY 1 IN PROGRESS

REPT GROWTH ROP 1 IN PROGRESS

REPT GROWTH SCC 1 IN PROGRESS

REPT GROWTH SCSDC 1 IN PROGRESS

REPT GROWTH MTTY 1 COMPLETED

REPT GROWTH ROP 1 COMPLETED

REPT GROWTH SCC 1 COMPLETED

REPT GROWTH SCSDC 1 COMPLETED

SW OFLBOOT COMPLETED

SWITCH ONLINE SIDE COMPLETED

INH:REX; OK

INH:DMQ:SRC=ADP; OK

INH:DMQ:SRC=REX; OK

INH:REORG; OK

RST:CLNK,ALL; PF

RST CLNK ALL  COMPLETED

REPT OFFLINE BOOT IN PROGRESS (output every 2 minutes)
REPT OLBTOOL
 STARTING

REPT OLBTOOL
        COMPLETED SUCCESSFULLY

REPT SWITCHER
        STARTING

REPT SWITCHER
        SWITCHING SMsREPT SWITCHER
        WAITING FOR SM TO CLEAR INITREPT SWITCHER
        SWITCHING SET BREPT SWITCHER
        COMPLETED SUCCESSFULLYREPT SCMG
        ISDN-UP NOW BEING MARKED FOR SERVICE
PRM_1 E541 2918 0148 xxxx xx xx xx
PRM_1 EE41 E100 07F9 xxxx xx xx xx
PRM_0 EB00 6001 0000 xxxx xx xx xx
PRM_1 E841 0001 3D08 xxxx xx xx xx
PRM_1 EE41 0300 07F9 xxxx xx xx xx
PRM_1 E841 0001 0A03 xxxx xx xx xx
```

```
PRM_1 E841 0001 0703 xxxx xx xx xx
PRM_1 E841 0001 1303 xxxx xx xx xx
PRM_1 E841 0002 0503 xxxx xx xx xx
PRM_1 EE41 0400 07F9 xxxx xx xx xx
```

If the AM or any SMs fail to switch over. Perform the following **ONLY IN THE CASE OF FAILURE**:

1. On MCC page 1989, change the **Unconditional Execution** indicator to **Y** by entering:
   `CMD  401,y`
2. On MCC page 1985, enter a resume command **ONLY IF THE AM OR ANY SMs FAILED TO SWITCH OVER**:
   `CMD  500`

   This **500** response matches the previous **500** response. However, this response's second line is, **UPD:GEN:SWITCHFWD,UCL;**
3. If any SMs fail to switch over, proceed immediately to Recovery Action **R-38** (Section 6.6.38). If R-38 does ***not*** successfully complete, Site Coordinator must decide to either continue with the procedures, back out, or escalate to your next level of support. For back out, see Table 7-1. Figure 5-31 shows MCC page 1985 at the start of **Recovery Preparation**
4. If the AM fails to switch over, check that OFLBOOT IP and CSU ACTIVE are backlit on the 111 page and enter:
   `MSG  SW:OFLBOOT,UCL`
5. If OFLBOOT IP and CSU ACTIVE are **not** backlit on the 111 page, perform the following manual procedure:
   a. On MCC page 111, ensure AM 0 ACT. If AM 1 is ACT, AM 0 STBY, on MCC page 111 enter command:
      `CMD  400`

   Comment: Verify AM 0 ACT before proceeding.

   b. Access EAI page.

   c. Ensure odd-numbered EAI commands 31 through 43 are backlit (that is, cleared) before proceeding.

   d. Ensure "SET-INH" box is ***not*** visible after "INH-TIMER".

   e. Enter the following EAI commands:
      `CMD  34` **Set hardware inhibits**
      CMD `36` **Set software inhibits**
      CMD `10` **Force AM 0 (simplexes AM) Response: (y/n)**
      CMD `Y` **Forces AM 0 on-line**
      CMD `22` **Select secondary MHD**
      CMD `31` **Clear BACK-ROOT**
      CMD `33` **Clear min config.**

      Response:

      REPT CU 1 UNAVAILABLE
      [REPT CU 1 UNAVAILABLE]
      REPT CU 0 FORCED ONLINE

   f. Enter the following on the EAI page to set up the application parameter:
      `CMD  42` **(Sets application parameter mode)**
      PARAMETER: `S` **(S saves stable calls)**

   g. Enter the following on the EAI page to perform the system initialization:
      `CMD  54` **(Full AM boot on new software release)**
      Boot? (y/n) `y` **(Boot begins after "y" is entered).**

   h. If the AM still fails to switch to the new side, escalate to your next level of support.

5. Log time of boot on Call Processing Verifications Worksheet (Table 9-8).
6. When MCC page 111 is displayed on the new side, enter command:

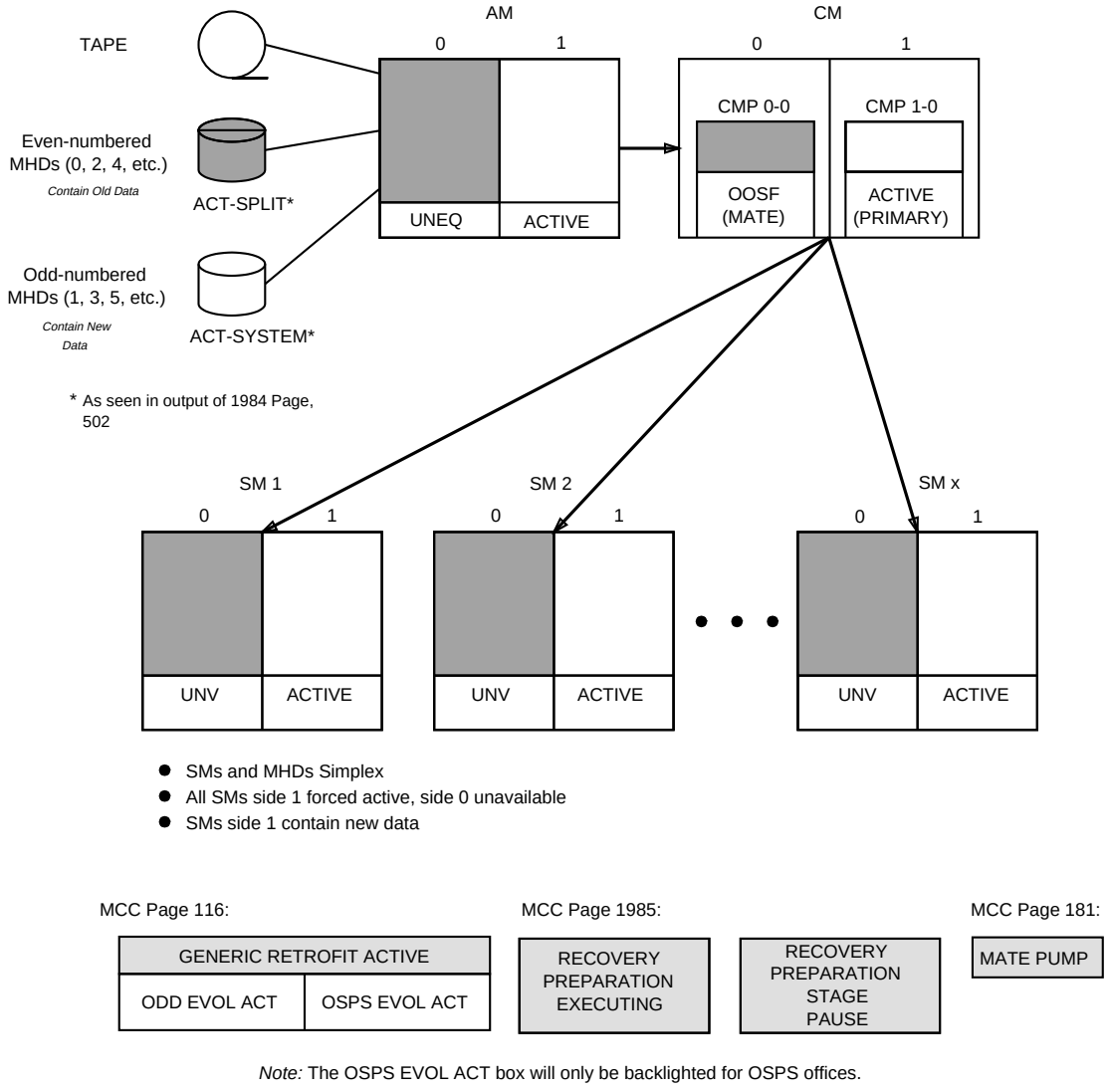
   ```
   CMD      1985,ltg
   ```

   Note: The first time you enter the 1985 command on the new side, it must be followed by **ltg**.

5.7.2 VERIFICATION OF SUCCESSFUL RECOVERY ON NEW DATA

5.7.2.1 System Configuration

Figure 5-30 shows the system configuration at the completion of the switch forward.



Note: The OSPS EVOL ACT box will only be backlighted for OSPS offices.

Figure 5-30 — Typical System Configuration at Completion of Switch Forward

5.8 RECOVERY PREPARATION STAGE

5.8.1 AM RECOVERY

On MCC page 111, AM 1 should become **ACT** within **3** minutes. AM 0 will be **UNEQ**.

Note: If AM 1 does not become **ACT**, escalate to your next level of support.

5.8.2 CALL PROCESSING VERIFICATION

1. ***If call processing is not available within a reasonable amount of time, the Site Coordinator should escalate to your next level of support in order to make a decision on whether to back out or continue with the procedures.***
2. As the SMs become active, verify that call processing is available from the SM and verify intramodule and intermodule call processing. Keep records on the Call Processing Verification Worksheet (Table 9-8).
3. Using list of local and Direct Distance Dialing (DDD) lines prepared earlier, perform a dial-through test of all selected lines.

   Comment: Included in this list should be police, fire, hospital(s), 911 dispatcher, and other emergency numbers as determined by local practices.
4. The next several sections verify that critical *5ESS* switch hardware is configured correctly after the switch forward. Preliminary call processing tests should be performed as soon as possible after the switch forward. The following sections should be deferred until call processing has been demonstrated.

5.8.3 VERIFY SM RECOVERY

1. On MCC pages 141, 142, etc., each SM should indicate **MATE PUMP**.

   Caution: The following step is only for SM switch forward problems.
2. Any SM indicating the status of **GEN DIFF** on MCC pages 141, 142, etc., could indicate one of the following conditions:

   - A loss of communications to the SM has occurred.
   - The SM has failed to switch to the new software release side.
   - Another error has occurred in the SM.

   To determine if a communications problem has occurred, access MCC page 1900,x

   Where: x = SM number .

   To restore OOS CLNKs, enter command on MCC page 1900,x:

   `CMD 3yyy`

   Where: yyy = OOS CLNK

   If the CLNKs do not restore, access MCC page 115 to determine the location of other CM problems. Go to the appropriate MCC pages and attempt to restore communications.

   If the SM remains **GEN DIFF** on MCC pages 141, 142, etc., attempt to switch the SM's sides. Enter message:

   `MSG ORD:CPI=x,CMD=GRSW-y;`

Where: x = number of the SM that is **GEN DIFF**.
y = the SM side which was off-line pumped and contains the new software release.

If the SM remains **GEN DIFF** on MCC pages 141, 142, etc., repumping the SM is recommended as follows:

a. To allow auto pump, enter command on MCC page 1800,x (where x = SM number).

```
CMD     701
```

Response: **OK**

b. If the status of the SM remains GEN DIFF on MCC page 1800,x, perform an AM directed reset (to initialize and pump the SM) by entering the following commands:

```
CMD     924
```

Response: **FI? Y/N** *(on MCC)*

```
CMD     y
```

Response: **ORD:CPI=*x*,CMD=RESET; PF**

/Read: The **924** poke and the **y** confirmation should be poked into the switch a second time to pump the SM.

```
CMD     924
```

Response: **FI? Y/N** *(on MCC)*

```
CMD     y
```

Response: **ORD:CPI=*x*,CMD=RESET; PF**

c. ***If any SMs still indicate* GEN DIFF*, proceed immediately to Recovery Action R-38 (Section 6.6.38) in this document and escalate to your next level of support***.

Note: Any SMs that indicate GEN DIFF will only respond to the following types of commands:

- Software Release LTG switch commands (Switchfwd, Switchbck, Backout, SMswitch, SMbackout, and ORD:CPI=x,CMD=GRSW).
- Reset processor commands (poke **924** on MCC page 1800,x and ORD:CPI=x,CMD=RESET).

Do not attempt to power cycle an SM without escalating to your next level of support. If an SM that is in a forced simplex condition is power cycled, the SM force will be lost and the SM will attempt to duplex.

3. To verify that all SMs are active on side 1, enter message:

```
MSG     OP:SYSSTAT,UCL;
```

Response:

```
OP SYSSTAT    SUMMARY    {FIRST|NEXT|LAST} RECORD
SYS           INHIBITS[-MTCE][-RC] MISC
AM            [BLACKOUT-RC] INHIBITS[-MTCE]-SW MORE
CM            NO_REQ_PEND
CMP 1-0 P:  [BLACKOUT-RC] INHIBITS-HW[-SW]
CMP 0-0 M:  [BLACKOUT-RC] GEN DIFF [INHIBITS-SW] [-HW][POSTINIT]
B LSMa,1:   MATE_PUMP [BACKOUT-RC] FORCED INHIBITS-MTCE
```

```
                -PUMP-HW-SW [CKT_OOS] [MORE]
     S LSMb,1:  MATE_PUMP [BACKOUT-RC] FORCED INHIBITS-MTCE

                -PUMP-HW-SW [CKT_OOS] [MORE]
     L LSMz,1:  MATE_PUMP [BACKOUT-RC] FORCED INHIBITS-MTCE

                -PUMP-HW-SW [CKT_OOS] [MORE]
```

Comment: At this point, all units (AM, CMP, SMs) ***may*** indicate **BACKOUT-RC** as the RC roll-forward completes.

5.8.4 CMP RECOVERY

Access MCC page 1850. The primary CMP state should be **ACT**. The mate CMP will be **OOSF COMM LOST+**. If trouble was encountered in reconfiguring the CMPs during the switch forward, the primary CMP may show that it is being pumped and initialized. **On MCC page 1850, if the primary CMP shows that it is being pumped and initialized, wait a reasonable amount of time for the process to complete**.

If the primary CMP changes to an ACTIVE state, proceed to the next section.

If the state of the primary CMP still did not change to ACTIVE/POSTINIT, do the following.

Caution: The following steps are only for CMP switch forward problems.

1. On MCC page 1850 (logically active CMP), to initialize and pump the CMP, enter commands:

   ```
   CMD     923

   FI (Y/N)        Y
   ```

2. If the status of the CMP still does not transition to ACTIVE within a reasonable amount of time (10 minutes maximum), escalate to your next level of support.

5.8.5 VERIFY SDFI STATUS

During the SM recovery, equipped Subscriber Digital Facility Interfaces (SDFIs) may go OOS and restore automatically to the in-service state after running full diagnostics. If a large number of SDFIs are affected, customers will experience an unnecessary time with no call processing.

1. Enter message:

   ```
   MSG     OP:RT,ALM;
   ```

   Response: **PF**

   The Remote Terminals (RTs) with an alarm condition will be output. The RTs with an alarm location of **NEAR END** will be likely to have SDFIs OOS and those with an alarm level of **MAJOR** *indicate customers down as a result.*

   or

   NG –– NO RT'S FOUND

   Note: If there are no **MAJOR** alarms, Steps 2 through 4 may be skipped.

2. Using the information from the alarm summary, to view the status of the associated SDFIs, access the following MCC page:

   ```
   MCC     1150,y,x
   ```

Where: x = SM number
y = DCLU

Comment: The LRT which is output in the alarm summary has the format of X-Y-Z with SM X, DCLU Y, RT Z.

3. In order to minimize customer downtime, for each SDFI Z that is undergoing an automatic restoral (**OOS** or **OOST** on MCC page 1150,Y,X), enter message:

```
MSG     STP:RST:SDFI=x-y-z;
```

4. To perform an unconditional restoral on the SDFIs from Step 3, enter the following command on MCC page 1150,Y,X:

```
CMD     3xx,ucl
```

Where: xx = SDFI number

5.8.6 VERIFY AMA BILLING

At this point, AMA billing is already allowed (AMA billing is automatically allowed by the *5ESS* switch after the AM switch forward).

Warning: Do not attempt to teleprocess or write AMA data to tape at this point. The first time you do this you will access AMA records from the OLD side off-line disks. This may not be done until the DFCs have been restored later in this document.

1. To verify that AMA is recording properly, enter message:

```
MSG     OP:AMA:STATUS;
```

Response:

```
REPT AMA STATUS FOR STREAM STx

  SEGMENT              STATUS
----------          ----------
     1                 xxxxx
     2                 xxxxx
     3                 xxxxx

LAST TIME DISK WRITER WROTE TO DISK hh:mm MM/DD
```

Comment: ***Save*** the ROP output for use in the next step.

Note: The percent full (number records) of each of the three **SEGMENTS** will demonstrate the loading of AMA records in the SDS. Each time the **SEGMENT** gets full, the disk writer writes that particular **SEGMENT** to disk. The value of the **LAST TIME DISK WRITER WROTE TO DISK** will be **00:00 00/00** until the first segment has been written to disk after the boot.

2. Enter message:

```
MSG     OP:AMA:MAPS;
```

Response:

```
REPT AMA DISK MAPS FOR STREAM ST1
     WRITE PARTITION  x   READ PARTITION  x

     PARTITION  x DISK MAP:

        FPO: xx   LPO: xx   FPS: xx   LPS: xx

        FSO: xx   LSO: xx   FSS: xx   LSS: xx

        FBO: xx   LBO: xx   FBS: xx   LBS: xx
```

```
.
.
.
.
```

3. Re-enter message:

   ```
   MSG     OP:AMA:STATUS;
   ```

   Response:

   ```
   REPT AMA STATUS FOR STREAM STx
     SEGMENT              STATUS
   ----------         -------------
        1                  xxxxx
        2                  xxxxx
        3                  xxxxx

   LAST TIME DISK WRITER WROTE TO DISK hh:mm MM/DD
   ```

4. Enter message:

   ```
   MSG     OP:AMA:MAPS;
   ```

   Response:

   ```
   REPT AMA DISK MAPS FOR STREAM ST1
        WRITE PARTITION  x   READ PARTITION  x

        PARTITION  x DISK MAP:

           FPO: xx   LPO: xx   FPS: xx   LPS: xx

           FSO: xx   LSO: xx   FSS: xx   LSS: xx

           FBO: xx   LBO: xx   FBS: xx   LBS: xx

                 .
                 .
                 .
                 .
   ```

5. The amount of time it will take to verify AMA recording depends on the amount of traffic on the switch. If your office has light traffic, you should continue with the steps in this document and return to Step 3 every 10 minutes until you are satisfied that AMA is recording properly.

   a. Compare the **OP:AMA:STATUS** output from Step 1 with the **OP:AMA:STATUS** output from Step 3.

      The amount of AMA recorded depends on the amount of traffic on the switch.

      To verify that AMA is writing to a segment, compare the percent full (number records) of the segments from Steps 1 and 3. These should *increase* with traffic on the switch.

   b. When one segment fills, it should be written to disk and a new segment will begin to fill. To verify that AMA has written to disk, check the **LAST TIME DISK WRITER WROTE TO DISK** - this value should not be **00:00 00/00**.

   c. You can also verify the AMA has been written to disk by comparing the output of the **OP:AMA:MAPS** commands issued in Steps 2 and 4. The second line of the output from the **OP:AMA:MAPS** gives a number after

WRITE PARTITION. Below this are listed the various partitions available. Locate the partition corresponding to the write partition number. Within this report are values for **LPO** and **LPS**. These values should increase when AMA is written to disk.

6. If AMA has successfully written to disk and is writing into a new segment, AMA is recording properly. If AMA is recording properly, proceed to Section 5.8.7.

7. If AMA is being recorded in one **SEGMENT**, but has not written to disk, proceed to Section 5.8.7 ***but continue to monitor AMA***. To continue the monitoring, re-enter the **OP:AMA:STATUS** message every 10 minutes until the AMA successfully writes to disk.

8. If it appears that AMA is ***not*** recording properly, enter the following command on MCC page 1984:

   ```
   CMD     506
   ```

   After the **506** successfully completes, repeat the Verify AMA Billing Section until AMA is satisfactorily writing to disk.

   If there is call processing through the switch and if all **SEGMENTS** indicate **EMPTY**, seek technical assistance.

   Caution: If at any time you are unsure that AMA is recording properly, do not hesitate to seek technical assistance.

5.8.7 VERIFY MHD CONFIGURATION

To verify MHD configuration complete the following steps:

1. Access MCC page 123 (and MCC page 125 if more than 2 DFCs are equipped).

2. Ensure that all odd-numbered MHDs are **ACT** with the exception of MHD 15. If equipped, MHD 15 is used for software backup. This disk is not affected by these procedures and should remain in an OOS state.

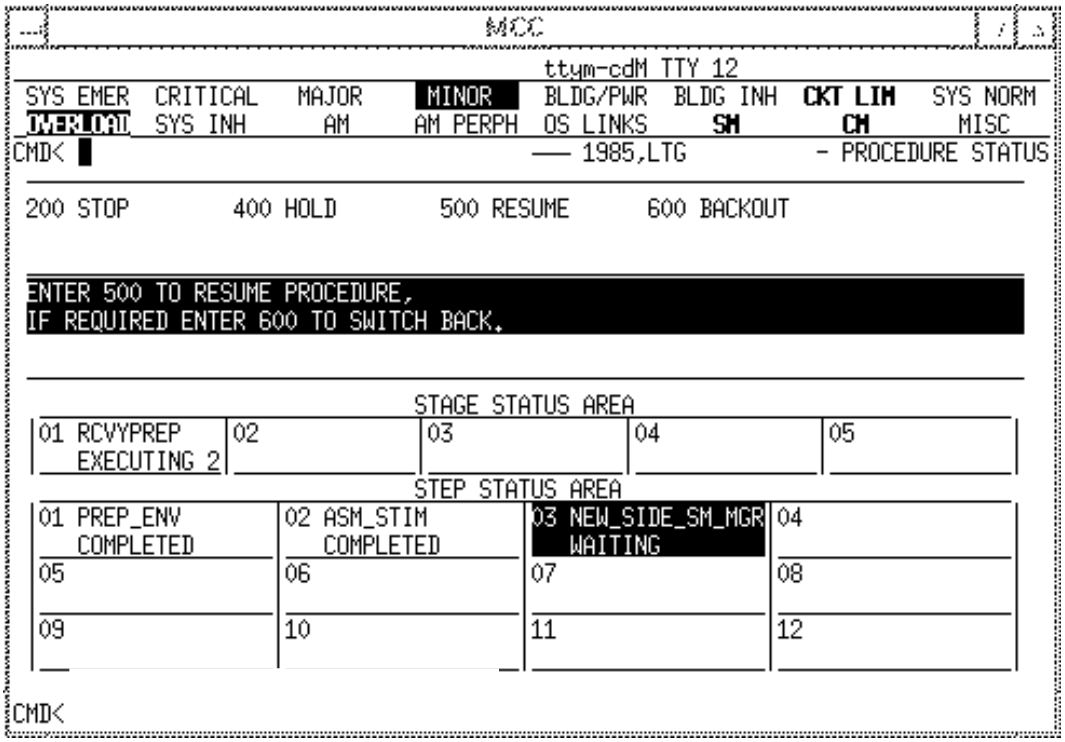


Figure 5-31 — MCC Page 1985 Waiting in the New Side SM MGR

The RCVPREP stage automatically started running on the new side and continued to the point shown in Figure 5-31.

Note: If the procedure is running and has not yet reached the point shown in Figure 5-31 **do not** proceed until it reaches that state.

The following list describes each activity that will occur during the **Recovery Preparation** stage:

- **RCVY/PREP STG** - Setup for new side.
- **PREP ENV** - Restores options page settings used in the transition.
- **NEW SIDE SM MGR** - Provide (as needed) information control for switch the SMs forward and backward.
- **APPLHOOK** - No action on LTG going to Commit.

1. To continue with the **Recovery Preparation** stage, on MCC page 1985, enter command:

   ```
   CMD     500
   ```

Response:

```
REPT NEW SIDE SM MGR COMPLETED SUCCESSFULLY

REPT LTG TOTAL SYSTEM DOWNTIME
    DOWNTIME = 00:00:xx  EVENT=166

 REPT PROC SCHED POST BOOT PAUSED AT STAGE BOUNDARY -
RESUME WHEN READY
```

Note: The system downtime message will occur approximately 5 minutes after the boot. For the system downtime message, xx values less than 30 indicate acceptable call processing recovery.

5.8.8 RETROFIT DOWNTIME REPORT

A Retrofit downtime report is automatically printed approximately ten minutes after Switchforward.

```
REPT RETROFIT TOTAL SYSTEM DOWNTIME
DOWNTIME=hh:mm:ss  EVENT=xxx


REPT RETROFIT PARTIAL SYSTEM DOWNTIME
WEIGHTED DOWNTIME=hh:mm:ss  EVENT=xxx
RETROFIT PARTIAL SYSTEM OUTAGE: (YES|NO)

op:sysstat,ucl; PF
OP  SYSSTAT  SUMMARY              FIRST RECORD
SYS:         INHIBITS-RC RETROFIT
AM:          INHIBITS-MTCE-AUD-HW-SW
CM:          INHIBITS-MTCE
CMP 1-0 P:   INHIBITS-SW-HW
CMP 0-0 M:   COMM_LOST GEN DIFF
L RSM  x,1:  MATE_PUMP FORCED INHIBITS-SW-MTCE-HW
G RSM  x,1:  MATE_PUMP FORCED INHIBITS-SW-MTCE-HW
L HSM  x,1:  MATE_PUMP FORCED INHIBITS-SW-MTCE-HW
K LSM  x,1:  MATE_PUMP FORCED INHIBITS-SW-MTCE-HW
S TRM  x,1:  MATE_PUMP FORCED INHIBITS-SW-MTCE-HW

REPT SWITCHER
 STARTING

REPT SWITCHER
 COMPLETED SUCCESSFULLY

REPT NEW_SIDE_SM_MGR
COMPLETED SUCCESSFULLY

REPT RETRO POSTBOOT
PAUSED AT STAGE BOUNDARY - RESUME WHEN READY
```

Total system downtime is defined to be the period of total loss of origination and termination capability.

Partial system downtime is defined to be the period of reduced capability when some, but not all, call processing is lost.

Partial system downtime is weighted by the number of terminations affected. A partial system outage event is deemed to have occurred if any individual SM's outage is greater than 30 seconds, although the weighted time reported may be less than 30 seconds.

- **If any of the SMs** fail to report downtime to the AM, then downtime is reported, but "TIME MAY BE INVALID" is specified in the message.
- **If all SMs** fail to report downtime to the AM, then zero downtime is reported and "TIME NOT AVAILABLE" is specified in the message.

Note: In either of these two cases, ensure that SM recovery was verified (Section 5.8, Step 5.8.3.) following the Switchforward.

The **Recovery Preparation** Stage has completed and is at a pause boundary.

Figure 5-32 shows the MCC Page **1985** paused before the start of the **Post-Boot** Stage.

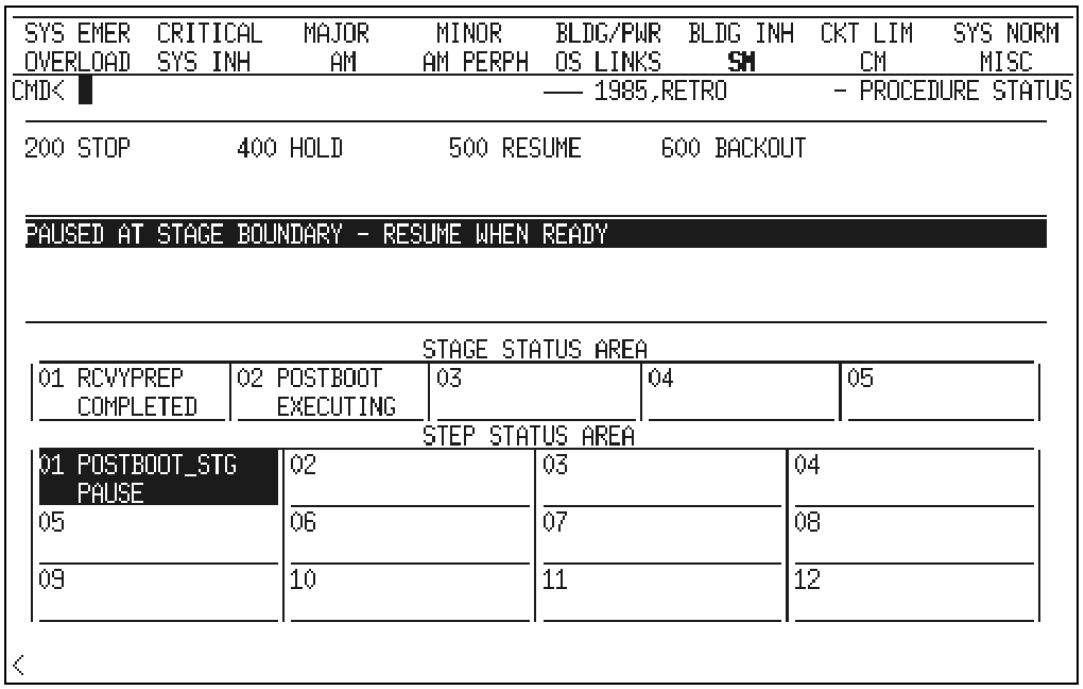


Figure 5-32 — MCC Page 1985 at the End of the Recovery Preparation Stage (at the Post-Boot Stage Pause)

5.9 POST-BOOT STAGE

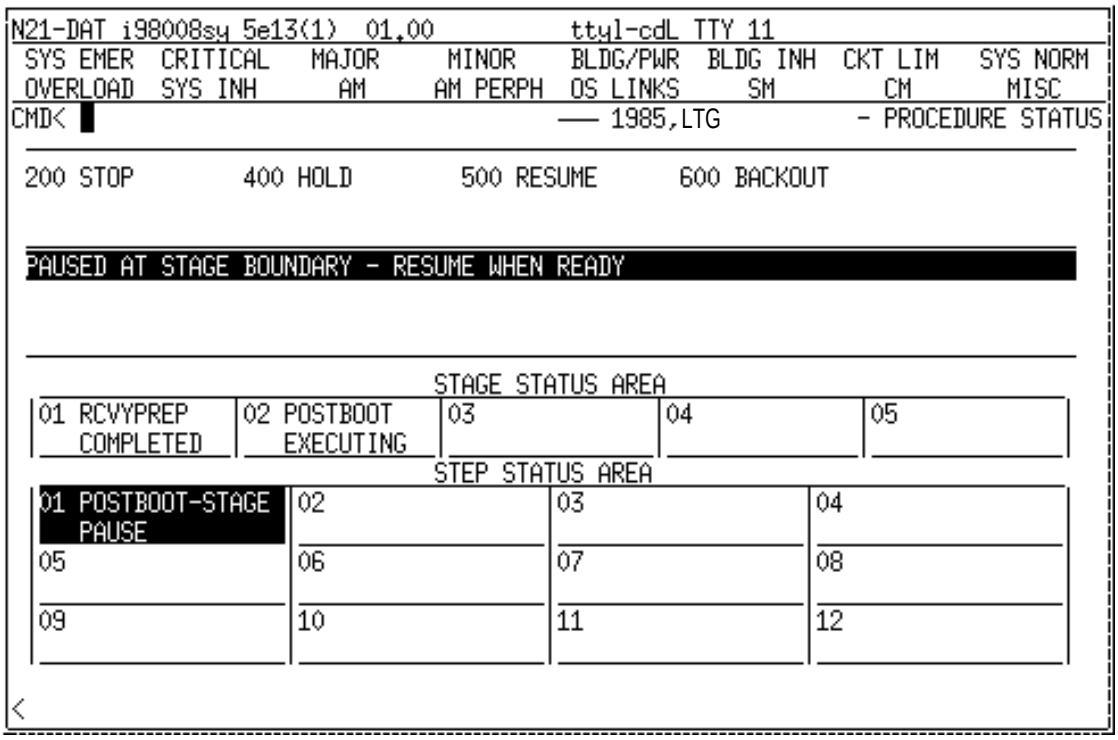


Figure 5-33 — MCC Page 1985 Paused at the Post-Boot Stage

Figure 5-33 shows an example of MCC page 1985 paused before the start of the **Post-Boot** stage. The following list describes each activity that will occur during the **Post-Boot** stage:

- **POSTBOOT STG** - Setup for post-boot activities.
- **ALWCHKS** - Allow hardware and software checks.
- **TSM NEW** - Instructs the technician to manually run the TSMNEW and TSMRMV commands.
- **TSM RMV** - Provides the option to run the TSMRMV from 1984 page. commands.
- **STP OFLBT** - Stops the AM Off-line Boot and restores the AM/CM/CNI hardware.
- **BOOTHOOK** - Prepares evolved RCs for reapplication, minor CNI setup, restores AMALOST feature setting.

1. The **Recovery Preparation** stage has completed and is at a pause boundary. Continue with the following manual steps.

5.9.1 ALLOW HARDWARE CHECKS, SOFTWARE CHECKS

As the software and hardware inhibits are removed, any equipped Digital Facility Interfaces (DFIs) go to an OOS state but should be automatically restored to service.

1. On MCC page 1985, continue by executing the following command:

   ```
   CMD     500
   ```

   Response:

```
UPD:GEN:APPLPROC,ARG="ALWAMCHKS";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:HDWCHK;
ALW:HDWCHK; PF
ALW HDWCHK COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:SFTCHK;
ALW:SFTCHK; PF
ALW SFTCHK COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:ERRINT;
ALW:ERRINT; PF
ALW ERRINT COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:ERRSRC;
ALW:ERRSRC; PF
ALW ERRSRC COMPLETED
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY

UPD:GEN:APPLPROC,ARG="ALWCMPCHKS";

UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:HDWCHK,CMP=0-0;
ALW:HDWCHK,CMP=0-0;  PF
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:HDWCHK,CMP=1-0;
ALW:HDWCHK,CMP=1-0;  PF
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:

ALW:SFTCHK,CMP=0;
ALW:SFTCHK,CMP=0;  OK
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
ALW HDWCHK CMP=0-0 COMPLETED
ALW HDWCHK CMP=1-0 COMPLETED

UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:

ALW:HDWCHK,SM=1&&192;
UPD:GEN:APPLPROC,ARG="ALWSMCHKS";ALW:HDWCHK,SM=1&&192; IP
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:SFTCHK,SM=1&&192;
ALW:SFTCHK,SM=1&&192; OK
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
ALW HDWCHK SM=x COMPLETED (once for each SM)
```

Comment: On MCC page 1800,x (where x = any numbered SM), box **04 SFTCHK** and box **08 ALL HDWCHK** should not be backlit or transition from a backlit condition to a normal display in a few minutes.

5.9.2 TRUNK STATUS MAPPING (Performed Automatically)

5.9.2.1 TSMNEW

1. Verify that you receive the following response:

   Response:

```
UPD:GEN:APPLPROC,ARG="TSMNEW";
UPD GEN APPLPROC EXECUTING THE FOLLOWING RETROFIT TOOL:
/prc/supr/tsm NEW
[UPD GEN TSM  IN PROGRESS xxx TRUNKS LOGGED]
[UPD GEN TSM OOS SUMMARY xx MISMATCHES DETECTED]
[UPD GEN TSM CADN SUMMARY xx MISMATCHES DETECTED]
```

```
UPD GEN TSM COMPLETED
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

Comment: If an error is encountered, refer to Section 6.5.15.

2. If OOS and/or CADN mismatches were detected, an OP-LIST-like report containing each listing can be dumped to the ROP or another printer. The location of these files is as follows:

   - CADN Report: /updtmp/tsm/cadn.report.
   - OOS Report: /updtmp/tsm/oos.report.

3. If CADN mismatches are detected, the report should be dumped to a printer (ROP, etc.) and analyzed now.

   This report contains a listing of trunks which were IN SERVICE prior to the boot but are now OOS CADN.

   This state is usually encountered when trunks marked OOS CADN in the ODD dump are brought into service during the RC double-logging interval.

   For each trunk listed in the CADN report, determine whether the trunk should be brought back into service or left as it is. If the trunk should be brought back into service, use the appropriate **RST:TRK** message (refer to 235-600-700, *Input Messages Manual*) to restore the trunk(s).

5.9.2.2 TSMRMV

1. The following message appears on the 1985 MCC page before switching to the 1984 page:

   Response:

   ```
   EXECUTE TSMRMV FROM TOOL PAGE IF NEEDED

   WHEN DONE, ENTER 500 TO CONTINUE
   ```

   Comment: The 1984 page displays the following message (see Figure 5-34):

   Response:

   ```
   USE 5XX,RMV TO EXECUTE TSMRMV IF NEEDED

   WHEN DONE, ENTER 1985 POKE
   ```

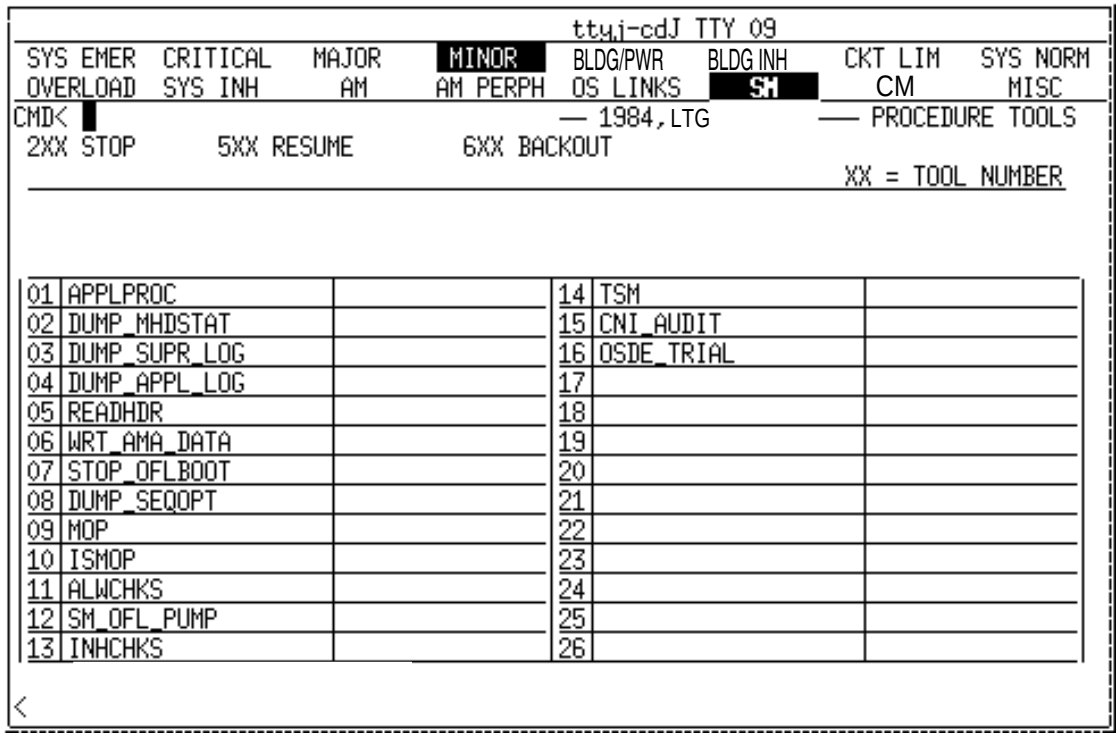


Figure 5-34 — Trunk Status Mapping Waiting

2. If the summary message from TSMNEW indicated that OOS mismatches were detected, use the following command to remove all trunks listed in the oos.report file from service (/updtmp/tsm/oos.report):

   ```
   CMD     5xx,rmv
   Where xx = TSM
   ```

   Response:

   ```
   UPD:GEN:APPLPROC,ARG="TSMRMV";
   UPD GEN APPLPROC EXECUTING THE FOLLOWING RETROFIT TOOL:
   /prc/supr/tsm RMVUPD GEN TSM xx TRUNKS

    TO BE REMOVED FROM SERVICE
   (A RMV:TRK message appears for each trunk in the OOS report)
   UPD GEN TSM COMPLETED
   UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
   ```

   Comment: Do not wait for all of the trunks to be removed from service. Continue with the procedures.

3. Execute the following command whether or not the TSMRMV has been run:

   ```
   CMD     1985
   ```

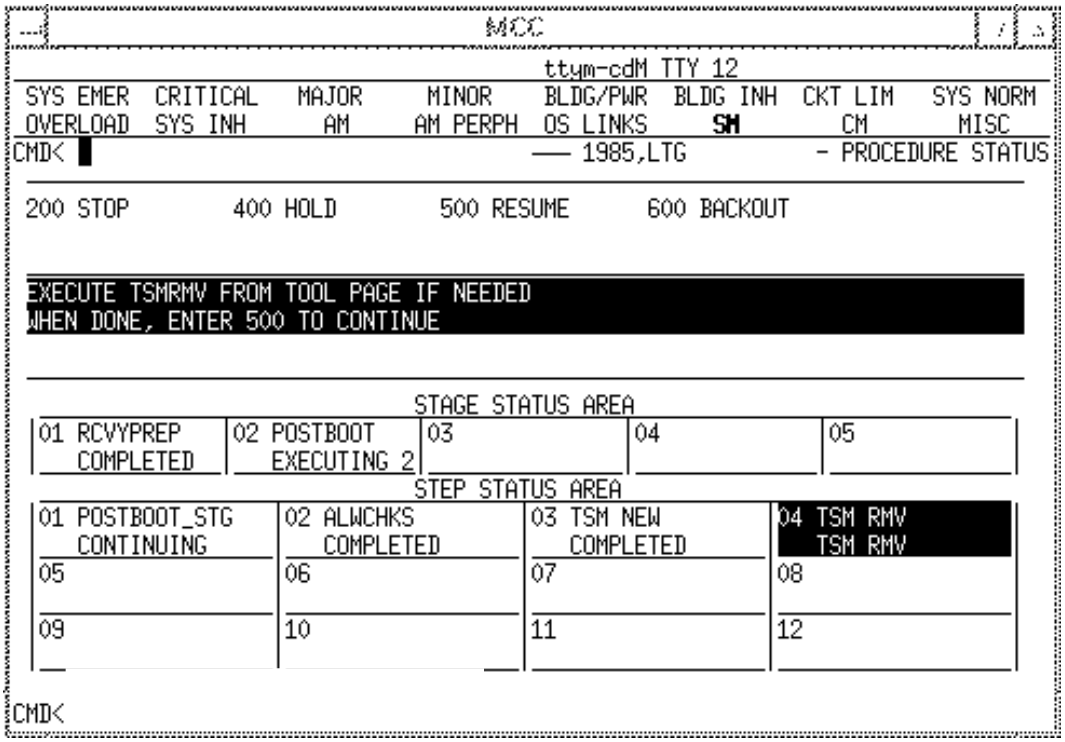


Figure 5-35 — Trunk Status Mapping Remove Waiting

5.9.2.3 Verify Recent Change Roll Forward

During the LTG initialization, the AM, the CMPs, and the SMs are automatically placed in ***RC backout*** as the roll forward is activated. The roll forward should take no more than 30 minutes after the initialization to complete. Therefore, no units should indicate **BACKOUT-RC** in the preceding output. From the **OP:SYSSTAT** just performed, verify the AM, CMPs, and SMs are ***not*** in **BACKOUT-RC**.

5.9.3 COMPLETE OFFLINE BOOT PROCESS AND DUPLEX AM AND CM HARDWARE:

MCC Page: **1985**

Enter Poke CMD: **500**

Note: All of the following ROP output may not be in the same order as indicated due to switch activity at the time.

Sample ROP Response:

```
ALW DMQ ENABLED ADP
REPT OLBTOOL
  STARTING
REPT OLBTOOL
  STOP OFFLINE BOOT

------------------------------------------------------------
    Comment:
       This PRM is used during OFLBOOT to extinguish the
       CU recovery indicator on the (EAI) page - it is
       printed for information only.

PRM_1 EC00 0FDD 1234 5678 79 60 00
------------------------------------------------------------

ALW:DMQ:SRC=ADP
```

```
REPT OLBTOOL
  COMPLETED SUCCESSFULLY

ALW DMQ SOURCE ADP IS NOT INHIBITED

REPT DFC 0 IN GROWTH STATE
REPT SBUS 0 IN GROWTH STATE
REPT MHD 0 IN GROWTH STATE
REPT MHD 14 IN GROWTH STATE
REPT MT 0 IN GROWTH STATE
REPT SBUS 2 IN GROWTH STATE
REPT SBUS 2 IN GROWTH STATE
REPT MHD 2 IN GROWTH STATE
REPT IOP 0 IN GROWTH STATE
REPT MTTYC 0 IN GROWTH STATE
REPT MTTY 0 IN GROWTH STATE
REPT ROP 0 IN GROWTH STATE

------------------------------------------------
    Comment:
       Repeated for all Even SCSDC's in Office

REPT SCSDC x IN GROWTH STATE
------------------------------------------------
CLR FRC MSCU   COMPLETED

-----------------------------------------
    Comment:
       Repeated for all TTYC's in Office

REPT TTYC xx IN GROWTH STATE
-----------------------------------------

REPT POSTBOOT STP_OFLBT
  WAITING ON MHD RESTORAL

-----------------------------------------
    Comment:
       Repeated for all TTYC's in Office

REPT TTY x IN GROWTH STATE
-----------------------------------------

REPT DFC 0 OUT OF SERVICE
REPT SBUS 0 OUT OF SERVICE
REPT MHD 0 OUT OF SERVIC
REPT MT 0 OUT OF SERVICE
REPT SBUS 2 OUT OF SERVICE
REPT MHD 2 OUT OF SERVICE
REPT IOP 0 OUT OF SERVICE
REPT MTTYC 0 OUT OF SERVICE
REPT MTTY 0 OUT OF SERVICE
REPT ROP 0 OUT OF SERVICE
REPT SCSDC 0 OUT OF SERVICE

RST  MSGS=0   COMPLETED  EVENT= 668
CLR FRC ONTCCOM   COMPLETED  EVENT= 668

STOP OFLBOOT STARTED
TYPE MANUAL

REPT GROWTH DFC 0 COMPLETED
REPT GROWTH SBUS 0 COMPLETED
REPT GROWTH MHD 0 COMPLETED
REPT GROWTH MT 0 COMPLETED
REPT GROWTH SBUS 2 COMPLETED
REPT GROWTH MHD 2 COMPLETED
REPT GROWTH IOP 0 IN PROGRESS
REPT GROWTH IOP 0 COMPLETED
REPT GROWTH MTTYC 0 IN PROGRESS
REPT GROWTH MTTYC 0 COMPLETED
REPT GROWTH MTTY 0 IN PROGRESS
REPT GROWTH MTTY 0 COMPLETED
REPT GROWTH ROP 0 IN PROGRESS
REPT GROWTH ROP 0 COMPLETED
REPT GROWTH SCSDC 0 COMPLETED
```

```
REPT GROWTH TTYC 11 COMPLETED


REPT POSTBOOT STP_OFLBT
  CHECK STATUS ON MCC PAGE 123
REPT OFFLINE BOOT STOPPED

RST(UCL) CU 0   TASK 3 QUEUED
RST(UCL) DFC 0   TASK 4 QUEUED
RST  ONTCCOM=1   COMPLETED
REPT NC 1 PHASE LOCKED

RST IOP 0   TASK 2 MESSAGE STARTED
RST IOP 0 COMPLETED
CLR FRC NCOSC   COMPLETED
REPT NC 1 SYNCHRONIZED WITH REF1

RST MTTYC 0 COMPLETED
RST MTTY 0 COMPLETED
RST ROP 0 COMPLETED

REPT DMQ INHIBIT REX ACTIVE

REPT ARR AUTORST
  ARR UCL RST FOR RPCN32 0 STARTED
RST  NCOSC=1   COMPLETED

REPT CMP=0-0 MATE  INITIALIZATION  TRIGGER=MANUAL-REQUEST

REPT ARR AUTORST
ARR UCL RST FOR RPCN32 0 SUCCEEDED

REPT POSTBOOT STP_OFLBT
  WAITING ON MHD RESTORAL
REPT POSTBOOT STP_OFLBT
  CHECK STATUS ON MCC PAGE 123

RST CU 0 COMPLETED

RST DFC 0 COMPLETED
RST SBUS 0 COMPLETED
RST MHD 0 COMPLETED
RST MT 0 COMPLETED
RST SBUS 2 COMPLETE
```

5.9.4 [Optional Step] VERIFY THAT AMA IS RECORDING PROPERLY

a. **Enter message:**

Enter MCC MSG: **OP:AMA:STATUS;**

Response: REPT AMA STATUS FOR STREAM STa

SEGMENT	STATUS
1	xxxxx
2	xxxxx
3	xxxxx

```
LAST TIME DISK WRITER WROTE TO DISK hh:mm MM/DD
```

Comment: ***Save*** the ROP output for use in the next step.

Note: The percent full (number records) of each of the three **SEGMENTS** will demonstrate the loading of AMA records. Each time the **SEGMENT** gets full, the disk writer writes that particular **SEGMENT** to disk. The value of the **LAST TIME DISK WRITER WROTE TO DISK** will be **00:00 00/00** until the first segment has been written to disk after the boot.

b. **Enter message:**

Enter MCC MSG: **OP:AMA:MAPS;**

Response:

```
REPT AMA DISK MAPS FOR STREAM STa
     WRITE PARTITION  x   READ PARTITION  x
     PARTITION  x DISK MAP:
        FPO: xx   LPO: xx   FPS: xx   LPS: xx
        FSO: xx   LSO: xx   FSS: xx   LSS: xx
        FBO: xx   LBO: xx   FBS: xx   LBS: xx
                .
                .
                .
                .
```

c. **Re-enter message:**

Enter MCC MSG: **OP:AMA:STATUS;**

Response: REPT AMA STATUS FOR STREAM STa

```
          SEGMENT                    STATUS
_____________________________________________

             1                        xxxxx
             2                        xxxxx
             3                        xxxxx


LAST TIME DISK WRITER WROTE TO DISK hh:mm MM/DD
```

d. **Re-enter message:**

Enter MCC MSG: **OP:AMA:MAPS;**

Response:

```
REPT AMA DISK MAPS FOR STREAM STa
     WRITE PARTITION  x   READ PARTITION  x
     PARTITION  x DISK MAP:
        FPO: xx   LPO: xx   FPS: xx   LPS: xx
        FSO: xx   LSO: xx   FSS: xx   LSS: xx
        FBO: xx   LBO: xx   FBS: xx   LBS: xx
                .
                .
                .
                .
```

e. **Continue with the steps in this document and return to Step c every 10 minutes until you are satisfied that AMA is recording properly.**

Note: The amount of time it will take to verify AMA recording, depends on the amount of traffic on the switch.

1. **Compare the** `OP:AMA:STATUS` **output from Step a with the** `OP:AMA:STATUS` **output from Step c.**

   Note: The amount of AMA recorded depends on the amount of traffic on the switch.

   Verify that AMA is writing to a segment, by comparing the percent full (number records) of the segments from Steps 1 and 3. These should *increase* with traffic on the switch.

2. **Verify that AMA has written to disk.**

   Note: When one segment fills, it should be written to disk and a new segment will begin to fill. **Check the LAST TIME DISK WRITER WROTE TO DISK** - this value should not be **00:00 00/00**.

3. **You can also verify the AMA has been written to disk by comparing the output of the** `OP:AMA:MAPS` **commands** issued in Steps b and d.

   Note: The second line of the output from the `OP:AMA:MAPS` gives a number after **WRITE PARTITION**. Below this are listed the various partitions available. Locate the partition corresponding to the write partition number. Within this report are values for **LPO** and **LPS**. These values should increase when AMA is written to disk.

   Note: AMA is recording properly, if it has successfully written to disk and is writing into a new segment.

f. If AMA is recording properly, continue.

If it appears that AMA is *not* recording properly, enter the following poke command:

MCC Page: **1984,retro**

Enter Poke CMD: **5xx**

Where: xx = the numeric value for WRT_AMA_DATA

Note: After WRT_AMA_DATA successfully completes, repeat the Verify AMA Billing Section until AMA is satisfactorily writing to disk.

If there is call processing through the switch and if all **SEGMENTS** indicate **EMPTY**, seek technical assistance.

Caution: If at any time you are unsure that AMA is recording properly, do not hesitate to seek technical assistance.

5.9.5 POST-BOOT MODIFICATIONS AND CLEANUP

The "boothook" tool executes the "OFFRCR" script which resides in **/no5text/rcr**. The OFFRCR script determines if the OFFRCR process was run on the evolved ODDs. If OFFRCR was run, the script performs a series of file manipulations to prepare for RC reapplication (which occurs later in the LTG).

For the OFFRCR script, the "success" output is also provided in the response for "boothook". If the OFFRCR script fails, "boothook" will also fail. The failure-related output from the OFFRCR script provides information regarding potential sources of the error. Do not proceed with the LTG unless boothook is successfully completed; escalate to your next level of support if necessary.

The "boothook" step rebuilds user logins under **/unixa/users**. An archive file containing the directory structure for all logins in **/unixa/users** was copied to the new side earlier in the LTG process. This archive file is now used to rebuild user home directories.

The "boothook" step also executes the CNI related processes, **ssauto**, (which automatically populates recent change view 15.10 for the CNI Subsystem 3 feature).

For the **ssauto** script, the various "success" outputs are provided in the response for "boothook". If the process fails, ***escalate to your next level of support before continuing the LTG***.

5.9.5.1 Set Clock

If the system clock does not reflect the proper time, enter message:

`MSG SET:CLK,DATE=`*`mm-dd-yy`*`,TIME=`*`hh-mm-ss`*`;`

Response: **SET CLK ....**

The proper time and date are displayed on top line of MCC display.

This modification process is executed after a successful initialization and recovery on the new software release.

Warning: Before continuing make sure all AM related hardware is in the ACT/UNEQ state (MCC page 111/112).

Boothook will automatically populate RC view 15.10 for offices with CNI. Therefore, boothook will automatically allow recent change permission for the MCC in all offices.

5.9.6 SYSTEM CONFIGURATION

Figure 5-36 shows the system configuration at the completion of the Post-Boot stage.

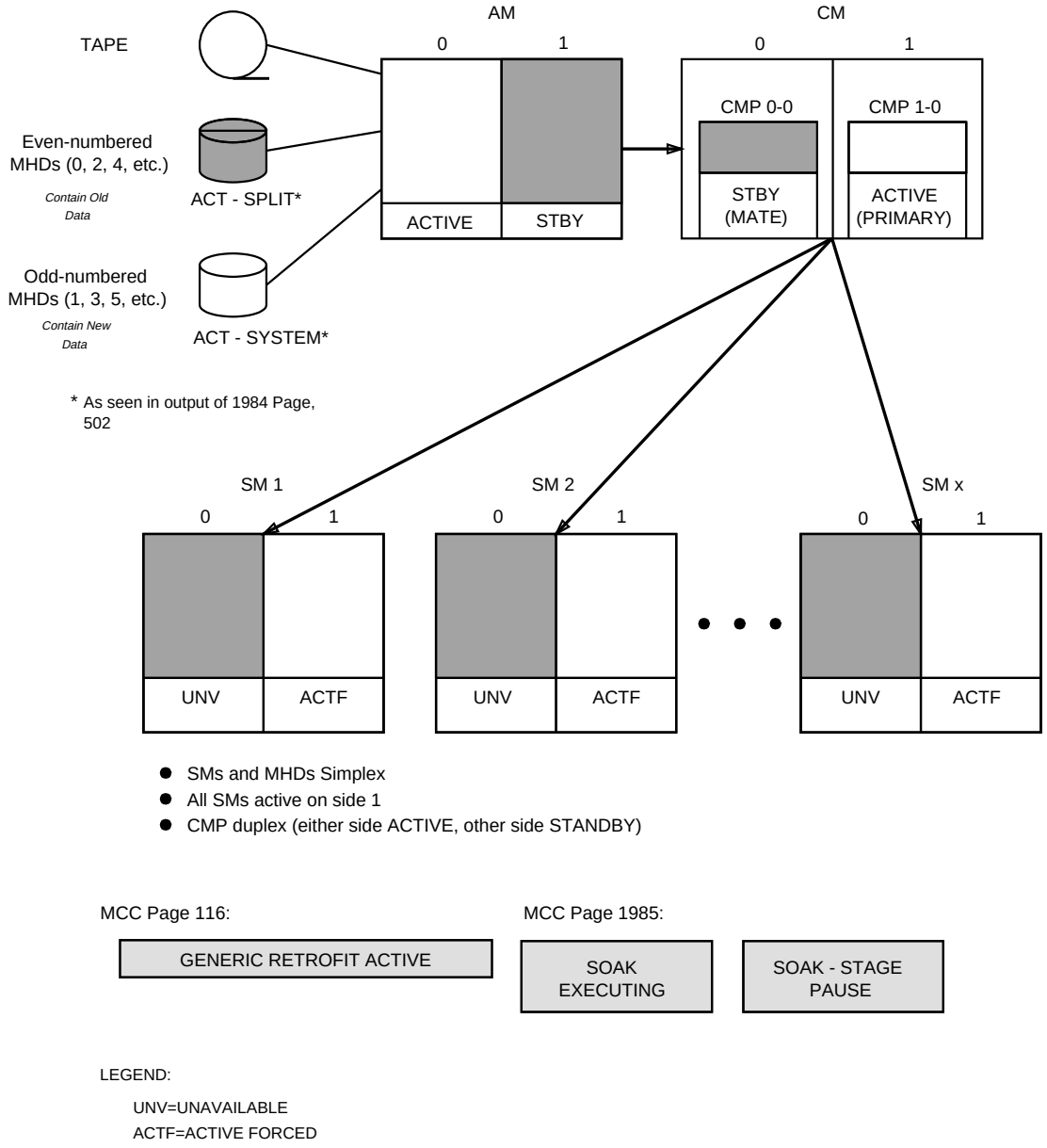


Figure 5-36 — Typical System Configuration at Completion of the Post-Boot Stage

5.10 SOAK STAGE

OVERVIEW

The soak interval consists of acceptance testing and the reapplication of RCs and CORCs.

5.10.1 SIMPLEX ACCEPTANCE

Acceptance testing is expected to last up to 1 hour. During the acceptance testing, operating company maintenance personnel perform a series of tests (which have been developed in accordance with local practices) to assess the reliability of the new software release prior to committing the system to full-duplex operation. These tests, among other things, should check for dial tone; check that intramodule and intermodule calls can be made for both incoming and outgoing calls; verify that the basic system features work; and analyze output messages and resolve problems as necessary.

If a need arises to back out to the old software release during the soak interval, refer to the appropriate Backout section.

Caution: The disks are still simplex at this time and only essential testing should be done.

Perform customer acceptance tests of new software such as:

- Intramodule and intermodule calls (both incoming and outgoing).
- Trunk calls (one per trunk group).
- Calls to operators and emergency services.
- Billing system.
- MCC display pages.
- Coin calls.
- Custom calling features such as call forwarding, speed calling, three-way calling, etc.
- OSPS features (if applicable).
- Wireless calls.
- International calls.
- ISDN calls (do not disconnect/connect station sets when testing ISDN calls).
- Packet calls.
- At least one call to and from every NXX in the office.
- Miscellaneous such as output reports, traffic reports, assert summaries, and Trunk and Line Work Station (TLWS).

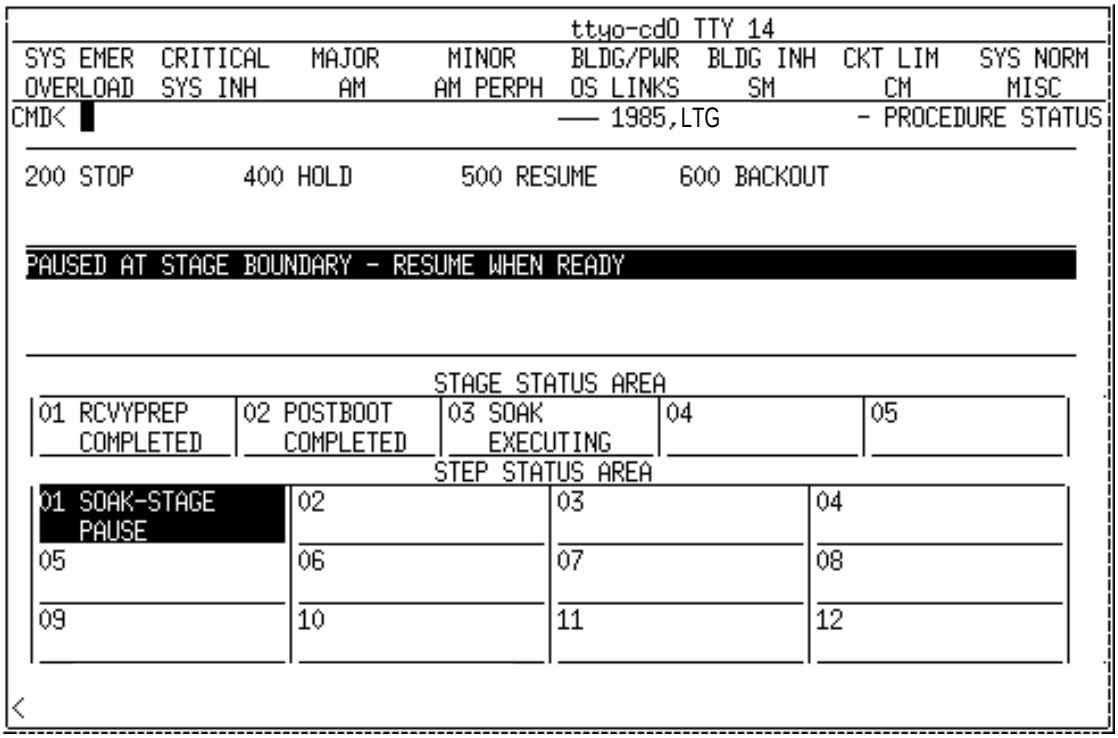


Figure 5-37 — MCC Page 1985 Paused at the Soak Stage

Figure 5-37 shows an example of MCC page 1985 paused before the start of the **Soak** stage. **MANUAL ACT** will prompt the technician to perform acceptance testing activities and other things in the Soak stage of the document.

1. On MCC page 1985, continue with the **Soak** stage by entering the following command:

   ```
   CMD     500
   ```

   Response:

   ```
   REPT LTG SOAK PERFORM ACCEPTANCE TESTING
   AND OTHER ACTIVITIES LISTED IN
   REPT LTG SOAK THE SOAK STAGE OF THE
   TRANSITION MANUAL
   REPT LTG SOAK RESUME WHEN COMPLETED
   REPT ASM PROCESSING
       NO ASM PROCESSING REQUIRED DUE TO EQUIPAGE

    OR TRANSITION TYPE
   ```

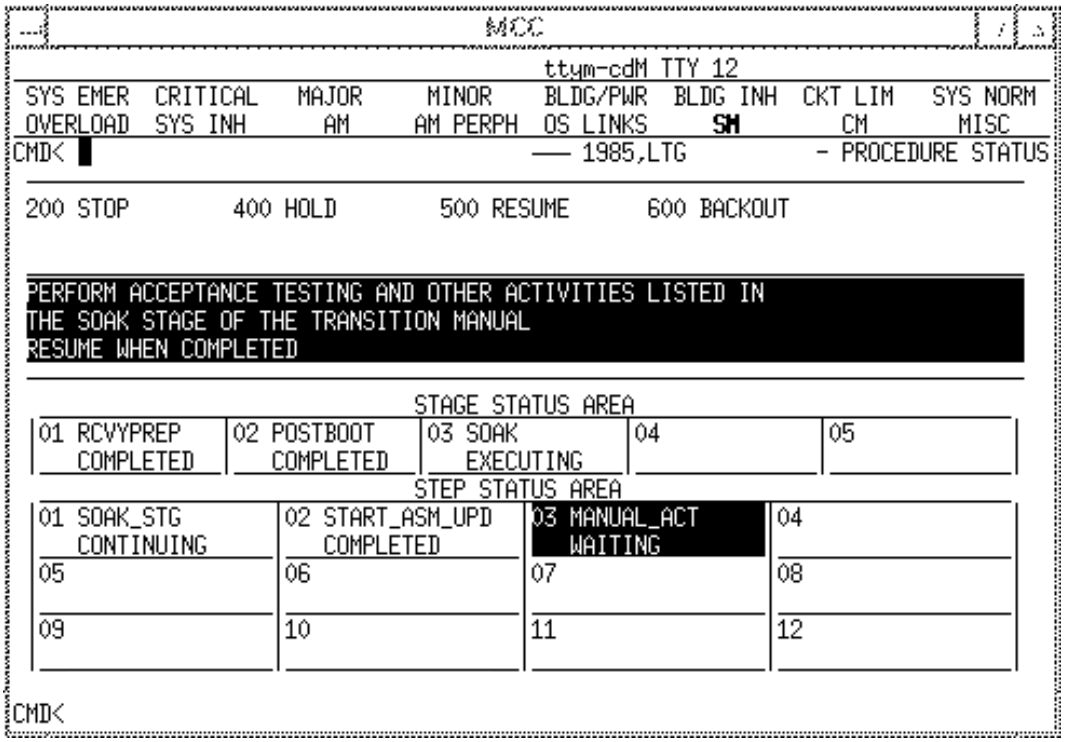


Figure 5-38 — MCC Page 1985 Continuing the Soak Stage

Continue with the following manual steps.

5.10.2 Is the type of LTG being performed on a SMART Conversion LTG?

- If **YES**, go to Step 5.10.4.
- If **NO**, continue with the next step.

5.10.3 UPDATE ADMINISTRATIVE SERVICES MODULE (ASM) IF EQUIPPED

The **ASM is automatically updated** during the SOAK stage upgrade with the ASM package that was downloaded during RETROPRP FINAL_PREP stage.

5.10.4 RC/CORC EVOLUTION AND REAPPLICATION

The total reapplication time for RCs and CORCs is dependent on the number to be reapplied. The CORCs go in at a rate of about 4,000 to 5,000 per hour; RCs go in at an overall rate of approximately 400 to 800 per hour. Both CORCs and RCs are reapplied.

Note: The preceding reapplication rates are average values and are influenced by the type and complexity of the CORCs and RCs as well as the amount of traffic on the switch.

Because RC reapplication may take several hours, it is recommended that other LTG-related tasks be performed in parallel with this section. After finishing the first CORC reapplication run and starting up RC reapplication, continue through the Soak stage. Do not perform the "OFFICE BACKUPS" in the End stage until RCs and CORCs have been reapplied to the satisfaction of the operating company.

Please READ the following Hints section. Refer to it periodically for trouble analysis and other recommendations while the CORC and RC reapplication processes are

running. The messages shown in the Hints section give the user additional information on the sections that follow and are for information only.

Note: The RC reapplication can be started immediately after stop off-line boot has completed successfully on the new side. If it is later decided that a backout is necessary, RC reapplication will not adversely affect the backout.

If any problems are encountered during the CORC and RC reapplication or a need to stop RC reapplication occurs, refer to Section 6.5.9.

Note: It is recommended that CORC and RC reapplication be performed from the MCC since RC access is already allowed for this terminal. If other office terminals will be used for CORC and RC reapplication, RC access permission may have to be reset using the **SET:RCACCESS** message.

5.10.5 HINTS - KEEPING TRACK OF RC AND CORC REAPPLICATION

Section 6 contains ODD backup guidelines and a series of problem-solving procedures (Section 6.5.9, *Recent Change and CORC Reapplication Troubles*). If you encounter any of the following problems while the reapplication processes are running, refer to Section 6.5.9:

- No response from the RC reapplication process for a long period of time.
- /log or /smlog 80% or 85% full. Possible output message is:
  ```
  * REPT RCV: RCLOG {80 | 85} PERCENT FULL

   (plus an audible minor alarm).
  ```
- /log or /smlog 90%, 95-99% full. Possible output message is:
  ```
  *** REPT RCV: RCLOG {90 | 95 | ...} PERCENT FULL

   (plus an audible major alarm).
  ```
- CORC reapplication aborts with a fatal error. Possible output messages include:
  ```
  *** REPT RCV: RC DISABLED, LOG FULL

   (plus an audible major alarm).

  CNVT CORCLOG LOAD SM = a STOPPED WITH FATAL ERRORS.
  ```
- Recent change reapplication process aborts. Possible output messages include:
  ```
  EXC RCRLS CLERK=RCNEW ODDEVOL ABORTED FAILURES=__, APPLIED=__

  *** REPT RCV: RC DISABLED, LOG FULL

  (plus an audible major alarm).
  ```
- The evolved CORC log file corrupted. Possible output messages include:
  ```
  SM x CORC EVOLVED LOG FILE IS CORRUPTED.
  ```
  Note: For recovery of this error, escalate to your next level of support.

5.10.6 CORC REAPPLICATION

To reapply CORCs, enter message:

```
MSG     CNVT:CORCLOG,LOAD;
```

Response:

```
          cnvt:corclog; PF
          CORCFLUSH: SM= xxx COMPLETE
```

```
CORCFLUSH: AM COMPLETE
CORC EVOLUTION STARTED
      CONCURRENT CONTROL PROCESS STARTED
CORC EVOLUTION: CONCURRENT CHILD PROCESS PID=xxxxxxx STARTED
CORC EVOLUTION SM = xxx COMPLETE
        xxxx CORCS EVOLVED
        xxxx TRNCORCS EVOLVED
        xxxx CORCS IN ERROR
        xxxx TRNCORCS IN ERROR
        xxxx RDNT CORCS RMVD
        xxxx RDNT TRNCORCS RMVD

(The previous two messages are output for each SM

 with CORC activity.)
CORC EVOLUTION: CONCURRENT CHILD PROCESS PID=xxxxxxx COMPLETED

CORC EVOLUTION: CONCURRENT CONTROL PROCESS COMPLETED
      ALL EVOLVED CORC LOGFILES HAVE BEEN PROCESSED
 xx CORCS  yy TRNCORCS HAVE BEEN LOGGED IN THE

CORC EVOLVED LOGFILES
```

Note: Errors may occur during the first CORC reapplication run. These errors are generally caused by dependent RCs that have not yet been reapplied. After (all) the RCs have been reapplied, this command should be run again. Most/all of the errors should be eliminated by that time.

If **CNVT CORCLOG LOAD SM = a STOPPED WITH FATAL ERRORS** is output, check the ROP for the major-alarmed message "*** REPT RCV: RC DISABLED, LOG FULL." If that message is on the ROP output, go to Section 6.5.9. Otherwise, simply re-enter the **CNVT:CORCLOG,LOAD** message after RC reapplication completes.

5.10.7 INSTALL UNSUPPORTED RC VIEWS

The manual reapplication of the unsupported RC views should be started now, if it has not been started already. The unsupported RCs are listed in the **/rclog/RCERRx** files referred to during RETROPRP. These files should have been dumped daily since double-logging was started. The manual reapplication of the unsupported RCs can continue during POSTRCR. Do not wait for the manual reapplication of the unsupported RCs to be completed before proceeding to the next step.

5.10.8 RECENT CHANGE REAPPLICATION

To reapply RCs using POSTRCR:

1. To obtain the number of recent changes to be reapplied, enter message:

   ```
   MSG     REPT:RCHIST,ACTIVITY;
   ```

   Response: **REPT RCHIST CLERK = HISTACT STARTED**

   (The following RC history report will only be printed on the ROP.)

   REPT RCHIST ACTIVITY OUTPUT

   ```
   PAGE x;                          5ESS SWITCH
                                  RECENT CHANGE
                        DELAYED RELEASE SUMMARY REPORT

   CLERK     PENDING     COMPLETED      ERROR      DEMAND
    ID       COUNT       COUNT          COUNT      COUNT
   ```

```
[RCNEW      xxxx      xxxx           xxxx       xxxx]
                                 or
[RCNEW  CLERK FILE DOES NOT EXIST OR CAN NOT BE OPENED]

[RCNEWOSPS  xxxx      xxxx           xxxx       xxxx]
                                 or
[RCNEWOSPS;CLERK FILE DOES NOT EXIST OR CAN NOT BE OPENED]
```

REPT RCHIST CLERK = HISTACT COMPLETED

Comment: In the preceding message, the **DEMAND COUNT** is the number of RCs to reapply (this number will decrease as RCs are reapplied). The **ERROR COUNT** is the number of errors from OFFRCR. ***For OSPS offices, ignore counts for RCNEWOSPS unless using Section 6.5.8.2, OSPS Recent Change Evolution and Roll-Forward Failures. RCNEWOSPS should NOT be reapplied unless the OSPS RC evolution process was turned off prior to the initialization.***

Note: After the RC reapplication process is started in the next step, a count of the successful and failed RCs will automatically be printed every 3 to 5 minutes. Therefore, it is not necessary to re-enter the **REPT:RCHIST,ACTIVITY;** message. If this message is re-entered, the summary messages from the RC reapplication process will be delayed.

2. To reapply recent changes, enter message:

   ```
   MSG     EXC:RCRLS,ODDEVOL,CONCURRENT;
   ```

   Response:

   ```
   EXC RCRLS CLERK = RCNEW ODDEVOL STARTED
   THE ONE-LINE ROP MESSAGES ARE REDIRECTED TO
   /updtmp/RCBCHSUCCESS AND /updtmp/RCBCHFAIL
   ```

   The following message appears on the ROP (not on MCC) every 3 to 5 minutes:

   ```
   RC BATCH IN PROGRESS
      xxx RCs FAILED, listings in /updtmp/RCBCHFAIL
      yyy RCs APPLIED, listings in /updtmp/RCBCHSUCCESS

   EXC RCRLS CLERK = RCNEW ODDEVOL COMPLETED
   FAILURES = xx,APPLIED = yy
   ```

3. The ISDN lines added since the final ODD dump or RSCANS/OFFRCR dump (whichever was performed last) will not be put into service automatically during RC reapplication. The following message can be used to unconditionally restore Line Cards (LCs) on a Line Group Controller (LGC) basis during the LTG after the appropriate RCs have been reapplied to the database.

   Using the **RClcd.rpt** output from the Begin stage, determine which (if any) LGCs need to be restored.

   To unconditionally restore LGCs, enter message:

   ```
   MSG     RST:ISLULGC=a-b-c,UCL;
   ```

   Where: a = SM number
   b = ISLU number
   c = LGC number

Note: The UCL option is only valid for this message when the GENERIC LTG ACTIVE field is backlit on MCC page 116.

4. When reapplying recent changes, it is normal to receive some errors (that is, RCs that will not reapply). This is due mainly to the RC being dependent on CORCs that have not been reapplied yet. Therefore, if there are any CORCs that did not reapply, another CORC reapplication should be done and then RC reapplications should be performed (Step 3). This should be done until one of the following is true:

   - There are no errors.
   - There is no change in the number of errors (if the reapplication has been done more than once).

5. After RC reapplication is complete, the error file (which contains RCs that did not reapply), can be dumped using the following message.

   The following message will automatically create a file that contains all RC errors up to this point. This file will be created in **/updtmp/HIST.RCNEW**.

   Note: Each time the following message is entered, the file is recreated.

   If needed, enter message:

   ```
   MSG     REPT:RCHIST,CLERK=RCNEW,FORMAT=DETAIL,ERROR;
   ```

   Response:

   ```
            REPT RCHIST CLERK = RCNEW STARTED

             - REPORT IS IN /updtmp/HIST.RCNEW
            REPT RCHIST CLERK = RCNEW COMPLETED
   ```

   If the preceding message is used and a hardcopy is needed, the file will have to be dumped to a printer, enter message:

   ```
   MSG     DUMP:FILE,ALL,FN="/updtmp/HIST.RCNEW",OPL=999;
   ```

6. Using local RC procedures and/or your next level of support, attempts should be made to correct and reapply all views in error.

7. If errors occurred during the first CORC reapplication run, re-enter the **CNVT:CORCLOG,LOAD** message (Step 1) after RC reapplication completes.

5.10.9 CONTINUE WITH THE LTG UPON COMPLETION OF ACCEPTANCE TESTING AND OTHER ACTIVITIES

MCC Page: **1985**

Enter Poke CMD: **500**

Sample ROP Response:

```
REPT RETRO SOAK
  CONTINUING

------------------------------------------------------------------
   Comment:
       Offices not equipped with an ASM

REPT ASM_PROCESSING
  NO ASM PROCESSING REQUIRED DUE TO EQUIPAGE OR TRANSITION TYPE
REPT ASM_PROCESSING
  NO ASM PROCESSING REQUIRED FOR THIS OFFICE
REPT ASM_PROCESSING
  DUE TO EQUIPAGE OR TRANSITION TYPE
------------------------------------------------------------------
```

```
   Comment:
       Offices equipped with an ASM

REPT ASM_PROCESSING
  ASM PROCESSING STARTED
REPT ASM_PROCESSING
  ASM PROCESSING COMPLETED
------------------------------------------------------------------

REPT RETRO COMMIT
  PAUSED AT STAGE BOUNDARY - RESUME WHEN READY
```

5.10.10 SYSTEM CONFIGURATION

Figure 5-39 shows the system configuration at the completion of the Soak stage.

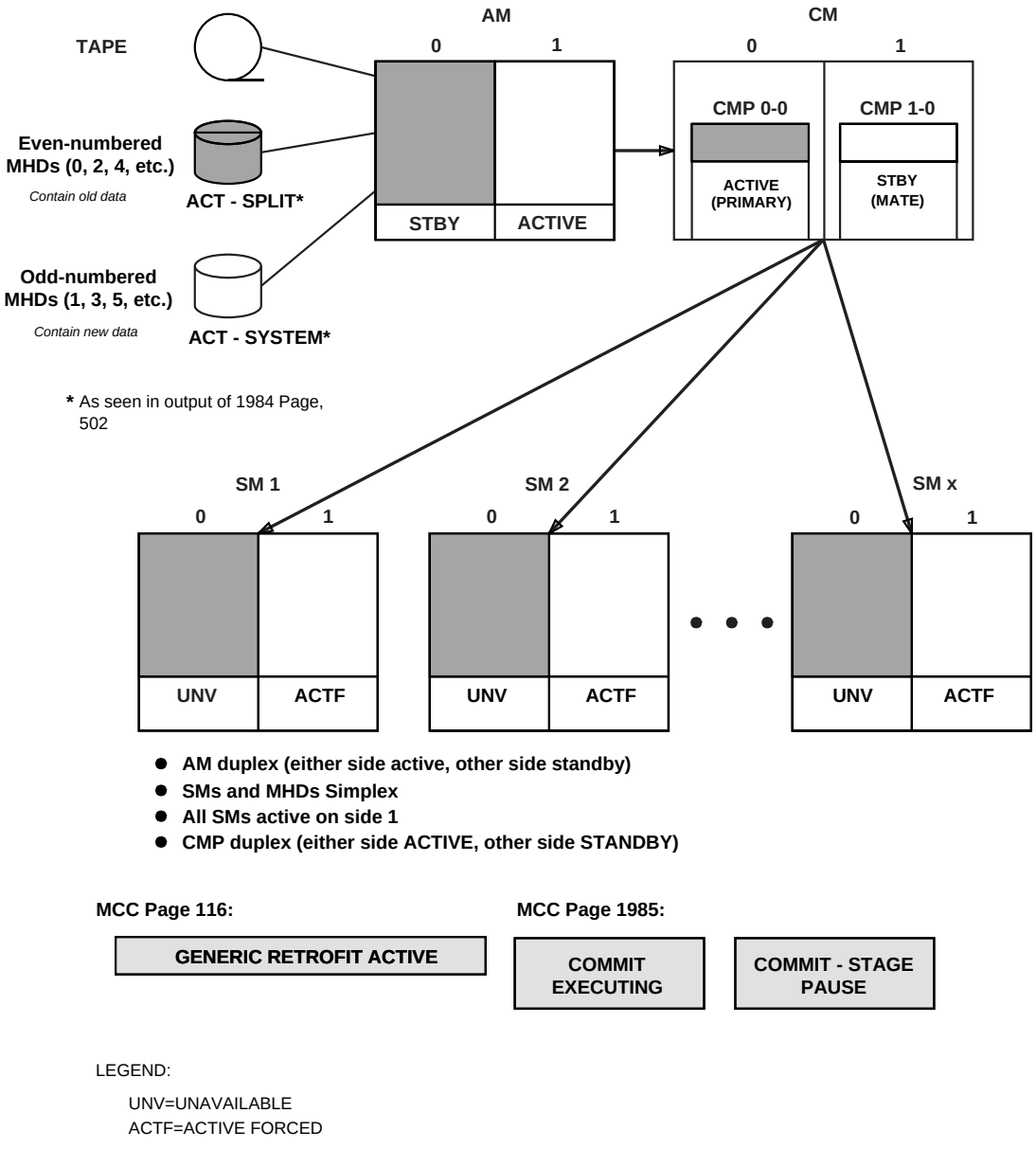


Figure 5-39 — Typical System Configuration at Completion of Soak Stage

5.11 COMMIT STAGE

OVERVIEW

The **Commit** stage follows a successful Soak stage and is expected to last approximately 2 to 3 hours. This stage consists of verifying that the RC/CORC reapply has completed and duplexing both the MCTSIs and system MHDs.

The SMs are duplexed by first removing the force on MCTSI side 1 and then unconditionally restoring MCTSI side 0.

Duplexing the system disks is the last major task. The disks containing the old ODD remain off-line until all SMs are full duplex on the new ODD. ***This ensures a backout possibility until the disks are committed to the new ODD, that is, until disk restorals begins, there is still a possibility that a backout to the old ODD can be done if the need arises.***

Note: In the following section, all MHDs will be duplexed on the new ODD. While the MHDs are being duplexed, do not perform ECD changes.

Obtain approval from the LTG Coordinator before continuing.

Permission to Commit MHDs

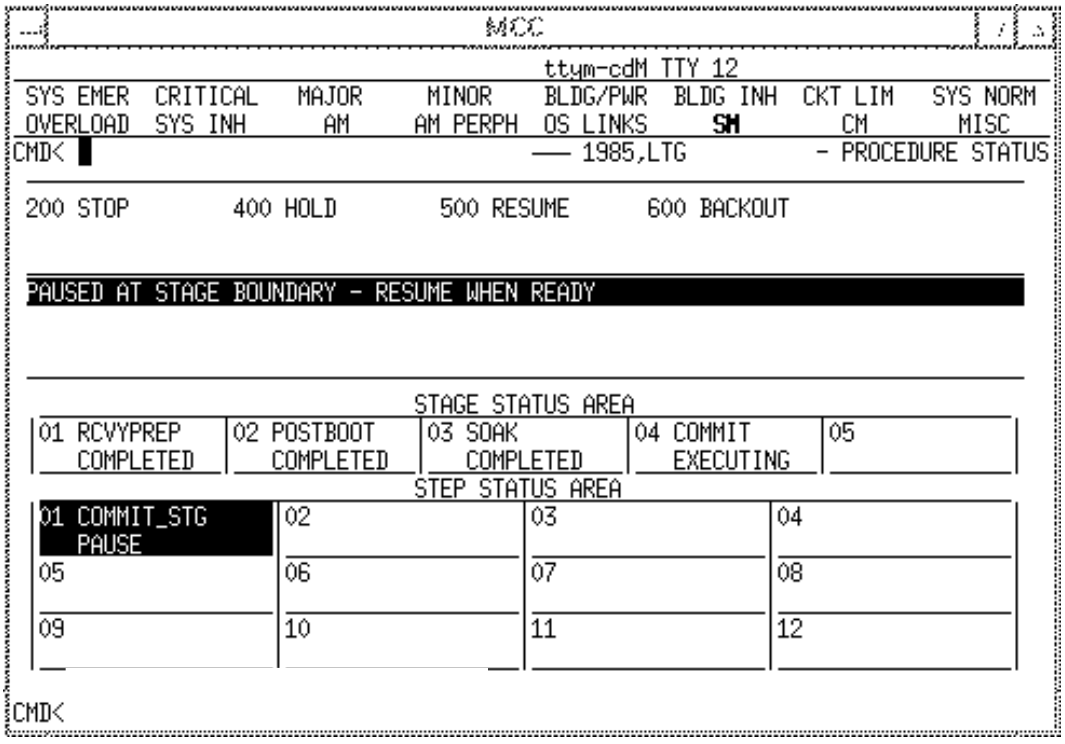


Figure 5-40 — MCC Page 1985 Paused at the Commit Stage

Figure 5-40 shows an example of MCC page 1985 paused before the start of the **Commit** stage. The following list describes each activity that will occur during the **Commit** stage:

- **DUPLEX SMs** - Prompts the technician to manually duplex the SMs.
- **REAPP CHECK** - Verifies that RC and CORC reapplication have been started.

- **DUPLEX_MHDs** - Duplexes the MHDs on the new software release.
- **APPLHOOK** - Post tape read processing.
- **CMTHOOK** - Schedule the **/rclog** cleanup job.

5.11.1 AMA ALLOWS

Overview

One of the following **ALW:AMA** messages must be entered to allow AMA polling sessions (collection of AMA data).

a. **For offices using the AMATPS or AMADNS option to allow AMA polling sessions:**

Enter MCC MSG: **ALW:AMA:SESSION[,ST**a**];**

Where: **a** = stream number (1 or 2)

Sample ROP Response:

AMA Control file dumped at ROP

```
REPT AMA CONTROL FILE FOR STREAM STa
        OFFICE ID   xxxxxx
        DAYS UNTIL EXPIRATION  y
        PROCESS START TIME XX:XX
        PROCESS STOP TIME XX:XX
        DEFAULT MT FOR AUTO TAPE START  x
        AMA OPTION IS xxxxxxxxxxx
         . . .
        ------------------------------------------------
            Comment:
               additional AMA control information dumped
        ------------------------------------------------
```

b. **For offices using automatic tape writing, to allow AMA polling sessions:**

Enter MCC MSG: **ALW:AMA:AUTOST[:ST**a**];**

Where: **x** = stream number (1 or 2)

Sample ROP Response:

AMA Control file dumped at ROP

```
REPT AMA CONTROL FILE FOR STREAM STa
        OFFICE ID   xxxxxx
        DAYS UNTIL EXPIRATION  y
        PROCESS START TIME XX:XX
        PROCESS STOP TIME XX:XX
        DEFAULT MT FOR AUTO TAPE START  x
        AMA OPTION IS xxxxxxxxxxx
         . . .
        ------------------------------------------------
            Comment:
               additional AMA control information dumped
        ------------------------------------------------
         . . .
```

5.11.2 OFF-LINE AMA SESSION

The AMA session processes the AMA records that are on the off-line disks. The AMA software is able to determine whether or not the off-line AMA data has been processed. For this reason perform this session as you would any manual AMA session. This session must be done before the commit stage of the transition is executed.

Warning: If this is a dual stream office, you cannot process both streams at the same time during this stage of transition. For offices which teleprocess AMA this means the HOC must not initiate collection on the second stream until collection on the first stream is complete.

1. Initiate AMA tape writing or teleprocessing session per local practice. This session will automatically process data on the 5E16.2 off-line disks.

   Comment: If the teleprocessing session is being run at a non-standard time, it is necessary to call personnel at the HOC to request a manual poll.

2. To verify a successful manual AMA session, use Step 'a' (single-stream office) or Step 'b' (dual-stream office):

   a. Single-stream office - enter message:

      ```
      MSG      OP:AMA:SESSION;
      ```

      Response: *Response for offices with AMA teleprocessing:*

      ```
      REPT AMA TELEPROCESSING SESSION FOR STREAM STx

          PREVIOUS AMA TELEPROCESSING SESSION STATUS
          START TIME xxx x xx:xx:xx
          STOP TIME xxx x xx:xx:xx
          BLOCKS TRANSMITTED xxx
          PRIMARY POLLS REJECTED x
          SECONDARY POLLS REJECTED x
          NORMAL TERMINATION
                      or
      Response for offices with AMA tape writing:
      REPT AMA TAPE SESSION FOR STREAM STx

          PREVIOUS AMA TAPE SESSION STATUS
          VOL SER NUMBER
          START TIME xxx x xx:xx:xx
          PRIMARY DATA
          FIRST BLOCK x xxx x xx:xx
          LAST BLOCK x xxx x xx:xx
          TAPE IS xxx% FULL
          RECORDS WRITTEN x
          NORMAL TERMINATION - NO MORE DATA
      ```

      Comment: From the output, verify that the message **NORMAL TERMINATION** is received. If this output is not received, one of the following is true:

      - There is an AMA session still in progress.
      - The last AMA session was unsuccessful.

   b. Dual-stream office - enter message:

      ```
      MSG      OP:AMA:SESSION,a;
      ```

      Where: a = ST1 or ST2. Enter message once for ST1, and once for ST2.

      Comment: *See the Response and Comment for Step 'a'.*

3. To verify the percentage of disk space occupied by AMA data, use Step 'a' (single-stream office) or Step 'b' (dual-stream office):

Warning: The following OP:AMA:DISK message must not be skipped. In addition to reporting on AMA disk space used, it sets control flags which determine whether to process AMA data on the off-line or the active disks.

a. Single-stream office - enter message:

```
MSG     OP:AMA:DISK;
```

Response:

```
REPT AMA DISK SUMMARY FOR STREAM STx

        DISK IS CURRENTLY xx% FULL
        NUMBER OF PRIMARY AMA BLOCKS IN USE
        IS APPROXIMATELY: xx
        ALL THE DATA ON THE OFFLINE
        SIDE HAS BEEN READ. THE AMA
        PROCESS HAS BEEN TRANSITIONED
        TO THE ACTIVE SIDE.
```

Comment: If errors are received as a response try the procedure again. If errors are received again, escalate to your next level of support.

b. Dual-stream office - enter message:

```
MSG     OP:AMA:DISK,a;
```

Where: a = ST1 or ST2. Enter message once for ST1, and once for ST2.

5.11.3 AMA ALLOWS ON THE ACTIVE SIDE

One of the following ALW:AMA messages must be entered to allow AMA polling sessions (collection of AMA data) on the active side.

Use either message 'a' or 'b', depending on your AMA option.

a. **If your office uses the AMATPS option , allow AMA polling sessions:**

Enter MCC MSG: **ALW:AMA:SESSION[,ST**a**];**

Where: **a** = stream number (1 or 2)

Sample ROP Response:

AMA Control file dumped at ROP

```
REPT AMA CONTROL FILE FOR STREAM STa
        OFFICE ID   xxxxxx
        DAYS UNTIL EXPIRATION  y
        PROCESS START TIME XX:XX
        PROCESS STOP TIME XX:XX
        DEFAULT MT FOR AUTO TAPE START  x
        AMA OPTION IS xxxxxxxxxxx
         . . .
        ------------------------------------------------
            Comment:
               additional AMA control information dumped
        ------------------------------------------------
         . . .
```

b. **If you use automatic tape writing, allow AMA polling sessions:**

Enter MCC MSG: **ALW:AMA:AUTOST[:ST**a**];**

Where: a = stream number (1 or 2)

Response: *AMA Control file dumped at ROP*

```
REPT AMA CONTROL FILE FOR STREAM STa
        OFFICE ID   xxxxxx
        DAYS UNTIL EXPIRATION  y
```

```
PROCESS START TIME XX:XX
PROCESS STOP TIME XX:XX
DEFAULT MT FOR AUTO TAPE START  x
AMA OPTION IS xxxxxxxxxxx
 . . .
-------------------------------------------------
    Comment:
       additional AMA control information dumped
-------------------------------------------------
 . . .
```

5.11.4 DUPLEX SMs

To continue with the **Commit** stage, on MCC page 1985, enter command:

```
CMD     500
```

Response:

```
ORD:CPI=1&&192,CMD=CLR;
ORD CPI 192 CMD CLR COMPLETED

REPT COMMIT DUPLEX SMS EXECUTING
ALW:HDWCHK,SM=1;
ALW:SFTCHK,SM=1;
ALW:HDWCHK,SM=2;
ALW:SFTCHK,SM=2;
```

```
MCC                                                    ttym-cdM TTY 12
SYS EMER  CRITICAL   MAJOR    MINOR    BLDG/PWR  BLDG INH  CKT LIM   SYS NORM
OVERLOAD  SYS INH     AM     AM PERPH  OS LINKS     SM        CM       MISC
CMD<                                    —— 1985,LTG          - PROCEDURE STATUS

200 STOP        400 HOLD        500 RESUME      600 BACKOUT

*CAUTION* PROCEEDING BEYOND THIS POINT PROHIBITS
*CAUTION* THE ABILITY TO BACKOUT OF THE TRANSITION
RESUME WHEN READY TO COMMIT MHDs

                              STAGE STATUS AREA
01 RCVYPREP     02 POSTBOOT     03 SOAK         04 COMMIT       05
   COMPLETED       COMPLETED       COMPLETED       EXECUTING 1
                              STEP STATUS AREA
01 COMMIT_STG   02 DUPLEX_SMS   03 ASM_PROCESSING 04 COMMIT_MHDs
   CONTINUING      COMPLETED       COMPLETED       WAITING
05              06              07              08
09              10              11              12

CMD<
```

Figure 5-41 — MCC Page 1985 Continuing the Commit Stage

5.11.5 VERIFY ALL SMs ARE DUPLEXED AND STABLE

```
MSG     OP:SYSSTAT,UCL;
```

Response: **OP:SYSSTAT,UCL;PF**

```
OP SYSSTAT   SUMMARY     {FIRST|NEXT|LAST} RECORD
SYS:         MISC
AM:          INHIBITS-AUD-MTCE[-MORE]
CM:          INHIBITS_MTCE
```

```
CMP x-0 P:   NORMAL
CMP y-0 M:   NORMAL
L LSM a,0:   INHIBITS-MTCE
 ...
B LSM b,0:   INHIBITS-MTCE
 ...
S LSM z,0:   INHIBITS-MTCE
```

5.11.6 COMMIT DISKS TO NEW SOFTWARE RELEASE AND REGENERATE PROXY DATABASE

1. Ensure any required Software Update (SU) activity as directed by the LTG Notes has completed before proceeding.
2. If the office has an ASM with the Proxy Database feature active, that database will be regenerated at the same time the MHDs are being restored.
3. If the following process (Commit) is stopped while a disk restoral is in progress, the in-progress disk restoral ***should*** complete.

   To commit the system to the new software release, on MCC page 1985, enter command:

   ```
   CMD  500
   ```

   Comment: If the CMPs or the SMs are not duplex prior to executing the **500** command, messages concerning this are printed by the Commit process.

   Response:

   ```
   THE COMMIT PROCESS IS EXECUTING
   UPD:GEN:COMMIT;
   REPT MHD 0 OUT OF SERVICE
   RST MHD 0 TASK x MESSAGE STARTED
   [REPT DIAMON ERROR = x ERRNO = y] (on ROP)
   RST MHD 0 IN PROGRESS (every 2 minutes) (on ROP)
   RST MHD 0 COMPLETED
   [REPT DIOP DUPLEX PROCESSING COMPLETED]
   [ST:DBPROXY:RELOADALL COMPLETED]
   ```

   (Other MHD restoral messages will be received for all even-numbered MHDs.)

   ```
   UPD GEN COMMIT  TRANSFERRING CONTROL TO APPLICATION
   UPD GEN COMMIT APP EXECUTING CMTHOOK
   UPD GEN COMMIT  APPLICATION COMPLETION WITHIN xxxxx SECONDS
   READLOG

   (Contents of SUPR log file are printed at ROP.)

   OP GEN READLOG COMPLETED
   UPD GEN COMMIT COMPLETED
   REPT CMT HOOK COMPLETED SUCCESSFULLY
   ```

4. At this point in the procedures, all MHDs should be **ACT** on MCC page 123 (and MCC page 125 if more than 2 DFCs are equipped) - Disk File System Access. If all MHDs are **ACT** on MCC page 123 (and MCC page 125 if appropriate), continue with the procedures. If any MHDs other than the optional software backup disks (MHDs 14 and 15) indicate any state other than **ACT**, escalate to your next level of support. ***Do not use other steps or procedures to try to restore any MHD to an "ACT" condition.***

5.11.7 SYSTEM CONFIGURATION

Figure 5-42 shows the system configuration at the completion of the Commit stage.

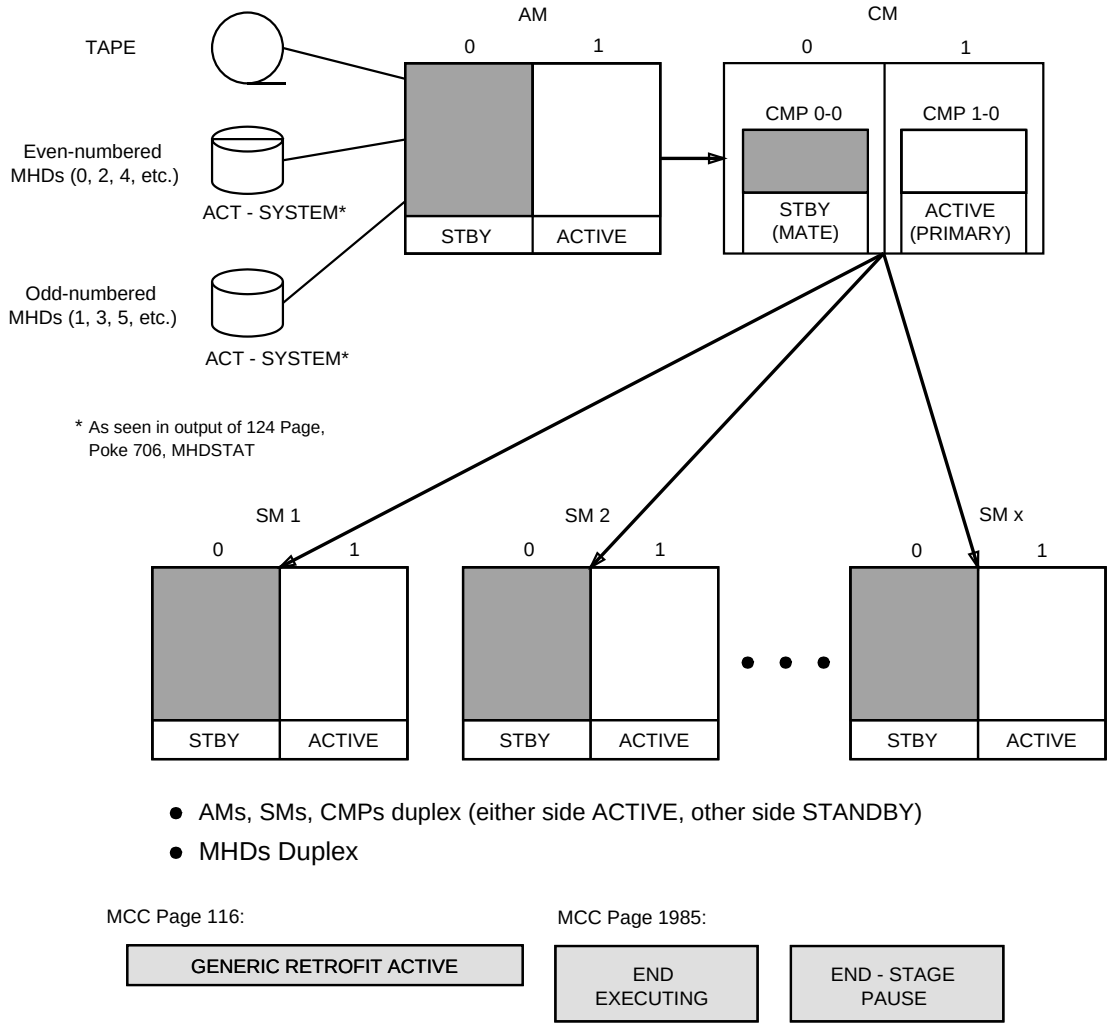


Figure 5-42 — Typical System Configuration at Completion of Commit Stage

5.12 END STAGE

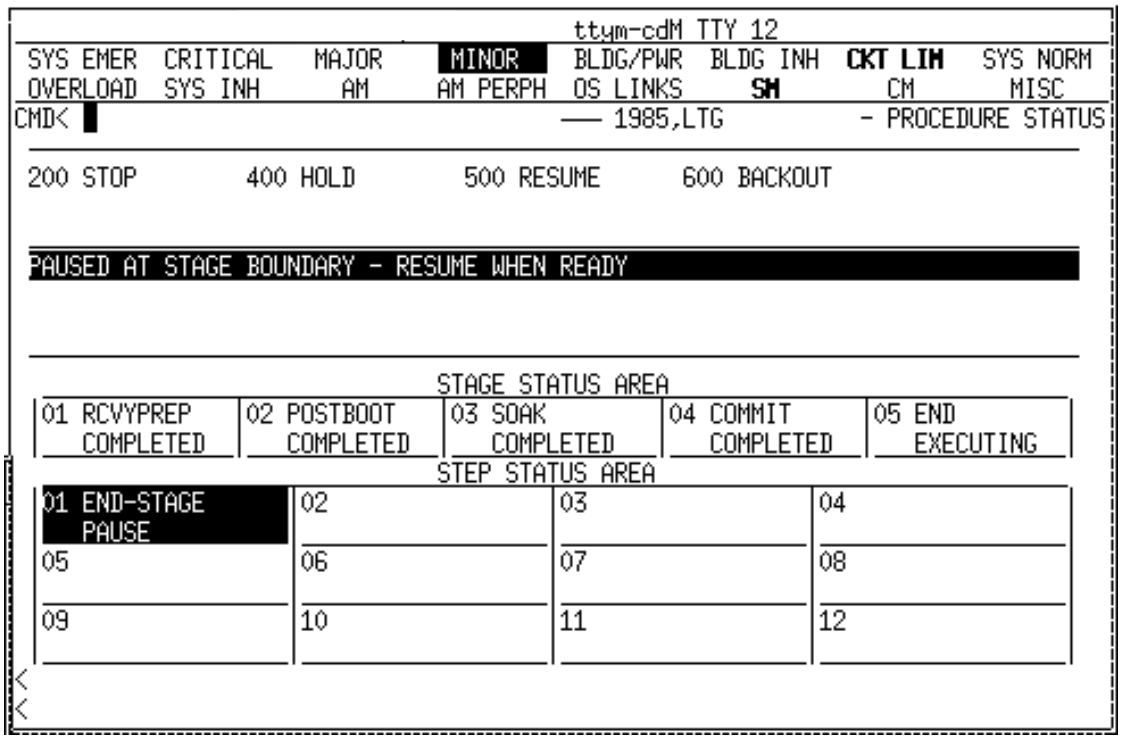


Figure 5-43 — MCC Page 1985 Paused at the End Stage

Figure 5-43 shows an example of MCC page 1985 paused before the start of the **End** stage. The following list describes each activity that will occur during the **End** stage:

- **APPLHOOK** - Misc allows, clearing LTG environment, etc.
- **ENDHOOK** - Restore ALIT status and CLID DN list. **RMVTOOLS** - Restore default cronfile and user cronfiles, and delete files used by LTG.

5.12.1 EAI SETUP

Note: Before beginning the EAI Setup, make sure the Commit stage has completed.

1. Access EAI page.
2. To clear the forces on the EAI page, enter command:

   ```
   CMD     14
   ```

3. Access **NORM DISPLAY**.
4. To switch ports, enter command on MCC page 111:

   ```
   CMD     401
   ```

   Response:

   ```
   SW:PORTSW; PF
   REPT ROP x STOPPED
   REPT ROP y STARTED
   SW PORTSW COMPLETED FOR ROP
   ```

   Screen blanks while ports are being switched.

   ```
   REPT MTTY  xSTOPPED
   ```

```
REPT MTTY  xSTARTED
SW PORTSW COMPLETED FOR MTTY
```

EAI page comes up followed by MCC page 111.

Comment: If the port switch fails, ensure that the switches on the EAI boards are in the auto position.

5. Reaccess EAI page and ***verify*** that the setups for this EAI port are the same as the other EAI port which was set in Step 2. If hardware and software are not cleared, clear them. If the force on the secondary disk has not been cleared, clear it. If these items have been cleared, continue with the next procedure.

5.12.2 END OF LTG INTERVAL

1. For offices with an ASM with the Proxy Database feature active, before proceeding with the End Stage, confirm that the Proxy Database was successfully regenerated and is now on-line.

   ```
   MSG     ST:DBPROXY:ACTION=STATUS;
   ```

   Response:

   ```
   PROXY DATABASE IS NORMAL
   ```

   ```
   MSG     ST:DBPROXY,ACTION=SIZEREPORTALL
   ```

   Response:

   ```
    DB      CURRENT SIZE         MAX SIZE         PCT
             IN KBYTES           IN KBYTES        USED
   ------------------------------------------------------
    AM         xxxx                 xxxx             x
    CMP        yyyy                 yyyy             y
   ```

   Any other ROP indicating failure to access the Proxy DB should be reported to technical support before proceeding with the End Stage.

2. To perform the "end" cycle, on MCC page 1985, enter command:

   ```
   CMD     500
   ```

   Response:

   ```
   THE END PROCESS IS EXECUTING
   UPD GEN END APP EXECUTING
   UPD:GEN:END;
   UPD GEN END APP RECENT CHANGE ALLOW SENT
   ALW:REX,CU; OK
   ALW:REX,CM; OK
   ALW:REX,SM=1&&192; OK
   ALW:DMQ:SRC=ADP; PF
   ALW DMQ SOURCE ADP IS NOT INHIBITED
   ALW:DMQ:SRC=REX; PF
   UPD GEN END APP REX ALLOW SENT
   ALW DMQ ENABLED REX
   ALW:REORG; OK
   UPD GEN END APP ALW:REORG COMMAND SENT
   UPD GEN END CRAFT ACSR ENQUEUEING/DEQUEUEING ALLOW SENT
   ALW:AUD=SODD,FULL; OK
   ALW:AUD=SODD,INCR; OK
   UPD GEN END STATIC ODD AUDITS ALLOW SENT
   [UPD GEN END AUTO SPARE DISK RESTORED]
   UPD GEN END APP EXECUTING ENDHOOK
   EXC:LIT:OPT=a,TYP=b,RG=c,TMO=d,TM=e-f; PF - FOR PARAMETER
           MODIFICATION
   EXC LIT VERIFY TYP=b RG=c TMO=d TM=e-f
   ```

```
UPD GEN END APP ENDHOOK REPORT

Date:   Day Month Time Year

Tool Name:      xxxxxxxx
Generic:        5E16(2)xx.yyExit Status:    0
Comments:       xxxxxxxx
          .
          .
          .
UPD GEN END APP APPLLOG REPORT

APPLHOOK log file output on ROP.
On MCC page 116, GENERIC LTG field returns to normal.

UPD GEN END COMPLETED SUCCESSFULLY
THE END PROCESS COMPLETED SUCCESSFULLY
```

Comment: The resume command allows Routine Exerciser (REX) diagnostics, automatic relation reorganization (REORG), and RC. The Auto Spare Disk feature status line on MCC page 123 changes to indicate that the feature has been activated. The **SYS INH** (system inhibits status) which was backlit should go to normal as the End stage completes.

3. From the output, verify that the Endhook report was received (all tools should have an exit status of **0**).

   Note: If all tools **DO NOT** have an exit status of **0**, escalate to your next level of support.

4. The **End** stage has completed and is at a pause boundary for General Cleanup.

5.12.3 AUTOMATIC ODD BACKUP SCHEDULE AND AUTOMATIC RELATION REORGANIZATION

1. To reschedule automatic ODD backups, enter message:

   `MSG BKUP:ODD:EVERY=x,AT=y;`

   Where: x and y = values recorded on ODD Backup Worksheet (Table 9-2) earlier in the procedures.

   Response: **OK**

2. Automatic relation reorganization (REORG) is currently set to run at 0200 hours. If a 2:00 a.m. reorganization interferes with any other nightly scheduled activities, use the following message to reset the reorg schedule.

   Enter message:

   `MSG SET:REORG,TIME=a-b;`

   Where: a = hour (00-23)
   b = minute (00-59).

   Response: **OK**

5.12.4 VERIFY CALL GAPPING CODE CONTROLS

1. To verify all Call Gapping (CGAP) Code Controls, enter message:

   `MSG OP:CGAP;`

   Response:

```
OP CGAP COMPLETED
CODE PREFIX GAP   ANN   DOM
 ...
```

2. Compare this list with the call gapping code controls output on the ROP during boothook. If needed, various formats of the **SET:CGAP** command may be used to change this data. See 235-600-700, *Input Messages Manual* for the syntax of this command.

5.12.5 TRFC30 REPORTS

Obtain the status of the TRFC30 report:

Enter MCC MSG: **OP:STATUS,TRFC30;**

Note: TRFC30 reports are not turned on after a Retrofit. Once the TRFC30 report is turned back on, you must also allow the sections of the TRFC30 report that you wish to collect. Use the ROP output generated earlier to determine which report sections were allowed prior to Retrofitting to the new Software Release.

Response: Dumps the status of the TRFC30 report.

Allow collection of a TRFC30 section:

Enter MCC MSG: **ALW:TRFC30,clct,y;**

Where: **y** = report section name to be allowed

Redirect the TRFC30 sections:

Enter MCC MSG: **ALW:TRFC30,x,y;**

Where: **x** = ROP or TRFCH
y = TRFC30 section

Enter MCC MSG: **OP:STATUS,TRFC30;**

Response: Dumps the status of the restored TRFC30 report.

Consult document 235-600-700, *Input Messages Manual* for the complete syntax and the complete list of options for this command.

5.12.6 Is the type of LTG being performed a SMART Conversion LTG?

- If **YES**, go to Step 5.12.9.
- If **NO**, continue with the next step.

5.12.7 ASM DSDOWNLOAD CONFIGURATION

Only for offices with an ASM: Remember to update the configuration files for dsdownload in order for your download to work properly. Refer to document 235-200-145, **5ESS** *Switch* **OneLink Manager™** *Administrative Services Module User's Guide*, Section 7.2.1, "Creating a Configuration File for the Remote Server" for additional information.

5.12.8 SCANS UPDATE

The user profile on the SCANS machine must be updated to reflect the correct new generic for the "SCC" and "switch" level. Failure to update the user profile will cause downloaded BWMs to fail to apply due to the generic difference between the SCANS machine and the switch. For more information on updating the SCANS machine user profile contact *SCANS Administration at 1–866–LUCENT8*.

5.12.9 VERIFY MESSAGE CLASS LOG PRINT STATUS

Information on 5E16.2 message classes is available in the **User Guidelines** and the **Message Class Appendix** sections of 235-600-750, *Output Message Manual*.

1. [OPTIONAL step] **Check the *5ESS* switch message class Log Print Status (LPS) settings:**

   Enter MCC MSG: **OP:LPS,MSGCLS=ALL;**

   Response: A list of all message classes is dumped to the ROP. Each message class LPS setting for the current and backup routing (DAYLOG and ECD) will either be ON or OFF.

   Comment: The log print status of each message class is saved across the Retrofit initialization. New message classes appear at the end of the **OP:LPS,MSGCLS** printout with a default status.

2. [OPTIONAL Step] **Change the LPS message class values:**

   Enter MCC MSG: **CHG:LPS,MSGCLS=**a**,PRINT=**b**,LOG=**c**;**

   Where: **a** = the message class that is to be changed.
   b = Print status (ON or OFF).
   c = Log status (ON or OFF).

   Response: **OK**

5.12.10 RC REAPPLICATION CLEANUP

Caution: Do not continue beyond this Section (Section 5.12.10) until RC and CORC reapplication has successfully completed.

1. Verify that all RCs and CORCs have been successfully reapplied.

   If RCs and CORCs have been successfully reapplied, continue with Step 5. If errors still exist after RC reapplication, continue with Step 2.

2. The following message will automatically create a file that contains all RC errors up to this point. This file will be created in **/updtmp/HIST.RCNEW**. If the RC errors have already been output, it is not necessary to enter this message.

   Note: Each time the following command is entered, the file is re-created.

   If needed, enter message:

   ```
   MSG     REPT:RCHIST,CLERK=RCNEW,FORMAT=DETAIL,ERROR;
   ```

   Response:

   ```
   REPT RCHIST CLERK = RCNEW STARTED REPORT

    IS IN /updtmp/HIST.RCNEW

   REPT RCHIST CLERK = RCNEW COMPLETED
   ```

   If the preceding message is used and a hardcopy is needed, the file will have to be dumped to a printer, enter message:

   ```
   MSG     DUMP:FILE,ALL,FN="/updtmp/HIST.RCNEW",OPL=999;
   ```

3. Using local RC procedures and/or your next level of support, attempts should be made to correct and reapply all views in error.

4. If CORC reapplication failures were still seen during the last run, enter the following message, otherwise proceed to Step 5.

```
MSG     CNVT:CORCLOG,LOAD;
```

Response:

```
          CNVT CORCLOG LOAD SM = xxx STARTED

          CNVT CORCLOG LOAD SM = xxx COMPLETE

                  xxxx CORCS PROCESSED
                  xxxx TRNCORCS PROCESSED
                  xxxx CORCS IN ERROR
                  xxxx TRNCORCS IN ERROR

          (The previous appears for each SM with CORC activity.)
          [CNVT CORCLOG LOAD SM = xxx IN PROGRESS]
                  [CORC NUMBER xxx HAS BEEN PROCESSED]

          [CNVT CORCLOG LOAD AM STARTED]

          [CNVT CORCLOG LOAD AM COMPLETE]
                  [xxxx CORCS PROCESSED]
                  [xxxx CORCS IN ERROR]

          [CNVT CORCLOG LOAD CMP STARTED]

          [CNVT CORCLOG LOAD CMP COMPLETE]
                  [xxxx CORCS PROCESSED]
                  [xxxx TRNCORCS PROCESSED]
                  [xxxx CORCS IN ERROR]
                  [xxxx TRNCORCS IN ERROR]

          CNVT CORCLOG LOAD COMPLETED
```

5. RCs and CORCs have been successfully reapplied.

   ```
   RC and CORC Reapplication Complete
   ```

6. Turn-on links and modems to remote RC centers.

5.12.11 CONTINUE THE END STAGE

MCC Page: **1985**

Enter Poke CMD: **500**

5.12.12 LTG PROCEDURE COMPLETED

Ensure Figure 5-44 is displayed before continuing with the manual actions in the next step.

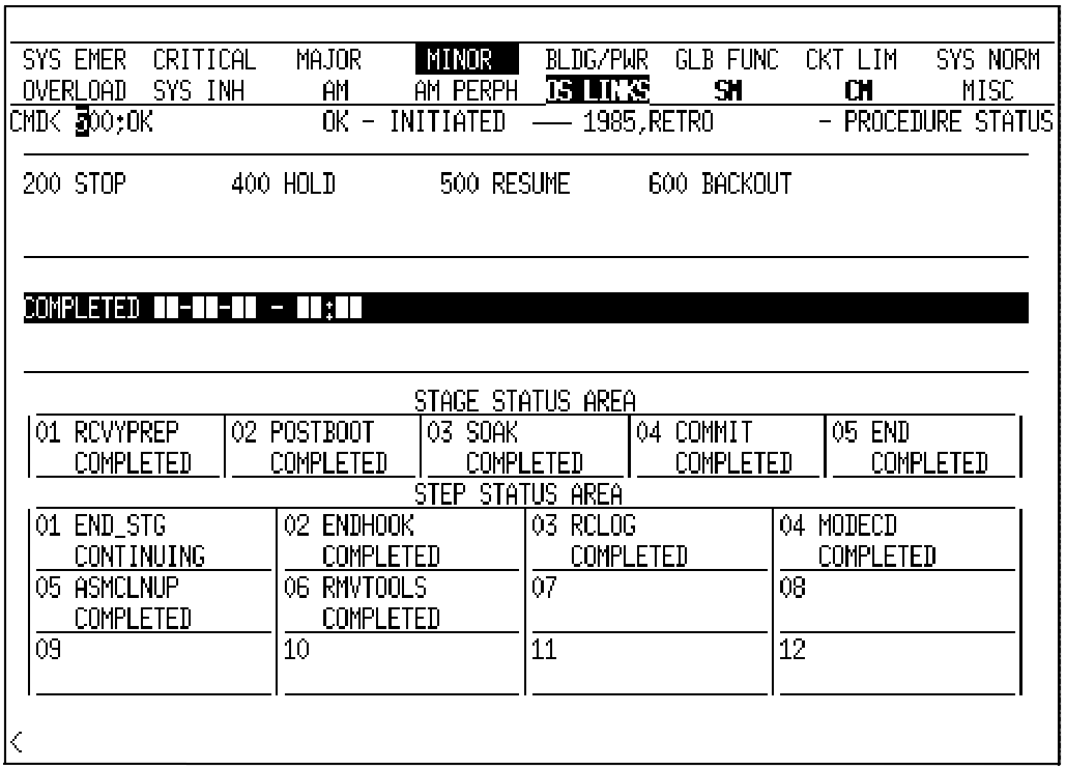


Figure 5-44 — MCC Page 1985 at Completion of the Retrofit End Stage

5.12.13 OFFICE BACKUPS

Warning: These backup shelf copies are essential for system recovery. Perform them immediately after (but not before) RC/CORC reapplication completes.

1. Make sure primary to backup partition copies are made as a part of the office backup procedures. If the office is equipped with software backup disks (MHD 14 or MHD 15), refer to 235-105-210, *Routine Operations and Maintenance*, for information regarding populating software backup disks.

   Make office backups for base MHDs.

   Reference: Refer to 235-105-210, *Routine Operations and Maintenance*.

2. Record date and time in appropriate row of Disk Backup Worksheet (Table 9-3).

3. Obtain signature from the Site Coordinator before continuing.

   _____
   Office Backups Are Complete

5.12.14 EVALUATE THE SYSTEM CRON FILE

EVALUATE THE SYSTEM CRON FILE

OVERVIEW

The 5E16.2 *default* system cron file (root) was automatically installed at the end of the Retrofit by the **rmvtools** tool. It is recommended that the site-specific system cron tasks which were in place on the 5E16 Software Release be evaluated at this time and that any required changes be made to the 5E16.2 cron file.

Note: Your 5E16 system cron file was printed at the ROP as part of the Begin Stage.

During the Retrofit, the system cron files on the 5E16 Software Release are compared with the default cron file on 5E16 and certain difference files are generated.

The following three files are created to assist in the evaluation and maintenance of the system cron files. These files are available on the old Software Release after the completion of PROCEED. They are also available on the new Software Release after the completion of the initialization.

- **/unixa/spool/cron/retro.crontabs/rootcron.diff**

  This file contains the differences between the old Software Release system cron file and default cron file.

- **/unixa/spool/cron/retro.crontabs/rootcron.sys**

  This file contains the cron entries which were in the old Software Release system cron file, but were **not** in the old Software Release *default* cron file

- **/unixa/spool/cron/retro.crontabs/rootcron.def**

  This file contains the cron entries which were in the old Software Release *default* cron file, but were **not** in the old Software Release system cron file.

Refer to 235-700-200, **UNIX** *RTR Operating System Reference Manual* for details on the user logins and the cron commands.

PROCEDURE:

a. **Enter the following message:**

Note: Examine the contents of the file that contains the differences between the old Software Release system cron file and the old Software Release *default* cron file.

DUMP:FILE:ALL,FN="/unixa/spool/cron/retro.crontabs/rootcron.diff",OPL=999;

Note: The *rootcron.sys* and *rootcron.def* files can be dumped in a similar manner.

Sample ROP Response:

```
DUMP FILE ALL STARTED
This file contains a listing of the changes that
were made to the system cron file on 5E16.
This file contains a differential file comparison,
or diff listing of the 5E16 default
cron and the 5E16 system cron files.
This file was created during the 5E16 to
5E16(2) Software Release transition on
Date and Time.
```

```
This file was generated while the switch was on 5E16(2)
by the UNIX command:
   diff default_root_cron system_root_cron

Additional files created to assist in maintenance of
system cron files are:
   /unixa/spool/cron/retro.crontabs/rootcron.sys
      (Contains the cron entries which were
      in the old side system cron file, but
      were not in the old side default cron file.)

   /unixa/spool/cron/retro.crontabs/rootcron.def
      (Contains the cron entries which were in
      the old side default cron but were
      not in the old side system cron file.)

-------------------------------------------------------
    Comment:
       Difference information is printed here,
       or the following response is output.

No root cron modifications detected
during the 5E16 to 5E16(2) Software Release
Retrofit,  date and time.
-------------------------------------------------------

DUMP FILE ALL COMPLETED SEGMENT x
```

b. **AFTER EVALUATING THE DIFFERENCES between the site-specific system cron tasks which were in place on the 5E16 Software Release and the new 5E16.2 Software Release system cron file, one of the following actions will be required based on the differences identified:**

- **If root cron modifications are detected** during the Retrofit from the previous generic to the new generic, then the new generic's system cron file will need to be modified as required to accommodate any necessary site-specific cron tasks, as well as, possible adjustment to certain existing default cron tasks.
- **If no root cron modifications are detected** during the Retrofit from the previous generic to the new generic, then no action is required at this time.

5.12.15 SAFETYNET SERVICE RECONFIGURATION

The SafetyNet Service Reconfiguration (SSR) feature provides the Operating Company the ability to build and maintain text recent change (RC Text) files for immediate execution on customer request.

Due to RC form layout changes, operating companies must review RC text files and manually make any changes required to provide the required rerouting.

5.12.16 SYSTEM CONFIGURATION

Figure 5-45 shows the system configuration at the completion of the End stage.

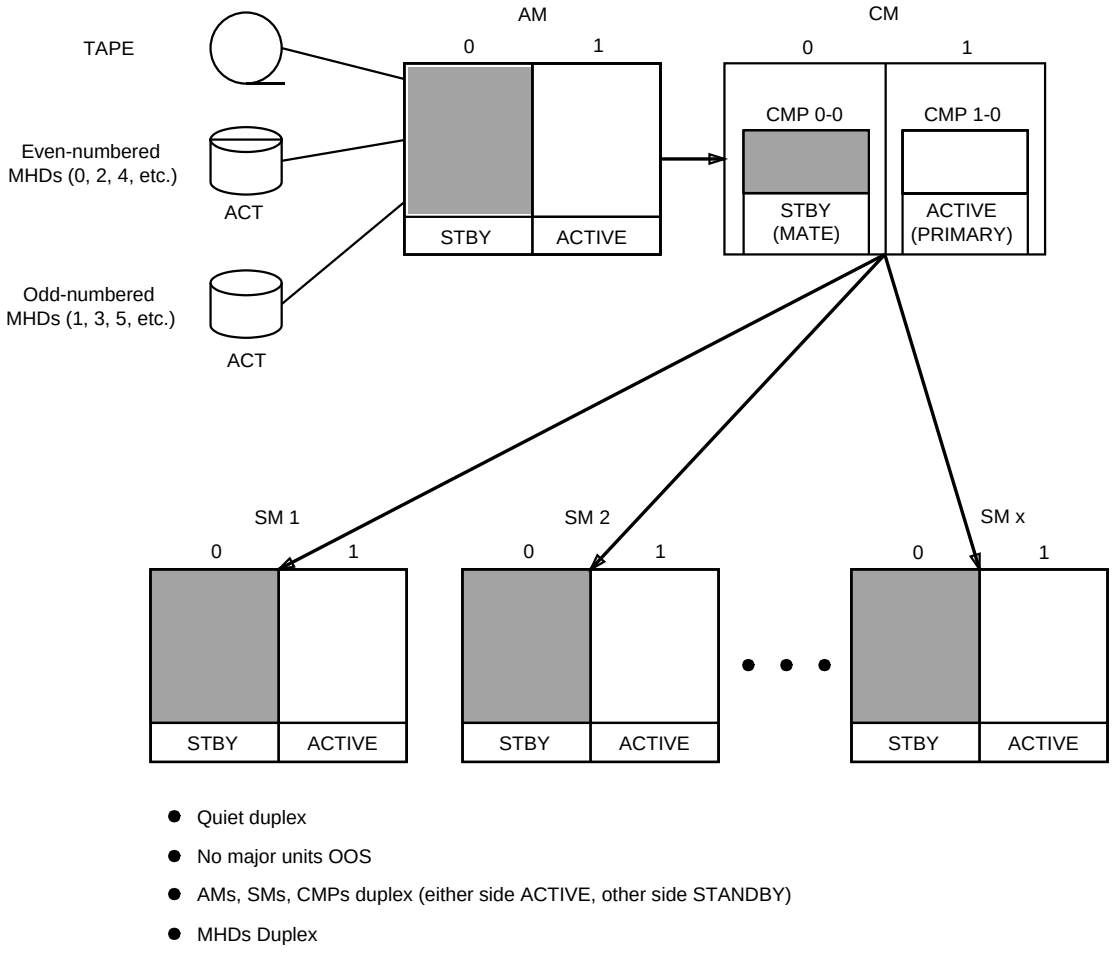


Figure 5-45 — System Configuration at the Completion of the End Stage

5.13 DUPLEX REGRESSION TESTS

The operating company should plan to monitor office performance for 2 days following the LTG. The 2-day interval should include one normal business day. Any abnormal conditions that occur should be immediately reported through normal support channels.

After all procedures have been executed successfully, tests may be run to confirm system operation with the new software. The following is a list of tests that could be run:

- Intramodule and intermodule calls (both incoming and outgoing).
- Trunk calls (one call per trunk group).
- Billing systems.
- MCC display pages.
- RC/V pages.
- Coin calls.
- Custom calling features (that is, three-way calling, call waiting, call forwarding, speed calling, etc.).
- ISDN calls.
- Packet calls.
- Hardware diagnostics.
- REX.
- Audits.
- Pump.
- Miscellaneous:
  - — Output reports
  - — RMV, RST of various units
  - — Traffic reports
  - — Assert summaries
  - — TLWS
- OS tests.
- AP tests.
- AM tests.

5E16.2 Large Terminal Growth Procedures

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6.6.27 R-27 6-138
6.6.28 R-28 6-138
6.6.29 R-29 6-139
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6. RECOVERY PROCEDURES

6.1 OVERVIEW

This section contains recovery procedures for many transition-related troubles that may be encountered during the course of the transition interval. This section is made up of the following major divisions:

- ***Transition-Related Error Recovery***
- ***Initialization Failures — Boot AM On Old Software Release/Data***
- ***Error Definitions — Transition-related***
- ***Error Definitions — Non-Transition related***
- ***Recovery Actions.***

With the introduction of the Procedure Control Pages (1980, 1985, 1989), all APPLHOOK and SUPR errors will be displayed to the screen of the 1985 and 1989 pages, in addition to being printed to the rop. The screen output is limited to the first 3 lines of the error message. A complete report of the error will be printed to the rop. The last APPLHOOK or SUPR error will reside in the **/updtmp/site/message** file. The following command will output this file to the rop:

MSG **DUMP:FILE,ALL,FN="/updtmp/site/message",OPL=999;**

While it is true that all errors received throughout the transition interval may be "transition-related", Section 6.4, "Error Definitions — Transition-Related" contains error definitions and recovery information for problems exclusively associated with the ***transition process*** (that is, the implementation of the transition).

This section (Section 6) does provide recovery information for some situations and troubles that are not specifically due to the transition. However, for most non-transition-related recovery information, refer to 235-105-250, *System Recovery Procedures*.

It is highly recommended that this entire section be thoroughly reviewed before the transition. This should be done to understand the methods used to recover from problems that may be encountered. A thorough review will also familiarize users with the layouts and location of information.

Section 6.4, **Error Definitions — Transition-Related,** is to be used when a transition-related error occurs. Throughout the course of a transition, there are three types of errors that are ***specifically*** related to the transition process. They are as follows:

1. APPLHOOK Errors
2. SUPR Errors
3. Transition software tool errors.

This recovery procedures section gives detailed actions to recover from these errors and, in most cases, successfully continue with the transition.

When an error code procedure instructs you to proceed to Section 7, access Table 7-1, BACKOUT PROCEDURES. This table will direct you to the correct Backout procedure to be initiated.

Section 6.4, **Error Definitions — Non-Transition Related,** is to be used when a non-transition-related error occurs. In addition to the three specific transition-related errors previously mentioned, this section also contains recovery actions for the following problems/errors. If any of the following errors are encountered, go directly to that particular error definition in the Recovery Procedures section (use the table of contents for the correct page number). The following errors are listed in Section 6.4, **Error Definitions — Non-Transition Related,**:

- Clear AMA Failures
- Duplex Disk Failures
- Active Disk SM Off-Line Pump Failures
- Off-Line Disk SM Off-Line Pump Failures
- Peripheral Off-Line Pump Failures
- ORD:CPI Clear Force Troubles
- ORD:CPI Switch and Force Troubles
- RC and CORC Roll Forward Problems
- RC and CORC Reapplication Troubles (Retrofit, LTG Only)
- RC and CORC Evolution Problems (Retrofit, LTG Only)
- Restarting RC Double-Logging After AM Initialization (Retrofit, LTG Only)
- Database Dump and Memory Forecasting Tool Troubles (Retrofit, LTG Only)
- COPY:ODD:TAPE,ALL Troubles (Retrofit, LTG Only)
- Trunk Status Mapping (TSM) Errors.

For ORD:CPI and off-line pump troubles, the headings have been broken down by the error that may appear on the ROP and/or the MCC. The information necessary to clear a related trouble is supplied at the referenced page.

Section 6.6, **Recovery Actions**, is to be used when directed by this document or technical support personnel.

6.2 TRANSITION-RELATED ERROR RECOVERY

6.2.1 OVERVIEW

The following guidelines should be used when attempting to recover from any transition-related error. Note that these particular guidelines only address the three types of specific transition errors defined earlier (APPLHOOK, SUPR, and tool failures). The other recovery procedures in this section should be used when directed by this document or by technical assistance personnel.

Figure 6-1 shows when (that is, during which stage) each type of error can occur. This is based on whether or not the process which outputs these errors is active.

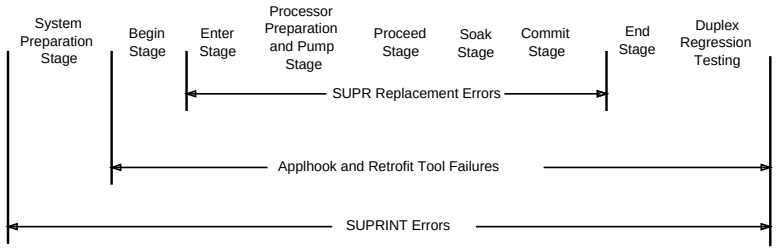

Figure 6-1 — Transition-Related Errors

6.2.2 ERROR RECOVERY GUIDELINES

Using the following steps, a successful recovery from most transition-related errors is possible. To recover from an error, do the following:

1. Note which transition stage (that is, Begin, Proceed, etc.) you are trying to execute when the error occurs. The recovery action will most likely differ based on which stage you are trying to execute.

2. Using the following examples, identify what type of error has been received. There may be more than one error output — write all errors down (or save the ROP output).

   *Example of an **APPLHOOK** Error:*
   UPD GEN ENTER APP STOPPED WITH ERROR CODE 5a07

   *Example of a **SUPR** Error:*
   UPD GEN ENTER STOPPED WITH ERROR CODE 502181

   Example of a *transition tool* error:
   UPD GEN ENTER APP ENTRHOOK FAILED WITH EXIT CODE 10

   If more than one type of error is received, try to resolve the problem in the following ***order***:

   1. Transition Tool errors
   2. APPLHOOK errors
   3. SUPR errors

   For example, if both a SUPR error and an APPLHOOK error are received, first try to resolve the APPLHOOK error (using the following steps).

3. If a transition tool error is received (with or without any other error), go directly to Section 6.4.8.

   For any other type of error, determine whether the transition is continuable — this information is contained in the SUPR log file.

   Note: There is no SUPR log file in the Begin stage.

   To dump the SUPR log file, access MCC page 1984 and enter command:

   CMD **503**

Response: Dump of SUPR log file on ROP
OP GEN READLOG COMPLETED

The APPLHOOK error log should also be dumped for reference. To dump the APPLHOOK log file, access MCC page 1984 and enter command:

CMD **504**

In the SUPR log file, look at the most recent log file entry for the current stage (that is, the UPD:GEN:"stage" that failed) that contains the words:

CONTINUABLE: YES/NO

4. If the transition is continuable (YES), go to the Table of Contents for this section and locate the error definition for the error code received. Read the definition of the error(s) and the recovery actions. Using the table of contents, go to Section 6.6 and perform the specified action (R-1 through R-47). In the event two recovery actions are indicated for a given error, do the second one only if the first results in the same SUPR or APPLHOOK error.

   If the recovery action(s) fails to get the transition restarted, you should escalate to your next level of support before backing out of the new software release. Use the applicable backout action for the given error code.

   If the transition is not continuable (NO), you should escalate to your next level of support before backing out of the new software release. Use the applicable backout action for the error code in question. Refer to Section 7 in this document for all backout procedures.

****

STOP. YOU HAVE COMPLETED

THE ERROR RECOVERY GUIDELINES.

****

6.3 INITIALIZATION FAILURES - BOOT AM ON OLD SOFTWARE RELEASE/DATA

1. Access EAI page.
2. Verify that CU 0 is **ACT FONL.**

   Verify that CU 1 is **FOFL**.
3. Ensure the "SET-INH" box is NOT visible after INH-TIMER.
4. Enter the following EAI commands:

CMD **10**	forces AM 0 on-line.
CMD **y**	forces AM 0 on-line after "y" is entered.
CMD **20**	select primary MHD.
CMD **31**	clear BACKUP-ROOT.
CMD **33**	clear MIN CONFIG.
CMD **34**	set hardware inhibits.
CMD **36**	set software inhibits.
CMD **39**	clear INH ERR INT.
CMD **41**	clear INH CACHE.
CMD **43**	clear APPL PARAM.

5. Access normal display (**NORM DISP**).

   Note: If you cannot access normal display, continue with the following procedures.

6. To perform the initialization, enter the following commands on the EAI page:

   Note: If ONTCs were duplex (that is, ACTIVE MAJOR/MINOR) on MCC page 1209 before the initial boot, use **S** as the application parameter (to preserve stable calls). If ONTCs were not duplex before the initial boot, use **R** as the application parameter.

CMD	**42**	(set application parameter mode)
CMD	**S** or **R**	(**S** saves stable calls, **R** does not)
CMD	**54**	(full AM boot on old software release — Response: **Boot? (y/n)**)
CMD	**Y**	(boot begins after "Y" is entered)

7. The MCC display should change from the EAI page to MCC page 111 within approximately 5 to 10 minutes. ***Do not attempt to enter pokes or messages until all expected system status indicators are backlit*** (that is, SYS INH, AM, AM PERPH, MISC, etc.).

8. On MCC page 111, AM 0 status should be**INIT** and then change to **ACTIVE**.

Exit Points

Restart: Escalate to your next level of support.

Backout: Continue with **"Backout Action B-4A."**

6.4 ERROR DEFINITIONS — TRANSITION-RELATED

6.4.1 APPLHOOK ERRORS

6.4.1.1 Overview

During the execution of each SUPR process, processing control is periodically given to APPLHOOK, an application process. If an APPLHOOK process encounters an error condition, an APPLHOOK error will be output along with a SUPR error.

The APPLHOOK processes consist of the BEGIN stage, SM Backout, SM Switch, SWITCHFWD, SWITCHBCK, and END. These processes are invoked with the "UPD:GEN:....." input message or as an action of a 500 or 600 poke from the 1985 page.

During the execution of the APPLHOOK, an **applog** file is created and updated by each of the APPLHOOK processes. The **applog** file may be dumped to provide additional information on the current transition status by entering a **504** command on MCC page 1984.

If, during the execution of some APPLHOOK process an error condition results, an APPLHOOK error code is output. The following is a list of all APPLHOOK errors, their meaning, and appropriate recovery actions.

6.4.1.2 Error 100x - Unequipped SM Type Requested

The SM type or SM number requested in the SMSWITCH or SMBKOUT command line is not equipped in the office.

Retry the command with different or no SM type as the additional argument.

Stage/Cmd	Error	Recovery	Backout
All	100x	R-36 (Section 6.6.36)	—-

6.4.1.3 Error 101x - Bad Number of Arguments

Stage/Cmd	Error	Recovery	Backout
All	101x	R-36 (Section 6.6.36)	—-

6.4.1.4 Error 102x - Bad Stage Argument

Stage/Cmd	Error	Recovery	Backout
All	102x	R-36 (Section 6.6.36)	—-

6.4.1.5 Error 103x - Bad Execution Mode Argument

Stage/Cmd	Error	Recovery	Backout
All	103x	R-36 (Section 6.6.36)	—-

Verify the Unconditional option on page 1989 is set to a valid value (Y or N) and fix with the 4xx,value poke if not (where "xx" is the number of the Unconditional option and "value" is "Y" or "N").

6.4.1.6 Error 104x - Off-Line Disk Method Not Specified

Stage/Cmd	Error	Recovery	Backout
All	104x	R-36 (Section 6.6.36)	—-

6.4.1.7 Error 105x - Illegal SM Type Specified

Stage/Cmd	Error	Recovery	Backout
All	105x	R-36 (Section 6.6.36)	—-

6.4.1.8 Error 106x - Inappropriate Keyword Used

A wrong keyword in the poke command or input message was entered. Look carefully on the output from the ROP to verify what was entered and re-input the poke command or input message using the appropriate keyword (RETRO, LTG, UPDATE).

If errors still persist after re-entering the poke or message with correct the keyword, escalate to your next level of support.

6.4.1.9 Error 107c - Bad Off-Line Boot Argument

A bad argument keyword in the poke command or input was entered. Look carefully on the output from the ROP to verify what was entered and re-input the poke command or input message using the appropriate keyword (RETRO, LTG, UPDATE).

If errors still persist after re-entering the poke or message with the correct keyword, escalate to your next level of support.

Verify the Offline Boot option on page 1989 is set to a valid value (Y or N) and fix with the 4xx,value poke if not (where "xx" is the number of the Offline Boot option and "value" is "Y" or "N").

6.4.1.10 Error 201x - Context Checks On APPLHOOK Log File Failed

The **APPLHOOK** log file (**/etc/log/appllog**) is created in the Begin stage and should exist throughout the rest of the procedures. This error could be caused by one of several things:

- The **APPLHOOK** log file (**/etc/log/appllog**) exists when trying to run the UPD:GEN:BEGIN message or a **500** poke command on MCC page 1985,x (where x = RETRO, LTG, UPDATE).
- The **APPLHOOK** log file (**/etc/log/appllog**) has been inadvertently removed after the Begin stage has been started.

Stage/Cmd	Error	Recovery	Backout
Begin	2011	R-8 (Section 6.6.8)	(Section 7)
Enter Forward	201x	R-9 (Section 6.6.9)	(Section 7)
Proceed	201x	R-9 (Section 6.6.9)	(Section 7)
Commit	201x	R-9 (Section 6.6.9)	—-
End	2011	R-10 (Section 6.6.10)	—-
Enter Backout	201x	R-9 (Section 6.6.9)	—-
Backout Recovery Prep	201x	R-9 (Section 6.6.9)	—-
SM Backout	201x	R-8 (Section 6.6.8)	
SM Switch	201x	R-8 (Section 6.6.8)	—-
Switchfwd	201x	R-8 (Section 6.6.8)	—-
Switchback	201x	R-8 (Section 6.6.8)	—-

6.4.1.11 Error 202x - Software Release Transition Data Delivery Key In An Incorrect State

The software release transition data delivery key is not expected to be set in the Begin stage. It should be set after the Begin stage and for the rest of the procedures. The box reserved for software release transition on MCC page 116 indicates if the data delivery key is set or not.

Stage/Cmd	Error	Recovery	Backout
Begin	2021	R-8 (Section 6.6.8)	(Section 7)
Enter Forward	202x	R-9 (Section 6.6.9)	(Section 7)
Proceed	202x	R-9 (Section 6.6.9)	(Section 7)
Commit	202x	R-9 (Section 6.6.9)	—-
End	2021	R-10 (Section 6.6.10)	—-
Enter Backout	202x	R-9 (Section 6.6.9)	—-
Backout Recovery Prep	202x	R-9 (Section 6.6.9)	—-
SMBackout	202x	R-8 (Section 6.6.8)	—-
SMSwitch	202x	R-8 (Section 6.6.8)	—-
Switchfwd	202x	R-8 (Section 6.6.8)	—-
Switchback	202x	R-8 (Section 6.6.8)	—-

The DD key may have been cleared if the AM took an unexpected initialization, or if the 42-S or 42-R application parameter was omitted from a planned boot.

6.4.1.12 Error 203x - Software Release Transition Data Delivery Key In An Incorrect State

The software release transition data delivery key is not expected to be set in the Begin stage. It should be set after the Begin stage and for the rest of the procedures. The box reserved for software release transition on MCC page 116 indicates if the data delivery key is set or not.

Stage/Cmd	Error	Recovery	Backout
Begin	2031	R-8 (Section 6.6.8)	(Section 7)
Enter Forward	203x	R-9 (Section 6.6.9)	(Section 7)
Proceed	203x	R-9 (Section 6.6.9)	(Section 7)
Commit	203x	R-9 (Section 6.6.9)	—-
End	2031	R-10 (Section 6.6.10)	—-
Enter Backout	203x	R-9 (Section 6.6.9)	—-
Backout Recovery Prep	203x	R-9 (Section 6.6.9)	—-
SMBackout	203x	R-8 (Section 6.6.8)	—-
SMSwitch	203x	R-8 (Section 6.6.8)	—-
Switchfwd	203x	R-8 (Section 6.6.8)	—-
Switchback	203x	R-8 (Section 6.6.8)	—-

The DD key may have been cleared if the AM took an unexpected initialization, or if the 42-S or 42-R application parameter was omitted from a planned boot.

6.4.1.13 Error 204x - Cannot Connect To Communications Port

Stage/Cmd	Error	Recovery	Backout
Backout Recovery Prep	204x	R-36 (Section 6.6.36)	—-
Others	204x	R-36 (Section 6.6.36)	—-

6.4.1.14 Error 2051 - Communications Module Processor Is Not Pumped

This error indicates that the Communications Module Processor (CMP) is not pumped with the new data required at the time of the switch forward.

Stage/Cmd	Error	Recovery	Backout
Switchfwd	2051	R-35 (Section 6.6.35)	—-

6.4.1.15 Error 208x - Cannot Connect To RTR Port

This error indicates that there is another APPLHOOK process present. The technician should wait until an output message is printed indicating the result of the stage currently executing.

Stage/Cmd	Error	Recovery	Backout
Begin	208x	R-2 (Section 6.6.2)	(Section 7)
Enter Forward	208x	R-2 (Section 6.6.2)	(Section 7)
Proceed	208x	R-2 (Section 6.6.2)	(Section 7)
Switchfwd	208x	R-2 (Section 6.6.2)	—-
Commit	208x	R-2 (Section 6.6.2)	—-
End	208x	R-2 (Section 6.6.2)	—-
Enter Backout	208x	R-2 (Section 6.6.2)	—-
Backout Recovery Prep	208x	R-2 (Section 6.6.2)	—-
SM Backout	208x	R-2 (Section 6.6.2)	—-
SM Switch	208x	R-2 (Section 6.6.2)	—-
Switchback	208x	R-2 (Section 6.6.2)	—-

6.4.1.16 Error 2091 - Proceed Stage Is Not Complete At Start Of SWITCHFWD

The recovery action (SWITCHFWD only) is printed on the ROP.

1. ***Important:*** Ensure both the Enter stage and Proceed stage have been completed.
2. To verify that the Proceed stage has completed, access MCC page 1985,x (where x = RETRO, LTG, UPDATE). Both the ENTER and PROCEED field on MCC page 1985,x should be backlit. From MCC page 1984, enter a **503** command to dump the suprlog and a **504** command to dump the applog. The output from these log files will indicate if the Proceed stage completed successfully. The Proceed stage must have completed successfully.

The Proceed stage can also be verified as successfully completing by looking for the **UPD GEN PROCEED COMPLETED** message on the ROP.

3. To verify the disk is bootable, dump the VTOC on MHD=1 by entering message:

   MSG **DUMP:MHD=1,VTOC;**

   Compare the output with Table ???. The lboot partition must have a start address of 2 on DUMP MHD output. If this partition has a start address of 0 (zero) and Proceed is complete, escalate to your next level of support immediately.

4. Once the Proceed stage has been verified as completing successfully, try the SWITCHFWD again. To resume, access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   The unconditional option should only be used if the Proceed stage has completed successfully. If the unconditional SWITCHFWD fails, escalate to your next level of support.

   a. To execute the SWITCHFWD stage unconditionally, access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

      CMD **4XX,Y**

      Where: XX = the number of the UNCONDITIONAL EXECUTION

   b. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

      CMD **500**

   c. The SWITCHFWD stage executes unconditionally.

   d. On the new side, access MCC page 1989 and enter command:

      CMD **4XX,N**

      Where: XX = the number of the UNCONDITIONAL EXECUTION

6.4.1.17 Error 20a1 - SWITCHBCK/BACKOUT Context Check Failed

The SWITCHBCK/BACKOUT context check failed. The **/etc/log/applswfwd** file used to switch MCTSI sides by the SWITCHBCK/BACKOUT process does not exist.

Stage/Cmd	Error	Recovery	Backout
Backout Recovery Prep	20a1	R-39 (Section 6.6.39)	—-
Switchback	20a1	R-39 (Section 6.6.39)	—-

6.4.1.18 Error 20b1 - Content Check — ACSR Queue Not Empty At Start Of Begin

This error code is output when an attempt is made to execute the Begin stage and the ACSR queue is not empty.

The ACSR feature rearranges customer DNs automatically when an ISDN station set (equipped with the feature) is moved. The station set has a self-identification

capability that informs the switch of its DN. The DN is made to appear at another port automatically by unplugging the station set at the old location and plugging it in at the new location.

The ACSR feature uses the RC capability in the switch to make the database changes. The Begin stage inhibits RC. If the ACSR queue is not empty at the time of trying to execute, the Begin stage message or poke command will fail, and this error **20b1** will be received.

The telephone company can inhibit the enqueuing for ACSR, wait for a period of time and let the changes be made into the database by the feature, and the queue will be emptied as the changes are made. When the ACSR queue is emptied, the Begin stage can be executed.

ACSR Messages

Action	Message
Dump ACSR Queue	**OP:ACSR,ALL**
Inhibit ACSR Enqueuing	**INH:ACSR,ENQ**
Inhibit ACSR Dequeuing	**INH:ACSR,DEQ**
Inhibit ACSR Enqueuing and Dequeuing	**INH:ACSR,ALL**

Another method to continue from this error is to execute the Begin stage unconditionally. However, changes currently in the ACSR queue will not be made since UPD:GEN,BEGIN[,UCL] inhibits RC. If those changes need to be active now, this method should not be used.

6.4.1.19 Error 20cx - END Stage Out Of Sequence

The END command has been entered out of sequence. Legal conditional points of execution are as follows:

- Begin stage complete
- Both Begin and Commit stages complete
- Both Begin and Restore stages complete.

Stage/Cmd	Error	Recovery	Backout
All	20cx	R-10 (Section 6.6.10)	—-

6.4.1.20 Error 20d1 - Unknown From And/Or To Software Release

The from and/or to software release was not known at the start of the SWITCHFWD, SWITCHBCK, SMBKOUT, SMSWITCH, or BACKOUT commands.

If any SMs are currently GEN DIFF, re-execute the command unconditionally. If this is an attempt to recover SMs to the same software release that the AM is running on ***AND*** the SMs do not switch, refer to recovery action R-38 (Section 6.6.38) for a forward transition or R-39 (Section 6.6.39) to backout.

Escalate to your next level of support if there are any additional problems.

6.4.1.21 Error 20e1 - Unknown From And/Or To Software Release

The from and/or to software release was not known at the start of the BEGIN, ENTER, PROCEED, COMMIT, or RESTORE commands. This problem **must** be resolved before the command can be restarted. Escalate to your next level of support.

The problem could be caused by one of the following reasons:

- The **/no5text/.version** file could be incorrect or corrupted (BEGIN stage).
- The GLAUTOEVOL ODD evolution parameter could be set incorrectly (BEGIN RETRO stage).
- READHDR on the tapes might show an incorrect value for the SYSTEM TYPE field (BEGIN stage).
- The correct values were initially set, but have become corrupt (any stage).

6.4.1.22 Error 20fx - Command Would Cause Invalid State

The completion of the stage being executed would place the transition into an invalid state; therefore the execution of stage is denied. For example, while performing ODD evolution for a transition, (from old release to new release as in a transition) UPD:GEN:BEGIN:UPDATE:UCL will fail because UPDATE is not valid. An UPDATE is only valid for the same release.

6.4.1.23 Error 210x - No RCL Stage Value Found

A NULL transition stage has been returned when APPLHOOK attempted to read the RCLSTAGE environment variable. Perform the recovery action.

Stage/Cmd	Error	Recovery	Backout
All	312x	R-36 (Section 6.6.36)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.1.24 Error 221x - One Of The CMPs Is Not GEN DIFF

One CMP must be off-line pumped and in the GEN DIFF state. This error occurs when APPLHOOK determines that no CMP is GEN DIFF.

1. Verify the status of the CMPs by entering message:

   MSG **OP:CMPSTAT;**

2. If either CMP indicates GEN DIFF, escalate to your next level of support before continuing with the procedures.
3. If neither CMP indicates GEN DIFF, CMP 1-0 must be off-line pumped before the SMs will switch forward. Escalate to your next level of support to off-line pump CMP 1-0. After successfully pumping CMP 1-0, re-execute the switch forward command in the Proceed stage.
4. If the error continues, escalate to your next level of support.

6.4.1.25 Error 230x - No RCL Stage Value Found

A NULL Procedural Control Page (RCL Page) pointer has been returned when APPLHOOK attempted to read the RCLPAGE environment variable.

Stage/Cmd	Error	Recovery	Backout
All	312x	R-36 (Section 6.6.36)	—-

If the error persists after attempting the recovery action escalate to your next level of support.

6.4.1.26 Error 300x - Problem With The Data Delivery Key

1. A problem was found with the data delivery key.
2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter a **500** poke command to resume the transition (or a **600** poke command to Backout).

6.4.1.27 Error 301x - Problem With The Data Delivery Key

1. A problem was found with the data delivery key.
2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter a **500** poke command to resume the transition (or a **600** poke command to Backout).

6.4.1.28 Error 302x - Problem With The Data Delivery Key

1. A problem was found with the data delivery key.
2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter a **500** poke command to resume the transition (or a **600** poke command to Backout).

6.4.1.29 Error 3035 - Problem With The Data Delivery Key

1. A problem was found with the data delivery key.
2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter a **500** poke command to resume the transition (or a **600** poke command to Backout).

6.4.1.30 Error 3045 - Problem With The Data Delivery Key

1. A problem was found with the data delivery key.
2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter a **500** poke command to resume the transition (or a **600** poke command to Backout).

6.4.1.31 Error 305x - Problem With The Data Delivery Key

1. A problem was found with the data delivery key.
2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter a **500** poke command to resume the transition (or a **600** poke command to Backout).

6.4.1.32 Error 306x - Problem With The Data Delivery Key

1. A problem was found with the data delivery key.
2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter a **500** poke command to resume the transition (or a **600** poke command to Backout).

6.4.1.33 Error 307x - Problem With The Data Delivery Key

1. A problem was found with the data delivery key.
2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter a **500** poke command to resume the transition (or a **600** poke command to Backout).

6.4.1.34 Error 3089 - SMs Not In Legal State

Legal states are operational and growth.

1. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter a **500** poke command to resume the transition (or a **600** poke command to Backout).
2. If it fails again, escalate to your next level of support.

6.4.1.35 Error 3099 - Problem With The Data Delivery Key

1. A problem was found with the data delivery key.
2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter a **500** poke command to resume the transition (or a **600** poke command to Backout).

6.4.1.36 Error 30a1 - GRget_envir() Failure

The GRget_envir() function failed to retrieve the transition environment (from and to software release, etc). Escalate to your next level of support.

It is possible to analyze the reason for failure by creating a debugging file and examining the output during the failure. This procedure should not be attempted without support.

The procedures for analyzing the failure are as follows:

1. From the *UNIX*[1] system prompt:
   - **touch /tmp/d.rdappl**
   - **/prc/supr/rdappl**
2. After running the **rdappl** command, examine the **/tmp/d.rdappl** file that was created. Determine where the error occurred and use this information to determine the cause of the failure.

6.4.1.37 Error 30b5 - Problem With The Data Delivery Key

1. A problem was found with the data delivery key.
2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter a **500** poke command to resume the transition (or a **600** poke command to Backout).

6.4.1.38 Error 310x - Data Delivery Read/Write Failed On DDSGRFIT

1. A problem was found with the data delivery key.
2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter a **500** poke command to resume the transition (or a **600** poke command to Backout).

6.4.1.39 Error 312x - Error Reading CMP Status

A problem was encountered during switchfwd/commit/restore while attempting to read the status of the CMP.

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Stage/Cmd	Error	Recovery	Backout
Switchfwd	312x	R-31 (Section 6.6.31)	—-
Commit	312x	R-32 (Section 6.6.32)	—-
Enter Backout	312x	R-32 (Section 6.6.32)	—-

6.4.1.40 Error 313x - Error Reading CMP Status

A problem was encountered during switchfwd/commit/restore while attempting to read the status of the CMP.

Stage/Cmd	Error	Recovery	Backout
Switchfwd	313x	R-31 (Section 6.6.31)	—-
Commit	313x	R-32 (Section 6.6.32)	—-
Enter Backout	313x	R-32 (Section 6.6.32)	—-

6.4.1.41 Error 314x - Error Reading CMP Status

A problem was encountered during switchfwd/commit/restore while attempting to read the status of the CMP.

Stage/Cmd	Error	Recovery	Backout
Switchfwd	314x	R-31 (Section 6.6.31)	—-
Commit	314x	R-32 (Section 6.6.32)	—-
Enter Backout	314x	R-32 (Section 6.6.32)	—-

6.4.1.42 Error 315x - GRrd_envir() Failure

The GRrd_envir() function failed to retrieve the transition environment (from and to software release, etc.). Escalate to your next level of support.

It is possible to analyze the reason for failure by creating a debugging file and examining the output during the failure. This procedure should not be attempted without support.

The procedures for analyzing the failure are as follows:

1. From the *UNIX* system prompt:
   - **touch /tmp/d.rdappl**
   - **/prc/supr/rdappl**
2. After running the **rdappl** command, examine the **/tmp/d.rdappl** file that you created. Determine where the error occurred and use this information to determine the cause of the failure.

6.4.1.43 Error 4xxx - Termination Signal Received

This error occurs as a result of either SUPR timing out APPLHOOK or a user killing an active APPLHOOK process. If this occurs during the Proceed stage while CORC evolution is running, wait for completion of evolution before following the recovery action. If the user entered **STOP:EXC:USER,PID=X** to kill APPLHOOK, then this code is expected.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	4xxx	R-18 (Section 6.6.18)	—-
Proceed	4xxx	R-18 (Section 6.6.18)	—-
Commit	4xxx	R-18 (Section 6.6.18)	—-
Backout Recovery Prep	4xxx	R-18 (Section 6.6.18)	—-
Enter Backout	4xxx	R-18 (Section 6.6.18)	—-

6.4.1.44 Error 501x - CPFILE - *UNIX* Operating System Error In Copying Files

An error occurred while performing a *UNIX* operating system call to copy files to the new release disk.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	501x	R-18 (Section 6.6.18)	—-
Proceed	501x	R-18 (Section 6.6.18)	(Section 7)
Backout Recovery Prep	501x	R-39 (Section 6.6.39)	—-
Switchfwd	501x	R-38 (Section 6.6.38)	—-
Switchback	501x	R-39 (Section 6.6.39)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.1.45 Error 510x - CPFILE - Wrong Number Of Arguments In cpfile.enter, cpfile.prc, Or cpfile.swfwd

The **/prc/supr/cpfile.prc** is a file that contains a list of files that are copied from the active disks to the new release disks during the Proceed stage before the switch is booted on the new software release. Likewise, **/prc/supr/cpfile.swfwd** contains a listing of files copied between the new release disks and the on-line disks during the switchfwd, switchback, and backout stages.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	501x	R-18 (Section 6.6.18)	—-
Proceed	510x	R-18 (Section 6.6.18)	(Section 7)
Backout Recovery Prep	510x	R-39 (Section 6.6.39)	—-
Switchfwd	510x	R-38 (Section 6.6.38)	—-
Switchback	510x	R-39 (Section 6.6.39)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.1.46 Error 521x - CPFILE - Source File Or Directory Does Not Exist

This error occurs when the source file or directory should exist but does not.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	521x	R-18 (Section 6.6.18)	—-
Proceed	521x	R-18 (Section 6.6.18)	(Section 7)
Backout Recovery Prep	521x	R-39 (Section 6.6.39)	—-
Switchfwd	521x	R-38 (Section 6.6.38)	—-
Switchback	521x	R-39 (Section 6.6.39)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.1.47 Error 523x - CPFILE - Destination Path Is Not Directory

The destination pathname has to be a directory.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	523x	R-18 (Section 6.6.18)	—-
Proceed	523x	R-18 (Section 6.6.18)	(Section 7)
Backout Recovery Prep	523x	R-39 (Section 6.6.39)	—-
Switchfwd	523x	R-38 (Section 6.6.38)	—-
Switchback	523x	R-39 (Section 6.6.39)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.1.48 Error 524x - CPFILE - mntfs Failed When Copying Files

The process that copies files to the new release disk failed.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	524x	R-18 (Section 6.6.18)	—-
Proceed	524x	R-18 (Section 6.6.18)	(Section 7)
Backout Recovery Prep	524x	R-39 (Section 6.6.39)	—-
Switchfwd	524x	R-38 (Section 6.6.38)	—-
Switchback	524x	R-39 (Section 6.6.39)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.1.49 Error 525x - CPFILE - Read Error While Copying File

Stage/Cmd	Error	Recovery	Backout
Enter Forward	525x	R-18 (Section 6.6.18)	—-
Proceed	525x	R-18 (Section 6.6.18)	(Section 7)
Backout Recovery Prep	525x	R-39 (Section 6.6.39)	—-
Switchfwd	525x	R-38 (Section 6.6.38)	—-
Switchback	525x	R-39 (Section 6.6.39)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.1.50 Error 526x - CPFILE - Write Error While Copying File

Stage/Cmd	Error	Recovery	Backout
Enter Forward	526x	R-18 (Section 6.6.18)	—-
Proceed	526x	R-18 (Section 6.6.18)	(Section 7)
Backout Recovery Prep	526x	R-39 (Section 6.6.39)	—-
Switchfwd	526x	R-38 (Section 6.6.38)	—-
Switchback	526x	R-39 (Section 6.6.39)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.1.51 Error 527x - CPFILE - falloc() Or create() Failed

The falloc() function could not allocate sufficient file space for a contiguous file. If the file is not contiguous, this error code means the file could not be created.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	527x	R-18 (Section 6.6.18)	—-
Proceed	527x	R-18 (Section 6.6.18)	(Section 7)
Backout Recovery Prep	527x	R-39 (Section 6.6.39)	—-
Switchfwd	527x	R-38 (Section 6.6.38)	—-
Switchback	527x	R-39 (Section 6.6.39)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.1.52 Error 530x - CPFILE - Error On Mounting Off-Line Partition

The process that mounts the off-line partition failed; no mount points are available for the off-line copy.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	530x	R-18 (Section 6.6.18)	—-
Proceed	530x	R-18 (Section 6.6.18)	(Section 7)
Backout Recovery Prep	530x	R-39 (Section 6.6.39)	—-
Switchfwd	530x	R-38 (Section 6.6.38)	—-
Switchback	530x	R-39 (Section 6.6.39)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.1.53 Error 5407 - CPFILE - MOP Process Unexpectedly Terminated Or Dead

The Mount Off-Line Partition (MOP) Partition Manager process unexpectedly terminated or stops running and/or **/tmp** may be corrupted.

1. To determine if the mop command is running, access MCC page 1984 and enter command:

   CMD **510**

   Response:

```
!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!!
.
. MOP IS NOT RUNNING AND THERE ARE NO OFFLINE
       PARTITIONS MOUNTED
.
. ISMOP COMPLETE
.
 !!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
```

OR

```
 !!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
 !!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
```

OR

```
.
```

```
. MOP IS RUNNING: mopPID = ____________________
.
. THE FOLLOWING OFFLINE PARTITIONS ARE MOUNTED:

/tmp/ofl...


.
. ISMOP COMPLETE
.
 !!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
 !!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!

                      OR
!!!!!!!!!!!!!!!!!! WARNING !!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!! WARNING !!!!!!!!!!!!!!!!!!
.
. MOP IS NOT RUNNING AND THE FOLLOWING OFFLINE
       PARTITIONS ARE MOUNTED:

/tmp/ofl...

. SEEK TECHNICAL ASSISTANCE
.
. ISMOP COMPLETE
.
 !!!!!!!!!!!!!!!!!! WARNING !!!!!!!!!!!!!!!!!!
 !!!!!!!!!!!!!!!!!! WARNING !!!!!!!!!!!!!!!!!!

                      OR


 !!!!!!!!!!!!!!!!!! WARNING !!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!! WARNING !!!!!!!!!!!!!!!!!!
```

```
.
. MOP IS RUNNING BUT THERE ARE NO OFFLINE PARTITIONS
        MOUNTED
.
. mopPID = ____________________

. KILL mopPID BEFORE PROCEEDING
.
. ISMOP COMPLETE
.
!!!!!!!!!!!!!!!!!! WARNING !!!!!!!!!!!!!!!!!!
 !!!!!!!!!!!!!!!!!! WARNING !!!!!!!!!!!!!!!!!!
```

2. Verify that no MOP processes are active and that no off-line partitions are mounted.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	5407	R-18 (Section 6.6.18)	—-
Proceed	5407	R-18 (Section 6.6.18)	(Section 7)
Backout Recovery Prep	5407	R-39 (Section 6.6.39)	—-
Switchfwd	5407	R-38 (Section 6.6.38)	—-
Switchback	5407	R-39 (Section 6.6.39)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.1.54 Error 580x - Neither MHD 0 Or MHD 1 Is In An Off-Line State (ERROR Used For Off-Line Disk Method Only)

Note: This error should only be seen when using the Off-line disk method. If this error is seen when using the Active disk method, escalate to your next level of support.

During a software release transition, update, or large terminal growth, MHD 1 is taken to an Off-Line (OFL) state and new data is written to it during the Enter stage. After the switch has been booted on the new software release in the Proceed stage, MHD 1 is active and MHD 0 is OFL. During the interval from the Enter stage to the Commit stage, the primary disks are simplexed. During the Commit stage the even-numbered disks are restored and the disk system is duplexed. This error condition is received because the transition and SUPR process expected a simplex disk system during these stages (Enter stage to part of the Commit stage).

Stage/Cmd	Error	Recovery	Backout
Backout Recovery Prep	580x	R-39 (Section 6.6.39)	—-

If this error occurs during any other stage than backout, escalate to your next level of support.

6.4.1.55 Error 5a0x - cpfile.enter, cpfile.prc, Or cpfile.swfwd Missing

If this error occurs during the *Enter* stage, the **cpfile.enter** file is missing. If this error occurs during the *Proceed* stage, the **cpfile.prc** file is missing. If this error occurs during the *SWITCHFWD* or *BACKOUT*, the **cpfile.swfwd** file is missing.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	5a0x	R-29 (Section 6.6.29)	—-
Proceed	5a0x	R-29 (Section 6.6.29)	—-
Switchfwd	5a0x	R-38 (Section 6.6.38)	—-
Backout Recovery Prep	5a0x	R-39 (Section 6.6.39)	—-

6.4.1.56 Error 5b0x - Could Not Terminate MOP (Partition Manager)

Stage/Cmd	Error	Recovery	Backout
Enter Forward	5b0x	R-25 (Section 6.6.25)	—-
Proceed	5b0x	R-25 (Section 6.6.25)	(Section 7)
Switchfwd	5b0x	R-38 (Section 6.6.38)	—-
Switchback	5b0x	R-39 (Section 6.6.39)	—-
Backout Recovery Prep	5b0x	R-39 (Section 6.6.39)	—-

6.4.1.57 Error 5c0x - CPFILE - Inconsistent Data In cpfile.enter, cpfile.prc, Or cpfile.swfd

This error indicates that there is a mismatch between the destination partition (field 3) and the destination pathname (field 4) in the cpfile being used. These names must match exactly for the off-line copy to succeed.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	5c0x	R-18 (Section 6.6.18)	—-
Proceed	5c0x	R-18 (Section 6.6.18)	(Section 7)
Backout Recovery Prep	5c0x	R-39 (Section 6.6.39)	—-
Switchfwd	5c0x	R-38 (Section 6.6.38)	—-
Switchback	5c0x	R-39 (Section 6.6.39)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.1.58 Error 601x - Unexpected SM State

SWITCHFWD

1. Verify SM states:

   If this is the first attempt at switchfwd, ensure SMs indicate either MATE PUMP and FORCED or ISOLATED on MCC page 141, 142, etc., and an OP:SYSSTAT report.

   If this is a subsequent attempt at switchfwd, ensure SMs indicate MATE PUMP, ISOLATED, or any switch forward state on MCC page 141, 142, etc., and an OP:SYSSTAT report.

2. If the SMs ***do not*** indicate a valid state (in Step 1), escalate to your next level of support before continuing the procedures.

3. If the SMs indicate valid states (in Step 1), perform an unconditional switchfwd:

   a. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

      CMD **4XX,Y**

      Where: XX = the number of the UNCONDITIONAL EXECUTION

   b. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

      CMD **500**

      The Switchfwd stage executes unconditionally.

   c. On the new side, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

      CMD **4XX,N**

      Where: XX = the number of the UNCONDITIONAL EXECUTION

4. If the same error code is encountered again, proceed to the appropriate recovery action as follows:

Stage/Cmd	Error	Recovery	Backout
Switchfwd	601x	R-38 (Section 6.6.38)	—-
SMswitch	601x	R-38 (Section 6.6.38)	—-
Backout Recovery Prep	601x	R-39 (Section 6.6.39)	—-
Switchback	601x	R-39 (Section 6.6.39)	—-
SMBackout	601x	R-39 (Section 6.6.39)	—-

SWITCHBCK

1. Verify SM states:

   If this is the first attempt at backout or switchbck, ensure SMs indicate either MATE PUMP and FORCED or ISOLATED on MCC page 141, 142, etc., and an OP:SYSSTAT report.

If this is a subsequent attempt at Switchbck, ensure SMs indicate MATE PUMP, ISOLATED, or any switch forward state on MCC page 141, 142, etc., and an OP:SYSSTAT report.

2. If the SMs ***do not*** indicate a valid state (in Step 1), escalate to your next level of support before continuing the procedures.
3. If the SMs indicate valid states (in Step 1), perform an unconditional switchfwd:
   a. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

      CMD **4XX,Y**

      Where: XX = the number of the UNCONDITIONAL EXECUTION
   b. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

      CMD **600** The Switchbck stage executes unconditionally.
   c. On the new side, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

      CMD **4XX,N**

      Where: XX = the number of the UNCONDITIONAL EXECUTION
   d. If the same error code is encountered again, proceed to the appropriate recovery action as follows:

Stage/Cmd	Error	Recovery	Backout
Switchfwd	601x	R-38 (Section 6.6.38)	—-
SMswitch	601x	R-38 (Section 6.6.38)	—-
Backout Recovery Prep	601x	R-39 (Section 6.6.39)	—-
Switchback	601x	R-39 (Section 6.6.39)	—-
SMBackout	601x	R-39 (Section 6.6.39)	—-

6.4.1.59 Error 603x - RSM Did Not Respond To CPI Request

A Remote SM (RSM) did not react to a CPI that causes the SM to be forced to a side. ***Prompt action is required.***

1. On MCC page 1209, verify ONTCs are duplex.
2. On MCC page 1900,x, verify communication links are established.
3. On MCC page 1190,x or 1800,x (for all SMs), verify that the MCTSI switched sides. If all MCTSIs switched, continue with the procedures in Section 5. If (some) SMs did not switch, continue with the recovery strategies listed as follows:

Stage/Cmd	Error	Recovery	Backout
Switchfwd	603x	R-38 (Section 6.6.38)	—-
SMSwitch	603x	R-38 (Section 6.6.38)	—-
Backout Recovery Prep	603x	R-39 (Section 6.6.39)	—-
Switchback	603x	R-39 (Section 6.6.39)	—-
SMBackout	603x	R-39 (Section 6.6.39)	—-

6.4.1.60 Error 604x - SM Did Not Respond To CPI Request

An SM did not react to a CPI that causes the module to be forced to a side. ***Prompt action is required.***

1. On MCC page 1209, verify ONTCs are duplex.
2. On MCC page 1900,x, verify communication links are established.
3. On MCC page 1190,x or 1800,x (for all SMs), verify that the MCTSI switched sides. If all MCTSIs switched, continue with the procedures in Section 5. If (some) SMs did not switch, continue with the recovery strategies listed as follows:

Stage/Cmd	Error	Recovery	Backout
Switchfwd	604x	R-38 (Section 6.6.38)	—-
SMSwitch	604x	R-38 (Section 6.6.38)	—-
Backout Recovery Prep	604x	R-39 (Section 6.6.39)	—-
Switchback	604x	R-39 (Section 6.6.39)	—-
SMBackout	604x	R-39 (Section 6.6.39)	—-

6.4.1.61 Error 605x - Invalid CLNK Configuration Requested

A CPI request was attempted over a bad CLNK configuration.

1. On MCC page 1209, verify ONTCs are duplex.
2. On MCC page 1900,x, verify communication links are established.
3. On MCC page 1190,x or 1800,x (for all SMs), verify that the MCTSI switched sides. If all MCTSIs switched, continue with the procedures in Section 5. If (some) SMs did not switch, continue with the recovery strategies listed as follows:

Stage/Cmd	Error	Recovery	Backout
Switchfwd	605x	R-38 (Section 6.6.38)	—-
SMSwitch	605x	R-38 (Section 6.6.38)	—-
Backout Recovery Prep	605x	R-39 (Section 6.6.39)	—-
Switchback	605x	R-39 (Section 6.6.39)	—-
SMBackout	605x	R-39 (Section 6.6.39)	—-

6.4.1.62 Error 61xx - Error In Sending CPI Request

The message sent out for the CPI request failed.

1. On MCC page 1209, verify ONTCs are duplex.
2. On MCC page 1900,x, verify communication links are established.
3. On MCC page 1190,x or 1800,x (for all SMs), verify that the MCTSI switched sides. If all MCTSIs switched, continue with the procedures in Section 5. If (some) SMs did not switch, continue with the recovery strategies listed as follows:

Stage/Cmd	Error	Recovery	Backout
Switchfwd	61xx	R-38 (Section 6.6.38)	—-
SMSwitch	61xx	R-38 (Section 6.6.38)	—-
Backout Recovery Prep	61xx	R-39 (Section 6.6.39)	—-
Switchback	61xx	R-39 (Section 6.6.39)	—-
SMBackout	61xx	R-39 (Section 6.6.39)	—-

6.4.1.63 Error 701x - Did Not Receive Acknowledgment

A message that was to be sent out failed when sending the message.

1. On MCC page 1209, verify ONTCs are duplex.
2. On MCC page 1900,x, verify communication links are established.
3. On MCC page 1190,x or 1800,x (for all SMs), verify that the MCTSI switched sides. If all MCTSIs switched, continue with the procedures in Section 5. If (some) SMs did not switch, continue with the recovery strategies listed as follows:

Stage/Cmd	Error	Recovery	Backout
Switchfwd	701x	R-38 (Section 6.6.38)	—-
SMSwitch	701x	R-38 (Section 6.6.38)	—-
Backout Recovery Prep	701x	R-39 (Section 6.6.39)	—-
Switchback	701x	R-39 (Section 6.6.39)	—-
SMBackout	701x	R-39 (Section 6.6.39)	—-

6.4.1.64 Error 702x - Error Sending CPI Request To SMARS

A message that was to be sent out failed when sending the message.

1. On MCC page 1209, verify ONTCs are duplex.
2. On MCC page 1900,x, verify communication links are established.
3. On MCC page 1190,x or 1800,x (for all SMs), verify that the MCTSI switched sides. If all MCTSIs switched, continue with the procedures in Section 5. If (some) SMs did not switch, continue with the recovery strategies listed as follows:

Stage/Cmd	Error	Recovery	Backout
Switchfwd	702x	R-38 (Section 6.6.38)	—-
SMSwitch	702x	R-38 (Section 6.6.38)	—-
Backout Recovery Prep	702x	R-39 (Section 6.6.39)	—-
Switchback	702x	R-39 (Section 6.6.39)	—-
SMBackout	702x	R-39 (Section 6.6.39)	—-

6.4.1.65 Error 810x - Cannot Create /etc/log/applswfwd File

This APPLHOOK error deals with the problem of trying to create the **/etc/log/applswfwd** file.

Stage/Cmd	Error	Recovery	Backout
Switchfwd	810x	R-33 (Section 6.6.33)	—-
		R-38 (Section 6.6.38)	—-
Switchback	810x	R-39 (Section 6.6.39)	—-
Backout Recovery Prep	811x	R-39 (Section 6.6.39)	—-

6.4.1.66 Error 830x - Cannot Write /etc/log/applswfwd File

These APPLHOOK errors deal with the problem of writing to the **/etc/log/applswfwd** file.

Stage/Cmd	Error	Recovery	Backout
Switchfwd	830x	R-33 (Section 6.6.33)	—-
		R-38 (Section 6.6.38)	—-
Switchback	830x	R-39 (Section 6.6.39)	—-
Backout Recovery Prep	830x	R-39 (Section 6.6.39)	—-

6.4.1.67 Error 840x - Cannot Write /etc/log/applswfwd File

These APPLHOOK errors deal with the problem of writing to the **/etc/log/applswfwd** file.

Stage/Cmd	Error	Recovery	Backout
Switchfwd	840x	R-33 (Section 6.6.33)	—-
		R-38 (Section 6.6.38)	—-
Switchback	840x	R-39 (Section 6.6.39)	—-
Backout Recovery Prep	840x	R-39 (Section 6.6.39)	—-

6.4.1.68 Error 8f0x - Cannot Write /etc/log/applswfwd File

These APPLHOOK errors deal with the problem of writing to the **/etc/log/applswfwd** file.

Stage/Cmd	Error	Recovery	Backout
Switchfwd	8f0x	R-33 (Section 6.6.33)	—-
		R-38 (Section 6.6.38)	—-
Switchback	8f0x	R-39 (Section 6.6.39)	—-
Backout Recovery Prep	8f0x	R-39 (Section 6.6.39)	—-

6.4.1.69 Error 954x - Cannot Read Source Directory

The directory on the new release disk is not readable when a file is to be copied.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	954x	R-18 (Section 6.6.18)	—-
Proceed	954x	R-18 (Section 6.6.18)	—-
Switchfwd	954x	R-33 (Section 6.6.33)	—-
		R-38 (Section 6.6.38)	—-
Switchback	954x	R-39 (Section 6.6.39)	—-
Backout Recovery Prep	954x	R-39 (Section 6.6.39)	—-

6.4.1.70 Error 998x - Cannot Read MHD 0 ucb In On-Line ECD

Stage/Cmd	Error	Recovery	Backout
Enter Forward	998x	R-18 (Section 6.6.18)	—-
Proceed	998x	R-18 (Section 6.6.18)	—-
Commit	998x	R-18 (Section 6.6.18)	—-
Backout Recovery Prep	998x	R-39 (Section 6.6.39)	—-
Enter Backout	998x	R-18 (Section 6.6.18)	—-

If the error persists, escalate to your next level of support.

6.4.1.71 Error 999x - Cannot Read MHD 1 ucb In On-Line ECD

Stage/Cmd	Error	Recovery	Backout
Enter Forward	999x	R-18 (Section 6.6.18)	—-
Proceed	999x	R-18 (Section 6.6.18)	—-
Commit	999x	R-18 (Section 6.6.18)	—-
Backout Recovery Prep	999x	R-39 (Section 6.6.39)	—-
Enter Backout	999x	R-18 (Section 6.6.18)	—-

If the error persists, escalate to your next level of support.

6.4.1.72 Error 9nnx - *UNIX* Operating System Error (nn = *UNIX* Error)

Stage/Cmd	Error	Recovery	Backout
Begin	9nnx	R-36 (Section 6.6.36)	—-
Enter Forward	9nnx	R-18 (Section 6.6.18)	—-
Proceed	9nnx	R-18 (Section 6.6.18)	—-
Commit	9nnx	R-18 (Section 6.6.18)	—-
Backout Recovery Prep	9nnx	R-18 (Section 6.6.18)	—-
Enter Backout	9nnx	R-18 (Section 6.6.18)	—-
End	9nnx	R-36 (Section 6.6.36)	—-
Switchfwd	9nnx	R-36 (Section 6.6.36)	—-
		R-38 (Section 6.6.38)	—-
Switchback	9nnx	R-39 (Section 6.6.39)	—-
SMSwitch	9nnx	R-36 (Section 6.6.36)	—-
SMBackout	9nnx	R-39 (Section 6.6.39)	—-

6.4.1.73 Error axxx - All SMs/Peripherals Are Not Duplex

This is not a failure. This tells which SMs are not duplex. A status of the system should be printed if this error occurs.

- Ensure that the CMPs are duplex on MCC page 1850. If they are not duplex, restore the Out-Of-Service (OOS) unit.
- Check for SM/peripheral equipment that is not duplex.
- Enter an **OP:SYSSTAT** to output the system status.
- Enter an **OP:PERPH,SM=x** to dump the peripheral unit status for SM x.
- On MCC page 1984 dump the application log file (**504** command). Look in the output for any information that might be related to this error condition.
- If any peripheral unit or SM is not duplex, restore the unit to service and continue with the procedures.

6.4.1.74 Error b50x - Problems With /etc/log/applswfwd File

This error indicates that the system could not open the **/etc/log/applswfwd** file for reading.

1. Enter message:

   MSG **OP:STATUS:LISTDIR,FN="/etc/log";**

2. Check the following items concerning the output for **applswfwd**:
   - Was the **applswfwd** file listed in the output from the **OP:STATUS:LISTDIR** message? It should be listed.
   - Is the **applswfwd** file zero in size (empty)? It should be non-zero.
   - Are the "rwx," (r)ead, (w)rite, and e(x)ecute permissions set to allow for reading, writing, and execution? They should be allowed.

Stage/Cmd	Error	Recovery	Backout
Switchfwd	b50x	R-38 (Section 6.6.38)	—-
Backout Recovery Prep	b50x	R-39 (Section 6.6.39)	—-
Switchbck	b50x	R-39 (Section 6.6.39)	—-

6.4.1.75 Error b60x - Problems With /etc/log/applswfwd File

This error indicates that the system could not read the **applswfwd** header.

1. Enter message:

   MSG **OP:STATUS:LISTDIR,FN="/etc/log";**

2. Check the following items concerning the output for **applswfwd**:

   - Was the **applswfwd** file listed in the output from the **OP:STATUS:LISTDIR** message? It should be listed.
   - Is the **applswfwd** file zero in size (empty)? It should be non-zero.
   - Are the "rwx," (r)ead, (w)rite, and e(x)ecute permissions set to allow for reading, writing, and execution? They should be allowed.

Stage/Cmd	Error	Recovery	Backout
Switchfwd	b60x	R-38 (Section 6.6.38)	—-
Backout Recovery Prep	b60x	R-39 (Section 6.6.39)	—-
Switchbck	b60x	R-39 (Section 6.6.39)	—-

6.4.1.76 Error b70x - /etc/log/applswfwd File - File ID Is Bad

This error indicates a problem with the **applswfwd** file.

1. Enter message:

   MSG **OP:STATUS:LISTDIR,FN="/etc/log";**

2. Check the following items concerning the output for **applswfwd**:

   - Was the **applswfwd** file listed in the output from the **OP:STATUS:LISTDIR** message? It should be listed.
   - Is the **applswfwd** file zero in size (empty)? It should be non-zero.
   - Are the "rwx," (r)ead, (w)rite, and e(x)ecute permissions set to allow for reading, writing, and execution? They should be allowed.

Stage/Cmd	Error	Recovery	Backout
Switchfwd	b70x	R-38 (Section 6.6.38)	—-
Backout Recovery Prep	b70x	R-39 (Section 6.6.39)	—-
Switchbck	b70x	R-39 (Section 6.6.39)	—-

6.4.1.77 Error b80x - /etc/log/applswfwd File - File Is Greater Than 6 Hours Old

Stage/Cmd	Error	Recovery	Backout
Switchfwd	b80x	R-38 (Section 6.6.38)	—-
Switchbck	b80x	R-39 (Section 6.6.39)	—-

6.4.1.78 Error b90x - /etc/log/applswfwd File - File Has Bad Synchword

Stage/Cmd	Error	Recovery	Backout
Switchfwd	b90x	R-38 (Section 6.6.38)	—-
Backout Recovery Prep	b90x	R-39 (Section 6.6.39)	—-
Switchbck	b90x	R-39 (Section 6.6.39)	—-

6.4.1.79 Error ba0x - /etc/log/applswfwd File - Error Reading Synchword In File

Stage/Cmd	Error	Recovery	Backout
Switchfwd	ba0x	R-38 (Section 6.6.38)	—-
Backout Recovery Prep	ba0x	R-39 (Section 6.6.39)	—-
Switchbck	ba0x	R-39 (Section 6.6.39)	—-

6.4.1.80 Error bb0x - /etc/log/applswfwd File - Cannot Read SM Data In File

Stage/Cmd	Error	Recovery	Backout
Switchfwd	bb0x	R-38 (Section 6.6.38)	—-
Backout Recovery Prep	bb0x	R-39 (Section 6.6.39)	—-
Switchbck	bb0x	R-39 (Section 6.6.39)	—-

6.4.1.81 Error bc00 - /etc/log/applswfwd Has Bad Status

Stage/Cmd	Error	Recovery	Backout
Switchfwd	bb0x	R-38 (Section 6.6.38)	—-
Backout Recovery Prep	bb0x	R-39 (Section 6.6.39)	—-
Switchbck	bb0x	R-39 (Section 6.6.39)	—-

6.4.1.82 Error c01x - Error In Simplexing The Disks In The INCORE ECD

The error occurred during the Enter stage while APPLHOOK was executing one of the following:

1. Collecting the status of the MHDs
2. Removing MHDs from service
3. Splitting the odd numbered MHDs in the incore ECD.

If in the Proceed stage, the error occurred while APPLHOOK was attempting to split the even numbered MHDs in the new release's disk ECD.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	c01x	R-29 (Section 6.6.29)	—-
Proceed	c01x	R-29 (Section 6.6.29)	—-

6.4.1.83 Error c02x - Cannot Restore Disk From SIMPLEX To DUPLEX

The error occurred during the Commit or Restore stage while APPLHOOK was executing one of the following:

- Collecting the status of the MHDs
- Changing an MHD simplex back to duplex in the incore ECD.

Stage/Cmd	Error	Recovery	Backout
Commit	c02x	R-29 (Section 6.6.29)	—-
Enter Backout	c02x	R-29 (Section 6.6.29)	—-

6.4.1.84 Error c03x - Unable To Update ECD

This error occurs when the incore or new release ECD is being configured for active disk transitions. Information related to the active disk transition is missing. This information will need to be inserted before continuing with the transition. Escalate to your next level of support.

6.4.1.85 Error dyyx - BGNHOOK/ENTRHOOK/.../ENDHOOK Error Exit Code yy

The yy contained in this error code is a tool exit code. For example, d11x contains an exit code of 11. For tool exit code recovery, see Section 6.4.8. If you cannot determine the appropriate action, escalate to your next level of support.

6.4.1.86 Error e01x - Corcflush Failure Detected By APPLHOOK

Examine the ROP to determine the SM(s) that failed the corcflush and resolve these problems as per local practices.

- Proceed (and the corcflush) can be rerun using a **500** poke command from MCC page 1985,x (where x = RETRO, LTG, UPDATE).
- If the error from corcflush cannot be corrected, the Proceed process can be restarted unconditionally. This will cause APPLHOOK to ignore the corcflush error.

If using AM Off-Line Boot:

a. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

   CMD **4XX,Y**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

b. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   The Proceed stage executes unconditionally.

c. When the Proceed stage completes, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

CMD **4XX,N**

Where: XX = the number of the UNCONDITIONAL EXECUTION

If NOT using AM Off-Line Boot:

a. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

CMD **4XX,Y**

Where: XX = the number of the UNCONDITIONAL EXECUTION

b. Change the AM Off-Line Boot to N by entering command:

CMD **4XX,N**

Where: XX = the number of AM Off-Line Boot

c. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

CMD **500**

The Proceed stage executes unconditionally.

d. When the Proceed stage completes, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

CMD **4XX,N**

Where: XX = the number of the UNCONDITIONAL EXECUTION

6.4.1.87 Error e021 - /prc/supr/autoappl Command Failed At The Start Of The Stage

A command specified in the **autoappl** file failed at the start of the stage. Escalate to your next level of support.

Warning: If you are performing any SM switch AND your SMs have switched and are GEN DIFF, boot the switch onto the appropriate software release.

It is possible to analyze the reason for failure by creating a debugging file and examining the output during the failure. This procedure should not be attempted without support.

The procedures for analyzing the failure are as follows:

1. From the *UNIX* system prompt: **touch /tmp/d.applhook**
2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   OR

   CMD **600** (for Backout)
3. After the command fails, examine the **/tmp/d.applhook** that was created. Determine where the error occurred and use this information to locate the bad command in the **/prc/supr/autoappl** file.

6.4.1.88 Error e031 - /prc/supr/autoappl Command Failed At The End Of The Stage

A command specified in the **autoappl** file failed at the end of the stage. Escalate to your next level of support.

Warning: If you are performing any SM switch AND your SMs have switched and are GEN DIFF, boot the switch onto the appropriate software release.

It is possible to analyze the reason for failure by creating a debugging file and examining the output during the failure. This procedure should not be attempted without support.

The procedures for analyzing the failure are as follows:

1. From the *UNIX* system prompt: **touch /tmp/d.applhook**
2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   OR CMD **600** (for Backout)
3. After the command fails, examine the **/tmp/d.applhook** that was created. Determine where the error occurred and use this information to locate the bad command in the **/prc/supr/autoappl** file.

6.4.1.89 Error e04x - CORC Evolution Error Detected By APPLHOOK

Examine the ROP to determine the cause of the evolution error and resolve the error per local practices.

1. Proceed can be rerun using a **500** poke command from MCC page 1985,x (where x = RETRO, LTG, UPDATE).
2. If the error from CORC evolution cannot be corrected, the Proceed process can be restarted unconditionally. This will cause APPLHOOK to ignore the error.

If using AM Off-Line Boot:

a. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

   CMD **4XX,Y**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

b. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   The Proceed stage executes unconditionally.

c. When the Proceed stage completes, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

   CMD **4XX,N**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

If NOT using AM Off-Line Boot:

a. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

   CMD **4XX,Y**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

b. Change the AM Off-Line Boot to N by entering command:

   CMD **4XX,N**

   Where: XX = the number of AM Off-Line Boot

c. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   The Proceed stage executes unconditionally.

d. When the Proceed stage completes, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

   CMD **4XX,N**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

6.4.1.90 Error f03x - AM Off-Line Boot Failed

A failure occurred during the execution of AM off-line boot.

Stage/Cmd	Error	Recovery	Backout
Proceed	f03x	R-44 (Section 6.6.44)	—-
Backout Recovery Prep	f03x	R-44 (Section 6.6.44)	—-

If the error persists after attempting the recovery action, seek technical assistance.

6.4.1.91 Error f04x - AM Off-Line Boot Did Not Complete After 3 Attempts

AM off-line boot attempted to complete 3 times unsuccessfully.

Stage/Cmd	Error	Recovery	Backout
Proceed	f04x	R-44 (Section 6.6.44)	—-
Backout Recovery Prep	f04x	R-44 (Section 6.6.44)	—-

If the error persists after attempting the recovery action, seek technical assistance.

6.4.1.92 Error f07x - AM Pre-Check Failed During AM Off-Line Boot

A failure occurred during the AM pre-check phase of an AM off-line boot AM switch.

Stage/Cmd	Error	Recovery	Backout
Proceed	f07x	R-44 (Section 6.6.44)	—-
Backout Recovery Prep	f07x	R-44 (Section 6.6.44)	—-
Switchfwd	f07x	R-45 (Section 6.6.45)	—-
Switchbck	f07x	R-46 (Section 6.6.46)	—-

If the error persists after attempting the recovery action, seek technical assistance.

6.4.1.93 Error f081 - SM Post-Check Failed During AM Off-Line Boot

A failure occurred during the SM post-check phase prior to an AM off-line boot AM switch.

SWITCHFWD

If the error occurs during SWITCHFWD, execute SWITCHFWD unconditionally:

1. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

   CMD **4XX,Y**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   The Switchfwd stage executes unconditionally.

3. On the new side, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

   CMD **4XX,N**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

If the Switchfwd fails again, execute the SWITCHBCK unconditionally to switch the processors back to the old software release text load and seek technical assistance.

1. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

   CMD **4XX,Y**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **600**

   The Switchbck stage executes unconditionally.

3. On the old side, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

   CMD **4XX,N**

Where: XX = the number of the UNCONDITIONAL EXECUTION

SWITCHBCK

If the error occurs during SWITCHBCK, execute SWITCHBCK unconditionally:

1. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

   CMD **4XX,Y**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **600**

   The Switchbck stage executes unconditionally.

3. On the old side, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

   CMD **4XX,N**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

If the Switchbck fails again, execute the SWITCHBCK unconditionally to switch the processors back to the new software release text load and seek technical assistance.

1. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

   CMD **4XX,Y**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   The Switchfwd stage executes unconditionally.

3. On the new side, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

   CMD **4XX,N**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

6.4.1.94 Error f09x - AM Failed To Switch

The AM failed to switch during an AM off-line boot switch forward.

SWITCHFWD

If the error occurs during SWITCHFWD, execute SWITCHFWD unconditionally:

1. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

   CMD **4XX,Y**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   The Switchfwd stage executes unconditionally.

3. On the new side, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

   CMD **4XX,N**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

If the Switchfwd fails again, execute the SWITCHBCK unconditionally to switch the processors back to the old software release text load and seek technical assistance.

1. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

   CMD **4XX,Y**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **600**

   The Switchbck stage executes unconditionally.

3. On the old side, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

   CMD **4XX,N**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

SWITCHBCK

If the error occurs during SWITCHBCK, execute SWITCHBCK unconditionally:

1. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

   CMD **4XX,Y**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **600**

   The Switchbck stage executes unconditionally.

3. On the old side, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

   CMD **4XX,N**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

If the Switchbck fails again, execute the SWITCHBCK unconditionally to switch the processors back to the new software release text load and seek technical assistance.

1. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

   CMD **4XX,Y**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   The Switchfwd stage executes unconditionally.

3. On the new side, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

   CMD **4XX,N**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

6.4.1.95 Error f0ax - Cannot Open pcpmd File Descriptor

A failure occurred when attempting to open the **pcpmd** file descriptor while changing the AM ACT/STBY configuration.

The AM may be forced. If the AM is forced, clear the force, duplex the AM, and enter the following command on MCC page 1985,x (where x = RETRO, LTG, UPDATE):

CMD **500**

OR

CMD **600** (for Backout)

If it fails again, the office may have ECD corruption. **Seek technical assistance.**

6.4.1.96 Error f0bx - Cannot Open ECD Manager File Descriptor

A failure occurred when attempting to open the ECD manager file descriptor while changing the AM ACT/STBY configuration.

The AM may be forced. If the AM is forced, clear the force, duplex the AM, and enter the following command on MCC page 1985,x (where x = RETRO, LTG, UPDATE):

CMD **500**

OR

CMD **600** (for Backout)

If it fails again, the office may have ECD corruption. **Seek technical assistance.**

6.4.1.97 Error f0cx - Cannot Confirm That AM Side Switch Is Successful

Cannot confirm that an AM side switch is successful while changing the AM ACT/STBY configuration.

The AM may be forced. If the AM is forced, clear the force, duplex the AM, and enter the following command on MCC page 1985,x (where x = RETRO, LTG, UPDATE):

CMD **500**

OR

CMD **600** (for Backout)

If it fails again, the office may have ECD corruption. **Seek technical assistance.**

6.4.1.98 Error f0dx - AM Configuration Switch Failed

The AM is not in the correct ACT/STBY configuration for an AM off-line boot. A failure occurred when attempting to switch the AM ACT/STBY configuration prior to an AM off-line boot.

Stage/Cmd	Error	Recovery	Backout
Proceed	f0dx	R-42 (Section 6.6.42)	—-
Backout Recovery Prep	f0dx	R-42 (Section 6.6.42)	—-

6.4.1.99 Error f0ex - Cannot Determine AM ACT/STBY Configuration

A failure occurred when attempting to determine the AM ACT/STBY configuration while changing the AM ACT/STBY configuration.

The AM may be forced. If the AM is forced, clear the force, duplex the AM, and enter the following command on MCC page 1985,x (where x = RETRO, LTG, UPDATE):

CMD **500**

OR

CMD **600** (for Backout)

If it fails again, the office may have ECD corruption. **Seek technical assistance.**

6.4.1.100 Error f14x - Invalid AM Off-Line Boot Performed

An AM off-line boot was performed without the transition option.

When used for a software release transition, an AM off-line boot must be executed with the TRANSITION option. Use of the TRANSITION option is required to perform essential transition activity on the new software release side.

Stage/Cmd	Error	Recovery	Backout
Proceed	f14x	R-43 (Section 6.6.43)	—-
Backout Recovery Prep	f14x	R-43 (Section 6.6.43)	—-

6.4.1.101 Error f15x - Write To GR Low-Core Area Failed

A failure occurred when attempting to write to the GR low-core area during an AM off-line boot.

Stage/Cmd	Error	Recovery	Backout
All	f15x	R-18 (Section 6.6.18)	—-

If the error persists after attempting the recovery action, seek technical assistance.

6.4.1.102 Error f16x - Read Of GR Low-Core Area Failed

A failure occurred when attempting to read from the GR low-core area during an AM off-line boot.

Stage/Cmd	Error	Recovery	Backout
All	f16x	R-18 (Section 6.6.18)	—-

If the error persists after attempting the recovery action, seek technical assistance.

6.4.1.103 Error f17x - Copy Of GR Low-Core Area Failed

A failure occurred when attempting to copy the GR low-core area to the off-line AM side during am AM off-line boot.

Stage/Cmd	Error	Recovery	Backout
All	f17x	R-18 (Section 6.6.18)	—-

If the error persists after attempting the recovery action, seek technical assistance.

6.4.1.104 Error f18x - Read Of /etc/log/applgrappl Log File Failed

A failure occurred when attempting to read from the **/etc/log/applgrappl** log file during an AM off-line boot. This error will only appear in the **applog** file.

Seek technical assistance.

6.4.1.105 Error f19x - Write To /etc/log/applgrappl Log File Failed

A failure occurred when attempting to write to the **/etc/log/applgrappl** log file during an AM off-line boot. This error will only appear in the **applog** file.

Seek technical assistance.

6.4.1.106 Error f1ax - GR Low-Core And List Of Equipped SMs Is Out Of Sync

An inconsistency was found between the GR low-core and the list of equipped SMs during an AM off-line boot. This error will only appear in the **applog** file.

Seek technical assistance.

6.4.1.107 Error f1bx - GR Low-Core Indicates Incorrect SM Equipage State

GR low-core indicates an unequipped SM that is actually equipped. This error will only appear in the **applog** file.

Seek technical assistance.

6.4.1.108 Error f1cx - EIH Message Timeout

A timeout in EIH was detected during an AM off-line boot.

Stage/Cmd	Error	Recovery	Backout
Proceed	f1cx	R-44 (Section 6.6.44)	—-
Backout Recovery Prep	f1cx	R-44 (Section 6.6.44)	—-
Switchfwd	f1cx	R-38 (Section 6.6.38)	—-
Switchback	f1cx	R-39 (Section 6.6.39)	—-

6.4.1.109 Error f1dx - APPLHOOK Is Executing From The Off-Line AM

APPLHOOK is executing from the off-line AM. Check MCC page 111 on the terminal you executed the command from. Only work from terminals connected to the on-line CU (indicated by "OFLBOOT IP-ONLINE" backlit red in upper left of screen on MCC page 111).

6.4.2 SUPR REPLACEMENT ERROR CODES

6.4.2.1 Errors used by GRldlmhd.rcl

The errors in the following sections are used by GRldlmhd.rcl.</

6.4.2.2 Error 1

While backing out of the PROCEED stage, ldmhd.rcl has detected that the MHDs are not in the required active simplex state.

If the error persists after attempting the recovery action, escalate to the next level of support.

Continue with recovery action R-49.

6.4.2.3 Error 2

While backing out of the PROCEED stage, ldmhd.rcl has detected that the new side saved vtoc mentioned in the previous message doesn't exist.

In the course of the transition to prevent a premature boot to the new side, the vtoc of the new side boot disk is rendered unbootable.

The new side VTOC is used to restore the new side MHD when the transition is ready to boot to the new software release.

If the error persists after attempting the recovery action, escalate to the next level of support.

Continue with recovery action R-49.

6.4.2.4 Error 3

While backing out of the PROCEED stage, ldmhd.rcl has detected that the new side saved vtoc mentioned in the previous message doesn't exist.

In the course of the transition to prevent a premature boot to the new side, the vtoc of the new side boot disk is rendered unbootable.

The new side VTOC is used to set the new side MHD to an unbootable state while on the old side of the transition.

If the error persists after attempting the recovery action, escalate to the next level of support.

Continue with recovery action R-49.

6.4.2.5 Error 4

While backing out of the PROCEED stage, ldmhd.rcl failed to write the modified VTOC to the new side MHDs.

In the course of the transition to prevent a premature boot to the new side, the vtoc of the new side boot disk is rendered unbootable.

The new side VTOC is used to set the new side MHD to an unbootable state while on the old side of the transition.

If the error persists after attempting the recovery action, escalate to the next level of support.

Continue with recovery action R-49.

6.4.2.6 Error 5

The program ldmhd.rcl failed to remove the MHD mentioned in tghe previous message. Some reasons for this error are:

- MHD didn't go OOS in the specified time limit
- MHD is in a non-normal state (GROW, INIT, etc.)

Continue with recovery action R-56.

6.4.2.7 Error 6

The program ldmhd.rcl failed to change the state of the MHD as mentioned in the previous message. Some reasons for this error are:

- MHD didn't go change state in the specified time limit
- MHD is in a non-normal state (GROW, INIT, etc.)

Continue with recovery action R-56.

6.4.2.8 Error 7

During backout of the ENTER stage, ldmhd.rcl failed in an attempt to backout the loadldft.rcl for the previously mentioned MHD and Tape Type.

Continue with recovery action R-49.

6.4.2.9 Error 8

During backout of the ENTER stage, ldmhd.rcl failed in an attempt to backout the dskprep.rcl for the previously mentioned MHD.

If the problem persists, escalate to your next level of support.

Continue with recovery action R-49.

6.4.2.10 Error 9

The program ldmhd.rcl failed in an attempt to duplex the MHD mentioned in the previous message using retrcv.rcl.

If the error persists after attempting the recovery action, escalate to your next level of support.

Continue with recovery action R-56.

6.4.2.11 Error 10

The program ldmhd.rcl failed in an attempt to restore the MHD mentioned in the previous message to the ACT duplex state.

Enter the MML command:

```
RST:MHD=X
```

Where X is the MHD mentioned in the previous message.

Wait for the MHD to restore.

Continue with recovery action R-48.

6.4.2.12 Error 11

The program ldmhd.rcl failed in an attempt to load the SEQOPTS file mentioned in the following RCL abort message.

If the stage is in backout and this file doesn't exist then use the following MML command to create a zero length SEQOPTS file that will enable backout to continue:

```
MSG     EXC:ENVIR,UPROC,FN="/bin/sh/",ARGS="&gt;"-"X";
```

Where X is the name of the SEQOPTS file from the following message.

If the stage is progressing forward and this file doesn't exist, then escalate to your next level of support.

Continue with recovery action R-56.

6.4.2.13 Error 12

The program ldmhd.rcl expects both MHDs of the disk pair to be in the ACT state.

Enter the MML command:

```
RST:MHD=X
```

Where X is the MHD mentioned in the previous message.

Wait for the MHD to restore.

Continue with recovery action R-48.

6.4.2.14 Error 13

The program ldmhd.rcl determined that the MHDs were incorrectly in the SIMPLEX state.

If the error persists after attempting the recovery action, escalate to your next level of support.

Continue with recovery action R-48.

6.4.2.15 Error 14

The program ldmhd.rcl expects the specified MHD of the disk pair to be in the INIT state.

Enter the MML command:

```
RST:MHD=X
```

Where X is the MHD mentioned in the previous message.

Wait for the MHD to restore.

Continue with recovery action R-48.

6.4.2.16 Error 16

While executing the PROCEED stage, the program ldmhd.rcl determined that the MHDs were not in the SIMPLEX state.

If the error persists after attempting the recovery action, escalate to your next level of support.

Continue with recovery action R-48.

6.4.2.17 Error 17

In the course of the transition to prevent a premature boot to the new side, the VTOC of the new side boot disk is rendered unbootable.

The program ldmhd.rcl attempted to save a copy of the modified VTOC to support backout of the PROCEED stage.

If the error persists after attempting the recovery action, escalate to your next level of support.

Continue with recovery action R-48.

6.4.2.18 Error 18

The program ldmhd.rcl failed in an attempt to write the correct bootable VTOC to the new side MHD.

If the error persists after attempting the recovery action, escalate to your next level of support.

Continue with recovery action R-48.

6.4.2.19 Error 19

The program ldmhd.rcl attempted to copy the incore ECD tp disk.

If the error persists after attempting the recovery action, escalate to your next level of support.

Continue with recovery action R-48.

6.4.2.20 Error 20

The program ldmhd.rcl attempted to split the MHD mentioned in the previous message.

If the error persists after attempting the recovery action, escalate to your next level of support.

Continue with recovery action R-48.

6.4.2.21 Error 21

The program ldmhd.rcl failed in an attempt to execute disprep.rcl on the MHD mentioned in the previous message.

If the error persists after attempting the recovery action, escalate to your next level of support.

Continue with recovery action R-48.

6.4.2.22 Error 23

The program ldmhd.rcl failed in an attempt to execute loadldft.rcl.

If the error persists after attempting the recovery action, escalate to your next level of support.

Continue with recovery action R-48.

6.4.2.23 Error 24

During an OSDE transition, ldmhd.rcl failed in an attempt to verify the SEQOPTS of the evolved data.

If the error persists after attempting the recovery action, escalate to your next level of support.

Continue with recovery action R-48.

6.4.2.24 Errors Used by GRldldft.rcl

The errors covered in the following sections are used by GRldldft.rcl

6.4.2.25 Error 50

The MHD being processed for tape reading encountered a problem, the call to etc/dgnnm was unable to reserve the MHD for tape reading.

Continue with recovery action R-50.

6.4.2.26 Error 51

Failed to initiate GRmkdisk tape reading from the ASM in an OSDE transition.

One reason for the error is that the ASM may not be communicating with the 5ESS switch.

Continue with recovery action R-51.

If this problem persists, seek technical assistance.

6.4.2.27 Error 52

GRmkdisk failed trying to execute on the ASM in an OSDE transition.

One reason for the error is that the OSDE feature may not be unlocked. OSDE software on the ASM may also have been corrupted.

Continue with recovery action R-52.

6.4.2.28 Error 53

GRmkdisk on the ASM failed while reading a LDFT message. No error message was returned by this failure.

There are a number of reasons for this error:

- GRmkdisk was killed on the ASM.
- The ASM took a fault.
- The DCI link to the ASM failed.

Continue with recovery action R-51.

If the problem persists, seek technical assistance.

6.4.2.29 Error 54

GRmkdisk on the 5ESS failed while reading a tape. No error message was returned by this failure.

One reason for the error is that the GRmkdisk was killed.

Continue with recovery action R-53.

6.4.2.30 GRmkdisk Failure Messages

Note: Messages from GRmkdisk are in the 100-199 range. For comparable OSDE versions of these errors, loadldft will add 100 to the GRmkdisk error. Some GRmkdisk error messages will not have a OSDE counterpart.

6.4.2.31 Error 100

GRmkdisk tape reading in the Enter Stage tried to create a segment using makeseg(). This was to be used as a buffer when reading in a new partition from the Load Disk From Tape (LDFT) and writing it to a MHD. Makeseg() may have failed because there was not enough spare memoery for the segment.

Continue with recovery action R-18.

6.4.2.32 Error 200

GRmkdisk tape reading in the Enter Stage tried to malloc() memory. This was to be used as a buffer when reading in a new partition from the Load Disk From Tape (LDFT) image on the ASM and writing it to a MHD. Malloc() may have failed because there was not enough space in memory.

Continue with recovery action R-51

6.4.2.33 Error 101

GRmkdisk was unable to open the tape drive. the tape drive does not appear to be on line, or the tape was not correctly mounted on the tape drive. Ensure that the tape is correctly mounted on the tape drive.

Continue with recovery action R-18.

6.4.2.34 Error 201

GRmkdisk was unable to open the LDFT file on the ASM. the LDFT image name argument passed to GRmkdisk was incorrect or the LDFT image was unreadable.

Continue with recovery action R-51.

6.4.2.35 Error 102

Note: This is a 5ESS only message.

The setio() call failed when GRmkdisk attempted to set the I/O mode for the MHD being updated to physical I/O.

If this problem persists, seek technical assistance.

Continue with recovery action R-18.

6.4.2.36 Error 103

The open() call failed when GRmkdisk attempted to open the MDH that is being updated.

If this problem persists, seek technical assistance.

Continue with recovery action R-18.

6.4.2.37 Error 203

The open() call failed when GRmkdisk attempted to open the MDH that is being updated.

Continue with recovery action R-51.

If this problem persists, seek technical assistance.

6.4.2.38 Error 204

Note: This is an ASM only message.

GRmkdisk detected a multi-file LDFT image. This is not allowed while reading LDFT images from the ASM.

Seek technical assistance.

6.4.2.39 Error 105

Note: This is a 5ESS-only message.

GRmkdisk requires an RCL environment when reading multi-tape sequences on the 5ESS.

RCLTOOLID must be set for GRmkdisk to continue.

Continue with recovery action R-54.

6.4.2.40 Error 106

Note: This is a 5ESS-only message.

GRmkdisk requires an RCL environment when reading multi-tape sequences on the 5ESS.

RCLSTAGE must be set for GRmkdisk to continue.

Continue with recovery action R-54.

6.4.2.41 Error 107

Note: This is a 5ESS-only message.

GRmkdisk requires an RCL environment when reading multi-tape sequences on the 5ESS.

RCLPAGE must be set for GRmkdisk to continue.

Continue with recovery action R-54.

6.4.2.42 Error 108

Note: This a 5ESS-only message.

The msgenab() system call failed. This is required when reading multi-tape sequences on the 5ESS.

Mount the first tape of the sequence.

Continue with recovery action R-18.

6.4.2.43 Error 109

Note: This is a 5ESS-only message.

The creat() system call failed when trying to generate the continuation tape log file. This file is used when reading multi-tape sequences on the 5ESS.

Mount the first tape of the sequence.

Continue with recovery action R-18.

6.4.2.44 Error 110

Note: This is a 5ESS-only message.

The function GRrtn_vtoc() in GRmkdisk failed. This function is used to get a copy of the current VTOC so that it can be saved in the continuation log file. This file is used when reading multi-tape sequences on the 5ESS.

Mount the first tape of the sequence.

Continue with recovery action R-18.

6.4.2.45 Error 111

The creat() system call failed when GRmkdisk was generating the partition status file.

Continue with recovery action R-18.

6.4.2.46 Error 211

The creat() system call failed when GRmkdisk was generating the partition status file.

Continue with recovery action R-51.

If the problem persists, seek technical assistance.

6.4.2.47 Error 112

The Load Disk From Tape (LDFT) header on the tape is invalid. Possible reasons for the failure are:

- A tape read failure occurred while trying to read the LDFT header.
- The tape is not a LDFT tape.
- GRmkdisk is executing on a 3B21 but the LDFT tape is written for the 3B20.
- GRmkdisk is executing on a 3B20 but the LDFT tape is written for the 3B21.

Continue with recovery action R-17.

6.4.2.48 Error 212

The Load Disk From Tape (LDFT) image header on the ASM is invalid. Possible reasons for the failure are:

- A tape read failure occurred while trying to read the LDFT header.
- The image is not a LDFT image.
- A read failure occurred when trying to read the LDFT header.

Continue with recovery action R-51.

6.4.2.49 Error 113

The Generic ID found in the Load Disk From Tape header doesn't match the current transition. One possible reason for the error is that an incorrect LDFT tape was mounted.

Continue with recovery action R-17.

6.4.2.50 Error 213

The Generic ID found in the Load Disk From Tape header doesn't match the current transition. One possible reason for the error is that incorrect LDFT images were mounted on the ASM.

Continue with recovery action R-51.

6.4.2.51 Error 114

The tape Type from the Load Disk From Tape header is for a 'DATA' tape. The requested tape to be loaded is type 'TEXT'.

Continue with recovery action R-51.

If the problem persists, seek technical assistance.

6.4.2.52 Error 214

The tape Type from the Load Disk From Tape header is for a 'DATA' tape. The requested tape to be loaded is type 'TEXT'.

Continue with recovery action R-51.

If the problem persists, seek technical assistance.

6.4.2.53 Error 115

The tape Type from the Load Disk From Tape header is for a 'TEXT' tape. The requested tape to be loaded is type 'DATA'.

Continue with recovery action R-17.

6.4.2.54 Error 215

The tape type from the Load Disk From Tape header is for a 'TEXT' tape. The requested tape to be loaded is type 'DATA'.

Continue with recovery action R-51.

If the problem persists, seek technical assistance.

6.4.2.55 Error 116

Only one VTOC is allowed per single or multi-tape sequence. Multiple VTOCs were found.

Verify that the correct tape in sequence is mounted. Only the first tape in a tape sequence contains a VTOC. If the wrong tape is mounted, unmount it, mount the correct tape, and go to recovery action R-18.

If the correct tape in sequence is mounted, the could be a bad tape sequence. Try to resolve the problem using recovery action R-16 followed by recovery action R-17.

6.4.2.56 Error 216

Only one VTOC is allowed per single or multi-tape sequence. Multiple VTOCs were found.

Continue with recovery action R-51.

If the problem persists, seek technical assistance.

6.4.2.57 Error 117

The size of the VTOC on the Load Disk from Tape (LDF) tape is greater than the maximum size allowed. The VTOC may be damaged on MHD. GRmkdisk attempted to populate an internal VTOC library with the information of the VTOC from the source mentioned in first error.

Possible reasons for the error include:

- a transient memory problem.
- a memory I/O error.

Continue with recovery action R-18.

6.4.2.58 Error 220

GRmkdisk uses the VTOC when writing data to the MHD so that the data ranges are validated against the partition numbers on the MHD. GRmkdisk attempted to populate an internal VTOC library with the information of the VTOC from the source mentioned in first error.

Possible reasons for the error include:

- a transient memory problem.
- a memory I/O error.

Continue with recovery action R-51.

6.4.2.59 Error 121

GRmkdisk detected an incorrect LDFT image being loaded from the ASM This may be a transient error.

Continue with recovery action R-17.

6.4.2.60 Error 221

GRmkdisk detected an incorrect LDFT image being loaded from the ASM This may be a transient error.

Continue with recovery action R-51.

6.4.2.61 Error 122

A creat() system call failed while trying to create the saved VTOC file that will be used to prevent premature booting of the new side MHDs.

Continue with recovery action R-18.

6.4.2.62 Error 222

A creat() system call failed while trying to create the saved VTOC file that will be used to prevent premature booting of the new side MHDs.

Continue with recovery action R-51.

If the problem persists, seek technical assistance.

6.4.2.63 Error 123

A write() system call failed while trying to write the saved VTOC file that will be used to prevent premature booting of the new side MHDs.

Continue with recovery action R-18.

6.4.2.64 Error 223

A write() system call failed while trying to write the saved VTOC file that will be used to prevent premature booting of the new side MHDs.

Continue with recovery action R-51.

If the problem persists, seek technical assistance.

6.4.2.65 Error 124

A GRrtn_vtoc() function call failed to save the VTOC in memory before making the changes necessary to prevent premature booting of the new side MHDs.

Continue with recovery action R-18.

6.4.2.66 Error 224

A GRrtn_vtoc() function call failed to save the VTOC in memory before making the changes necessary to prevent premature booting of the new side MHDs.

Continue with recovery action R-51.

If the problem persists, seek technical assistance.

6.4.2.67 Error 225

The GRchg_startblk() function call failed to make the changes necessary in the VTOC to prevent premature booting of the new side MHDs.

Continue with recovery action R-51.

If the problem persists, seek technical assistance.

6.4.2.68 Error 126

The lseek() system call failed while GRmkdisk was attempting to position the MHD before writing data to the MHD. Some reasons for the error include:

a. the file descriptor of the MHD was undefined.

b. the lseek() call attempted to seek beyond the size of the MHD.

Check the status of all DFCs, MHDs, and SBUs on MCC page 123 (and MCC page 125 if more than two DFCs are equipped). Only the MHD being written to should be OOS.

Continue with recovery action R-50.

6.4.2.69 Error 226

The lseek() system call failed while GRmkdisk was attempting to position the MHD before writing data to the MHD. Some reasons for the error include:

- The file descriptor of the MHD was undefined.
- The lseek() call attempted to seek beyond the size of the MHD.
- DCI communications between the ASM and 5ESS failed.

Check the status of all DFCs, MHDs, and SBUs on MCC page 123 (and MCC page 125 if more than two DFCs are equipped). Only the MHD being written to should be OOS.

Continue with recovery action R-55.

6.4.2.70 Error 127

The write() system failed when GRmkdisk attempted to write a partition to the MHD. Some reasons for the error include:

- Physical I/O error.
- Bad memory I/O with write buffers.

Check the status of all DFCs, MHDs, and SBUs on MCC page 123 (and MCC page 125 if more than two DFCs are equipped). Only the MHD being written to should be OOS.

Continue with recovery action R-55.

6.4.2.71 Error 227

The write() system failed when GRmkdisk attempted to write a partition to the MHD. Some reasons for the error include:

- Physical I/O error.
- Bad memory I/O with write buffers.
- DCI communications between the ASM and 5ESS failed.

Check the status of all DFCs, MHDs, and SBUs on MCC page 123 (and MCC page 125 if more than two DFCs are equipped). Only the MHD being written to should be OOS.

Continue with recovery action R-55.

6.4.2.72 Error 128

Note: 5ESS only message.

The open() system call failed when trying to open the Continuation LDFT log file. This file is used during multi-tape sequences when GRmkdisk was stopped in between reading tapes.

If the recovery action for this error does not solve the problem, continue by going back to reading the first tape of the current sequence.

Continue with recovery action R-17.

6.4.2.73 Error 129

Note: 5ESS only message.

The GRread_header() function failed when trying to open the Continuation LDFT log file. This file is used during multi-tape sequences when GRmkdisk was stopped in between reading tapes.

If the recovery action for this error does not solve the problem, continue by going back to reading the first tape of the current sequence.

Continue with recovery action R-17.

6.4.2.74 Error 130

Note: 5ESS only message.

The GRread_data() function failed when trying to open the Continuation LDFT log file. This file is used during multi-tape sequences when GRmkdisk was stopped in between reading tapes.

If the recovery action for this error does not solve the problem, continue by going back to reading the first tape of the current sequence.

Continue with recovery action R-17.

6.4.2.75 Error 131

Note: 5ESS only message.

GRmkdisk is attempting to continue reading a multi-tape sequence after it was stopped.

GRmkdisk examined the LDFT header sequence numbers and determined that the next tape to be read was not mounted. Examine the first previous message to identify which tape of the multi-tape sequence is needed.

Continue with recovery action R-17.

6.4.2.76 Error 132

Note: 5ESS only message.

GRmkdisk is attempting to continue reading a multi-tape sequence after it was stopped.

GRmkdisk examined the LDFT header tape ID and determined that the currently mounted tape is not part of the current tape sequence being read.

Continue with recovery action R-17.

6.4.2.77 Error 133

Note: 5ESS only message.

GRmkdisk examined that the tape being read does not have a VTOC, nor is GRmkdisk expecting the second or greater tape of a multi-tape sequence. The first tape of the requested tape sequence should be mounted.

Continue with recovery action R-17.

6.4.2.78 Error 134

GRmkdisk detected multiple LDFT headers without finding a VTOC entry. GRmkdisk is not expecting the second or greater tape of a multi-tape sequence. If the recovery action still produces this result, seek technical assistance. A reason for the error are bad LDFT tapes.

Continue with recovery action R-17.

6.4.2.79 Error 234

GRmkdisk detected multiple LDFT headers without finding a VTOC entry while reading LDFT images from the ASM. A reason for the error are bad LDFT images on the ASM.

Continue with recovery action R-51.

6.4.2.80 Error 135

GRmkdisk detected a data block on the LDFT tape that was larger than a memory segment. A reason for the error are that the LDFT tape was wrotten with incorrect sizes of data blocks.

If the recovery action causes this failure again, seek technical support.

Continue with recovery action R-18.

6.4.2.81 Error 235

GRmkdisk detected a data block on the LDFT image on the ASM that was larger than the currently allocated memory. When GRmkdisk attempted to re-size its memory buffer, the ma>lloc() system call failed.

Continue with recovery action R-51.

If the problem persists, seek technical support.

6.4.2.82 Error 136

GR_read() data function call failed while trying to read MHD partition data from the LDFT tape.

If the problem persists, seek technical support.

Continue with recovery action R-18.

6.4.2.83 Error 236

GR_read() data function call failed while trying to read MHD partition data from the LDFT image on the ASM.

Continue with recovery action R-51.

If the problem persists, seek technical support.

6.4.2.84 Error 137

The GRgv_gtptn() function call failed to get a valid partition number for the data block range mentioned in the previous error message. This error may occur because of the data on the LDFT tape does not match the VTOC from the tape.

If the problem persists, seek technical assistance.

Continue with recovery action R-18.

6.4.2.85 Error 237

The GRgv_gtptn() function call failed to get a valid partition number for the data block range mentioned in the previous error message. This error may occur because of the data on the LDFT image does not match the VTOC from the image on the ASM.

Continue with recovery action R-51.

6.4.3 ERROR 435xxx - TRANSITION EXECUTED FROM OFF-IINE AM

This error occurs when an AM off-line boot completed. The user attempted to execute a transition process from an off-line AM.

Check MCC Page **111** on the terminal you executed the command. Only work from terminals connected to the on-line AM (indicated by **OFLBOOT IP-ONLINE** backlit red in the upper left of the screen on MCC Page **111**).

6.4.3.1 Error 438xxx - RC or CORC Reapplication Has Not Started

This error may have occurred because RC or CORC reapplication may not have been started. Start the reapplication before reattempting the Commit stage.

If you do not have RCs or CORCs to reapply, or if you do not wish to reapply them, use recovery action in Section 6.6.23.

Stage/Cmd	Error	Recovery	Backout
Commit	438xxx	R-23 (Section 6.6.23)	(Section 7)

6.4.3.2 Error 439xxx - AMA Data On New Release Disk Has Not Been Processed

This error occurred because AMA data on the new release disks has not been written to tape or teleprocessed. Process the AMA data on the new release disks by performing the steps in Section5.6.6 before reattempting the Commit stage.

If you do not wish to process the AMA data on the new release disks, enter the following message then reattempt the Commit stage.

Warning: This command message may cause loss of AMA data.

MSG **CLR:FILESYS,FILE,FN="/updtmp/site/access.oflama";**

Response: **CLR FILESYS FILE COMPLETED**

To execute the Commit process UCL:

a. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

   CMD **4XX,Y**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

b. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   The Proceed stage executes unconditionally.

c. When the Proceed stage completes, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

   CMD **4XX,N**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

6.4.4 ERROR 440xxx - NO RCL STAGE VALUE FOUND

A NULL transition stage has been returned when supr_init( ) attempted to read the RCLSTAGE environment variable.

If the error persists after attempting recovery action, seek technical assistance.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	440xxx	R-18 (Section 6.6.18)	(Section 7)
Others	440xxx	R-18	(Section 7)

6.4.5 ERROR 442xxx - INVALID RCL LANGUAGE VALUE FOUND

A NULL **Retrofit Control Language Page** (RCL Page) pointer has been returned when supr_init( ) attempted to read the RCLPAGE environment variable.

If the error persists after attempting recovery action, seek technical assistance.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	440xxx	R-18 (Section 6.6.18)	(Section 7)
Others	440xxx	R-18	(Section 7)

6.4.6 ERROR 443xxx - RESUME FAILED TO START A SUPR PROCESS

The Resume (Continue) process failed to start a SUPR Process when requested by RCL.

If the error persists after attempting recovery action, seek technical assistance.

Stage/Cmd	Error	Recovery	Backout
All	443xxx	R-18	—-

6.4.7 ERROR 444xxx - RCL ATTEMPTED TO START AN UNKNOWN STAGE

The SUPR Stage which RCL has requested RESUME to start is not valid.

If the error persists after attempting recovery action, seek technical assistance.

Stage	Error	Recovery	Backout
All	444xxx	R-18	—-

6.4.7.1 Error 501xxx - Time Limit Message Error

This error may have occurred because:

- APPLHOOK did not send a message indicating a time limit that it needs to do its processing.
- The message that APPLHOOK sent to set a time limit was damaged.
- The *UNIX* RTR Operating System send() process failed when the application process tried to use it to send a time limit message to the SUPR process.

If the error occurred because the application process did not send a time limit message, start the application process over using the recovery action.

Stage/Cmd	Error	Recovery	Backout
All	501xxx	R-18 (Section 6.6.18)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.2 Error 502xxx - Application Process Failed Or Did Not Return

The Application Hook (APPLHOOK) process failed or did not return. Obtain the APPLHOOK error code from the ROP (just prior to the failure message) and proceed to the "APPLHOOK Errors" section for resolution. After resolving the APPLHOOK error, return to this error code for continuation.

Stage/Cmd	Error	Recovery	Backout
Proceed	502xxx	R-18 (Section 6.6.18)	(Section 7)
All	502xxx	R-18 (Section 6.6.18)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.3 Error 601xxx - User Is Not Privileged For Execution

The user is not privileged for execution. The SUPR process must be executed from a login that has super user permissions. After resolving the problem, try to continue the procedures using the recovery action.

Stage/Cmd	Error	Recovery	Backout
All	601xxx	R-18 (Section 6.6.18)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.4 Error 602xxx - Time-Out For System Integrity Monitor (SIM) Message

When SUPR sends SIM a message, it sets a time-out limit by which it must receive the return message from SIM. This error occurred when SUPR was waiting for the return message from SIM. This error may have occurred because:

- SUPR did not receive a return message from SIM within the time-out limit.
- The recvw() process that waits for the return message from SIM failed.

Try to continue the procedures using the recovery action.

Stage/Cmd	Error	Recovery	Backout
All	602xxx	R-18 (Section 6.6.18)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.5 Error 603xxx - Time-Out For MIRA Message

When SUPR sends MIRA a message, it sets a time-out limit by which it must receive the return message from MIRA. This error occurred when SUPR was waiting for the return message from MIRA. This error may have occurred because:

- SUPR did not receive a return message from MIRA within the time-out limit.
- The recvw() process that waits for the return message from MIRA failed.

If the error persists, follow the recovery action.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	603xxx	R-18 (Section 6.6.18)	(Section 7)
Enter Backout	603xxx	R-20 (Section 6.6.20)	—-
		R-27 (Section 6.6.27)	
Commit	603xxx	R-28 (Section 6.6.28)	(Section 7)
Others	603xxx	R-18 (Section 6.6.18)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.6 Error 604xxx - Time-Out For Disk Driver Message

When SUPR sends the disk driver a message, it sets a time-out limit by which it must receive the return message from the disk driver. This error occurred when SUPR was waiting for the return message from the disk driver. This error may have occurred because:

- SUPR did not receive a return message from the disk driver within the time-out limit.

- The recvw() process that waits for the return message from the disk driver failed.

Try to continue the procedures using the recovery action.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	604xxx	R-18 (Section 6.6.18)	(Section 7)
Commit	604xxx	R-28 (Section 6.6.28)	(Section 7)
Enter Backout	604xxx	R-20 (Section 6.6.20)	—-
		R-27 (Section 6.6.27)	
Others	604xxx	R-18 (Section 6.6.18)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.7 Error 605xxx - Bad MIRA Return On Message

When SUPR receives a return message from MIRA, it checks certain fields in the message for bad values. This error occurs when SUPR finds a bad value in one of the fields in the return message.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	605xxx	R-18 (Section 6.6.18)	(Section 7)
Enter Backout	605xxx	R-20 (Section 6.6.20)	—-
		R-27 (Section 6.6.27)	
Commit	605xxx	R-28 (Section 6.6.28)	(Section 7)
Others	605xxx	R-18 (Section 6.6.18)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.8 Error 606xxx - Bad Disk Driver Return On Message

When SUPR receives a return message from the disk driver, it checks the return code that is in the message. The value of the return code must be zero. This error occurred because the return code was a value other than zero. Continue the procedures using the recovery action.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	606xxx	R-18 (Section 6.6.18)	(Section 7)
Enter Backout	606xxx	R-20 (Section 6.6.20)	—-
		R-27 (Section 6.6.27)	
Commit	606xxx	R-28 (Section 6.6.28)	(Section 7)
Others	606xxx	R-18 (Section 6.6.18)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.9 Error 607xxx - Wrong Disk State

After MIRA changes the state of the disk (to ACT or OOS), SUPR checks the UCB of that disk in the ECD to make sure that the change actually took place. This error occurred when SUPR thought it changed the state of the disk, but the UCB of that

disk does not reflect the change. Either MIRA did not change the state correctly, or the state field in the UCB is damaged.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	607xxx	R-18 (Section 6.6.18)	—-
Enter Backout	607xxx	R-20 (Section 6.6.20)	—-
		R-27 (Section 6.6.27)	
Commit	607xxx	R-28 (Section 6.6.28)	(Section 7)

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.10 Error 608xxx - No Active Boot Disks

The SUPR process checks the UCB in the ECD to find out which disk is the current system disk that is in the active state. This error occurred because there were not any disks that were in the active state.

Caution: If the switch is in Disk Independent Operation (DIOP), escalate to your next level of support immediately.

Try to continue the procedures using the recovery action command.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	608xxx	R-19 (Section 6.6.19)	(Section 7)
Others	608xxx	R-18 (Section 6.6.18)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.11 Error 610xxx - Recent Change Error

This error occurred when SUPR was performing a recent change on the ECD. The journal file will be saved in **/tmp/supr.rcv**. The error messages will be saved in **/tmp/supr.rcvout** and **/etc/rcvecd.err**. After resolving the problem, try to continue the procedures using the recovery action.

Stage/Cmd	Error	Recovery	Backout
All	610xxx	R-18 (Section 6.6.18)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.12 Error 611xxx - Copy Failed

The copy command failed. This error may have occurred when SUPR was copying the log from the old software release to the new software release. Additional error codes can be found in **/tmp/supr.cp.** After resolving the problem, try to continue the procedures using the recovery action.

Stage/Cmd	Error	Recovery	Backout
All	611xxx	R-18 (Section 6.6.18)	—-

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.13 Error 612xxx - ECDMAN ugucbn() Error

This error occurred when SUPR used the ECD function ugucbn() to get information about the UCB record associated with a specified disk.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	612xxx	R-18 (Section 6.6.18)	(Section 7)
Proceed	612xxx	R-18 (Section 6.6.18)	(Section 7)
		R-26 (Section 6.6.26)	
Enter Backout	612xxx	R-18 (Section 6.6.18)	—-
		R-20 (Section 6.6.20)	
		R-27 (Section 6.6.27)	
Commit	612xxx	R-18 (Section 6.6.18)	(Section 7)
		R-28 (Section 6.6.28)	

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.14 Error 613xxx - ECDMAN ugetucb() Error

This error occurred when SUPR used the ECD function ugetucb() to get the Unit Control Block (UCB) record for a specified disk.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	613xxx	R-18 (Section 6.6.18)	(Section 7)
Proceed	613xxx	R-18 (Section 6.6.18)	(Section 7)
		R-26 (Section 6.6.26)	
Enter Backout	613xxx	R-18 (Section 6.6.18)	—-
		R-20 (Section 6.6.20)	
		R-27 (Section 6.6.27)	
Commit	613xxx	R-18 (Section 6.6.18)	(Section 7)
		R-28 (Section 6.6.28)	

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.15 Error 614xxx - ECDMAN ugmamirids() Error

This error occurred when SUPR used the ECD function ugetrec() to get the pointer to the UCBs for the two disks that are associated with the procedures. Try to continue the procedures using the recovery action.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	614xxx	R-18 (Section 6.6.18)	(Section 7)
Proceed	614xxx	R-18 (Section 6.6.18)	(Section 7)
		R-26 (Section 6.6.26)	
Enter Backout	614xxx	R-18 (Section 6.6.18)	—-
		R-20 (Section 6.6.20)	
		R-27 (Section 6.6.27)	
Commit	614xxx	R-18 (Section 6.6.18)	(Section 7)
		R-28 (Section 6.6.28)	

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.16 Error 615xxx - ECDMAN ursvucb() Error

This error occurred when SUPR used the ECD function ursvucb() to reserve a UCB. The disk that SUPR is trying to update must first be reserved so that no other processes can write to it. This is done by reserving the disk's UCB. The ursvucb() function may have failed because another process has already reserved the disk that is trying to be reserved. Try to continue the procedures using the recovery action.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	615xxx	R-18 (Section 6.6.18)	(Section 7)
Proceed	615xxx	R-18 (Section 6.6.18)	(Section 7)
		R-26 (Section 6.6.26)	
Enter Backout	615xxx	R-18 (Section 6.6.9)	—-
		R-20 (Section 6.6.20)	
		R-27 (Section 6.6.27)	
Commit	615xxx	R-18 (Section 6.6.18)	(Section 7)
		R-28 (Section 6.6.28)	

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.17 Error 616xxx - ECDMAN ugsdf() Error

This error occurred when SUPR used the ECD function ugsdf() to get the special device file name associated with the disk to be updated so that SUPR can access that disk. Try to continue the procedures using the recovery action.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	616xxx	R-18 (Section 6.6.18)	(Section 7)
Proceed	616xxx	R-18 (Section 6.6.18)	(Section 7)
		R-26 (Section 6.6.26)	
Enter Backout	616xxx	R-18 (Section 6.6.18)	—-
		R-20 (Section 6.6.20)	
		R-27 (Section 6.6.27)	
Commit	616xxx	R-18 (Section 6.6.18)	(Section 7)
		R-28 (Section 6.6.28)	

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.18 Error 617xxx - ECDMAN urelucb() Error

This error occurred when SUPR used the ECD function urelucb() to release (unreserve) a reserved UCB. Try to continue the procedures using the recovery action.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	617xxx	R-18 (Section 6.6.18)	(Section 7)
Proceed	617xxx	R-18 (Section 6.6.18)	(Section 7)
		R-26 (Section 6.6.26)	
Enter Backout	617xxx	R-18 (Section 6.6.18)	—-
		R-20 (Section 6.6.20)	
		R-27 (Section 6.6.27)	
Commit	617xxx	R-18 (Section 6.6.18)	(Section 7)
		R-28 (Section 6.6.28)	

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.19 Error 618xxx - ECDMAN ursdf() Error

This error occurred when SUPR used the ECD function ursdf() to give back to the system the special device file name of the updated disk that was obtained by the **ugsdf()** command. Try to continue with the procedures using the recovery action.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	618xxx	R-18 (Section 6.6.18)	(Section 7)
Proceed	618xxx	R-18 (Section 6.6.18)	(Section 7)
		R-26 (Section 6.6.26)	
Enter Backout	618xxx	R-18 (Section 6.6.18)	—-
		R-20 (Section 6.6.20)	
		R-27 (Section 6.6.27)	
Commit	618xxx	R-18 (Section 6.6.18)	(Section 7)
		R-28 (Section 6.6.28)	

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.20 Error 621xxx - Unable To Stop Process With pkill

The SUPR **stop** command could not stop the currently running SUPR process using the pkill() function call. If the **stop** command cannot kill a SUPR in progress using the kill() function call, it then tries to kill it using the pkill() function call. The pkill function call may have failed because there was a bad process ID number (PID) in the SUPR log file for the process that needed to be terminated. The **stop** command looks in the log file to find the PID of the process that is currently running and calls pkill with that PID. If the PID is damaged in the log file, the **pkill** command may be executed manually using the correct PID of the process that needs to be terminated.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	621xxx	R-7 (Section 6.6.7)	(Section 7)
		R-2 (Section 6.6.2)	
Proceed	621xxx	R-7 (Section 6.6.7)	(Section 7)
		R-2 (Section 6.6.2)	
Commit	621xxx	R-7 (Section 6.6.7)	(Section 7)
		R-2 (Section 6.6.2)	
Others	621xxx	R-7 (Section 6.6.7)	—-
		R-2 (Section 6.6.2)	

If the error persists after attempting the recovery action, escalate to your next level of support.

6.4.7.21 Error 622xxx - Unable To Stop Process With kill

The SUPR **stop** command could not stop the currently running SUPR process using the kill() function call. The kill() function call is used in the **stop** command to terminate the SUPR process that is currently running. The kill function call may have failed because:

- The process to be killed does not exist.
- The sending process is not a super user, and the sending and receiving processes do not have the same effective user ID.
- The process ID (PID) of the process being terminated is damaged in the SUPR log. The **stop** command passes this PID as a parameter to kill().

If the SUPR still needs to be stopped, execute the SUPR Stop process unconditionally using the recovery actions.

Stage/Cmd	Error	Recovery	Backout
Enter Forward	622xxx	R-7 (Section 6.6.7)	(Section 7)
		R-2 (Section 6.6.2)	
Proceed	622xxx	R-7 (Section 6.6.7)	(Section 7)
		R-2 (Section 6.6.2)	
Commit	622xxx	R-7 (Section 6.6.7)	(Section 7)
		R-2 (Section 6.6.2)	
Others	622xxx	R-7 (Section 6.6.7)	—-
		R-2 (Section 6.6.2)	

If the error persists after attempting the recovery actions, escalate to your next level of support.

6.4.7.22 Error 623xxx - SUPR Process Terminated

A SUPR process was terminated due to a phase 1 signal. SUPR may not get a chance to print this error message when the interrupt occurs. Continue the SUPR process by accessing MCC page 1985,x (where x = RETRO, LTG, UPDATE) and entering command:

CMD **500**

OR

CMD **600** (for Backout)

The **500** command will put this error code in the end entry of the SUPR log file.

6.4.8 TRANSITION TOOL FAILURES

6.4.8.1 General

The following information and procedures are used to resolve failures that may occur while executing any of the transition tools.

Most transition tool errors look like the following:

UPD GEN ENTER APP ENTRHOOK FAILED WITH EXIT CODE XX

Where: XX = an exit code.

For a complete list of error exit codes and their definitions, refer to Table 6-1. This information may help resolve the problem. If not, continue with the following steps.

Table 6-1 — Tool Error Exit Codes

EXIT CODE	EXIT CODE NAME	DEFINITION
1	EBADSEQ	Tool executed out of sequence
2	ERDAPPL	The rdappl tool returned a failure
3	EINSTL	Install tools not run
4	EBADSUM	Sumcheck failure on transition tools tape
5	EINSTLPRIV	Install of private products failed
6	ECRONRST	Could not restore cron on new software release
7	EMOP	Mount off-line partitions failed
8	ECNI	CNI evolution tool failed
9	ECLROFL	Clear off-line file systems failed
10	ESAVE	Save suprlog failed
11	ECRON	CRON modify on the off-line disk failed
12	EGENERIC	Boot call is only allowed on new software release
13	EOFFRCR	OFFRCR failed
14	ERSTPRIV	Could not back out private product installation
15	EGETGENID	Error while retrieving the value/address of the software release id
16	EBADGENID	The values of the software release ids are not correct
17	ENOSUPRLOG	Suprlog missing on new software release side
18	ENOAPPLLOG	Appllog missing on new software release side
19	ENOAPPLGRAPPL	Applgrappl missing on new software release side
20	EGENBWMS	The software release id bwms exist at the beginning of installtools
21	ENOBLOCKS	Not enough free blocks or inodes in /tmp or /etc/bwm
22	ENOINODES	Not enough free i-nodes for transition tools
23	ODDINFO	oddinfo tool returned a failure during lookodd
24	EAIMRC	Unable to modify off-line aimrc files during LTG
25	E_SSAUTO	SSAUTO failed to update Recent Change View 15.10
26	E_NONCNI	NONCNICREAT failed to copy or write to a file
27	EWRONGTOOL	Tools for incorrect software release or transition detected
28	ENOSUMVER	Installtools found tools but not sumfile or toolversion files
30	EUSER_RST	Failure to restore user directories from previous generic
31	EINVALVER	Toolversion file does not have all its values set
32	RCVCPFAIL	Copy of retrcv into /usr/bin failed
33	NOROOTRCV	Cannot find a copy on retrcv in root

Table 6-1 — Tool Error Exit Codes (Contd)

EXIT CODE	EXIT CODE NAME	DEFINITION
34	ENOGENSET	The from and/or to generic value is not set
35	ENOTONROOT	Not running on /dev/root
36	EOPINFO	OPINFO tool failed, see toollog.
60	MOP_PRIMERR	General primitive failures
61	MOP_BADUSAGE	Invalid input/parm usage
62	MOP_AMODDERR	MOP cannot open AM ODD file
63	MOP_RUNNING	MOP already running
64	MOP_TERMERR	Could not terminate MOP
65	MOP_NUMPTNS	Invalid number ptns on MOP command line
66	MOP_OPENERR	Failed to open MOP status file
77	ETSM	This error code indicates a trunk status mapping error. If this error is received, a trunk status mapping error will also be received. The trunk status mapping error should be corrected using the **Trunk Status Mapping Errors** Section.
128 to 255[a]	*UNIX* system error)	Negative exit code - 2s compliment notation

Note(s):

a. These error codes occur when the called tool exits with a negative number. These error codes should normally not occur with the exception of stopmop. When these errors occur on tools other than stopmop, escalate to your next level of support.

6.4.8.2 Readhdr Failures

The following errors will occur as a result of the readhdr process failing. These errors are self-explanatory. If the recovery fails, escalate to your next level of support.

1. Response:

OP GEN READHDR STOPPED

CANNOT ACCESS TAPE DRIVE

or

TAPE DRIVE MAY NOT BE MOUNTED CORRECTLY

or

TAPE DRIVE MAY NOT BE ON LINE.

Recovery: Verify that the tape is mounted correctly and the tape drive is on-line. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and re-enter command:

CMD **500**

OP GEN READHDR STOPPED TAPE DOES NOT APPEAR TO BE IN LDFT FORMAT.

a. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and re-enter command:

CMD **500**

b. If Readhdr fails again with the same error message, mount the backup copy of the tape and re-enter the **500** poke command.

OP GEN READHDR ERROR
FAILED UPDATE OF /etc/log/tapelog

Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and re-enter command:

CMD **500**

6.4.8.3 OPINFO Failures

1. Manually dump the opinfo file. Enter message:

   MSG **DUMP:FILE:ALL,FN="/updtmp/site/toolxfer/info.out";**

   Comment: If the file is not dumped to the ROP, perform steps 3-a through 3-e of this procedure. The responses must be saved for entry later in the transition.

2. Examine the ROP output. Verify whether or not each section contains the information listed, then proceed to the next step. The first section should contain a listing of the RC access permissions for all terminals in the office. The second section should report whether the AMALOST feature is turned on or off. The third section contains the programmed parameters for LIT (ALIT) testing. The fourth section lists the call trace DNs (CLID) or reports that there are none. The fifth section reports on the Call Gapping Code Control (CGAP) status.

3. If any or all of the sections viewed does not contain the information described in step 2, execute the appropriate step (a-e) dealing with the affected section.

   a. **RCACCESS:** To dump the recent change access permission for an office terminal, enter message:

      MSG **OP:RCACCESS,TTY="x";**

      Where: x = terminal name. For example **OP:RCACCESS,TTY="ttya";** .

      Response: OP RCACCESS TTY x ACCESS h'yyyyy

      Comment: Save this response for use later in the transition.

   b. **AMALOST:** The AMALOST feature provides information on lost AMA billing records. The AMALOST feature is is inhibited by the system initialization and must be reactivated after the initialization. To dump the status of AMALOST feature, enter message:

      MSG **OP:AMALOST;**

      Response: One of the following responses is output.

      ```
      OP AMALOST OFF

      or

      OP AMALOST ON TRC=OFF

      or

      OP AMALOST ON TRC=ON
      ```

   c. **ALIT:**

      1. Access MCC page 120.
      2. To dump the ALIT parameters, enter message:

MSG **EXC:LIT:OPT=V;**

Response: **PF-FOR PARAMETER VERIFICATION**
EXC LIT VERIFY TYP=a RG=b TMO=c TM=d-e

d. **CLID:** To dump a list of DNs on the call trace list, enter message:

MSG **OP:CLID;**

Response:

```
OP CLID LIST CONTAINS x NUMBERS
 Listing of DNs is output
       or
OP CLID LIST CONTAINS 0 NUMBERS
  SECTION 0 OF 0
```

e. **CGAP:** To dump a list of all Call Gapping (CGAP) code controls, enter message:

MSG **OP:CGAP;**

Response: **OP CGAP COMPLETED**
CODE PREFIX GAP ANN DOM

Comment: Save this response for use later in the transition.

If errors occur while executing any of these steps, escalate to your next level of support.

6.4.8.4 cni.niaud Failures (Retrofit, LTG Only)

6.4.8.4.1 General

The **cni.niaud** process can only be executed manually (using **515** on MCC page 1984). The following recovery procedures can be used if a **cni.niaud** failure is encountered.

6.4.8.4.2 CNI NIDATA Problems

The following steps are to recover from CNI NIDATA failures.

1. If the CNI NIDATA audit fails, read the failing audit from the ROP (see ROP example for ***location*** of error).

```
     DATA1 H'00000000     DATA2 H'00000000
     DATA3 H'00000000     DATA4 H'00000000

AUD NIDATA X  ERROR XXX NOT CORR REPORT COMPLETED

     SUPPLEMENTARY DATA FILE

xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxxx xxxxxxx <--- AUDIT ERROR WILL APPEAR HERE

AUD NIDATA X  COMPLETED
        X ERRORS FOUND
        X ERRORS CORRECTED
```

2. Refer to 235-600-750, *Output Message Manual* to define the error.
3. Correct the error. If necessary, consult your next level of support.
4. After correcting the error, re-execute the audits by entering the following command on MCC page 1984:

   CMD **515**
5. If the CNI audits still fail, escalate to your next level of support.

6.4.8.5 SSAUTO Errors In Boothook

1. If the following output was received, the RC insert failed.

   Response:

```
                .
                !!!!!!!!!!!!!!!!!  WARNING   !!!!!!!!!!!!!!!!!!
                 !!!!!!!!!!!!!!!!!  WARNING   !!!!!!!!!!!!!!!!!!
                .
                . SSAUTO: INSERT SUBSYSTEM 3 VIEW 15.10 FAILED
                .
                .         SEEK TECHNICAL ASSISTANCE
                .
                 !!!!!!!!!!!!!!!!!  WARNING   !!!!!!!!!!!!!!!!!!
                 !!!!!!!!!!!!!!!!!  WARNING   !!!!!!!!!!!!!!!!!!
```

If the preceding output was received, RC was probably not allowed. Perform the following steps:

a. Enter message:

MSG **ALW:RC;**

b. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

MSG **500**

Return to the documentation where the error occurred and continue with the transition.

c. If the error still occurs, ***escalate to your next level of support***.

6.4.8.6 NONCNIOFFC Errors In Boothook

1. If the output from boothook contained the following response, the office is a non-CNI office and the NONCNIOFFC process was not able to copy a file necessary for future CNI growth. Escalate to your next level of support before continuing the transition.

Response:

```
.
 !!!!!!!!!!!!!!!!!  WARNING   !!!!!!!!!!!!!!!!!!
 !!!!!!!!!!!!!!!!!  WARNING   !!!!!!!!!!!!!!!!!!
.
. NONCNIOFFC: CAN'T COPY xxxx FILE
.
.         SEEK TECHNICAL ASSISTANCE
.
 !!!!!!!!!!!!!!!!!  WARNING   !!!!!!!!!!!!!!!!!!
 !!!!!!!!!!!!!!!!!  WARNING   !!!!!!!!!!!!!!!!!!
.
.
. NONCNIOFFC FAILED
.
.
```

Where: xxxx is a CNI file required for future CNI growth.

2. If the output from boothook contained the following response, the office is a non-CNI office and the NONCNIOFFC process was not able to write to the CLKDATA file. The CLKDATA file is required for future CNI growth. Escalate to your next level of support before continuing the transition.

Response:

```
.
 !!!!!!!!!!!!!!!!!  WARNING   !!!!!!!!!!!!!!!!!!
```

```
 !!!!!!!!!!!!!!!!!  WARNING   !!!!!!!!!!!!!!!!!!

.

. NONCNIOFFC: CAN'T WRITE CLKDATA FILE

.

.         SEEK TECHNICAL ASSISTANCE

.

 !!!!!!!!!!!!!!!!!  WARNING   !!!!!!!!!!!!!!!!!!
 !!!!!!!!!!!!!!!!!  WARNING   !!!!!!!!!!!!!!!!!!

.

.

. NONCNIOFFC FAILED

.

.
```

6.5 ERROR DEFINITIONS — NON-TRANSITION RELATED

6.5.1 CLEAR AMA FAILURES

6.5.1.1 General

This recovery section is accessed when a failure occurs in the Enter stage while attempting to clear the AMA maps or convert the AMA configuration files to the new software release. These messages access and manipulate information on the odd-numbered MHDs. Access MCC page 123 (and MCC page 125 if more than 2 DFCs are equipped) and verify that the odd-numbered MHDs that were written with new data during the Enter stage are in an Off-Line (OFL) state.

Note that before the "clear AMA maps" and "convert AMA configuration files" messages are run, all of the tapes in the Enter stage should have been successfully read in. Verify that all the tapes that are to be read in the Enter stage have been successfully read in. If tapes remain to be read in during the Enter stage, return to Section 5 and finish reading in tapes. If all of the tapes in the Enter stage have been successfully read in, then escalate to your next level of support.

6.5.1.2 CLR:AMA-MAPS Failures

All output related to the **CLR:AMA-MAPS** command may be referenced in 235-600-700, *Input Messages Manual* and 235-600-750 *Output Messages Manual*.

6.5.1.3 CNVT:AMA-CONFIG Failures

All output related to the **CNVT:AMA-CONFIG** command may be referenced in 235-600-700, *Input Messages Manual* and 235-600-750 *Output Messages Manual*.

6.5.2 DUPLEX DISK FAILURES

The Disk Independent Operation (DIOP) feature provides the capability to maintain uninterrupted call processing when the essential duplex primary system disks (for example, MHDs 0 and 1) fail. The DIOP feature is also called Disk Limp Mode (DLM).

The switch is capable of sustaining operation in this mode indefinitely in the absence of other faults. If the office is a Common Channel Signaling (CCS) office, note that during DIOP, CCS trunk call processing is halted.

Note: No Automatic Message Accounting (AMA) will be written to disk during DIOP. The AMA data will be stored in the SM buffers. There is a possibility of loss of AMA data as the SM buffer space becomes full.

With duplex primary disk failures, the switch automatically tries to enter DLM operation. If this operation is successful, call processing is preserved.

Note: These steps provide a very basic approach for getting the disks back up. For duplex disk failures, escalate to your next level of support before attempting recovery actions.

The type of recovery actions taken for duplex disk failures during these procedures depend upon the following:

1. With duplex disk failures, has the system successfully entered DIOP and is call processing occurring?
2. What stage was being executed when the duplex disk failure occurred?

Basically, there are two types of recovery actions that are taken with duplex disk failures:

1. Recover from DIOP (repair one or both of the essential system's disks and boot the system)
2. Perform DIOP office dead start recovery.

See 235-105-250, *System Recovery Procedures* for additional information.

Generally, the first action is taken (recover from DIOP) if call processing is up. The second action is taken if call processing has been lost and is more severe in nature.

If duplex disk failures occur during the System Preparation or Begin stage, the problem should be corrected as it would during normal office operation. Once the problem is fixed, start the procedures over from the beginning of the implementation stage.

During these procedures, the disks (with the exception of the software backup disks) are simplexed during the Enter stage and remain simplexed until the Commit stage. The new software release load should not be booted on until the "UPD GEN PROCEED COMPLETED" message is received in the Proceed stage. If duplex disk failures occur prior to the "UPD GEN PROCEED COMPLETED" message, repair and restore MHD 0 and try to recover from DIOP on MHD 0.

If a disk is suspected of mutilation, then recovery from tape is necessary (office recovery using software backup disk).

If duplex disk failures occur in the Commit stage (the system goes into DIOP) and a decision is made to return to the old software release load, you should recover from DIOP using MHD 0 (old software release load). Once the system has been recovered on the old software release load, follow **"Backout Action B-3A or B-3B."** Refer to Table 7-1 and all pointers to other backout actions to restore the SMs and the system to the old software release load. The Backout Actions are located in the "Backout Procedures" Section of this document.

6.5.3 ACTIVE DISK SM OFF-LINE PUMP FAILURES

6.5.3.1 General

It is expected that this section will only be used during the off-line pump testing, which occurs in System Evaluation, 7 days before the transition.

Note: MCC page 181 can be used to monitor the pump status of the SMs only. ***Do not*** use any poke command from MCC page 181 unless directed to do so by this document or technical support personnel. Poke commands on MCC page 181 are intended for off-line SM pump from the off-line disks. The off-line pump in this section is for off-line pump from the active disks.

6.5.3.2 Assert Logged

Enter message:

MSG **ST:OPUMP,SM=a,ACTDISK,VFY,PERF;**

Comment: If the SM pumps successfully, the trouble has been cleared. Return to the procedures.

If the SM fails off-line pump again, dump the day log from the time of the assert and continue in accordance with local practice for asserts.

6.5.3.3 BTSR Bad Or Unavailable

1. Repair or replace bootstrapper (BTSR) board per local practice.
2. Enter message:

   MSG **ST:OPUMP,SM=a,ACTDISK,VFY,PERF;**

   Comment: If SM pumps successfully, trouble has been cleared. Return to the procedures.

   If SM fails pump again, escalate to your next level of support.

6.5.3.4 Cannot Connect Data Path

1. Ensure Office Network and Timing Complexes (ONTCs) are ACT MAJOR/MINOR.
2. Enter message:

   MSG **ST:OPUMP,SM=a,ACTDISK,VFY,PERF;**

   Comment: If SM pumps successfully, trouble has been cleared. Return to the procedures.

Note: If this response is received several times for a particular SM, the SM should be pumped at a period of low or minimum office traffic. If at that time the SM still does not pump successfully, escalate to your next level of support.

6.5.3.5 Cannot Open Disk File

1. Enter message:

   MSG **OP:STATUS,FILESYS;**

   Ensure that the following partitions are mounted:

   Response: **OP STATUS FILESYS STARTED**
   `/database on /dev/db read/write on` *`Day Month Time Year`* .

   .

```
/ on /dev/root read/write on Day Month Time Year
/etc on /dev/etc read/write on Day Month Time Year
        .
        .
        .
        .
        .
        .
        .
        .
```

If these partitions are mounted, continue with Step 2; otherwise, escalate to your next level of support.

2. Enter message:

   MSG **ST:OPUMP,SM=a,ACTDISK,VFY,PERF;**

   Comment: If SM pumps successfully, trouble has been cleared. Return to the procedures.

   If SM fails pump again, escalate to your next level of support.

6.5.3.6 Lack Of Progress

1. Enter message:

   MSG **ST:OPUMP,SM=a,ACTDISK,VFY,PERF;**

2. If SM pumps successfully, trouble has been cleared. Return to the procedures.
3. If SM fails pump again, access MCC page 181 and enter command:

   CMD **3** *XXX*

   Where: XXX = SM number.

   Response: **OK - PUMPING SMS WILL REPORT**

4. Enter message:

   MSG **ST:OPUMP,SM=a,ACTDISK,VFY,PERF;**

   Comment: If SM pumps successfully, trouble has been cleared. Return to the procedures.

   If SM fails pump again, escalate to your next level of support.

6.5.3.7 Mate Hashsum Errors

In the following steps, the ONTCs will be switched and the Pump Peripheral Controller (PPC) will be removed and restored to service. These actions reinitialize the data associated with these units and may resolve the mate hashsum error.

1. To switch the PPC, access MCC Page 1241 and enter command:

CMD **450**

2. Enter message:

   MSG **ST:OPUMP,SM=a,ACTDISK,VFY,PERF;**

   Where: A = the numbered SM with mate hashsum error

   Comment: If the SM pumps successfully, return to the procedures.

   If off-line pump still fails with hashsum errors, perform the following steps.

3. Access MCC page 1209 - ONTC 0 & 1, enter command:

   CMD **403** to switch ONTCs

4. When the command has finished executing, enter command:

   CMD **403** to switch ONTCs back

5. To remove PPC 0, enter message:

   MSG **RMV:PPC=0**

6. If the previous command has finished executing, to restore PPC 0, enter message:

   MSG **RST:PPC=0**

7. If the previous command has finished executing, to remove PPC 1, enter message:

   MSG **RMV:PPC=1**

8. If the previous command has finished executing, to restore PPC 1, enter message:

   MSG **RST:PPC=1**

9. Enter message:

   MSG **ST:OPUMP,SM=a,ACTDISK,VFY,PERF;**

   Where: A = the numbered SM with the mate hashsum error.

10. If the SM pumps successfully, the trouble has been cleared. Return to the procedures.

11. If a mate hashsum error is received again while attempting to off-line pump from the active disk, escalate to your next level of support.

6.5.3.8 Mate Not Ready

1. On MCC page 1190,x, ensure SM is ACTF/UNV before proceeding. Enter message to force SM if necessary:

   MSG **ORD:CPI=a,CMD=SW-x;**

   Where: a = SM number.
   x = side to be forced ACTIVE.

2. Enter message:

   MSG **ST:OPUMP,SM=a,ACTDISK,VFY,PERF;**

Comment: If the SM pumps successfully, the trouble has been cleared. Return to the procedures.

If the SM fails pump again, escalate to your next level of support.

6.5.3.9 Off-Line Verify Failure

Enter message:

MSG **ST:OPUMP,SM=a,ACTDISK,VFY,PERF;**

Comment: If the SM pumps successfully, the trouble has been cleared. Return to the procedures.

If the SM fails pump again, escalate to your next level of support.

6.5.3.10 PPC/TMS Failure

1. On MCC page 1209, ensure ONTCs are ACT MAJOR/MINOR before proceeding.
2. On MCC pages 1240 and 1250, ensure PPC 0 or 1 is active before proceeding.
3. Enter message:

   MSG **ST:OPUMP,SM=a,ACTDISK,VFY,PERF;**

   Comment: If SM pumps successfully, trouble has been cleared. Return to the procedures.

   If SM fails pump again, escalate to your next level of support.

6.5.3.11 Requested

1. If manually stopped, resolve trouble before proceeding.
2. Enter message:

   MSG **ST:OPUMP,SM=a,ACTDISK,VFY,PERF;**

   Comment: If the SM pumps successfully, the trouble has been cleared. Return to the procedures.

   If SM fails pump again, escalate to your next level of support.

6.5.3.12 All SMs Indicate MATE_OOD, No Error(s) Reported

If all SMs go from MATE_UPD to MATE_OOD without any error being reported, use the following message to reinitialize the pump control (PUCR) process.

1. To stop pumping in all SMs, access MCC page 181 and enter command:

   CMD **3000**

2. To reinitialize PUCR, enter message:

   MSG **INIT:AM,PUCR,FPI;**

   Response:

```
IP

PRM_0 EE00 xxxx xxxx 6122 xx xx xx

PRM_0 EE00 xxxx xxxx 6A00 xx xx xx

PRM_0 EE00 xxxx xxxx 7D00 xx xx xx

PRM_0 EE00 xxxx xxxx 0000 xx xx xx
```

```
PRM_0 EE00 xxxx xxxx 1000 xx xx xx
PRM_0 EE00 xxxx xxxx 6000 xx xx xx
```

3. To off-line pump all SMs, enter message:

   MSG **ST:OPUMP,SM=1&&x,ACTDISK,VFY,PERF;**

   Where: x = highest-numbered SM in office.

   Comment: If the SMs successfully pump, return to procedures in Section 5.

   If the SMs fail to pump, escalate to your next level of support.

6.5.4 OFF-LINE DISK SM OFF-LINE PUMP FAILURES

6.5.4.1 Assert Logged

1. To repump the SM, enter command on MCC pages 181 through 184:

   CMD **2***XXX*

   Where: XXX = SM number

   Comment: If SM pumps successfully, trouble has been cleared. Return to the procedures.

   If the SM fails off-line pump again, dump the day log from the time of the assert and continue in accordance with local procedures for asserts.

6.5.4.2 BTSR/Pump HW Bad Or Unavailable

1. Check state of BTSR. If BTSR is Active (ACT), go to Step 2. If BTSR is Out-Of-Service (OOS), restore it and repump the SM, by entering the following command on MCC pages 181 through 184:

   CMD **2***XXX*

   Where: XXX = SM number

   Comment: If SM pumps successfully, trouble has been cleared. Return to the procedures.

   If SM fails pump again, continue with the following procedures.

2. Repair or replace BTSR board per local practice.
3. To repump the SM, enter command on MCC pages 181 through 184:

   CMD **2***XXX*

   Where: XXX = SM number

   Comment: If SM pumps successfully, trouble has been cleared. Return to the procedures.

   If SM fails pump again, escalate to your next level of support.

6.5.4.3 Cannot Connect Path

1. On MCC page 1209, ensure ONTCs are ACT MAJOR/MINOR.
2. To repump the SM, enter command on MCC pages 181 through 184:

   CMD **2***XXX*

Where: XXX = SM number

Comment: If SM pumps successfully, trouble has been cleared. Return to the procedures.

If SM fails pump again, escalate to your next level of support.

6.5.4.4 Cannot Open Disk File

1. Check if the **mop** process is running by entering the following command on MCC page 1984:

   CMD **510**

   If mop is not running and there are no off-line partitions mounted, proceed to Step 5.

   If mop is running and/or partitions are mounted, continue with Step 2.

2. To unmount off-line disk file systems, access MCC Page 1984 and enter command:

   CMD **609**

   Response:
   ```
   UPD:GEN:APPLPROC,ARG="STOPMOP";
   UPD GEN APPLPROC EXECUTING THE FOLLOWING TRANSITION
   TOOL:
   /no5text/prc/mop
   [PRM_0 E800 0002 xx03 xxxx xx xx xx] (may be received several
   times)
   UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
   ```

3. To ensure that the mop command is no longer running, access MCC page 1984 and enter command:

   CMD **510**

   Response:
   ```
   UPD:GEN:APPLPROC,ARG="ISMOP";
   UPD GEN APPLPROC EXECUTING THE FOLLOWING TRANSITION
   TOOL:
   /prc/supr/ismop
   UPD GEN APPLPROC ISMOP REPORT
   ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! NOTICE ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
   ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! NOTICE ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
   .
   . MOP IS NOT RUNNING
   .
   . THERE ARE NO OFFLINE PARTITIONS MOUNTED
   .
   . ISMOP COMPLETE
   .
   ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! NOTICE ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
   ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! NOTICE ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
   UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
   ```

4. If mop is running and/or off-line partitions are mounted, escalate to your next level of support.

5. Access MCC page 1984 and enter command:

   CMD **509**

Caution: The file systems that are mounted in this step are necessary to off-line pump the CMPs and the SMs. Continuing before the off-line file systems are mounted could result in off-line pump failures. Wait for the UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY message to be output before proceeding.

Response: **UPD:GEN:APPLPROC,ARG="MOP";**

```
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:

CHG:LPS,MSGCLS=INT_MON,PRINT=ON,LOG=ON;

CHG:LPS,MSGCLS=INT_MON,PRINT=ON,LOG=ON; OK

UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:

CHG:LPS,MSGCLS=GENRMON,PRINT=ON,LOG=ON;

CHG:LPS,MSGCLS=GENRMON,PRINT=ON,LOG=ON; OK

UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:

CHG:LPS,MSGCLS=INT,PRINT=ON,LOG=ON;

CHG:LPS,MSGCLS=INT,PRINT=ON,LOG=ON; OK

UPD GEN APPLPROC EXECUTING THE FOLLOWING TRANSITION TOOL:

/no5text/prc/INoflmop

PRM_O E800 xxxx xxxx xxxx xx xx xx (appears several times)

UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

6. To repump the SM, enter command on MCC pages 181 through 184:

   CMD **2XXX**

   Where: XXX = SM number with error

   Comment: If the SM pumps successfully, the trouble has been cleared. Return to the procedures.

   If the SM fails pump again, escalate to your next level of support.

6.5.4.5 Critical Mate MP Errors

Escalate to your next level of support.

6.5.4.6 In Progress

Perform one of the following (Step 1 *or* 2):

1. Wait until pump finishes.
2. Perform steps "a" and "b":
   a. To stop off-line pump, enter command on MCC pages 181 through 184:

      CMD **3XXX**

      Where: XXX = SM number with error

   b. To repump the SM, enter command on MCC pages 181 through 184:

      CMD **2XXX**

Where: XXX = SM number with error

6.5.4.7 Inconsistent SM Numbers

Escalate to your next level of support.

6.5.4.8 Lack of Progress

1. If all of the SMs are mate updating (MATE_UPD) from an OP:SYSSTAT,UCL report, wait 15 minutes. It takes approximately 15 minutes for the first response from off-line pump. The SMs then pump at a rate of 1 every 2 to 4 minutes.
2. If some of the SMs indicate mate updating (MATE_UPD) while other SMs indicate either "MATE PUMP" or "MATE OOD" (from an OP:SYSSTAT,UCL report) and a period of 10 minutes has elapsed since the last SM pumped, enter message:

   MSG **INIT:AM,PUCR,FPI;**

   Response:

   ```
   IP

   PRM_0 EE00 xxxx xxxx 6122 xx xx xx

   PRM_0 EE00 xxxx xxxx 6A00 xx xx xx

   PRM_0 EE00 xxxx xxxx 7D00 xx xx xx

   PRM_0 EE00 xxxx xxxx 0000 xx xx xx

   PRM_0 EE00 xxxx xxxx 1000 xx xx xx

   PRM_0 EE00 xxxx xxxx 6000 xx xx xx
   ```

   Comment: This message reinitializes the pump control (PUCR) process.
3. After reinitializing PUCR, wait 15 minutes. Enter OP:SYSSTAT,UCL to get the status of the SMs. Those SMs indicating "MATE_UPD" should change one at a time to "MATE_PUMP." If new SMs have not indicated "MATE_PUMP," or no progress is being made, continue with the following procedures.
4. For any SM that indicates "MATE OOD" from an OP:SYSSTAT,UCL report, to repump the SM, enter command on MCC pages 181 through 184:

   CMD **2XXX**

   Where: XXX = any SM indicating "MATE OOD."

   Comment: SM "a" should change after several minutes from a "MATE OOD" to a "MATE UPD" as a result of restarting off-line pump. Entering the OP:SYSSTAT,UCL message will cause the status for all SMs to be printed on the ROP.
5. Repeat the Step 4 for other SMs indicating "MATE_OOD".
6. If the SM or SMs pump successfully (MATE_PUMP), trouble has been cleared and progress is being made. Continue to monitor the progress of off-line pump by periodically entering the OP:SYSSTAT,UCL message. Return to the procedures. If no progress is being made, continue with the following procedures.
7. If SM fails pump again, access MCC page 181 and enter command:

   CMD **3XXX**

Where: XXX = SM number.

Response: **OK - PUMPING SMS WILL REPORT**

8. To repump the SM, enter command on MCC pages 181 through 184:

   CMD **2XXX**

   Where: XXX = SM number with error

   Comment: If SM pumps successfully, trouble has been cleared. Return to the procedures.

   If SM fails pump again (MATE_ODD), escalate to your next level of support.

6.5.4.9 Mate Hashsum Errors

In the following steps, the ONTCs will be switched and the PPC will be removed and restored to service. These actions reinitialize the data associated with these units and may resolve the mate hashsum error.

1. To switch the PPC, access MCC Page 1241 and enter command:

   CMD **450**

2. To repump the SM, enter command on MCC pages 181 through 184:

   CMD **2XXX**

   Where: XXX = the numbered SM with the mate hashsum error.

   Comment: If the SM pumps successfully, return to the procedures.

   If the off-line pump still fails with hashsum errors, perform the following steps.

3. To switch ONTCs, access MCC page 1209 - ONTC 0 & 1 and enter command:

   CMD **403**

4. When the command has finished executing, to switch ONTCs back, enter command:

   CMD **403**

5. To remove PPC 0, enter message:

   MSG **RMV:PPC=0**

6. If the previous command has finished executing, to restore PPC 0, enter message:

   MSG **RST:PPC=0**

7. If the previous command has finished executing, to remove PPC 1, enter message:

   MSG **RMV:PPC=1**

8. If the previous command has finished executing, to restore PPC 1, enter message:

   MSG **RST:PPC=1**

9. To repump the SM, enter command on MCC pages 181 through 184:

CMD **2XXX**

Where: XXX = the numbered SM with the mate hashsum error.

10. If the SM pumps successfully, trouble has been cleared. Return to procedures.
11. If a mate hashsum error is received again while attempting to off-line pump from the off-line disk, escalate to your next level of support.

6.5.4.10 Mate Not Ready

1. Verify that the status of the MCTSI is not **ACTF/UNVP** . This status indicates the MCTSI on side 1 is unavailable due to loss of power. Verify the MCTSI is powered up before continuing.
2. On MCC page 1190,x, ensure SM is ACTF/UNV before proceeding. Enter message to force SM if necessary:

   MSG **ORD:CPI=a,CMD=SW-x;**

   Where: a = SM number.
   x = side to be forced ACTIVE.
3. If the MCTSI has a bootstrapper, remove the bootstrapper by entering the following command on MCC page 1190,x (where x = SM number):

   CMD **202**
4. If the bootstrapper was removed in the previous step, restore the bootstrapper by entering the following command on MCC page 1190,x:

   CMD **302**
5. To repump the SM, enter command on MCC pages 181 through 184:

   CMD **2XXX**

   Where: XXX = SM number with error

   Comment: If SM pumps successfully, trouble has been cleared. Return to the procedures.

   If SM fails pump again, escalate to your next level of support.

6.5.4.11 Off-Line Verify Failed

To repump the SM, enter command on MCC pages 181 through 184:

CMD **2XXX**

Where: XXX = SM number with error

Comment: If SM pumps successfully, trouble has been cleared. Return to the procedures.

If SM fails pump again, escalate to your next level of support.

6.5.4.12 PPC/TMS Problem

1. On MCC page 1209, ensure that the ONTCs are ACT MAJOR/MINOR before proceeding.
2. On MCC pages 1240 and 1250, ensure that PPC 0 or 1 is active before proceeding.
3. To repump the SM, enter command on MCC pages 181 through 184:

CMD **2XXX**

Where: XXX = SM number with error

Comment: If SM pumps successfully, trouble has been cleared. Return to the procedures.

If SM fails pump again, escalate to your next level of support.

6.5.4.13 Requested

1. If manually stopped, resolve trouble before proceeding.
2. To repump the SM, enter command on MCC pages 181 through 184:

   CMD **2XXX**

   Where: XXX = SM number with error

   Comment: If SM pumps successfully, trouble has been cleared. Return to the procedures.

   If SM fails pump again, escalate to your next level of support.

6.5.4.14 All SMs Indicate MATE_OOD, No Error(s) Reported

If all SMs go from MATE_UPD to MATE_OOD without any error being reported, use the following message to reinitialize the pump control (PUCR) process.

1. To reinitialize PUCR, enter message:

   MSG **INIT:AM,PUCR,FPI;**

   Response:

```
IP

PRM_0 EE00 xxxx xxxx 6122 xx xx xx

PRM_0 EE00 xxxx xxxx 6A00 xx xx xx

PRM_0 EE00 xxxx xxxx 7D00 xx xx xx

PRM_0 EE00 xxxx xxxx 0000 xx xx xx

PRM_0 EE00 xxxx xxxx 1000 xx xx xx

PRM_0 EE00 xxxx xxxx 6000 xx xx xx
```

2. To off-line pump all SMs, enter command on MCC page 181:

   CMD **2000**

   Comment: If the SMs pump successfully, return to the procedures in Section 5. If the SMs fail to off-line pump, escalate to your next level of support.

6.5.5 PERIPHERAL OFF-LINE PUMP ERROR CODES

6.5.5.1 Peripheral Side Failed To Off-Line Pump

Warning: In the event of a peripheral pump failure, DO NOT execute a 500 poke as this would cause the entire SM to pump again.

Note: In the following recovery procedure, the term ISLU can also mean RISLU.

1. Identify which SMs failed the peripheral pump action due to non-duplexed ISLUCCs.
2. Verify that all ISLUCCs in the failing SM are duplex. The attempted off-line pump may leave the ISLUCCs in an OOS state. When duplex, the ISLUCC will be in an ACT/STBY configuration. Verify that the Active (ACT) ISLUCC is on the same side as the Active (ACT) MCTSI. Thus, if MCTSI 0 has been forced Active (ACT), ISLUCC 0 should also be Active (ACT). (ISLUCC 1 should be standby.)
   a. On MCC page 1190,x (where x is the SM which failed the peripheral off-line pump), note which MCTSI is forced ACT.
   b. On MCC page 1010,x (where x is the SM which failed the peripheral off-line pump), note which ISLUs are equipped in the SM.
   c. Access MCC page 170y,x (where y is an equipped ISLU and x is the SM which failed off-line pump).
   d. To restore the OOS ISLUCC, enter command:

      CMD **30X**

      Where: X = OOS ISLUCC

      Response: **DGN ISLUCC=**x-y-z **ATP PH** v
      RST ISLUCC=x-y **COMPLETED**

      Note: CATP is an acceptable response for phase 1. The CATP occurs when the MCTSIs are not duplex.
   e. After the ISLUCC restoral is finished, verify the ACT ISLUCC is on the ***same*** side as the ACT MCTSI. To switch ISLUCCs, access MCC page 170y,x and enter command:

      CMD **400**

      Response: **SW ISLUCC** x- y **COMPLETED**
   f. Repeat Steps c through e for each ISLU in the failing SM.
3. To pump the SM peripherals, enter command on MCC pages 181 through 184:

   CMD **4XXX**

   Where: XXX = SM number with error

   Comment: If the SM successfully completes the pump (indicates **MATE PUMP** on MCC pages 181 through 184), continue with the procedure 4.b. If the SM still does not indicate **MATE PUMP**, continue with step 4.a.
4. Proceed with the following steps:
   a. If the entire SM needs to be repumped, enter command on MCC pages 181 through 184:

      CMD **2XXX**

      Where: XXX = SM number with error

      Comment: If the error still persists, escalate to your next level of support.

b. If this attempt to perform a peripheral pump is successful, and all SMs are MATE PUMP on MCC pages 181 through 184, execute the following command on MCC page 1985:

CMD **500**

5. The preceding 500 command returns the switch to the SM offline pump pause shown in Figure 5-15. To continue, enter the following command.

CMD **500**

6. Verify MCC page 1985 looks like Figure 5-19 in Section 5.5.7, if so continue with Section 5.6.

7. If peripherals continue to fail pump and an office wants to continue, execute the following steps:

a. Go to MCC page 1989

b. Turn off the Automatic SM Off-Line Pump feature by entering the following command.

CMD **405,n**

c. To resume, go to MCC 1985, and enter the following command:

CMD **500**

d. The preceding 500 command returns the switch to the SM offline pump pause shown in Figure 5-15. To continue, enter the following command.

CMD **500**

The retrofit will continue forward, even though some peripherals **may not** be pumped.

8. Verify MCC page 1985 looks like Figure 5-19 in Section 5.5.7, if so continue with Section 5.6.

9. If the attempt to perform a peripheral pump fails again, and it is desirable to backout, execute Backout procedure B-9 in the Backout Section of this manual.

6.5.5.2 Peripheral Side Failed To Restore To Duplex

1. To restore the OOS ISLUCC, enter command:

CMD **30X**

Where: X = OOS ISLUCC

Response: **DGN ISLUCC=x -y-z ATP PH v**
RST ISLUCC=x-y COMPLETED

Note: CATP is an acceptable response for phase 1. The CATP occurs when the MCTSIs are not duplex.

2. After the ISLUCC restoral is finished, verify the ACT ISLUCC is on the ***same*** side as the ACT MCTSI. To switch ISLUCCs, access MCC page 170y,x and enter command:

CMD **400**

Response: **SW ISLUCC -**xy **COMPLETED**

3. If the error still persists, escalate to your next level of support.

6.5.6 ORD:CPI CLEAR FORCE TROUBLES

6.5.6.1 Fault

1. On MCC page 1209, ensure that the ONTCs are ACT MAJOR/MINOR before proceeding.
2. Enter message:

   MSG **ORD:CPI=a,CMD=CLR;**

   Where: a = any numbered SM that indicates **FORCED** on MCC page 141.
3. If force clears successfully, trouble has been cleared. Return to the procedures.
4. If SM fails switch again, enter message:

   MSG **DGN:MI=x,PH=6;**

   Where: x = number of ACT-MAJOR ONTC
5. Access MCC page 1209 and enter command:

   CMD **30X,UCL**

   Where: X = number of OOS ONTC
6. On MCC page 1209, ensure that the ONTCs are ACTIVE MAJOR/MINOR before proceeding.
7. If diagnostic returns ATP, enter message:

   MSG **ORD:CPI=a,CMD=CLR;**

   Where: a = any numbered SM that indicates **FORCED** on MCC page 141.
8. If diagnostic fails, repair Message Interface (MI) and retest until ATP, then enter message:

   MSG **ORD:CPI=a,CMD=CLR;**

   Where: a = any numbered SM that indicates **FORCED** on MCC page 141.

   Comment: If force clears successfully, trouble has been cleared. Return to the procedures.

   If force fails to clear again, escalate to your next level of support.

6.5.6.2 Status Unknown

Same as FAULT.

6.5.6.3 Time-Out

Same as FAULT.

6.5.7 ORD:CPI SWITCH AND FORCE TROUBLES

6.5.7.1 Fault

1. On MCC page 1190,x, ensure that the MCTSIs are ACT/STBY before proceeding.
2. On MCC page 1209, ensure that the ONTCs are ACT MAJOR/MINOR before proceeding.
3. Enter message:

MSG **ORD:CPI=a,CMD=SW-B,UCL;**

Where: a = SM number
b = side (0 or 1) to be ACTF

4. If switch and force is successful, trouble has been cleared. Return to the procedure.
5. If switch and force fails on an RSM, enter command**401** on MCC page 1190,x to switch remote link interfaces (RLIs). Repeat Steps 1 through 4.
6. If switch and force fails on an SM, enter command **400** on MCC page 1190,x to switch MCTSIs. Repeat Steps 1 through 4.
7. If switch and force still fails, enter message:

   MSG **DGN:MI=x,PH=6;**

   Where: x = number of ACT-MAJOR ONTC

   Comment: Wait for diagnostic to complete.

   If diagnostic fails, repair MI and retest until ATP before proceeding.
8. Access MCC page 1209 and enter command:

   CMD **30X,UCL**

   Where: X = number of OOS ONTC
9. Repeat Steps 1 through 4.
10. If switch and force still fails, escalate to your next level of support.

6.5.7.2 Status Unknown

1. Verify that diagnostics are not running in the SM with the "STATUS UNKNOWN." If diagnostics are running, stop them and re-execute the "ORD:CPI" message for the SM in question. If this resolves the problem, return to the procedures. If diagnostics are not currently running in the SM, continue with the following procedures.
2. Access MCC page 1190 for the SM with "STATUS UNKNOWN" (1190,x where x is the failing SM). To switch MCTSIs, enter command:

   CMD **403**
3. Once the command has finished executing and the MCTSIs are switched, to switch MCTSIs back, enter command:

   CMD **403** Once the command has finished executing and the MCTSIs are switched back, enter message:

   MSG **ORD:CPI=x,CMD=SW-0;**
4. If switch and force still fails, to switch ONTCs, on MCC page 1209 enter command:

   CMD **403**
5. When the command has finished executing, to switch ONTCs back, enter command:

   CMD **403**

6. Once the command has finished executing and the ONTCs are switched back, the message in this step may be entered. Enter message:

   MSG **ORD:CPI=a,CMD=SW-B,UCL;**

   Where: a = SM number
   b = side (0 or 1) to be ACTF

   Comment: If the switch and force is successful in making MCTSI-0 active forced (ACTF) and MCTSI-1 unavailable (UNV), repeat Steps 1 through 5 for other SM(s) that failed the switch and force and returned "STATUS UNKNOWN." Once all SMs have been switched and forced MCTSI-0 ACTF and MCTSI-1 UNV, return to the procedures.

7. If problems still persists in switching and forcing the SM(s) after trying all the recovery actions to this point, escalate to your next level of support.

6.5.7.3 Time-Out

Same as FAULT.

6.5.7.4 Unable to Switch

Same as FAULT.

6.5.8 RC AND CORC ROLL FORWARD PROBLEMS

6.5.8.1 General

This section contains information for determining why RCs could not be rolled forward. This section also contains procedures to recover from these problems.

1. Before attempting the following recovery actions, another attempt to roll forward the recent changes should be made (using the following lettered steps).

   Note: If any unit failed to roll forward RCs, an indication of**RC BACKOUT** will be shown on the appropriate MCC page.

   If after attempting the following lettered steps, the unit still does not complete RC roll forward, continue with the Step 2.

   a. If RCs failed to roll forward in the AM (AM indicates **RC BACKOUT** on MCC page 110), enter message:

      MSG **EXC:ODDRCVY=ALL,AM;**

   b. If RCs failed to roll forward in an SM (SM indicates **RC BACKOUT** on MCC page 1800,x), enter message:

      MSG **EXC:ODDRCVY=ALL,SM=x;**

      Where: x = SM that failed to roll forward RCs

   c. If RCs failed to roll forward in CMP 0-0 (CMP indicates **RC BACKOUT** on MCC page 1850 or 1851), enter message:

      MSG **EXC:ODDRCVY=ALL,CMP=0-0;**

   d. If RCs failed to roll forward in CMP 1-0 (CMP indicates **RC BACKOUT** on MCC page 1850 or 1851), enter message:

      MSG **EXC:ODDRCVY=ALL,CMP=1-0;**

2. Access MCC page 1984 and enter command:

CMD **501,setoddbk**

3. The RCs that will be rolled forward on the new software release load will be stored in log files. The AM and CMP RCs will be stored in **/log** and the SM RCs will be stored in **/smlog**.

   To list the files in "/log," enter message:

   MSG **OP:STATUS,LISTDIR,FN="/log";**

   This message is equivalent to entering an "ls -ls" command in the shell. A truncated example of its output follows:

```
 1      2            3     4            5          6          7
210 -rwxrwxrwx       1    root        105608  Jun 22 03:53  cplog
101 -rwxrwxrwx       1    root         55725  Jun 22 03:53  cmp0rc
 ..   ...            .    ..           ...       ....       ...
```

4. To list the files in /smlog, enter message:

   MSG **OP:STATUS,LISTDIR,FN="/smlog";**

   This message is equivalent to entering an "ls -ls" command in the shell. A truncated example of its output follows:

```
   1      2           3      4            5          6          7
  82 -rw-r--r--       1    root         41440  Jun 22 03:56  im1rc
  96 -rw-r--r--       1    root         48440  Jun 22 03:56  im2rc
  ..   ...            .    ..           ...       ....       ...
  ..   ...            .    ..           ...       ....       ...
  13 -rw-r--r--       1    root          5888  Jun 22 03:56  im17rc
   7 -rw-r--r--       1    root          3076  Jun 22 03:53  im18rc
```

   The RCs applicable to the AM are stored in **/log/cplog** . The RCs applicable to the SMs are stored in log files **/smlog/im1rc**, **/smlog/im2rc**, etc.

   Check columns 1 and 5. Those two columns contain the number of blocks and bytes, respectively, in the AM log file (**/log/cplog**) and each SM log file (/smlog/im__rc). The "im__rc" file sizes generally indicate which SMs have a lot of RC activity.

5. If attempts to roll forward RCs fail, error log files (cplog.err for the AM and im_rc.err for the SMs) will be created in "/log" and "/smlog." The error files cannot be dumped to the printer. They must be dumped using the RC decode message,"EXC:RCDECODE."

If RC(s) in any of the SMs fail to roll forward, the message to decode the SM RC error log file should be entered.

To decode the SM RC error log files, enter message:

MSG **EXC:RCDECODE,ERRLOG,SM=a,ROP;**

Where: a = SM number with RC roll forward aborting.

Comment: The error log will be dumped at the ROP.

6. If RC(s) in the AM fail to roll forward, the message to decode the AM RC error log file should be entered. To decode the AM RC error log file, enter message:

   MSG **EXC:RCDECODE,ERRLOG,AM,ROP;**

   Comment: The error log will be dumped at the ROP.

7. If the RCs in the CMP fail to roll forward, the message to decode the CMP RC error log file should be entered. To decode the CMP RC error log file, enter message:

   MSG **EXC:RCDECODE,ERRLOG,CMP=0-x,ROP;**

   Where: x is 0 for CMP 0-0, or
   x is 1 for CMP 0-1.

   Comment: The CMP error log will be dumped at the ROP.

8. Examine the output from the RC error log file. This output may give a clue as to why the RC cannot be rolled forward. If the RC error log files indicate some correctable problem, attempt to fix it and try to roll forward the RCs on the AM or SM which is failing.

   To roll forward RCs in the AM, enter message:

   MSG **EXC:ODDRCVY=ALL,AM;**

   To roll forward RCs in all SMs, enter message:

   MSG **EXC:ODDRCVY=ALL,SM=1&&x;**

   Where: x = highest numbered SM

   To roll forward RCs for CMP 0-0, enter message:

   MSG **EXC:ODDRCVY=ALL,CMP=0-0;**

   To roll forward RCs for CMP 1-0, enter message:

   MSG **EXC:ODDRCVY=ALL,CMP=1-0;**

   If the RC error log file does not provide sufficient information to identify the problem, continue with the following procedures.

9. If the RCs are failing to roll forward in an SM, access MCC page 1800,x (where x = SM with RC roll forward aborts). Verify that box 07 "RC BKOUT" is backlit. If box 07 is ***not*** backlit, enter command:

   CMD **407**

On MCC page 1800,x, box 07 "RC BKOUT" should be backlit. A number should be present on the third line of box 07. The number has the following meaning:

- From 100 to 0 is RC backout (100 means RCs are still fully backed out; 0 meaning RC is fully rolled forward).

10. Repeat the previous step for all remaining SMs that have failed to fully roll forward RCs.
11. If the RCs are failing to roll forward in CMP 0-0, access MCC page 1850. Verify that box 07 "RC BKOUT" is backlit. If box 07 is ***not*** backlit, enter command:

    CMD **407**

    On MCC page 1850, box 07 should be backlit. A number should be present on the third line of box 07 showing the progress of the backout. The number has the following meaning:

    - From 100 to 0 is RC backout (100 means RC is still fully backed out; 0 meaning RC is fully rolled forward).

12. If the RCs are failing to roll forward in CMP 1-0, access MCC page 1851. Verify that box 07 "RC BKOUT" is backlit. If box 07 is ***not*** backlit, enter command:

    CMD **407**

    On MCC page 1851, box 07 should be backlit. A number should be present on the third line of box 07 showing the progress of the backout. The number has the following meaning:

    - From 100 to 0 is RC backout (100 means RC is still fully backed out; 0 meaning RC is fully rolled forward).

13. If the RCs are failing to be rolled forward in the AM, access MCC page 110. Verify that box 21 "RC BKOUT" is backlit. If box 21 is ***not*** backlit, enter command:

    CMD **421**

    On MCC page 110,x, box 21 "RC BKOUT" should be backlit. A number should be present on the third line of box 21 showing the progress of the backout. The number has the following meaning:

    - From 100 to 0 is RC backout (100 means RC is still fully backed out; 0 meaning RC is fully rolled forward).

14. To obtain a list of the number of RCs to be rolled forward in the AM, CMP, and SMs, enter message:

    MSG **OP:RCSTAT,AM,CMP=0,SM=1&&x;**

    Where: x = highest numbered SM.

    Response:

```
                OP RCSTAT

           AM  NO.  OF RC=x

               CMP= 0 NO. OF RC= y        SM= n NO.  OF  RC=z

        OP RCSTAT
```

```
AM LOG IS x PERCENT FULL
SM LOG IS x PERCENT FULL
CMP LOG IS x PERCENT FULL
RED LOG IS x PERCENT FULL

OP RCSTAT COMPLETED
```

15. If RCs have not been rolled forward, attempt to roll forward RCs in the AM, enter message:

    MSG **EXC:ODDRCVY=ALL,AM;**

16. If RCs have not been rolled forward, attempt to roll forward RCs in an SM, enter message:

    MSG **EXC:ODDRCVY=ALL,SM=x;**

    Where: x = SM number with RCs to be rolled forward.

17. Repeat last step for other SM(s) that have RCs to be rolled forward.

18. To roll forward RCs for CMP 0-0, enter message:

    MSG **EXC:ODDRCVY=ALL,CMP=0-0;**

19. To roll forward RCs for CMP 1-0, enter message:

    MSG **EXC:ODDRCVY=ALL,CMP=1-0;**

20. If RCs are failing to be rolled in the AM, escalate to your next level of support.

21. If RCs are still aborting for SMs, access *5ESS*® switch RC/VFY and make a manual RC on the SM that is failing to roll forward the RCs. After the RC has been made, try to roll forward RCs for the SM in question. If the RC(s) fails to roll forward, ***escalate to your next level of support***.

6.5.8.2 OSPS Recent Change Evolution And Roll-Forward Failures

Warning: Perform the following step ONLY if you are an OSPS office AND have NOT used the OSPS recent change evolution and roll-forward processes due to a failure.

1. To apply OSPS RCs, enter message:

   MSG **EXC:RCRLS,CLERK=RCNEWOSPS;**

   Response:
   ```
   EXC RCLS, CLERK=RCNEWOSPS STARTED
   EXC RCLS, CLERK=RCNEWOSPS COMPLETED
   FAILURES=xx,APPLIED=yy
   ```

2. Examine the values recorded in Step 3 of Section 6.5.10.3 If**AUTO RECONFIG** *or* **SCHED IFLOW** were **Y** for your office, proceed with the following:

   At an RCV terminal or the MCC, access MCC page 196.

```
Form       8.9U     (accesses RCV 8.9)
*1. OFFICE ID       ______ (enter your office ID)
Screen #       6      (accesses screen 6 of 11)
```

3. Change the values in fields 126 (AUTO RECONFIG) and 127 (SCHED IFLOW) to match those recorded on the "old" software release.

```
                          5ESS SWITCH
SCREEN 6 OF 11            RECENT CHANGE 8.9
                       OSPS OFFICE PARAMETERS


     CAMA OPTIONS              CARRIER ID              INTERFLOW
110. ANIF TRBL RPT _       117. ROUTE      ___      122. Q DRN TIME _
111. TRANS OFC     _       118. CONF       ___      123. OSPS ID    ___
                           119. ICOS       ___      124. IFNAME     ___
    COIN TROUBLE          #120. LSTG SVC   ___      125. IFTRANSID  ___
112. FRAUD NUM  ___       #121. EMER INTER ___
113. CREDIT NUM ___                                 AUTO RECONFIGURATION
                                                    126. AUTO RECONFIG _
    BLV OPTIONS                                     127. SCHED IFLOW    _
114. BLV         _
115. BLV DAS     __
116. SCREEN IDX  ____
```

4. Exit Recent Change.

6.5.9 RECENT CHANGE AND CORC REAPPLICATION TROUBLES (RETROFIT, LTG ONLY)

Note: If you have backed out of the transition after executing any part of Section 5.10.6, and are proceeding forward for the second time, and you are experiencing CORC and/or RC reapplication troubles, seek technical assistance.

In addition to procedures to stop RC reapplication and a set of ODD backup guidelines to be used during RC and CORC reapplication, this section also contains procedures to recover from the following troubles:

- Recent change log 80 percent or 85 percent full
- Recent change log 90 percent full
- CORC reapplication aborts
- No response from the recent change reapplication process for a long period of time

- Recent change reapplication aborts/stops (automatically or manually).

6.5.9.1 Stopping RC Reapplication

Note: The following message will terminate RC reapplication, do not enter the following command unless directed to do so by this document or technical support personnel.

To stop RC reapplication, the following message is used:

MSG **STP:RCRLS;**

6.5.9.2 ODD Backup Guidelines

6.5.9.2.1 Overview

An ODD backup should be performed under the following circumstances:

a. The output message "* REPT RCV: RCLOG { 80 | 85 } PERCENT FULL" is received.

b. The response to the OP:RCSTAT input message indicates that the AM LOG (AM ODD), SM LOG (SM ODD), or RED LOG (redundant ODD) space is greater than 75 percent full, or

c. Whenever the reapplication process is stopped (that is, aborts or is manually stopped).

Note: The ODD backup and RC reapplication processes may be executed simultaneously. However, several things should be considered. First, there is a window, as the AM and each SM is backed up, where a valid RC may not reapply if the RC is associated with the module being backed up. The number of RCs involved will be small, usually 1 or 2 per module. The failed RCs may be applied later either manually or by re-executing the RC reapplication process.

Stopping the RC reapplication process will avoid the problem of the failed RCs due to ODD backup. However the ODD backup process may take from 3 to 5 minutes per module. An office backing up a large number of SMs should consider the total amount of time required to complete the ODD backup.

1. Enter message:

   MSG **OP:RCSTAT,SM=1&&x,AM;**

   Where: x = highest numbered SM in the office.

   Response:

```
OP RCSTAT

AM  NO. OF RC=x

SM= 1 NO.  OF  RC=x

SM= 2 NO.  OF  RC=x

SM= 3 NO.  OF  RC=x

 .

 .

 .
```

```
SM= n NO.  OF  RC=x

OP RCSTAT


AM LOG PERCENT FULL =xx

SM LOG PERCENT FULL = xx

RED LOG PERCENT FULL = xx
```

2. The ODD backup may be performed on just the AM, a range of SMs, all SMs, or the redundant ODD. Offices may wish to backup selected SMs to reduce the size of the SM log file. Refer to 235-600-700, *Input Message Manual*, for the appropriate input messages.

6.5.9.2.2 Recent Change Log 80 Percent Or 85 Percent Full

Perform an ODD backup using Section 6.5.9.2.

6.5.9.2.3 Recent Change Log 90 Percent Full

When the RC reapplication process fills up the recent change buffers in **/log** and **/smlog** to 90 percent of capacity, the process should be stopped, the ODD backed up, and the reapplication process restarted.

1. To stop the RC reapplication process, enter message:

   MSG **STP:RCRLS;**

   Response: **STP RCRLS COMPLETED**
   RC BATCH ERROR *view* **NOT UPDATED** *xxx* **TERM-ID = tty***x*
   EXC RCRLS CLERK = RCNEW ODDEVOL ABORTED FAILURES=*x*, **APPLIED=***x*

   Warning: It may take up to 20 minutes to receive the abort message. In all cases, you must wait for it to be output before proceeding.

2. Verify that the abort message has been received before proceeding.
3. Stop all recent change activity in the office, including Remote Memory Administration System (RMAS).
4. The following input messages will clear any open RC transactions.

   a. Enter message:

      MSG **AUD:TRNDC,SM=1&&x;**

      Where: x = highest numbered SM in the office.

      Response: **AUD SM=1 TRNDC COMPLETED ERRORS=***a* **EVENT=***b*
      AUD SM=*x* **TRNDC COMPLETED ERRORS=***a* **EVENT=***b*

      Comment: Before entering the next message, wait for output reports from all SMs.

   b. Enter message:

      MSG **AUD:TRNDC,ENV=OKP;**

      Response: **AUD ENV=OKP TRNDC COMPLETED ERRORS=***a* **EVENT=***b*

Comment: Before entering the next message, wait for output report.

c. Enter message:

MSG **AUD:MEMMAN,ENV=OKP;**

Response: **AUD ENV=OKP MEMMAN COMPLETED ERRORS=***a* **EVENT=***b*

Comment: Before entering the next message, wait for output report.

d. Enter message:

MSG **AUD:MEMMAN,SM=1&&x;**

Where: x = highest numbered SM in the office.

Response: **AUD SM=1 COMPLETED ERRORS=***a* **EVENT=***b*
AUD SM=*x* **COMPLETED ERRORS=***a* **EVENT=***b*

Comment: Before entering the next message, wait for output reports from all SMs.

e. Enter message:

MSG **CLR:TRN;**

5. Perform an ODD backup using Section 6.5.9.2.

6. Enter message:

MSG **EXC:RCRMV:CLERK=RCNEW,COMPLETE;**

Response:
```
EXC RCRMV CLERK = RCNEW STARTED
RC BATCH RECORD REMOVAL xxx REMOVED xxx 0 0
TERM-ID=TTYx
...
EXC RCNEW CLERK = RCNEW COMPLETED
```

Comment: This step removes the RCs that have successfully reapplied from the log file.

Note: The following step is optional. The following message will automatically create a file that contains all RC errors up to this point. This file will be created in **/updtmp/HIST.RCNEW**. If the RC errors have already been output, it is not necessary to enter this message. If this message is used and a hardcopy is needed, the file will have to be dumped to a printer (using **DUMP:FILE...). Each time the following command is entered, the file is recreated.**

7. If needed, enter message:

MSG **REPT:RCHIST,CLERK=RCNEW,FORMAT=DETAIL,ERROR;**

Response:
```
REPT RCHIST CLERK = RCNEW STARTED - REPORT IS IN
/updtmp/HIST.RCNEW
REPT RCHIST CLERK = RCNEW COMPLETED
```

8. To reapply CORCs, enter message:

MSG **CNVT:CORCLOG,LOAD;**

Response:
```
CNVT CORCLOG LOAD SM =a STARTED

CNVT CORCLOG LOAD SM = a IN PROGRESS
```

```
CORC NUMBER xx HAS BEEN PROCESSED (every few minutes)
CNVT CORCLOG LOAD SM = a COMPLETE
          xxxx CORCS PROCESSED
          xxxx CORCS IN ERROR
 ...
CNVT CORCLOG LOAD COMPLETED
```

9. Return to the procedures and restart RC reapplication with the **EXC:RCRLS,ODDEVOL** message.

   MSG **EXC:RCRLS,ODDEVOL;**

6.5.9.2.4 CORC Reapplication Aborts

The CORC reapplication process aborts if **/smlog** or **/sclog** fill to capacity during reapplication. The following messages will be printed at the ROP if this occurs:

Response: ***** REPT RCV: RC DISABLED, LOG FULL**

CNVT CORCLOG LOAD SM = a **STOPPED WITH FATAL ERRORS**

1. Stop all RC activity in the office including RMAS.
2. The following input messages will clear any open RC transactions.
   a. Enter message:

      MSG **AUD:TRNDC,SM=1&&x;**

      Where: x = highest numbered SM in the office.

      Response: **AUD SM=1 TRNDC COMPLETED ERRORS=***a* **EVENT=***b*
      AUD SM=*x* **TRNDC COMPLETED ERRORS=***a* **EVENT=***B*

      Comment: Before entering the next message, wait for output reports from all SMs.

   b. Enter message:

      MSG **AUD:TRNDC,ENV=OKP;**

      Response: **AUD ENV=OKP TRNDC COMPLETED ERRORS=***a* **EVENT=***b*

      Comment: Before entering the next message, wait for output report.

   c. Enter message:

      MSG **AUD:MEMMAN,ENV=OKP;**

      Response: **AUD ENV=OKP MEMMAN COMPLETED ERRORS=***a* **EVENT=***b*

      Comment: Before entering the next message, wait for output report.

   d. Enter message:

      MSG **AUD:MEMMAN,SM=1&&x;**

      Where: x = highest numbered SM in the office.

      Response: **AUD SM=1 COMPLETED ERRORS=***A* **EVENT=***B*
      AUD SM=*x* **COMPLETED ERRORS=***A* **EVENT=***B*

Comment: Before entering the next message, wait for output reports from all SMs.

e. Enter message:

MSG **CLR:TRN;**

3. Perform an ODD backup using Section 6.5.9.2.

4. Return to the procedures and restart the CORC reapplication with the **CNVT:CORCLOG,LOAD** message.

6.5.9.2.5 No Response For A Long Period Of Time

1. To stop the RC reapplication process, enter message:

MSG **STP:RCRLS;**

Response: **STP RCRLS COMPLETED**
EXC RCRLS CLERK = RCNEW ODDEVOL ABORTED FAILURES=*x*, APPLIED=*x*

Warning: It may take up to 20 minutes to receive the abort message. In all cases, you must wait for it to be output before proceeding.

2. Verify that the abort message has been received before proceeding.

3. Stop all RC activity in the office including RMAS.

4. The following input messages will clear any open RC transactions.

a. Enter message:

MSG **AUD:TRNDC,SM=1&&x;**

Where: x = highest numbered SM in the office.

Response: **AUD SM=1 TRNDC COMPLETED ERRORS=*A* EVENT=*B***
AUD SM=*X* TRNDC COMPLETED ERRORS=*A* EVENT=*B*

Comment: Before entering the next message, wait for output reports from all SMs.

b. Enter message:

MSG **AUD:TRNDC,ENV=OKP;**

Response: **AUD ENV=OKP TRNDC COMPLETED ERRORS=*a* EVENT=*b***

Comment: Before entering the next message, wait for output report.

c. Enter message:

MSG **AUD:MEMMAN,ENV=OKP;**

Response: **AUD ENV=OKP MEMMAN COMPLETED ERRORS=*A* EVENT=*B***

Comment: Before entering the next message, wait for output report.

d. Enter message:

MSG **AUD:MEMMAN,SM=1&&x;**

Response: **AUD SM=1 COMPLETED ERRORS=*a* EVENT=*b***
AUD SM=*x* COMPLETED ERRORS=*a* EVENT=*b*

Comment: Before entering the next message, wait for output reports from all SMs.

e. Enter message:

MSG **CLR:TRN;**

5. Perform an ODD backup using Section 6.5.9.2.

6. To determine if an automatic relation reorganization (REORG) is needed, enter messages:

MSG **INH:REORG; EXC:REORG;**

Comment: A "REORG NEEDED" list will be dumped if any relations are in need of a reorg. This step is used to determine if "reorg" is needed. The next step is used to perform "reorg" if needed.

7. If the **EXC:REORG** indicated that an automatic relation reorganization is needed, enter messages:

MSG **ALW:REORG; EXC:REORG;**

Response: **REPT REORG COMPLETED RELATION =** a [**AM | SM =** b] (for each relation reorganized)

8. To restart the reapplication of RCs, do the following:

a. If automatic relation reorganization is allowed, enter message:

MSG **INH:REORG;**

b. Return to the procedures and restart the RC reapplication by entering the following message:

MSG **EXC:RCRLS,ODDEVOL;**

The reapplication process will attempt to reapply ***first*** the RCs that have already failed. As a result, a large number of RCs may fail to reapply initially. Do not be alarmed if you see the same RCs that previously failed to reapply, fail again. After the process either fails to reapply or successfully reapplies these RCs, RCs which have not had the first attempt at reapplying will be tried.

6.5.9.2.6 Recent Change Reapplication Aborts/Stops

When the RC reapplication process gets hung up, aborts, or is manually stopped, the process has not completed until the abort message shown below is output on the ROP:

```
EXC RCRLS CLERK = RCNEW ODDEVOL ABORTED FAILURES = x, APPLIED =x
```

Warning: It may take up to 20 minutes to receive the abort message. In all cases, you must wait for it to be output before proceeding.

1. Verify that the abort message has been received before proceeding.

2. If required, perform an ODD backup using Section 6.5.9.2.

3. Enter message:

MSG **EXC:RCRMV:CLERK=RCNEW,COMPLETE;**

Response: **EXC RCRMV CLERK = RCNEW STARTED**
RC BATCH RECORD REMOVAL xxx **REMOVED** xxx **0 0**
TERM-ID=TTYx
...
EXC RCNEW CLERK = RCNEW COMPLETED
EXC RCNEW CLERK = RCNEW COMPLETED REMOVED = x

Comment: This step removes the RCs that have successfully reapplied from the log file. This results in a smaller log file.

4. If any CORCs had previously failed, enter message:

   MSG **CNVT:CORCLOG,LOAD;**

   Response: **CNVT CORCLOG LOAD SM =** xxx **STARTED**

```
CNVT CORCLOG LOAD SM = xxx COMPLETE
       xxxx CORCS PROCESSED
       xxxx TRNCORCS PROCESSED
       xxxx CORCS IN ERROR
       xxxx TRNCORCS IN ERROR

[CNVT CORCLOG LOAD SM = xxx IN PROGRESS]
       [CORC NUMBER xxx HAS BEEN PROCESSED]
[CNVT CORCLOG LOAD AM STARTED]
[CNVT CORCLOG LOAD AM COMPLETE]
       [xxxx CORCS PROCESSED]
       [xxxx CORCS IN ERROR]

[CNVT CORCLOG LOAD CMP STARTED]
[CNVT CORCLOG LOAD CMP COMPLETE]
       [xxxx CORCS PROCESSED]
       [xxxx TRNCORCS PROCESSED]
       [xxxx CORCS IN ERROR]
       [xxxx TRNCORCS IN ERROR]

CNVT CORCLOG LOAD COMPLETED
```

5. The following input messages will clear any open RC transactions:

   a. Enter message:

      MSG **AUD:TRNDC,SM=1&&x;**

Where: x = highest numbered SM in the office.

Response: **AUD SM=1 TRNDC COMPLETED ERRORS=*A* EVENT=*B***
AUD SM=*X* TRNDC COMPLETED ERRORS=*A* EVENT=*B*

Comment: Before entering the next message, wait for output reports from all SMs.

b. Enter message:

MSG **AUD:TRNDC,ENV=OKP;**

Response: **AUD ENV=OKP TRNDC COMPLETED ERRORS=a EVENT=b**

Comment: Before entering the next message, wait for output report.

c. Enter message:

MSG **AUD:MEMMAN,ENV=OKP;**

Response: **AUD ENV=OKP MEMMAN COMPLETED ERRORS=*A* EVENT=*B***

Comment: Before entering the next message, wait for output report.

d. Enter message:

MSG **AUD:MEMMAN,SM=1&&x;**

Where: x = highest numbered SM in the office.

Response: **AUD SM=1 COMPLETED ERRORS=*A* EVENT=*B***
AUD SM=*X* COMPLETED ERRORS=*A* EVENT=*B*

Comment: Before entering the next message, wait for output reports from all SMs.

e. Enter message:

MSG **CLR:TRN;**

6. To determine if an automatic relation reorganization (REORG) is needed, enter messages:

MSG **INH:REORG;**
EXC:REORG;

Comment: A "REORG NEEDED" list will be dumped if any relations are in need of a reorg. This step is used to determine if "reorg" is needed. The next step is used to perform "reorg" if needed.

7. If the **EXC:REORG** indicated that an automatic relation reorganization is needed, enter messages:

MSG **ALW:REORG;**
EXC:REORG;

Response: **REPT REORG COMPLETED RELATION =** a [**AM | SM =** b] (for each relation reorganized)

8. To restart the reapplication of RCs, do the following:

a. If automatic relation reorganization is allowed, enter message:

MSG **INH:REORG;**

b. Return to the procedures and restart the RC reapplication by entering the following message:

MSG **EXC:RCRLS,ODDEVOL;**

The reapplication process will attempt to reapply ***first*** the RCs that have already failed. As a result, a large number of RCs may fail to reapply initially. Do not be alarmed if you see the same RCs that previously failed to reapply, fail again. After the process either fails to reapply or successfully reapplies these RCs, RCs which have not had the first attempt at reapplying will be tried.

6.5.10 RC AND CORC EVOLUTION PROBLEMS (RETROFIT, LTG ONLY)

6.5.10.1 RC/CORC Evolution Error Message

The following message is an RC/CORC evolution error. If this message is received, escalate to your next level of support to clean up the **/rclog** partition.

AUTOEVOL INVOKES MOVELOG TO RECLAIM SPACE IN /rclog
THE /rclog DOES NOT HAVE ENOUGH SPACE
TOTAL NUMBER OF FREE SPACE ON /rclog IS xxx
DB TRANSITION PROCESS MOVELOG FAILED
DETAIL INFO IN /rclog/mvlog.README

If RC/CORC failed because there was not enough space in **/rclog**, perform the following steps:

1. The **/rclog** directory may have files that need to be removed. Input the following message:

   MSG **OP:STATUS:LISTDIR,FN="/rclog";**

2. Examine the rop from the previous message. The files that start with **tmp.evl** and **tmp.old** must be removed before the RC/CORC tool is run again. The number in the file name represents the SM number. The following are examples of typical file names:

   `tmp.old2`

   `tmp.old70`

   `tmp.old140`

   `tmp.evl2`

   `tmp.evl70`

   `tmp.evl140`

3. Use the following message to remove the files, one at a time:

   MSG **CLR:FILESYS:FILE,FN="/rclog/tmp.old2";**

   Note 1: The number 2 in the previous message is the SM number. Remove all file that start with **tmp.old** and **tmp.evl**.

   Note 2: If there are a large number of files to be removed, logging in through *UNIX* may be faster. If you are not familiar with *UNIX*, input the previous CLR:FILESYS message for each file or contact your next level of support for assistance using *UNIX*.

4. If the files have been removed and the RC/CORC tool still fails, contact your next level of support.

6.5.10.2 RC Evolution Status (Retrofit, LTG Only)

The **RCtype.rpt** analysis file may be dumped to provide statistics on RC evolution activity.

To dump analysis file, enter message:

MSG **DUMP:FILE:ALL,FN="/rclog/RCtype.rpt",OPL=999;**

Response:

```
DUMP FILE ALL STARTED
**********************************************************
Date:   Day Mon. Date Time Year
RC EVOLUTION LOGFILE ANALYSIS REPORT:
Total number of RCV logged: xxxx
       the supported RCVs logged:   xxx
                                      INSERT:   xxxx
                                      UPDATE:   xxxx
                                      DELETE:   xxxx
       not supported RCVs logged:   xxx
                                      INSERT:   xxxx
                                      UPDATE:   xxxx
                                      DELETE:   xxxx
**********************************************************
DETAIL ACTIVITY REPORT FOR EACH RCV:
*** RC View:  x.x  RC_VIEW  VIEW NAME ***
Total number of views logged:    x
                                 INSERT:   xxxx
                                 UPDATE:   xxxx
                                 DELETE:   xxxx
**********************************************************
 (Other activity reports for other RC/V Views follows)
DUMP FILE ALL COMPLETED SEGMENT x
```

Comment: Examine the ROP output and check for RC evolution activity reports for Class 9 or Class 10 (for example, ***** RC View: 9.3 RC_LDIT LOCAL DIGIT *****). If any Class 9 or Class 10 RCs (which deal with routing changes) exist in this report, call processing may be affected after the system initialization in the Proceed stage until RC reapplication is complete. Therefore, it is critical that if RCs to Class 9 or Class 10 are contained in

this report, RC reapplication should be started in a timely manner. If Class 9 or Class 10 changes exist, consult your next level of support and advise them concerning RC reapplication.

6.5.10.3 OSPS Configuration ODD Backup Failures

1. At an RCV terminal or the MCC, access MCC page 196.
2. Enter the following data:

```
Form       8.9R     (accesses RCV 8.9)
*1. OFFICE ID       ______ (enter your office ID)
Screen #       6       (accesses screen 6 of 8)
```

3. Record the values in fields 105 and 106. These values will be used in the Soak stage.

```
                              5ESS SWITCH
SCREEN 6 OF 8                 RECENT CHANGE 8.9
                            OSPS OFFICE PARAMETERS

LINE INFORMATION DATABASE QUERY OPTIONS       101. AUTODACT MON    _
----------------------------------------
             86. CC AND BNS TIME  _              SUBACCOUNT BILLING
           L CC                 L BNS            ------------------
--------------------    ----------------       102. SAB ON          _
87. MIN QUERY  ____      94. MIN QUERY ___      103. ACCESS CODE     ___
88. ALARM THR  ___       95. ALARM THR ___      104. LEC ALW         _
89. ATT INTER  _         96. ATT INTER _
90. LEC INTER  _         97. LEC INTER _         AUTO RECONFIGURATION
91. ATT INTRA  _         98. ATT INTRA _        ------------------------
92. LEC INTRA  _         99. LEC INTRA _        105. AUTO RECONFIG           _
93. DEFAULT    _        100. DEFAULT   _        106. SCHED IFLOW ACT       _
```

Field 105: _____

Field 106: _____

4. Exit Recent Change.

Warning: The following step will remove all OSPS recent change log files. The OSPS recent changes made during the double-logging period will NOT be automatically reapplied to the new software release by the roll-forward process. These RCs must be reapplied using the POSTRCR process during the Soak stage of the transition.

5. If the OSPS Evolution failed, perform the following:

   a. Enter message:

      MSG **EXC:ENVIR:UPROC,FN="/no5text/prc/ASospsoff";**

      Note: This message turns off the evolution process for OSPS recent changes in OSPS offices. This message will have no impact on the *5ESS* switch for non-OSPS offices.

      Response: **ASOSPSOFF: OSPS TRANSITION BIT HAS BEEN CLEARED**
      EXC ENV UPROC /NO5TEXT/PRC/ASOSPSOFF COMPLETED

      Comment: The **OSPS EVOL ACT** box is no longer backlit on MCC page 116.

   b. To remove all OSPS configuration ODD evolution files, enter message:

      MSG **EXC:ENVIR:UPROC,FN="/bin/rm",args="-rf"-"/updtmp/ospsevol";**

      Response: **EXC ENVIR UPROC /BIN/RM COMPLETED**

   c. Continue with the transition from the point the failure was encountered.

6.5.11 RESTARTING RC DOUBLE-LOGGING AFTER AM INITIALIZATION

The following procedures are only executed ***if*** a manual AM initialization has occurred since the last procedure.

If a manual AM initialization has occurred after the start of double-logging, perform the following steps:

1. To restart ODD evolution, enter message:

   MSG **EXC:ENVIR:UPROC,FN="/no5text/rcv/setoddevol";**

   Comment: Ensure the ODD EVOL ACT box on MCC page 116 is backlit before proceeding.

2. For OSPS offices, to allow the OSPS configuration ODD evolution process, enter message:

   MSG **EXC:ENVIR:UPROC,FN="/no5text/prc/ASospson";**

   Response: **ASOSPSON: OSPS TRANSITION BIT HAS BEEN SET** (on ROP)
   (Ensure this message is received before continuing)
   EXC ENV UPROC /no5text/prc/ASospson COMPLETED

   Comment: Ensure the **OSPS EVOL ACT** box on MCC page 116 is backlit before proceeding.

   Note: This message turns on the evolution process for OSPS recent changes in OSPS offices. This message will have no impact on the *5ESS* switch for non-OSPS offices.

6.5.12 DATABASE DUMP AND MEMORY FORECASTING TOOL TROUBLES

6.5.12.1 Overview

The memory forecasting tool must be used in the transition planning stage to predict the amount of memory needed by the AM, the CMP, and the SM processors, in preparation for the standard hardware ordering for the software release transition. Sufficient memory boards should be grown into the switch during the Advance Preparation Stage (-9 weeks). To ensure that the transition office has proper memory equipage, the database dump procedures automatically invoke the memory forecasting tool and evaluate the report file. If a memory shortage problem is detected in the database dump, a minor system alarm is generated with additional warning messages printed on the ROP. If a memory shortage is still detected during the database dump, the database dump process will abort. Also, the database dump process has been enhanced to ensure that double-logging has been started and that an ODD backup or growth process is not running. The following sections provide recovery procedures for problems that may develop during the database dump.

6.5.12.2 Database Dump Troubles

6.5.12.2.1 Incorrect Database Dump Command Entered

To distinguish between the database dump processes (for performing different integrity checks), the MCC input command for the database dump has been changed to "COPY:ODD:TAPE,ALL,PRELIM". The following error messages and a major system alarm are output if the "PRELIM" option keyword is not entered for the database dump.

Response:

```
DBretrochk() ABORTED: DOUBLE LOGGING HAS NOT BEEN STARTED
  "COPY:ODD:TAPE,ALL" IS RESERVED FOR FINAL DATABASE DUMP USE
       ONLY
  PLEASE USE "COPY:ODD:TAPE,ALL,PRELIM" FOR PRELIMINARY DUMP
DOUBLE LOGGING MUST BE STARTED BEFORE TAKING FINAL DATABASE
       DUMP,
  EXECUTE "BKUP:ODD,ODDEVOL,TOGENERIC=xx" TO START DOUBLE
       LOGGING
DB TRANSITION FUNCTION DBretrochk() FAILED
  PLEASE SEEK TECHNICAL ASSISTANCE
```

To recover from this error, enter message:

MSG **COPY:ODD:TAPE,ALL,PRELIM;**

Continue with the procedures in Section 3.10.8.6.

6.5.12.2.2 ODD Backup In Progress

To prevent inconsistent data from being dumped to the database dump tape, the database dump process has been enhanced to ensure the ODD backup process is not running. If the ODD backup process is in progress, the following error messages and a major system alarm are output.

Response:

```
DBretrochk() ABORTED: ODD BACKUP IS RUNNING

  DATABASE DUMP SHOULD NOT BE PERFORMED WHILE ODD BACKUP IS

       RUNNING

DB TRANSITION FUNCTION DBretrochk() FAILED

  PLEASE SEEK TECHNICAL ASSISTANCE
```

To recover from this error, wait until the ODD backup process has completed, then enter the database dump command again.

6.5.12.2.3 ODD Growth In Progress

To prevent inconsistent data from being dumped to the database dump tape, the database dump process has been enhanced to ensure the ODD growth process is not running. If the ODD growth process is in progress, the following error messages and a major system alarm are output.

Response:

```
DBretrochk() ABORTED: ODD GROWTH IS RUNNING

  DATABASE DUMP SHOULD NOT BE PERFORMED WHILE ODD GROWTH IS

       RUNNING

DB TRANSITION FUNCTION DBretrochk() FAILED

  PLEASE SEEK TECHNICAL ASSISTANCE
```

To recover from this error, wait until the ODD growth process has completed, then enter the database dump command again.

6.5.12.2.4 Memory Forecasting Tool Failed

The database dump process will automatically invoke the memory forecasting tool. If the tool fails, the following error messages and a minor system alarm are output:

Response:

```
DBretrochk() ABORTED: MEMORY FORECASTING FOR 5E162 FAILED

  IF THIS DATABASE DUMP IS NOT FOR TRANSITIONING TO NEXT RELEASE,

  THE WARNING MESSAGES COULD BE IGNORED

DB TRANSITION FUNCTION DBretrochk() FAILED

  PLEASE SEEK TECHNICAL ASSISTANCE
```

If these messages are output, perform the following steps:

1. On MCC page 114, ensure that no SMs are in an off-normal state in which the box of the SM is red backlit. If any SMs are in the isolation or RC backout state, resolve that problem first and then re-enter the database dump command.
2. If all SMs are in the normal state, manually invoke the memory forecasting tool by entering message:

   MSG **OP:MEMSIZE,TORELEASE="5E162";**

Comment: The OP:MEMSIZE message could take up to 15 minutes to get the results printed on ROP.

Response:

OP MEMSIZE **PAGE** *x* **OF** *y*

BASE & CONTROL: *xxxx*

FROM: *xxx* **TO** *yyy*

PROC NO	TYPE	LTG CONFIG	SABM	MEG MEM EQUIPD	KILO ODD NEED	MEG TOTAL (MIN)	% NEED	MEMORY NEEDED
xxx	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*

OP MEMSIZE **PAGE** *x* **OF** *y*

BASE & CONTROL: *xxxx*

FROM: *xxx* **TO** *yyy*

PROC NO	CORE BD	TN562MEG	TN2012 4MEG	TN1374 4MEG	TN1376 8MEG	TN1661 16MEG	TN1685 32MEG	TN1806 64MEG	TOTAL MEG
xxx	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*

3. If the memory forecasting tool is successful, return to the procedures and retry the database dump.
4. If the memory forecasting tool failed or the second attempt of the database dump aborted for the same reason, escalate to your next level of support.

6.5.12.2.5 Memory Shortage Detected In Database Dump

If a memory shortage is detected in the database dump, the following error messages and a major system alarm are output.

Response:

```
DBretrochk() ABORTED: MEMORY FORECASTING TOOL INDICATES
  MEMORY SHORTAGE FOR TRANSITIONING TO 5E162
WARNING! WARNING! WARNING!
  MEMORY SHORTAGE IN TRANSITION HAS BEEN DETECTED
  IF THIS DATABASE DUMP IS NOT FOR TRANSITIONING TO NEXT RELEASE,
  THE WARNING MESSAGES COULD BE IGNORED
DB TRANSITION FUNCTION DBretrochk() FAILED
  PLEASE SEEK TECHNICAL ASSISTANCE
```

These error messages will not abort the database dump process. However, additional memory boards must be grown into switch before the database dump.

6.5.12.2.6 File System Overflow

The COPY:ODD:TAPE process has been enhanced to write the database tape in LDFT format. This reduces the tape writing time by 50 percent for an average size office. When the LDFT database tapes are generated, the ECD database files are copied to the ODD partition first. This may cause the following file system overflow warning message to be printed on the ROP.

Response: **REPT FILESYS WARNING OVERFLOW /no5odd/cpdata**

This warning message should be ignored. The file system overflow in the ODD partition is only temporary. After the database tapes have been written, the temporary files will be removed.

6.5.12.2.7 COPY:ODD:TAPE Problems

If problems are encountered during the COPY:ODD:TAPE process, refer to Section 6.5.13.

6.5.12.3 Starting CORC/RC Double-Logging

6.5.12.3.1 Memory Forecasting Tool Failed

The CORC/RC double-logging is started by entering a special ODD backup command (BKUP:ODD,ODDEVOL,TOGENERIC=151). The ODD backup process has been enhanced to automatically invoke the memory forecasting tool. If the tool fails, the following error messages and a major system alarm are output.

Response:

```
DBretrochk() ABORTED: MEMORY FORECASTING FOR 5E162 FAILED

  IF THIS DATABASE DUMP IS NOT FOR TRANSITIONING TO NEXT RELEASE,

  THE WARNING MESSAGES COULD BE IGNORED

DB TRANSITION FUNCTION DBretrochk() FAILED

  PLEASE SEEK TECHNICAL ASSISTANCE
```

These error messages do not abort the ODD backup. The ODD backup functionality is not affected by the memory forecasting result. If these messages are output, perform the following steps.

1. On MCC page 114, ensure that no SM is in an off-normal state in which the box of the SM is red backlit. If any SMs are in the isolation or RC backout state, the ODD backup process will abort. Resolve the problem and then re-enter the ODD backup command.
2. If all SMs are in the normal state, manually invoke the memory forecasting tool, enter message:

   MSG **OP:MEMSIZE,TORELEASE="5E162";**

   Comment: The OP:MEMSIZE message could take up to 15 minutes to get the results printed on ROP.

   Response:

OP MEMSIZE							**PAGE** *x* **OF** *y*	
BASE & CONTROL: *xxxx*								
FROM: *x.xx* **TO** *y.yy*								
PROC NO	**TYPE**	**TRANSITION CONFIG**	**STATUS**	**MEG MEM EQUIPD**	**KILO ODD NEED**	**MEG TOTAL NEED (MIN)**	**% FREE**	**MEMORY NEED**
xxx	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*
OP MEMSIZE						**PAGE** *x* **OF** *y*		
BASE & CONTROL: *xxxx*								
FROM: *x.xx* **TO** *y.yy*								
PROC NO	**CORE BD**	**TN562MEG**	**TN2012 4MEG**	**TN1374 4MEG**	**TN1376 8MEG**	**TN1661 16MEG**	**TN1685 32MEG**	**TN1806 64MEG**	**TOTAL MEG**
xxx	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	*xxx*	

3. If the memory forecasting tool completes successfully, continue the database dump process after the ODD backup has completed.
4. If the memory forecasting tool fails, escalate to your next level of technical support.

6.5.12.3.2 Memory Shortage Detected

If a memory shortage has been detected in the ODD backup when starting double-logging, the following error messages and a major system alarm are output.

Response:

```
DBretrochk() ABORTED: MEMORY FORECASTING TOOL INDICATES
  MEMORY SHORTAGE FOR TRANSITIONING TO 5E162
WARNING! WARNING! WARNING!
  MEMORY SHORTAGE IN TRANSITION HAS BEEN DETECTED
  SUFFICIENT MEMORY BOARDS MUST BE GROWN INTO SWITCH BEFORE
       FINAL DUMP
GROW ADDITIONAL MEMORY, THEN EXECUTE
  OP:MEMSIZE,TORELEASE="5E162" TO VERIFY FOR SUFFICIENT MEMORY
DB TRANSITION FUNCTION DBretrochk() FAILED
  PLEASE SEEK TECHNICAL ASSISTANCE
```

These error messages will not abort the ODD backup process. Grow additional memory boards and then rerun the memory forecasting tool manually. See Section 2.3.2.2.3. Sufficient memory must be grown into the switch before the database dump or the database dump process will fail.

6.5.12.4 Database Dump Troubles

6.5.12.4.1 ODD Backup In Progress

To prevent inconsistent data from being dumped to the database dump tape, the database dump process has been enhanced to ensure the ODD backup process is not running. If the ODD backup process is in progress, the following error messages and a major system alarm are output.

Response:

```
DBretrochk() ABORTED: ODD BACKUP IS RUNNING

  DATABASE DUMP SHOULD NOT BE PERFORMED WHILE ODD BACKUP IS

       RUNNING

DB TRANSITION FUNCTION DBretrochk() FAILED

  PLEASE SEEK TECHNICAL ASSISTANCE
```

To recover from this error, wait until the ODD backup process has completed, then enter the database dump command again.

6.5.12.4.2 ODD Growth in Progress

To prevent inconsistent data from being dumped to the database dump tape, the database dump process has been enhanced to ensure the ODD growth process is not running. If the ODD growth process is in progress, the following error messages and a major system alarm are output.

Response:

```
DBretrochk() ABORTED: ODD GROWTH IS RUNNING

  DATABASE DUMP SHOULD NOT BE PERFORMED WHILE ODD GROWTH IS

       RUNNING

DB TRANSITION FUNCTION DBretrochk() FAILED

  PLEASE SEEK TECHNICAL ASSISTANCE
```

The ODD growth process should not run during the database dump period. If the ODD growth process is running, wait until the ODD growth process has completed, then enter the database dump command again.

6.5.12.4.3 Double-Logging Not Started

The database dump process has been enhanced to ensure that CORC/RC double-logging has been started. If the double-logging data delivery key is not set when the database dump is performed, following error messages and a major system alarm are output.

Response:

```
DBretrochk() ABORTED: DOUBLE LOGGING HAS NOT BEEN STARTED

  "COPY:ODD:TAPE,ALL" IS RESERVED FOR DATABASE DUMP USE

       ONLY

  PLEASE USE "COPY:ODD:TAPE,ALL,PRELIM" FOR PRELIMINARY DUMP
```

```
DOUBLE LOGGING MUST BE STARTED BEFORE TAKING FINAL DATABASE
      DUMP,
  EXECUTE "BKUP:ODD,ODDEVOL,TOGENERIC=xx" TO START DOUBLE
      LOGGING
DB TRANSITION FUNCTION DBretrochk() FAILED
  PLEASE SEEK TECHNICAL ASSISTANCE
```

Enter the following message to start CORC/RC double-logging:

MSG **BKUP:ODD,ODDEVOL,TOGENERIC=121;**

When the ODD backup has completed, retry the database dump.

6.5.12.4.4 Final Database Dump Previously Done

If the switch has already performed the database dump, the following error messages and a major system alarm are output.

Response:

```
DBretrochk() ABORTED: FINAL DATABASE DUMP HAS BEEN DONE ALREADY
DB TRANSITION FUNCTION DBretrochk() FAILED
  PLEASE SEEK TECHNICAL ASSISTANCE
```

If the database dump has been performed, no further actions are required. This check is to prevent redundant database tapes from being shipped to Lucent Technologies. Check with office personnel to ensure that the database dump was made and mailed to Lucent Technologies. If necessary, escalate to your next level of support.

6.5.12.4.5 Memory Shortage Detected in Final Dump

If a memory shortage has been detected in the database dump, the following error messages and a major alarm are output. The database dump process will also abort.

Response:

```
DBretrochk() ABORTED: MEMORY FORECASTING TOOL INDICATES
  MEMORY SHORTAGE FOR TRANSITION
WARNING! WARNING! WARNING!
  MEMORY SHORTAGE IN TRANSITION HAS BEEN DETECTED
  SUFFICIENT MEMORY BOARDS MUST BE GROWN INTO SWITCH
  BEFORE RETRYING FINAL DUMP
GROW ADDITIONAL MEMORY, EXECUTE
  OP:MEMSIZE,TORELEASE="5E162" TO VERIFY FOR
  SUFFICIENT MEMORY THEN RETRY FINAL DUMP
DB TRANSITION FUNCTION DBretrochk() FAILED
  PLEASE SEEK TECHNICAL ASSISTANCE
```

To recover from this error, perform the following steps:

1. Grow the required memory boards into the switch and manually invoke the memory forecasting tool (see Section 2.3.2.2.3).
2. Retry the database dump.
3. If the database dump fails again, escalate to your next level technical support.

6.5.12.4.6 File System Overflow

See Section 6.5.12.2.6.

6.5.12.4.7 COPY:ODD:TAPE Problems

If problems are encountered during the COPY:ODD:TAPE process, refer to Section 6.5.13.

6.5.12.4.8 ODD Backup Inhibited

6.5.12.4.8.1 Overview

To avoid inconsistent data being dumped while the database dump process is running, once the initial ODD backup has completed, no subsequent ODD backup is allowed until two sets of database dump tapes have been made.

6.5.12.4.8.2 Before First Set Of Tapes

If a scheduled or a manual ODD backup request is entered before the first set of database dump tapes has completed, a "NG" response is output following the input command. The following error messages and a major system alarm are also output.

Response:

```
DBretrochk() ABORTED: FINAL DATABASE DUMP HAS NOT BEEN COMPLETED
SUBSEQUENT ODD BACKUP IS NOT ALLOWED IF FINAL DUMP IS NOT DONE
DB TRANSITION FUNCTION DBretrochk() FAILED
PLEASE SEEK TECHNICAL ASSISTANCE
```

The ODD backup request is rejected. No actions are required to correct the situation. The ODD backup is inhibited until the database dump has completed.

6.5.12.4.8.3 Before Second Set Of Tapes

If a scheduled or a manual ODD backup request is entered before the second set of final database dump tapes has completed, a "NG" response is output following the input command. The following error messages and a major system alarm are also output.

Response:

```
DBretrochk() ABORTED: FINAL DATABASE DUMP HAS NOT BEEN COMPLETED

  SUBSEQUENT ODD BACKUP IS NOT ALLOWED IF FINAL DUMP IS NOT DONE

WARNING! WARNING! WARNING!

  THE SECOND SET OF DATABASE DUMP TAPES IS REQUIRED FOR FINAL DUMP

  EXECUTE "COPY:ODD:TAPE,ALL" TO OBTAIN THE DATABASE DUMP TAPES

DB TRANSITION FUNCTION DBretrochk() FAILED

  PLEASE SEEK TECHNICAL ASSISTANCE
```

Follow the instructions output on the ROP to write the second set of tapes. The ODD backup is inhibited until the database dump is complete.

6.5.13 COPY:ODD:TAPE,ALL TROUBLES

The following procedures should be used if problems develop during the COPY:ODD:TAPE,ALL procedure. The following procedures will produce one or more ODD tapes and one ECD tape. **If problems are encountered while using the following procedure, seek technical assistance.**

1. Ensure that the tape is correctly mounted, that the tape drive is on line, and that it is write enabled.

2. Verify that enough free blocks and free i-nodes exist in the **/updtmp** file system, enter message:

   MSG **OP:STATUS:FREEDISK,FN="/updtmp";**

   Response: **OP STATUS FREEDISK COMPLETED \/updtmp (/dev/updtmp):** xxxx **blocks** xxx **i-nodes**

   Comment: If less than 10,000 blocks and 25 i-nodes are available, it may be necessary to clear files from the **/UPDTMP** file system. **Do not remove any files without technical support.**

3. Enter message:

   MSG **CLR:FILESYS:FILE,FN="/updtmp/debugerr";**

   Note: This message clears log files associated with the COPY:ODD:TAPE command.

4. To write ODD files to tape, enter message:

   MSG **COPY:ODD:TAPE[:TU=A]**

   Where: A = tape drive (0 or 1). Tape drive 0 is the default.

   Comment: The COPY:ODD:TAPE message could take up to 15 minutes (or longer) before the mounted tape starts to move and tape writing begins. Tape writing begins at Step P of the ODD tape writing process.

   Record PID _____

   Response:
   COPY ODD TAPE BEGINNING: PROCESS PID = xxxxxxxx
   COPY ODD TAPE 0 STEP Z COMPLETED - EXECUTING STEPS AP
   COPY ODD TAPE x **STEP A COMPLETED**
   COPY ODD TAPE x **CONTINUING AT STEP P** (every 5 minutes)
   ...
   COPY ODD TAPE x **STEP P COMPLETED COPY ODD TAPE: RMV TAPE** n **AND USE ROP LABEL**
   COPY ODD TAPE LABEL
   (A tape label is printed on the ROP.)
   COPY TAPE x **COMPLETED MOUNT TAPE** y **AND CONTINUE**
   *or***COPY ODD TAPE COMPLETED**

5. After tape rewinds, unmount ODD tape and remove write enable ring. Remove the printed tape label from the ROP output and affix it to the ODD tape.

6. If the **COPY TAPE x COMPLETED MOUNT TAPE y AND CONTINUE** message was output, mount a new tape that is write enabled, and continue the ODD dump by entering message:

   MSG **COPY:ODD:TAPE=[A]:CONTINUE;**

   Where: A = tape number (that is, 2, 3, etc.)

   Response: Same as for COPY ODD TAPE in Step 2.

   Note: The tape drive (0 or 1) that was used to write the first tape must be used to write the remaining tapes.

7. When **COPY ODD TAPE COMPLETED** is output, record time and date in appropriate row of the Database Dump Worksheet (Table 9-5). Continue with the procedures to dump the ECD database to tape.

8. At tape drive, mount a tape that is enabled.

9. To write ECD to tape, enter message:

   MSG **COPY:ECD:TAPE[:TU=A];**

   Where: A = tape drive (0 or 1). Tape drive 0 is the default.

   Comment: The COPY:ECD:TAPE message could take up to 45 minutes (or longer) before the mounted tape starts to move and tape writing begins. Tape writing begins at Step C of the ECD tape writing process.

   Record PID _____.

   Response:
   COPY ECD TAPE BEGINNING: PROCESS PID = xxxxxxx
   COPY ECD TAPE 0 STEP Z COMPLETED - EXECUTING STEPS ABC
   ...
   COPY ECD TAPE 0 CONTINUING AT STEP B (every 5 minutes)
   ...
   COPY ECD TAPE 0 CONTINUING AT STEP C (every 5 minutes)
   ...
   COPY ECD TAPE: RMV TAPE x AND USE ROP LABEL
   COPY ECD TAPE LABEL
   (A tape label is printed on the ROP.)
   COPY ECD TAPE 0 COMPLETED
   COPY ECD TAPE A COMPLETED

10. After the tape rewinds, unmount the ECD tape and remove the write-enable. Remove the printed tape label from the ROP output and affix it to the ECD tape.

11. After the tape has been written, record time and date in appropriate row of Database Dump Worksheet (Table 9-5).

6.5.14 STOPPING DATABASE TAPE WRITING PROCESS

If either the ODD or ECD tape writing process needs to be stopped for any reason, enter message:

MSG **STOP:EXC:USER,PID=a;**

Where: a = PID recorder earlier.

Response: **STOP EXC USER COMPLETED**
COPY ECD TAPE *n* **STOPPED WITH ERROR CODE** *XXX* **AT STEP** *Z*

6.5.15 TRUNK STATUS MAPPING ERRORS

6.5.15.1 Overview

This section contains the definitions and recovery actions for errors that can occur during the execution of Trunk Status Mapping (TSM). See Table 6-2.

Table 6-2 — TSM Error Code Definitions

ERROR CODE	GENERAL DEFINITION
0000 to 0099	General start-up problems
0100 to 0199	Port connection failures
0200 to 0299	Failures encountered while opening disk files
0300 to 0399	Failures encountered when sending OSDS messages
0400 to 0499	Failures encountered while waiting for OSDS messages
0500 to 0599	Time-out failures
0600 to 0699	Op list errors
0700 to 0799	Failures encountered writing disk files
0800 to 0899	Failures encountered when flushing file buffers to disk
0900 to 0999	Failures encountered when reading from disk files
1000 to 1099	File integrity failures
1100 to 1199	Failures encountered while moving file pointers within disk files
1200 to 1299	Failures encountered when allocating dynamic memory
1300 to 1399	Not currently used
1400 to 1499	Internal errors

6.5.15.2 Error 0010 - No Arguments Passed To TSM Process

This error code should not be encountered during normal execution of TSM. If executing TSM with either the commands available on MCC page 1984 or the **UPD:GEN,TSM** input message, escalate to your next level of support.

6.5.15.3 Error 0020 - First Argument Passed To TSM Is Bad

This error code should not be encountered during normal execution of TSM. If executing TSM with either the commands available on MCC page 1984 or the **UPD:GEN,TSM** input message, escalate to your next level of support.

6.5.15.4 Error 0030 - Second Argument Passed To TSM Is Bad

This error code should not be encountered during normal execution of TSM. If executing TSM with either the commands available on MCC page 1984 or the **UPD:GEN,TSM** input message, escalate to your next level of support.

6.5.15.5 Error 0040 - Too Many Arguments Passed To TSM

This error code should not be encountered during normal execution of TSM. If executing TSM with either the commands available on MCC page 1984 or the **UPD:GEN,TSM** input message, escalate to your next level of support.

6.5.15.6 Error 0100 - TSM Port Up - TSM Is Already Running

Another TSM session may already be in progress. Wait for it to finish, then re-execute the command. If it fails again with the same error, escalate to your next level of support.

6.5.15.7 Error 0110 - Cannot Connect To TSM Port (PT_GRTSM)

The TSM process cannot attach to the TSM port.

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.8 Error 0200 - port_oos.old Exists

The **/updtmp/tsm/port_oos.old** file already exists.

1. Ensure the correct TSM command (OLD,NEW,RMV) is being executed before proceeding.
2. ***The following command will overwrite the existing port_oos.old file.***

   To bypass this error, enter the following input message:

   MSG **UPD:GEN,TSM,OLD,UCL;**

6.5.15.9 Error 0205 - port_oos.new Exists

The **/updtmp/tsm/port_oos.new** file already exists.

1. Ensure the correct TSM command (OLD,NEW,RMV) is being executed before proceeding.
2. ***The following command will overwrite the existing port_oos.new file.***

   To bypass this error, enter the following input message:

   MSG **UPD:GEN,TSM,NEW,UCL;**

6.5.15.10 Error 0210 - Cannot Open TSM Logfile For Writing

The TSM process cannot open the **/etc/log/tsmlog** file.

1. To check available file space in **/etc**, enter message:

   MSG **OP:STATUS,FREEDISK,FN="/etc";**
2. If there is not at least 50 blocks of file space and 10 i-nodes remaining, escalate to your next level of support.
3. To check existence of the **tsmlog** file, enter message:

   MSG **OP:STATUS,LISTDIR,FN="/etc/log";**
4. If the **tsmlog** exists, remove it using the following message:

   MSG **CLR:FILESYS,FILE,FN="/etc/log/tsmlog";**
5. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.11 Error 0211 - Cannot Open port_oos.old For Writing

The TSM process cannot open the **/updtmp/tsm/port_oos.old** file.

1. To check available file space in **/etc**, enter message:

MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 1000 blocks of file space and 10 i-nodes remaining, escalate to your next level of support.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.12 Error 0220 - Cannot Open TSM Logfile For Writing

The TSM process cannot open the **/etc/log/tsmlog** file.

1. To check available file space in **/etc**, enter message:

   MSG **OP:STATUS,FREEDISK,FN="/etc";**

2. If there is not at least 50 blocks of file space and 10 i-nodes remaining, escalate to your next level of support.
3. To check existence of the **tsmlog** file, enter message:

   MSG **OP:STATUS,LISTDIR,FN="/etc/log";**

4. If the **tsmlog** exists, remove it using the following message:

   MSG **CLR:FILESYS,FILE,FN="/etc/log/tsmlog";**

5. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.13 Error 0221 - Cannot Open port_oos.old For Reading

The TSM process cannot open the **/updtmp/tsm/port_oos.old** file for reading.

1. To check for the existence of the file, enter message:

   MSG **OP:STATUS,LISTDIR,FN="/updtmp/tsm";**

2. If the file is present, re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.
3. If on the new side of the transition, escalate to your next level of support.

   If on the old side, ensure that the correct TSM command (OLD, NEW, RMV) is being executed.

6.5.15.14 Error 0222 - Cannot Open port_oos.new For Writing

The TSM process cannot open the **/updtmp/tsm/port_oos.new** file.

1. To check available file space in **/updtmp**, enter message:

   MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 1000 blocks of file space and 10 i-nodes remaining, escalate to your next level of support.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.15 *Error 0223 - Cannot Open port_oos.cadn For Writing*

The TSM process cannot open the **/updtmp/tsm/port_oos.cadn** file.

1. To check available file space in **/updtmp**, enter message:

   MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 1000 blocks of space and 10 i-nodes, escalate to your next level of support.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.16 Error 0224 - Cannot Open port_oos.diff For Writing

The TSM process cannot open the **/updtmp/tsm/port_oos.diff** file.

1. To check available file space in **/updtmp**, enter message:

   MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 1000 blocks of file space and 10 i-nodes, escalate to your next level of support.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.17 Error 0225 - Cannot Open RCtrunk.rpt For Reading

The TSM process cannot open the **/rclog/RCtrunk.rpt** file.

1. To list files in **/rclog**, enter message:

   MSG **OP:STATUS:LISTDIR,FN="/rclog";**

2. If the **/rclog/RCtrunk.rpt** file is present, ensure that it has read permissions on the file.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.18 Error 0227 - Cannot Open cadn.report For Writing

The TSM process cannot open the **/updtmp/tsm/cadn.report** file.

1. To check available file space in **/updtmp**, enter message:

   MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 1000 blocks of file space and 10 i-nodes, escalate to your next level of support.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.19 Error 0228 - Cannot Open oos.report For Writing

The TSM process cannot open the **/updtmp/tsm/oos.report** file.

1. To check available file space in **/updtmp**, enter message:

   MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 1000 blocks of file space and 10 i-nodes, escalate to your next level of support.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.20 Error 0230 - Cannot Open TSM Logfile For Writing

The TSM process cannot open the **/etc/log/tsmlog** file.

1. To check available file space in **/etc**, enter message:

   MSG **OP:STATUS,FREEDISK,FN="/etc";**

2. If there is not at least 50 blocks of file space and 10 i-nodes remaining, escalate to your next level of support.

3. To check existence of the **tsmlog** file, enter message:

   MSG **OP:STATUS,LISTDIR,FN="/etc/log";**

4. If the **tsmlog** exists, remove it using the following message:

   MSG **CLR:FILESYS,FILE,FN="/etc/log/tsmlog";**

5. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.21 Error 0231 - Cannot Open port_oos.diff For Reading

The TSM process cannot open the **/updtmp/tsm/port_oos.diff** file.

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.22 Error 0232 - Cannot Open tsmrmv.list For Writing

The TSM process cannot open the **/updtmp/tsm/tsmrmv.list** file.

1. To check available file space in **/updtmp**, enter message:

   MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 1000 blocks of file space and 10 i-nodes, escalate to your next level of support.

3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.23 Error 0233 - Cannot Open tsmrmv.scr For Writing

The TSM process cannot open the **/updtmp/tsm/tsmrmv.scr** file.

1. To check available file space in **/updtmp**, enter message:

   MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 1000 blocks of file space and 10 i-nodes, escalate to your next level of support.

3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.24 Error 0300 - Cannot Get PID For *UNIX* Operating System - OSDS Communication Port

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.25 Error 0400 - Incorrect Message Type Sent Back By OSDS

An incorrect message was sent to the TSM process.

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.26 Error 0401 - OSDS Open Port Request Not Successful

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.27 Error 0402 - Unexpected OSDS Message Received During OPLIST Run

An incorrect message was sent to the TSM process.

1. Dump the log file to the ROP:

   MSG **DUMP:FILE,ALL,FN="/etc/log/tsmlog";**

2. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.28 Error 0500 - Time-Out During OPLIST Run

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.29 Error 0600 - OP LIST Already In Progress

An OP:LIST process is already in progress.

1. Wait for the OP LIST run to finish then re-execute the TSM command.
2. If it fails again with the same error and an OP LIST is not in progress, escalate to your next level of support.

6.5.15.30 Error 0610 - OP LIST Error

An OP:LIST error was encountered during the TSM run.

Re-execute the TSM command. If it fails again with the same error, escalate to your next level of support.

6.5.15.31 Error 0620 - OP LIST Stopped - Manual Request

The TSM-generated OPLIST run was stopped by a manual STP:LIST request.

Re-execute the TSM command.

6.5.15.32 Error 0630 - OP LIST Stopped - Automatic Request

The TSM-generated OPLIST run was stopped by a system request.

1. Ensure no other OPLIST processes are running.
2. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.33 Error 0700 - Cannot Write Header To port_oos.{old|new} File

1. To ensure enough file space exists in **/updtmp** , enter message:

   MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 500 blocks of file space and 10 i-nodes remaining in **/updtmp**, escalate to your next level of support.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.34 Error 0701 - Cannot Write Header To port_oos.{old|new} File

1. To ensure enough file space exists in **/updtmp** , enter message:

   MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 500 blocks of file space and 10 i-nodes remaining in **/updtmp**, escalate to your next level of support.

3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.35 Error 0710 - Cannot Write Record To port_oos.{old|new} File

1. To ensure enough file space exists in **/updtmp** , enter message:

   MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 500 blocks of file space and 10 i-nodes remaining in **/updtmp***, escalate to your next level of support.*

3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.36 Error 0711 - Cannot Write Record To port_oos.new File

1. To ensure enough file space exists in **/updtmp** , enter message:

   MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 500 blocks of file space and 10 i-nodes remaining in **/updtmp**, escalate to your next level of support.

3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.37 Error 0712 - Cannot Write Record To port_oos.{old|new} File

1. To ensure enough file space exists in **/updtmp** , enter message:

   MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 500 blocks of file space and 10 i-nodes remaining in **/updtmp**, escalate to your next level of support.

3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.38 Error 0720 - Cannot Write Record To port_oos.{diff|cadn} File

1. To ensure enough file space exists in **/updtmp** , enter message:

   MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 500 blocks of file space and 10 i-nodes remaining in **/updtmp**, escalate to your next level of support.

3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.39 Error 0721 - Cannot Write Record To port_oos.{diff|cadn} File

1. To ensure enough file space exists in **/updtmp** , enter message:

   MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 500 blocks of file space and 10 i-nodes remaining in **/updtmp**, escalate to your next level of support.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.40 Error 0800 - fflush() Failed

1. To ensure enough file space exists in **/updtmp** , enter message:

   MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 500 blocks of file space and 10 i-nodes remaining in **/updtmp**, escalate to your next level of support.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.41 Error 0810 - fflush() Failed

1. To ensure enough file space exists in **/updtmp** , enter message:

   MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 500 blocks of file space and 10 i-nodes remaining in **/updtmp**, escalate to your next level of support.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.42 Error 0820 - fflush() Failed

1. To ensure enough file space exists in **/updtmp** , enter message:

   MSG **OP:STATUS,FREEDISK,FN="/updtmp";**

2. If there is not at least 500 blocks of file space and 10 i-nodes remaining in **/updtmp**, escalate to your next level of support.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.43 Error 0830 - fflush() Failed

See TSM Error 0800 (Section 6.5.15.40) to recover from this error.

6.5.15.44 Error 0900 - Cannot Read Header From port_oos.old File

1. To list files in **/updtmp/tsm**, enter message:

   MSG **OP:STATUS,LISTDIR,FN="/updtmp/tsm";**

2. Ensure the **port_oos.old** file exists and has read permissions set properly.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.45 Error 0901 - Cannot Read Header From port_oos.new File

1. To list files in **/updtmp/tsm**, enter message:

   MSG **OP:STATUS,LISTDIR,FN="/updtmp/tsm";**

2. Ensure the **port_oos.new** file exists and has read permissions set properly.

3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.46 Error 0902 - Cannot Read Header From port_oos.diff File

1. To list files in **/updtmp/tsm**, enter message:

   MSG **OP:STATUS,LISTDIR,FN="/updtmp/tsm";**

2. Ensure the **port_oos.diff** file exists and has read permissions set properly.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.47 Error 0903 - Cannot Read Header From port_oos.cadn File

1. To list files in **/updtmp/tsm**, enter message:

   MSG **OP:STATUS,LISTDIR,FN="/updtmp/tsm";**

2. Ensure the **port_oos.cadn** file exists and has read permissions set properly.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.48 Error 0910 - Cannot Read Record From port_oos.old File

1. To list files in **/updtmp/tsm**, enter message:

   MSG **OP:STATUS,LISTDIR,FN="/updtmp/tsm";**

2. Ensure the **port_oos.old** file exists and has read permissions set properly.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.49 Error 0911 - Cannot Read Record From port_oos.new File

1. To list files in **/updtmp/tsm**, enter message:

   MSG **OP:STATUS,LISTDIR,FN="/updtmp/tsm";**

2. Ensure the **port_oos.new** file exists and has read permissions set properly.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.50 Error 0912 - Cannot Read Record From port_oos.diff File

1. To list files in **/updtmp/tsm**, enter message:

   MSG **OP:STATUS,LISTDIR,FN="/updtmp/tsm";**

2. Ensure the **port_oos.diff** file exists and has read permissions set properly.
3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.51 Error 0913 - Cannot Read Record From port_oos.cadn File

1. To list files in **/updtmp/tsm**, enter message:

   MSG **OP:STATUS,LISTDIR,FN="/updtmp/tsm";**

2. Ensure the **port_oos.cadn** file exists and has read permissions set properly.

3. Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.52 Error 1000 - Corrupt Header Found In port_oos.old File

A bad header was found in the **port_oos.old** file.

1. If running tsmold, re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.
2. If running tsmnew, escalate to your next level of support.

6.5.15.53 Error 1001 - Corrupt Header Found In port_oos.new File

A bad header was found in the **port_oos.new** file.

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.54 Error 1002 - Corrupt Header Found In port_oos.diff File

A bad header was found in the **port_oos.diff** file.

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.55 Error 1003 - Corrupt Header Found In port_oos.cadn File

A bad header was found in the **port_oos.cadn** file.

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.56 Error 1010 - Corrupt Record Found In port_oos.old File

A bad record was found in the **port_oos.old** file.

1. If running tsmold, re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.
2. If running tsmnew, escalate to your next level of support.

6.5.15.57 Error 1011 - Corrupt Record Found In port_oos.new File

A bad record was found in the **port_oos.new** file.

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.58 Error 1012 - Corrupt Record Found In port_oos.diff File

A bad record was found in the **port_oos.diff** file.

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.59 Error 1013 - Corrupt Record Found In port_oos.cadn File

A bad record was found in the **port_oos.cadn** file.

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.60 Error 1100 - Cannot fseek() To End of port_oos.new File

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.61 Error 1101 - fseek() Failed During GRqsort()

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.62 Error 1200 - Cannot Allocate Enough Memory For qsort()

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.63 Error 1400 - Bad GRTSMTYPE Encountered In main()

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.64 Error 1405 - Bad GRTSMTYPE Passed To GRopenfiles()

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.65 Error 1410 - Incorrect Return Received From GRqs_comp()

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.66 Error 1415 - Bad File Pointer Encountered When Trying To Read Header

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.67 Error 1420 - Bad File Pointer Encountered When Trying To Check Header Sanity

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.68 Error 1425 - Bad File Pointer Encountered When Trying To Read Record

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.69 Error 1430 - Bad File Pointer Encountered When Trying To Check Record Sanity

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.5.15.70 Error 1450 - TSM Stopped By A Signal Call

Re-execute the TSM command. If it fails again with the same error code, escalate to your next level of support.

6.6 RECOVERY ACTIONS

6.6.1 R-1

Dump the Volume Table Of Contents (VTOC) on MHD by entering message:

MSG **DUMP:MHD=X:VTOC;**

Response: VTOC dumped

Where: X = MHD number.

6.6.2 R-2

Perform Step 1 *or* 2:

1. Wait for the APPLHOOK or SUPR process to stop.
2. Stop active APPLHOOK or SUPR processes as follows:
   a. Enter message:

      MSG **OP:STATUS,PROCESS,ALL;**

   b. Scan the output for any active APPLHOOK or SUPR process and record the process ID.
   c. Enter message:

      MSG **STOP:EXC:USER,PID=xxxxx;**

      Where: xxxxx = PID recorded above.

6.6.3 R-3

Not used.

6.6.4 R-4

1. To dump the SUPR log, access MCC page 1984 and enter command:

   CMD **503**
2. If the dump of the SUPR log fails, escalate to your next level of support. Otherwise, continue with the next step.
3. To resume, access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

6.6.5 R-5

Verify that the input line for starting the stage (UPD:GEN:"stage") or the poke command was entered correctly.

6.6.6 R-6

1. If reading in the tape in the Enter stage, make sure that the tape drive is on-line.
2. Make sure the tape drive is on-line.
3. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   For the tape drive cleaning and testing procedure, go to Section 3.9.7 and follow the procedure for the tape drive that is in the office.
4. The following command can only be used if all MHDs are on-line. Access MCC page 123 (and MCC page 125 if more than 2 DFCs are equipped) to verify that no MHDs are off-line.
5. To execute the Enter stage unconditionally, access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

CMD **4XX,Y**

Where: XX = the number of the UNCONDITIONAL EXECUTION

6. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500** The Enter stage executes unconditionally.

7. When the Enter stage completes, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

   CMD **4XX,N**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

6.6.7 R-7

Perform Steps 1 *or* 2.

1. Wait for SUPR process (Enter, Proceed, Commit, Backout, Restore) to complete.
2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **200**

OR

1. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

   CMD **4XX,Y**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **200**

   The Enter stage executes unconditionally.

3. When the Enter stage completes, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

   CMD **4XX,N**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

Caution: If STOP is executed unconditionally, the SUPR process will be terminated by a more extreme method than a kill. Some system resources in use by the process may not be released automatically.

6.6.8 R-8

Perform the appropriate step (1 *or* 2 *or* 3) as follows:

- If this recovery action was reached during the first attempt at the Begin stage during the transition, perform Step 1.
- If performing the Switchfwd, Switchbck, SMswitch, or SMbackout, perform Step 2.

- For all other cases, perform Step 3.

1. Perform the following:

   a. To backout of Begin, enter command on MCC page 1985,x (where x = RETRO, LTG, UPDATE):

      CMD **600**

   b. To resume Begin, enter command on MCC page 1985,x (where x = RETRO, LTG, UPDATE):

      CMD **500**

2. Perform the following:

   a. Enter message:

      MSG **UPD:GEN:BEGIN,xxxxx,UCL;**

      Where: xxxxx = RETRO, LTG, UPDATE.

   b. If above message fails, enter command:

      CMD **UPD:GEN:END,UCL;**

   c. Re-enter Step a. If it still fails, escalate to your next level of support.

   d. Re-enter appropriate command (for example, 500 poke, 600 poke, Switchfwd, Switchback, SMswitch, or SMbackout).

3. Perform the following steps as necessary.

   a. Enter message:

      MSG **UPD:GEN:BEGIN,xxxxx,UCL;**

      Where: xxxxx = RETRO, LTG, UPDATE.

   b. If above message fails, enter command:

      CMD **UPD:GEN:END,UCL;**

   c. Re-enter Step a. If it still fails, escalate to your next level of support.

6.6.9 R-9

1. Enter message:

   MSG **UPD:GEN:BEGIN,xxxxx,UCL;**

   Where: xxxxx = RETRO, LTG, UPDATE.

2. If going forward, to resume, access MCC page 1985,x (where x is RETRO, LTG, UPDATE) and enter command:

   CMD **500**

3. If backing out, to resume, access MCC page 1985,x (where x is RETRO, LTG, UPDATE) and enter command:

   CMD **600**

6.6.10 R-10

To end the transition cycle, enter message:

MSG **UPD:GEN:END,UCL;**

6.6.11 R-11

1. Using the ROP, verify that all LDFT tapes have been read by the READHDR process.
2. **If all tapes have not been read, seek technical assistance.**

6.6.12 R-12

This recovery action is exclusively used for SM switch forward problems. If the status of an SM does not change to MATE PUMP or FORCED, perform the following steps:

1. To allow auto pump, access MCC page 1800,x (where x = SM number) and enter command:

   CMD **701**

   Response: **OK**
2. If the status of the SM remains GEN DIFF on MCC page 1800,x, perform an AM directed reset (to initialize and pump the SM) by entering the following commands:

   CMD **924,UCL**

   Response: **FI PUMP? Y/N** (on MCC)

   CMD **Y**

   Response: **ORD:CPI=x,CMD=RESET,UCL; PF**

   Comment: This message may have to be repeated more than five times before the SM is completely reset.
3. If the status of the SM remains GEN DIFF, ***escalate to your next level of support immediately***.

Note: Do not attempt to power cycle an SM without support from technical assistance. If an SM that is in a forced simplex condition is power cycled, the SM force will be lost, and the SM will attempt to duplex.

6.6.13 R-13

1. If reading in tapes in the Enter stage, make sure the appropriate tape is mounted and that the tape drive is on-line.
2. Verify the tape header.
3. Mount the tape.
4. Access MCC page 1984 and enter command (this will output the tape header to the rop):

   MSG **505**

   After executing the READ HEADER command (505 command) perform the following:

   a. A Volume Table Of Contents (VTOC) was dumped as part of the output from the READ HEADER command (505 command). Verify that the dumped VTOC matches the VTOC dumped from the disk which was performed in Recovery Action R-1 (Section 6.6.1. (Only the first tape in a tape sequence contains a VTOC.)

b. If the VTOCs do not match, the tape may be damaged, escalate to your next level of support. These two VTOCs should also match the appropriate 5E16.2 VTOC table. Use Table 9-25 to determine which table the VTOC should match.

c. If the VTOCs do match, continue with the next referenced Recovery Action in sequence to resolve the problem or escalate to your next level of support.

6.6.14 R-14

1. Remove the tape that is on the tape drive.
2. Mount the tape.
3. To continue, access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

6.6.15 R-15

This recovery action is not currently used.

6.6.16 R-16

1. Verify the tape header.
2. Mount the tape.
3. Access MCC page 1984 and enter command (this will output the tape header to the rop):

   MSG **505**

   After executing the READ HEADER command (505 command), perform the following:

   - Compare information on magnetic tape label of the mounted tape with the information from the READ HEADER command (505 command). This information should match.
   - Verify that the "TAPE NO. IN SEQUENCE" is the correct tape that should be loaded at this point. If the wrong tape is mounted, unmount it, and mount the next tape in sequence, and continue with Step 2.
   - Verify that the "TAPE DENSITY" is the same as specified in the UPD:GEN:ENTER... message. All tapes loaded in the "Enter stage" must have the same tape density.
   - If a Volume Table Of Contents (VTOC) was dumped as part of the output from READ HEADER command (505 command), verify that the dumped VTOC matches the appropriate 5E16.2 VTOC table. Use Table 9-25 to determine which table the VTOC should match. Only the first tape in a tape sequence contains a VTOC.
4. Verify that tape drive is ON LINE.
5. Verify that the correct tape is being used. .
6. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command to continue:

   CMD **500**

6.6.17 R-17

1. Verify that the tape is fully rewound and at its beginning.
2. Verify that the correct tape is being used. .
3. To continue, access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**
4. If tape continues to fail, perform the following:
   a. Clean tape drive, then repeat Step 3.
   b. Switch to corresponding tape from other set or retension tape (fast-forward to end, rewind) and repeat Step 3.
   c. Diagnose tape drive, then repeat Step 3.
   d. Replace tape drive controller board and repeat Step 3.
5. If tape still fails, perform the appropriate Backout Action for this error code. All Backout Actions are located in the Backout Procedures Section 7 of this document.

6.6.18 R-18

1. Wait 30 seconds for all processes to terminate after the error message was received.
2. To continue from the error, access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   OR, in the event that a backout procedure was being executed, enter the following command:

   CMD **600**
3. If you are in the Enter stage, the message may instruct you to **MOUNT TAPE FOR APPROPRIATE DISK AND RESUME transition**.

   This message applies to the tape which failed. Ensure that the tape which did not read is mounted and the tape drive is on-line. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

6.6.19 R-19

The transition procedures do not allow disks to be in an Out-Of-Service (OOS) state (except MHDs 14 and 15 if equipped).

1. Restore system disks that are **OOS** (except MHDs 14 and 15 if equipped).
2. Wait until disk restoral(s) has completed.
3. To resume, access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

6.6.20 R-20

1. To stop any in-progress transition activity, access MCCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **200**

2. To restore MHDs to the old software release, access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **600**

   This command takes 20 to 30 minutes to restore each MHD. If the output is a SUPR/APPLHOOK error code, refer to the SUPR/APPLHOOK errors entry point in the Table of Contents and proceed as directed.

3. Enter command:

   CMD **500**

   at each pause during the backout activity until indicators on MCC page 1985,x (where x = RETRO, LTG, UPDATE) pause at the start of the Enter stage.

4. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

   CMD **4XX,Y**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

5. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500** The Enter stage executes unconditionally.

6. When the Enter stage completes, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

   CMD **4XX,N**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

6.6.21 R-21

The transition process does not allow disks to be in an OOS state (except MHDs 14 and 15 if equipped).

1. Restore system disks that are **OOS** (except MHDs 14 and 15 if equipped).
2. Wait until disk restoral(s) has completed.
   a. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

      CMD **4XX,Y**

      Where: XX = the number of the UNCONDITIONAL EXECUTION

   b. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

      CMD **500**

      The Enter stage executes unconditionally.

c. When the Enter stage completes, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

CMD **4XX,N**

Where: XX = the number of the UNCONDITIONAL EXECUTION

6.6.22 R-22

Verify that the Enter stage completed successfully. On MCC page 1985,x (where x = RETRO, LTG, UPDATE), the **ENTER** field is backlit upon successful completion.

6.6.23 R-23

1. Access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

   CMD **4XX,Y**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   The Proceed stage executes unconditionally.

3. When the Proceed stage completes, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

   CMD **4XX,N**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

6.6.24 R-24

1. ***Clean*** the tape drive.
2. To continue from the error, access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

3. If the tape read completes successfully, continue with the transition procedures in Section 5.
4. If the tape read did not complete successfully, return to the Transition Implementation section and execute Section 5.3.5.

   After executing the Tape Header Check section, perform the following:

   a. Compare information on magnetic tape label of the mounted tape with the information from the Tape Header Check procedure. This information should match.

   b. Verify that the "TAPE NO. IN SEQUENCE" is the correct tape that should be loaded at this point. If the wrong tape is mounted, unmount it, mount the next tape in sequence, and continue with Step 2.

   c. Verify that the "TAPE DENSITY" is the same as specified in the UPD:GEN:ENTER... message. All tapes loaded in the "Enter stage" must have the same tape density.

5. If tape continues to fail, perform the following:
   a. Switch to corresponding tape from other set or retension tape (fast-forward to end, then rewind) and repeat Step 4.
   b. Diagnose tape drive and repeat Step 4.
   c. Replace tape drive controller (UN145 or UN145B) and repeat Step 4.
6. If tape still fails, perform the appropriate Backout Action for this error code.

6.6.25 R-25

1. To determine if the mop command is running, perform the following steps:

   Access MCC page 1984 and enter command:

   CMD **510**

   Response:

```
!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
.
. MOP IS NOT RUNNING AND THERE ARE NO OFFLINE
   PARTITIONS MOUNTED
.
. ISMOP COMPLETE
.
!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
```

2. To stop the mop process, access MCC page 1984 and enter command:

   CMD **609**

   Response:
   UPD:GEN:APPLPROC,ARG="STOPMOP";
   UPD GEN APPLPROC EXECUTING THE FOLLOWING TRANSITION TOOL:
   /no5text/prc/mop
   [PRM_0 E800 0002 xx03 xxxx xx xx xx] (may be received several times)
   UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY

3. To continue, access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

6.6.26 R-26

1. To determine if the mop command is running, access MCC page 1984 and enter command:

   CMD **510**

Response:

```
!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
 !!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!

 .

 . MOP IS RUNNING: mopPID = ____________________

 .

 . THE FOLLOWING OFFLINE PARTITIONS ARE MOUNTED:

 /tmp/ofl...

 .

 . ISMOP COMPLETE

 .

 !!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!

 !!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
```

2. To stop the mop process, access MCC page 1984 and enter command:

   CMD **609**

   Response: **UPD:GEN:APPLPROC,ARG="STOPMOP";**
   UPD GEN APPLPROC EXECUTING THE FOLLOWING TRANSITION TOOL:
   /no5text/prc/mop
   [PRM_0 E800 0002 xx03 xxxx xx xx xx] (may be received several times)
   UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY

3. To ensure that the mop command is no longer running, access MCC page 1984 and enter command:

   CMD **510**

   Response:

```
UPD:GEN:APPLPROC,ARG="ISMOP";

UPD GEN APPLPROC EXECUTING THE FOLLOWING TRANSITION TOOL:

/prc/supr/ismop

UPD GEN APPLPROC ISMOP REPORT

 !!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
 !!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!

 .

 . MOP IS NOT RUNNING

 .

 . THERE ARE NO OFFLINE PARTITIONS MOUNTED

 .
```

```
 . ISMOP COMPLETE

 .

!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!

!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!

UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

4. If mop is running and/or off-line partitions are mounted, escalate to your next level of support.
5. If mop was successfully stopped, access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command to continue:

   CMD **500**

6.6.27 R-27

In this recovery action, the disks containing the new software release is manually restored to the old software release. If there is any question as to which MHD pair is to be duplexed, escalate to your next level of support.

1. Access MCC page 123 (or MCC page 125 if more than 2 DFCs are equipped). Verify that the odd numbered MHDs to be restored are in an Out-Of-Service (OOS) state. If any odd-numbered MHDs are Off-Line (OFL), escalate to your next level of support.
2. To restore the odd-numbered OOS MHD(s), enter command:

   CMD **RST:MHD=X;**

   Where: X = the number of the MHD being restored)

   Response: **RST MHD x COMPLETED**

   If any disk restoral failed, seek technical assistance.
3. To continue, access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

6.6.28 R-28

In this recovery action, the disks containing the old software release will be updated with the new software release.

1. Access MCC page 1984 and enter command to dump the suprlog to the ROP:

   CMD **503**

   From the suprlog printed to the ROP, verify the successful completion of the Proceed stage.
2. To execute the Commit stage unconditionally, access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

   CMD **4XX,Y**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

3. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   The Commit stage executes unconditionally.

4. Perform the following steps ONLY if the previous step failed.

   a. Access MCC page 123 (or MCC page 125 if more than 2 DFCs are equipped).

   b. Verify that none of the even-numbered MHDs are Off-Line (OFL). If any even-numbered MHDs are off-line, escalate to your next level of support; otherwise, continue to restore MHDs.

   c. To restore the even-numbered Out-Of-Service (OOS) MHD(s), enter command:

      CMD **RST:MHD=X;**

      Where: X = the number of the MHD being restored

      Response: **RST MHD x COMPLETED**

   d. If the disk restore is successful and other even-numbered MHDs are OOS, repeat the previous step to restore the MHDs. If the disk restore failed, escalate to your next level of support.

5. To continue, access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   The Commit stage executes unconditionally.

6. When the Enter stage completes, access MCC page 1989 and change the UNCONDITIONAL EXECUTION to N by entering command:

   CMD **4XX,N**

   Where: XX = the number of the UNCONDITIONAL EXECUTION

7. When the even-numbered MHDs are committed to the new software release, return to the Commit stage in Section 5 and perform the steps that follow the Commit stage.

6.6.29 R-29

1. Retry the command by accessing MCC page 1985,x (resume) (where x = RETRO, LTG, UPDATE) and entering command:

   CMD **500**

   OR

   CMD **600** (for Backout)

2. If the error occurs again, dump the APPLLOG file (a **504** command on MCC page 1984).

3. Analyze the error in the APPLLOG file and take corrective action.

4. If the error still occurs, escalate to your next level of support.

6.6.30 R-30

1. If one or more MHDs are already off-line, escalate to your next level of support and perform the referenced Backout Action.
2. If no MHDs are off-line, restore the MHD to an active state.
3. Once all MHDs are ACT, re-execute the Enter command using the UCL option on MCC page 1985,x (where x = RETRO, LTG, UPDATE).
   a. To execute the Enter stage, access MCC page 1989 and change the UNCONDITIONAL EXECUTION to Y by entering command:

      CMD **4XX,Y**

      Where: XX = the number of the UNCONDITIONAL EXECUTION
   b. On MCC page 1985,x (where x = RETRO, LTG, UPDATE), enter command:

      CMD **500** The Enter stage executes unconditionally.
   c. When the Enter stage completes, access MCC page 1989 and change the UNCONDITIONAL EXECUTION option to N by entering command:

      CMD **4XX,N**

      Where: XX = the number of the UNCONDITIONAL EXECUTION

6.6.31 R-31

1. Verify that the CMPs are in the proper state (ACTIVE and GEN DIFF DACT).
2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   OR

   CMD **600** (for Backout)
3. If the error still occurs, escalate to your next level of support.

6.6.32 R-32

1. Verify that the CMPs are duplex (ACTIVE and STBY).
2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   OR

   CMD **600** (for Backout)
3. If the error still occurs, escalate to your next level of support.

6.6.33 R-33

1. Enter message:

   MSG **OP:STATUS:LISTDIR,FN="/etc/log";**
2. Enter message:

   MSG **OP:STATUS:FREEDISK,FN="/etc/log";**

3. Examine the ROP to find the output from the previous two commands. The **/etc/log** directory and **/etc** file system should have the following attributes:
   - The "rwx," (r)ead, (w)rite, and e(x)ecution permissions should be allowed for both the **/etc** file system and the **/etc/log** directory.
   - Verify that both i-nodes or blocks are not equal to zero.
4. Escalate to your next level of support for further error resolution. Inform technical assistance of the checks just made and if "rwx" permissions are not allowed and/or zero i-nodes or blocks exist.

6.6.34 R-34

This recovery action is not currently used.

6.6.35 R-35

1. Verify that off-line partitions are mounted by accessing MCC page 1984 and entering command:

   CMD **510**
2. If the off-line partitions are not mounted, access MCC page 1984 and enter command:

   CMD **509**
3. Verify that this was successful by entering command:

   CMD **510**
4. If mop is running and the proper off-line partitions are mounted, continue with the procedures.

   If mop is not running and no off-line partitions are mounted, re-execute the 509 command.

   If mop is not running and there are off-line partitions mounted, escalate to your next level of support.

   If mop is running and none or only some of the off-line partitions are mounted wait for the mount PRMs, re-execute the **510** command. From this output, if all partitions are still not present, escalate to your next level of support.
5. Access MCC page 1850 and verify that CMP 0-0 is the ACT CMP (under the CMP 0 PRIM STAT box) and CMP 1-0 is the STBY CMP (under the CMP 0 MATE STAT box).
6. If CMP0-0 is not the ACTIVE (primary) CMP, enter message:

   MSG **SW:CMP=0-0**
7. To off-line pump the CMP, access MCC page 1851 and enter command:

   CMD **930**

   Wait until the CMP pump status is GEN DIFF, CMP is successfully pumped.

6.6.36 R-36

If a **500** or **600** command failed proceed with step 1.

If any other command failed, proceed with step 2.

1. Perform the following as necessary:
   a. To continue, access MCC page 1985,x: (where x = RETRO, LTG, UPDATE) and enter command:

      CMD **500** (if forward)

      OR

      CMD **600** (if backout)

   b. If command still fails with the same error code, escalate to your next level of support.
2. Perform the following as necessary:
   a. Re-enter the command.
   b. If the command fails again, refer to Table 9-24 for the Pokes and equivalent Input messages. If the 500 command was used, enter the corresponding input command.
   c. If the command still fails, escalate to your next level of support.

6.6.37 R-37

This recovery action is not currently used.

6.6.38 R-38

1. At this point, call processing is probably down. A few of your SMs may not have switched to the new side. You may attempt to switch them again by continuing with Step 2. Since most of your SMs have probably switched to the new side, you may wish to skip Step 2 and Step 3 and go directly to Step 4 which boots on the new software release.

   If the only SMs which have not switched are RSMs, skip Steps 2 and 3 and go directly to Step 4 since communication to the RSMs cannot be established through the Host SM at this time.
2. If new software release data is only in MCTSI side 1 of ***some*** SMs, skip Step 2 and proceed to Step 3. If the new software release data is in MCTSI side 1 of ***all*** SMs, perform the following:
   a. To switch **RSMs** to side 1, enter message:

      MSG **UPD:GEN:SMSWITCH,RSM,UCL;**

      - If any **RSMs** fail to switch, enter message:

        MSG **UPD:GEN,SMSWITCH,SM=x,UCL;**

        Where: x = RSM to be switched to side 1.
      - If any **RSMs** still fail to switch, enter message:

        MSG **ORD:CPI=x,CMD=GRSW-1,UCL;**

        Where: x = RSM to be switched to side 1.

b. To switch remaining **SMs** to **side 1**, enter message:

MSG **UPD:GEN:SMSWITCH,UCL;**

- If any **SMs** fail to switch, enter message:

  MSG **UPD:GEN,SMSWITCH,SM=x,UCL;**

  Where: x = SM to be switched to side 1.

- If any **SMs** still fail to switch, enter message:

  MSG **ORD:CPI=x,CMD=GRSW-1,UCL;**

  Where: x = SM to be switched to side 1.

3. If the new software release data is in MCTSI side 1 of ***some*** SMs (and MCTSI side 0 of OTHERS), perform the following steps:

a. To switch some **RSMs** to **side 1**, enter message:

MSG **UPD:GEN,SMSWITCH,SM=x,UCL;**

Where: x = RSM to be switched to side 1.

If any **RSMs** fail to switch to **side 1**, enter message:

MSG **ORD:CPI=x,CMD=GRSW-1,UCL;**

Where: x = RSM to be switched to side 1.

b. To switch some **RSMs** to **side 0**, enter message:

MSG **UPD:GEN,SMBKOUT,SM=x,UCL;**

Where: x = RSM to be switched to side 0.

If any **RSMs** fail to switch to **side 0**, enter message:

MSG **ORD:CPI=x,CMD=GRSW-0,UCL;**

Where: x = RSM to be switched to side 0.

c. To switch some **SMs** to **side 1**, enter message:

MSG **UPD:GEN,SMSWITCH,SM=x,UCL;**

Where: x = SM to be switched to side 1.

If any **SMs** fail to switch to **side 1**, enter message:

MSG **ORD:CPI=x,CMD=GRSW-1,UCL;**

Where: x = SM to be switched to side 1.

d. To switch some **SMs** to **side 0**, enter message:

MSG **UPD:GEN,SMBKOUT,SM=x,UCL;**

Where: x = SM to be switched to side 0.

If any **SMs** fail to switch to **side 0**, enter message:

MSG **ORD:CPI=x,CMD=GRSW-0,UCL;**

Where: x = SM to be switched to side 0.

4. If switching of SMs is still not successful, escalate to your next level of support and/or back out.

Warning: After this recovery action has been completed, immediately continue with the appropriate procedures.

6.6.39 R-39

Note: At any time during the following procedure, to check which MCTSI side is active, enter an ***OP:SYSSTAT,UCL;*** command.

1. Enter message to unconditionally SWITCHBACK the SMs:

   MSG **UPD:GEN:SWITCHBCK,UCL;**

   If the SWITCHBCK fails a second time, perform the following steps in this recovery action to switch SMs to the MCTSI side containing the OLD software release data.

   Note: In the following steps, all RSMs must be switched to the appropriate side *before* the SMs (LSMs, HSMs, and ORMs).

2. If the old software release data is only in MCTSI side 0 of ***some*** SMs, skip Step 2 and proceed to Step 3. If the old software release data is in MCTSI side 0 of ***all*** SMs, perform the following:

   a. To switch all **RSMs** to **side 0**, enter message:

      MSG **UPD:GEN:SMBKOUT,RSM,UCL;**

      - If any **RSMs** fail to switch, enter message:

        MSG **UPD:GEN,SMBKOUT,SM=x,UCL;**

        Where: x = RSM to be switched to side 0.

      - If any **RSMs** still fail to switch, enter message:

        MSG **ORD:CPI=x,CMD=GRSW-0,UCL;**

        Where: x = RSM to be switched to side 0.

      Note: All RSMs must be switched *before* the SMs (LSMs, HSMs, and ORMs). If switching of RSMs is still not successful, escalate to your next level of support and/or back out.

   b. To switch the remaining **SMs** to **side 0**, enter message:

      MSG **UPD:GEN:SMBKOUT,UCL;**

      - If any **SMs** fail to switch, enter message:

        MSG **UPD:GEN,SMBKOUT,SM=x,UCL;**

        Where: x = SM to be switched to side 0.

      - If any **SMs** still fail to switch, enter message:

        MSG **ORD:CPI=x,CMD=GRSW-0,UCL;**

        Where: x = SM to be switched to side 0.

      If switching of SMs is still not successful, escalate to your next level of support and/or back out.

3. If the old software release data is in MCTSI side 0 of ***some*** SMs (and MCTSI side 1 of others), perform the following steps:

   a. To switch some **RSMs** to **side 0**, enter message:

      MSG **UPD:GEN,SMBKOUT,SM=x,UCL;**

      Where: x = RSM to be switched to side 0.

      If any **RSMs** fail to switch to **side 0**, enter message:

      MSG **ORD:CPI=x,CMD=GRSW-0,UCL;**

      Where: x = RSM to be switched to side 0.

   b. To switch some **RSMs** to **side 1**, enter message:

      MSG **UPD:GEN,SMSWITCH,SM=x,UCL;**

      Where: x = RSM to be switched to side 1.

      If any **RSMs** fail to switch to **side 1**, enter message:

      MSG **ORD:CPI=x,CMD=GRSW-1,UCL;**

      Where: x = RSM to be switched to side 1.

      Note: All RSMs must be switched before the SMs (LSMs, HSMs, and ORMs). If switching of RSMs is still not successful, escalate to your next level of support and/or back out.

   c. To switch some **SMs** to **side 0**, enter message:

      MSG **UPD:GEN,SMBKOUT,SM=x,UCL;**

      Where: x = SM to be switched to side 0.

      If any **SMs** fail to switch to **side 0**, enter message:

      MSG **ORD:CPI=x,CMD=GRSW-0,UCL;**

      Where: x = SM to be switched to side 0.

   d. To switch some **SMs** to **side 1**, enter message:

      MSG **UPD:GEN,SMSWITCH,SM=x,UCL;**

      Where: x = SM to be switched to side 1.

      If any **SMs** fail to switch to **side 1**, enter message:

      MSG **ORD:CPI=x,CMD=GRSW-1,UCL;**

      Where: x = SM to be switched to side 1.

4. If switching of SMs is still not successful, escalate to your next level of support.

Warning: After this recovery action has been completed, immediately continue with the appropriate procedures.

6.6.40 R-40

Not used.

6.6.41 R-41

1. To check the off-normal processor status, enter message:

MSG **OP:SYSSTAT,UCL;**

Response:

OP SYSSTAT	SUMMARY	FIRST RECORD
SYS:	**INHIBITS-RC MISC**	
AM:	**INHIBITS-MTCE**	
CM:	**NO_REQ_PEND**	
CMP x**-0 P:**	**NORMAL**	
CMP y**-0 M:**	**NORMAL**	
L LSM a,x**:**	**INHIBITS-MTCE**	
...		
B LSM b,x**:**	**INHIBITS-MTCE**	
...		
S LSM z,x**:**	**INHIBITS-MTCE**	

2. Verify that none of the SMs have "MATE_OOD" as a status.
   - If any SMs indicate MATE_OOD, access MCC page 1190,x and restore that SM to duplex.
   - After all SMs are duplex, re-enter OP:SYSSTAT,UCL.
3. Ensure no off-normal status other than **INHIBITS-MTCE** is indicated for any SM.
4. From the output, verify that both CMP 0-0 and CMP 1-0 indicate **NORMAL**.
5. To mount off-line file systems, on MCC page 1984 enter command:

   CMD **509**

   Response:

```
UPD:GEN:APPLPROC,ARG="MOP";

UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:

CHG:LPS,MSGCLS=INT_MON,PRINT=ON,LOG=ON;

CHG:LPS,MSGCLS=INT_MON,PRINT=ON,LOG=ON; OK

UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:

CHG:LPS,MSGCLS=GENRMON,PRINT=ON,LOG=ON;

CHG:LPS,MSGCLS=GENRMON,PRINT=ON,LOG=ON; OK

UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:

CHG:LPS,MSGCLS=INT,PRINT=ON,LOG=ON;

CHG:LPS,MSGCLS=INT,PRINT=ON,LOG=ON; OK

UPD GEN APPLPROC EXECUTING THE FOLLOWING TRANSITION TOOL:

/no5text/prc/INoflmop
```

```
PRM_0 E800 xxxx xxxx xxxx xx xx xx (appears several times)

UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

6. Access MCC page 1209 and ensure ONTCs indicate ACTIVE MAJOR/MINOR before proceeding.
7. Access MCC pages 141, 142, etc., and verify that all SMs are inhibited.
8. To simultaneously switch and force all MCTSI side 0 active, enter message:

   MSG **ORD:CPI=1&&192,CMD=SW-0;**

   Response: **ORD CPI** x **CMD SW 0 COMPLETED**

   Comment: On MCC pages 141, 142, etc., all SMs should go to **FORCED** simultaneously, MCTSI side 0 active.

   If the switch and force fails, repeat the command. If it still fails, refer to Section 6.5.7.
9. On MCC page 1800,x all MCTSI side 1s should indicate an unavailable (**UNV**) condition. All MCTSI side 0s should indicate an active forced (**ACTF**) condition.
10. To inhibit software and hardware checks in all SMs, access MCC page 1984 and enter command:

    CMD **513,sm**

    Response:

```
UPD:GEN:APPLPROC,ARG="INHSMCHKS";

UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:

INH:HDWCHK,SM=1&&192;

INH:HDWCHK,SM=1&&192; IP

UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:

INH:SFTCHK,SM=1&&192;

INH:SFTCHK,SM=1&&192; OK

UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:

INH:CLNORM;

INH:CLNORM; PF

UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY

INH CLNORM COMPLETED

INH HDWCHK SM=x COMPLETED (once for each SM)
```

    Comment: Do not proceed until an **INH HDWCHK SM=**x **COMPLETED** has been received for each SM.
11. Enter message:

    MSG **OP:SYSSTAT,UCL;**

    Response:

OP SYSSTAT	SUMMARY FIRST RECORD
SYS:	INHIBITS-MTCE-RC MISC
AM:	INHIBITS-MTCE
CM:	NO_REQ_PEND
CMP x-0 P:	NORMAL
CMP y-0 M:	NORMAL
L LSM a,x:	FORCED INHIBITS-MTCE-HW-SW MATE_OOD CKT_OOS
...	
B LSM b,x:	FORCED INHIBITS-MTCE-HW-SW MATE_OOD CKT_OOS
...	
S LSM z,x:	FORCED INHIBITS-MTCE-HW-SW MATE_OOD CKT_OOS

If any SMs do ***not*** indicate **FORCED INHIBITS-MTCE-HW-SW MATE_ODD CKT_OOS**, access MCC page 1800,x (where x = SM number not indicating INHIBITS-MTCE-HW-SW). Both box "04 SFTCHK" and box "08 ALL HDWCHK" should be backlit and indicate they are inhibited. If they are not inhibited, enter the command 604 to inhibit software checks (box "04 SFTCHK") and command 608 to inhibit hardware checks (box "08 ALL HDWCHK").

12. To switch the pump peripheral controllers (PPCs), on MCC page 1241 enter command:

    CMD **450**

    Response:

    ```
    SW:PPC; PF

    SW PPC COMPLETED
    ```

    Comment: For the off-line pump to function properly, the preceding PPC switch must be performed. At this point, ***either*** PPC can be active (with the other PPC standby).

13. To off-line pump the SMs, on MCC page 181 enter command:

    CMD **2000**

    Caution: As part of the off-line pump process, one side of the (R)ISLU CCs and IDCU SGs will be removed from service to install the new software release. Do not restore the OOS (R)ISLU CCs or IDCU SGs.

    Response: **ST:OPUMP,SM=1&&192,OFLDISK,VFY,PERF; PF**
    REPT SM=a **OFFLINE PUMP COMPLETED** (output on ROP as each SM is pumped).

    Comment: Use MCC pages 181, 182, etc., to view the off-line pump status for the SMs and peripherals. All of the possible states of the mate memory that can be displayed on MCC page 181 during off-line pump are listed in tables in Chapter 5.

14. On MCC pages 181, 182, etc., ensure that all SMs indicate **MATE PUMP** before proceeding.

15. Access MCC page 1850 and verify that CMP 0-0 is the **ACT** CMP (under the **CMP 0 PRIM STAT** box) and CMP 1-0 is the **STBY** CMP (under the **CMP 0 MATE STAT** box).

16. ***If*** CMP 0-0 is ***not*** the ACTIVE (primary) CMP, enter message:

    MSG **SW:CMP=0-0;**

    Response:

```
SW:CMP=0-0; PF

[EXC ODDRCVY=ALL CMP=0-0 STOPPED]

[REPT CMP=1-0 MATE SWITCH FORWARD TRIGGER=SW-REQUEST]

[REPT MSKP_ENVIRONMENT:]

[CMP=1-0 PHASE 1&2 INIT COMPLETION TIME: xxxx TYPE:xxx]

       [EVENT=xxxx]

EXC ODDRCVY=ALL CMP=1-0 STARTED

SW  CMP=0-0 COMPLETED

[REPT COMMUNICATION RESTORED: AM TO CMP=1-0 MATE]

[REPT MSKP_ENVIRONMENT:]

[CMP=1-0 PHASE 3   INIT COMPLETION TIME: xxxxxx TYPE:xxx]

       [EVENT=xxxx]
```

    Comment: CMP 0-0 becomes **PRIMARY** (active), CMP 1-0 becomes **MATE** (standby).

17. To inhibit AM software and hardware checks, enter command on MCC page 1984:

    CMD **513,am**

    Response:

```
UPD:GEN:APPLPROC,ARG="INHAMCHKS";

UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:

INH:HDWCHK;

INH:HDWCHK; PF (on ROP)

* REPT INHADM MINOR ALARM FROM INHIBIT ADMINISTRATOR (on ROP)

INH HDWCHK COMPLETED

UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:

INH:SFTCHK;

INH:SFTCHK; PF (on ROP)

* REPT INHADM MINOR ALARM FROM INHIBIT ADMINISTRATOR
```

```
 (on ROP)

INH SFTCHK COMPLETED

UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

Comment: On MCC page 110 - SYSTEM INHIBITS, box "**18 SOFTWARE CHECKS**" and box "**24 HARDWARE CHECKS**" should be backlit.

18. To off-line pump the CMP, from MCC page 1851, enter command:

    CMD **930**

    Response:

```
ST:OPUMP,CMP=0,MATE; PF

EXC ODDRCVY=ALL CMP=1-0 STOPPED

REPT CMP=1-0 MATE SWITCH FORWARD TRIGGER={MANUAL|CRAFT}

       -REQUEST

ST OPUMP CMP=1-0 COMPLETED

[REPT MSKP_ENVIRONMENT:]

[CMP=1-0 PHASE 1&2 INIT COMPLETION TIME: H'xxxx TYPE:H'x]

       [EVENT=xxxx]

[CMP=1-0 PHASE 3   INIT COMPLETION TIME: H'xxxx TYPE:H'x]

       [EVENT=xxxx]

[REPT COMMUNICATION RESTORED: AM TO CMP=1-0 MATE]
```

    Comment: On MCC page 1851, the status indicator for CMP 1-0 will change from Standby (STBY) to Out-Of-Service (OOS) to white Deactivated (DACT).

    Also, on MCC page 1851, the different states of the mate memory will be displayed.

19. To check AM, SM, and CMP status, enter message:

    MSG **OP:SYSSTAT,UCL;**

    Response: **OP:SYSSTAT,UCL;PF**

OP SYSSTAT	**SUMMARY {FIRST|NEXT|LAST} RECORD**
SYS:	**INHIBITS-MTCE-RC MISC**
AM:	**INHIBITS-MTCE-SW MORE**
CM:	**NO_REQ_PEND**
CMP 0-0 P:	**NORMAL**
CMP 1-0 M:	**GEN DIFF**
L LSM a**,0:**	**MATE PUMP FORCED** **INHIBITS-MTCE-HW-SW CKT_OOS [MORE]**
...	
B LSM b**,0:**	**MATE PUMP FORCED** **INHIBITS-MTCE-HW-SW CKT_OOS [MORE]**
...	
S LSM z**,0:**	**MATE PUMP FORCED** **INHIBITS-MTCE-HW-SW CKT_OOS [MORE]**

Comment: On MCC page 1800,x (where x = any numbered SM) box "**04 SFTCHK**" and box "**08 ALL HDWCHK**" should be backlit.

Verify that the mate CMP indicates **GEN DIFF** and all SMs indicate **MATE_PUMP**.

20. To unmount off-line disk file systems, on MCC page 1984, enter command:

    CMD **609**

    Response:

```
UPD:GEN:APPLPROC,ARG="STOPMOP";

UPD GEN APPLPROC EXECUTING THE FOLLOWING TRANSITION TOOL:

/no5text/prc/mop

[PRM_0 E800 0002 xx0x xxxx xx xx xx]

(may appear several times)

UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

21. To record trunk OOS statuses on the current software release, enter message:

    MSG **UPD:GEN,TSM,OLD,UCL;**

    Response: **UPD GEN TSM IN PROGRESS** xxx **TRUNKS LOGGED** *(Output every 2 minutes)*
    UPD GEN TSM COMPLETED

    Comment: If any TSM errors are encountered, refer to Section 6.5.15.

22. At this time, the operating company should notify all carrier systems connected to this office of the impending system switch forward.

23. Inform the Update Coordinator that the switch will undergo a full system switch forward in approximately ***45 to 60*** minutes.

24. Access MCC page 1984 and enter the following command to execute the Proceed stage:

CMD **702,ucl**

Note: The **PROCEED** field on MCC page 1984 is already backlit and should not be used as an indication of successful completion of this step (if not using AM OFF-LINE BOOT then enter **702,noflboot,ucl**. The response given below is for AM OFF-LINE BOOT, see the Proceed stage in Section 8 for non-OFF-LINE BOOT response).

Response:

```
THE PROCEED PROCESS IS EXECUTING
UPD:GEN:PROCEED,UCL;
PRM_0 E800 xxxx xx03 xxxx xx xx xx on ROP

UPD GEN PROCEED TRANSFERRING CONTROL TO APPLICATION
UPD GEN PROCEED APPLICATION COMPLETION WITHIN xxxx SECONDS
PRM_0 E800 xxxx xx03 xxxx xx xx xx on ROP - several times
UPD GEN PROCEED APP EXECUTING CORCFLUSH
CORCFLUSH: SM=X COMPLETE (once for each SM)
CORCLUSH: AM COMPLETE
UPD GEN PROCEED APP EXECUTING PRCDHOOK
PRM_0 E800 xxxx xx03 xxxx xx xx xx on ROP
UPD GEN PROCEED APP AM OFFLINE BOOT STARTED
EXC OFLBOOT STARTED
EXC OFLBOOT IN PROGRESS
RMV DFC x COMPLETED
RMV IOP 1 COMPLETED
RMV MHD x COMPLETED
(A RMV message appears for each AM/CM hardware unit.)
(A portswitch may occur sometime during this sequence.)
SET FRC MSCU=0 COMPLETED
SET FRC ONTCCOM=0 COMPLETED
SET FRC NCOSC=0 COMPLETED
CU RECOVERY COMPLETE
REPT DEGROWTH TTY x COMPLETED
REPT DEGROWTH TTYC x COMPLETED
REPT DEGROWTH SDL x COMPLETED
```

(A DEGROWTH message appears for each AM/CM hardware unit.)

(The following will be output every 5 minutes.)

EXC OFLBOOT INFO

BOOT IN PROGRESS

OLBSTATE	LASTATE	FUNCTION	LINE
SENDBOOT	EXC_AIMECD	MON_BOOT	*xxxx*

UPD GEN PROCEED APP AM OFFLINE BOOT SUCCESSFUL

EXC OFLBOOT COMPLETED

OFFLINE SIDE BOOT COMPLETE

UPD GEN PROCEED APP AM OFFLINE BOOT SUCCESSFUL

EXC OFLBOOT COMPLETED

OFFLINE SIDE BOOT COMPLETE

Switch forward PRMs are output on the Rop. **If any failing PRMs are encountered, consult the PRM document. If only failing PRMs are output, escalate to your next level of support immediately.**

UPD GEN PROCEED APP EXECUTING CORCFLUSH

CORCFLUSH: SM=X COMPLETE (once for each SM)

CORCFLUSH: AM COMPLETE

UPD GEN PROCEED APP EXECUTING CORCEVOL

(These messages may take several minutes to complete.)

[CNVT CORCLOG EVOL AM COMPLETE]

[xxxx CORCS EVOLVED]

[xxxx CORCS IN ERROR]

[xxxx RDNT CORCS RMVD]

[CNVT CORCLOG EVOL CMP COMPLETE]

[xxxx CORCS EVOLVED]

[xxxx CORCS IN ERROR]

[xxxx RDNT CORCS RMVD]

[CNVT CORCLOG EVOL SM = x COMPLETE]

[xxxx CORCS EVOLVED]

```
                [xxxx TRNCORCS EVOLVED]

                [xxxx CORCS IN ERROR]

                [xxxx TRNCORCS IN ERROR]

                [xxxx RDNT CORCS RMVD]

                [xxxx RDNT TRNCORCS RMVD]

        [CNVT CORCLOG EVOL IN PROGRESS]

                [CORC NUMBER xxx HAS BEEN READ]

        xxx CORCS xxxx TRNCORCS HAVE BEEN LOGGED IN THE CORC

               EVOLVED LOGFILES

        UPD GEN PROCEED COMPLETED

        THE PROCEED PROCESS COMPLETED SUCCESSFULLY
```

Comment: The order of messages (particularly the PRMs) on the ROP may vary from the order of messages shown in the preceding output response.

The cronfile dumped during proceed is the 5E16(2) system cronfile which will be activated during "rmvtools".

Note: Verify that the output shown in this step has been output on the ROP.

25. To dump the VTOC on MHD 1, enter message:

    MSG **DUMP:MHD=1,VTOC;**

    Response: VTOC for MHD 1 is dumped at ROP.

    Comment: Compare the VTOC with Table 5–16 to verify that the correct VTOC has been loaded on MHD 1.

Warning: Ensure that LBOOT has a valid start address (2). If not, escalate to your next level of support immediately.

6.6.42 R-42

1. Verify the ability to perform an AM port switch. Enter the following command on MCC page 111:

   CMD **400**

2. If the port switch is successful, continue with the procedures. Enter the following command on MCC page 1985,x (where x = RETRO, LTG, UPDATE):

   CMD **500**

3. If the port switch in Step 1 fails, correct the problem in accordance with local procedures. Then continue with the procedures. Enter the following command on MCC page 1985,x (where x = RETRO, LTG, UPDATE):

   CMD **500**

4. **If problems continue after the 500 poke command is input, seek technical assistance.**

6.6.43 R-43

1. Access MCC page 1984 and enter command to stop the off-line boot process:

   CMD **507**

   This command allows the Automatic Diagnostic Process (ADP) and executes a STOP:OFLBOOT,RST command.

2. The **507** poke command terminates the AM off-line boot process and duplexes the IOP, DFC, and AM hardware. The MHDs containing the new software release text load are returned to OFL.

3. **Seek technical assistance for the correct AM off-line boot command.**

6.6.44 R-44

1. Access MCC page 111. Do not continue until the CU, IOP, and MTTYC hardware are duplex. These units should restore to duplex within 10 minutes. If they are not duplex within 10 minutes, manually restore them.

2. Access MCC page 115. No off-normal indicators should be observed. Use local procedures to correct any off-normal units.

3. For CNI offices, access MCC page 118. No off-normal indicators should be observed. Use local procedures to correct any off-normal units.

4. To resume, access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

6.6.45 R-45

1. If AM off-line boot is still in progress, as indicated by**OFLINE IP-ONLINE** backlit red in the upper left corner on MCC page 111, retry the Switchfwd stage again. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **500**

   If it fails again, seek technical assistance.

2. If the AM off-line boot is not in progress, perform the following steps.

   a. Access MCC page 111. Do not continue until the CU, IOP, and MTTYC hardware are duplex. These units should restore to duplex within 10 minutes. If they are not duplex within 10 minutes, manually restore them.

   b. Access MCC page 115. No off-normal indicators should be observed. Use local procedures to correct any off-normal units.

   c. For CNI offices, access MCC page 118. No off-normal indicators should be observed. Use local procedures to correct any off-normal units.

   d. Restart the procedures at Section 5.6.7 and execute the proceed command using the following procedure:

      I. To execute the Proceed stage unconditionally, access MCC page 1989. Change the UNCONDITIONAL EXECUTION to Y by entering command:

         CMD **4XX,Y**

Where: XX = the number of the UNCONDITIONAL EXECUTION

II. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

CMD **500** The Proceed stage executes unconditionally.

III. When the Proceed stage completes, access MCC page 1989. Change the UNCONDITIONAL EXECUTION to N by entering command:

CMD **4XX,N**

Where: XX = the number of the UNCONDITIONAL EXECUTION

6.6.46 R-46

1. If AM off-line boot is still in progress, as indicated by**OFLINE IP-ONLINE** backlit red in the upper left corner on MCC page 111, retry the Switchback stage again. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **600**

   If it fails again, seek technical assistance.

2. If the AM off-line boot is not in progress, perform the following steps:

   a. Access MCC page 111. Do not continue until the CU, IOP, and MTTYC hardware are duplex. These units should restore to duplex within 10 minutes. If they are not duplex within 10 minutes, manually restore them.

   b. Access MCC page 115. No off-normal indicators should be observed. Use local procedures to correct any off-normal units.

   c. For CNI offices, access MCC page 118. No off-normal indicators should be observed. Use local procedures to correct any off-normal units.

   d. Restart the procedures.

6.6.47 R-47

1. To stop any in-progress transition activity, access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **200**

2. To continue AM Off-Line boot Backout, access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter command:

   CMD **600**

6.6.48 R-48

1. Wait 30 seconds for all procedures to terminate after the error message was received.

2. Access MCC page 1985,x
   (where x = RETRO, LTG, UPDATE) and enter the command:

   ```
   CMD     500
   ```

6.6.49 R-49

1. Wait 30 seconds for all procedures to terminate after the error message was received.

2. **BACKOUT**: Access MCC page 1985,x
(where x = RETRO, LTG, UPDATE) and enter the backout command:
```
CMD      600
```

6.6.50 R-50

1. Wait until all RCL processes have stopped.
2. Enter the MML command:
```
CMD      EXC:ENVIR,UPROC,FN="/etc/udgnnm",ARGS="MHD"-"X";
```
Where argument "X" is the MHD number reported on the ROP.
3. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter the command:
```
CMD      500
```
4. For the tape drive cleaning and testing procedure, go to the Tape Drive Cleaning section and follow the procedure for the tape drive that is in the office.
5. If the problem persists, seek technical assistance.

6.6.51 R-51

1. Wait until all RCL processes have stopped.
2. On a TLWS, go to the 124 page and verify that the DCI link to the ASM is **ACT**. If not, restore the DCI link.
3. Once the DCI link to the ASM is active, access MCC page 1985x, (where x = RETRO, LTG, UPDATE) and enter the command:
```
CMD      500
```

6.6.52 R-52

1. Wait until all RCL processes have stopped.
2. On a TLWS, go to the 124 page and verify that the DCI link to the ASM is **ACT**. If not, restore the DCI link.
3. Verify that the OSDE feature is enabled.
4. If the problem persists, seek technical assistance.

6.6.53 R-53

1. Wait until all RCL processes have stopped.
2. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter the command:
```
CMD      500
```
3. For the tape drive cleaning and testing procedure, go to the Tape Drive Cleaning section and follow the procedure for the tape drive that is in the office.
4. If the problem persists, seek technical assistance.

6.6.54 R-54

1. Wait until all processes have stopped.
2. If you are executing GRmkdisk from within RCL and this error occurs, seek technical assistance.

3. If you are executing GRmkdisk from a *UNIX* shell, set and export the RCL variables.
4. Mount the first tape of the tape sequence and continue.

   Note: Executing GRmkdisk from outside of RCL is an unsupported procedure.

6.6.55 R-55

1. Wait until all RCL processes have stopped.
2. Enter the MML command:

   ```
   CMD     EXC:ENVIR,UPROC,FN="/etc/udgnnm",ARGS="MHD"-"X";
   ```

   Where argument "X" is the MHD number reported on the ROP.
3. On a TLWS, go to the 124 page and verify that the DCI link to the ASM is **ACT**. If not, restore the DCI link.
4. Access MCC page 1985,x (where x = RETRO, LTG, UPDATE) and enter the command:

   ```
   CMD     500
   ```
5. If the problem persists, seek technical assistance.

6.6.56 R-56

1. Wait 30 seconds for all procedures to terminate after the error message was received.
2. **FORWARD**: Access MCC page 1985,x
   (where x = RETRO, LTG, UPDATE) and enter the command:

   ```
   CMD     500
   ```
3. **BACKOUT**: Access MCC page 1985,x
   (where x = RETRO, LTG, UPDATE) and enter the command:

   ```
   CMD     600
   ```

5E16.2 Large Terminal Growth Procedures

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7. BACKOUT PROCEDURES

7.1 OVERVIEW

This section contains backout procedures for returning the office to the old software release during the course of a software release Update. Returning the office to the old software release may be necessary for several reasons which include the following:

- Unsatisfactory performance of the switch on the new software release.
- Impact to customer service will be too long or great to recover from or fix problems and continue the Update
- Major system problems arise
- Other valid reasons.

It should be noted that the Backout Procedures are needed only in a small percentage of offices attempting to Update. Most problems, if they arise, can be resolved and the Update continued forward. Problems can be resolved by following the Recovery Procedures in this document or by escalating to your next level of support.

If the office needs to return to the old software release for whatever reason, the procedures in this section are provided to accomplish the task.

Backout procedures are used to return to the old software release from the "Update Implementation" stages starting with the "SETUP stage" and ending with the "COMMIT stage." It should be noted that the possibility to back out to the old software release exists until the even-numbered disks are committed to the new software release (that is, until disk restoral begins in the "Commit stage." After the the even-numbered disks are updated with the new software release, the backout possibility disappears.

Backout procedures to return the office to the old software release exist, even after the switch has been booted on the new software release, but the even-number disks have not been committed to the new release.

This section does not provide information for situations and troubles not related to the Update. For non-Update-related recovery information, refer to 235-105-250, *System Recovery Procedures*.

It is highly recommended that, in addition to the following "How to Use" paragraph, the entire section be reviewed before the Update. This should be done in order to understand the methods used to back out of a Update. A review will also familiarize users with the layouts and location of information.

Before using a Backout Action, you should always escalate to your next level of support first.

7.2 HOW TO USE THE BACKOUT ACTIONS

7.2.1 GENERAL

This section provides some basics for utilizing the information provided. The Backout Actions are labeled B-1 through B-11 followed by a general cleanup section. Offices wanting to return to the old software release will be required to execute some or all Backout Actions (B-1 through B-11), depending on which transition implementation stage was being executed when the decision was made to return to the old software release. Each Backout Action will back the update to the beginning of current Stage.

7.2.2 DETERMINE IF OFF-LINE BOOT IS RUNNING

If you are in the PROCEED stage when the determination to backout is made, it may be necessary to find out if off-line boot is running. To determine if AM off-line boot is still running, access MCC page 111. If AM units on side 0 display their status as UNEQ, then AM off-line boot is still running. The message "OFLBOOT IP - ONLINE" will also appear backlit in red.

7.2.3 SUPR OR APPLHOOK ERROR RECEIVED

The office may want to back out to the old software release as a result of an APPLHOOK or SUPR replacement error that was output on the MCC or ROP during the Update. All APPLHOOK and SUPR errors that could be received during the course of a Update are listed in Section 6. The SUPR replacement and APPLHOOK errors are listed as they are output on the ROP and MCC. If a SUPR replacement and/or APPLHOOK error was received, find the error in the Table of Contents of Section 6 and go to that page. Find the error in Section 6.4.1 or 6.4.2. The table under the error listing has columns labeled "Stage," "Error," "Recovery," and "Backout." The rows of the table list the current Update Implementation stage that is being executed. From the rows of Update stage, find the current stage the office is currently executing and read across to the Backout column to find the appropriate Backout Action. The Backout Actions are labeled B-1 through B-11 and are located in this section of the document.

Some of the SUPR and APPLHOOK errors may not have a referenced Backout Action. If this is the case, try the Recovery Action listed or escalate to your next level of support.

7.2.4 BACKING OUT WITH NO ERRORS

A decision can be made to back out of the Update even if no errors are received. ***It should be noted that before using a Backout Action you should always escalate to your next level of support first.***

In Table 7-1, the backout starting point is given for each Update implementation stage up to the End stage (at this point, a backout with these procedures is not possible — escalate to your next level of support). ***Before attempting any Backout Action, escalate to your next level of support first.***

Table 7-1 — Backout Actions

ACTIVE STAGE	OFFICE CONDITIONS	BACKOUT ACTION (BACKOUT STARTING POINT)
SETUP	All Conditions	B-11 (7.13)
BEGIN	All Conditions	B-10 (7.12)
ENTER	All Conditions	B-9 (7.11)
PROCEED	All Conditions	B-8 (7.10)
SWITCHFWD	All Conditions	B-7 (7.9)
RCVYPREP	AM, CMP, and SMs Simplex on **NEW** Software Release, Oflboot is Running[a]	B-6 (7.8)
	AM, CMP, and SMs Simplex on **NEW** Software Release, Oflboot is **NOT** Running[a]	B-5 (7.7)
POSTBOOT	All Conditions	B-4 (7.6)
SOAK	AM Duplex, CMP Duplex, SMs Simplex (MATE PUMP)	B-3 (7.5)
COMMIT	SMs Simplex (MATE PUMP), MHDs Simplex	B-2 (7.4)
	SMs Duplex, **ALL** MHDs Simplex	B-1 (7.3)
	SMs Duplex, **ANY** MHDs Duplex	Seek Technical Assistance
END	All Conditions	Seek Technical Assistance
CLEANUP	All Conditions	Seek Technical Assistance

Note(s):

a. To determine if off-line boot is running, see Section 7.2.2. If AM off-line boot is running, go to B-6, Section 7.8. If off-line boot is not running, go to B-5, Section 7.7.

7.2.5 BACKOUT ACTIONS EXIT POINTS

An ***exit point*** is provided at the end of each Backout Action and contains both ***restart*** and ***backout*** options.

- ***Restart*** directs the craft personnel back to the procedures in Section 5, providing that time allows a successful restart and subsequent completion.
- ***Backout*** directs the craft personnel to the next appropriate Backout Action.

It is left to the discretion of the Site Coordinator which exit pointer to follow.

7.3 BACKOUT ACTION B-1 (PUMP MCTSI SIDE 0 WITH OLD SOFTWARE RELEASE DATA)

B-1 ENTRY POINT: This Backout Action is entered by the following conditions:

- Direction of Table 7-1, of this document.

  Note: Your AM, CMP and SMs should be duplex on the new software release. Your even-numbered MHDs should be off-line (i.e. indicate a status of ACT-SPLIT, check output of command 502 on MCC 1984 page).

7.3.1 OVERVIEW

Before executing procedures in Backout Action B-1, it is assumed that:

1. The switch is currently running on the the new software release and SMs are duplexed. If SMs are MATE PUMP go directly to Backout Action B-2, Section 7.4.
2. On MCC page 1985 if stage indicator shows "COMMIT-EXECUTING" or "FAILED", verify SMs are duplexed and if so continue with Backout B1, Section 7.3.
3. The disks are simplexed with the odd-numbered disks Active (ACT-SYSTEM) and the even-numbered disks off-line (ACT-SPLIT).
4. Automatic SM Pump must be marked to Yes (Y) on MCC page 1989.

   Caution: If the MHDs have begun duplexing, a backout with these procedures is NOT possible. Escalate to your next level of support immediately.

In the steps that follow, each SM is forced simplex with MCTSI side 1 Active-Forced (ACTF) and MCTSI side 0 Unavailable (UNV). Then, MCTSI side 0 is pumped from the off-line disks (MHD 0, 2, etc.).

MCC page 1985 is shown in Figure 7-1, paused before committing MHDs.

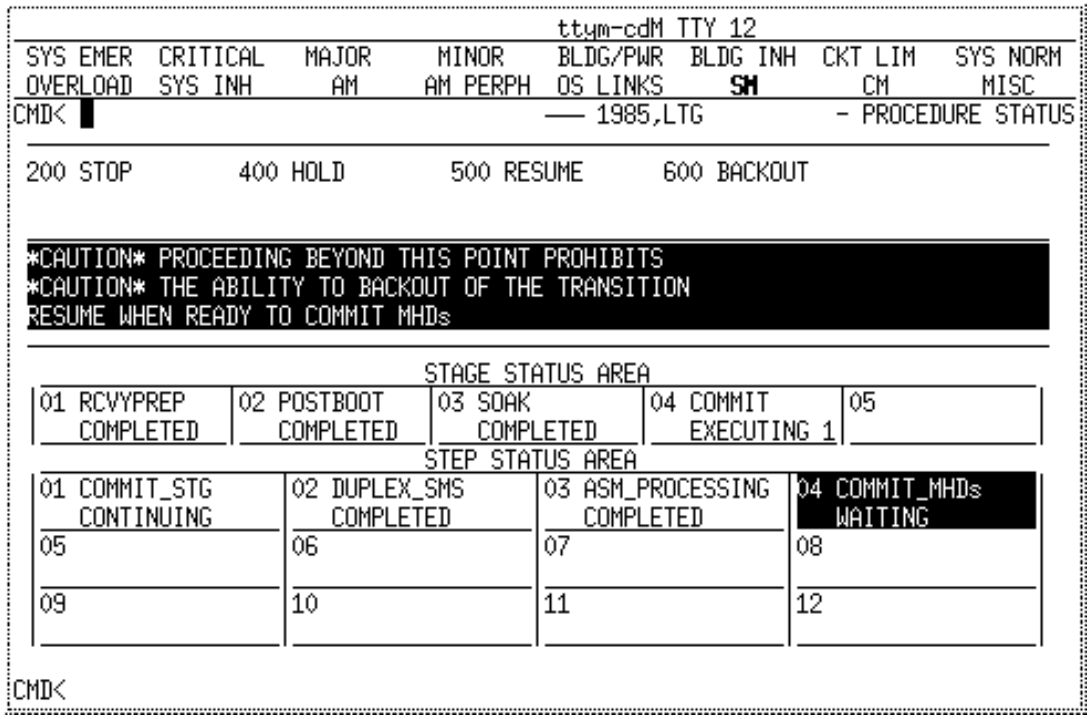

Figure 7-1 — MCC Page 1985 Paused before Commit MHDs

7.3.2 OFF-NORMAL SM STATUS CHECK

1. Enter message:

   MSG **OP:SYSSTAT,UCL;**

   Response:

   OP SYSSTAT SUMMARY LAST RECORD
   AM: INHIBITS-MTCE
   CM: NO_REQ_PEND
   CMP x-0 P: NORMAL
   CMP x-0 M: NORMAL
   ...
   { B|S|L} _SM a: INHIBITS-MTCE
   ...
   { B|S|L} _SM z: INHIBITS-MTCE

2. Verify that none of the SMs have "MATE_OOD" as a status.
   a. If any SMs indicate MATE_OOD, access MCC page 1190,x and restore that SM to duplex.
   b. After all SMs are duplex, re-enter the previous **OP:SYSSTAT,UCL** message.
3. Ensure no off-normal status other than **INHIBITS-MTCE** is indicated for any SM.

7.3.3 OFF-LINE DISK VTOC LAYOUT CHECK

1. Access MCC page 120.
2. To dump VTOCs for off-line MHDs, enter message:

   MSG **DUMP:MHD=X,VTOC;**

   Where: X = Off-line MHDs 0, 2, etc.

   Response: **DUMP MHD X VTOC STARTED**
   DUMP MHD X VTOC Completed
3. Verify that the VTOC layout matches the data in the appropriate table (see Table 9-25) for your particular office configuration regarding "start" and "size" for each partition. If the VTOC layout does not match data in the table, escalate to your next level of support immediately.
4. To stop the procedure, enter the following command on MCC page 1985:

   CMD **200**
5. To return to the page before you stopped this procedure, enter the following command on MCC page 1985:

   CMD **600**

   MCC page 1985 is shown in Figure 7-2, indicating SMs are pumping.

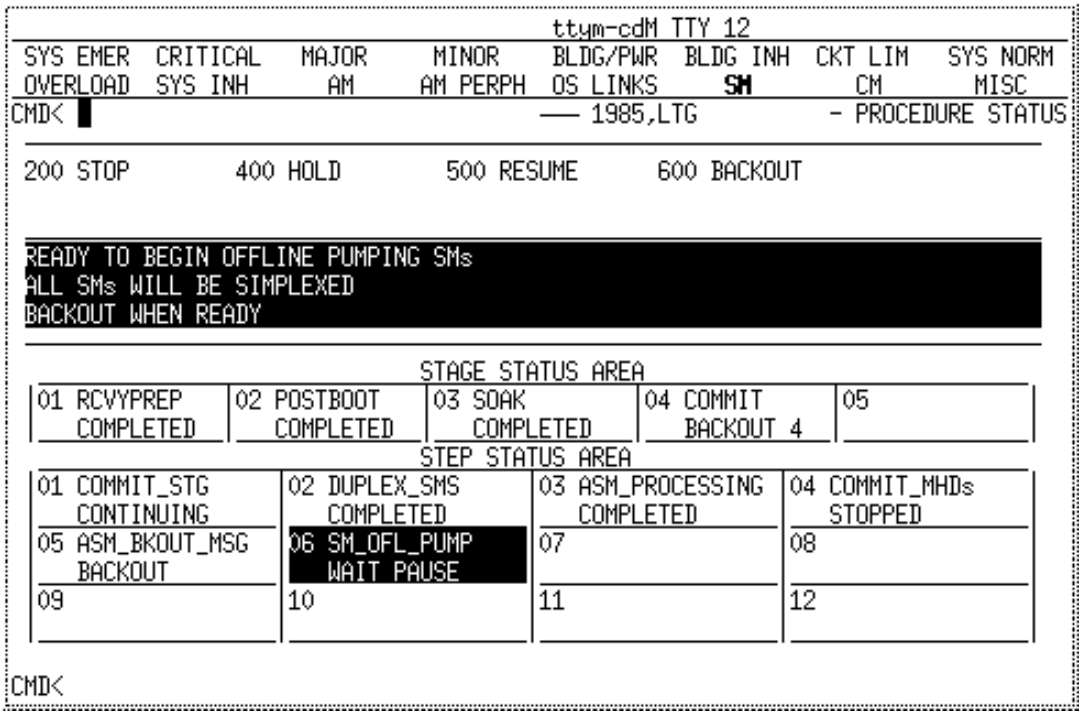

Figure 7-2 — MCC Page 1985 with SMs pump waiting

6. To backout of the procedure, enter the following command on MCC page 1985:

   CMD **600**

Note: If this Backout Action is not effective, see Section 8.2 for instructions in backing out manually.

Caution 1: The process which mounts off-line partitions (mop.bk) must not be stopped until all SMs and the CMP have successfully completed pumping. If mop.bk is stopped, the pump process is not able to access data on the off-line disks. Extensive recovery procedures may be required. Escalate to your next level of support before continuing the backout procedures.

Caution 2: The file systems that are mounted in this step are necessary to off-line pump the SMs. Continuing before the file systems are mounted on the off-line disks could result in not being able to pump the SMs. Wait for the* UPD:GEN APPLPROC COMPLETED SUCCESSFULLY *to be output before continuing.

Response:

```
UPD:GEN:APPLPROC,ARG="MOP.BK";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
CHG:LPS,MSGCLS=INT_MON,PRINT=ON,LOG=ON;
CHG:LPS,MSGCLS=INT_MON,PRINT=ON,LOG=ON; OK
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
CHG:LPS,MSGCLS=GENRMON,PRINT=ON,LOG=ON;
CHG:LPS,MSGCLS=GENRMON,PRINT=ON,LOG=ON; OK
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
CHG:LPS,MSGCLS=INT,PRINT=ON,LOG=ON;
CHG:LPS,MSGCLS=INT,PRINT=ON,LOG=ON; OK
UPD GEN APPLPROC EXECUTING THE FOLLOWING UPDATE TOOL:
/no5text/prc/INoflmop
PRM_0 E800 xxxx xxxx xxxx xx xx xx

(Will appear several times)
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
UPD:GEN:APPLPROC,ARG="INHSMCHKS";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
INH:HDWCHK,SM=1&&192;
INH:HDWCHK,SM=1&&192; IP (on ROP)

UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
INH:SFTCHK,SM=1&&192;
INH:SFTCHK,SM=1&&192; OK (on ROP)

UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
INH:CLNORM;
INH:CLNORM; PF
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
INH HDWCHK SM=x COMPLETED
 . . .
INH CLNORM COMPLETED
```

Comment: Before proceeding, ensure that an **INH HDWCHK SM=**x **COMPLETED** output message is received for each SM (it may take several minutes to get the entire response).

On MCC page 1800,x (where x = any numbered SM) box "**04 SFTCHK**" and box "**08 ALL HDWCHK**" should be backlit.

Response: **SW PPC; PF**
SW PPC COMPLETED

Response: **ST:OPUMP,SM=1&&192,OFLDISK,VFY,PERF; PF**
REPT SM=a **OFFLINE PUMP COMPLETED** (on ROP)
...
REPT SM=z **OFFLINE PUMP COMPLETED** (on ROP)

Comment: Use MCC pages 181, 182, etc., to view the off-line pump status for the SMs and peripherals. Tables 9-19 and 9-20 list all the possible states of the mate memory that can be displayed on MCC page 181 during off-line pump.

Note: If any SM fails to off-line pump, refer to Section 6.5.4.

7. On MCC pages 181, 182, etc., ensure that all SMs indicate **MATE PUMP** before proceeding.
8. If the SM Automatic pump failed, change the Automatic SM Pump field to No (N) on MCC page 1989.

Exit Points:

Restart: There is no restart pointer for this Backout Action. Continue with Backout Action B-2 (Section 7.4).

Backout: Continue with Backout Action B-2 (Section 7.4).

7.4 BACKOUT ACTION B-2 (COMMIT STAGE)

B-2 ENTRY POINTS: This Backout Action is entered by the following conditions:

- Completion of Backout Action B-1, or
- Direction of Table 7-1, of this document.

Note: Your AM and CMP should be duplex on the new software release. Your SMs should be simplex and running on the new software release. Their status, as indicated by the output of **OP:SYSSTAT,UCL** should include MATE PUMP. The status MATE PUMP should also appear on MCC pages 181, 182, 183, and 184.

7.4.1 OVERVIEW

In this Backout Action, the SMs are checked to ensure they are off-line pumped and contain the old software release on one of their sides. On MCC page 1985, a 200 STOP poke command followed by a 600 BACKOUT poke command is entered to backout to the beginning of COMMIT stage.

7.4.2 BACKOUT TO START OF COMMIT STAGE

1. If you are already at the beginning of COMMIT Stage which means MCC Page 1985 looks like Figure 7-3, or Stage indicator shows "COMMIT-FAILED" and Step indicator shows "COMMIT STAGE STOPPED" and also SMs indicate "MATE_PUMP FORCED" (simplexed), then go directly to Backout B-3, Section 7.5. Otherwise continue with step 2.
2. To stop any in-progress transition activity, access MCC page **1985** and enter command:

   CMD **200**
3. To backout to the start of COMMIT stage, on MCC page 1985 enter command:

   CMD **600**

The transition process backs out to start of the COMMIT stage.

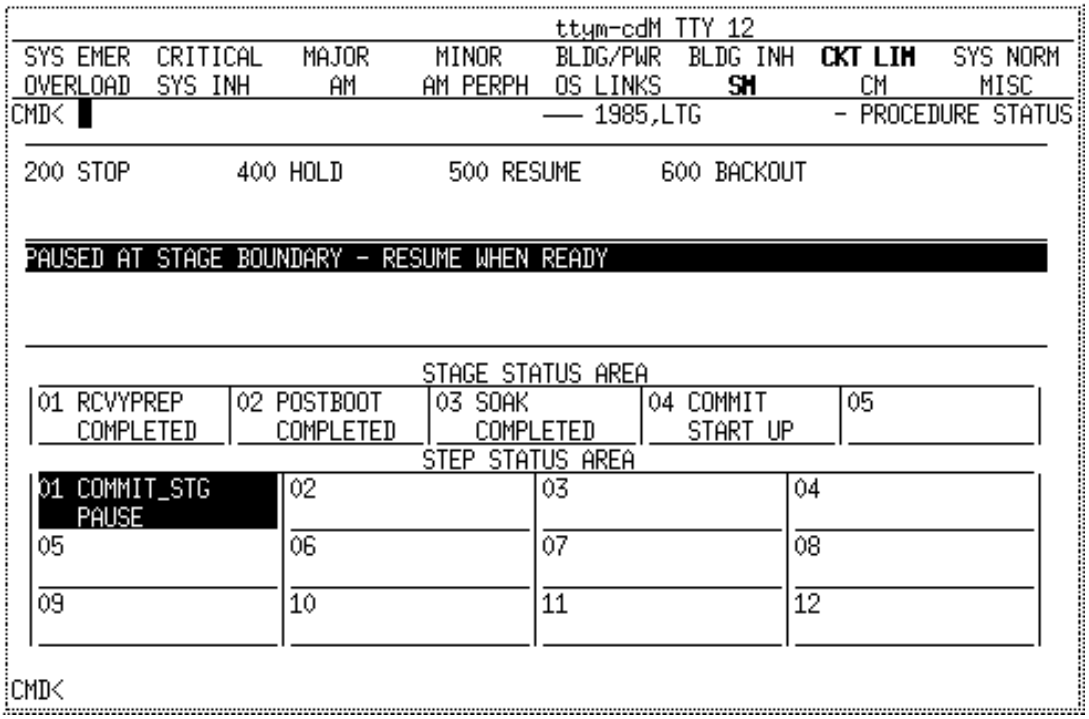

Figure 7-3 — MCC Page 1985 Paused at the Commit Stage

Exit Points:

Restart: There is no restart pointer for this Backout Action. Continue with Backout Action B-3 (Section 7.5).

Backout: Continue with Backout Action B-3 (Section 7.5).

7.5 BACKOUT ACTION B-3 (SOAK STAGE)

B-3 ENTRY POINTS: This Backout Action is entered by the following conditions:

- Completion of Backout Action B-2, or
- Direction of Table 7-1, of this document.

Note: Your AM and CMP should be duplex on the new software release. Your SMs should be simplex and running on the new software release. Their status, as indicated by the output of **OP:SYSSTAT,UCL** should include MATE PUMP. The status MATE PUMP should also appear on MCC pages 181, 182, 183, and 184.

7.5.1 OVERVIEW

In this Backout Action, the SMs are checked to ensure they contain the old software release on one of their sides. Finally, on MCC page 1985, a 200 STOP poke command, followed by a 600 BACKOUT poke command is entered to backout to the beginning of SOAK stage.

7.5.2 BACKOUT TO START OF SOAK STAGE (Optional)

1. Change the **AM Off-line Boot** option to **N**, by accessing MCC page **1989** and entering command:

   CMD **404,N**

2. If you are already at the beginning of SOAK Stage which means MCC page 1985 looks like Figure 7-4, or MCC Page 1985 Stage indicator shows "SOAK FAILED" and Step indicator shows "SOAK-STAGE STOPPED", then skip the next 2 steps and go directly to Section 7.5.3, otherwise continue on with step 3.

3. To stop any in-progress transition activity, access MCC page **1985** and enter command:

   CMD **200**

4. To backout to the start of the SOAK stage, on MCC page 1985 enter command:

   CMD **600**

The transition process backs out to the start of the SOAK stage. Continue on the next page.

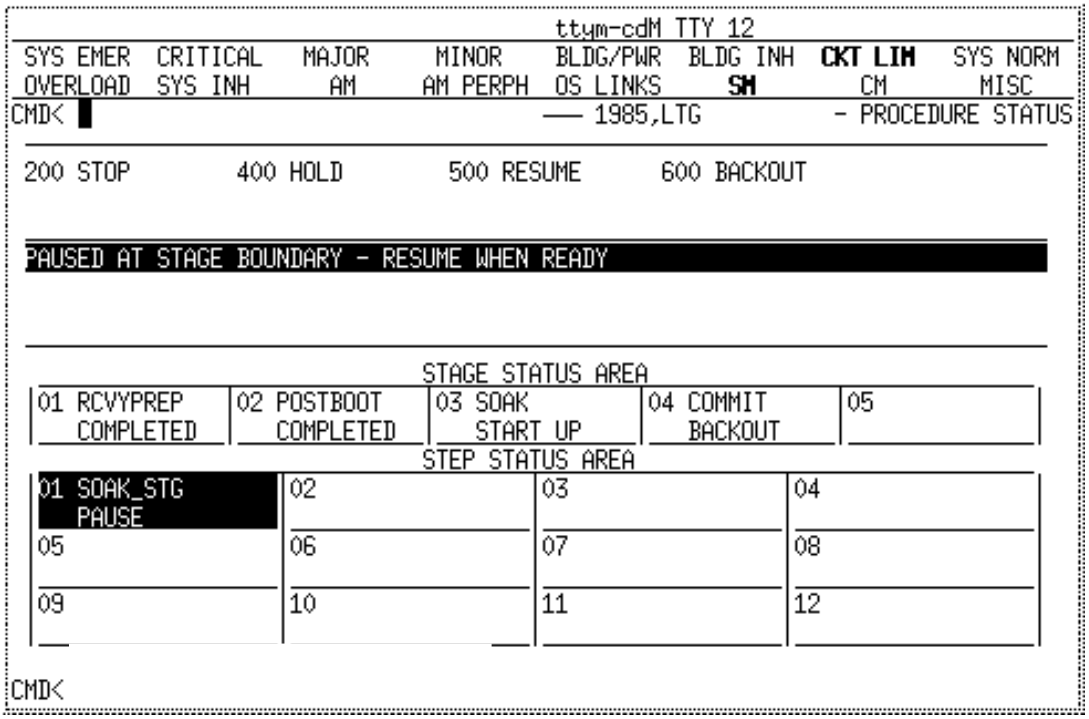

Figure 7-4 — MCC Page 1985 Paused at the Soak Stage

7.5.3 INHIBITS AND MISCELLANEOUS

If your office is equipped with an ESM, turn off the power at the miscellaneous frame. This causes a major alarm. Access MCC page 116 (Miscellaneous) and verify that power has been removed from ESM. If power is off, the **POWER** indicator is backlit, and the word **OFF** is displayed.

7.5.4 FINAL AMA SESSION

This step is optional and may or may not need to be performed depending on how long the switch has been running on the new software release. This step flushes the AMA data to the active disk. If this step is not executed, AMA records in the AMA buffers will be lost.

Warning: From this point in the procedures to the Initialization Sequence, all AMA billing information is lost. Therefore, it is critical to proceed to the Initialization of the AM and SMs in a timely manner.

1. To flush AMA data from the AM to the active disk, on MCC page 1984, enter command:

   CMD **506**

   Response: *Assert 28334* ***may*** *be output which indicates that AMA records have been lost. AMA records have not been lost at this point. The assert is output because the buffer in the AM is normally written to disk only when full. If the buffer is written to disk and is not full at the time*

of the write, the assert may be output. The assert occurs when a **506** *is entered in a dual stream office, or when the* **506** *is entered more than once in rapid succession in a single stream offices, or when the* **506** *is entered two or more times in a dual stream office.*

```
UPD:GEN:APPLPROC,ARG="WRTAMA";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
WRT:AMADATA;
WRT:AMADATA; PF
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
*C REPT AMA {TELEPROCESSING SUMMARY|DISK WRITER}

FOR STREAM STx     RECORDING TO DISK SUSPENDED
REPT DKDRV INFO CODE H'26f
WRT AMA DATA HAS BEEN WRITTEN TO DISK
READY TO TRANSFER DATA FROM DISK TO OUTPUT MEDIUM (on ROP)

INIT AM SUMMARY DLVL=x SLVL=x HLVL=x CLVL=x EVENT=xxxx
     INIT SCOPE=AM-FPI   PROCESS SCOPE=AIM PROCESS
     MODE=OPERATIONAL     RC-BACKOUT=NO
     INIT TRIGGER=AUTO SOFTWARE   INIT TIME =x SECONDS
     PROCESS            CREATED         INITIALIZED
     AMDW1              SUCCESS         SUCCESS
* REPT AMA DISK WRITER FOR STREAM STx TERMINATION CODE 2
REPT AMA DISK WRITER FOR STREAM STx

  INITIALIZATION COMPLETE
PRM_x EE00 xxxx 07DD xxxx xx xx xx

(may appear several times)
REPT DKDRV INFO CODE H'26f (may appear several times)
REPT AMA DISK WRITER FOR STREAM STx
       RECORDING TO DISK RESUMED
```

Comment: In the preceding response, the term **ST**x means either **ST1** or **ST2**. If your office does not use dual stream billing (ST1 ***and*** ST2), messages will only be received for ST1. If your office does use dual stream billing, a set of messages will be received for each stream (ST1 and ST2).

2. ***This step is OPTIONAL.*** The initial write of the the AMA billing data to disk may take several minutes to complete. To write the AMA billing data that arrived while the initial write was in progress, repeat step 1. This will reduce the amount of AMA billing data that is lost during the initialization.

3. Initiate final manual AMA tape writing or teleprocessing session per local practice.

   Comment: If teleprocessing session is being run at a nonstandard time, it is necessary to call personnel at the Host Collector (HOC) to request a manual poll.

4. This step may be performed in teleprocessing offices to provide backup AMA data in the event that data from the final teleprocessing session is lost or mutilated at the host collector. In performing this step, the time interval from now to the system initialization is increased by the amount of time required to generate the AMA tape.

Caution: All AMA data recorded between the final AMA teleprocessing session and the initialization will be lost. Although the following step will help ensure the integrity of previously recorded AMA data, the amount of AMA data that will be lost at initialization time may increase by the amount of AMA data recorded during the aforementioned time interval.

For offices that use teleprocessing, an ***optional*** manual AMA tape writing session to dump secondary AMA blocks can be performed at this time. Refer to 235-105-210, *Routine Operations and Maintenance*. This tape should be saved for backup purposes.

Exit Points:

Restart: There is no restart pointer for this Backout Action. Continue with Backout Action B-4, Section 7.6.

Backout: Continue with Backout Action B-4, Section 7.6.

7.6 BACKOUT ACTION B-4 (POSTBOOT STAGE)

B-4 ENTRY POINTS: This Backout Action is entered by the following conditions:

- Completion of Backout Action B-3, or
- Direction of Table 7-1, of this document.

Note: Your AM and CMP may be simplex or duplex on the new software release. Your SMs should be simplex and running on the new software release. Their status, as indicated by the output of OP:SYSSTAT,UCL should include MATE PUMP. The status MATE PUMP should also appear on MCC pages 181, 182, 183, and 184.

7.6.1 OVERVIEW

In this Backout Action, Update is backed out to the beginning of POSTBOOT stage.

7.6.2 BACKOUT TO START OF POSTBOOT STAGE

1. If you are already at the beginning of POSTBOOT Stage which means MCC page 1985 looks like Figure 7-5 or MCC Page 1985 Stage indicator shows "POSTBOOT FAILED" and Step indicator shows "POSTBOOT STAGE STOPPED", continue with Section 7.6.3. Otherwise continue with step 2.
2. To stop any in-progress transition activity, access MCC page **1985** and enter command:

   CMD **200**
3. To backout to start of POSTBOOT stage, on MCC page 1985, enter the following command:

   CMD **600**

The transition process backs out to the start of the POSTBOOT stage.

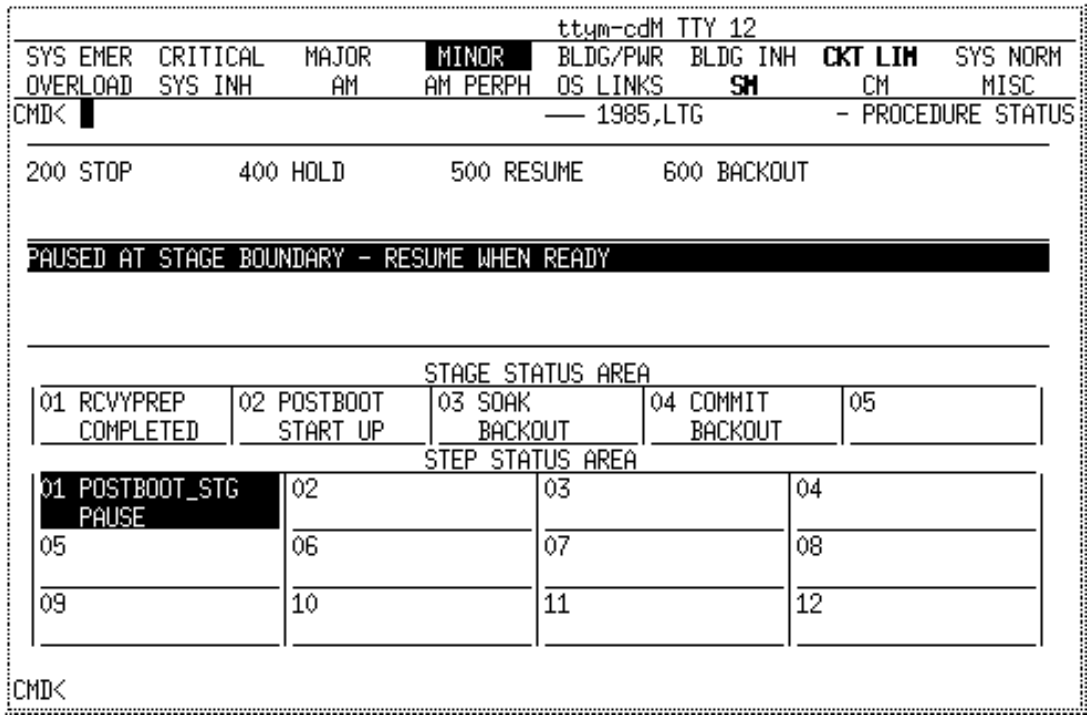

Figure 7-5 — MCC Page 1985 Paused at the Post-Boot Stage

7.6.3 VERIFY MOP PROCESS IS RUNNING

1. To ensure that the mop command is running, on MCC page 1984, enter command:

   CMD **510**

   Response:

```
UPD:GEN:APPLPROC,ARG="ISMOP";
UPD GEN APPLPROC EXECUTING THE FOLLOWING UPDATE TOOL:
/prc/supr/ismop
UPD GEN APPLPROC ISMOP REPORT
 !!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
 !!!!!!!!!!!!!!!!!!! NOTICE!!!!!!!!!!!!!!!!!!!
 .
 . MOP IS RUNNING:  MOPPID = xxxxxxxx
 . THE FOLLOWING OFFLINE PARTITIONS ARE MOUNTED:
 .       /tmp/ofl/no5text on /tmp/ofldev1
 .       /tmp/ofl/no5text/im on /tmp/ofldev2
 .       /tmp/ofl/no5odd/cpdata on /tmp/ofldev3
 .       /tmp/ofl/log on /tmp/ofldev4
 .       /tmp/ofl/smlog on /tmp/ofldev5
 .     [ /tmp/ofl/no5odd/imdata1 on /tmp/ofldevx ]
 .     [ /tmp/ofl/no5odd/imdata2 on /tmp/ofldevx ]
 .     [ /tmp/ofl/no5odd/imdata3 on /tmp/ofldevx ]
 .     [ /tmp/ofl/no5odd/imdata4 on /tmp/ofldevx ]
 .     [ /tmp/ofl/no5odd/imdata5 on /tmp/ofldevx ]
 .     [ /tmp/ofl/no5odd/imdata6 on /tmp/ofldevx ]
 .       /tmp/ofl/no5odd/cidata on /tmp/ofldevx
 .
```

```
.
. ISMOP COMPLETE
.
!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

If mop is not running, the following response is output in response to the **510** command.

Response:

```
UPD:GEN:APPLPROC,ARG="ISMOP";
UPD GEN APPLPROC EXECUTING THE FOLLOWING UPDATE TOOL:
/prc/supr/ismop
UPD GEN APPLPROC ISMOP REPORT
 !!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
 !!!!!!!!!!!!!!!!!!  NOTICE !!!!!!!!!!!!!!!!!!
 .
 . MOP IS NOT RUNNING
 .
 . THERE ARE NO OFFLINE PARTITIONS MOUNTED
 .
 . ISMOP COMPLETE
 .
 !!!!!!!!!!!!!!!!!!  NOTICE !!!!!!!!!!!!!!!!!!
 !!!!!!!!!!!!!!!!!!  NOTICE !!!!!!!!!!!!!!!!!!
 UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

2. ***If mop is running and the proper off-line partitions are mounted, continue with Section 7.6.4.***

   Caution: **The process which mounts off-line partitions (mop.bk) must not be stopped until all SMs and the CMP have successfully completed pumping.**

3. If mop is ***not*** running and no off-line partitions are mounted, on MCC page 1984, enter command:

   CMD **501,mop.bk**

   Response:

```
UPD:GEN:APPLPROC,ARG="MOP.BK";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
CHG:LPS,MSGCLS=INT_MON,PRINT=ON,LOG=ON;
CHG:LPS,MSGCLS=INT_MON,PRINT=ON,LOG=ON; OK
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
CHG:LPS,MSGCLS=GENRMON,PRINT=ON,LOG=ON;
CHG:LPS,MSGCLS=GENRMON,PRINT=ON,LOG=ON; OK
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
CHG:LPS,MSGCLS=INT,PRINT=ON,LOG=ON;
CHG:LPS,MSGCLS=INT,PRINT=ON,LOG=ON; OK
UPD GEN APPLPROC EXECUTING THE FOLLOWING UPDATE TOOL:
/no5text/prc/INoflmop
PRM_0 E800 xxxx xxxx xxxx xx xx xx

 (Will appear several times)
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

7.6.4 ENSURE SMs ARE MATE_PUMP

In this section, the SMs will be checked to ensure they contain the old software release on one of their sides.

1. Enter message:

MSG **OP:SYSSTAT,UCL;**

Response: **OP:SYSSTAT,UCL;PF**

OP SYSSTAT	**SUMMARY LAST RECORD**
SYS:	**INHIBITS-RC MISC**
AM:	**INHIBITS-MTCE MORE**
CM:	**INHIBITS-MTCE**
CMP x**-0 P:**	**NORMAL**
CMP y**-0 M:**	**{GEN DIFF | NORMAL | POSTINIT}**
L LSM a,x**:**	**MATE_PUMP FORCED INHIBITS-MTCE...**
...	
B LSM b,x**:**	**MATE_PUMP FORCED INHIBITS-MTCE...**
.	
S LSM z,x**:**	**MATE_PUMP FORCED INHIBITS-MTCE...**

2. From the ***OP:SYSSTAT,UCL*** output, verify that all SMs indicate **MATE_PUMP**.
3. For any SMs which are not **MATE_PUMP**, force and off-line pump the SM. Refer to Section 7.3.3 to force the SM then on MCC pages 181 through 184, enter command:

   CMD **2xxx**

   Where: xxx = SM number.

7.6.5 OFF-LINE PUMP CMP

During this section, CMP 0-0 will be off-line pumped with old software release data. On MCC page 1851, the status indicator for CMP 0-0 will change from Standby (STBY) to Out-Of-Service (OOS) to Deactivated (DACT).

Note: CMP 0-0 should be off-line pumped with the old software release data even if the status of CMP 0-0 was **GEN DIFF** in the previous **OP:SYSSTAT,UCL** output (Section 7.7.3). This will ensure that the CMP has clean data for the switch back to the old software release.

The following recovery procedures are given in case of problems while one of the CMPs is marked DACT.

- In the event the ACTIVE CMP fails while the mate CMP is DACT, the AM can escalate (up to an RTR level 3) trying to recover the formally ACTIVE CMP but will not use the DACT unit.
- In the event of CMP duplex failure with a CMP in the DACT state where the AM automatic escalation does not recover the CMP, if input commands are available, do an RST:CMP=x-0,UCL; to release the DACT state.

1. Access MCC page 1851 and verify that CMP 1-0 is the **ACT** CMP (under the **CMP 0 PRIM STAT** box) and CMP 0-0 is the **STBY** or**DACT** CMP (under the **CMP 0 MATE STAT** box).
2. ***If*** CMP 1-0 is ***not*** the PRIMARY (active) CMP, enter message:

   MSG **SW:CMP=1-0;**

Response: **EXC ODDRCVY=ALL CMP=1-0 STOPPED**

```
[REPT CMP=0-0 MATE  INITIALIZATION  TRIGGER=SW-REQUEST]
REPT MSKP_ENVIROMENT:
CMP=0-0 PHASE 1&2 INIT COMPLETION TIME: xxxx

TYPE:xxx EVENT=xxxx
SW  CMP=1-0 COMPLETED
EXC ODDRCVY=ALL CMP=0-0 STARTED
REPT COMMUNICATION RESTORED: AM TO CMP=0-0 MATE
REPT MSKP_ENVIROMENT:
CMP=0-0 PHASE 3  INIT COMPLETION TIME: xxxxxx

TYPE:xxx EVENT=xxxx
```

CMP 1-0 becomes ***PRIMARY*** (active), CMP 0-0 becomes**MATE** (standby).

3. To inhibit AM software and hardware checks, enter command on MCC page 1984:

   CMD **511,inh,am**

   Response:

```
UPD:GEN:APPLPROC,ARG="INHAMCHKS";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
INH:HDWCHK;
INH:HDWCHK; PF
* REPT INHADM MINOR ALARM FROM INHIBIT ADMINISTRATOR

(on ROP)INH HDWCHK COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
INH:SFTCHK;
INH:SFTCHK; PF
* REPT INHADM MINOR ALARM FROM INHIBIT ADMINISTRATOR

(on ROP)INH SFTCHK COMPLETED
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

   Comment: On MCC page 110 - SYSTEM INHIBITS, box "**18 INH SOFTWARE CHECKS**" and box "**24 INH HARDWARE CHECKS**" should be backlit.

4. To off-line pump the CMP, from MCC page 1851, enter command:

> ***Note:*** If the ofl.partition has not been mounted, execute the **501,mop.bk** command from the 1984 MCC page.

   CMD **930**

   Response:

```
ST:OPUMP,CMP=0,MATE; PF
EXC ODDRCVY=ALL CMP=0-0 STOPPED
REPT CMP=0-0 MATE  INITIALIZATION TRIGGER={MANUAL|CRAFT}
       -REQUEST
ST OPUMP CMP=0-0 COMPLETED
[REPT MSKP_ENVIROMENT:]
  [CMP=0-0 PHASE 1&2 INIT COMPLETION TIME: H'xxxx TYPE:H'x]
       [EVENT=xxxx]
  [CMP=0-0 PHASE 3   INIT COMPLETION TIME: H'xxxx TYPE:H'x]
       [EVENT=xxxx]
```

```
REPT COMMUNICATION RESTORED: AM TO CMP=0-0 MATE
```

Comment: On MCC page 1851, the status indicator for CMP 0-0 will change from Standby (STBY) to Out-Of-Service (OOS) to white Deactivated (DACT).

Also, on MCC page 1851, the different states of the mate memory will be displayed. Table 7-2 shows some of the states of CMP 0-0 during the pump and a definition of each. When the CMP is successfully pumped, the state will be **GEN DIFF**.

Table 7-2 — CMP Pump Status

STATUS	DESCRIPTION
OPUMPHLD	Off-line pump, hold
OPUMPLB	Off-line pump, little boot
OPUMPBB	Off-line pump, big boot
COMM	Off-line pump, communication link
FI BGN	Begin full switch forward
FISICOM	FI selective Init. common code portion
DACT GEN DIFF	Software release different

7.6.6 STOP mop.bk PROCESS

To stop the mop process, enter command on MCC page 1984:

CMD **609**

Response:

```
UPD:GEN:APPLPROC,ARG="STOPMOP";
UPD GEN APPLPROC EXECUTING THE FOLLOWING UPDATE TOOL:
/prc/supr/ptnmgr -k
[PRM_0 E800 0002 xx03 xxxx xx xx xx]

(may appear several times)
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

Exit Points:

Restart: There is no restart pointer for this Backout Action.

Note: if AM off-line boot is NOT running then continue with Backout Action B-5 (Section 7.7). If AM off-line boot is running then continue with Backout Action B-6 (Section 7.8).

To determine if AM off-line boot is still running, access MCC page 111. If all AM units on side 0 display a status of **UNEQ**, AM off-line boot is running. The report **OFLBOOT IP - ONLINE** also appears, on MCC page 111, backlit in red.

Backout: If AM off-line boot is NOT running, continue with Backout Action B-5 (Section 7.7).

OR

Backout: If AM off-line boot is running, continue with Backout Action B-6 (Section 7.8).

7.7 BACKOUT ACTION B-5 WITHOUT OFF-LINE BOOT (RCVYPREP STAGE)

B-5 ENTRY POINTS: This Backout Action is entered by the following conditions:

- Completion of Backout Action B-4, or
- Direction of Table 7-1, of this document.

Note: AM Off-line Boot is NOT running. AM can be simplex or duplex on the new software release.

SMs should be simplex and running on the new software release. Their status, as indicated by the output of OP:SYSSTAT,UCL should include MATE PUMP.

MCC 1985 page is either paused at POSTBOOT STAGE BOUNDRY or paused at RCVYPREP STAGE BOUNDRY.

7.7.1 OVERVIEW

In this Backout Action, the SMs and CMP are prepared to be switched from the new to the old side and initialized on the old software release. Call processing is lost from the time the SMs are switched until the AM and CMP come up on the old software release. Since the AM is duplex and AM off-line boot is not running a traditional 42-S-54 will be used. If MCC 1985 page is paused at POSTBOOT STAGE BOUNDRY, CONTINUE WITH THE FOLLOWING SECTION.

7.7.2 INHIBIT AM CHECKS

To inhibit AM software and hardware checks, enter command on MCC page 1984:

CMD **513,am**

Response:

```
UPD:GEN:APPLPROC,ARG="INHAMCHKS";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
INH:HDWCHK;
INH:HDWCHK; PF
* REPT INHADM MINOR ALARM FROM INHIBIT ADMINISTRATOR

 (on ROP)INH HDWCHK COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
INH:SFTCHK;
INH:SFTCHK; PF
* REPT INHADM MINOR ALARM FROM INHIBIT ADMINISTRATOR

 (on ROP)INH SFTCHK COMPLETED
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

Comment: On MCC page 110 - SYSTEM INHIBITS, box "**18 SOFTWARE CHECKS**" and box "**24 HARDWARE CHECKS**" should be backlit.

7.7.3 ENSURE SMs ARE MATE_PUMP

In this section, the SMs will be checked to ensure they contain the old software release on one of their sides.

1. Enter message:

   MSG **OP:SYSSTAT,UCL;**

   Response: **OP:SYSSTAT,UCL;PF**

OP SYSSTAT	**SUMMARY LAST RECORD**
SYS:	**INHIBITS-RC MISC**
AM:	**INHIBITS-MTCE -SW MORE**
CM:	**INHIBITS-MTCE**
CMP x**-0 P:**	**NORMAL**
CMP y**-0 M:**	**{GEN DIFF | NORMAL | POSTINIT}**
L LSM a,x**:**	**MATE_PUMP FORCED INHIBITS-MTCE...**
...	
B LSM b,x**:**	**MATE_PUMP FORCED INHIBITS-MTCE...**
...	
S LSM z,x**:**	**MATE_PUMP FORCED INHIBITS-MTCE...**

2. From the ***OP:SYSSTAT,UCL*** output, verify that all SMs indicate**MATE_PUMP**. If all SMs indicate **MATE_PUMP**, skip Steps 3 and 4 and proceed with Section 7.7.4.

3. Mount off-line partitions

   Caution: The process which mounts off-line partitions (mop.bk) must not be stopped until all SMs and the CMP have successfully completed pumping. If mop.bk is stopped, the pump process is not able to access data on the off-line disks. Extensive recovery procedures may be required. Escalate to your next level of support before continuing the backout procedures.

   To mount off-line partitions, on MCC page 1984, enter command:

   CMD **501,mop.bk**

   Caution: The file systems that are mounted in this step are necessary to off-line pump the SMs. Continuing before the file systems are mounted on the off-line disks could result in not being able to pump the SMs. Wait for the* UPD:GEN APPLPROC COMPLETED SUCCESSFULLY *to be output before continuing.

   Response:

```
UPD:GEN:APPLPROC,ARG="MOP.BK";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
CHG:LPS,MSGCLS=INT_MON,PRINT=ON,LOG=ON;
CHG:LPS,MSGCLS=INT_MON,PRINT=ON,LOG=ON; OK
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
CHG:LPS,MSGCLS=GENRMON,PRINT=ON,LOG=ON;
CHG:LPS,MSGCLS=GENRMON,PRINT=ON,LOG=ON; OK
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
CHG:LPS,MSGCLS=INT,PRINT=ON,LOG=ON;
CHG:LPS,MSGCLS=INT,PRINT=ON,LOG=ON; OK
UPD GEN APPLPROC EXECUTING THE FOLLOWING UPDATE TOOL:
/no5text/prc/INoflmop
PRM_O E800 xxxx xxxx xxxx xx xx xx (appears several times)
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

4. For any SMs which are not **MATE_PUMP**, off-line pump the SM. On MCC pages 181 through 184, enter command:

   CMD **2xxx**

Where: xxx = SM number.

7.7.4 EAI PAGE SETUP

1. Access MCC page 111.
2. Verify that AM 0 is Active (ACT) and AM 1 is STBY, OOS or UNV, before proceeding. If AM 0 is not active go to MCC page 112 and execute 400.
3. Access EAI page.
4. To clear all forces on the EAI page, enter command:

   CMD **14**

   Response: **REPT CU 1 OUT OF SERVICE** (on ROP)
   REPT CU 0 NO LONGER FORCED ONLINE (on ROP)
5. Ensure "SET-INH" box is NOT visible after INH-TIMER.
6. Enter the following EAI commands:

   CMD **10** forces CU 0 on-line.
   CMD **y** forces CU 0 on-line after "y" is entered.
   CMD **20** select primary MHD.
   CMD **31** clear BACKUP-ROOT.
   CMD **33** clear MIN CONFIG.
   CMD **34** set hardware inhibits.
   CMD **36** set software inhibits.
   CMD **39** clear INH ERR INT.
   CMD **41** clear INH CACHE.
   CMD **43** clear APPL PARAM.

   Response: **REPT CU 1 UNAVAILABLE**
   REPT CU 0 FORCED ONLINE
7. Access normal display (**NORM DISP**).
8. To switch ports, enter command on MCC page 111:

   CMD **401**

   Response:

   ```
   SW:PORTSW; PF
   REPT ROP x STOPPED
   REPT ROP y STARTED
   SW PORTSW COMPLETED FOR ROP
   ```

   Screen blanks while ports are being switched.

   REPT MTTY x **STOPPED REPT MTTY** y **STARTED SW PORTSW COMPLETED FOR MTTY**

   EAI page comes up followed by MCC page 111.

   Comment: If the port switch fails, ensure that the switches on the EAI boards are in the auto position.

9. Verify that the values on the other EAI page are set to the same values (as in Step 5).
10. Access normal display (**NORM DISP**).

7.7.5 SM, CM AND AM INITIALIZATION

If either of the following messages are received, escalate to your next level of support:

UPD GEN BACKOUT STOPPED WITH ERROR CODE xxxxx (SUPR)
UPD GEN BACKOUT APP STOPPED WITH ERROR CODE xxxx (APPLHOOK).

If the system fails to recover from the initialization, refer to Section 6.3 and escalate to your next level of support.

At this time, the operating company should notify all carrier systems connected to this office of the impending system initialization.

1. Inform the Site Coordinator that the switch will undergo a full system initialization within **10** minutes.
2. On MCC page 1209, verify that ONTCs are duplex. Stable calls are preserved only if the ONTCs are duplex going into the initialization.

   Note 1: If the ONTCs are ACTIVE MAJOR/MINOR (that is, duplex) on MCC page 1209, use **S** as the application parameter (to preserve stable calls). If ONTCs are not duplex, use **R** as the application parameter.

   Stable calls will only be preserved if the following backout (708,noflboot,ucl) is performed at least 10 minutes after the initialization to the new software release.

   Note 2: The following command will switch all SMs back to the "old" data. After the command is entered, call processing will be down. Therefore, proceed to the AM boot sequence as soon as all SMs have switched back.
3. Change the **AM Off-line Boot** option to **N**, by accessing MCC page **1989** and entering command:

   CMD **404,N**
4. To stop any in-progress transition activity, access MCC page 1985,ltg and enter command:

   CMD **200**
5. To backout the Recovery Preparation stage, access MCC page 1985,ltg and enter command:

   CMD **600**

   The Recovery Preparation stage backs out to the beginning and then runs forward to the NEW SIDE SM MGR.

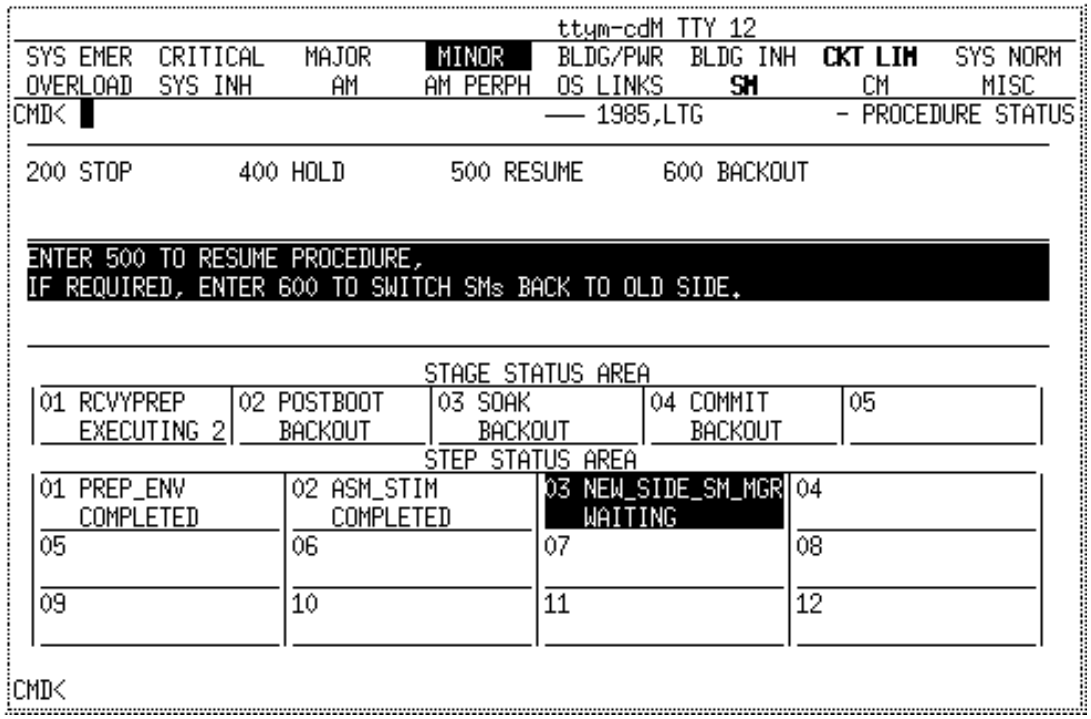

Figure 7-6 — MCC Page 1985 Paused at the new side SM MGR

6. To switch SMs back to old side, from MCC page 1985, enter command:

   CMD **600**

7. Go to MCC pages 141, 142, 143, 144 to check the SMs to be GEN DIFF.

8. ***If*** any ***SMs fail to switch over,*** set UCL, on MCC page 1989 enter command:

   CMD **401,Y**

   To execute the backout again unconditional, on MCC page 1985, enter command:

   CMD **600**

   ```
   ****************************************

   CALL PROCESSING IS DOWN

   PROCEED IMMEDIATELY TO
   THE NEXT STEP AND BOOT

   ****************************************
   ```

9. To perform the initialization, enter the following commands on the EAI page:

CMD	**42**	set application parameter mode
PARAMETER:	**S** or **R**	**S** saves stable calls (recommended) **R** does not save stable calls

Warning: Verify that either S or R appears (and is backlit) to the RIGHT of the 42 43 APPL PARAM field on the EAI page before proceeding. If the S or R is not present and backlit, re-enter the 42 and S/R commands again before proceeding to the boot.

CMD	**54**	boot AM on old software release
Boot? (y/n)	**y**	boot begins when "y" is entered.

Warning: Do not attempt to enter pokes or messages until all expected "System status indicators" backlight (that is, SYS INH, AM, AM PERPH, MISC, etc.). After all system status indicators are backlit, pokes and messages should be kept to a minimum until full system recovery has taken place (AM active on MCC page 111). While the system is recovering, DO NOT attempt to access RC, ECD, ODBE, or* UNIX[1] *system shell.

10. On MCC page 111, AM 0 status should be**INIT** and then shortly change to active (**ACT**).

    Note: On MCC pages 141, 142, etc., each SM should indicate**MATE_PUMP** within 10 to 15 minutes of the initialization.

7.7.6 VERIFICATION OF SUCCESSFUL RECOVERY ON OLD SOFTWARE RELEASE

7.7.6.1 AM Recovery

If any failing PRMs are output, consult the PRM document. If only failing PRMs are output, escalate to your next level of support immediately and consult Section 6.3.

7.7.6.2 Call Processing Verification

1. If call processing is not available within a reasonable amount of time, the Site Coordinator should escalate to your next level of support immediately.
2. As the SMs become active, verify that call processing is available from the SM and verify intramodule and intermodule call processing. Keep records on the Call Processing Verification Worksheet (Table 9-8).
3. Using list of local and Direct Distance Dialing (DDD) lines prepared earlier, perform a dial through test of all selected lines.

   Comment: Included in this list should be police, fire, hospital(s), 911 dispatcher, and other emergency numbers as determined by local practices.
4. The next several sections verify that critical *5ESS*® switch hardware is configured correctly after the initialization. Since MCC display pages must function to perform these verifications, it could be as long as 30 minutes before these procedures may be performed. Preliminary call processing tests should be performed as soon as possible after the initialization. Call processing should be available in less than 5 minutes. The following sections should be deferred until call processing has been demonstrated.

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7.7.6.3 MCC Displays

1. The MCC should change from the EAI page to MCC page 111 within 5 to 10 minutes. (The full set of MCC pages are available within 15 minutes.)
2. On MCC page 111, AM 0 status may be **INIT** shortly changing to**ACT FRCD**.

Exit Points:

Restart: There is no restart pointer for this Backout Action. Continue with Backout Action B-7 (Section 7.9).

Backout: Continue with Backout Action B-7 (Section 7.9). Skip Backout Action B-6 (Section 7.8.

****
WARNING: STOP! Proceed directly to B7. Do Not Execute B6.
****

7.8 BACKOUT ACTION B-6 WITH OFF-LINE BOOT (RCVYPREP STAGE)

B-6 ENTRY POINTS: This Backout Action is entered by the following conditions:

- Completion of Backout Action B-4, or
- Direction of Table 7-1, of this document.

Note: AM Off-line Boot is running[a]. AM can be simplex or duplex on the new software release.

SMs should be simplex and running on the new software release. Their status, as indicated by the output of **OP:SYSSTAT,UCL** should include MATE PUMP.

MCC 1985 page is either at paused at POSTBOOT STAGE BOUNDRY or paused at RCVYPREP STAGE BOUNDRY.Note(s):

a. To determine if AM off-line boot is still running, access MCC page 111. If all AM units on side 0 display a status of **UNEQ**, then AM off-line boot is running. The report **OFLBOOT IP - ONLINE** also appears, on MCC page 111, backlit in red.

7.8.1 OVERVIEW

In this Backout Action, the SMs and CMP will be switched from the new to the old side and initialized on the old software release. Call processing is lost from the time the SMs are switched until the AM and CMP come up on the old software release. Since the AM is duplex and AM off-line boot is running, a Backout command "600" from MCC page 1985,ltg will be used.

7.8.2 POSTBOOT STAGE

If MCC 1985 page is paused at POSTBOOT STAGE BOUNDRY, continue with the following section.

1. To stop any in-progress transition activity, access MCC page **1985,ltg** and enter command:

   CMD **200**

2. To backout to the old release and SWITCHFWD stage, on MCC page 1985 enter command:

   CMD **600**

3. ***If*** any ***SMs fail to switch over,*** set UCL, on MCC page 1989 enter command:

   CMD **401,Y**

   To execute the backout again unconditional, on MCC page 1985, enter command:

   CMD **600**

   ****
   CALL PROCESSING IS DOWN
   PROCEED IMMEDIATELY TO
   THE NEXT STEP
   ****

The transition process backs out to the SWITCHFWD stage.

7.8.3 VERIFICATION OF SUCCESSFUL RECOVERY ON OLD SOFTWARE RELEASE

7.8.3.1 AM Recovery

If any failing PRMs are output, consult the PRM document. If only failing PRMs are output, escalate to your next level of support immediately and consult Section 6.3.

7.8.3.2 Call Processing Verification

1. If call processing is not available within a reasonable amount of time, the Site Coordinator should escalate to your next level of support immediately.
2. As the SMs become active, verify that call processing is available from the SM and verify intramodule and intermodule call processing. Keep records on the Call Processing Verification Worksheet (Table 9-8).
3. On MCC Page 1985, if the SWITCHFORWARD Stage Indicator shows starting and the Step Indicator shows SWITCH-FWD PAUSE then continue.
4. Using list of local and Direct Distance Dialing (DDD) lines prepared earlier, perform a dial through test of all selected lines.

   Comment: Included in this list should be police, fire, hospital(s), 911 dispatcher, and other emergency numbers as determined by local practices.
5. The next several sections verify that critical *5ESS* switch hardware is configured correctly after the initialization. Since MCC display pages must function to perform these verifications, it could be as long as 30 minutes before these procedures may be performed. Preliminary call processing tests should be performed as soon as possible after the initialization. Call processing should be available in less than 5 minutes. The following sections should be deferred until call processing has been demonstrated.

7.8.3.3 MCC Displays

1. The MCC should change from the EAI page to MCC page 111 within 5 to 10 minutes. (The full set of MCC pages are available within 15 minutes.)
2. On MCC page 111, AM 0 status may be **INIT** shortly changing to**ACT FRCD**.
3. Verify all SMs are in the correct state by executing a OP:SYSSTAT.UCL. If not, go to Recovery Action R-39. If all SMs are in the correct state then continue.

Exit Points:

Restart: There is no restart pointer for this Backout Action. Continue with Backout Action B-7 (Section 7.9).

Backout: Continue with Backout Action B-7 (Section 7.9).

7.9 BACKOUT ACTION B-7 (SWITCHFWD STAGE)

B-7 ENTRY POINTS: This Backout Action is entered by the following conditions:

- Completion of Backout Action B-5, or B-6, or
- Direction of Table 7-1, of this document.

Note: AM and CMP should be on the old software release. SMs should be simplex or may be **GEN DIFF** and running on the new or old software release. Their status is indicated by the output of **OP:SYSSTAT,UCL.**

7.9.1 OVERVIEW

In this Backout Action, any **GEN DIFF** SMs will be switched back. The SMs and CMP are verified and Trunk Status Mapping is run. On MCC page 1985, a 200 STOP poke command followed by a 600 BACKOUT poke command is entered to backout to the beginning of SWITCHFWD stage.

7.9.2 BACKOUT TO START OF SWITCHFWD STAGE

1. If you are already at the beginning of SWITCHFWD Stage which means MCC Page 1985 looks like Figure 7-7, or Stage indicator shows "SWITCHFWD-FAILED" and Step indicator shows "SWITCHFWD STAGE STOPPED", then go directly to Backout Action B-8, Section 7.10. Otherwise continue with step 2.

   Note: If the step indicator shows "SWITCHFWD WAITING", continue with Step 2.

2. If using off-line boot, go to MCC page 111 to verify you are on side 0. If not, go to Backout Action B-6, Section 7.8.

3. To stop any in-progress transition activity, access MCC page **1985,ltg** and enter command:

   CMD **200**

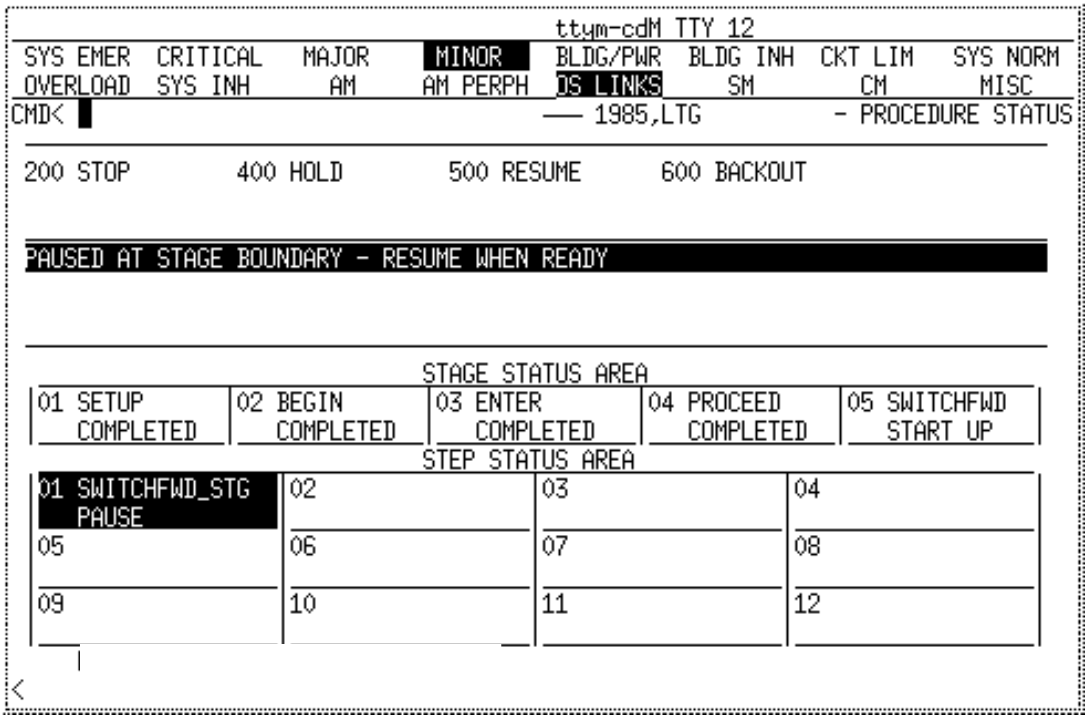

Figure 7-7 — MCC Page 1985 Paused at the Switchforward Stage

4. To backout to the start of SWITCHFWD stage, on MCC page 1985 enter command:

   CMD **600**

The transition process backs out to the start of the SWITCHFWD stage.

7.9.3 VERIFICATION OF SUCCESSFUL RECOVERY

7.9.3.1 SM Recovery

1. To allow hardware checks on all CLNKs, enter message:

   MSG **ALW:HDWCHK,CLNK,ALL;**

   Response: **ALW HDWCHK CLNK ALL COMPLETED**

2. To simultaneously restore all OOS CLNKs, enter message:

   MSG **RST:CLNK,ALL;**

   Response: **RST:CLNK,ALL; PF**
   RST CLNK ALL COMPLETED

3. Access MCC page 1260.

   a. If any CLNKs are off normal, access MCC page 1900,x (where x = SM number with off-normal CLNKs).

   b. To restore OOS CLNKs, enter command on MCC page 1900,x:

      CMD **3xxx**

Where: xxx = OOS CLNK

4. On MCC pages 141, 142, etc., each SM should indicate **MATE PUMP** within 10 to 15 minutes of the AM initialization.

Caution: The following step is only for SM initialization problems.

5. Any SM indicating the status of **GEN DIFF** on MCC pages 141, 142, etc., could indicate one of the following conditions:

   - A loss of communications to the SM has occurred
   - The SM has failed to switch to the new software release side.
   - An other error has occurred in the SM.

   To determine if a communications problem has occurred, access MCC page 1900,x (where x is the SM number).

   To restore OOS CLNKs, enter command on MCC page 1900,x:

   CMD **3yyy**

   Where: yyy = OOS CLNK

   If the CLNKs do not restore, access MCC page 115 to determine the location of other CM problems. Go to the appropriate MCC pages and attempt to restore communications.

   If the SM remains **GEN DIFF** on MCC pages 141, 142, etc., attempt to switch the SMs sides. Enter message:

   MSG **ORD:CPI=x,CMD=GRSW-0;**

   Where: x = number of the SM that is **GEN DIFF**.

   If the SM remains **GEN DIFF** on MCC pages 141, 142, etc., repumping the SM is recommended as follows:

   a. To allow auto pump, enter command on MCC page 1800,x (where x = SM number):

      CMD **701**

      Response: **OK**

   b. If any SMs still indicate **GEN DIFF**, proceed immediately to Recovery Action R-39, Section 6.6.39 and escalate to your next level of support.

      Note: Any SMs that indicate GEN DIFF will only respond to the following types of commands:

      - Software Release Update switch commands (Switchfwd, Switchbck, Backout, SMswitch, SMbackout, and ORD:CPI=x,CMD=GRSW)
      - Reset processor commands (poke 924 on MCC page 1800,x and ORD:CPI=x,CMD=RESET)

        Do not attempt to power cycle an SM without support from technical assistance. If an SM that is in a forced simplex condition is power cycled, the SM force will be lost and the SM will attempt to duplex.

c. If the status of the SM remains GEN DIFF on MCC page 1800,x, perform an AM directed reset (to initialize and pump the SM) by entering the following commands:

CMD **924**

Response: **FI? Y/N** *(on MCC)*

CMD **y**

Response: **ORD:CPI=**x**,CMD=RESET; PF**

Comment: The **924** poke and the **y** confirmation should be poked into the switch a second time to pump the SM.

CMD **924**

Response: **FI? Y/N** *(on MCC)*

CMD **y**

Response: **ORD:CPI=**x**,CMD=RESET; PF**

6. Verify each SM is active on side 0. Enter message:

MSG **OP:SYSSTAT,UCL;**

Response:

OP SYSSTAT SUMMARY {FIRST|NEXT|LAST} RECORD
SYS: INHIBITS-RC MISC
AM: [BACKOUT-RC] INHIBITS-MTCE-SW MORE
CM: INHIBITS-MTCE
CMP x**-0 P: [BACKOUT-RC] INHIBITS-HW**
CMP y**-0 M: [BACKOUT-RC] GEN DIFF**
{B|S|L}SM a**,0:MATE_PUMP [BACKOUT-RC] FORCED INHIBITS-MTCE-PUMP-HW-SW**
[CKT_OOS][MORE]
...
{B|S|L}SM z**,0:MATE_PUMP [BACKOUT-RC] FORCED INHIBITS-MTCE-PUMP-HW-SW**
[CKT_OOS][MORE]

Comment: At this point, all units (AM, CMP, SMs) ***may*** indicate**BACKOUT-RC** as the RC roll-forward completes. Once the roll forward is complete, no units should indicate **BACKOUT-RC**.

7.9.3.2 CMP Recovery

Access MCC page 1850. The primary CMP state should be **ACT**. If trouble was encountered in reconfiguring the CMPs during the switch forward, the primary CMP may show that it is being pumped and initialized. **On MCC page 1850, if the primary CMP shows that it is being pumped and initialized, wait a reasonable amount of time for the process to complete.**

If the primary CMP changes to an ACTIVE state, proceed to the next section.

If the state of the primary CMP still did not change to ACTIVE/POSTINIT, do the following.

Caution: The following steps are only for CMP switch forward problems.

1. On MCC page 1850 (logically active CMP), to initialize and pump the CMP, enter commands:

   CMD **923**

   FI (Y/N) **Y**

2. If the status of the CMP still does not transition to ACTIVE within a reasonable amount of time (10 minutes maximum), escalate to your next level of support.

7.9.3.3 Verification of Trunk Status Mapping

1. To verify trunk status mapping, enter the following command on MCC page 1984:

   CMD **514,new**

   Response:

```
UPD:GEN:APPLPROC,ARG="TSMNEW";
UPD GEN APPLPROC EXECUTING THE FOLLOWING UPDATE TOOL:
/prc/supr/tsm NEW
[UPD GEN TSM  IN PROGRESS xxx TRUNKS LOGGED]
[UPD GEN TSM OOS SUMMARY xx MISMATCHES DETECTED]
[UPD GEN TSM CADN SUMMARY xx MISMATCHES DETECTED]
UPD GEN TSM COMPLETED
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

   Comment: If an error is encountered, refer to Section 6.5.15.

2. If OOS and/or CADN mismatches were detected, an OP-LIST-like report containing each listing can be dumped to the ROP or another printer. The location of these files is as follows:

   - **CADN Report: /updtmp/tsm/cadn.report**
   - **OOS Report: /updtmp/tsm/oos.report**

3. If CADN mismatches are detected, the report should be dumped to a printer (ROP, etc.) and analyzed now.

   This report contains a listing of trunks which were IN SERVICE prior to the boot but are now OOS CADN.

   This state is usually encountered when trunks marked OOS CADN in the final ODD dump are brought into service during the RC double-logging interval.

   For each trunk listed in the CADN report, determine whether it should be brought back into service or left as it is. If the trunk should be brought back into service, use the appropriate RST:TRK message (refer to 235-600-700,*Input Message Manual*) to restore the trunk(s).

4. If the summary message from TSMNEW indicated that OOS mismatches were detected, the following message can be used to automatically remove from service all trunks listed in the **oos.report** file (**/updtmp/tsm/oos.report**).

   CMD **514,rmv**

Response: **UPD:GEN:APPLPROC,ARG="TSMRMV";**

```
UPD GEN APPLPROC EXECUTING THE FOLLOWING UPDATE TOOL:
/prc/supr/tsm RMV
UPD GEN TSM xx TRUNKS TO BE REMOVED FROM SERVICE
(A RMV:TRK message appears for each trunk

in the OOS report)
UPD GEN TSM COMPLETED
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

Comment: Do not wait for all of the trunks to be removed from service. Continue with the procedures.

Exit Points

Restart: Restart at Switchforward (Section 5.7) for this backout section.

Backout: Continue with Backout Action B-8 (Section 7.10).

7.10 BACKOUT ACTION B-8 - DUPLEX AM AND CMP (PROCEED STAGE)

B-8 ENTRY POINTS: This Backout Action is entered by the following conditions:

- Completion of Backout Action B-7, or
- Direction of Table 7-1, of this document.

Note: At this point the AM, CMP, and SMs are simplex on the old software release. AM and CMP will be duplexed and Update will be backedout to the beginning of PROCEED.

7.10.1 BACKOUT TO START OF PROCEED STAGE

1. If you are already at the beginning of PROCEED Stage which means MCC Page 1985 looks like the following Figure 7-8, or Stage indicator shows "PROCEED-FAILED" and Step indicator shows "PROCEED STAGE STOPPED", then go directly to Backout B-9, Section 7.11. Otherwise continue with step 2.
2. To stop any in-progress transition activity, access MCC page 1985,ltg and enter command:

   CMD **200**
3. To backout to start of PROCEED stage, on MCC page 1985 enter command:

   CMD **600**

The transition process backs out to the start of the PROCEED stage.

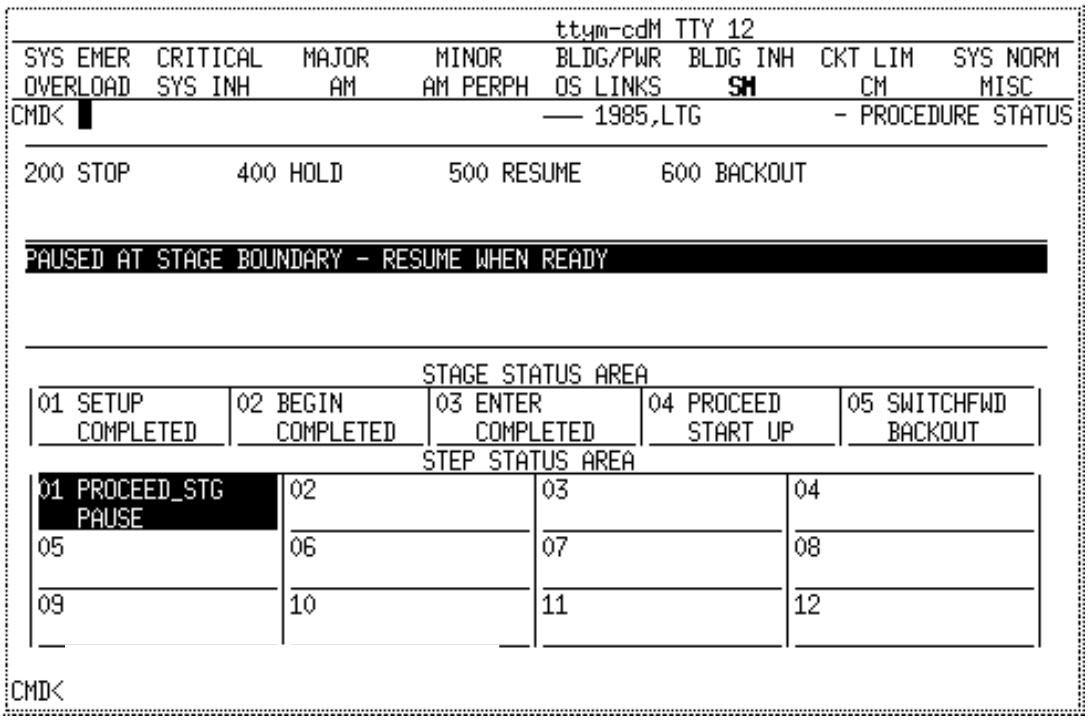

Figure 7-8 — MCC Page 1985 Paused at the Proceed Stage

7.10.2 CMP RESTORAL

1. To allow CMP hardware and software checks, on MCC page 1984, enter command:

   CMD **511,cmp**

   Response:

```
UPD:GEN:APPLPROC,ARG="ALWCMPCHKS";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:HDWCHK,CMP=0-0;
ALW:HDWCHK,CMP=0-0; PF
ALW HDWCHK CMP=0-0 COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:HDWCHK,CMP=1-0;
ALW:HDWCHK,CMP=1-0; PF
ALW HDWCHK CMP=1-0 COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:SFTCHK,CMP=0;
ALW:SFTCHK,CMP=0; OK
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

   If CMP is not duplex, execute the following 2 commands (steps 2 and 3):

2. To remove CMP 1-0, enter message:

   MSG **RMV:CMP=1-0;**

   Response: **RMV CMP=1-0 COMPLETED**

3. To unconditionally restore CMP 1-0 to standby, enter message:

   MSG **RST:CMP=1-0,STBY,UCL;**

   Response:

```
REPT CMP=1-0 MATE INITIALIZATION  TRIGGER={CRAFT|MANUAL}
       -REQUEST
RST CMP=1-0 COMPLETED
[REPT MSKP_ENVIRONMENT:]
   [CMP=1-0 PHASE 1&2 INIT COMPLETION TIME: H'xxxxx

 TYPE: H'x] [EVENT=xxx]
   [CMP=1-0 PHASE 3 INIT COMPLETION TIME: H'xxxxx
TYPE: H'x][EVENT=xxx]
REPT COMMUNICATION RESTORED: AM TO CMP=1-0 MATE
```

   Comment: Several other types of output messages may be received indicating the CMP has been initialized.

7.10.3 ALLOW AUTO PUMP, SOFTWARE, HARDWARE, AND ERROR CHECKS

In this Backout Action, the following conditions are most likely true:

- The switch is running on the old data.
- The SMs are simplex with MCTSI side 0 forced active and MCTSI side 1 is UNV.
- The disks are simplex with the even-numbered disks ACT and the odd-numbered disks OFL. Refer to MCC page 123 for the state of the system MHDs.

In the following steps, auto pump, software, hardware, and error checks are allowed.

1. To allow SM software and hardware checks, on MCC page 1984 enter command:

   CMD **511,sm**

Response:

```
UPD:GEN:APPLPROC,ARG="ALWSMCHKS";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:HDWCHK,SM=1&&192;
ALW:HDWCHK,SM=1&&192; IP
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:SFTCHK,SM=1&&192;
ALW:SFTCHK,SM=1&&192; OK
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
ALW HDWCHK SM=x COMPLETED
 . . .
```

Comment: On MCC page 1800,x (where x = any numbered SM), box "04 SFTCHK" and box "08 ALL HDWCHK" should not be backlit or transition from a backlit condition to a normal display in a few minutes.

2. To simultaneously restore all OOS CLNKs, enter message:

   MSG **RST:CLNK,ALL;**

   Response: **RST CLNK ALL COMPLETED**

3. To allow auto pump in all SMs, on MCC page 1984 enter command:

   CMD **501,alwpump**

   Response:

```
UPD:GEN:APPLPROC,ARG="ALWPUMP";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:PUMP,SM=1&&192; OK
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

   Comment: On MCC page 1800,x (where x = any numbered SM) box "01 AUTO PUMP" should not be backlit or transition from a backlit condition to a normal display in a few minutes.

4. Enter the following command on MCC page 1984:

   CMD **511,am**

   Response:

```
UPD:GEN:APPLPROC,ARG="ALWAMCHKS";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:HDWCHK;
ALW:HDWCHK; PF
ALW HWDCHK COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:SFTCHK;
ALW:SFTCHK; PF
ALW SFTCHK COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:ERRINT;
ALW:ERRINT; PF
ALW ERRINT COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:ERRSRC;
ALW:ERRSRC; PF
ALW ERRSRC COMPLETED
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

5. Enter message:

MSG **OP:SYSSTAT,UCL;**

Response:

OP SYSSTAT	**SUMMARY {FIRST|NEXT|LAST} RECORD**
SYS:	**INHIBITS-MSG-RC MISC**
AM:	**INHIBITS-MTCE MORE**
CM:	**NO_REQ_PEND**
CMP 0-0:	**NORMAL**
CMP 1-0:	**[BACKOUT-RC] {POSTINIT|NORMAL}**
{B|S|L}SM a,0:	**MATE_PUMP FORCED INHIBITS-MTCE CKT_OOS**
...	
{B|S|L}SM z,0:	**MATE_PUMP FORCED INHIBITS-MTCE CKT_OOS**
...	

7.10.4 RESTORE AM 1

1. Access the EAI page.
2. To clear all forces on the EAI page, enter command:

   CMD **14**

   Response: **REPT CU 1 OUT OF SERVICE (on ROP)**
   REPT CU 0 NO LONGER FORCED ONLINE *(on ROP)*
3. Access normal display (**NORM DISP**).
4. To switch ports, enter command on MCC page 111:

   CMD **401**

   Response:

   ```
   SW:PORTSW; PF
   REPT ROP x STOPPED
   REPT ROP y STARTED
   SW PORTSW COMPLETED FOR ROP
   ```

   Screen blanks while ports are being switched.

   REPT MTTY x **STOPPED REPT MTTY** y **STARTED SW PORTSW COMPLETED FOR MTTY**

   EAI page comes up followed by MCC page 111.

   Comment: If the port switch fails, ensure that the switches on the EAI boards are in the auto position.
5. Reaccess the EAI page and ***verify*** that the setups for this EAI port are the same as the other port which was set in Step 2. If the hardware and software inhibits are not cleared, clear them. If the force on the CU has not been cleared, clear it. If the force on the secondary disk has not been cleared, clear it. If these items have been cleared, continue with the next step.
6. To unconditionally restore AM 1, on MCC page 111, enter command:

CMD **301,ucl**

Response:**RST:CU=1,UCL; PF** (on ROP)

```
RST CU=1 TASK x MSG STARTED
 ...
RST CU 1 IN PROGRESS (every 2 minutes)
 ...
RST CU 1 COMPLETED
```

Comment: Wait for **RST:CU=1,UCL; PF** acknowledgment, but do not wait for the AM restoral to complete.

Exit Points

Restart: Restart at PROCEED (Section 5.6) after setting UCL on MCC page 1989.

Backout: Continue with Backout Action B-9 (Section 7.11).

7.11 BACKOUT ACTION B-9 (BACKOUT TO THE START OF THE ENTER STAGE)

B-9: ENTRY POINTS: This Backout Action is entered by the following conditions:

- Completion of Backout Action B-8, or
- Direction of Table 7-1, of this document.

Note: At thispoint the AM and CMP are duplex on the old software release. The SMs may be simplex on the old software release. MHDs may be simplex.

7.11.1 OVERVIEW

In this Backout Action, the following conditions are most likely true:

- The switch is running on the old text load.
- The SMs may be simplex with MCTSI side 0 forced active and MCTSI side 1 is Unavailable (UNV).
- The SUs (imr11111xx and imr22222xx) may have already been applied or be in the process of being applied.
- The disks may be simplex with the even-numbered disks, Active (ACT-SYSTEM) and the odd-numbered disks, off-line (ACT-SPLIT). Refer to output of 502 on MCC page 1984 for the state of the MHDs.

7.11.2 BACKOUT TO THE START OF THE ENTER STAGE

1. If you are already at the beginning of the ENTER stage (meaning MCC page 1985 matches the figure shown in Figure 7-9), or stage indicator shows "ENTER STAGE STOPPED", go directly to Backout B-10, Section 7.12. Otherwise continue with Step 2.
2. Access the MCC page 1985,ltg and enter stop command to stop any "in progress" translation activities:

   CMD **200**
3. Determine whether or not either of the 2 SUs (imr11111xx and imr22222xx) have been applied (see page 1950 for BWM history). If any of the preceding SUs have been applied, follow the procedures outlined in Section 7.11.3 to back out the preceeding 2 SUs.

   Note: While back out of the above SUs is taking place, continue with the next step, duplexing of SMs, if they have been simplexed at the time. In other words, the activities for backing out of the preceding 2 SUs and the activities for duplexing of the SMs can proceed in parallel in an effort to save time.
4. Determine if the SMs are simplex. If the SMs are simplex, then follow the instructions outlined in Section 7.11.4.1 to duplex the SMs. As noted, this step can take place while the preceding SUs are being backed out.
5. Verify that the SMs are duplex.
6. Verify that imr11111xx and imr22222xx have been backed out.
7. Access the MCC page 1985,ltg and enter backout command to start the translation to the beginning of the ENTER stage:

   CMD **600**

8. Upon completion of backout to the beginning of the ENTER stage, ENTER STAGE PAUSE at STAGE BOUNDARY, verify that MHDs are Duplex. If the office has an ASM with eh Proxy Database fature active, verify that the Proxy Database has been successfully regernerated and is back on-line.

   MSG ST:DBPROXY:ACTION=STATUS

   Response:

   ```
   PROXY DATABASE IS NORMAL
   ```

   MSG ST:DBPROXY,ACTION=SIZEREPORTALL

   Response:

   ```
   DB      CURRENT SIZE        MAX SIZE          PCT
             IN KBYTES         IN KBYTES         USED
   ---------------------------------------------------
   AM         xxxx               xxxx              x
   CMP        yyyy               yyyy              y
   ```

   Any other ROP indicating failure to access the Proxy DB should be reported to technical support before proceeding with the End Stage.

Exit Points:

Restart: The condition which required the office to back out of the transition should be corrected before attempting to restart the procedure.

Restart the LTG procedure at the ENTER stage (Section 5.5).

Backout: Continue with Backout Action B-10 (Section 7.12).

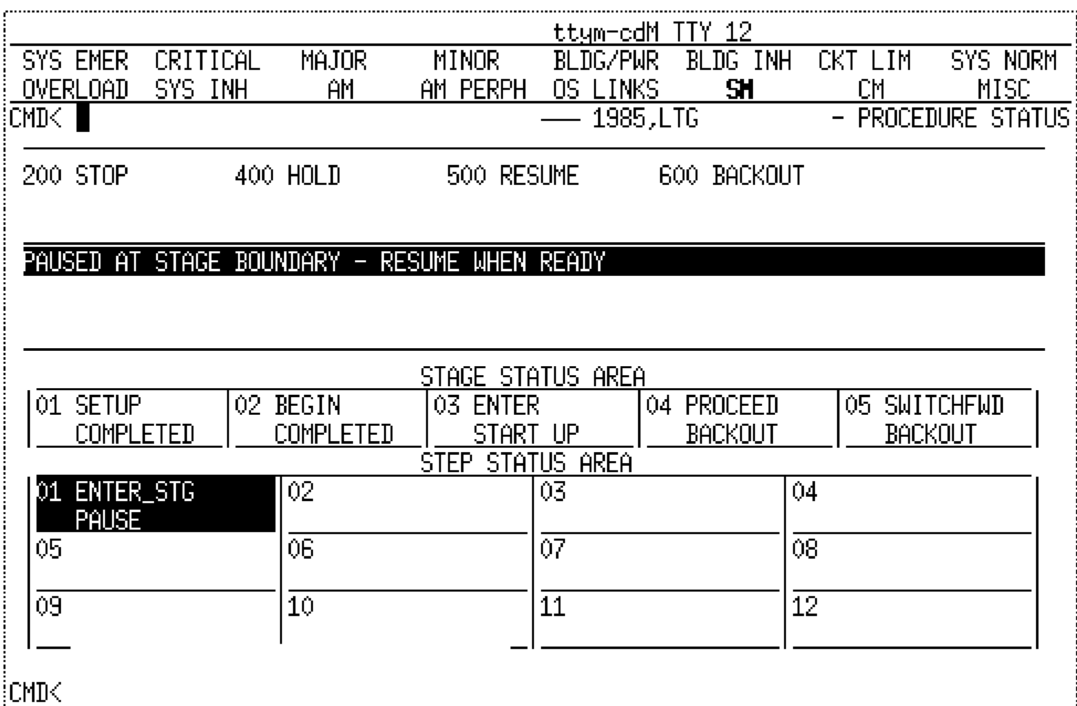

Figure 7-9 — MCC Page 1985 Paused at the Enter Stage

7.11.3 BACKOUT SOFTWARE UPDATES

If you have not yet applied the imr11111xx and imr22222xx Software Updates (SUs), in the Processor Preparation and Pump Stage, it is not necessary to perform the remaining steps in this Backout Action (B-6). If the SUs have not been applied, it is not necessary to back them out.

Warning 1: If you are not immediately reattempting the LTG and do not execute the remaining steps in this Backout Action, AND you take an MHD fault that requires recovering the office from tape, the office will come up with all SMs in a GENDIFF state and call processing will be down!

Warning 2: The following SUs must be backed out one at a time and in the order given before continuing on to the next. The time to backout the SUs will vary, taking approximately 15 to 45 minutes to complete. Be careful.

1. Access MCC page 1950.
2. Verify that the official SU (BWM) history displayed is as follows:

```
Last OFC BWM   imr22222xx
2nd from top   imr11111xx
3rd from top   (will vary between offices)
```

3. To backout the last official SU, enter the following commands:

   CMD **9900**

   Backout Last OFC? y/n **y**

   Response:

```
UPD:BOLO; OK
UPD:BKOUT:DATA, UPNM=imr22222xx, OFC;  PF
[UPD WARNING CANNOT DETERMINE FILE GROWTH]
UPD BKOUT UPNM=IMR22222XX
   FN /no5text/im/D.xx/IM.out

 DF /no5text/im/D.xx/IMhs.out FINISHED
UPD BKOUT CONTINUES
(For the previous three lines xx = basic, standard,

 and/or loaded)
[UPD WARNING CANNOT DETERMINE FILE GROWTH]
UPD BKOUT UPNM=IMR22222XX
   FN /no5text/cmp/CMP.out

DF  /no5text/cmp/CMPhs.out FINISHED
UPD BKOUT CONTINUES
[UPD WARNING CANNOT DETERMINE FILE GROWTH]
UPD BKOUT UPNM=IMR22222XX
   FN /no5text/prc/SIlib FINISHED
UPD BKOUT COMPLETED
UPD OFFICIAL BACK OUT SECTION
UPD EXECUTE ANY MANUAL COMMANDS FOR BWM IMR22222XX
"BKOUT.-----------------------------------------"
"
" If during the installation of this BWM, or at any time
" during the SOAK period, you feel that the applied updates
" should be backed out of the system, enter the following
" command(s):
```

```
"
UPD:BKOUT:DATA, UPNM=imr22222xx;
"

UPD END OF BACKOUT SECTION FOR BWM IMR22222XX
UPD BACK OUT OF LAST OFFICIAL BWM COMPLETED
```

4. Access MCC page 1950:
5. Verify that the official SU (BWM) history displayed is as follows:

```
Last OFC BWM   imr11111xx
2nd from top  (will vary between offices)
3rd from top  (none)
```

6. To backout the last official SU, enter the following commands:

   CMD **9900**

   Backout Last OFC? y/n **y**

   Response: **UPD:BOLO; OK**

```
UPD:BKOUT:DATA, UPNM=imr11111xx, OFC;  PF
[UPD WARNING CANNOT DETERMINE FILE GROWTH]
UPD BKOUT UPNM=IMR11111XX
   FN /no5text/im/D.xx/IM.out

 DF /no5text/im/D.xx/IMhs.out FINISHED
UPD BKOUT CONTINUES
(For the previous three lines xx = basic, standard,

and/or loaded)
[UPD WARNING CANNOT DETERMINE FILE GROWTH]
UPD BKOUT UPNM=IMR11111XX
   FN /no5text/cmp/CMP.out

DF  /no5text/cmp/CMPhs.out FINISHED
UPD BKOUT CONTINUES
[UPD WARNING CANNOT DETERMINE FILE GROWTH]
UPD BKOUT UPNM=IMR11111XX
   FN /no5text/prc/SIlib FINISHED
UPD BKOUT COMPLETED
UPD OFFICIAL BACK OUT SECTION
UPD EXECUTE ANY MANUAL COMMANDS FOR BWM IMR11111XX
"BKOUT.-------------------------------------------"
"
"  If during the installation of this BWM, or at any time
"  during the SOAK period, you feel that the applied updates
"  should be backed out of the system, enter the following
"  command(s):
"
UPD:BKOUT:DATA, UPNM=imr11111xx;
"
UPD END OF BACKOUT SECTION FOR BWM IMR11111XX
UPD BACK OUT OF LAST OFFICIAL BWM COMPLETED
```

7. Any TMP SUs should be reinstalled at this point. Refer to 235-105-210, *Routine Operations and Maintenance* for more information.

7.11.4 DUPLEXING SMs

7.11.4.1 STOP OFF-LINE PUMP SMs

To stop any off-line pump activity that is in progress in the SMs, enter the following command on MCC page 181.

CMD **3000**

Response: **STP:OPUMP,SM=1&&192; OK - PUMPING SMS WILL REPORT**

7.11.4.2 CHECK MOP STATUS

1. To ensure that the mop command is no longer running, on MCC page 1984, enter command:

   CMD **510**

   Response:

```
UPD:GEN:APPLPROC,ARG="ISMOP";
UPD GEN APPLPROC EXECUTING THE FOLLOWING UPDATE TOOL:
/prc/supr/ismop
UPD GEN APPLPROC ISMOP REPORT
 !!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
 !!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
 .
 . MOP/PTNMGR IS NOT RUNNING
 .
 . THERE ARE NO OFFLINE PARTITIONS MOUNTED
 .
 . ISMOP COMPLETE
 .
 !!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
 !!!!!!!!!!!!!!!!!! NOTICE !!!!!!!!!!!!!!!!!!
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

2. If the response from the preceding **510** command indicates that the mop command is running***and/or*** there are off-line partitions mounted, on MCC page 1984, enter command:

   CMD **609**

   Response:

```
UPD:GEN:APPLPROC,ARG="STOPMOP";
UPD GEN APPLPROC EXECUTING THE FOLLOWING UPDATE TOOL:
/prc/supr/ptnmgr -k
[PRM_0 E800 0002 xx03 xxxx xx xx xx]

(may appear several times)
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

7.11.4.3 ALLOW AUTO PUMP, SOFTWARE, HARDWARE, AND ERROR CHECKS

In this Backout Action, the following conditions are probably true:

- The switch is running on the old data.
- The SMs are simplex with MCTSI side 0 forced active and MCTSI side 1 is UNV.
- The disks are simplex with the even-numbered disks ACT and the odd-numbered disks OFL. Refer to MCC page 123 for the state of the system MHDs.

In the following steps, auto pump, software, hardware, and error checks are allowed.

1. To allow SM software and hardware checks, on MCC page 1984 enter command:

CMD **511,sm**

Response:

```
UPD:GEN:APPLPROC,ARG="ALWSMCHKS";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:HDWCHK,SM=1&&192;
ALW:HDWCHK,SM=1&&192; IP
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:SFTCHK,SM=1&&192;
ALW:SFTCHK,SM=1&&192; OK
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
ALW HDWCHK SM=x COMPLETED
 . . .
```

Comment: On MCC page 1800,x (where x = any numbered SM), box "04 SFTCHK" and box "08 ALL HDWCHK" should not be backlit or transition from a backlit condition to a normal display in a few minutes.

2. To allow auto pump in all SMs, on MCC page 1984 enter command:

   CMD **501,alwpump**

   Response:

```
UPD:GEN:APPLPROC,ARG="ALWPUMP";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:PUMP,SM=1&&192; OK
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

   Comment: On MCC page 1800,x (where x = any numbered SM) box "01 AUTO PUMP" should not be backlit or transition from a backlit condition to a normal display in a few minutes.

3. Enter the following command on MCC page 1984:

   CMD **511,am**

   Response:

```
UPD:GEN:APPLPROC,ARG="ALWAMCHKS";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:HDWCHK;
ALW:HDWCHK; PF
ALW HWDCHK COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:SFTCHK;
ALW:SFTCHK; PF
ALW SFTCHK COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:ERRINT;
ALW:ERRINT; PF
ALW ERRINT COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:ERRSRC;
ALW:ERRSRC; PF
ALW ERRSRC COMPLETED
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

4. To simultaneously restore all OOS CLNKs, enter message:

   MSG **RST:CLNK,ALL;**

   Response: **RST CLNK ALL COMPLETED**

5. Enter message:

   MSG **OP:SYSSTAT,UCL;**

   Response:

OP SYSSTAT	**SUMMARY {FIRST|NEXT|LAST} RECORD**
SYS:	**INHIBITS-MSG-RC MISC**
AM:	**INHIBITS-MTCE MORE**
CM:	**NO_REQ_PEND**
CMP 0-0:	**NORMAL**
CMP 1-0:	**[BACKOUT-RC] {POSTINIT|NORMAL}**
{B|S|L}SM a,0:	**MATE_PUMP FORCED INHIBITS-MTCE CKT_OOS**
...	
{B|S|L}SM z,0:	**MATE_PUMP FORCED INHIBITS-MTCE CKT_OOS**
...	

7.11.4.4 MISCELLANEOUS ALLOWS

7.11.4.4.1 Allow ACSR Enqueueing/Dequeueing

To allow ACSR enqueueing/dequeueing, enter message:

MSG **ALW:ACSR,ALL;**

Response: **OK**

7.11.4.4.2 Allow CORCs

To allow CORCs, enter message:

MSG **ALW:CORC;**

Response: **ALW CORC COMPLETED**

7.11.4.5 RESTORE SMs, BTSRs, AND PERIPHERALS

1. In this step, the force will be cleared on all MCTSIs.
   a. To clear force on all MCTSIs, enter message:

      MSG **ORD:CPI=1&&192,CMD=CLR;**

      Response: **ORD CPI 192 CMD CLR COMPLETED**

   b. To check the AM and SM status, enter message:

      MSG **OP:SYSSTAT,UCL;**

      Response: **OP:SYSSTAT,UCL;PF**

OP SYSSTAT	**SUMMARY {FIRST|NEXT|LAST} RECORD**
SYS:	**INHIBITS-MSG-RC MISC**
AM:	**INHIBITS-MTCE MORE**
CM:	**NO_REQ_PEND**

CMP x**-0 P:**	**NORMAL**
CMP y**-0 M:**	**NORMAL [POSTINIT]**
L LSM a,x**:**	**MATE_PUMP INHIBITS-MTCE [MATE_OOD] CKT_OOS**
...	
B LSM b,x**:**	**MATE_PUMP INHIBITS-MTCE [MATE_OOD] CKT_OOS**
...	
S LSM z,x**:**	**MATE_PUMP INHIBITS-MTCE [MATE_OOD] CKT_OOS**

Comment: No SMs should indicate **FORCED**.

Note: Re-enter this command to verify that all SM are pumped. This will take several minutes.

c. If Step 'a' failed to clear the force on any SM, enter the following message for the failing SM. For any SM indicating "FORCED," enter message:

MSG **ORD:CPI=x,CMD=CLR,UCL;**

Where: x = the number of the SM indicating "FORCED"

Response: **ORD CPI x CMD CLR COMPLETED**

Comment: If force did not clear or problems still exists, go to Section 6.5.6.

2. To restore peripherals, enter command on MCC page 181:

CMD **5000**

Response: **RST:PERF,SM=1&&192; PF**
REPT RST PERF SM=*x* **COMPLETED** *[Loaded SMs with (R)ISLUs and/or integrated digital carrier units (IDCUs) only.]*
Loaded SMs with (R)ISLUs and/or IDCUs will display the ORST stage and then indicate MATE PUMP again.

3. In this step, MCTSI Side 1 for all SMs is restored. Since no new SM hardware was installed as part of these procedures, an unconditional restore is recommended to minimize SM simplex time.

a. To unconditionally restore MCTSI Side 1 for all SMs, enter message:

MSG **RST:MCTSI=1&&x-1,RETRO;**

Where: x = highest-numbered SM in the office.

Response: **DGN MCTSI=***Y***-1 COMPLETED ATP PH3**
RST MCTSI=*Y***-1 COMPLETED**

Where: Y = SM number.

Comment: Both responses are output for each SM in the office. On MCC page 181, 182, etc., SMs will transition from **MATE PUMP** to**MATE OOD** to **UPDATING** to **STANDBY**.

b. If the input message in Step 'a' fails, perform a conditional restore for the failing SM, enter message:

MSG **RST:MCTSI=x-1;**

Where: x = SM number

Response: **DGN MCTSI=X-1 COMPLETED ATP PH** *yy*
...
RST MCTSI=*X***-1 COMPLETED**

c. Enter message:

MSG **OP:SYSSTAT,UCL;**

Response: **OP:SYSSTAT,UCL;PF**

OP SYSSTAT	**SUMMARY LAST RECORD**
SYS:	**INHIBITS-MSG-RC MISC**
AM:	**INHIBITS-MTCE MORE**
CM:	**NO_REQ_PEND**
CMP *x***-0 P:**	**NORMAL**
CMP *y***-0 M:**	**NORMAL**
B LSM *a***,1:**	**INHIBITS-MTCE**
...	
L ORM *b***,1:**	**INHIBITS-MTCE**
...	
S HSM *z***,1:**	**INHIBITS-MTCE**

Comment: The SMs should indicate **INHIBITS** on MCC pages 141, 142, etc.

7.12 BACKOUT ACTION B-10 (BEGIN STAGE)

7.12.1 BACKOUT TO START OF BEGIN STAGE

1. If you are already at the beginning of BEGIN Stage which means MCC Page 1985 looks like the following Figure 7-10, or Stage indicator shows "BEGIN-FAILED" and Step indicator shows "BEGIN STAGE STOPPED", then go directly to Backout B-11, Section 7.13. Otherwise continue with step 2.
2. To stop any in-progress transition activity, access MCC page **1985,ltg** and enter command:

   CMD **200**
3. To backout to start of BEGIN stage, on MCC page 1985 enter command:

   CMD **600**

   The transition process backs out to the start of the BEGIN stage.

   Response: **THE END PROCESS IS EXECUTING**

```
UPD:GEN:END;
UPD GEN END APP RECENT CHANGE ALLOW SENT
ALW:REX,CU; OK
ALW:REX,CM; OK
ALW:REX,SM=1&&192; OK
ALW:DMQ:SRC=ADP; PF
ALW DMQ ENABLED ADP
ALW:DMQ:SRC=REX; PF
UPD GEN END APP REX ALLOW SENT
ALW DMQ ENABLED REX
ALW:REORG; OK
UPD GEN END APP ALW:REORG COMMAND SENT
UPD GEN END CRAFT ACSR ENQUEUEING/DEQUEUEING ALLOW SENT
ALW:AUD=SODD,FULL; OK
ALW:AUD=SODD,INCR; OK
UPD GEN END STATIC ODD AUDITS ALLOW SENT
[UPD GEN END AUTO SPARE DISK RESTORED]
UPD GEN END APP EXECUTING ENDHOOK
EXC:LIT:OPT=a,TYP=b,RG=c,TMO=d,TM=e-f;

PF - FOR PARAMETER MODIFICATION
EXC LIT VERIFY TYP=b RG=c TMO=d TM=e-f

UPD GEN END APP ENDHOOK REPORT
Date:      Day Month Time YearTool Name:       xxxxxxxx
Generic:       5E11(1)xx.yy   Exit Status:       0
Comments:       xxxxxxxx
        .
        .
        .
UPD GEN END APP APPLLOG REPORT
APPLHOOK log file output on ROP.
On MCC page 116, GENERIC UPDATE field returns to normal.
UPD GEN END COMPLETED SUCCESSFULLY
THE END PROCESS COMPLETED SUCCESSFULLY
```

   Comment: This backout section allows REX diagnostics, automatic Relation Reorganization (REORG), and RC. The auto spare disk feature status line on MCC page 123 changes to indicate that the feature has been activated. The **SYS INH** (system inhibits status) which was backlit should go to normal as the Backout Action completes.

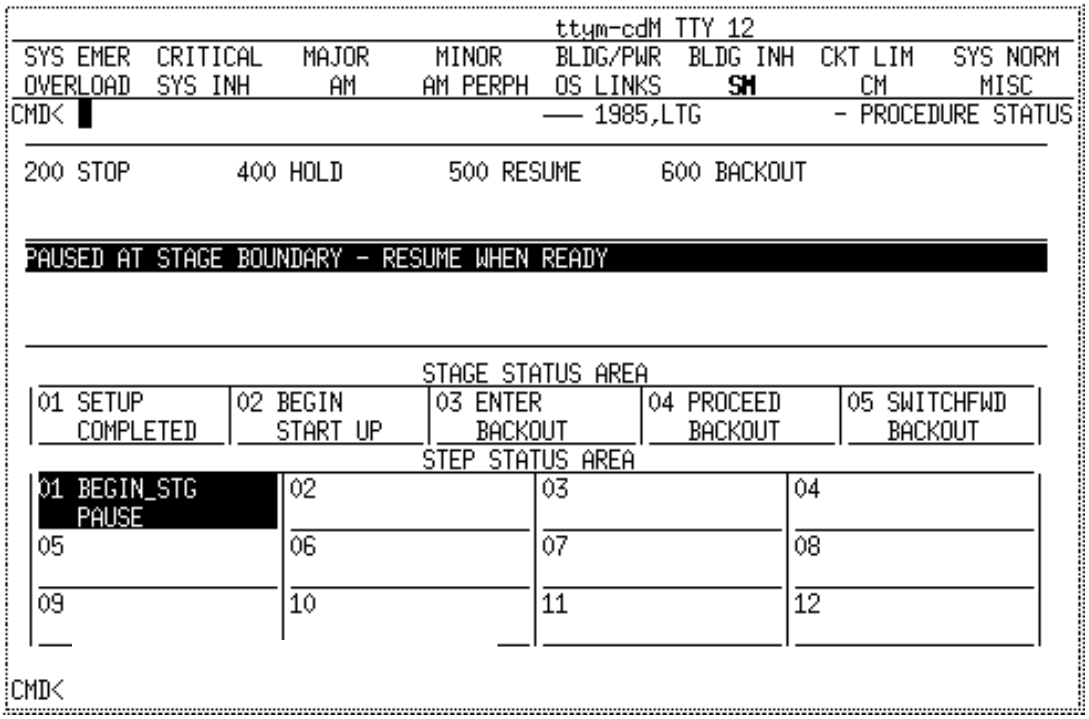

Figure 7-10 — MCC Page 1985 Paused at the Begin Stage

Exit Points:

Restart: ***The condition which required the office to back out of the transition should be corrected before attempting to restart the procedure.***

Note: Access MCC page 116 and verify that the **ODD EVOL ACT** box is backlit. If it is not backlit, RC double-logging is no longer active. To restart double-logging, execute Section 6.5.11.

Restart the procedures at Section BEGIN (Section 5.4).

Backout: Continue with Backout Action B-11 (Section 7.13).

7.13 BACKOUT ACTION B-11 (SETUP STAGE)

7.13.1 BACKOUT TO START OF SETUP STAGE

1. To stop any in-progress transition activity, access MCC page **1985,ltg** and enter command:

   CMD **200**

2. To backout to start of SETUP stage, on MCC page 1985 enter command:

   CMD **600**

   The transition process backs out to the start of the SETUP stage.

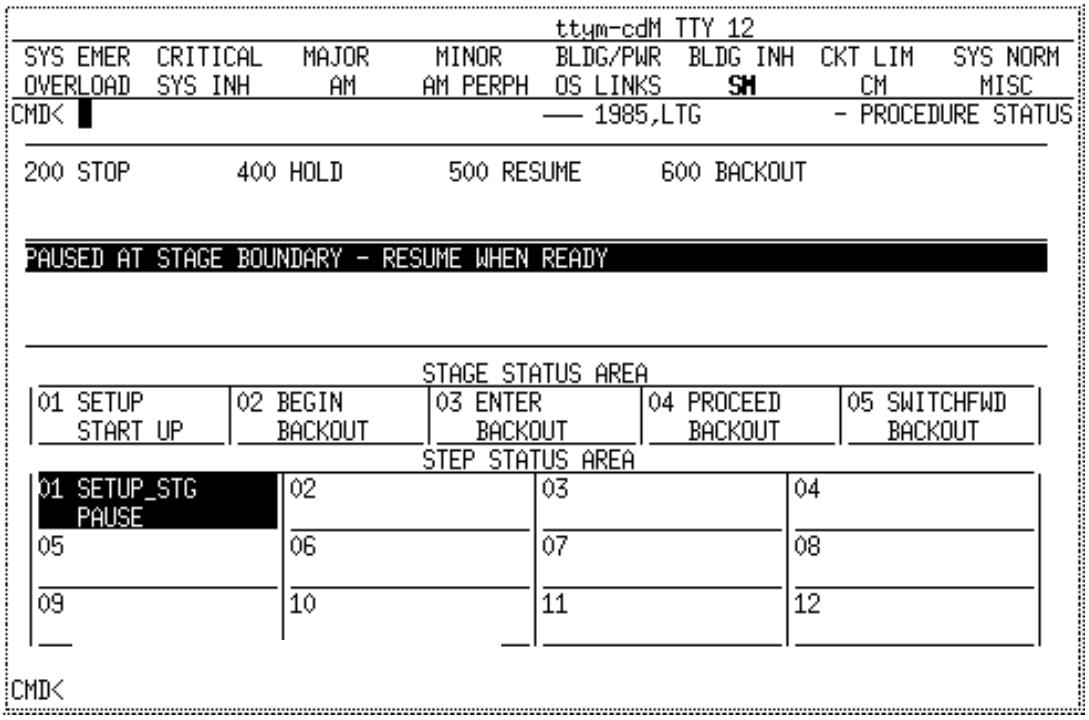

Figure 7-11 — MCC Page 1985 Paused at the Setup Stage

3. To stop any in-progress transition activity, access MCC page **1985,ltg** and enter command:

   CMD **200**

4. To backout of the Update completely and END, on MCC page 1985 enter command:

   CMD **600**

7.14 GENERAL CLEANUP

1. For offices that will resume the Update at a later date:

Warning: Double-logging only occurs when the ODD EVOL ACT box on MCC page 116 is backlit. If a manual 54 initialization OR a craft initialization with application parameters 2 or 3 (42-2-15 or 42-3-15) is taken, the double-logging of recent changes ceases. Double-logging of recent changes is required at this point to resume the Update at a later date. Failure to double-log the recent changes results in the recent changes not being applied on the new software release.

To restart ODD evolution, enter message:

MSG **EXC:ENVIR:UPROC,FN="/no5text/rcv/setoddevol";**

Response: **SETODDEVOL: ODD EVOLUTION BIT HAS BEEN SET**
EXC ENV UPROC /no5text/rcv/setoddevol COMPLETED

Comment: Ensure the ODD EVOL ACT box on MCC page 116 is backlit before proceeding.

2. For OSPS and ACD/BRCS offices, to allow OSPS configuration ODD evolution, enter message:

   MSG **EXC:ENVIR:UPROC,FN="/no5text/prc/ASospon";**

   Response: **ASOSPSON: OSPS UPDATE BIT HAS BEEN SET** *(on ROP) or*
   [ASOSPSON: CANNOT SET OSPS UPDATE BIT]
   EXC ENV UPROC /no5text/prc/ASospson COMPLETED

   Note: This message turns on the evolution process for OSPS or ACD/BRCS recent changes in OSPS and ACD/BRCS offices. This message will have no impact on the *5ESS* switch for non-OSPS and non-ACD/BRCS offices.

   Comment: Ensure the OSPS EVOL ACT box on MCC page 116 is backlit before proceeding.

3. During the remaining time interval before the LTG is resumed, it is important to check the output from each ODD backup due to the additional recent change/CORC evolution-related messages that are generated. This is especially important if the backups take place while the office is unattended. ***Escalate to your next level of support immediately if the evolution-related outputs are not received.***

   Warning: Do not print office records while double-logging is active. The office records process uses the same disk space as the double-logging process. If this disk space is full, recent changes will be lost.

4. If the system clock ***does not*** reflect the correct time, enter message:

   MSG **SET:CLK,DATE=a-b-c,TIME=d-e-f;**

   Where: a = month 01-12
   b = day 01-31
   c = year 00-99
   d = hour 00-23
   e = minute 00-59
   F = second 00-59

   Response: **SET CLK ....**

   Proper time and date are displayed on top line of MCC display.

5. The following AMA session allow may already have been performed in the Backout Actions. If so, the following AMA allow may be bypassed. Use either message ‘a’ or ‘b’, depending on your AMA option.

   a. If your office uses the AMATPS option, to allow AMA polling sessions, enter message:

      MSG ALW:AMA:SESSION[,STx];

      Where: x = stream number (1 or 2)

      Response: AMA Control file dumped at ROP

      ```
      REPT AMA CONTROL FILE FOR STREAM STx
             OFFICE ID   xxxxxx
             DAYS UNTIL EXPIRATION  y
             PROCESS START TIME XX:XX
             PROCESS STOP TIME XX:XX
             DEFAULT MT FOR AUTO TAPE START  x
             AMA OPTION IS xxxxxxxxxxx
              . . .
             (additional AMA control information dumped)
              . . .
      ```

   b. To allow AMA polling sessions for automatic tape writing, enter message:

      MSG **ALW:AMA:AUTOST[:STx];**

      Where: x = stream number (1 or 2)

      Response: AMA Control file dumped at ROP

      ```
      REPT AMA CONTROL FILE FOR STREAM STx
             OFFICE ID   xxxxxx
             DAYS UNTIL EXPIRATION  y
             PROCESS START TIME XX:XX
             PROCESS STOP TIME XX:XX
             DEFAULT MT FOR AUTO TAPE START x
             AMA OPTION IS xxxxxxxxxxx
              . . .
             (additional AMA control information dumped)
              . . .
      ```

6. In the following steps, the EAI page setups for the Update are returned to normal system operation.

   a. Access EAI page.

   b. On EAI page, **31** (CLR BACK-ROOT) should be backlit (that is, the "SET" indicator immediately following the word "ROOT" must not be visible). If the "SET" indicator is visible, escalate to your next level of support.

   c. Ensure odd-numbered EAI commands 31 through 43 are backlit.

   d. Access normal display (NORM DISP).

   e. To switch ports, enter command on MCC page 111:

      CMD **401**

      Response: **SW:PORTSW; PF**

      ```
      REPT ROP x STOPPED
      REPT ROP y STARTED
      SW PORTSW COMPLETED FOR ROP
      ```

Screen blanks while ports are being switched.

REPT MTTY x STOPPED REPT MTTY y STARTED SW PORTSW COMPLETED FOR MTTY

EAI page comes up followed by MCC page 111.

Comment: If the port switch fails, ensure that the switches on the EAI boards are in the auto position.

f. Repeat Steps 'a' through 'd' for the other EAI page.

7. To reschedule automatic ODD backups, enter message:

   MSG **BKUP:ODD:EVERY=x,AT=y;**

   Where: x and y = values recorded on the Automatic ODD Backup Schedule Worksheet (Table 9-2) earlier in the Update.

   Response: **OK**

8. To allow CLNK and FPC reconfiguration, on MCC page 110 enter command:

   CMD **708**

   Response: **ALW CLNORM COMPLETED**

   Box 08 (CLNK NORM) on MCC page 110 is NOT backlit.

9. To allow Automatic Line Evaluation (ALE) operation, enter message:

   MSG **ALW:ALE,PRINT;**

   Response: **OK**

10. To allow ALE Protocol Error Record (PER) reporting and generation, enter message:

    MSG **ALW:ALE,PER=GEN,SM=1&&192;**

    Response:

```
ALW ALE STARTED
ALW ALE SM INHIBITS - SEGMENT x
     SM     INHIBITS
     xx     xxxALW ALE COMPLETED: TOTAL OF 1 SEGMENTS

 PRINTED
```

Backout is complete. Resume normal activity.

Warning: If the AUTO BWM feature was disabled during the BEGIN STAGE of the update, it must be reactivated following the Backout Action. To reactivate this feature, enter the 9927 poke command on MCC page 1941.

5E16.2 Large Terminal Growth Procedures

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8. MANUAL PROCEDURES

8.1 GENERAL

This section contains procedures used in the following manual operations:

- SM Off-Line Pump Check from Active Disk
- SM Off-Line Pump from Off-Line Disk
- Non-Off-Line-Boot Recovery

8.2 MANUAL PROCEDURES FOR SM OFFLINE PUMP CHECK FROM ACTIVE DISK

8.2.1 OVERVIEW

The procedures used to perform an SM Off-Line Pump from Active Disk have been automated. However, if the need should arise to perform this procedure manually, continue with the following steps:

Off-line pump for all SMs should be checked. Even though each SM will be simplexed while it is being checked, call processing should not be affected.

If SM(s) fail to off-line pump after repeated attempts, escalate to your next level of support. Take note of any output responses that may be provided by the switch. Escalate to your next level of support before attempting any actions to accommodate SMs that will not off-line pump. Section 6 list messages and recovery actions for problems of off-line pumping from the active disks.

1. On MCC page 1209, ensure that the Office Network and Timing Complex (ONTC) is shown ACTIVE MAJOR/MINOR before proceeding.
2. Enter message:

   MSG **INH:REX;**

   Response: **OK**
3. Enter message:

   MSG **OP:SYSSTAT,UCL;**

   Response: *(sample output shown)*

```
OP SYSSTAT      SUMMARY {FIRST|NEXT|LAST} RECORD
SYS:            MISC
AM:             NORMAL
CMP x-0 P:      NORMAL
CMP y-0 M:      NORMAL
S LSM a,x:      [...]
B LSM b,x:      [...]
L HSM c,x:      [...]
L ORM d,x:      [...]
L TRM e,x:      [...]
...
L RSM z,x:      [...]
```

4. Verify that none of the SMs have "MATE_OOD" as a status.
   a. If any SMs indicate MATE_OOD, access MCC page 1190,x and restore that SM to duplex.
   b. After all SMs are duplex, re-enter OP:SYSSTAT,UCL.
5. Ensure no off-normal status is indicated for any SM.
6. The **1&&192** in the following message (Step a) is used to simultaneously broadcast an "ORD:CPI" to all SMs (with no delay between each message). If any range other than **1&&192** is used, there will be a 15-second *delay* between each message.
   a. To simultaneously switch and force all MCTSIs side 0 active, enter message:

      MSG **ORD:CPI=1&&192,CMD=SW-0;**

      Response: **ORD CPI** a **CMD = SW 0 COMPLETED**

      Comment: On MCC pages 141, 142, etc., all SMs should go to **FORCED** simultaneously, MCTSI side 0 active.

      If the command fails, repeat Step a. If it fails a second time, proceed to Step b.

      If the command is successful, proceed to Step 2.

      Note: If the response to the ORD:CPI message is STATUS UNKNOWN for all SMs, do not attempt the following steps. Resolve this problem before attempting the transition.

   b. To switch and force MCTSI side 0 active for a range of SMs, enter message:

      MSG **ORD:CPI=1&&x,CMD=SW-0;**

      Where: x = highest-numbered SM (not 192).

      Response: **ORD CPI** *x* **CMD = SW 0 COMPLETED**

      Comment: On MCC pages 141, 142, etc., all SMs should go to **FORCED** sequentially. There is a 15-second delay between one SM ORD:CPI request and the next SM ORD:CPI request in sequence.

      If any SMs fail to force, proceed to Step c.

      If the command is successful, proceed to Step 2.

   c. To switch and force MCTSI side 0 active for a single SM enter message:

      MSG **ORD:CPI=a,CMD=SW-0,UCL;**

      Where: a = number of SMs that failed the switch and force.

      Response: **ORD CPI** *x* **CMD = SW 0 COMPLETED**

      Comment: The individual SM should force on MCTSI side 0.

      If the switch and force fails, proceed to Step d.

      If the switch and force is successful, proceed to Step 2.

d. Access MCC page 1800,x. Ensure the MCTSIs are STBY/ACT before proceeding.

To switch and force the MCTSI side 0 active, enter commands:

CMD **420**

CMD **Y**

Response: **ORD CPI *X* CMD = SW 0 COMPLETED**

Comment: The individual SM should force on MCTSI side 0.

If the switch and force fails, refer to Section 6.5.7.

7. To switch PPCs, on MCC page 1241 enter command:

CMD **450**

Response: **SW PPC COMPLETED**

Comment: For the off-line pump to function properly, the preceding PPC switch must be performed. At this point, ***either*** PPC can be active (with the other PPC standby).

8. MCC pages 181 through 184 can be used to monitor the pump status of the SMs only. ***Do not*** use any poke command from MCC pages 181 through 184 unless directed to do so by this document or technical support personnel. Poke commands on MCC pages 181 through 184 are intended for off-line SM pump from the off-line disks. The off-line pump in this section is for off-line pump from the ***active*** disks.

To pump off-line side of the MCTSIs, enter message:

MSG **ST:OPUMP,SM=1&&x,ACTDISK,PERF,VFY;**

Where: x = highest-numbered SM.

Response: **ST:OPUMP,SM=1&&192,ACTDISK,VFY,PERF; PF REPT SM=*a* OFFLINE PUMP COMPLETED** (output on ROP as each SM is pumped)

Comment: Use MCC pages 181, 182, etc., to view the off-line pump status for the SMs and peripherals. All the possible states of the mate memory that can be displayed on MCC page 181 during off-line pump are listed in Tables 9-19 and 9-20.

Note: If any SMs fail to off-line pump, go to Section 6.5.3. If the recovery action involves repumping the SM and/or its peripherals, it may be attempted immediately (there is no need to wait until all SMs finish pumping).

It will take approximately 10 to 20 minutes to get the first response of **MATE PUMP** for an SM. Once an SM has been pumped, the other SMs will pump at a rate of one every 2 to 3 minutes.

SMs equipped with several pumpable peripheral units will have longer off-line pumping times.

8.2.2 MANUAL PROCEDURES FOR RESTORING SMs TO DUPLEX AFTER OFFLINE PUMP CHECK

The procedures used to restore an SM to duplex after an SM offline pump check have been automated. However, if the need should arise to perform this procedure manually, continue with the following steps:

1. To clear force on all MCTSIs side 0:

   a. Enter message:

      MSG **ORD:CPI=1&&192,CMD=CLR;**

      Response: **ORD CPI** x **CMD CLR COMPLETED**

      Comment: On MCC pages 141, 142, etc., FORCE should clear simultaneously on all SMs.

      If the command fails, repeat Step a. If it fails a second time, proceed to Step b.

      If the command is successful, proceed to Step 2.

   b. Enter message:

      MSG **ORD:CPI=1&&x,CMD=CLR,UCL;**

      Where: x = highest-numbered SM

      Response: **ORD CPI** *x* **CMD CLR COMPLETED**

      Comment: On MCC pages 141, 142, etc., FORCE on all SMs should clear sequentially. There is a 15-second delay between one ORD:CPI request and the next SM ORD:CPI request in sequence.

      If any SMs fail to clear, proceed to Step c.

      If the command is successful, proceed to Step 2.

   c. Enter message:

      MSG **ORD:CPI=a,CMD=CLR,UCL;**

      Where: a = number of SMs that failed to clear the force.

      Response: **ORD CPI x CMD CLR COMPLETED**

      Comment: The force on the MCTSI should clear individually.

      If the clear force fails, proceed to Step d.

      If the command is successful, proceed to Step 2.

   d. Access MCC page 1800,x. To clear the force on the MCTSI, enter commands:

      CMD **422**

      CMD **Y**

      Response: **ORD CPI** *X* **CMD CLR COMPLETED**

      Comment: The force should clear on the SM individually.

      If the force did not clear, refer to Section 6.5.6, ORD:CPI Clear Force Troubles.

Warning: Whenever a Bootstrapper (BTSR) board is replaced, remove one of the MCTSI controllers from service before removing or inserting the TN878 to prevent the possible internal bus errors. Restore the MCTSI to duplex before attempting diagnostics again. It is not necessary to remove power from the units.

2. To restore any OOS BTSRs, enter message:

   MSG **RST:BTSR=x;**

   Where: x = SM number.

   Response: **RST BTSR=***y* **COMPLETED** (for non-MCTU2 SMs)

   Where: y = SM number.

   Comment: No response will be received for SMs equipped with MCTU2s. The previous command will run diagnostics on the BTSR before restoring the unit selected.

3. To restore peripherals, enter command on MCC page 181:

   CMD **5000**

   Response: **RST:PERF,SM=1&&192; PF REPT RST PERF SM=**x **COMPLETED**
   [Loaded SMs with (R)ISLUs and/or integrated digital carrier units (IDCUs) only.]

   Loaded SMs equipped with (R)ISLUs and/or IDCUs will display the ORST stage and then indicate MATE PUMP again.

4. In this step, MCTSI Side 1 for all SMs is restored.

   a. To unconditionally restore MCTSI Side 1 for all SMs, enter message:

      MSG **RST:MCTSI=1&&x-1,UCL;**

      Where: x = highest-numbered SM in the office.

      Response: **RST MCTSI** *x* **1 COMPLETED**

   b. If the input message above fails, perform a conditional restore for the failing SM, enter message:

      MSG **RST:MCTSI=x-1;**

      Where: x = SM number

      Response: **DGN MCTSI** *x* **1 COMPLETED ATP PH** yy **... RST MCTSI** x **0 COMPLETED**

Note: The preceding section tested the off-line pump capability of all MCTSIs side 1. This procedure can be repeated to test the off-line pump capability of MCTSIs side 0 of all SMs. The procedure would be the same (except for the MCTSI side). However, detailed steps are not included/repeated.

When the Manual SM Off-Line Pump from Active Disk procedure is complete, return to the AM OFF-LINE BOOT section in this manual and continue.

8.3 MANUAL SM OFF-LINE PUMP FROM OFLDISK

8.3.1 OVERVIEW

To execute a Manual SM Off-Line Pump from Off-Line Disk rather than the Automatic SM Off-Line Pump from Off-Line Disk shown in the Retrofit Implementation tab of this manual, continue with the following steps.

8.3.2 OFF-NORMAL STATUS CHECK

1. To check AM, CMP, and SM status, enter message:

   MSG **OP:SYSSTAT,UCL;**

   Response:

   OP SYSSTAT SUMMARY {FIRST|LAST|NEXT} RECORD
   SYS: INHIBITS[-MSG][-RC] MISC
   AM: INHIBITS-MTCE {MORE}
   CM: INHIBITS-MTCE
   CMP x**-0 P: NORMAL**
   CMP y**-0 M: NORMAL**
   L LSM a,x**: INHIBITS-MTCE**
   ...
   B LSM b,x**: INHIBITS-MTCE**
   ...
   S LSM z,x**: INHIBITS-MTCE**

   Verify that none of the SMs have "MATE_OOD" as a status.

   a. If any SMs indicate MATE_OOD, access MCC page 1190,x and restore that SM to duplex.

   b. After all SMs are duplex, re-enter the **OP:SYSSTAT,UCL** message.

2. Ensure no off-normal status other than **INHIBITS-MTCE** is indicated for any SM.

3. Verify that both **CMP 0-0** and **CMP 1-0** indicate **NORMAL**.

8.3.3 SWITCH AND FORCE MCTSI-0 ACTF/MCTSI-1 UNV

1. Access MCC page 1209 and ensure the Office Network and Timing Complex (ONTC) indicates ACTIVE MAJOR/MINOR before proceeding.

2. Access MCC pages 141, 142, etc., and verify that all SMs indicate**INHIBITS**.

3. The **1&&192** in the following message (Step ‘a’) is used to simultaneously broadcast an **ORD:CPI** to all SMs (with no delay between each message). If any range other than **1&&192** is used, there will be a 15-second *delay* between each message.

   a. To switch and force MCTSI Side 0 active for all SMs, enter message:

      MSG **ORD:CPI=1&&192,CMD=SW-0;**

      Response: **ORD CPI 192 CMD SW 0 COMPLETED**

On MCC pages 141, 142, etc., all SMs should indicate **FORCED**.

Note: If the response to the ORD:CPI message is STATUS UNKNOWN for all SMs, do not attempt the following steps. Resolve this problem before attempting the transition.

b. If the switch and force fails, repeat Step 'a' (**ORD:CPI** for SMs 1 through 192). If it fails again, continue with Steps 'c', 'd', and 'e' if, necessary.

If successful, proceed to Step 4.

c. If the switch and force still failed, enter message:

MSG **ORD:CPI=1&&x,CMD=SW-0,UCL;**

Where: *x* = *highest* numbered SM (not 192)

Response: **ORD CPI** *A* **CMD SW 0 COMPLETED** (Output for each SM)

Where: A = SM number

Comment: For this particular message (Step 'c'), the range 1&&192 cannot be used. If your office contains an SM number 192, use the range**1&&191** and then use the following message (Step 'd') for SM 192.

d. For any SM that still fails to switch and force, enter the unconditional message:

MSG **ORD:CPI=x,CMD=SW-0,UCL;**

Where: x = SM number

Response: **ORD CPI** *x* **CMD SW 0 COMPLETED**

e. If any SM still fails to switch and force, on MCC page 1800,x enter command:

CMD **420**

(Y or N) **Y**

Comment: If switch and force failed again, go to Section 6.5.7, ORD:CPI Switch and Force Troubles, in the Recovery Section.

4. To check AM, SM, and CMP status, enter message:

MSG **OP:SYSSTAT,UCL;**

Response: **OP:SYSSTAT,UCL;PF**

OP SYSSTAT	**SUMMARY {FIRST|NEXT|LAST} RECORD**
SYS:	**INHIBITS[-MSG][-RC] MISC**
AM:	**INHIBITS-MTCE {MORE}**
CM:	**INHIBITS-MTCE**
CMP *x*-**0 P:**	**NORMAL**
CMP *y*-**0 M:**	**NORMAL**
L LSM *a*,**0:**	**FORCED INHIBITS-MTCE MATE_OOD CKT_OOS**
...	
B LSM *b*,**0:**	**FORCED INHIBITS-MTCE MATE_OOD CKT_OOS**
...	
S LSM *z*,**0:**	**FORCED INHIBITS-MTCE MATE_OOD CKT_OOS**

8.3.4 OFF-LINE PUMP SM MCTSI SIDE 1

1. Before proceeding, ensure that all SMs indicate **FORCED** on MCC pages 141, 142, etc.

   Caution: Do not attempt to power cycle an SM without support from technical assistance. If an SM that is in a forced simplex condition is power cycled, the SM force will be lost, and the SM will attempt to duplex.

2. To inhibit hardware and software checks, enter the following command on MCC page 1984:

   CMD **513,sm**

   Response:

   ```
   UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
   INH:HDWCHK,SM=1&&192;
   UPD:GEN:APPLPROC,ARG="INHSMCHKS";
   INH:HDWCHK,SM=1&&192; IP (on ROP)
   INH HDWCHK SM=x COMPLETED (output for each SM)
   UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
   INH:SFTCHK,SM=1&&192;
   INH:SFTCHK,SM=1&&192; OK (on ROP)
   UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
   INH:CLNORM; INH:CLNORM; PF INH CLNORM COMPLETED
   UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
   ```

   Comment: Before proceeding, ensure that an **INH HDWCHK SM=***x* COMPLETED output message is received for each SM (it may take several minutes to get the entire response).

3. To check AM and SM status, enter message:

   MSG **OP:SYSSTAT,UCL;**

   Response: **OP:SYSSTAT,UCL;PF**

OP SYSSTAT	**SUMMARY {FIRST|NEXT|LAST} RECORD**
SYS:	**INHIBITS-MSG-MTCE {MISC|MORE}**
AM:	**INHIBITS-MTCE**
CM:	**INHIBITS-MTCE**
CMP *x***-0 P:**	**NORMAL**
CMP *y***-0 M:**	**NORMAL**
L LSM *a***,0:**	**FORCED INHIBITS-MTCE-HW-SW MATE_OOD CKT_OOS**
...	
B LSM *b***,0:**	**FORCED INHIBITS-MTCE-HW-SW MATE_OOD CKT_OOS**
...	
S LSM *z***,0:**	**FORCED INHIBITS-MTCE-HW-SW MATE_OOD CKT_OOS**

Comment: On MCC page 1800,x (where x = any numbered SM) box **04 SFTCHK** and box**08 ALL HDWCHK** should be backlit.

4. If any SMs do ***not*** indicate **FORCED INHIBITS-MTCE-HW-SW MATE_ODD CKT_OOS**, access MCC page 1800,x (where x = SM number not indicating INHIBITS-MTCE-HW-SW). Both box **04 SFTCHK** and box **08 ALL HDWCHK** should be backlit and indicate they are inhibited. If they are not inhibited, enter the command 604 to inhibit software checks (box **04 SFTCHK**) and command 608 to inhibit hardware checks (box **08 ALL HDWCHK**).

5. To switch Pump Peripheral Controllers (PPCs), on MCC page 1241, enter command:

   CMD **450**

   Response: **SW:PPC; PF SW PPC COMPLETED**

   Comment: For the off-line pump to function properly, the preceding PPC switch must be performed. At this point, ***either*** PPC can be active (with the other PPC standby).

6. ***This step is OPTIONAL.*** To preserve readings for the monthly index, request a monthly plant measurement report before proceeding to the initialization. Enter message:

   MSG **OP:PLNTMO;**

   Response: **NG - DATA NOT AVAILABLE AT THIS TIME** *or* Monthly plant measurement report is printed on the ROP.

   Comment: After this message is input, continue with the Retrofit procedures.

7. In this step, the SMs are off-line pumped with the 5E16.2 software release.

   a. To off-line pump all SMs, on MCC page 181, enter command:

      CMD **2000**

      Note: Once th 2000 command to start the SM offline pumping has been sent, be sure to execute Sections 5.5.7.2 and 5.5.7.3 to apply SUs imr11111xx and imr22222xx before continuing the LTG with Step 8.

Caution: As part of the off-line pump process, one side of the (R)ISLU CCs and IDCUs will be removed from service to install the new software release. Do not restore the OOS (R)ISLU CCs and/or IDCUs.

=> *Read:* SMs equipped with several pumpable peripheral units may have longer off-line pumping times.

Response: **[ST:OPUMP,SM=1&&192,OFLDISK,VFY,PERF; PF]**
[ST:OPUMP,SM=a,OFLDISK,VFY,PERF; PF]
[...] [ST:OPUMP,SM=z,OFLDISK,VFY,PERF; PF]

REPT SM=*a* OFFLINE PUMP COMPLETED (on ROP)
...
REPT SM=*z* OFFLINE PUMP COMPLETED (on ROP)

Comment: Use MCC pages 181, 182, etc., to view the off-line pump status for the SMs and peripherals. All the possible states of the mate memory that can be displayed on MCC page 181 during off-line pump are listed in Tables 9-19 and 9-20.

b. If **OPUMPFAIL** or **OVFYFAIL** appear on MCC pages 181 through 184, re-pump the SM. Enter the following command on MCC pages 181 through 184:

CMD **2xxx**

Where: xxx = SM number.

c. If **OPERFFAIL** or **ORSTFAIL** appear on MCC pages 181 through 184, enter the following command on MCC pages 181 through 184:

CMD **6xxx**

Where: xxx = SM number.

Analyze the output and take corrective action.

d. If **OPERF_ODD** appears on MCC pages 181 through 184, restore the peripherals. Enter the following command on MCC pages 181 through 184:

CMD **5xxx**

Where: xxx = SM number.

Note: If any SM continues to fail to off-line pump, refer to Section 6.5.4. If the recovery action involves repumping the SM and/or its peripherals, it may be attempted immediately (there is no need to wait until all SMs finish pumping).

Comment: It should take less than 15 minutes to get the ***first*** response of "MATE PUMP" for an SM (if the SM does not have peripheral units). If an SM is equipped with pumpable peripheral units, [a Remote Integrated Services Unit (RISLU), Integrated Services Line Unit (ISLU), or IDCU] additional time will be required for the SM to indicate "MATE PUMP" on MCC pages 181, 182, etc. For each RISLU equipped, an additional 10 to 25 minutes will be added to the 9 minutes before the SM is pumped (MATE PUMP). Each ISLU equipped will add 1.5 to 4 minutes of additional time before "MATE PUMP" is displayed.

Caution: On MCC pages 181, 182, etc., ensure that all SMs indicate MATE_PUMP before proceeding. See Figure 8-1.

SYS EMER OVERLOAD | CRITICAL SYS INH | MAJOR AM | MINOR AM PERPH | BLDG/PWR OS LINKS | BLDG INH SM | CKT LIM CM | SYS NORM MISC

CMD: _ 181 - OFFLINE SM 1-48 STATUS SUMMARY

START OPUMP	STOP OPUMP	RETRY PERF	RETORE PERF	OP OPUMP
2000 ALL SMS	3000 ALL SMS	4000 ALL SMS	5000 ALL SMS	600X SM X
200X SM X	300X SM X	400X SM X	500X SM X	600XX SM XX
20XX SM XX	30XX SM XX	40XX SM XX	50XX SM XX	

OFF LINE SWITCHING MODULES

LSM 1,0 MATE PUMP	LSM 2,0 MATE PUMP	LSM 3,0 MATE PUMP	LSM 4,0 MATE PUMP
LSM 5,0 MATE PUMP	LSM 6,0 MATE PUMP	LSM 7,0 MATE PUMP	LSM 8,0 MATE PUMP
LSM 9,0 MATE PUMP	LSM 10,0 MATE PUMP	LSM 11,0 MATE PUMP	LSM 12,0 MATE PUMP
ORM 13,0 MATE PUMP	ORM 14,0 MATE PUMP	ORM 15,0 MATE PUMP	ORM 16,0 MATE PUMP
LSM 17,0 MATE PUMP	LSM 18,0 MATE PUMP	LSM 19,0 MATE PUMP	LSM 20,0 MATE PUMP
•	•	•	•
•	•	•	•
LSM 45,0 MATE PUMP	LSM 46,0 MATE PUMP	LSM 47,0 MATE PUMP	LSM 48,0 MATE PUMP

Figure 8-1 — MCC Page 181

8. On MCC page 1985, continue the Retrofit by entering the following command:

   CMD **500**

   Response:

```
REPT RETRO ENTER CONTINUING
REPT PROC SCHED PROCEED PAUSED AT STAGE
BOUNDARY - RESUME WHEN READY
```

Upon successful completion of this procedure, return to Section 5.6 in the Retrofit Implementation tab of this manual.

8.4 NON-OFF-LINE BOOT RECOVERY PROCEDURES

8.4.1 OVERVIEW

Warning: This section is only to be used in the event that the Proceed stage cannot be run due to the inability to perform an off-line boot.

8.4.1.1 BACKOUT OF PROCEED STAGE

To backout of the Proceed stage, perform the following:

1. From MCC page 1985, stop RCL by entering command:

   CMD **200**

2. From MCC page 1985, backout of the Proceed stage by entering command:

   CMD **600**

   Response: **REPT PROC SCHED PROCEED PAUSED AT STAGE BOUNDARY - RESUME WHEN READY**

   Figure 8-2 shows an example of MCC page 1985 paused before the start of the Proceed stage, after the 600 poke command.

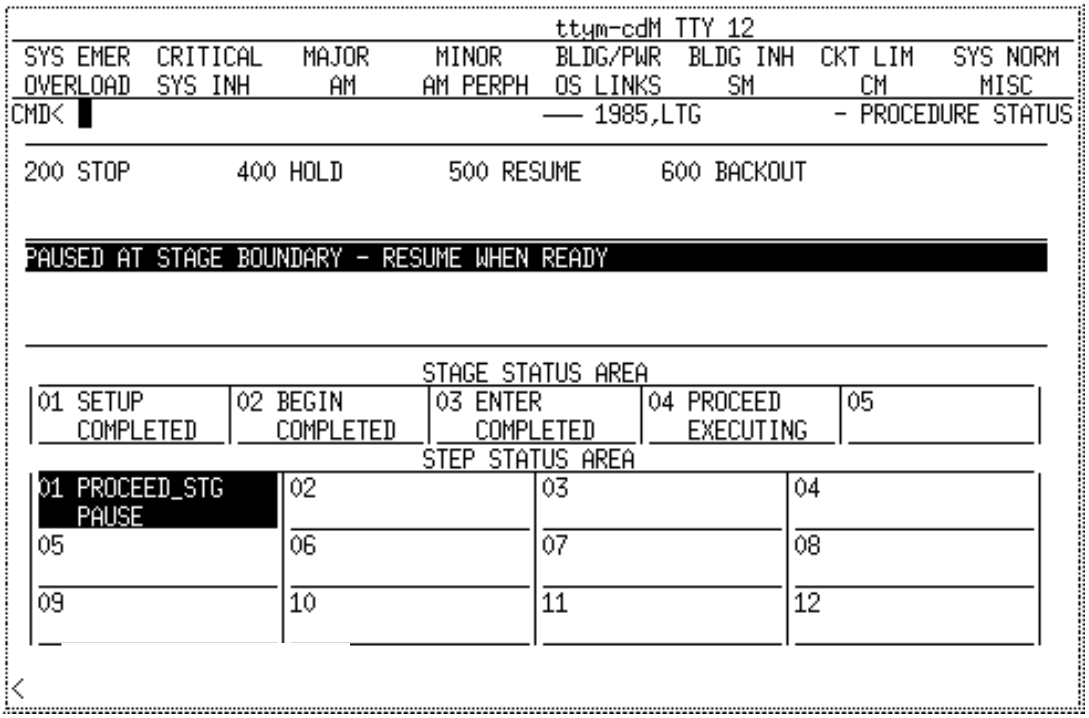

Figure 8-2 — MCC Page 1985 Paused Before the Start of the Proceed Stage

8.4.1.2 MOUNT OFF-LINE PARTITIONS

Caution: The process which mounts off-line disk partitions (mop) must not be stopped until the CMPs and all SMs have successfully completed pumping. If the process which mounts the off-line disk file systems is stopped, the pump process will not be able to access data on the off-line disks. Extensive recovery procedures may be required. If this occurs, escalate to your next level of support before continuing.

Warning: Do not perform a craft initialization while the off-line disk file systems are mounted. Extensive recovery procedures may be required.

To mount off-line file systems, on MCC page 1984 enter command:

CMD **509**

Response:

```
UPD:GEN:APPLPROC,ARG="MOP";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
CHG:LPS,MSGCLS=INT_MON,PRINT=ON,LOG=ON;
CHG:LPS,MSGCLS=INT_MON,PRINT=ON,LOG=ON; OK
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
CHG:LPS,MSGCLS=GENRMON,PRINT=ON,LOG=ON;
CHG:LPS,MSGCLS=GENRMON,PRINT=ON,LOG=ON; OK
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
CHG:LPS,MSGCLS=INT,PRINT=ON,LOG=ON;
CHG:LPS,MSGCLS=INT,PRINT=ON,LOG=ON; OK
UPD GEN APPLPROC EXECUTING THE FOLLOWING RETROFIT TOOL:
/no5text/prc/INoflmop
PRM_0 E800 xxxx xxxx xxxx xx xx xx (Will appear several times)
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

To verify that SMs indicate MATE_PUMP, enter message:

MSG **OP:SYSSTAT,UCL;**

Response:

```
OP SYSSTAT SUMMARY FIRST RECORD
SYS: INHIBITS-MTCE-RC MORE
AM: INHIBITS-MTCE-SW MORE
CM: NO_REQ_PEND
CMP x-0 P: NORMAL
CMP y-0 M: NORMAL
L LSM a,x: MATE_PUMP FORCED INHIBITS-MTCE-HW-SW CKT_OOS
...
B LSM b,x: MATE_PUMP FORCED INHIBITS-MTCE-HW-SW CKT_OOS
...
S LSM z,x: MATE_PUMP FORCED INHIBITS-MTCE-HW-SW CKT_OOS
```

8.4.1.3 OFF-LINE PUMP CMP

While performing the following steps, CMP 1-0 will be off-line pumped with new software release data. On MCC page 1851, the status indicator for CMP 1-0 will change from STBY to OOS to DACT when the CMP is pumped.

The following recovery procedures are given in case of problems while one of the CMPs is marked DACT:

- In the event the ACTIVE CMP fails while the mate CMP is DACT, the AM can escalate (up to an RTR level 3) trying to recover the formerly active CMP but will not use the DACT unit.
- In the event of CMP duplex failure with a CMP in the DACT state where the AM automatic escalation does not recover the CMP, if input commands are available, do an "RST:CMP=x-0,UCL;" to release the DACT state.

1. Access MCC page 1851 and verify that CMP 0-0 is the **ACT** CMP (under the **CMP 0 PRIM STAT** box) and CMP 1-0 is the **STBY** CMP (under the **CMP 0 MATE STAT** box).
2. ***If*** CMP 0-0 is ***not*** the ACTIVE (primary) CMP, enter message:

   MSG **SW:CMP=0-0;**

   Response:

```
SW:CMP=0-0; PF
[EXC ODDRCVY=ALL CMP=0-0 STOPPED]
[REPT CMP=1-0 MATE INITIALIZATION  TRIGGER=SW-REQUEST]
[REPT MSKP_ENVIROMENT:]
[CMP=1-0 PHASE 1&2 INIT COMPLETION TIME:xxxx TYPE:xxx]
       [EVENT=xxxx]
EXC ODDRCVY=ALL CMP=1-0 STARTED
SW  CMP=0-0 COMPLETED
[REPT COMMUNICATION RESTORED: AM TO CMP=1-0 MATE]
[REPT MSKP_ENVIROMENT:]
[CMP=1-0 PHASE 3  INIT COMPLETION TIME: xxxxxx TYPE:xxx]
       [EVENT=xxxx]
CMP 0-0 becomes PRIMARY(active), CMP 1-0 becomes

MATE (standby).
```

3. To inhibit AM software and hardware checks, enter command on MCC page 1984:

   CMD **513,am**

   Response:

```
UPD:GEN:APPLPROC,ARG="INHAMCHKS";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
INH:HDWCHK;
INH:HDWCHK; PF (on ROP)
* REPT INHADM MINOR ALARM FROM INHIBIT ADMINISTRATOR

 (on ROP)INH HDWCHK COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
INH:SFTCHK;
INH:SFTCHK; PF

(on ROP)* REPT INHADM MINOR ALARM FROM INHIBIT ADMINISTRATOR

(on ROP)INH SFTCHK COMPLETED
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

   Comment: On MCC page 110 - SYSTEM INHIBITS, box "**18 SOFTWARE CHECKS**" and box "**24 HARDWARE CHECKS**" should be backlit.

4. To inhibit CMP software and hardware checks, enter command on MCC page 1984:

   CMD **513,cmp**

   Response:

```
UPD:GEN:APPLPROC,ARG="INHCMPCHKS";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
INH:HDWCHK,CMP=0-0;
INH:HDWCHK,CMP=0-0; PF
INH HDWCHK CMP=0-0 COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
INH:HDWCHK,CMP=1-0;
INH:HDWCHK,CMP=1-0; PF
INH HDWCHK CMP=1-0 COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
INH:SFTCHK,CMP=0;
INH:SFTCHK,CMP=0; OK
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

5. To off-line pump the CMP, from MCC page 1851, enter command:

   CMD **930**

   Response:

```
ST:OPUMP,CMP=0,MATE; PF
EXC ODDRCVY=ALL CMP=1-0 STOPPED
REPT CMP=1-0 MATE  INITIALIZATION  TRIGGER={MANUAL|CRAFT}
       -REQUEST
ST OPUMP CMP=1-0 COMPLETED
[REPT MSKP_ENVIROMENT:]
[CMP=1-0 PHASE 1&2 INIT COMPLETION TIME: H'xxxx TYPE:H'x]
       [EVENT=xxxx]
[CMP=1-0 PHASE 3   INIT COMPLETION TIME: H'xxxx TYPE:H'x]
       [EVENT=xxxx]
[REPT COMMUNICATION RESTORED: AM TO CMP=1-0 MATE]
```

   Comment: On MCC page 1851, the status indicator for CMP 1-0 will change from Standby (STBY) to Out-Of-Service (OOS) to yellow Deactivated (DACT).

   Also, on MCC page 1851, the different states of the mate memory will be displayed. Table 8-1 shows some of the states of CMP 1-0 during the pump and a definition of each. When the CMP is successfully pumped, the state will be **GEN DIFF**.

Table 8-1 — CMP Pump Status

STATUS	DESCRIPTION
OPUMPHLD	Off-line pump, hold
OPUMPLB	Off-line pump, little boot
OPUMPBB	Off-line pump, big boot
COMM	Off-line pump, communication link
FI BGN	Begin full initialization
FISICOM	FI selective Init. common code portion
DACT GEN DIFF	Software release different

6. To check AM, SM, and CMP status, enter message:

   MSG **OP:SYSSTAT,UCL;**

   Response: **OP:SYSSTAT,UCL;PF**

   OP SYSSTAT SUMMARY {FIRST|NEXT|LAST} RECORD
   SYS: INHIBITS-MTCE[-RC] {MISC|MORE}
   AM: INHIBITS-MTCE-SW [MORE]
   CM: NORMAL
   L LSM *a*,0: MATE PUMP FORCED INHIBITS-MTCE-HW-SW CKT_OOS [MORE]
   ...
   B LSM b,0: MATE PUMP FORCED INHIBITS-MTCE-HW-SW CKT_OOS [MORE]
   ...
   S LSM z,0: MATE PUMP FORCED INHIBITS-MTCE-HW-SW CKT_OOS [MORE]

   Comment: On MCC page 1800,x (where x = any numbered SM) box "**04 SFTCHK**" and box "**08 ALL HDWCHK**" should be backlit.

7. Verify that the mate CMP indicates **GEN DIFF** and all SMs indicate **MATE_PUMP**.

8.4.1.4 STOP MOP PROCESS

To unmount off-line disk file systems, on MCC page 1984, enter command:

CMD **609**

Response:

```
UPD:GEN:APPLPROC,ARG="STOPMOP";
UPD GEN APPLPROC EXECUTING THE FOLLOWING RETROFIT TOOL:
/prc/supr/ptnmgr -k
[PRM_0 E800 0002 xx0x xxxx xx xx xx] (may appear several times)

UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

8.4.2 PROCEED STAGE

8.4.2.1 OVERVIEW

The Proceed Stage consists of the initialization of the SMs, CMP, and AM to the new software release. Call processing for new calls is lost from the time the SMs are switched until the AM comes up on the new software release - about 3 to 4 minutes.

8.4.2.2 FLUSH AND EVOLVE CORCS FROM SMS

Caution: The following command evolves and compresses CORCS. The length of time required to complete this step varies with the number of CORCs logged. Skipping this step may result in a failure or timeout of the Proceed stage.

1. The following message cannot be executed unless ODD evolution is active. This can be verified by accessing MCC page 116 — the **ODD EVOL ACT** box should be backlit.

2. To flush CORCs from SM buffers and evolve them, enter message:

   MSG **CNVT:CORCLOG;**

   Response: **CORCFLUSH: SM=**a **COMPLETE** *(once for each SM)*

   ```
   CORCFLUSH: AM COMPLETE
   (The following may take several minutes to complete.)
   [CNVT CORCLOG EVOL  AM  COMPLETE]
        [xxxx CORCS EVOLVED]
        [xxxx CORCS IN ERROR]
        [xxxx RDNT CORCS RMVD]
   [CNVT CORCLOG EVOL  CMP  COMPLETE]
        [xxxx CORCS EVOLVED]
        [xxxx CORCS IN ERROR]
        [xxxx RDNT CORCS RMVD]
   [CNVT CORCLOG EVOL  SM=x  COMPLETE]
        [xxxx CORCS EVOLVED]
        [xxxx TRNCORCS EVOLVED]
        [xxxx CORCS IN ERROR]
        [xxxx TRNCORCS IN ERROR]
        [xxxx RDNT CORCS RMVD]
        [xxxx RDNT TRNCORCS RMVD]
   [CNVT CORCLOG EVOL IN PROGRESS]
        [CORC NUMBER xxxx HAS BEEN READ]
   xxx CORCS TRNCORCS HAVE BEEN LOGGED IN THE CORC
        EVOLVED LOGFILES
   CNVT CORCLOG EVOL COMPLETED
   ```

   Comment: It may take several minutes to receive the entire response, do not proceed until the **CNVT CORCLOG EVOL COMPLETED** message is output. If **CNVT:CORCLOG** fails, rerun the preceding message. If it fails again, see Section 6.5.10 and/or escalate to your next level of support.

3. ***This step is OPTIONAL.*** The **corcevl.sum** (CORC) analysis file may be dumped which provides statistics on CORC evolution activity for each SM and/or the AM in the office.

   To dump CORC analysis file, enter message:

   MSG **DUMP:FILE:ALL,FN="/rclog/corcevl.sum",OPL=999;**

   Response: **DUMP FILE ALL STARTED**

   ```
   **** {SM = x | AM} ****
   ```

```
CORC EVOLUTION STARTED -- Date is day mon aa bb:cc:dd yr

SUMMARY OF CORC ACTIVITY
      x      CORCS READ
      x      TORCS READ
      x      TRNCORCS READ
      x      CORCS EVOLVED CORRECTLY
      x      TRNCORCS EVOLVED CORRECTLY
      x      CORCS IN ERROR
      x      TRNCORCS IN ERROR
[RDNT CORC REMOVED FROM CURRENT LOG -

day mon aa bb:cc:dd yr]
       [xx yyyyyyy]
[No compression for evlxx.5E16]
[evlxx.5E16 COMPRESSION STARTED--Date is

 day mon aa bb:cc:dd yr]
[evlxx.5E16 COMPRESSION IS DONE, SUMMARY AS FOLLOWS:]
       [xx CORCS READ FROM OLD evlxx.5E16]
       [xx CORCS WRITTEN INTO NEW evlxx.5E16]
       [xx TRNCORCS READ FROM OLD evlxx.5E16]
       [xx TRNCORCS WRITTEN INTO NEW evlxx.5E16]
       [FOLLOWING REDUNDANT CORCS ARE REMOVED]
                  [x       yyyyyyy]
[SUMMARY OF CORCS LOGGED IN CURRENT evlxx.5E16 FILE]
       [xx yyyyyyy]
[DUMP FILE ALL IN PROGRESS SEGMENT x]
CORC EVOLUTION COMPLETED --

Date is day mon aa bb:cc:dd yr

(Reports output for each SM/AM with CORC activity)
DUMP FILE ALL COMPLETED SEGMENT x
******************************************************
******************************************************
Total Number Of CORCs Logged in Evolved Logfiles: xxx


Total Number Of TRNCORCs Logged in Evolved Logfiles: xxx

******************************************************
****************************************
```

8.4.2.3 EXECUTE PROCEED STAGE

=> *Read:* Read the following sequences up to Verification of a Successful Recovery on the New Software Release (Section 8.4.3.5) before continuing with the procedures. It is important that the sequences be followed and that you become familiar with the necessary inputs and corresponding outputs.

1. At this time, the operating company should notify all carrier systems connected to this office of the impending system initialization.
2. Inform the Retrofit Coordinator that the switch will undergo a full system initialization in approximately ***45 to 60*** minutes.
3. On MCC page 1989 (see Figure 8-3), turn off AM off-line boot by entering command:

   CMD **404,N**

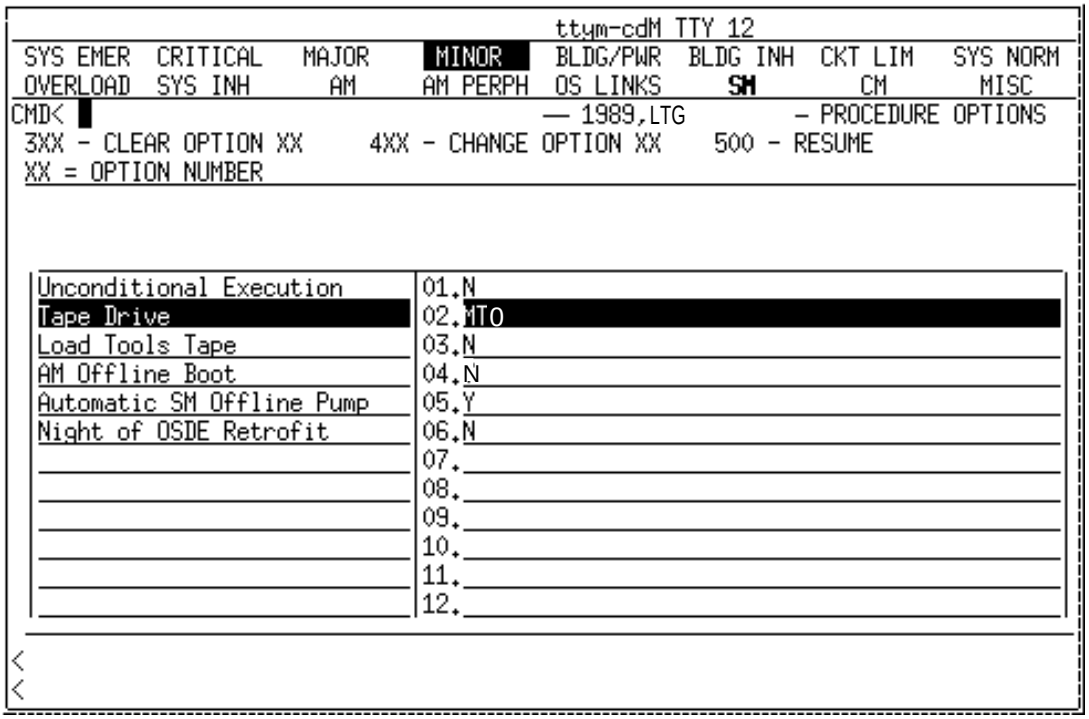

Figure 8-3 — MCC Page 1989

4. On MCC page 1985, enter command:

   CMD **500**

   Response:

```
REPT RETRO PROCEED PERFORM EAI SETUP AS DIRECTED BY
   THE TRANSITION MANUAL
REPT RETRO PROCEED RESUME WHEN COMPLETE
```

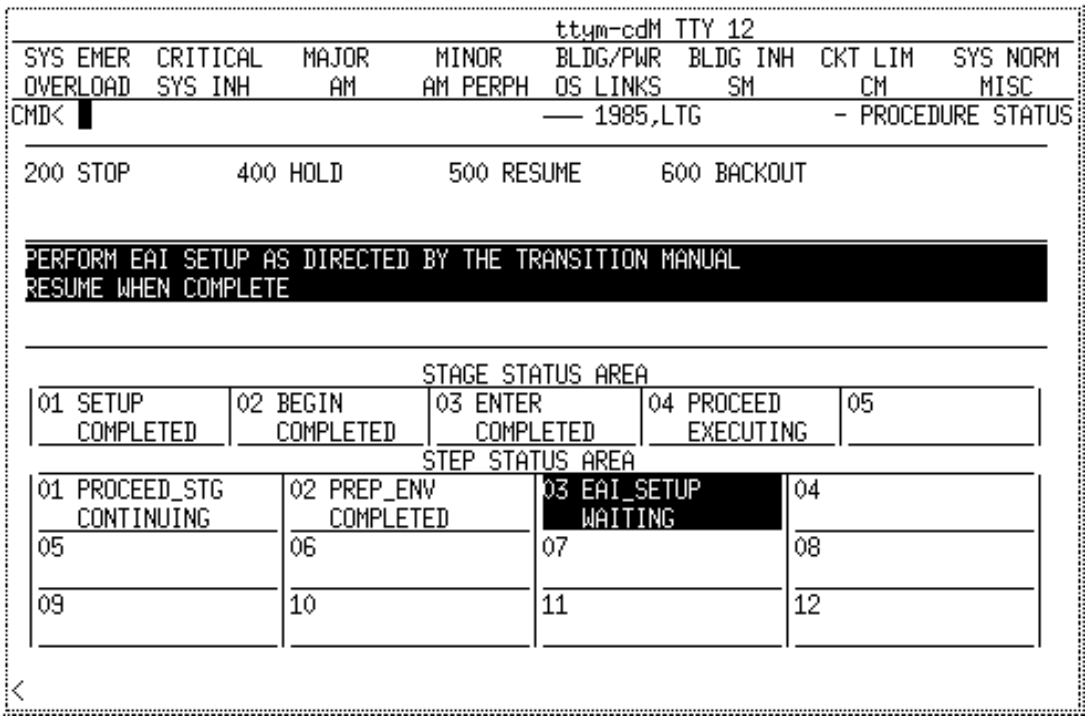

Figure 8-4 — MCC Page 1985 EAI Setup Waiting

8.4.2.3.1 EAI Page Setup

1. On MCC page 111, ensure AMs are duplex with AM 0 ACT, AM 1 STBY.
   a. If AMs are not duplex, restore OOS AM.
   b. If AM 1 is ACT, AM 0 STBY, on MCC page 111 enter command:

      CMD **400**

      Comment: Verify AM 0 ACT, AM 1 STBY before proceeding.
2. Access EAI page.
3. Ensure odd-numbered EAI commands 31 through 43 are backlit before proceeding.
4. Ensure "SET-INH" box is ***not*** visible after "INH-TIMER".
5. Enter the following EAI commands:

CMD **34** Set hardware inhibits
CMD **36** Set software inhibits
CMD **10** Force AM 0 (simplexes AM) Response: **(y/n)**
CMD **Y** Forces AM 0 on-line
CMD **22** Select secondary MHD
CMD **31** Clear BACK-ROOT
CMD **33** Clear min config.

Response: **REPT CU 1 UNAVAILABLE**
[REPT CU 1 UNAVAILABLE]
REPT CU 0 FORCED ONLINE

6. Access normal display (NORM DISP).
7. To switch ports, enter command on MCC page 111:

   CMD **401**

   Response: **SW:PORTSW; PF**
   REPT ROP x **STOPPED**
   REPT ROP y **STARTED**
   SW PORTSW COMPLETED FOR ROP

   Screen blanks while ports are being switched.
   REPT MTTY x **STOPPED**
   REPT MTTY y **STARTED**
   SW PORTSW COMPLETED FOR MTTY

   EAI page comes up followed by MCC page 111.

   Comment: If the port switch fails, ensure that the switches on the port switch (located at the bottom of the AM frame) are in the auto position.
8. Access the EAI page and ***verify*** that the inhibits and setups shown in Step 5 are the same for this EAI port.

   If inhibits and setups are not the same, repeat Steps 3,4 and 5 for this EAI port.
9. Access normal display (**NORM DISP**).
10. Turn off External Sanity Monitor (ESM) at miscellaneous frame. This causes a major alarm. Access MCC page 116 (Miscellaneous) and verify that power has been removed from ESM. If power is off, the POWER indicator is backlit, and the word OFF is displayed.
11. Execute the following command on MCC page 1985 to resume:

    CMD **500**

Response:

```
REPT RETRO PROCEED CONTINUING
REPT PREP ECD PROCEED USING '/usr/bin/rcvecd' FOR

 ULARP FORM PROCESSING
REPT PREP ECD PROCEED WARNING: NO SPECIAL RCVECD TOOL FOUND
  USING /usr/bin/rcvecd
REPT PREP ECD PROCEED USING '/usr/bin/rcvecd' FOR

 ULARP FORM PROCESSING
```

```
UPD GEN PROCEED BEFORE GENERIC RETROFIT INITIALIZATION

SELECT PRIMARY ROOT
UPD GEN PROCEED BEFORE GENERIC RETROFIT INITIALIZATION

 SELECT MHD 1
UPD GEN PROCEED COMPLETED
DUMP:FILE:ALL,FN="/tmp/ofl/updtmp/retrofit/cronfile"; PF
DUMP FILE ALL STARTED
REPT PRCD HOOK COMPLETED SUCCESSFULLY
WRT:AMADATA; PF
WRT AMA DATA HAS BEEN WRITTEN TO DISK
  READY TO TRANSFER DATA FROM DISK TO OUTPUT MEDIUM
*C REPT AMA DISK WRITER FOR STREAM ST1
        RECORDING TO DISK SUSPENDED
*  REPT AMA DISK WRITER FOR STREAM ST1  TERMINATION CODE 2
REPT AMA DISK WRITER FOR STREAM ST1  INITIALIZATION COMPLETE
REPT AMA DISK WRITER FOR STREAM ST1
        RECORDING TO DISK RESUMED
REPT RETRO PROCEED INITIATE MANUAL AMA TELEPROCESSING OR TAPE
   SESSION NOW
REPT RETRO PROCEED RESUME WHEN SESSION HAS STARTED
```

8.4.2.3.2 Final AMA Session

A feature in 5E16.2 is the ability to access AMA partitions on the off-line disks. This final AMA session will be the last time you will teleprocess AMA data while on the OLD side. When your switch is on the NEW side, your first AMA session will automatically access the completed AMA records residing on the OLD side off-line disks.

1. This will flush (write) AMA billing data from the AM to the active disk, and is done automatically prior to final AMA session. See ROP for output.

   Response: *Assert 28334* ***may*** *be output which indicates that AMA records have been lost. AMA records have not been lost at this point. The assert is output because the buffer in the AM is normally written to disk only when full. If the buffer is written to disk and is not full at the time of the write, the assert may be output. The assert occurs when a* **WRT:AMADATA** *is entered in a dual stream office, or when the* **WRT:AMADATA** *is entered more than once in rapid succession in a single stream office, or when the* **WRT:AMADATA** *is entered two or more times in a dual stream office.*

   Comment: In the preceding response, the term **ST**x means either **ST1** or **ST2**. If your office does not use dual stream billing (ST1 ***and*** ST2), messages will only be received for ST1. If your office does use dual stream billing, a set of messages will be received for each stream (ST1 and ST2).

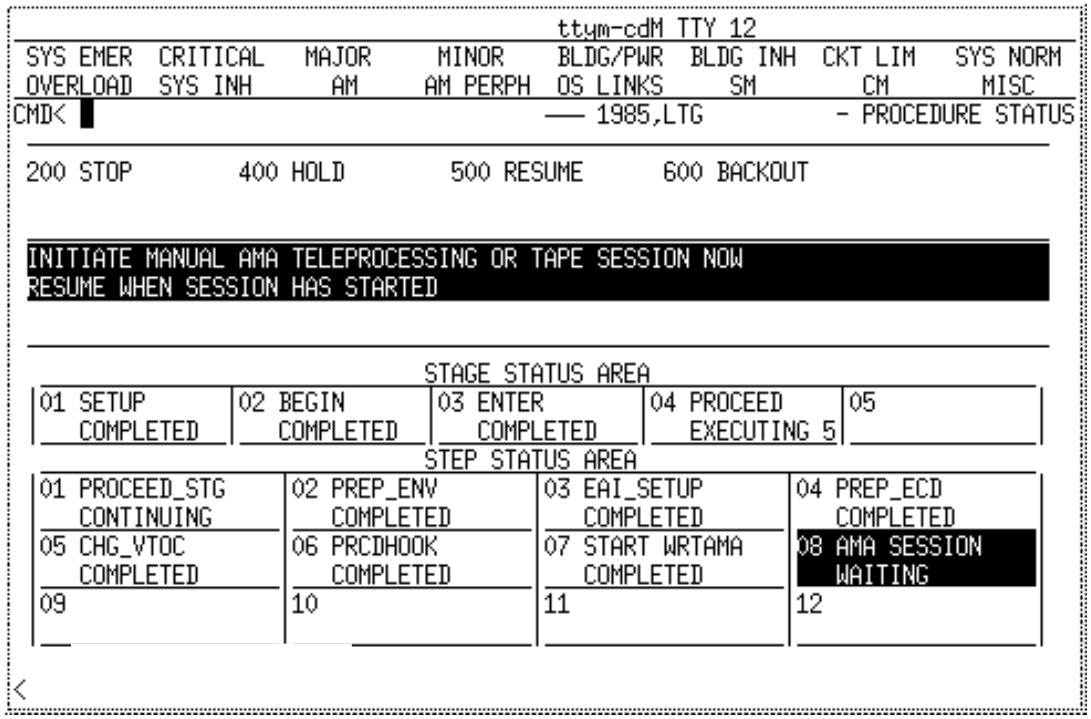

Figure 8-5 — MCC Page 1985 Proceed Stage Continuing

2. Initiate final manual AMA tape writing or teleprocessing session per local practice.

   Comment: If the teleprocessing session is being run at a non-standard time, it may be necessary to call personnel at the HOC to request a manual poll.

3. This step may be performed in teleprocessing offices to provide backup AMA data in the event that data from the final teleprocessing session is lost or mutilated at the host collector. In performing this step, the time interval from now to the system switch forward is increased by the amount of time required to generate the AMA tape.

   For offices that use teleprocessing, an ***optional*** manual AMA tape writing session to dump secondary AMA blocks can be performed at this time (see 235-105-210, *Routine Operations and Maintenance*). This tape should be saved for backup purposes.

4. To verify a successful manual AMA session, use Step 'a' (single-stream office) or Step 'b' (dual-stream office):

   a. Single-stream office - enter message:

      MSG **OP:AMA:SESSION;**

      Response: *Response for offices with AMA teleprocessing:*

      ```
      REPT AMA TELEPROCESSING SESSION FOR STREAM STx
          PREVIOUS AMA TELEPROCESSING SESSION STATUS
          START TIME xxx x xx:xx:xx
      ```

```
    STOP TIME xxx x xx:xx:xx
    BLOCKS TRANSMITTED xxx
    PRIMARY POLLS REJECTED x
    SECONDARY POLLS REJECTED x
    NORMAL TERMINATION
                or
Response for offices with AMA tape writing:
REPT AMA TAPE SESSION FOR STREAM STx
    PREVIOUS AMA TAPE SESSION STATUS
    VOL SER NUMBER
    START TIME xxx x xx:xx:xx
    PRIMARY DATA
    FIRST BLOCK x xxx x xx:xx
    LAST BLOCK x xxx x xx:xx
    TAPE IS xxx% FULL
    RECORDS WRITTEN x
 NORMAL TERMINATION - NO MORE DATA
```

Comment: From the output, verify that the message **NORMAL TERMINATION** is received. If this output is not received, one of the following is true:

- There is an AMA session still in progress.
- The last AMA session was unsuccessful.

b. Dual-stream office - enter message:

MSG **OP:AMA:SESSION,a;**

Where: a = ST1 or ST2. Enter message once for ST1, and once for ST2.

Comment: *See the Response and Comment for Step 'a'.*

5. To verify the percentage of disk space occupied by AMA data, use Step 'a' (single-stream office) or Step 'b' (dual-stream office):

a. Single-stream office - enter message:

MSG **OP:AMA:DISK;**

Response:

```
REPT AMA DISK SUMMARY FOR STREAM ST x
       DISK IS CURRENTLY xx% FULL
       NUMBER OF PRIMARY AMA BLOCKS IN USE

 IS APPROXIMATELY: xx
```

b. Dual-stream office - enter message:

MSG **OP:AMA:DISK,a;**

Where: a = ST1 or ST2. Enter message once for ST1, and once for ST2.

Comment: *See the Response and Comment for Step '4a'.*

6. AMA will continue to accumulate on the OLD side until the switch is on the NEW side. Once on the NEW side, the first AMA session will automatically access the AMA records on the OLD side off-line disks.

7. On MCC page 1985, enter command:

CMD **500**

Response:

```
REPT RETRO PROCEED CONTINUING
PRM_0 E800 xxxx xxxx xxxx xx xx xx on ROP
UPD GEN TSM  IN PROGRESS  60   TRUNKS LOGGED
UPD GEN TSM  COMPLETED
UPD GEN PROCEED APP EXECUTING THE FOLLOWING INPUT COMMAND
OP:AMA:CONTROLFILE
OP:AMA:CONTROLFILE; PF
(The AMA control file is dumped to the ROP.)
REPT AMA CONTROL FILE FOR STREAM ST1
 UPD GEN RETRCV WARNING: NO SPECIAL RCVECD TOOL FOUND
      USING /usr/bin/rcvecd
UPD GEN PROCEED APP EXECUTING CORCFLUSH
CORCFLUSH:  SM=X COMPLETE (once for each SM)
CORCFLUSH:  AM COMPLETE
Initialization PRMs are output on the ROP.
If any failing PRMs are encountered,

 consult the PRM document.

 If only failing PRMs are output,

escalate to your next level of support immediately.


UPD GEN PROCEED APP EXECUTING CORCFLUSH
CORCFLUSH:  SM=X COMPLETE (once for each SM)
CORCFLUSH:  AM COMPLETE
UPD GEN PROCEED APP EXECUTING CORCEVOL
(The following may take several minutes to complete.)
[CNVT CORCLOG EVOL  AM  COMPLETE]
     [xxxx CORCS EVOLVED]
     [xxxx CORCS IN ERROR]
     [xxxx RDNT CORCS RMVD]
[CNVT CORCLOG EVOL  CMP  COMPLETE]
     [xxxx CORCS EVOLVED]
     [xxxx CORCS IN ERROR]
     [xxxx RDNT CORCS RMVD]
[CNVT CORCLOG EVOL SM = x COMPLETE]
     [xxxx CORCS EVOLVED]
     [xxxx TRNCORCS EVOLVED]
     [xxxx CORCS IN ERROR]
     [xxxx TRNCORCS IN ERROR]
     [xxxx RDNT CORCS RMVD]
     [xxxx RDNT TRNCORCS RMVD]
[CNVT CORCLOG EVOL IN PROGRESS]
     [CORC NUMBER xxx HAS BEEN READ]
xxx CORCS xxxx TRNCORCS HAVE BEEN LOGGED IN THE CORC
     EVOLVED LOGFILES
WRT:AMADATA; PF
WRT AMA DATA HAS BEEN WRITTEN TO DISK
READY TO TRANSFER DATA FROM DISK TO OUTPUT MEDIUM
*C REPT AMA DISK WRITER FOR STREAM ST1
      RECORDING TO DISK SUSPENDED
*  REPT AMA DISK WRITER FOR STREAM ST1 TERMINATION CODE 2
REPT AMA DISK WRITER FOR STREAM ST1 INITIALIZATION COMPLETE
REPT AMA DISK WRITER FOR STREAM ST1
      RECORDING TO DISK RESUMED
REPT PROC SCHED SWITCHFWD PAUSED AT STAGE
      BOUNDAARY - RESUME WHEN READY
```

Comment: The PRMs in the preceding output may come out in any order. All of these PRMs may not appear at the ROP. Some may appear more than once. PRMs other than those listed may be output as part of the preceding command. However, if any failing PRMs are output, escalate to your next level of support if necessary.

The cronfile dumped during proceed is the 5E16.2 system cronfile which will be activated during "rmvtools".

Also, it may take up to ***30 minutes*** to get the entire response.

8.4.3 SWITCH FORWARD STAGE

8.4.3.1 FINAL CHECKS BEFORE INITIALIZATION ON NEW SOFTWARE RELEASE

8.4.3.1.1 Checks Before Initialization On New Software Release

1. To dump the VTOC on MHD 1, enter message:

   MSG **DUMP:MHD=1,VTOC;**

   Response:

   ```
   DUMP MHD 1 VTOC STARTED
   DUMP MHD 1 VTOC SEGMENT x of y
   VTOC for MHD 1 is dumped at ROP.
   DUMP MHD 1 VTOC IN PROGRESS
   DUMP MHD 1 VTOC COMPLETED
   ```

   Comment: Compare the VTOC with the appropriate tablein section 5 of this manual to verify that the correct VTOC has been loaded on MHD 1.

   Warning: Ensure that LBOOT has a valid start address (2). If not, escalate to your next level of support immediately.

2. On MCC page 111, verify that AM 0 is ACT before proceeding.

3. On MCC page 1209, verify that ONTCs are duplex (ACTIVE MAJOR/MINOR). Stable calls will be preserved only if the ONTCs are duplex going into the initialization.

   Comment: Automatic C-link switching (that is, reconfiguration) is permissible at this time.

4. To check the AM, CMP, and SM status, enter message:

   MSG **OP:SYSSTAT,UCL;**

   Response:

   OP SYSSTAT SUMMARY {FIRST|NEXT|LAST} RECORD
   SYS: INHIBITS-MTCE[-RC] {MISC|MORE}
   AM: INHIBITS-MTCE-SW [MORE]
   x HSM 1,0: MATE_PUMP FORCED INHIBITS-MTCE-HW-SW CKT_OOS [MORE]
   ...
   x **LSM** n**,0: MATE_PUMP FORCED INHIBITS-MTCE-HW-SW CKT_OOS [MORE]**

   (where n = highest-number SM)

Comment: All SMs must indicate **MATE_PUMP FORCED,...**

5. On MCC page 1850, verify that CMP 0-0 is **ACT**, and that CMP 1-0 is **DACT GEN DIFF**.
6. Offices with the common network interface (CNI), using local procedures, notify your signal transfer points (STPs) of the upcoming initialization.
7. Wait for approval from Site Coordinator before proceeding beyond this step.

   Comment: Call processing is affected for 3 to 4 minutes between the time the SMs are switched to Side 1 and the AM and CMP recover from the system initialization.

Caution: The following set of conditions must be met before proceeding. Verify that:

- The Proceed Stage has successfully completed. On MCC page 1985, SWITCHFWD-STAGE PAUSE should be indicated (see Figure 8-6).

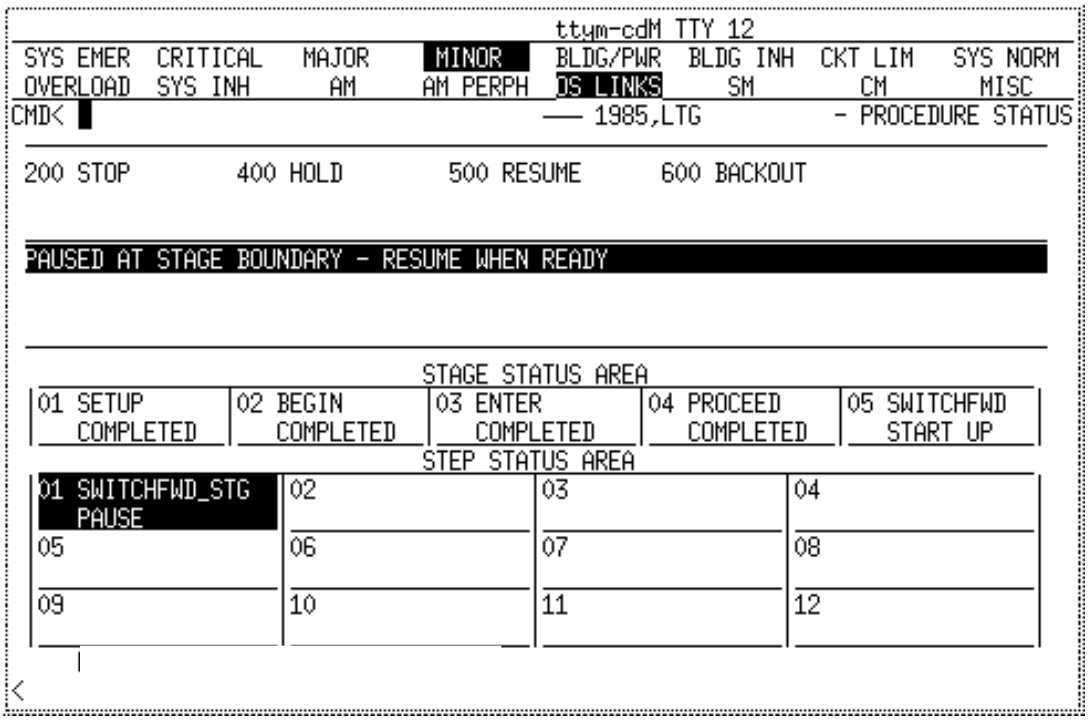

Figure 8-6 — MCC Page 1985 Paused at the Switchforward Stage

- All SMs indicate MATE_PUMP on MCC pages 141, 142, etc., and the OP:SYSSTAT,UCL report.

_____

Final Preinitialization checks complete

8.4.3.2 VERIFY NO EMERGENCY CALLS ARE IN PROGRESS

Using local procedures, verify that no ***emergency calls*** are in progress.

Comment: Wait for any such calls to end before continuing. If any 911 calls are in

progress during the initialization, the ability to recall the originator will be lost after the initialization.

8.4.3.3 SM, CM, AND AM INITIALIZATIONS OVERVIEW

8.4.3.3.1 General

Note: The following overview includes the procedures used to initialize the switch on the new software release. Review the following pages (through the AM initialization) to become familiar with the sequence of events before continuing.

Before the switch can be initialized on the new software release, the following conditions must be met.

1. The ONTCs are ACTIVE MAJOR and ACTIVE MINOR (that is, duplex) on MCC page 1209.
2. On MCC pages 141, 142, ..., all SMs must indicate **MATE_PUMP FORCED...**.
3. On MCC page 1850, verify that CMP 0-0 is **ACT** and CMP 1-0 is **GEN DIFF**.

Warning: If these conditions are not met, correct the problem or escalate to your next level of support.

8.4.3.3.2 SM Switch Forward Command

In Section 8.4.3.4.1, the technician will be instructed to enter commands to switch the SMs. The SMs will transition from **MATE_PUMP** to **GEN DIFF** and may transition through **COMM LOST** before indicating **GEN DIFF**. This transition can be monitored on MCC pages 141, 142, etc. ***Call processing is lost in each SM as it transitions to GEN DIFF***, however two-port analog and circuit-switched ISDN stable calls with talking paths are preserved.

8.4.3.3.3 Successful SM Switch

After the technician enters the switch forward command in Section 8.4.3.4.1, a successful SM switch forward is reported by the following ROP output.

```
UPD GEN SWITCHFWD COMPLETED SUCCESSFULLY
**** PERFORM GENERIC RETROFIT INITIALIZATION OF AM ****
THE SWITCHFWD PROCESS COMPLETED SUCCESSFULLY,  ALL SM(S) SWITCHED
```

After receiving these messages, proceed immediately to the AM boot.

Note: ***Do not*** wait for all SMs to indicate **GEN DIFF** before proceeding to the AM boot. Use the success message described in the previous paragraph as an indication to proceed to the AM boot.

8.4.3.3.4 Failed SM Switch

8.4.3.3.4.1 SM Switch Failure (No SMs Switched)

If the following messages are output after the technician enters the switch forward command in Section 8.4.3.4.1, no SMs have switched to the new software release and call processing has not been affected by the SWITCHFWD command.

THE SWITCHFWD PROCESS ABORTED
UPD GEN SWITCHFWD COMPLETED UNSUCCESSFULLY
THE SWITCHFWD PROCESS TERMINATED

Office personnel should review the error messages and resolve the problem before attempting another SM switch. If necessary, escalate to your next level of support.

8.4.3.3.4.2 Partial SM Switch Failure

If the following messages are output after the technician enters the switch forward command in Section 8.4.3.4.1, the SWITCHFWD command has terminated with some of the SMs **GEN DIFF**.

```
UPD GEN SWITCHFWD COMPLETED SMS IN TRANSIENT STATE

**** PERFORM GENERIC RETROFIT INITIALIZATION OF AM ****

WARNING 732: THE SWITCHFWD PROCESS TERMINATED WITH SOME SM(S)

     SWITCHED
```

Call processing is down in the SMs that have switched to the 5E16.2 software release (two-port analog and circuit-switched ISDN stable calls with talking paths are preserved). Proceed immediately to Recovery Action **R-38** (Section 6.6.38).

After Recovery Action R-38 has been successfully completed, proceed immediately to the system initialization. If R-38 does ***not*** successfully complete, (the SMs failed to switch within a reasonable amount of time), the Site Coordinator should make a decision on whether to continue with the procedures, back out of the procedures, or escalate to your next level of support. If a decision is made to back out, go to **Backout Action B-5A.**

If the SMs are backed out to the old software release, the cause of the delay should be resolved and the SWITCHFWD command repeated before initializing the AM.

8.4.3.3.5 AM Initialization on the New Software Release

When the message is output (in Section 8.4.3.4.1) indicating that all SMs have successfully switched to the new software release, initialize the AM using the procedures described in Section 8.4.3.4.2.

8.4.3.4 INITIALIZE THE *5ESS*® SWITCH ON THE NEW SOFTWARE RELEASE

8.4.3.4.1 Switch the SMs to the New Software Release

1. To continue for confirmation, enter command on MCC page 1985:

   CMD **500**

   Response:

   ```
   REPT RETRO SWITCHFWD WARNING - THE NEXT STEP IS

   SERVICE AFFECTING
   REPT RETRO SWITCHFWD NOTIFY EMERGENCY OPERATORS
   ```

   The 1985 MCC page appears as shown in Figure 8-7:

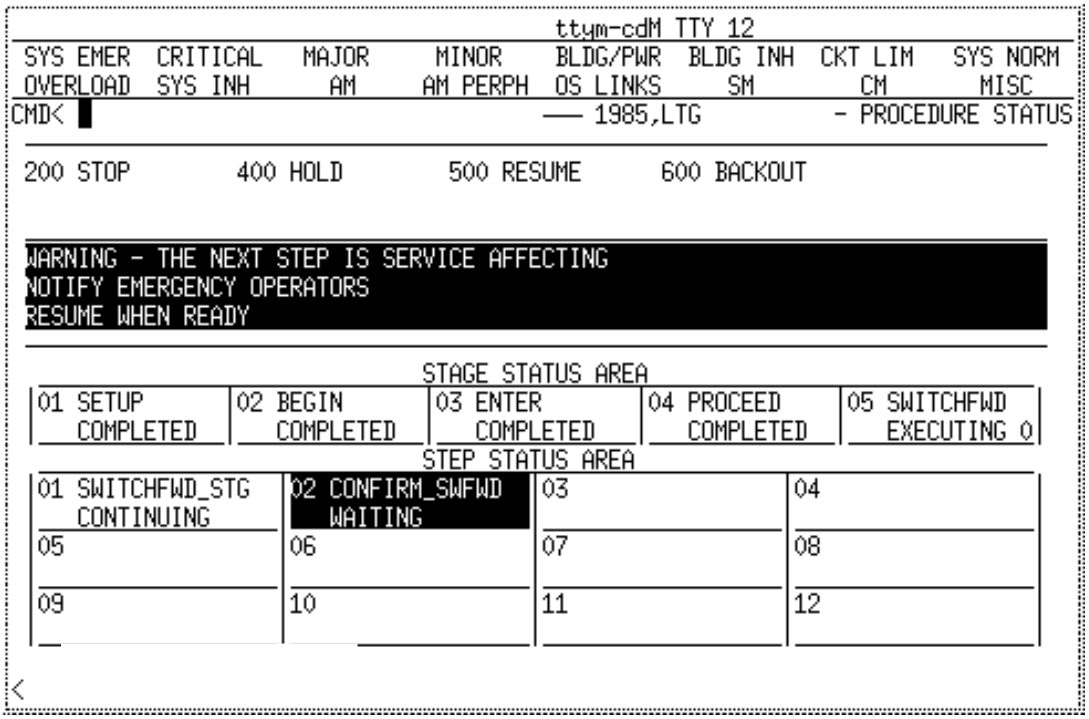

Figure 8-7 — MCC Page 1985 Confirm Switchforward Waiting

2. To continue to the Old Side SM Manager, enter command on MCC Page 1985: CMD **500**

   Response:

```
LTG SWITCHFORWARD CONTINUING
WAITING TO SWITCH SMS AND AM.
     ENTER 500 TO SWITCH FORWARD.
     ENTER 600 TO SWITCH BACK.
```

   The MCC Page 1985 appears as shown in Figure 8-8.

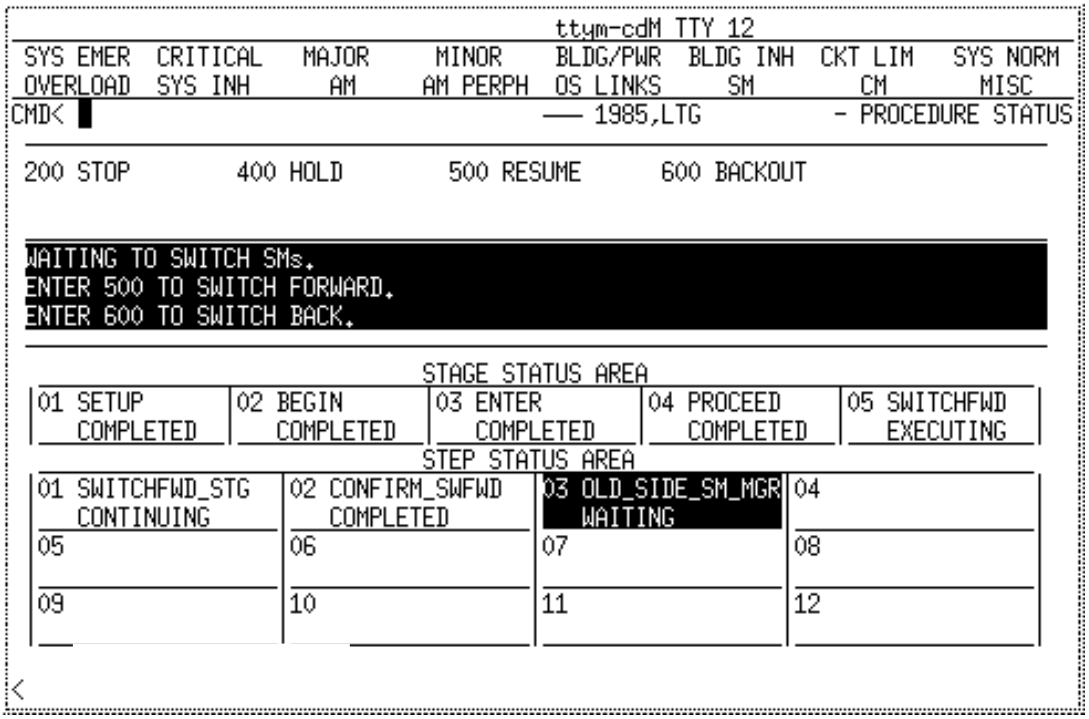

Figure 8-8 — MCC Page 1985 Old Side SM MGR

3. To switch the SMs to the new data, enter command on MCC page 1985:

   CMD **500**

   Response:

```
REPT RETRO SWITCHFWD CONTINUING
UPD GEN SWITCHFWD COMPLETED SUCCESSFULLY
*** PERFORM GENERIC RETROFIT INITIALIZATION OF AM **
SMs SWITCHED TO NEW SIDE.
BOOT AM TO NEW SIDE NOW WITH 42-s-54
IF REQUIRED, USE 600 POKE TO SWITCH SMS BACK TO OLD SIDE
```

   (When this message is received, proceed immediately to Section 8.4.3.4.2 and initialize the AM.

```
CALL PROCESSING IS DOWN!!!!)
REPT RETRO SWITCHFWD SWITCH TO NEW SIDE COMPLETE
REPT RETRO SWITCHFWD IF REQUIRED USE BACKOUT TO SWITCH
   SMS BACK TO SIDE 0
```

8.4.3.4.2 Initialize the AM on the Software Release

1. Enter the following commands on the EAI page to set up the application parameter:

CMD	**42**	(Sets application parameter mode)
PARAMETER:	**S**	(**S** saves stable calls)

2. Enter the following commands on the EAI page to perform the system initialization:

CMD	**54**	(Full AM boot on new software release)
Boot? (y/n)	**y**	(Boot begins after "y" is entered).

3. Log time of boot on Call Processing Verifications Worksheet (Table 9-8).

8.4.3.5 VERIFICATION OF SUCCESSFUL RECOVERY ON NEW SOFTWARE RELEASE

8.4.3.5.1 General

After the initialization, expect the following units to be simplex:

- CU
- CMP
- MHD
- MCTSI
- Integrated Services Line Unit Common Control (ISLUCC)
- Integrated Digital Carrier Unit (IDCU) Service Group (SG).

Do NOT manually duplex these units until directed to do so by this document.

8.4.4 RECOVERY PREPARATION STAGE

8.4.4.1 AM RECOVERY

On MCC page 111, AM 0 should become **ACT** within **15** minutes. AM 1 will be **UNAV**.

8.4.4.2 CALL PROCESSING VERIFICATION

1. ***If call processing is not available within a reasonable amount of time, the Site Coordinator should escalate to your next level of support in order to make a decision on whether to back out or continue with the procedures.***
2. As the SMs become active, verify that call processing is available from the SM and verify intramodule and intermodule call processing. Keep records on the Call Processing Verification Worksheet (Table 9-8).
3. Using list of local and Direct Distance Dialing (DDD) lines prepared earlier, perform a dial-through test of all selected lines.

   Comment: Included in this list should be police, fire, hospital(s), 911 dispatcher, and other emergency numbers as determined by local practices.
4. The next several sections verify that critical *5ESS* switch hardware is configured correctly after the switch forward. Preliminary call processing tests should be performed as soon as possible after the switch forward. The following sections should be deferred until call processing has been demonstrated.

8.4.4.3 MCC DISPLAYS

On MCC page 111, AM 0 status will be **ACT** and AM 1 status will be **UNAV**.

8.4.4.4 VERIFY SM RECOVERY

1. On MCC pages 141, 142, etc., each SM should indicate **MATE PUMP**.

   Caution: The following step is only for SM switch forward problems.

2. Any SM indicating the status of **GEN DIFF** on MCC pages 141, 142, etc., could indicate one of the following conditions:

   - A loss of communications to the SM has occurred.
   - The SM has failed to switch to the new software release side.
   - Another error has occurred in the SM.

   To determine if a communications problem has occurred, access MCC page 1900,x (where x is the SM number).

   To restore OOS CLNKs, enter command on MCC page 1900,x:

   CMD **3yyy**

   Where: yyy = OOS CLNK

   If the CLNKs do not restore, access MCC page 115 to determine the location of other CM problems. Go to the appropriate MCC pages and attempt to restore communications.

   If the SM remains **GEN DIFF** on MCC pages 141, 142, etc., attempt to switch the SM's sides. Enter message:

   MSG **ORD:CPI=x,CMD=GRSW-y;**

   Where: x = number of the SM that is **GEN DIFF**.
   y = the SM side which was off-line pumped and contains the new software release.

   If the SM remains **GEN DIFF** on MCC pages 141, 142, etc., repumping the SM is recommended as follows:

   a. To allow auto pump, enter command on MCC page 1800,x (where x = SM number):

      CMD **701**

      Response: **OK**

   b. If the status of the SM remains GEN DIFF on MCC page 1800,x, perform an AM directed reset (to initialize and pump the SM) by entering the following commands:

      CMD **924**

      Response: **FI? Y/N** *(on MCC)*

      CMD **y**

      Response: **ORD:CPI=*x*,CMD=RESET; PF**

      => *Read:* The **924** poke and the **y** confirmation should be poked into the switch a second time to pump the SM.

      CMD **924**

      Response: **FI? Y/N** *(on MCC)*

CMD **y**

Response: **ORD:CPI=*x*,CMD=RESET; PF**

c. If any SMs still indicate **GEN DIFF**, proceed immediately to Recovery Action R-38 (Section 6.6.38) in this document and escalate to your next level of support.

Note: Any SMs that indicate GEN DIFF will only respond to the following types of commands:

- Software Release Retrofit switch commands (Switchfwd, Switchbck, Backout, SMswitch, SMbackout, and ORD:CPI=x,CMD=GRSW).
- Reset processor commands (poke **924** on MCC page 1800,x and ORD:CPI=x,CMD=RESET).

Do not attempt to power cycle an SM without escalating to your next level of support. If an SM that is in a forced simplex condition is power cycled, the SM force will be lost and the SM will attempt to duplex.

3. To verify that all SMs are active on side 1, enter message:

MSG **OP:SYSSTAT,UCL;**

Response:

OP SYSSTAT	**SUMMARY {FIRST|NEXT|LAST} RECORD**
SYS:	**INHIBITS[-MTCE][-RC] MISC**
AM:	**[BACKOUT-RC]INHIBITS[-MTCE]-SW MORE**
CM:	**NO REQ PEND**
CMP 1-0 P	**[BACKOUT-RC]INHIBITS-HW[-SW]**
CMP 0-0 M:	**[BACKOUT-RC]GEN DIF [INHIBITS-SW][-HW][POSTINIT]**
B LSMa**,1**	**MATE_PUMP [BACOUT-RC]FORCED INHIBITS-MTCE-PUMP-HW-SW [CKT_OOS][MORE]**
S LSMb**,1**	**MATE_PUMP [BACOUT-RC]FORCED INHIBITS-MTCE-PUMP-HW-SW [CKT_OOS][MOORE]**
L LSMz**,1**	**MATE_PUMP [BACOUT-RC]FORCED INHIBITS-MTCE-PUMP-HW-SW [CKT_OOS][MOORE]**

Comment: At this point, all units (AM, CMP, SMs) ***may*** indicate **BACKOUT-RC** as the RC roll-forward completes.

8.4.4.5 CMP RECOVERY

Access MCC page 1850. The primary CMP state should be **ACT**. The mate CMP will be **DACT GEN DIFF**. If trouble was encountered in reconfiguring the CMPs during the switch forward, the primary CMP may show that it is being pumped and initialized.On MCC page 1850, if the primary CMP shows that it is being pumped and initialized, wait a reasonable amount of time for the process to complete.

If the primary CMP changes to an ACTIVE state, proceed to the next section.

If the state of the primary CMP still did not change to ACTIVE/POSTINIT, do the following.

Caution: The following steps are only for CMP switch forward problems.

1. On MCC page 1850 (logically active CMP), to initialize and pump the CMP, enter commands:

   CMD **923**

   FI (Y/N) **Y**

2. If the status of the CMP still does not transition to ACTIVE within a reasonable amount of time (10 minutes maximum), escalate to your next level of support.

8.4.4.6 CNI RECOVERY (CNI OFFICES ONLY)

After the initialization on the new ODD data, MCC pages 118 and 1523 may show a value of **DGR** for the TCAP signaling status boxes. This indicator is ***only*** reporting conditions which existed in the previous software release.Verify CNI functionality and continue with the transition. The **DGR** status condition may be resolved during normal maintenance periods after the transition. Refer to 235-190-120,*Common Channel Signaling Service Features* for information on resolving this condition.

With the 5E9(2) and later software releases, CNI employs a CCS Network Critical Event (CNCE) output message, **REPT CNCE C7RTERR**. This message reports that CNI received an outgoing signaling message with an invalid destination point code or a destination point code that does not have any routing data in CNI. This output message is accompanied by a minor alarm and is printed with the destination point code and the service indicator from the Service Information Octet (SIO).

8.4.4.7 VERIFY SDFI STATUS

During the SM recovery, equipped Subscriber Digital Facility Interfaces (SDFIs) may go OOS and restore automatically to the in-service state after running full diagnostics. If a large number of SDFIs are affected, customers will experience an unnecessary time with no call processing.

1. Enter message:

   MSG **OP:RT,ALM;**

   Response: **PF**

   The Remote Terminals (RTs) with an alarm condition will be output. The RTs with an alarm location of **NEAR END** *will be likely to have SDFIs OOS and those with an alarm level of* **MAJOR** *indicate customers down as a result.*

   or

   NG –– NO RT'S FOUND

   Note: If there are no **MAJOR** alarms, Steps 2 through 4 may be skipped.

2. Using the information from the alarm summary, to view the status of the associated SDFIs, access the following MCC page:

   MCC **1150,y,x**

Where: x = SM number
y = DCLU

Comment: The LRT which is output in the alarm summary has the format of X-Y-Z with SM X, DCLU Y, RT Z.

3. In order to minimize customer downtime, for each SDFI Z that is undergoing an automatic restoral (**OOS** *or* **OOST** on MCC page 1150,Y,X), enter message:

   MSG **STP:RST:SDFI=x-y-z;**

4. To perform an unconditional restoral on the SDFIs from Step 3, enter the following command on MCC page 1150,Y,X:

   CMD **3xx,UCL**

   Where: xx = SDFI number

8.4.4.8 VERIFY AMA BILLING

At this point, AMA billing is already allowed (AMA billing is automatically allowed by the *5ESS* switch after the AM switch forward).

Warning: Do not attempt to teleprocess or write AMA data to tape at this point. The first time you do this you will access AMA records from the OLD side off-line disks. This may not be done until the DFCs have been restored later in this document.

1. To verify that AMA is recording properly, enter message:

   MSG **OP:AMA:STATUS;**

   Response: **REPT AMA STATUS FOR STREAM ST***x*

SEGMENT	STATUS
1	xxxxx
2	xxxxx
3	xxxxx

LAST TIME DISK WRITER WROTE TO DISK hh:mm MM/DD

   Comment: ***Save*** the ROP output for use in the next step.

   Note: The percent full (number records) of each of the three **SEGMENTS** will demonstrate the loading of AMA records in the SDS. Each time the **SEGMENT** gets full, the disk writer writes that particular **SEGMENT** to disk. The value of the **LAST TIME DISK WRITER WROTE TO DISK** will be **00:00 00/00** until the first segment has been written to disk after the boot.

2. Enter message:

   MSG **OP:AMA:MAPS;**

   Response: **REPT AMA DISK MAPS FOR STREAM ST1**

```
WRITE PARTITION  x   READ PARTITION  x

PARTITION  x DISK MAP:

   FPO:  xx       LPO: xx       FPS: xx       LPS: xx

   FSO: xx       LSO: xx       FSS: xx       LSS: xx

   FBO: xx       LBO: xx       FBS: xx       LBS: xx
```

.
.
.
.

3. Re-enter message:

   MSG **OP:AMA:STATUS;**

   Response: **REPT AMA STATUS FOR STREAM ST**x

SEGMENT	STATUS
1	*xxxxx*
2	*xxxxx*
3	*xxxxx*

LAST TIME DISK WRITER WROTE TO DISK *hh:mm MM/DD*

4. Enter message:

   MSG **OP:AMA:MAPS;**

   Response: **REPT AMA DISK MAPS FOR STREAM ST1**

```
WRITE PARTITION  x   READ PARTITION  x

PARTITION  x DISK MAP:

   FPO: xx       LPO: xx       FPS: xx       LPS: xx
   FSO: xx       LSO: xx       FSS: xx       LSS: xx
   FBO: xx       LBO: xx       FBS: xx       LBS: xx
```

.
.
.
.

5. The amount of time it will take to verify AMA recording depends on the amount of traffic on the switch. If your office has light traffic, you should continue with the steps in this document and return to Step 3 every 10 minutes until you are satisfied that AMA is recording properly.

   a. Compare the **OP:AMA:STATUS** output from Step 1 with the **OP:AMA:STATUS** output from Step 3.

      The amount of AMA recorded depends on the amount of traffic on the switch.

      To verify that AMA is writing to a segment, compare the percent full (number records) of the segments from Steps 1 and 3. These should *increase* with traffic on the switch.

   b. When one segment fills, it should be written to disk and a new segment will begin to fill. To verify that AMA has written to disk, check the **LAST TIME DISK WRITER WROTE TO DISK** - this value should not be **00:00 00/00**.

   c. You can also verify the AMA has been written to disk by comparing the output of the **OP:AMA:MAPS** commands issued in Steps 2 and 4. The second line of the output from the**OP:AMA:MAPS** gives a number after **WRITE PARTITION**. Below this are listed the various partitions available.

Locate the partition corresponding to the write partition number. Within this report are values for **LPO** and **LPS**. These values should increase when AMA is written to disk.

6. If AMA has successfully written to disk and is writing into a new segment, AMA is recording properly. If AMA is recording properly, proceed to Section 8.4.5.1.
7. If AMA is being recorded in one **SEGMENT**, but has not written to disk, proceed to Section 8.4.5.1 but continue to monitor AMA. To continue the monitoring, re-enter the **OP:AMA:STATUS** message every 10 minutes until the AMA successfully writes to disk.
8. If it appears that AMA is ***not*** recording properly, enter the following command on MCC page 1984:

   CMD **506**

   After the **506** successfully completes, repeat the Verify AMA Billing Section until AMA is satisfactorily writing to disk.

   If there is call processing through the switch and if all **SEGMENTS** indicate **EMPTY, seek technical assistance.**

   Caution: If at any time you are unsure that AMA is recording properly, do not hesitate to seek technical assistance.

8.4.4.9 VERIFY MHD CONFIGURATION

To verify MHD configuration complete the following steps:

1. Access MCC page 1984 (and MCC page 125 if more than 2 DFCs are equipped).
2. Ensure that all MHDs are **ACT** with the exception of MHD 15. If equipped, MHD 15 is used for software backup. This disk is not affected by these procedures and should remain in an OOS state.

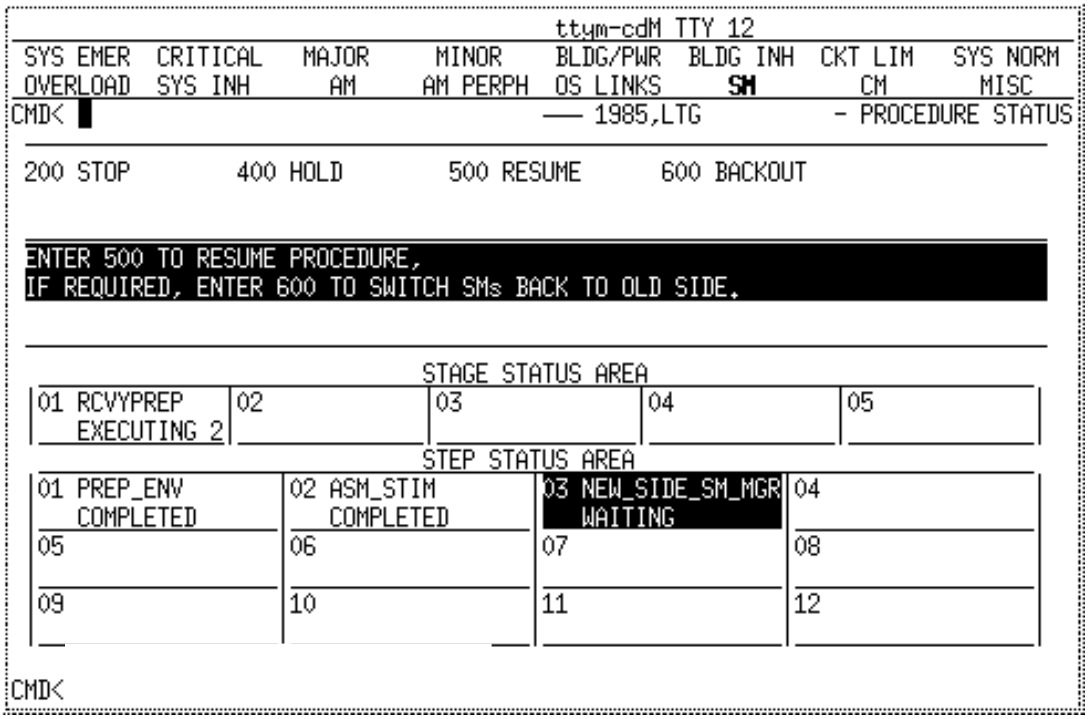

Figure 8-9 — MCC Page 1985 Waiting in the New Side SM MGR

The RCVYPREP stage automatically started running on the new side and continued to the point shown in Figure 8-9.

Note: If the procedure is running and has not yet reached the point shown in Figure 8-9 **do not** proceed until it reaches that state.

The following list describes each activity that will occur during the procedure.

- **RCVY/PREP STG** - Setup for new side.
- **PREP ENV** - Restores options page settings used in the transition.
- **APPLHOOK** - No action on Retrofit going to Commit.

1. To continue with the procedure, on MCC page 1985, enter command:

   CMD **500**

Response: **REPT NEW SIDE SM MGR COMPLETED SUCCESSFULLY**
REPT PROC SCHED POST BOOT PAUSED AT STAGE BOUNDRY - RESUME WHEN READY

8.4.5 POST-BOOT STAGE

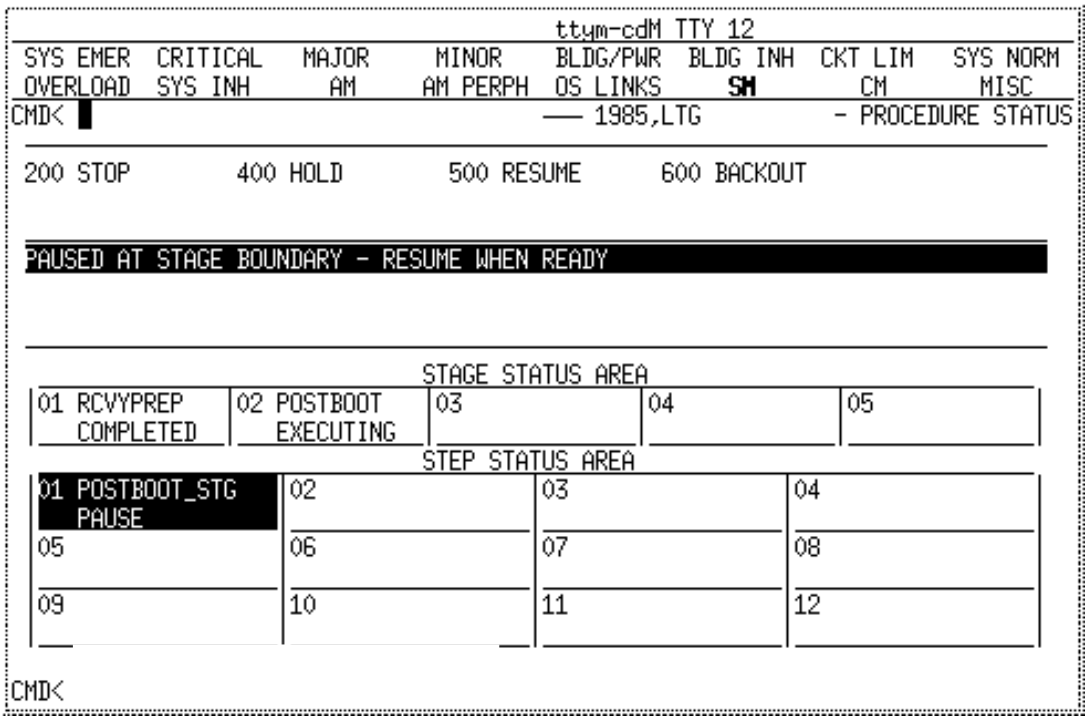

Figure 8-10 — MCC Page 1985 Paused at the Post-Boot Stage

Figure 8-10 shows an example of MCC page 1985 paused before the start of the **Post-Boot** stage. The following list describes each activity that will occur during the**Post-Boot** stage:

- **POSTBOOT STG** - Setup for post-boot activities.
- **TSM NEW** - Instructs the technician to manually run the TSMNEW and TSMRMV commands.
- **BOOTHOOK** - Prepares evolved RCs for reapplication, minor CNI setup, restores AMALOST feature setting.

The **Recovery Preparation** stage has completed and is at a pause boundary. Continue with the following manual steps.

8.4.5.1 MISCELLANEOUS ALLOWS

8.4.5.1.1 Allow Hardware Checks, Software Checks, and SM Pump

As the software and hardware inhibits are removed, any equipped Digital Facility Interfaces (DFIs) go to an OOS state but should be automatically restored to service.

1. To allow hardware and software checks, enter command on MCC page 1984:

   CMD **511,sm**

   Response:

   ```
   UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
   ALW:HDWCHK,SM=1&&192;
   ```

```
UPD:GEN:APPLPROC,ARG="ALWSMCHKS";ALW:HDWCHK,SM=1&&192; IP
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:SFTCHK,SM=1&&192;
ALW:SFTCHK,SM=1&&192; OK
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
ALW HDWCHK SM=x COMPLETED (once for each SM)
```

Comment: On MCC page 1800,x (where x = any numbered SM), box **04 SFTCHK** and box 08 ALL HDWCHK should not be backlit or transition from a backlit condition to a normal display in a few minutes.

2. To allow CMP hardware and software checks, on MCC page 1984, enter command:

   CMD **511,cmp**

   Response:

```
UPD:GEN:APPLPROC,ARG="ALWCMPCHKS";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:HDWCHK,CMP=0-0;
ALW:HDWCHK,CMP=0-0;  PF
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:HDWCHK,CMP=1-0;
ALW:HDWCHK,CMP=1-0;  PF
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:SFTCHK,CMP=0;
ALW:SFTCHK,CMP=0;  OK
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
ALW HDWCHK CMP=0-0 COMPLETED
ALW HDWCHK CMP=1-0 COMPLETED
```

3. On MCC page 1984, enter command to allow AM hardware and software checks:

   CMD **511,am**

   Response:

```
UPD:GEN:APPLPROC,ARG="ALWAMCHKS";
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:HDWCHK;
ALW:HDWCHK; PF
ALW HDWCHK COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:SFTCHK;
ALW:SFTCHK; PF
ALW SFTCHK COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:ERRINT;
ALW:ERRINT; PF
ALW ERRINT COMPLETED
UPD GEN APPLPROC EXECUTING THE FOLLOWING INPUT MESSAGE:
ALW:ERRSRC;
ALW:ERRSRC; PF
ALW ERRSRC COMPLETED
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

4. To verify that the preceding hardware and software allows are complete, enter message:

   MSG **OP:SYSSTAT,UCL;**

   Response: **OP:SYSSTAT,UCL; PF**

OP SYSSTAT	**SUMMARY {FIRST|NEXT|LAST} RECORD**
SYS:	**[INHIBITS-RC] MISC**
AM:	**INHIBITS-MTCE[-MORE]**
CM:	**INHIBITS-MTCE**
CMP 1-0 P:	**NORMAL**
CMP 0-0 M:	**GEN_DIFF INHIBIT [COMM LOST]**

5. From the **OP:SYSSTAT,UCL** output, verify the following:

   a. The primary CMP indicates **NORMAL** and the mate CMP indicates **GEN_DIFF**.

   b. No SM contains inhibits for hardware and software [the SMs should contain maintenance (**MTCE**) inhibits only].

      If any SM contains software or hardware inhibits, access MCC page 1800,x (where x = SM number) and enter commands:

      CMD **704**

      CMD **708.**

6. On MCC page 1985, continue with the **Post-Boot** stage by entering the following command:

   CMD **500**

   Response:

```
REPT RETRO POSTBOOT PERFORM TRUNK STATUS MAPPING SECTION
      OF THE TRANSITION MANUAL
REPT RETRO POSTBOOT RESUME WHEN COMPLETE
```

   Response:

```
UPD:GEN:APPLPROC,ARG="TSMNEW";
UPD GEN APPLPROC EXECUTING THE FOLLOWING RETROFIT TOOL:
/prc/supr/tsm NEW
[UPD GEN TSM  IN PROGRESS xxx TRUNKS LOGGED]
[UPD GEN TSM OOS SUMMARY xx MISMATCHES DETECTED]
[UPD GEN TSM CADN SUMMARY xx MISMATCHES DETECTED]
UPD GEN TSM COMPLETED
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

   Comment: If an error is encountered, refer to Section 6.5.15.

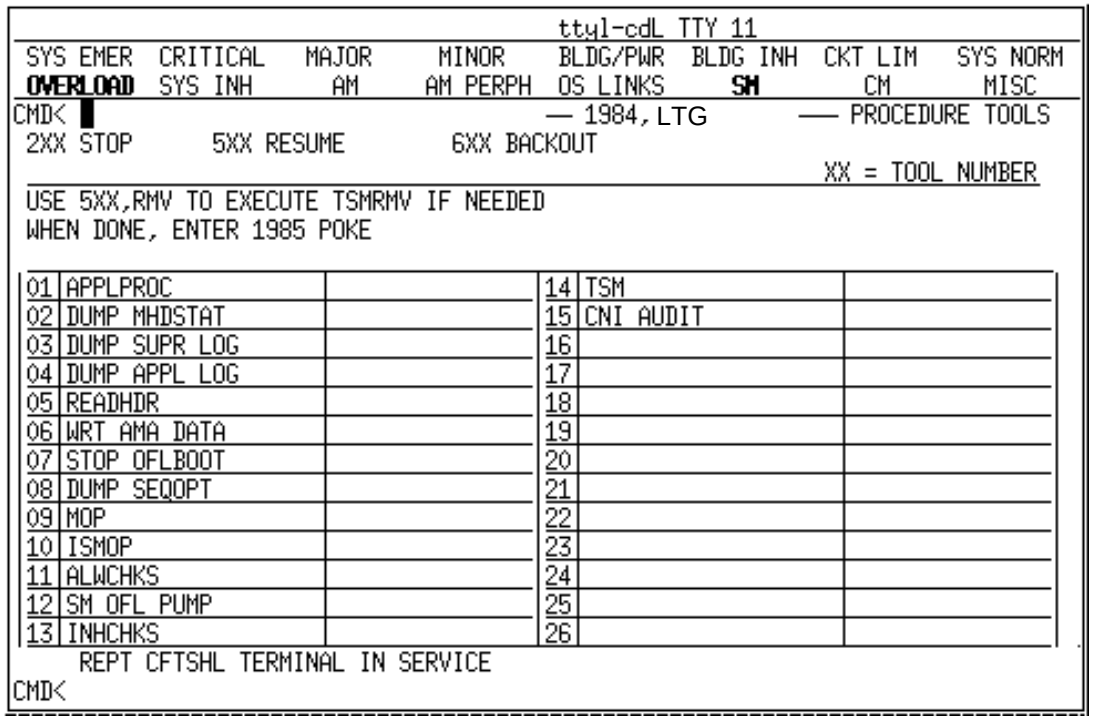

Figure 8-11 — Trunk Status Mapping Waiting

8.4.5.2 VERIFICATION OF TRUNK STATUS MAPPING

Note: Verify that the **TSMRMV** needs to be executed.

1. If OOS and/or CADN mismatches were detected, an OP-LIST-like report containing each listing can be dumped to the ROP or another printer. The location of these files is as follows:

   - CADN Report: /updtmp/tsm/cadn.report.
   - OOS Report: /updtmp/tsm/oos.report.

2. If CADN mismatches are detected, the report should be dumped to a printer (ROP, etc.) and analyzed now.

   This report contains a listing of trunks which were IN SERVICE prior to the boot but are now OOS CADN.

   This state is usually encountered when trunks marked OOS CADN in the ODD dump are brought into service during the RC double-logging interval.

   For each trunk listed in the CADN report, determine whether the trunk should be brought back into service or left as it is. If the trunk should be brought back into service, use the appropriate **RST:TRK** message (refer to 235-600-700, *Input Messages Manual*) to restore the trunk(s).

3. If the summary message from **TSMNEW** indicated that OOS mismatches were detected, the following message can be used to automatically remove from service all trunks listed in the oos.report file (**/updtmp/tsm/oos.report**).

CMD **514,rmv**

Response:

```
UPD:GEN:APPLPROC,ARG="TSMRMV";
UPD GEN APPLPROC EXECUTING THE FOLLOWING RETROFIT TOOL:
/prc/supr/tsm RMVUPD GEN TSM xx TRUNKS TO BE

REMOVED FROM SERVICE
(A RMV:TRK message appears for each trunk

in the OOS report)
UPD GEN TSM COMPLETED
UPD:GEN:APPLPROC COMPLETED SUCCESSFULLY
```

Comment: Do not wait for all of the trunks to be removed from service. Continue with the procedures.

8.4.5.2.1 Verify Recent Change Roll Forward

During the Retrofit initialization, the AM, the CMPs, and the SMs are automatically placed in ***RC backout*** as the roll forward is activated. The roll forward should take no more than 30 minutes after the initialization to complete. Therefore, no units should indicate **BACKOUT-RC** in the preceding output. From the **OP:SYSSTAT** just performed, verify the AM, CMPs, and SMs are ***not*** in **BACKOUT-RC**.

8.4.5.3 POST-BOOT MODIFICATIONS AND CLEANUP

The "boothook" tool executes the "OFFRCR" script which resides in **/no5text/rcr**. The OFFRCR script determines if the OFFRCR process was run on the evolved ODDs. If OFFRCR was run, the script performs a series of file manipulations to prepare for RC reapplication (which occurs later in the Retrofit).

For the OFFRCR script, the "success" output is also provided in the response for "boothook". If the OFFRCR script fails, "boothook" will also fail. The failure-related output from the OFFRCR script provides information regarding potential sources of the error. Do not proceed with the Retrofit unless boothook is successfully completed; escalate to your next level of support if necessary.

The "boothook" step rebuilds user logins under **/unixa/users**. An archive file containing the directory structure for all logins in **/unixa/users** was copied to 5E16.2 earlier in the Retrofit process. This archive file is now used to rebuild user home directories.

The "boothook" step also executes the CNI related processes,**ssauto**, (which automatically populates recent change view 15.10 for the CNI Subsystem 3 feature).

For the **ssauto** script, the various "success" outputs are provided in the response for "boothook". If the process fails, ***escalate to your next level of support before continuing the Retrofit***.

8.4.5.3.1 Set Clock

If the system clock does not reflect the proper time, enter message:

MSG **SET:CLK,DATE=a-b-c,TIME=d-e-f;**

Where: a = month 01-12
b = day 01-31
c = year 00-99
d = hour 00-23
e = minute 00-59
F = second 00-59.

Response: **SET CLK ....**

The proper time and date are displayed on top line of MCC display.

This modification process is executed after a successful initialization and recovery on the new software release.

Warning: Before continuing make sure all AM related hardware is in the ACT/STBY state (MCC page 111/112).

Boothook will automatically populate RC view 15.10 for offices with CNI. Therefore, boothook will automatically allow recent change permission for the MCC in all offices.

8.4.5.3.1.1 Complete BootHook Process and Duplex AM and CM Hardware

To complete the AM BootHook process and restore the AM and CM hardware to duplex, verify the following output on the ROP:

1. On MCC page 1985, continue by executing a resume command:

   CMD **500**

   Response:

```
REPT RETRO POSTBOOT CONTINUING
ALW:PUMP,SM=1&&192; OK
DUMP:FILE:ALL,FN="/tmp/offrcr.out",OPL=999; PF
DUMP FILE ALL COMPLETED

One of the following appears:

a)       .
            .NO OFFRCR LOG DUMP WAS DONEb)       .
            .OFFRCR PROCESSING COMPLETED
            .   ALW:RC; PF
   ALW RC COMPLETED
   DUMP:FILE:ALL,FN="/tmp/ssauto.out",OPL=999; PF
   DUMP FILE ALL COMPLETED

   One of the four following responses appears:
a)

   !!!!!!!!!!!!!!!!!!  NOTICE  !!!!!!!!!!!!!!!!!!


            . SSAUTO: CNI IS NOT EQUIPPED IN THIS OFFICE
            .     NO ADDITIONAL CHECKS ARE REQUIRED
            .
            .
            . SSAUTO: COMPLETED SUCCESS
            .

b)         .
            .
            . SSAUTO: MAKING SURE YOU HAVE FORM 15.10 SSN 3
            . POPULATED FOR ISUP CALL PROCESSING.
            .
            . SEARCH FOR FORM WAS SUCCESSFUL.
            .
            .
            . SSAUTO: COMPLETED SUCCESS

c)       !!!!!!!!!!!!!!!!!!  WARNING  !!!!!!!!!!!!!!!!!!
         !!!!!!!!!!!!!!!!!!  WARNING  !!!!!!!!!!!!!!!!!!
```

```
          !!!!!!!!!!!!!!!!!  WARNING  !!!!!!!!!!!!!!!!!
          !!!!!!!!!!!!!!!!!  WARNING  !!!!!!!!!!!!!!!!!
          !!!!!!!!!!!!!!!!!  WARNING  !!!!!!!!!!!!!!!!!
             .
             . SSAUTO: FAILED TO INSERT VIEW 15.10 SSN 3
             . FOR ISUP CALL PROCESSING.
             .
             . SEEK TECHNICAL ASSISTANCE
             .
          !!!!!!!!!!!!!!!!!  WARNING  !!!!!!!!!!!!!!!!!
          !!!!!!!!!!!!!!!!!  WARNING  !!!!!!!!!!!!!!!!!
             .
             .
             . SSAUTO: FAILED
             .
             .

d)
    !!!!!!!!!!!!!!!!!!!!  NOTICE  !!!!!!!!!!!!!!!!!!!!
    !!!!!!!!!!!!!!!!!!!!  NOTICE  !!!!!!!!!!!!!!!!!!!!
             .
             . SSAUTO: ISUP FORM 15.10 SSN 3 WAS MISSING.
             .         THE FORM HAS BEEN INSERTED FOR YOU.
             .
      !!!!!!!!!!!!!!!!!!!!  NOTICE  !!!!!!!!!!!!!!!!!!!!
      !!!!!!!!!!!!!!!!!!!!  NOTICE  !!!!!!!!!!!!!!!!!!!!
             .
             .
             . SSAUTO: COMPLETED SUCCESS
             .

DUMP:FILE:ALL,FN="/updtmp/site/info.out",OPL=999; PF
DUMP FILE ALL COMPLETED
-------------------------------------
AMALOST feature status
-------------------------------------
One of the following responses appears.
OP AMALOST OFF
OP AMALOST ON TRC=OFF
OP AMALOST ON TRC=ON
  ------------------------
    ALIT parameters
 ------------------------
EXC LIT VERIFY TYP=a RG=b TMO=c TM=d-e
 ----------------------------
    CLID - Call Trace DNs
 ----------------------------
A sorted list of DNs is output;

 or if no DNs are on the list,

 the following message is output.

CLID LIST CONTAINS 0 NUMBERS
-------------------------------------------------
     CGAP - Call Gapping Code Control
-------------------------------------------------
```

```
 CODE   PREFIX  GAP  ANN  DOM
xxxxxxx          x.x  xxx  xxx
xxxxxxx          x.x  xxx  xxx
xxxxxxx          x.x  xxx  xxx

ALW:PUMP,SM= 1&&192; OK
One of the following responses appears.
INH:AMALOST; OK
        or
ALW:AMALOST; OK
                or
ALW:AMALOST, TRC; OKREPT BOOT HOOK COMPLETED SUCCESSFULLY
REPT PROC SCHED SOAK PAUSED AT STAGE BOUNDARY -
   RESUME WHEN READY
```

2. If any other output is produced by the SSAUTO process than that listed in the preceding response, refer to the Section 6.4.8.5.
3. Verify that AMA is recording properly. Refer to Section 8.4.4.8.

8.4.5.3.2 Duplex AM

1. Access the EAI page.
2. Enter the following command to clear AM force:

   CMD **13**

   Response: **REPT CU 1 OUT OF SERVICE** (on ROP)
   REPT CU 0 NO LONGER FORCED ONLINE (on ROP)
3. Access normal display (**NORM DISP**).
4. To unconditionally restore AM 1, on MCC page 111, enter command:

   CMD **301,UCL**

   Response:**RST:CU=1,ucl; PF**
   RST CU 1 TASK x **MESSAGE STARTED**
   ...
   RST CU 1 IN PROGRESS *(every 2 minutes)*
   ...
   RST CU 1 COMPLETED

   Comment: Wait for **RST:CU=1,ucl; PF** acknowledgment, but do not wait for the AM restoral to complete.

8.4.5.3.3 Duplex CMP

1. Access MCC page 1850.
2. To remove CMP 0-0, enter message:

   MSG **RMV:CMP=0-0;**

   Response: **RMV CMP=0-0 COMPLETED**
3. To unconditionally restore CMP 0-0 to standby, enter message:

   MSG **RST:CMP=0-0,STBY,UCL;**

   Response:

```
REPT CMP=0-0 MATE INITIALIZATION  TRIGGER = {CRAFT|MANUAL} -
       REQUEST
```

```
RST CMP=0-0 COMPLETED
[REPT MSKP ENVIRONMENT:]
  [CMP=0-0 PHASE 1&2 INIT COMPLETION TIME: xxxx TYPE:xxx]
       [EVENT=xxxx]
  [CMP=0-0 PHASE 3   INIT COMPLETION TIME: xxxxxx TYPE:xxx]
       [EVENT=xxxx]
[REPT CMP=0-0 MATE DATA=ESCAL-CNTS,x ENV=CMP-AP SRC=SI]
       [EVENT=xxx]
       [ADDR=H'x]
       [...]
REPT COMMUNICATION RESTORED: AM TO CMP=0-0 MATE
```

Comment: Several other types of output messages may be received indicating the CMP has been initialized.

On MCC page 1850, CMP 0-0 will come up **STBY** and in **BACKOUT**. The **BACKOUT** indicator will clear when the RCs are rolled forward.

8.4.5.3.4 OOS Listings and ESM

1. Using OOS listings from the old software release, remove all bad units, lines, and trunks from service in descending order based upon service impact.

   Comment: Removing the OOS units manually is an operating company option. The system automatically removes OOS units as time progresses.

2. Turn on the External Sanity Monitor (ESM) at miscellaneous frame. Access MCC page 116 (Miscellaneous) and verify that power has been restored to the ESM.

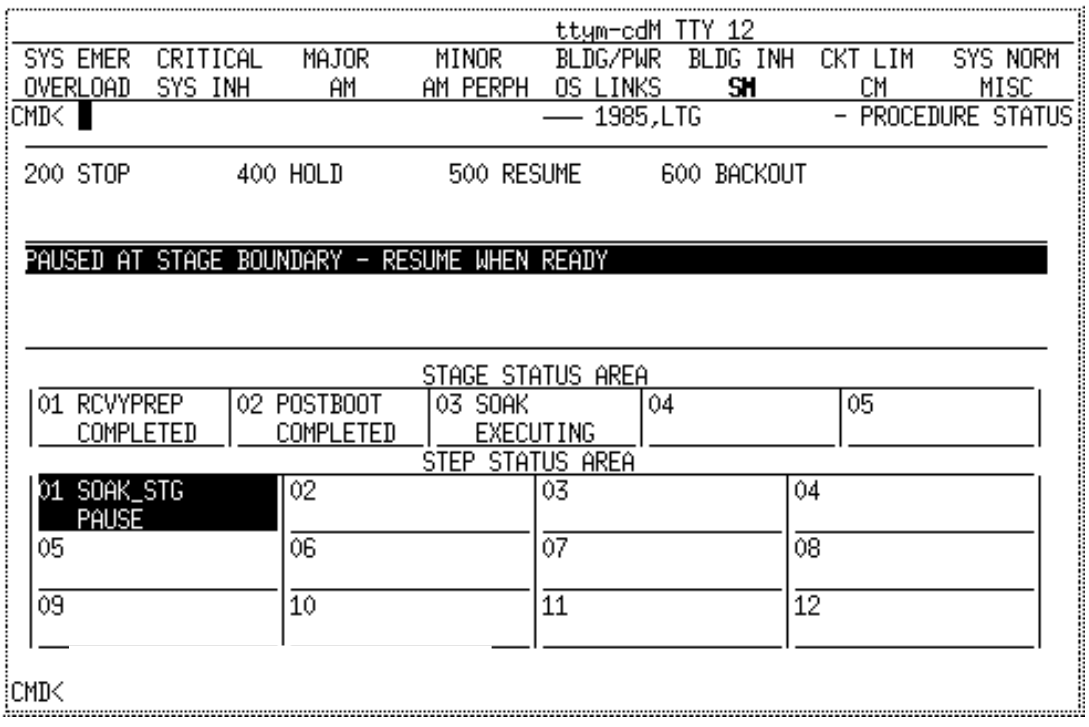

Figure 8-12 — MCC Page 1985 at Completion of the Post-Boot Stage

Figure 8-12 shows an example of MCC page 1985 with everything completed at the Post-Boot stage. The **Post-Boot** stage has completed and is at a pause boundary. Continue with the following manual steps.

8.4.5.4 AMA ALLOWS

8.4.5.4.1 Overview

One of the following **ALW:AMA** messages must be entered to allow AMA polling sessions (collection of AMA data).

Use either message 'a' or 'b', depending on your AMA option.

a. If your office uses the AMATPS option, to allow AMA polling sessions, enter message:

   MSG **ALW:AMA:SESSION[,STx];**

   Where: x = stream number (1 or 2)

   Response: *AMA Control file dumped at ROP*

```
REPT AMA CONTROL FILE FOR STREAM STx
       OFFICE ID   xxxxxx
       DAYS UNTIL EXPIRATION  y
       PROCESS START TIME XX:XX
       PROCESS STOP TIME XX:XX
       DEFAULT MT FOR AUTO TAPE START  x
       AMA OPTION IS xxxxxxxxxxx
        . . .
       (additional AMA control information dumped)
        . . .
```

b. To allow AMA polling sessions for automatic tape writing, enter message:

   MSG **ALW:AMA:AUTOST[:STx];**

   Where: x = stream number (1 or 2)

   Response: *AMA Control file dumped at ROP*

```
REPT AMA CONTROL FILE FOR STREAM STx
       OFFICE ID   xxxxxx
       DAYS UNTIL EXPIRATION  y
       PROCESS START TIME XX:XX
       PROCESS STOP TIME XX:XX
       DEFAULT MT FOR AUTO TAPE START  x
       AMA OPTION IS xxxxxxxxxxx
        . . .
       (additional AMA control information dumped)
        . . .
```

8.4.5.5 OFF-LINE AMA SESSION

The AMA session processes the AMA records that are on the 5E16.2 off-line disks. The AMA software is able to determine whether or not the 5E16.2 off-line AMA data has been processed. For this reason perform this session as you would any manual AMA session. This session must be done before the Commit stage of the transition is executed.

Warning: If this is a dual stream office, you cannot process both streams at the same time during this stage of transition. For offices which teleprocess AMA this means the HOC must not initiate collection on the second stream until collection on the first stream is complete. For offices which use AMA tape the CPY command must not be run for the second stream until collection teleprocessing session per local practice.

1. Initiate AMA tape writing or teleprocessing session per local practice. This session will automatically process data on the 5E16.2 off-line disks.

   Comment: If the teleprocessing session is being run at a non-standard time, it is necessary to call personnel at the HOC to request a manual poll.

2. To verify a successful manual AMA session, use Step 'a' (single-stream office) or Step 'b' (dual-stream office):

   a. Single-stream office - enter message:

      MSG **OP:AMA:SESSION;**

      Response: Response for offices with AMA teleprocessing:

```
REPT AMA TELEPROCESSING SESSION FOR STREAM STx

PREVIOUS AMA TELEPROCESSING SESSION STATUS
    START TIME xxx x xx:xx:xx
    STOP TIME xxx x xx:xx:xx
    BLOCKS TRANSMITTED xxx
    PRIMARY POLLS REJECTED x
    SECONDARY POLLS REJECTED x
    NORMAL TERMINATION
                or
Response for offices with AMA tape writing:
REPT AMA TAPE SESSION FOR STREAM STx

 PREVIOUS AMA TAPE SESSION STATUS
    VOL SER NUMBER
    START TIME xxx x xx:xx:xx
    PRIMARY DATA
    FIRST BLOCK x xxx x xx:xx
    LAST BLOCK x xxx x xx:xx
    TAPE IS xxx% FULL
    RECORDS WRITTEN x

NORMAL TERMINATION - NO MORE DATA
```

      Comment: From the output, verify that the message **NORMAL TERMINATION** is received. If this output is not received, one of the following is true:

      - There is an AMA session still in progress.
      - The last AMA session was unsuccessful.

   b. Dual-stream office - enter message:

      MSG **OP:AMA:SESSION,a**

      Where: a = ST1 or ST2. Enter message once for ST1, and once for ST2.

      Comment: See the Response and Comment for Step 'a'.

3. To verify the percentage of disk space occupied by AMA data, use Step 'a' (single-stream office) or Step 'b' (dual-stream office):

Warning: The following OP:AMA:DISK message must not be skipped. In addition to reporting on AMA disk space used, it sets control flags which determine whether to process AMA data on the off-line or the active disks.

a. Single-stream office - enter message:

MSG **OP:AMA:DISK;**

Response: **REPT AMA DISK SUMMARY FOR STREAM ST*x***

```
DISK IS CURRENTLY xx% FULL
NUMBER OF PRIMARY AMA BLOCKS IN USE
IS APPROXIMATELY: xx

ALL THE DATA ON THE OFFLINE
SIDE HAS BEEN READ. THE AMA
PROCESS HAS BEEN TRANSITIONED
TO THE ACTIVE SIDE.
```

Comment: If errors are received as a response try the procedure again. If errors are received again, escalate to your next level of support.

b. Dual-stream office - enter message:

MSG **OP:AMA:DISK,a;**

Where: a = ST1 or ST2. Enter message once for ST1, and once for ST2.

8.4.5.6 AMA ALLOWS ON THE ACTIVE SIDE

8.4.5.6.1 Overview

One of the following **ALW:AMA** messages must be entered to allow AMA polling sessions (collection of AMA data) on the active side.

Use either message 'a' or 'b', depending on your AMA option.

a. If your office uses the AMATPS option, to allow AMA polling sessions, enter message:

MSG **ALW:AMA:SESSION[,STx];**

Where: x = stream number (1 or 2)

Response: *AMA Control file dumped at ROP*

```
REPT AMA CONTROL FILE FOR STREAM STx
       OFFICE ID   xxxxxx
       DAYS UNTIL EXPIRATION  y
       PROCESS START TIME XX:XX
       PROCESS STOP TIME XX:XX
       DEFAULT MT FOR AUTO TAPE START  x
       AMA OPTION IS xxxxxxxxxxx
        . . .
       (additional AMA control information dumped)
        . . .
```

b. To allow AMA polling sessions for automatic tape writing, enter message:

MSG **ALW:AMA:AUTOST[:STx];**

Where: x = stream number (1 or 2)

Response: *AMA Control file dumped at ROP*

```
REPT AMA CONTROL FILE FOR STREAM STx
```

```
OFFICE ID   xxxxxx
DAYS UNTIL EXPIRATION  y
PROCESS START TIME XX:XX
PROCESS STOP TIME XX:XX
DEFAULT MT FOR AUTO TAPE START  x
AMA OPTION IS xxxxxxxxxxx
 . . .
(additional AMA control information dumped)
 . . .
```

8.4.5.7 SYSTEM CONFIGURATION

Figure 8-13 shows the system configuration at the completion of the Post-Boot stage.

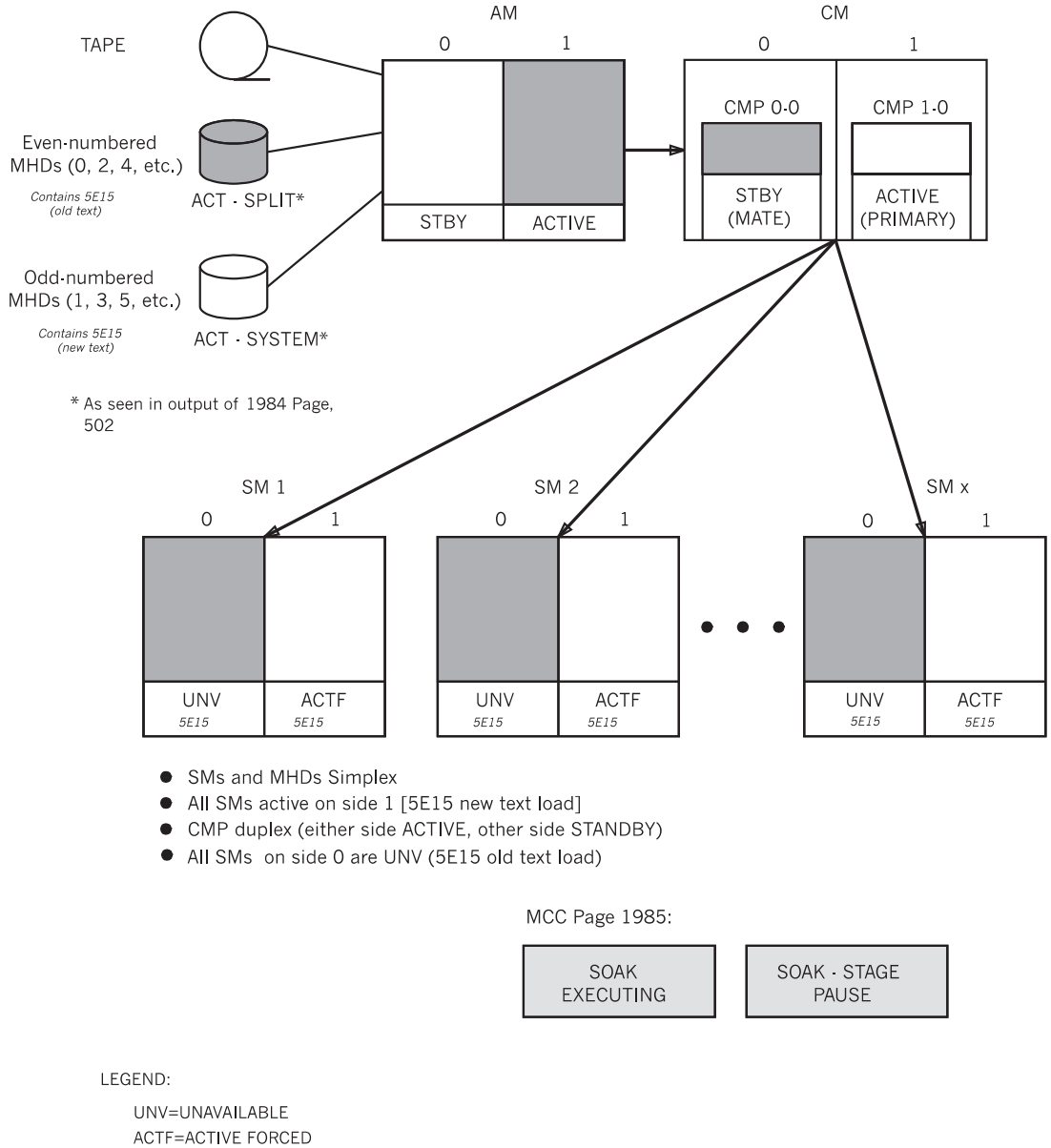

Figure 8-13 — Typical System Configuration at Completion of the Post-Boot Stage

8.4.5.8 Soak Stage

Continue with the procedures in Section 5.10.

5E16.2 Large Terminal Growth Procedures

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9. WORKSHEETS AND TABLES

9.1 GENERAL

This section contains worksheet tables and reference tables.

The worksheet tables are to be used in recording various pieces of essential information during the 10-week LTG interval. The reference tables will need to be checked as directed from other sections of this manual.

9.1.1 WORKSHEET TABLE LISTING

The worksheet tables are as follows:

1. Worksheet Table 9-1 - General Information Worksheet
2. Worksheet Table 9-2 - Automatic Office Dependent Data (ODD) Backup Schedule Worksheet
3. Worksheet Table 9-3 - Office Backups Worksheet
4. Worksheet Table 9-4 - Tape Drive Testing Worksheet
5. Worksheet Table 9-5 - Database Dumps Worksheet
6. Worksheet Table 9-6 - Trunk Status Worksheet
7. Worksheet Table 9-7 - Switching Module (SM) Diagnostics Worksheet
8. Worksheet Table 9-8 - Call Processing Verification Worksheet
9. Worksheet Table 9-9 - Recent Change Evolution Worksheet
10. Worksheet Table 9-10 - CORC Evolution Worksheet

9.1.2 REFERENCE TABLE LISTING

The reference tables are as follows:

1. Reference Table 9-11 - Trunk Status Mapping
2. Reference Table 9-12 - OOS-CADN Trunk Status
3. Reference Table 9-13 - RC Views Supported for the 5E16.2 Evolution
4. Reference Table 9-14 - RC Views Not Supported for the 5E16.2 Evolution
5. Reference Table 9-15 - MCC Page 1980 Pokes and Equivalent Input Messages
6. Reference Table 9-16 - MCC Page 1985 Pokes and Equivalent Input Messages
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15. Reference Table 9-25 - 5E16.2 VTOC Table Index
16. Reference Table 9-26 - 5E16.2 VTOC Layouts for MHDs 0 and 1 (2G Disk Configuration)
17. Reference Table 9-27 - 5E16.2 VTOC Layouts for MHDs 2 and 3 (2G Disk Configuration)
18. Reference Table 9-28 - 5E16.2 VTOC Layouts for MHDs 4 and Higher (322 Mb SCSI MHDs)
19. Reference Table 9-29 - 5E16.2 VTOC Layouts for MHDs 4 and Higher (600 Mb SCSI MHDs)
20. Reference Table 9-30 - 5E16.2 VTOC Layouts for MHDs 4 and Higher (1 Gb SCSI MHDs)
21. Reference Table 9-31 - 5E16.2 VTOC Layouts for MHDs 4 and Higher (2GB SCSI MHDs)

9.2 WORKSHEET TABLES

Table 9-1 — General Information Worksheet

Date	
Office Name	
Total Number of SMs	
Highest Numbered SM	

Table 9-2 — Automatic ODD Backup Schedule Worksheet

EVERY	AT

Table 9-3 — Office Backups Worksheet

STAGE	TAPES MADE
Advance Prep	
System Prep	
End	

Table 9-4 — Tape Drive Testing Worksheet

STAGE	CLEANED	DIAGNOSTICS	VERIFY
Advance Prep			
System Prep			xxxxx

Table 9-5 — Database Dumps Worksheet

DUMP	DATE
Preliminary Database Dump (ODD/ECD)	
Database Dump (ODD/ECD)	
OFFRCR[a]	
Note(s): a. 4 days before LTG	

Table 9-6 — Trunk Status Worksheet

OOS-CADN TRUNKS			
TKGMN	**TEN**	**TKGMN**	**TEN**

Table 9-7 — SM Diagnostics Worksheet

SM NO.	SYSTEM EVALUATION DIAGNOSTICS[a]				RETROFIT IMPLEMENTATION DIAGNOSTICS[b]			
	MCTSI 0	BTSR 0[c]	MCTSI 1	BTSR 1[c]	MCTSI 0	BTSR 0[c]	MCTSI 1	BTSR 1[c]

Note(s):
a. 10 days before the LTG.
b. Day of the LTG.
c. There is only one BTSR, but it must be checked with both MCTSI 0 and 1. Some SMs do not have a BTSR circuit pack.

Table 9-8 — Call Processing Verification Worksheet

Lose Call Processing:				
Time of Switch Forward: (See Step 2 in Sections 5.8.2 or 8.4.4.2)				
SM NO.	CALL PROCESSING	INTER-SM	911	OUTGOING

Table 9-9 — Recent Change Evolution Worksheet

DATE & TIME	NUMBER OF VIEWS READ	NUMBER OF VIEWS CREATED	NUMBER OF VIEWS IN ERROR	ERROR FILE(S) CREATED
				/rclog/RCLTGERR—
				/rclog/RCLTGERR—
				/rclog/RCLTGERR—
				/rclog/RCLTGERR—
				/rclog/RCLTGERR—
				/rclog/RCLTGERR—
				/rclog/RCLTGERR—
				/rclog/RCLTGERR—
				/rclog/RCLTGERR—
				/rclog/RCLTGERR—
				/rclog/RCLTGERR—
				/rclog/RCLTGERR—
				/rclog/RCLTGERR—
				/rclog/RCLTGERR—
				/rclog/RCLTGERR—
				/rclog/RCLTGERR—
				/rclog/RCLTGERR—
				/rclog/RCLTGERR—

Table 9-10 — CORC Evolution Worksheet

DATE & TIME	SM NUMBER	NUMBER OF CORCS EVOLVED	NUMBER OF CORCS IN ERROR

9.3 REFERENCE TABLES

Table 9-11 — Trunk Status Mapping

TRUNK[a] STATUS BEFORE SWITCH FORWARD	TRUNK STATUS AFTERSWITCH FORWARD [b]
OOS BLKD - - MAN	Same
OOS BLKD - DM_RECD AUTO	Same
OOS BLKD - IDLE AUTO	Same
OOS CADN DSBLD - AUTO	Same
OOS CADN DSBLD - MAN	Same
OOS CADN LKDO - AUTO	Same
OOS CADN LKDO - MAN	Same
OOS MTCE DSBLD - MAN	Same
OOS MTCE DSBLD CAMA AUTO	Same
OOS MTCE DSBLD CAMA MAN	Same
OOS MTCE DSBLD ERATC AUTO	Same
OOS MTCE DSBLD ERATP AUTO	Same
OOS MTCE DSBLD SCC MAN	Same
OOS MTCE LKDO - MAN	Same
OOS MTCE LKDO ERATP AUTO	Same
OOS MTCE LKDO TRBL MAN	Same
OOS MTCE LKDO RO MAN	Same
OOS MTCE RAP - MAN	Same
OOS BLKD - NO_RSP AUTO	Same
OOS BLKD - - AUTO	Same
OOS MTCE CCSINIT - AUTO	Same
OOS MTCE COT ORIG AUTO	Same
OOS MTCE COT TERM AUTO	Same
OOS TMT - - MAN	Same
OOS MTCE CCSINIT STARTUP AUTO	Same
OOS BLKD **X X**	MAN OOS BLKD - - MAN
OOS CADN **X X** MAN	OOS CADN DSBLD - MAN
OOS MTCE DSBLD **X** MAN	OOS MTCE DSBLD - MAN
OOS MTCE LKDO **X** MAN	OOS MTCE LKDO - MAN
00S MTCE RAP **X** MAN	OOS MTCE RAP - MAN

Note(s):

a. The dash (-) indicates a "null" field; **X** indicates a field of any value.

b. If a trunk status is shown in this column, the trunk status shown in the "before switch forward" column will be mapped to this default value. The only exception being if the trunk status exactly matches another status shown.

Same indicates that the trunk status is directly mapped across the switch forward and the status of the trunk will be saved.

Not mapped indicates that the trunk status will not be saved across the switch forward and will therefore come up **ACTIVE**.

Table 9-12 — OOS-CADN Trunk Status

AT TIME OF DATABASE TAPE DUMP	DURING -2 WK INTERVAL	AFTER INITIALIZATION
In-service	OOS-CADN	OOS-CADN [a]
	OOS (non-CADN)	OOS (non-CADN) [a]
OOS (non-CADN)	OOS-CADN	OOS-CADN [a]
	OOS (non-CADN)	OOS (non-CADN) [a]
OOS-CADN	OOS-CADN	OOS-CADN [a]
OOS-CADN	In-service	OOS-CADN
Note(s): a. Mapped by TSM.		

Table 9-13 — RC Views Supported for the 5E16.2 Evolution

VIEW NO.	VIEW NAME	TITLE	COMMENTS
C.1	RCALEAPRM	CALEA PARAMETERS	Supported
C.2	RLAESPROF	LAES PROFILE VIEW	Supported
C.4	RLAESCASE	LAES CASE ASSIGNMENT	Supported
1.0	MENU 1	LINES	
1.5	RC_LINE8	PBX-DID LINE	Supported
1.6	RC_LINE0	ANALOG LINE ASSIGNMENT	Supported
1.7	RC_NPOOL	NUMBER POOLING FOR INDIVIDUAL TN	Supported
1.8	RBRASG_TN	ANALOG LINE/BRCS ASSIGN	Supported
1.9	RMDNL	MULTIPLE DN - MDN DRING	Supported
1.10	RLENCP2	ANALOG LINE COPY	Supported
1.11	RFA_TN	BRCS FEATURE ASSIGNMENT	Supported
1.12	RACT_TN	BRCS FEATURE ACTIVATION	Supported
1.20	RACBLNTN	AUTO CALL BACK	Supported
1.21	RARSLNTN	AUTO ROUTE SELECTION	Supported
1.22	RCFLNTN	CALL FORWARDING	Supported
1.23	RPULNTN	CALL PICKUP	Supported
1.24	RCWLNTN	CALL WAITING	Supported
1.25	RDRLNTN	DISTINCTIVE RINGING	Supported
1.26	RIDLNTN	INDIVIDUAL DIALING	Supported
1.27	RMWLNTN	MULTI-WAY CALLING	Supported
1.28	RPFLNTN	PRIVATE FACILITIES	Supported
1.29	RTGLNTN	TERMINAL GROUP	Supported
1.30	RTDLNTN	TIME OF DAY	Supported
1.31	RPPLNTN	PREC AND PREEMPT	Supported
1.32	RSWAP	TWO TN SWAP (INSERT ONLY)	Supported
1.33	RMDRTN	MSG DETAIL RECORDING	Supported
1.37	RMDSTN	MESSAGE SERVICE	Supported

Table 9-13 — RC Views Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
1.38	REDSTN	ELECTRONIC DIRECTORY SVC	Supported
1.41	RATHTN	AUTHORIZATION CODES	Supported
1.42	RACCTTN	ACCOUNT CODE	Supported
1.45	RICMTN	ISDN INTERCOM	Supported
1.46	RACVTTN	ATT CNTL VOICE TRMS	Supported
1.47	RLSACLPA	LASS AUTO CALLBACK	Supported
1.48	RLSARLPA	LASS AUTO RECALL	Supported
1.49	RACSRLPA	ISDN ACSR LINE PARAMETERS	Supported
1.50	RACSRLNM	ISDN ACSR LINE MOVE	Supported
1.51	RSCLPA	SPEED CALLING	Supported
1.60	RCARSCR	SCD SCREENING	Supported
1.61	RASILNTN	ADVANCED SERVICE INTERFACE	Supported
1.62	RLSBCLLN	BULK CALLING LINE ID	Supported
1.64	RASPLPA	ADVANCED SERVICES PLATFORM	Supported
3.0	MENU 3	LINES — MLHG	
3.3	RMULTIDN	MULTIPLE DN	Supported
3.5	RC_MLHG	MLHG GROUP	Supported
3.6	RPOSKEY	MULTI-POSITION BUSY KEY	Supported
3.9	RMKBSYCTT	MAKE BSY CALL TERMINATN	Supported
3.40	RQUPM	MODULAR QUEUING	Supported
3.43	RICIPM	GROUP PARAMETERS	Supported
4.0	MENU 4	LINES — MISC.	
4.1	RC_LCC	LINE CLASS CODE	Supported
4.2	RIDAD	SPEED CALLING	Supported
4.3	RFTRKEY	ATTENDANT FEATURE KEY	Supported
4.4	RTTG	TERMINAL GROUP DATA	Supported
4.5	RTDCL	TIME OF DAY CODE LIST	Supported
4.9	RC_EMRNM	EMERGENCY TN	Supported
4.10	RC_GRPDN	HUNTING TN/MLHG	Supported
4.12	RMBG	MULTI-SWITCH BUS. GRP	Supported
4.14	RC_HGRPAS	HUNDREDS GROUP ASSIGN	Supported
4.17	RATHGRP	AUTH. CODES GROUP	Supported
4.18	RATHCODE	AUTH. CODE DEFINITION	Supported
4.19	RATHFCOS	FEATURE CLASS OF SRV	Supported
4.21	RACCTGP	ACCT. CODE GROUP	Supported
4.22	RACCTRTG	ACCT. CODE ASSOC. TABLE	Supported

Table 9-13 — RC Views Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
4.23	RC_SPAR	LINE CARD SPARING	Supported
4.24	RICMGRP	ISDN INTERCOM GROUP	Supported
4.29	RHGDN_BLF	ATT MLHG/BLF RANGE ASGN	Supported
4.37	RMDSGP	MESSAGE SERVICE	Supported
4.38	REDSGP	EDS GROUP PARAMETERS	Supported
4.39	RPIDEF	PERSONAL IDENTIFICATION	Supported
4.46	RACVTGRP	ATT CNTL VOICE TRMS	Supported
4.47	RACSRGP	ISDN ACSR GROUP PARMS	Supported
4.48	RLSSL	LASS SCREENING LIST	Supported
4.61	RASIGRP	ASI GROUP PARAMETERS	Supported
4.62	RLSBCLGP	BCLID GROUP PARAMETERS	Supported
4.63	RRBVRTI	REMOTE BUSY VERIFY	Supported
4.64	RASPGRP	ADVANCED SERVICES PLATFORM	Supported
4.65	RC_CNAM	ORIG SWITCH CALLING NAM	Supported
5.0	MENU 5	TRUNKS	
5.1	RC_TKGP	TRUNK GROUP	Supported
5.2	RPRIGRP	PRI GROUP ASSIGNMENT	Supported
5.3	RC_TRKCL	TRUNK TRANS. CLASS	Supported
5.4	RFS_TG	BRCS FEATURE ASSIGNMENT	Supported
5.5	RC_TRK1	TRUNK MEMBER	Supported
5.10	RTRKCP1	TRUNK COPY (INSERT ONLY)	Supported
5.11	RFA_TG	BRCS FEATURE ASSIGNMENT	Supported
5.12	RACT_TG	BRCS FEATURE ACTIVATION	Supported
5.13	RC_X75PVC	TRUNK PVC LCN ASSIGNMENT	Supported
5.14	RTRKCUG	X75 CLOSED USER GROUP	Supported
5.15	RTNICLIST	TRANSIT NETWORK ID CODES	Supported
5.16	RC_UTTGP	UTILITY TELEMETRY	Supported
5.21	RARSTGN	AUTO ROUTE SELECTION	Supported
5.24	RCWTGN	CALL WAITING	Supported
5.26	RIDPTGN	INDIVIDUAL DIALING	Supported
5.27	RMWTGN	MULTI-WAY CALLING	Supported
5.28	RPFATGN	PRIVATE FACILITIES	Supported
5.29	RTGTGN	TERMINAL GROUP	Supported
5.30	RTDTGN	TIME OF DAY	Supported
5.31	RPPTGN	PREC AND PREEMPT	Supported
5.33	RMDRTG	MSG DETAIL RECORDING	Supported

Table 9-13 — RC Views Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
5.34	RC_NSFMAP	EDSL CALL BY CALL FEAT	Supported
5.41	RATHTGN	AUTHORIZATION CODES	Supported
5.42	RACCTTGN	ACCOUNT CODE	Supported
5.46	RC_IMTRK	INTER-MODULE TRUNKING	Supported
5.51	RSCTPA	SPEED CALLING	Supported
5.64	RASPTPA	ADV SERVICES PLATFORM	Supported
6.0	MENU 6	AUTOMATIC CALL DIST	
6.1	RSTPARM	ACD SERVING TEAM PARAMETERS	Supported
6.3	RAGNTID	ACD AGENT ID ASSIGNMENT	Supported
6.4	RCQPARM	ACD CALL QUEUE PARAMETERS	Supported
6.5	RSZDISP	ACD SEIZURE DISPLAY	Supported
6.7	RCACDVCT	ACD CALL VECTORING	Supported
6.8	RCACDCVTN	ACD CALL VECTORING DESTINATION TN	Supported
6.10	RC_ACDTN	ACD AND DAA TN ASSIGN	Supported
6.11	RCMISLINK	MIS LINK	Supported
7.0	MENU 7	TRUNKS - MISC.	
7.1	RPFAGRP	PRIVATE FACILITIES GROUP	Supported
7.2	RPFATG	PFA TERMINAL GROUP	Supported
7.3	RPFASFG	PFA SIMULATED FACILITY	Supported
7.4	RPFAINW	INWATS SIMULATED FACILITY	Supported
7.5	RCPISR	CPN SCREENING RANGES	Supported
7.11	RC_NUTRK	NAIL-UP AND HAIRPIN	Supported
7.12	RQUPM	QUEUING PARAMETERS	Supported
8.0	MENU 8	OFFICE MISC. & ALARMS	
8.2	RC_OFFCD	NOC CODES	Supported
8.3	RC_REX	ROUTINE SCHEDULE	Supported
8.4	RC_TSCG	TRAFFIC SEP CELL GROUP	Supported
8.5	RC_TIMDG	TIMING	Supported
8.6	RC_TNTYP	TONE TYPE TIMING	Supported
8.7	RC_DTDLY	DIAL TONE DELAY	Supported
8.8	RC_ONPA	ORIGIN NUM PLAN AREA	Supported
8.10	RC_CGA	CARRIER GROUP	Supported
8.11	RC_RALM	REMOTE ALARM ASSIGNMENT	Supported
8.12	RC_ALMOPT	OPTIONS PER SITE ID	Supported

Table 9-13 — RC Views Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
8.13	RC_MSUSP	MSU/MMSU SCAN PNT ASSIGN	Supported
8.14	RC_RAOO	EQUIPMENT OUTPUT OPTION	Supported
8.17	RC_DSAPP	DIRECT SIGNALING APPL	Supported
8.18	RLASSFA	LASS FEATURE ACCESS	Supported
8.19	RLASSCK	LASS CHOKE LIST	Supported
8.20	RLASSPFX	LASS PREFIX EXCEPT LIST	Supported
8.22	RC_SFU	SECURED FEAT UPGRADE	Supported
8.23	RFLEXANI	FLEX ANI II ASSIGNMENT	Supported
8.24	RSCRIDXPA	SCRN IDX PARAMETER	Supported
8.25	RNPASPLIT	LASS NPA SPLIT	Supported
8.26	RLOCSCRN	LOCAL OFFICE SCREENING	Supported
8.27	RCSMPARAM	SWITCHING MODULE PARAMETERS	Supported
8.28	RDCSPR	DCS PARAMETERS	Supported
8.31	RFOSYS	OPTIONED FEATURES	Supported
8.32	RSRVDSC	ATS FB SERV DESCRIPTION	Supported
8.50	RANIMOD	ANI SWITCHING MODULE	Supported
8.51	RANITBL	ANI TABLE	Supported
8.52	RLDPCTBL	LDP CARRIER TABLE	Supported
8.53	RLDPTNSC	LDP TERMINATION NSC	Supported
8.54	RTGNTNSC	LDP TRK TERMINATION NSC	Supported
8.55	RRORLST	REROUTE ON RELEASE CAUSES	Supported
8.57	RIIDIGTBL	II DIGITS TABLE	Supported
8.58	RANIDX	ANI INDEX TABLE	Supported
8.59	RLDPINDX	LDP INDEX TABLE	Supported
8.60	RC_ANNDG	DIGIT INFLECTION	Supported
8.61	RC_ANNHD	HEADER PHRASE	Supported
8.62	RC_ANNTR	TRAILER PHRASE	Supported
8.63	RC_PHRASE	PHRASE LIST	Supported
8.64	RC_ANNAPL	APPLICATION LIST	Supported
8.65	RDISPMSG	DISPLAY MESSAGE	Supported
8.66	RLANGTBL	NON-ENGLISH APPLICATIONS	Supported
8.67	RPHRLANG	NON-ENGLISH PHRASES	Supported
8.70	RALT_HDR	ALTERNATE ANN HDR	Supported
8.71	RALT_TRL	ALTERNATE ANN TRL	Supported
8.72	RALT_PLNG	ALTERNATE PHRASE ID	Supported
9.0	MENU 9	DIGIT ANALYSIS	

Table 9-13 — RC Views Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
9.1	RC_DAS	DIGIT ANALYSIS SELECTOR	Supported
9.2	RC_PDIT	PREFIX / FEATURE DIGIT	Supported
9.3	RC_LDIT	LOCAL DIGIT	Supported
9.4	RC_CONV	CODE CONVERSION	Supported
9.5	RC_INDIT	INCOMING TRUNK DIGITS	Supported
9.6	RC_IDDD	IDDD COUNTRY ACCESS CODE	Supported
9.7	RC_CDIM	CARRIER DESTINATION	Supported
9.8	RSACSCR	SCD SCREENED SACS	Supported
9.9	RC_RDIT	REMAINING DIGIT	Supported
9.10	RIDDEF	GROUP DEF	Supported
9.11	RIDACT	ALT. CODE TREAT	Supported
9.12	RIDIC	INTERCOM	Supported
9.13	RIDDCA	DIAL CODE ASSIGN	Supported
9.15	RC_MLDIT	MULTIPLE LOCAL DIGIT	Supported
9.16	RC_CCP	COUNTRY CODE PREFIX	Supported
9.17	RC_EASID	EAS INFORMATION DIGITS	Supported
9.18	RC_PCC	PAIRED COUNTRY CODE	Supported
9.20	RUNINFO	PNS INFORMATION	Supported
9.21	RUNDTRE	PNS DIALING PLANS	Supported
9.22	RUNOFFON	OFF NET CONVERSION	Supported
9.23	RUNONOFF	ON NET CONVERSION	Supported
9.25	RC_SMLDIT	LDIT AND ASSOC. SM	Supported
9.26	RIDPRICM	REVERSE INTERCOM	Supported
9.27	RIDPRDCA	REVERSE CODE ASSIGN	Supported
9.35	RC_NSTRIG	NETWORK SERV TRIGGERS	Supported
9.36	RC_LRNTBL	LOCATION ROUTING NBR	Supported
9.37	RC_QORCV	QOR CAUSE VALUES	Supported
9.40	RESN	ESN DEFINITION	Supported
9.41	RESCO	ESCO DEFINITION	Supported
10.0	MENU 10	ROUTING & CHARGING	
10.1	RC_FIXRT	FIXED ROUTE	Supported
10.2	RC_RTIDX	ROUTE INDEX	Supported
10.3	RC_ICF	INTERLATA CARRIER	Supported
10.4	RARSINDF	MC ROUTE IDX EXPANSION	Supported
10.5	RARSGPDF	ARS GROUP DEF	Supported
10.6	RARSCRN	ARS SCREENING	Supported
10.7	RARSIG	ARS SEGMENT SIGNAL	Supported

Table 9-13 — RC Views Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
10.8	RARSFRL	ARS ALTERNATE FRL	Supported
10.9	RARSTCM	ARS TCM CONVERSION	Supported
10.10	RC_SCRN	SCREENING	Supported
10.11	RC_CGIDX	CHARGE IDX EXPANSION	Supported
10.12	RC_AMACT	AMA CALL TYPE	Supported
10.13	RC_CNCHG	COIN CHARGING	Supported
10.14	RC_MREG	MESSAGE REGISTER	Supported
10.15	RC_RATE	RATE DAY AND TIME	Supported
10.16	RC_CMCID	CMC IDENTIFICATION	Supported
10.17	RC_SSPAN	NETWORK ANNOUNCEMENTS	Supported
10.18	RC_SCFAM	STRUCTURE CODE FAMILY	Supported
10.19	RRASRTI	REM ACCESS SERV RTI	Supported
10.20	RC_SPABS	SPA BAND SCREENING	Supported
10.21	RC_SPAENX	SPA EXEMPT NXXs	Supported
10.22	RLNROUT	LEASED NETWORK ROUTING	Supported
10.23	RCKTCODE	CKTCODE TO DIGIT TRANS	Supported
10.24	RARSCINDF	MC ROUTE IDX LIST	Supported
10.25	RC_MRTDX	ALTERNATE ROUTE INDEX	Supported
10.26	RC_CCNRI	CCS NEW ROUTE INDEX	Supported
10.27	RLNARSGD	LEASED NETWK ARS GRP DEF	Supported
10.28	RLNNODE	LEASED NETWK NODE MAP	Supported
10.31	RPPSCRN	PREC AND PREEMPT	Supported
10.33	RPPCOI	RECENT CHANGE COI	Supported
10.34	RRTPOLY	PP POLYGRID ROUTING	Supported
10.35	RC_DNICRI	DNIC TO RI ASSIGNMENT	Supported
10.36	RDSNCO	DSN CONNECTED OFFICES	Supported
10.37	RPROPBID	PROPORTIONATE BIDDING	Supported
10.38	RECPANN	ECP ANNOUNCEMENT RTI	Supported
12.0	MENU 12	BRCS FEATURE DEFINITION	
12.1	RCFLUPGR	FEATURE LIMIT UPGRADE	Supported
12.2	RCLSTR	CLUSTER DEFINITION	Supported
12.3	RRENAME	FAC RENAME	Supported
12.5	RC_CFGGRP	CONFIG GROUP DEFINITION	Supported
12.6	RACOFFD	ACOF BUTTON ASSIGNMENT	Supported
12.7	RDTGSFD	DTGS DIALCODE & BUTTON	Supported
12.9	RBFGCONS	BFG CONSTRUCT & UPDATE	Supported
12.10	RACBFD	AUTO CALL BACK	Supported
12.11	RARSDF	AUTO ROUTE SELECTION	Supported

Table 9-13 — RC Views Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
12.12	RCFDEF	CALL FORWARDING	Supported
12.13	RPUODEF	CALL PICKUP ORIGINATE	Supported
12.14	RPUTDEF	CALL PICKUP TERMINATE	Supported
12.15	RCWDEF	CALL WAITING	Supported
12.16	RDRDEF	DISTINCTIVE RINGING	Supported
12.17	RIDFD	INDIVIDUAL DIALING	Supported
12.18	RMLHGFD	MULTI-LINE HUNT	Supported
12.19	RMWFD	MULTI-WAY CALLING	Supported
12.20	RPFAFDV	PRIVATE FACILITIES	Supported
12.21	RTGSRFD	TERMINAL GROUP	Supported
12.22	RTDFD	TIME OF DAY	Supported
12.31	RPPFD	PREC AND PREEMPT	Supported
12.33	RMDRFD	MSG DETAIL RECORDING	Supported
12.37	RMDSFD	MESSAGE SERVICE	Supported
12.38	REDSFD	EDS FEATURE DEFINITION	Supported
12.40	RQUFD	MODULAR QUEUING	Supported
12.41	RATHDEF	AUTHORIZATION CODES	Supported
12.42	RACCTFD	ACCOUNT CODE	Supported
12.43	RDISPFD	DISPLAY FEATURE	Supported
12.44	RLIDFD	LINE IDEN. FEATURE	Supported
12.45	RICMDEF	ISDN INTERCOM	Supported
12.46	RACVTDEF	ATT CNTL VOICE TRMS	Supported
12.47	RLSACFD	LASS AC FEATURE	Supported
12.48	RLSARFD	LASS AR FEATURE	Supported
12.49	RLSCOTFD	LASS COT FEATURE	Supported
12.50	RACSRFD	ISDN ACSR FEATURE	Supported
12.51	RSCFD	SPEED CALLING	Supported
12.52	RCPIFD	CALLING PARTY NUMBER	Supported
12.53	RHIFD	HOME INTERCOM	Supported
12.54	RLSCARFD	COMPUTER ACCESS RESTRICTION	Supported
12.55	RLSCAFD	SELECTIVE CALL ACCEPTANCE	Supported
12.56	RLSCFFD	SELECTIVE CALL FORWARDING	Supported
12.57	RLSCRFD	SELECTIVE CALL REJECTION	Supported
12.58	RLSDAFD	SELECTIVE DISTINCTIVE ALERT	Supported

Table 9-13 — RC Views Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
12.59	RRNDFD	REDIRECTING NUMBER DELIVERY	Supported
12.61	RASIFD	ADVANCED SERVICE INTERFACE	Supported
12.62	RLSBCLFD	BCLID FEATURE DEFINITION	Supported
12.64	RASPFD	ADVANCED SERVICES PLATFORM	Supported
14.0	MENU 14	LINE & TRUNK TEST	
14.1	RC_AUTO	AUTO TRUNK TEST	Supported
14.2	RC_ROTL	REMOTE OFFICE TEST LINE	Supported
14.3	RC_TLWS	TRUNK LINE WORK STATION	Supported
14.4	RC_CTTU	CENTRAL TRUNK TEST UNIT	Supported
14.6	RC_MDFTA	MDF TEST ASSIGNMENTS	Supported
14.7	RC_PGTCA	PAIR GAIN TEST CONTROLLER	Supported
14.8	RC_TERA	TRUNK ERROR ANALYSIS	Supported
14.9	RATSDTA	ATTS TEST SESSION SCHEDULE DATA	Supported
14.10	RATSPRM	ATTS TEST SESSION SCHEDULE PARAMETERS	Supported
14.11	RDCSDT	DCS DIGITAL TESTS	Supported
14.12	RDCSTT	DCS TRANSMISSION TEST	Supported
14.13	RSLLEN	SLIM OE LIST	Supported
14.14	RSLTSET	SLIM TEST SET	Supported
14.15	RSLTHRS	SLIM THRESHOLD LIST	Supported
14.16	RSLJOB	SLIM TEST JOB	Supported
14.17	RSLSESS	SLIM TEST SESSION	Supported
18.0	MENU 18	SM & REMOTE TERMINALS	
18.10	RC_S96RT	REMOTE TERMINAL ASSIGNMENT (DCLU-RT)	Supported
18.11	RC_S96EQ	REMOTE TERMINAL EQUIPMENT (DCLU-RT)	Supported
18.14	RSLCALM	ALARM TYPE ASSIGNMENT	Supported
18.15	RC_RTERM	REMOTE TERMINAL (IDCU-RT)	Supported
20.0	MENU 20	SM PACK & SUBPACK	
20.4	RC_EQDUP	DIGITAL LINE TRUNK	Supported

Table 9-13 — RC Views Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
20.24	REQVT	DNUS VIRTUAL TRIBUTARY	Supported
21.0	MENU 21	OSPS & ACD ADMINISTRATION	
21.1	RC_ADMIN	OFFICE PARAMETERS	Supported
21.2	RC_SRVTM	SERVING TEAM	OSPS
21.4	RC_OPAS	OPERATOR ASSIGN	OSPS
21.5	RC_RESTR	RESTR DIALING	Supported
21.6	RC_OTR	TROUBLE REPORT	Supported
21.7	RC_IIAD	IMMED IFLOW ACT/DEAC	OSPS
21.8	RC_SIAD	SCHED IFLOW ACT/DEAC	OSPS
21.16	RC_AUTTM	TIME	OSPS
21.17	RC_AUTCS	CALL TYPE CONFIG	OSPS
21.18	RC_AUTOS	OPERATOR CONFIG	OSPS
21.22	RC_CTYP	CALL TYPE	OSPS
21.23	RC_DISP	CTYPE & DISP - TRUNK	Supported
21.24	RC_OPID	CALL ID SCREENING	Supported
21.25	RC_LCDN	CALL ID LOCAL DIGIT	Supported
21.26	RC_BST	SEIZURE	Supported
21.27	RINFLDEST	LIST SRV/CACD IFLOW DEST	OSPS
21.28	RCAOWNER OSPS DA	CUSTOM BRANDING BY ACCOUNT OWNER	Supported
21.30	RC_DSLCH	DSL PORT	Supported
21.32	RC_PPMAP	POSITION TO PORT MAP	Supported
21.34	RC_AMLB	DSL PKT SWITCH ASSGN	Supported
21.41	RCVECT	CALL VECTORS	Supported
21.42	RCVDSTTN	CALL VECTOR DEST TN	Supported
21.51	REISDATA	EXT INFORMATION SYS	Supported
21.52	REISSM	EIS SM SPECIFIC DATA	Supported
21.53	RSERVDEST	SERVICE DESTINATION	Supported
21.54	RSERVDATA	SERVICE DATA	Supported
21.55	ROPEISDB	EIS & DB MAPPING	Supported
21.57	RAISCLS	INTERCEPT DEST IDX	Supported
21.58	RIBMRNGS	LIMITS FOR *IBM*[a] DAS	Supported
21.60	RADASLNN	ADAS LOCALITY MAPPING	Supported
22.0	MENU 22	ISDN — EQUIPMENT	
22.6	RC_EQLGC	ISLU LGC	Supported
22.7	RC_EQLCD	ISLU LINE CARD	Supported
22.16	RC_CHGRP	CHNL GRP PH TYPE ASGN	Supported
23.0	MENU 23	ISDN	

See note(s) at end of table.

Table 9-13 — RC Views Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
23.2	RC_DSL	ISDN INDIVIDUAL DSL	Supported
23.3	RBRI_AGI	ASSOCIATED GROUP	Supported
23.8	RBRI_TN	DSL/BRCS ASSIGNMENT	Supported
23.10	RC_CUG	CUG ASSIGNMENT	Supported
23.11	RC_PVC	PKT SW PVC LCN ASSIGN	Supported
23.12	RC_MTN	MODEM TN TO DSL ASSIGN	Supported
23.13	RC_ODBTS	ODB TS ALLOCATION	Supported
23.14	RC_ODBR	ODB ISCN RESERVATION	Supported
23.15	RDFLT	DSL DEFAULT SERVICE	Supported
23.16	RC_PBG	PACKET BUSINESS GROUP	Supported
23.17	RDSLQMON	DSL MLHG QUEUE MONITOR	Supported
23.19	RODBCTUR	ODB CUT THROUGH TS ALLOC	Supported
23.20	RC_PSOKS	PRIMARY/SECONDARY ONLY	Supported
23.21	RC_TKS	TERMINAL TYPE C/D KEY	Supported
23.23	RCAICOM	CALL APPEARANCE INTERCOM	Supported
23.24	RTELMON	TSM MONITORING TO MONITORED	Supported
23.30	RDSLCP1	DSL/USER COPY	Supported
23.33	RTNSOCP	SECONDARY_ONLY - TN	Supported
23.34	RMSOCP	SECONDARY_ONLY - MLHG	Supported
23.40	RXAT	X.25 CHANNEL ASSIGN	Supported
24.0	MENU 24	APPLICATIONS PROCESSOR	
24.1	RC_APCP	IOP APPLICATION PROCESSOR COMMUNICATION DATA	Supported
24.2	RC_MDRCNT	MDR COUNTS RECORD	Supported
24.3	RC_TDACA	TRAFFIC DATA, ACA & HSS ASSIGNMENT	Supported
24.4	RC_APFGRP	TRAFFIC DATA, ACA, MDR, AND FM PARAMETERS	Supported
24.5	RFMASS	FM FEATURE ASSIGNMENT	Supported
24.7	RC_DSLAP	DSL APPLICATION PROCESSOR COMMUNICATION DATA	Supported
24.9	RC_MEASED	ELECTRONIC DIRECTORY SERVICE MEASUREMENTS	Supported
24.10	RC_MEASMC	MESSAGE SERVICE CENTERS MEASUREMENTS	Supported

See note(s) at end of table.

Table 9-13 — RC Views Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
24.11	RC_MEASMS	MESSAGE SERVICE MEASUREMENTS	Supported
24.12	RC_MSAPHS	100 SECOND SCAN (HSS) ACTIVATION	Supported
24.33	RMDRGP	MDR GROUP PARAMETERS	Supported
25.0	MENU 25	LARGE DATA MOVEMENT	
25.1	RMOVE	GROUP DATA MOVE	Supported
26.0	MENU 26	OSPS TOLL & ASSIST/ISP	
26.1	RC_NPAMP	NPA-NXX MAPPING	Supported
26.2	RC_LNSCR	LINE SCREENING	Supported
26.3	RC_SCRCD	SCREEN CODE TABLE	Supported
26.4	RC_EXMAP	EXCEPTION AREAS	Supported
26.5	RSCROAR	ALTERNATE ROUTING	Supported
26.6	RNONUSA	NON-US NPA-NXXS	Supported
26.7	RAILSDT	POINT CODE ROUTING	Supported
26.8	RFLEXACD	OSPS FLEXIBLE ACD	Supported
26.9	RC_ACDCTP	OSPS ACD CALL TYPE	Supported
26.10	RACDPOL	ACD CALL TYPE POOL	Supported
26.11	RC_HOTEL	AUTO CHARGE QUOTE	Supported
26.12	RC_NXXZN	SEC TIME ZONE NXX	Supported
26.13	RC_PRONXX	TRUNK GROUP NPA	Supported
26.14	RC_TMZN	NPA TIME ZONE	Supported
26.15	RC_RIBMSC	RISLU RAS SCAN PNT	Supported
26.16	RC_ANPATG	NPA HAND BY TRUNK GRP	Supported
26.20	RC_DNNTWK	LEC NPA/NXX	Supported
26.21	RC_OCNTWK	LEC NTWK DATA	Supported
26.22	RC_RSMCAR	RSM CARRIER DATA	Supported
26.23	RC_TCITG	CAMA XFER TRUNKS	Supported
26.24	RC_VALOFC	NXX FOR ONI-ANIF	Supported
26.25	RC_DIOPR	CARRIER & ROUTE	Supported
26.26	ROPRTK	INC TRUNK GROUPS	Supported
26.30	RSETID	ITNA TIME SET ID	Supported
26.31	RSPECL	ITNA SPECIAL AREA	Supported
26.32	REXCPT	ITNA LINE EXCEPTION	Supported
26.33	RTREAT	ITNA CALL TREATMENT	Supported
26.34	RITNASAC	EXPANDED THIRD NUMBER ACCEPTANCE	Supported
26.40	RC_ACCST	ACCS SPL TREATMENT TN	Supported
26.41	RC_SEQRES	RESTRICTED SEQ TN	Supported

See note(s) at end of table.

Table 9-13 — RC Views Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
26.45	RANIIITBL	ANI II DIGITS	Supported
26.50	RIIFLEXAN	FLEX ANI TRANS	Supported
27.0	MENU 27	OSPS TOLL & ASSIST	
27.1	RC_TCSTXT	TEXT & RESTRICTIONS	Supported
27.2	RC_TCSNPA	NPA-NXX	Supported
27.3	RC_TCSCC	COUNTRY CODE	Supported
27.4	RC_OSDC	OPERATOR SPCL DIAL	Supported
27.5	RTPRNPA	BLOCK TERM NPA-NXX	Supported
27.6	RTPRINTL	BLOCK INTL TREM	Supported
27.10	RC_BLVSN	NPA NXX FORM	Supported
27.11	RC_BLVEX	LINE EXCLUSIONS	Supported
27.12	RCRENHBLV	ENHANCED NPA NXX	Supported
27.20	RC_LCIDX	LEC TEXT	Supported
27.21	RC_TGNLC	TGN TO LEC INDEX	Supported
27.23	RPBXCIDT	PBX BILLING NUMBER TEXT	Supported
27.31	RC_OPEXDB	EXTERNAL DATABASE	Supported
27.32	RC_LIDBI	LIDB INSERT/DELETE	Supported
27.33	RC_LIDBU	LIDB REVIEW/UPDATE	Supported
27.34	RC_OLNPI	LNPD INSERT/DELETE	Supported
27.35	RC_OLNPU	LNDP REVIEW/UPDATE	Supported
27.40	RC_ATC	MEETME/ADDON	Supported
27.45	RCMPCRD	COMPARISON CARD	Supported
27.50	RINFLTRID	INTERFLOW TRANS ID	Supported
27.51	RC_INFLWI	INCOM IFLOW IDS	Supported
27.52	RC_INFLWO	OUTGO IFLOW IDS	Supported
27.53	RC_CASCON	CAS CONTRACT STATUS	Supported
27.54	RC_CASINV	CAS INV. CONTRACT STATUS	Supported
27.55	RC_TCCID	TCR IDENTIFICATION	Supported
27.56	RTCCATTR	TCR CARD ATTRIBUTES	Supported
27.58	RCSRATTR	CSR CARD ATTRIBUTES	Supported
27.59	RBLK900	BLOCK 900 FOR LEC CARDS	Supported
27.60	RICCVDB	ICCV DATABASE	Supported
27.61	RCHBCPT	CUSTOMIZED CALL HANDLING	Supported
27.64	RVMSTPR	TERMINATING NPA/NXX RSTR	Supported
27.65	RESPINFO	VMS INTERFACE	Supported
27.66	RCICPHR	CARRIER BRANDING PHRASE	Supported
27.67	RNPASM	NPA TO SM	Supported

See note(s) at end of table.

Table 9-13 — RC Views Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
27.68	RLECCRD	LEC CARD	Supported
27.69	RCARRGRP	CARRIER GROUP	Supported
27.70	RSRVDESIG	SERVICE DESIGNATION	Supported
27.71	RMEASDSIG	MEASUREMENTS DESIGNATION	Supported
27.72	RINWNPA	INWATTS NPA DEFINITION	Supported
27.73	RC_PEELCC	800 PEEL OUT CARD	Supported
27.75	RFTSNXX	700-NXX CODES	Supported
27.76	RFTSRTE	ROUTING NUMBERS	Supported
27.77	RFTSNANP	NPA-NXX EXCEPTIONS	Supported
27.78	RFTSCC	COUNTRY CODE EXCEPTIONS	Supported
27.81	RCCNAME	ORIG COUNTRY NAMES	Supported
27.82	RDCPSP	COUNTRY PAIR SCREENING	Supported
27.83	RDIORSD	DIOR SPEED DIALING	Supported
27.84	RDEHOCSM	800 OFFICE CODE TO SM	Supported
27.85	RDEHNP	800 NUMBER PROVISIONING	Supported
27.86	RDCPSSS	DIOR SPECIAL SCREENING	Supported
27.87	RDNRA	NETWORK REMOTE ACCESS	Supported
27.88	RDACCTRT	DACC TREATMENT TABLE	Supported
27.89	RCNTYLANG	CC TO LANGUAGE	Supported
27.90	RDIORCCC	DIOR SPECIAL SCREENING	Supported
27.91	RCIBNSCB	IBNS EXCLUSION	Supported
27.95	RLANGDEST	LANG TO DESTINATION	Supported
27.96	RLANGMENU	LAC OR LANG MENU	Supported
27.97	RCANNCONV	ANNC SET CONVERSION	Supported
33.0	MENU 33	INTERNET PROTOCOL	
33.1	RC_IPPROC	IP PROCESSOR ASSIGNMENT	Supported
33.2	RC_IPINTF	IP INTERFACE	Supported
33.3	RC_IPROUT	IP ROUTING	Supported

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Table 9-14 — RC Views Not Supported for the 5E16.2 Evolution

VIEW NO.	VIEW NAME	TITLE	COMMENTS
0.0	MENU 0	RECENT CHANGE AND VERIFY CLASSES	
H.1	RCV_HELP	RCV HELP	Unsupported
A.0	MENU A	ADMINISTRATION	
A.1	RTSABORT	ABORT A REPORT	Unsupported
A.2	RCQLNFST	LINE ASSIGNMENT REPORTS	Unsupported
A.3	RTSTK	TRUNK ASSIGNMENT REPORTS	Unsupported
A.4	RTSIDP	INDIVIDUAL DIALING REPORTS	Unsupported
A.5	RTRFEAT	TRUNK FEATURES AND ASSIGNMENTS REPORTS	Unsupported
A.6	RTRGRP	TRUNK GROUP REPORTS	Unsupported
A.7	RTRLDIT	LOCAL DIGIT INTERPRETATION REPORTS	Unsupported
A.8	RTRRTI	ROUTE INDEX EXPANSION REPORTS	Unsupported
A.9	RCPICRPT	INTERLATA CARRIER REPORTS	Unsupported
A.10	RQBFGUTL	BFG UTILIZATION REPORTS	Unsupported
A.11	RCPBGQRY	PACKET SWITCHING BUSINESS GROUP QUERY	Unsupported
A.12	RCSCDRPT	SELECTIVE CARRIER DENIAL REPORTS	Unsupported
A.13	RCLPQRY	LINE PARAMETERS QUERY	Unsupported
B.0	MENU B	BATCH INPUT PARMS	
B.1	RC_SRVOR	SERVICE ORDER NUMBER	Unsupported
B.2	RC_BPARAM	BATCH PARAMETERS	Unsupported
1.0	MENU 1	LINES	
1.8	VBRASG_TN	ANALOG LINE/BRCS VERIFY	Unsupported
1.11	VFA_TN	BRCS FEATURE VERIFY	Unsupported
1.15	VER_MDNL	VERIFY MULTIPLE DNS	Unsupported
1.60	VCARSCR	VERIFY SCD SCREENING	Unsupported
2.0	MENU 2	LINES — OE	
2.5	VER_LEN	VERIFY MULTI-PTY OE	Unsupported
3.0	MENU 3	LINES — MLHG	
3.7	VMUPHVER	VERIFY MULTI-POSITION	Unsupported
4.0	MENU 4	LINES — MISC.	
4.6	VTDOF	VER TOD OFFICE SCHED	Unsupported
4.8	VFMTOD	VER TOD CUSTOMER SCHED	Unsupported
4.9	VER_EMRNM	EMERGENCY TN	Unsupported
4.10	VER_GRPDN	HUNTING TN/MLHG	Unsupported

Table 9-14 — RC Views Not Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
4.11	VER_POINT	VER SCAN DIST. POINTS	Unsupported
4.16	RC_LOSTBL	ISLU-Z LOSS SPEC TABLE	Unsupported
4.20	VATHUSE	AUTH. CODE USAGE	Unsupported
4.26	VBLFMASK	ISDN HUND GRP BUSY LAMP	Unsupported
4.27	VBLFTREE	ISDN HUND GRP SM STRUCT	Unsupported
4.28	VBVMASK	ATND CNTL HUND GROUP	Unsupported
4.36	VMDSUSR	MESSAGE SERVICE USERS	Unsupported
5.0	MENU 5	TRUNKS	
5.6	VFRBCG	VERIFY FRBC CHGRP	Unsupported
5.7	VFRBCTGM	VERIFY FRBC TRK MEMBER	Unsupported
5.8	VPPCG	VERIFY PKTPIPE CHGRP	Unsupported
5.9	VER_TRK5	VERIFY TRUNK MEMBER	Unsupported
5.17	VPRISRVGP	PRI SERVING GROUP VERIFY	Unsupported
5.34	VER_NSFMP	VER CALL BY CALL FEAT	Unsupported
6.0	MENU 6	AUTOMATIC CALL DIST	
6.2	VSTOC	SERVING TEAM TO CALL QUEUE MAP	Unsupported
6.6	VPOSRT	ACD POSITION TO PORT MAPPING	Unsupported
6.9	RCACDBPRM	ACD/BRCS OFFICE PARAMETERS	Unsupported
6.15	VEPOVER	VERIFY EPO POSITION	Unsupported
7.0	MENU 7	TRUNKS - MISC.	
7.10	VER_POINT	VERIFY SCAN & DIST. POINTS	Unsupported
7.13	VERTRKPVC	VERIFY TRUNK PVC	Unsupported
7.14	VERTRKLNK	VERIFY TRUNK LINK ID	Unsupported
7.41	VT1USE	T1 CHANNEL USAGE	Unsupported
7.42	VDS1USE	DS1 CHANNEL USAGE	Unsupported
8.0	MENU 8	OFFICE MISC. & ALARMS	
8.1	RC_PARAM	OFFICE PARAM	Unsupported
8.9	RC_OSPARM	OSPS OFFICE PARAMETERS	Unsupported
8.10	VER_CGA	CARRIER GROUP	Unsupported
8.15	RC_CPARM	CCS OFFICE PARAM	Unsupported
8.16	RC_RATEPD	PS BILLING RATEM	Unsupported
8.21	RLASSOP	LASS OFFICE PARAMETERS	Unsupported
8.30	RCACDPARM	ACD OFFICE PARAMETERS	Unsupported
8.40	RCSREINCR	SRE INCREMENTAL GLOBALS	Unsupported
8.41	RC_FTPARM	ISOS FEATURE PARAMETERS	Unsupported
8.42	RC_CCTCAP	CCS TCAP APPLICATION	Unsupported

Table 9-14 — RC Views Not Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
8.49	RC_ASPOPT	ASP OFFICE PARAMETERS	Unsupported
8.56	RC_TDMOPT	TDMA TUNING PARAMETERS	Unsupported
8.74	RTFANI_II	TOLLFREE/DEFAULT ANI II	Unsupported
9.0	MENU 9	DIGIT ANALYSIS	Unsupported
9.24	VDIT_BF	ODP BEST FIT SEARCH	Unsupported
9.37	RC_QORCV	QOR CAUSE VALUES	Unsupported
9.42	RNPANPD	NPA TO NPD TRANSLATION	Unsupported
10.0	MENU 10	ROUTING & CHARGING	
10.32	RPPCOIGP	VERIFY COI	Unsupported
10.39	RTDR	TIME DEPENDENT ROUTING	Unsupported
10.40	RTLIST	ROUTE INDEX LIST	Unsupported
11.0	MENU 11	CUTOVER STATUS	
11.1	RC_IMCUT	SWITCHING MODULE	Unsupported
11.2	RC_THCUT	TN THOUSANDS GROUP	Unsupported
12.0	MENU 12	BRCS FEATURE DEFINITION	
12.4	VER_FEAT	BRCS FEATURE ASSIGN	Unsupported
12.8	RBFGADMIN	BFG ADMINISTRATION	Unsupported
13.0	MENU 13	TRAFFIC MEASUREMENTS	
13.1	RC_MSPAR	MEASUREMENTS PARAMETERS	Unsupported
13.3	RMEAS	BRCS MEASUREMENTS	Unsupported
13.3	VMEAS	BRCS MEASUREMENTS	Unsupported
13.4	RLUCUMLN	CONC UTILIZATION STUDY	Unsupported
13.5	RLUCUMILA	LINE UTILIZATION STUDY	Unsupported
13.6	RMEASLU	LU/(R)ISLU MEASUREMENTS	Unsupported
13.7	RMEASSEL	MEASUREMENT COLLECTION SELECTIVITY	Unsupported
13.8	RMEASRGS	MEASUREMENT RANGE SELECTIVITY	Unsupported
13.9	VMEASSUM	MEASUREMENT COLLECTION	Unsupported
13.10	RMEASDNS	DN COLLECTION SELECTION SUMMARY	Unsupported
14.0	MENU 14	LINE & TRUNK TEST	
14.5	VER_TL101	VERIFY 101 TEST LINE	Unsupported
14.18	RMTBCOMP	SLIME METALLIC COMPENSATION	Unsupported
15.0	MENU 15	COMMON NTWK INTERFACE	
15.1	RC_CNIOFF	OFFICE IDENTIFICATION	Unsupported
15.2	RC_LCDT	LINK INFORMATION	Unsupported
15.3	RC_PHYS	LOGICAL TO PHYSICAL	Unsupported

Table 9-14 — RC Views Not Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
15.4	RC_CET	CRITICAL EVENTS	Unsupported
15.5	RC_UVDT	USERS VIEW DESCRIPTORS	Unsupported
15.6	RC_EXCP	EXCEPTIONS	Unsupported
15.7	RC_HFDT	HISTORY FILE DESCRIPTOR	Unsupported
15.8	RC_SCHD	SCHEDULE REPORTING	Unsupported
15.9	RC_CLUST	CLUSTER ROUTING DATA	Unsupported
15.10	RC_SST	SUBSYSTEM INFORMATION	Unsupported
15.11	RC_CNIGTT	GLOBAL TITLE TRANSLATION	Unsupported
15.12	RC_NLNIDS	NETWORK ROUTING DATA	Unsupported
15.14	RCNIOFTIM	PROTOCOL OFFICE TIMERS	Unsupported
15.15	RCNILSTIM	PROTOCOL LINK SET TIMERS	Unsupported
15.16	RCNILSTHR	PROTOCOL LINK SET THRESHOLDS	Unsupported
15.17	RCNILKPRM	PROTOCOL LINK PARAMETERS	Unsupported
15.18	RCNIMEM	MEMBER ROUTING DATA	Unsupported
16.0	MENU 16	PSU BASED SS7	
16.1	RC_CCGSM	GLOBAL SM	Unsupported
16.2	RC_CC7PR	LEVEL 3 TIMER PARAMETERS	Unsupported
16.3	RC_CCPDL	DATA LINK RATE TIMER PARAMETERS	Unsupported
16.4	RC_CCRVT	OMAP ROUTE VERIF TEST TIMERS	Unsupported
16.5	RC_LINKSET	SIGNALING LINK SET	Unsupported
16.6	RC_CCLNK	SIGNALING LINK SET MEMBER	Unsupported
16.7	RC_CLKSET	COMBINED SIGNALING LINK SET	Unsupported
16.8	RC_NID	NETWORK ROUTING	Unsupported
16.9	RC_CLU	CLUSTER ROUTING	Unsupported
16.10	RC_PC	SIGNALING POINT CODE	Unsupported
16.11	RC_CHGRPM	CHANNEL GROUP MEMBER ASSIGNMENT	Unsupported
16.17	RC_CCGSM	GLOBAL SM	Unsupported
16.20	RC_CCNET	SCCP NETWORKS DEFINITION	Unsupported
16.21	RC_CCSPR	SCCP PARAMETER DEFINITION	Unsupported
16.22	RC_CCPBD	SCCP PRIMARY/BACKUP DESTINATION	Unsupported
16.23	RC_CCSGT	SCCP SINGLE GLOBAL TITLE TRANSLATION	Unsupported
16.24	RC_CCTT	SCCP TRANSLATION TABLE	Unsupported

Table 9-14 — RC Views Not Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
16.25	RC_CCTGM	SCCP TRANSLATION GROUP MASK	Unsupported
17.0	MENU 17	CM MODULE	
17.1	RC_EQLNK	TMS LINK	Unsupported
17.2	RC_EQPC	PERIPHERAL CONTROLLER	Unsupported
17.3	RC_EQSDL	SDL CONTROLLER	Unsupported
17.4	RC_CM1NC2	NETWORK CLOCK	Unsupported
17.11	RC_CMTMS	TMSU SHELF	Unsupported
17.12	RC_CMLNK	TMS LINK	Unsupported
17.13	RC_CMMSP	MSPU3 COMMUNITY	Unsupported
17.14	RC_CMPC	PERIPHERAL CONTROLLER	Unsupported
17.15	RC_CMPRO	PROTOCOL CONTROLLER	Unsupported
17.16	RC_CMCMC	CMCU SHELF	Unsupported
17.17	RC_CMMSC	MSCU SHELF	Unsupported
17.18	RC_CMTRC	TRCU SHELF	Unsupported
17.19	RC_EUQLP	QLPS BOARD	Unsupported
17.20	RC_EUQMH	MH PIPE ASSIGNMENT	Unsupported
17.21	RC_CMCNV	CM1 TO CM2 CONVERSION	Unsupported
17.22	RC_CMFAB	CM2 SINGLE TO DUAL FABRIC	Unsupported
17.23	RTRCUPATH	TRCU PATH	Unsupported
18.1	RC_EQIM	SWITCHING MODULE	Unsupported
18.2	RC_EQCI	CONTROL INTERFACE	Unsupported
18.2	VER_EQCI	CONTROL INTERFACE	Unsupported
18.3	RC_EQDI	DATA INTERFACE	Unsupported
18.3	VER_EQDI	DATA INTERFACE	Unsupported
18.4	RC_EQMEM	MODULE MEMORY	Unsupported
18.4	VER_EQMEM	MODULE MEMORY	Unsupported
18.5	RC_RSMHM	HSM TO RSM ASSIGNMENT	Unsupported
18.5	VER_RSMHM	RSM CDFI/RDFI ASSIGNMENTS	Unsupported
18.6	VER_EQPCB	VERIFY PICB LIST	Unsupported
18.7	VER_EQPDB	VERIFY PIDB LIST	Unsupported
18.8	RC_RSITE	REMOTE SITE	Unsupported
18.8	VER_RSITE	REMOTE SITE	Unsupported
18.9	RC_RSMRM	RSM TO RSM ASSIGNMENT	Unsupported
18.12	RC_S96MT	REMOTE TERMINAL MTB	Unsupported
18.16	RC_EQNLI	NLI GROWTH (SM2000)	Unsupported
18.17	RC_EQTSI	TIME SLOT INTERCHANGE EQUIPAGE (SM 2000)	Unsupported

Table 9-14 — RC Views Not Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
19.0	MENU 19	SM UNIT	
19.1	RC_EQLU	LINE UNIT	Unsupported
19.2	RC_EQTU	TRUNK UNIT	Unsupported
19.4	RC_EQDU	DIGITAL LINE TRUNK UNIT	Unsupported
19.5	RC_EQDS	DIGITAL SERVICE UNIT	Unsupported
19.6	RC_EQDLU	DIGITAL CARRIER LINE UNIT	Unsupported
19.7	RC_EQMSU	METALLIC SERVICE UNIT	Unsupported
19.9	RC_EQDTU	DIRECTLY CONNECTED TEST UNIT	Unsupported
19.10	RC_EQRA	ANNOUNCEMENT FUNCTION UNIT	Unsupported
19.11	RC_EQISTF	INTEGRATED SERVICES TEST FUNCTION	Unsupported
19.12	RC_IDCU	IDCU EQUIPMENT	Unsupported
19.13	REQMH	MESSAGE HANDLER	Unsupported
19.14	REQDNUS	DIGITAL NETWORKING UNIT SONET	Unsupported
19.15	RECSU	ECHO CANCELER UNIT	Unsupported
19.16	RC_EUAIU	ACCESS INTERFACE UNIT	Unsupported
19.18	RC_EULDS	LOCAL DIGITAL SERVICE CIRCUIT 3 (SM2000)	Unsupported
19.19	RC_EUGDS	GLOBAL DIGITAL SERVICE FUNCTION	Unsupported
19.20	RENETPIPE	ETHERNET PIPE ASSIGNMENT	Unsupported
19.21	RENETLINK	ETHERNET LINK ASSIGNMENT	Unsupported
19.22	RDNU2EEC	DNUS TO EEC EQUIPAGE	Unsupported
19.23	RC_PDXU	PCT DATA EXCHANGER UNIT	Unsupported
20.1	RC_EQLUP	LINE UNIT	Unsupported
20.1	VER_EQLUP	LINE UNIT	Unsupported
20.2	RC_EQTUP	TRUNK UNIT	Unsupported
20.3	VER_EQTP2	VERIFY SINGLE TRUNK UNIT	Unsupported
20.5	RC_EQDSP	DIGITAL SERVICE UNIT	Unsupported
20.5	VER_EQDSP	DIGITAL SERVICE UNIT	Unsupported
20.6	RC_EQDLP	DIGITAL CARRIER LINE	Unsupported
20.7	RC_EQMSP	METALLIC SERVICE UNIT	Unsupported
20.7	VER_EQMSP	METALLIC SERVICE UNIT	Unsupported
20.8	RC_EQMTP	METALLIC TEST INTERCONNECTION BUS	Unsupported

Table 9-14 — RC Views Not Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
20.9	RC_EQDTP	DIRECTLY CONNECTED TEST UNIT	Unsupported
20.10	RC_EQRAP	RAF EQUIPMENT SUBUNIT	Unsupported
20.11	RC_RCLK	MMRSM REMOTE CLOCK	Unsupported
20.12	REQSTE	DNUS STE AND STS	Unsupported
20.16	RC_EPAIU	ACCESS INTERFACE UNIT PACK	Unsupported
20.20	RC_EQPRO	PROTOCOL CIRCUIT	Unsupported
20.21	RC_EQDS2	DSU2 SERVICES	Unsupported
20.22	RC_EQRAS	ANNOUNCEMENT FUNCTION SERVICES	Unsupported
20.23	RCEQIFAC	IDCU FACILITY	Unsupported
20.25	RDNUPM	DNUS PERFORMANCE MONITORING	Unsupported
20.26	RC_EQSASP	SAS EQUIPMENT SUBUNIT	Unsupported
21.0	MENU 21	OSPS & ACD ADMINISTRATION	
21.2	RC_SRVTM	SERVING TEAM	OSPS
21.3	VER_STOC	SRVTM TO CTYPE MAP	Unsupported
21.4	RC_OPAS	OPERATOR ASSIGN	OSPS
21.5	VER_RESTR	V RESTR DIALING	Unsupported
21.7	RC_IIAD	IMMED IFLOW ACT/DEAC	OSPS
21.8	RC_SIAD	SCHED IFLOW ACT/DEAC	OSPS
21.8	VER_SIAD	V SCHED INTERFLOW	Unsupported
21.9	VER_IFLOW	V INTERFLOW	Unsupported
21.16	RC_AUTTM	V TIME	OSPS
21.16	VER_AUTTM	V TIME	Unsupported
21.17	RC_AUTCS	CALL TYPE CONFIG	OSPS
21.17	VER_AUTCS	V CALL TYPE CONFIG	Unsupported
21.18	RC_AUTOS	OPERATOR CONFIG	OSPS
21.18	VER_AUTOS	V OPERATOR CONFIG	Unsupported
21.22	RC_CTYP	CALL TYPE	OSPS
21.27	RINFLDEST	LIST SRV/CACD IFLOW DEST	OSPS
21.31	VER_GPVER	DSL GROUP	Unsupported
21.33	RC_OSSMGR	OSPS SM GROWTH	Unsupported
21.45	RC_IPDSL	TCP/IP DSL PORT	Unsupported
21.46	RC_IPACC	LINK ACCESS	Unsupported
21.47	RC_IPMAP	IP ADDRESS TO PORT	Unsupported
21.48	RC_IPPRM	IP EXCHANGE PARAMETERS	Unsupported
21.56	VLSRCLVER	LS RECALL MAPPING	Unsupported
21.59	VIBMPORTS	PORT TO IBM MAPPING	Unsupported

Table 9-14 — RC Views Not Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
21.61	RESPPARM	ESP APRAMETERS	Unsupported
21.62	RC_POSMAP	POSITION MAPPING	Unsupported
22.0	MENU 22	ISDN — EQUIPMENT	
22.1	RC_PSUPI	PACKET INTERFACE	Unsupported
22.2	RC_PSU	PSU COM & SHELF 0	Unsupported
22.2	VER_PSU	PSU COM & SHELF 0	Unsupported
22.3	RC_PSUSH	PSU SHELF (1-4)	Unsupported
22.4	RC_PSUPH	PROTOCOL HANDLER	Unsupported
22.5	RC_EQISLU	ISLU COM	Unsupported
22.6	VER_EQLGC	ISLU LGC	Unsupported
22.8	RC_EQISP	ISLU PACKS	Unsupported
22.8	VER_EQISP	ISLU PACKS	Unsupported
22.9	RC_RISCC	RISLU COMMON EQUIPMENT	Unsupported
22.10	RC_RISH2	RISLU DFI-H2/R2 PAIR	Unsupported
22.11	RC_RISITE	RISLU SITE ALARMS	Unsupported
22.12	VER_DPIDB	ISLU DPIDB	Unsupported
22.13	RC_PSISM	INTER SM NAIL UP	Unsupported
22.14	VER_PH	CHANNEL GROUP CHANNEL ASSIGNMENTS	Unsupported
22.15	RPMTG	PM THRESHOLD GROUP	Unsupported
22.17	RDTAPORT	RDTA PORT/TN ASGN	Unsupported
22.18	RDTATN	RDTA TN/REMARKS ASGN	Unsupported
22.19	VPSURISLU	STATUS OF PSU PIDBs FOR RISLU ASSIGNMENT	Unsupported
22.20	VRISLUPSU	LCEN TO DSL GRP	Unsupported
22.21	RISLU2	ISLU2 LINE BOARD	Unsupported
22.22	RPSULINK	PSU LINK ASSIGNMENT	Unsupported
22.23	VISLU2_TS	ISLU2 DPIDB	Unsupported
22.24	RC_RPMA	REMOTE PERIPHERAL ALARMS	Unsupported
23.0	MENU 23	ISDN	
23.1	RBRI	DSL USERS	Unsupported
23.8	VBRI_TN	DSL/BRCS VERIFY	Unsupported
23.9	RC_CUGV	CUG ASSIGNMENT VERIFY	Unsupported
23.18	VRC_MTN	PKT TN TO MODEM TN VER	Unsupported
23.20	VER_PSOKS	PRIMARY/SECONDARY ONLY	Unsupported
23.21	VER_TKS	TERMINAL TYPE C/D	Unsupported
23.22	VER_CAFB	CALL APPEAR & FEAT BUTTON	Unsupported

Table 9-14 — RC Views Not Supported for the 5E16.2 Evolution (Contd)

VIEW NO.	VIEW NAME	TITLE	COMMENTS
23.25	VTELMON	TSM MONITORED TO MONITORING	Unsupported
23.41	VT1USE	T1 CHANNEL USAGE	Unsupported
23.42	VDS1USE	DS1 CHANNEL USAGE	Unsupported
24.0	MENU 24	APPLICATIONS PROCESSOR	Unsupported
25.0	MENU 25	LARGE DATA MOVEMENT	
25.1	VMOVE	GROUP DATA VERIFY	Unsupported
26.0	MENU 26	OSPS TOLL & ASSIST/ISP	
26.2	VLNSCR	VER LINE SCREENING	Unsupported
26.5	VSCROAR	VER ALTERNATE ROUTING	Unsupported
26.8	VFLEXACD	VER OSPS FLEXIBLE ACD	Unsupported
26.10	VACDPOL	VER ACD CALL TYPE POOL	Unsupported
26.11	VHOTEL	VER AUTO CHARGE QUOTE	Unsupported
27.0	MENU 27	OSPS TOLL & ASSIST	
27.11	VER_BLVEX	VERIFY LINE EXCLUSIONS	Unsupported
27.12	RCVENHBLV	VERIFY NPA NXX	Unsupported
27.22	VER_TGMSG	TGN TO LEC TEXT	Unsupported
27.30	RC_OPDBPR	DATABASE PARAMETERS	Unsupported
27.57	VTCCATTR	TCR IDDIGS/CARD ATTR	Unsupported
27.72	VINWNPA	INWATTS NPA DEFINITION	Unsupported
27.83	VDIORSD	DIOR SPEED DIALING	Unsupported
28.0	MENU28	GLOBAL RC - LINES	
28.1	RCGRCSCH	SCHEDULE VIEW	Unsupported
28.2	RCGRC16	UPDATE VIEW FOR 1.6	Unsupported
28.3	RCGRC18	UPDATE VIEW FOR 1.8	Unsupported
28.4	RCGRC232	UPDATE VIEW FOR 23.2	Unsupported
28.5	RCGRC238	UPDATE VIEW FOR 23.8	Unsupported

Table 9-15 — MCC Page 1980 Pokes and Equivalent Input Messages

POKE	INPUT MESSAGE	OPERATION
2XX	NONE	Stop Procedure XX
3XX	NONE	Start Procedure XX
4XX	NONE	Show Procedure XX
5XX	NONE	Resume Procedure XX
8XX	NONE	Start Procedure XX Tools Page

Table 9-16 — MCC Page 1985 Pokes and Equivalent Input Messages

POKE	INPUT MESSAGE	OPERATION
200	NONE	Stop Stage/Step
300	NONE	Start Stage/Step
400	NONE	Hold Stage/Step
500	NONE	Resume Stage/Step
600	NONE	Backout From Stage/Step

Table 9-17 — MCC Page 1989 Pokes and Equivalent Input Messages

POKE	INPUT MESSAGE	OPERATION
3XX	NONE	Clear Option XX
4XX	NONE	Set Option XX to arg
500	NONE	Resume Procedure

Table 9-18 — MCC Page 1984 Pokes and Equivalent Input Messages

POKE	INPUT MESSAGE	OPERATION
2XX	NONE	Stop Tool
5XX	NONE	Start/Resume Tool
6XX	NONE	Backout Tool

Table 9-19 — Off-Line Pump Normal Output Responses

STATUS	DESCRIPTION[a]
OPUMPHLDn	Off-line pumping, attempt n
OPUMPn	Off-line pump hashnum check, attempt n
OHASHCKn	Off-line pump hashsum check, attempt n
OVRFYm	Off-line verification, minute m
OVRFIED	Off-line verification complete
MATE_PUMP	Off-line pump is complete
OPBCPHLDs	Off-line broadcast pump hold, stages (1 or 2)
OPBCPODD	Off-line broadcast pump, ODD stage
OPBCPRELO	Off-line broadcast pump relocation images stage
OPORELOC	Off-line image relocation
OPBCPTEXT	Off-line broadcast pump text stage
OPMPERFpp	Off-line pumping peripherals, peripheral pp
ORST	Duplex peripherals restoring
OPRMV	Peripheral Remove OOS stage
PPMPRISLU	Parallel pump of RISLU units
PMPRISLU2	Parallel pump of RISLU2 units
PPMPISLU	Parallel Pump of ISLU units
PPMPISLU2	Parallel pump of ISLU2 units
PPMPIDCU	Parallel pump of IDCU units

Note(s):
a. The maximum value of m is 10. The maximum value of n is 4. The maximum value of pp is 64.

Table 9-20 — Off-Line Pump Error Responses

STATUS	DESCRIPTION
OPUMPFAIL	Off-line SM pump failed
OVFYFAIL	Off-line verification failed
OPERFFAIL	Off-line peripheral pump failed
OPERF_OOD	Off-line peripheral out of date
ORSTFAIL	Failure to restore a peripheral

Table 9-21 — Tools With Resume Actions

TOOLID	NUMBER OF REQUIRED ARGUMENTS	MAX NUMBER OF OPTIONAL ARGUMENTS	DEFAULT ARGUMENTS
APPLPROC	1 (See Table 9-24)	NONE	NONE
DUMP MHDSTAT	NONE	NONE	NONE
DUMP SUPR LOG	NONE	NONE	NONE
DUMP APPL LOG	NONE	NONE	NONE
READHDR	NONE	1 (MT0, MT1)	MT0
WRT AMA DATA	NONE	NONE	NONE
STOP OFLBOOT	NONE	NONE	NONE
DUMP SEQOPT	NONE	NONE	VERIFY
MOP	NONE	NONE	NONE
ISMOP	NONE	NONE	NONE
ALWCHKS	1 (AM, CMP, SM, ALL)	NONE	NONE
SM OFL PUMP (See Note [a])	1 (ACT, OFL)	3, ({VFY, NVFY}, {PERF, NPERF}, {MCTSI0, MCTSI1})	{VFY, PERF, OFLPUMP MCTSI1}
INHCHKS	1 (AM, CMP, SM, ALL)	NONE	NONE
TSM	(OLD, NEW, RMV)	NONE	NONE
CNI AUDIT	NONE	NONE	NONE

Note(s):

a. For SM OFL PUMP, the following definitions apply:

a. ACT - Specifies to offline pump SMs from active disk images.
b. OFL - Specifies to offline pump SMs from offline disk images.
c. VFY - Specifies to run offline verify of SMs.
d. NVFY - Specifies NOT to run offline verify of SMs.
e. PERF - Specifies to run peripheral offline pumps.
f. NPERF - Specifies NOT to run peripheral offline pumps.
g. MCTSI0 - Specifies to offline pump MCTSI, side 0.
h. MCTSI1 - Specifies to offline pump MCTSI, side 1.

Table 9-22 — Tools With No Backout Actions

TOOLID	BACKOUT ACTION
APPLPROC	NOT SUPPORTED
DUMP MHDSTAT	NOT SUPPORTED
DUMP SUPR LOG	NOT SUPPORTED
DUMP APPL LOG	NOT SUPPORTED
WRT AMA DATA	NOT SUPPORTED
STOP OFLBOOT	NOT SUPPORTED
DUMP SEQOPT	NOT SUPPORTED
ISMOP	NOT SUPPORTED
TSM	NOT SUPPORTED
CNI AUDIT	NOT SUPPORTED

Table 9-23 — Tools With Backout Actions

TOOLID	NUMBER OF REQUIRED ARGUMENTS	MAX NUMBER OF OPTIONAL ARGUMENTS	DEFAULT BACKOUT ACTIONS
READHDR	NONE	NONE	RESET OF TAPE LOG FILE
MOP	NONE	NONE	STOP MOP
ALWCHKS	1 (AM, CMP, SM, ALL)	NONE	INHIBIT CHECKS OF REQUEST MODULE
INHCHKS	1 (AM, CMP, SM, ALL)	NONE	ALLOW CHECKS OF REQUESTED MODULE
SM OFL PUMP	NONE	NONE	DUPLEX SMS

Table 9-24 — MCC Page 1984 APPLPROC Pokes and Equivalent Input Messages

POKE	INPUT MESSAGE	OPERATION
501,*toolname*	UPD:GEN:APPLPROC,ARG...;	Used to execute software tools
501,alwama1 501,alwama2	ALW:AMA:SESSION,ST1; ALW:AMA:SESSION,ST2;	Allows AMA sessions for stream 1 or stream 2
501,alwamchks	ALW:HDWCHK; ALW:SFTCHK; ALW:ERRSRC; ALW:ERRINT;	Allows AM hardware, software, and error checks
501,alwcmpchks	ALW:HDWCHK,CMP=0-0; ALW:HDWCHK,CMP=1-0; ALW:SFTCHK,CMP=0;	Allows CMP hardware and software checks
501,alwpump	ALW:PUMP,SM=1&&192;	Allows pump in all SMs
501,alwrex	ALW:REX,CU; ALW:REX,CM; ALW:REX,SM=1&&192; ALW:DMQ:SRC=ALL;	Allows REX in the AM, CM, and SMs
501,alwsmchks	ALW:HDWCHK,SM=1&&192; ALW:SFTCHK,SM=1&&192;	Allows SM hardware and software checks
501,bgnhook	UPD:GEN:APPLPROC,ARG= "BGNHOOK";	Runs BEGIN stage shell processing
501,clrsipo	EXC:ENVIR:UPROC,FN= "/no5text/prc/setoddbk -w 197 0 193 193"	Clears DDFRCSIPO key 197 to normal (0)
501,clrpstrcr	EXC:ENVIR:UPROC,FN= "/no5text/prc/setoddbk -w 478 0 193 193"	Clears DDPOSTRCR key 478 to normal (0)
501,clroflfs	UPD:GEN:APPLPROC,ARG= "CLROFLFS";	Clears off-line filesystems
501,cmthook	UPD:GEN:APPLPROC,ARG= "CMTHOOK";	Runs COMMIT stage shell processing
501,cniaud	UPD:GEN:APPLPROC,ARG= "CNIAUD";	Runs NIDATA audits on the CNI database
501,dgnretro	UPD:GEN:APPLPROC,ARG= "DGNRETRO";	Runs retro phase 3 diagnostics on all SMs

Table 9-24 — MCC Page 1984 APPLPROC Pokes and Equivalent Input Messages (Contd)

POKE	INPUT MESSAGE	OPERATION
501,endhook	UPD:GEN:APPLPROC,ARG= "ENDHOOK";	Performs post-transition cleanup tasks
501,entrhook	UPD:GEN:APPLPROC,ARG= "ENTRHOOK";	Runs ENTER stage shell processing
501,inhamchks	INH:HDWCHK; INH:SFTCHK; ALW:HDWCHK,CLNK,ALL;	Inhibits AM hardware and software checks and allows CLNK hardware checks
501,inhcmpchks	INH:HDWCHK,CMP=0-0; INH:HDWCHK,CMP=1-0; INH,SFTCHK,CMP=0;	Inhibits CMP hardware and software checks
501,inhrex	INH:REX; INH:DMQ,SRC=REX; INH:DMQ,SRC=ADP; OP:DMQ; OP:DMQ,SM=1&&192;	Inhibits REX and DMQ requests
501,inhsmchks	UPD:GEN:APPLPROC,ARG= "INHSMCHKS"; INH:HDWCHK,SM=1&&192; INH:SFTCHK,SM=1&&192; INH:CLNORM;	Inhibits hardware and software checks in all SMs. CLINKS are checked to ensure they are normal and in-service
501,installtools	UPD:GEN:APPLPROC,ARG= "INSTALLTOOLS";	Installs the software tools into the appropriate system directories
501,ismop	UPD:GEN:APPLPROC,ARG= "ISMOP";	Provides information on mounted off-line partitions.
501,logwriter	UPD:GEN:APPLPROC,ARG= "LOGWRITER";	Creates entry in tool log
501,lookodd	UPD:GEN:APPLPROC,ARG= "LOOKODD";	Prints a list of the ODD files on the off-line disks
501,mhdstat	UPD:GEN:APPLPROC,ARG= "MHDSTAT";	Prints status of disks

Table 9-24 — MCC Page 1984 APPLPROC Pokes and Equivalent Input Messages (Contd)

POKE	INPUT MESSAGE	OPERATION
501,modecd	UPD:GEN:APPLPROC,ARG= "MODECD";	UPDATE ONLY: Apply any skipped ECD changes to off-line side
501,mop	UPD:GEN:APPLPROC,ARG="MOP"; CHG:LPS,MSGCLS=INT_MON,PRINT=ON,LOG=ON; CHG:LPS,MSGCLS=GENRMON,PRINT=ON,LOG=ON; CHG:LPS,MSGCLS=INT,PRINT=ON, LOG=ON;	Mounts off-line partitions on odd-numbered MHDs. Turns on the printing of message classes INT_MON, GENRMON, INT
501,mop.bk	UPD:GEN:APPLPROC,ARG="MOP.BK"; CHG:LPS,MSGCLS=INT_MON,PRINT=ON,LOG=ON; ON,LOG=ON; CHG:LPS,MSGCLS=INT,PRINT=ON, LOG=ON;	Mounts off-line partitions on even-numbered MHDs. Turns on the printing of message classes INT_MON, GENRMON, INT
501,msgoff	CHG:LPS,MSGCLS=INT_MON, PRINT=OFF,LOG=ON; CHG:LPS,MSGCLS=GENRMON, PRINT=OFF,LOG=ON; CHG:LPS,MSGCLS=INT,PRINT=OFF, LOG=ON;	Turns off the printing of message classes INT_MON, GENRMON, INT
501,msgon	CHG:LPS,MSGCLS=INT_MON,PRINT=ON,LOG=ON; CHG:LPS,MSGCLS=GENRMON,PRINT=ON,LOG=ON; CHG:LPS,MSGCLS=INT,PRINT=ON, LOG=ON;	Turns on the printing of message classes INT_MON, GENRMON, INT
501,prcdhook	UPD:GEN:APPLPROC,ARG= "PRCDHOOK";	Performs post-proceed stage modification hooks
501,rmvtools	UPD:GEN:APPLPROC,ARG= "RMVTOOLS";	Removes software tools
501,rstcu	RST:CU=1,UCL;	Restores CU 1 unconditionally
501,rsthook	UPD:GEN:APPLPROC,ARG= "RSTHOOK";	Run restore stage shell processing

Table 9-24 — MCC Page 1984 APPLPROC Pokes and Equivalent Input Messages (Contd)

POKE	INPUT MESSAGE	OPERATION
501,seqopt	UPD:GEN:APPLPROC,ARG= "SEQOPT";	Verifies tape sequence from read header
501,setoddbk	EXC:ENVIR:UPROC,FN= "/no5text/prc/setoddbk"	Sets RC status in all SMs after init
501,smdump	UPD:GEN:APPLPROC,ARG= "SMDUMP";	Dumps data from the SMs for postmortem analysis
501,stopmop	UPD:GEN:APPLPROC,ARG= "STOPMOP";	Stops any active mop process
501,stopolb	UPD:GEN:APPLPROC,ARG= "STOPOLB";	Allows DMQ. Stops off-line boot
501,summ	UPD:GEN:APPLPROC,ARG= "SUMM";	Prints a summary of this table
501,sysstat	OP:SYSSTAT,UCL;	Prints system status
501,tsmold	UPD:GEN:APPLPROC,ARG= "TSMOLD";	Records trunks in OOS state before init
501,tsmnew	UPD:GEN:APPLPROC,ARG= "TSMNEW";	Dumps a list of trunks in OOS state
501,tsmrmv	UPD:GEN:APPLPROC,ARG= "TSMRMV";	Removes all trunks listed in output from 501,tsmnew
501,wrtama	WRT:AMADATA;	Writes AMA data to the active disks

Table 9-25 — 5E16.2 VTOC Table Index

MHD	OFFICE DISK CONFIGURATION
	2G
0,1	Table 9-26
2,3	Table 9-27
4-31	a
Note: If your outboard disks (MHDs 4 and higher) are 1 GB SCSI MHDs, refer to the appropriate part of Table 9-30 for your particular AMA/SM ODD disk options. If your outboard disks (MHDs 4 and higher) are 2 GB SCSI MHDs, refer to the appropriate part of Table 9-31 for your particular AMA/SM ODD disk options.	

Table 9-26 — 5E16.2 VTOC Layouts for MHDs 0 and 1 (2G Disk Configuration)

PTN	START	END	SIZE	DESCRIPTION (NOTE)		
0	0	1	2	VTOC	fp	(vtoc0)
8	2	601	600	PLBOOT21	fp	(lboot21)
2	602	683	82	BBOOT	fp	(boot)
3	684	765	82	BBOOT	fp	(bboot)
6	766	250765	250000	SWAP	fp	(swap)
4	250766	401965	151200	ROOT	fs	(root)
5	401966	553165	151200	ROOT	fs	(broot)
7	553166	563165	10000	ORDINARY	fs	(tmp)
9	563166	1254165	691000	ORDINARY	fs	(update)
10	1254166	1294165	40000	ORDINARY	fs	(updtmp)
11	1294166	1295165	1000	PDUMP	fp	(panic)
12	1295166	1303165	8000	ORDINARY	fs	(cdmp)
13	1303166	1321165	18000	ETC	fs	(etc)
14	1321166	1339165	18000	ETC	fs	(betc)
15	1339166	1749165	410000	BWM	fs	(bwm)
16	1749166	1773165	24000	ECD	fs	(db)
17	1773166	1797165	24000	ECD	fs	(bdb)
18	1797166	2317165	520000	ORDINARY	fs	(soddaud)
19	2317166	2777165	460000	ORDINARY	fs	(no5text)
20	2777166	2796665	19500	ORDINARY	fs	(unixa)
22	2796666	2812665	16000	ORDINARY	fs	(dg)
24	2812666	2937665	125000	ORDINARY	fs	(var)
28	2937666	2938665	1000	ORDINARY	fs	(slim)
32	2938666	2961865	23200	ECD	fp	(no5dodd)
33	2961866	2985065	23200	ECD	fp	(no5dodd1)
35	2985066	3165065	180000	ECD	fs	(rclog)
36	3165066	3255065	90000	ECD	fs	(log)
37	3255066	3451965	196900	ECD	fs	(no5aodd1)
41	3451966	3679106	227141	APPLSTART	fp	(ama)
42	3679107	3906247	227141	APPLSTART	fp	(ama1)
63	3906248	3906249	2	BANK	fp	(bank)

Note: fs = file system (+ FILSYS)
fp = file partition

Table 9-27 — 5E16.2 VTOC Layouts for MHDs 2 and 3 (2G Disk Configuration)

PTN	START	END	SIZE	DESCRIPTION (NOTE)		
0	0	1	2	VTOC	fp	(vtoc1)
7	2	5501	5500	ORDINARY	fs	(usrtmp)
21	5502	1305501	1300000	ORDINARY	fs	(smtext)
34	1305502	1328701	23200	ECD	fp	(no5dodd2)
38	1328702	1493201	164500	ECD	fs	(no5oddscr)
39	1493202	2293201	800000	ECD	fs	(no5sodd1)
40	2293202	2433201	140000	ECD	fs	(no5codd1)
41	2433202	3086374	653173	APPLSTART	fp	(ama2)
42	3086375	3739547	653173	APPLSTART	fp	(ama3)
43	3739548	3769547	30000	ORDINARY	fs	(unixabf)
44	3769548	3877547	108000	ECD	fs	(smlog)
57	3877548	3906247	28700	ORDINARY	fs	(atts)
63	3906248	3906249	2	BANK	fp	(bank1)

Note: fs = file system (+ FILSYS)
fp = file partition

Table 9-28 — 5E16.2 VTOC Layouts for MHDs 4 and Higher (322 Mb SCSI MHDs)

PTN	START	END	SIZE	DESCRIPTION [a]		
DISKOPTION 0300(100%AMA)						
0	0	1	2	VTOC	fp	(vtoc[n])
41	2	270719	270718	80	fp	(ama[2n])
42	270720	541437	270718	80	fp	(ama[2n+1])
63	541438	541439	2	0D	fp	(bank[n])
DISKOPTION 0325 (75%AMA,25% SMODD)						
0	0	1	2	VTOC	fp	(vtoc[n])
39	2	148001	148000	ECD	fs	(no5sodd[n])
41	148002	344719	196718	80	fp	(ama[2n])
42	344720	541437	196718	80	fp	(ama[2n+1])
63	541438	541439	2	0D	fp	(bank[n])
DISKOPTION 0350 (50%AMA,50% SMODD)						
0	0	1	2	VTOC	fp	(vtoc[n])
39	2	279001	279000	ECD	fs	(no5sodd[n])
41	279002	410219	131218	80	fp	(ama[2n])
42	410220	541437	131218	80	fp	(ama[2n+1])
63	541438	541439	2	0D	fp	(bank[n])
DISKOPTION 0375 (25%AMA,75% SMODD)						
0	0	1	2	VTOC	fp	(vtoc[n])
39	2	410001	410000	ECD	fs	(no5sodd[n])
41	410002	475719	65718	80	fp	(ama[2n])
42	475720	541437	65718	80	fp	(ama[2n+1])
63	541438	541439	2	0D	fp	(bank[n])
DISKOPTION03100(100% SMODD)						
0	0	1	2	VTOC	fp	(vtoc[n])
39	2	540805	540804	ECD	fs	(no5sodd[n])
41	540806	541121	316	80	fp	(ama[2n])
42	541122	541437	316	80	fp	(ama[2n+1])
63	541438	541439	2	0D	fp	(bank[n])

Note(s):
a. fs - file system (+ FILSYS) fp - file partition n = rt number 2 - 13

Table 9-29 — 5E16.2 VTOC Layouts for MHDs 4 and Higher (600 Mb SCSI MHDs)

PTN	START	END	SIZE	DESCRIPTION[a]
DISKOPTION 0600(100%AMA)				
0	0	1	2	VTOC fp (vtoc[n])
41	2	589999	589998	80 fp (ama[2n])
42	590000	1179997	589998	80 fp (ama[2n+1])
63	1179998	1179999	2	0D fp (bank[n])
DISKOPTION 0625 (75%AMA,25% SMODD)				
0	0	1	2	VTOC fp (vtoc[n])
39	2	295001	295000	ECD fs (no5sodd[n])
41	295002	737499	442498	80 fp (ama[2n])
42	737500	1179997	442498	80 fp (ama[2n+1])
63	1179998	1179999	2	0D fp (bank[n])
DISKOPTION 0650 (50%AMA,50% SMODD)				
0	0	1	2	VTOC fp (vtoc[n])
39	2	590001	590000	ECD fs (no5sodd[n])
41	590002	884999	294998	80 fp (ama[2n])
42	885000	1179997	294998	80 fp (ama[2n+1])
63	**1179998**	**1179999**	**2**	**0D fp (bank[n])**
DISKOPTION 0675 (25%AMA,75% SMODD)				
0	0	1	2	VTOC fp (vtoc[n])
39	2	885001	885000	ECD fs (no5sodd[n])
41	885002	1032499	147498	80 fp (ama[2n])
42	1032500	1179997	147498	80 fp (ama[2n+1])
63	1179998	1179999	2	0D fp (bank[n])
DISKOPTION06100(100% SMODD)				
0	0	1	2	VTOC fp (vtoc[n])
39	2	1048577	1048576	ECD fs (no5sodd[n])
41	1048578	1048893	316	80 fp (ama[2n])
42	1048894	1049209	316	80 fp (ama[2n+1])
63	1049210	1049211	2	0D fp (bank[n])

Note(s):
a. fs = file system (+ FILSYS) fp = file partition n = rt number 2-13

Table 9-30 — 5E16.2 VTOC Layouts for MHDs 4 and Higher (1 Gb SCSI MHDs)

DISK OPTION 1000 (100% AMA)						
PTN	**START**	**END**	**SIZE**	**DESCRIPTION (NOTE)**		
0	0	1	2	VTOC	fp	(vtoc[n])
41	2	1024871	1024870	APPLSTART	fp	(ama[2n])
42	1024872	2049741	1024870	APPLSTART	fp	(ama[2n+1])
63	2049742	2049743	2	0D	fp	(bank[n])
DISK OPTION 1025 (75% AMA, 25% SM ODD)						
0	0	1	2	VTOC	fp	(vtoc[n])
39	2	512437	512436	ECD	fs	(no5sodd[n])
41	512438	1281089	768652	APPLSTART	fp	(ama[2n])
42	1281090	2049741	768652	APPLSTART	fp	(ama[2n+1])
63	2049742	2049743	2	0D	fp	(bank[n])
DISK OPTION 1050 (50% AMA, 50% SM ODD)						
0	0	1	2	VTOC	fp	(vtoc[n])
39	2	1024871	1024870	ECD	fs	(no5sodd[n])
41	1024872	1537306	512435	APPLSTART	fp	(ama[2n])
42	1537307	2049741	512435	APPLSTART	fp	(ama[2n+1])
63	2049742	2049743	2	0D	fp	(bank[n])
DISK OPTION 1075 (25% AMA, 75% SM ODD)						
0	0	1	2	VTOC	fp	(vtoc[n])
39	2	1537301	1537300	ECD	fs	(no5sodd[n])
41	1537302	1793521	256220	APPLSTART	fp	(ama[2n])
42	1793522	2049741	256220	APPLSTART	fp	(ama[2n+1])
63	2049742	2049743	2	0D	fp	(bank[n])
DISK OPTION 1100 (100% SM ODD)						
0	0	1	2	VTOC	fp	(vtoc[n])
39	2	2049109	2049108	ECD	fs	(no5sodd[n])
41	2049110	2049425	316	APPLSTART	fp	(ama[2n])
42	2049426	2049741	316	APPLSTART	fp	(ama[2n+1])
63	2049742	2049743	2	0D	fp	(bank[n])

Note: fs = file system (+ FILSYS)
fp = file partition
n = rt number 2 - 6

Table 9-31 — 5E16.2 VTOC Layouts for MHDs 4 and Higher (2 Gb SCSI MHDs)

DISK OPTION 2000 (100% AMA)						
PTN	**START**	**END**	**SIZE**	**DESCRIPTION (NOTE)**		
0	0	1	2	VTOC	fp	(vtoc[n])
41	2	1952996	1952995	APPLSTART	fp	(ama[2n])
42	1952997	3905991	1952995	APPLSTART	fp	(ama[2n+1])
63	3905992	3905993	2	0D	fp	(bank[n])
DISK OPTION 2025 (75% AMA, 25% SM ODD)						
0	0	1	2	VTOC	fp	(vtoc[n])
39	2	976499	976498	ECD	fs	(no5sodd[n])
41	976500	2441245	1464746	APPLSTART	fp	(ama[2n])
42	2441246	3905991	1464746	APPLSTART	fp	(ama[2n+1])
63	3905992	3905993	2	0D	fp	(bank[n])
DISK OPTION 2050 (50% AMA, 50% SM ODD)						
0	0	1	2	VTOC	fp	(vtoc[n])
39	2	1952997	1952996	ECD	fs	(no5sodd[n])
41	1952998	2929494	976497	APPLSTART	fp	(ama[2n])
42	2929495	3905991	976497	APPLSTART	fp	(ama[2n+1])
63	3905992	3905993	2	0D	fp	(bank[n])
DISK OPTION 2075 (25% AMA, 75% SM ODD)						
0	0	1	2	VTOC	fp	(vtoc[n])
39	2	2929501	2929500	ECD	fs	(no5sodd[n])
41	2929502	3417746	488245	APPLSTART	fp	(ama[2n])
42	3417747	3905991	488245	APPLSTART	fp	(ama[2n+1])
63	3905992	3905993	2	0D	fp	(bank[n])
DISK OPTION 2100 (100% SM ODD)						
0	0	1	2	VTOC	fp	(vtoc[n])
39	2	3905359	3905358	ECD	fs	(no5sodd[n])
41	3905360	3905675	316	APPLSTART	fp	(ama[2n])
42	3905676	3905991	316	APPLSTART	fp	(ama[2n+1])
63	3905992	3905993	2	0D	fp	(bank[n])

Note: fs = file system (+ FILSYS)
fp = file partition
n = rt number 2 - 6

5E16.2 Large Terminal Growth Procedures

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10. REFERENCE DOCUMENTS

10.1 INTRODUCTION

This section is to be used as a "quick reference" to assist office personnel in the planning of an LTG. Included in this job aid is a list of the documentation that will be helpful prior to and during an LTG. Also included are lists of required materials and time intervals for each.

10.2 REFERENCE DOCUMENTS

The recommended documents are:

- 235-070-100, *Administration and Engineering Guidelines*
- 235-105-210, *Routine Operations and Maintenance*
- 235-105-220, *Corrective Maintenance Procedures*
- 235-105-231, *Hardware Change Procedures - Growth*
- 235-105-250, *System Recovery Procedures*
- 235-105-331, *Hardware Change Procedures - Degrowth*
- 235-118-251, *Recent Change Procedures*
- 235-118-253, *Recent Chance References*
- 235-600-111, *Translations Data*
- 235-600-121,*Population Rules Language Data Manua*l
- 235-600-232, *Dynamic Data Manual*
- 235-600-243, *Translation/Dynamic Data Domain Descriptions*
- 235-600-223, *Translations/Dynamic Data Reference*
- 235-600-312, *ECD/SG Data Base Manual*
- 235-600-601, *Processor Recovery Manual*

For more information regarding these documents, refer to 235-001-001, *Documentation Description and Ordering Guide*.

Please order these documents through your normal channels.

GLOSSARY

The following acronyms, abbreviations, and terms are used in this manual.

GLOSSARY

ACD	Automatic Call Distributor
ACP	Advanced Communications Package
ACSR	Automatic Customer Station Rearrangement
ACT	Active
ACTF	Active Forced
ADP	Automatic Diagnostic Process
AIM	Application Integrity Monitor
AIRS	Automated Inventory Record System
AIU	Application Interface Unit
AIU	Audio Interface Unit
ALE	Automatic Line Evaluation
ALIT	Automatic Line Insulation Test
AM	Administration Module
AMA	Automatic Message Accounting
AMATPS	Automatic Message Accounting Teleprocessing System
AP	Applications Processor
ATP	All Tests Passed
AULC	ANSI 2B1Q U Line Card
BOT	Beginning Of Tape
BRCS	Business and Residence Custom Services
BRI	Basic Rate Interface
BST	Basic Services Terminal
BTSR	Bootstrapper
BWM	Broadcast Warning Message (now called Software Update)
CACD	Centrex Automatic Call Distributor
CADN	Circuit Administration
CAROT	Centralized Automatic Reporting On Trunks
CATP	Conditional ATP
CC	Common Control
CCS	Common Channel Signaling
CDM	Core Dynamic Memory
CFT	Craft
CGAP	Call Gapping

CI	Carrier Interconnect
CIC	Customer Information Center
CLI	Change Level Indicator
CLNK	Communication Link
CLNORM	Communication Link Normalization
CM	Communications Module
CMD	Command
CMKP	Communications Kernal Process
CMP	Communications Module Processor
CN	Change Notice
CNCE	CCS Network Critical Event
CNI	Common Network Interface
CO	Central Office
COER	Central Office Equipment Report
CORC	Customer Originated Recent Change
CPDNT	Call Pickup Directed Not Termination
CPE	Customer Premise Equipment
CPI	Central Processor Intervention
CPRP	Corporate Product Realization Process
CPU	Central Processor Unit
CST	Combined Services Terminal
CTS	Control Time Slot
CTS	Customer Technical Support
CTTU	Centralized Trunk Test Unit
CU	Control Unit
DA	Directory Assistance
DACT	Deactivated
DAP	DMERT Application Process
DAT	Digital Audio Tape
DDD	Direct Distance Dialing
DFC	Disk File Controller
DFI	Digital Facility Interface
DII	Digital Intelligent Interface
DIOP	Disk Independent Operation
DLI	Dual Link Interface
DLM	Disk Limp Mode

DLN	Direct Link Node
DMQ	Deferred Maintenance Queue
DN	Directory Number
DNU-S	Digital Network Unit Sonet
DOPS	Digital Ordering and Planning System
DPC	Destination Point Code
DSL	Digital Subscriber Line
DSU	Digital Service Unit
EADAS	Engineering and Administrative Data Acquisition System
EAI	Emergency Action Interface (Page)
ECD	Equipment Configuration Data
ECL	Event Control Link
ECP	Executive Cellular Processor
ECP	Executive Control Processor
EIH	Error Interrupt Handler
EQSTAT	Equipment Status
ESAC	Electronic Switching Assistance Center
ESM	External Sanity Monitor
EVOL	Database Management System Evolution System
FBICOM	Feature Button Intercom
FOFL	Forced Off-Line
FONL	Forced On-Line
FPC	Foundation Peripheral Controller
FX	Foreign Exchange (Line)
GRC	Global Recent Change
HOC	Host Office Collector
HSM	Host Switching Module
ID	Identifier
IDCU	Integrated Digital Carrier Unit
IEH	Installation Engineering Handbook
I/O	Input/Output
IMLT	Integrated Mechanized Loop Testing
INH	Inhibit
INWATS	Inward Wide Area Telecommunications Service
IOP	Input/Output Processor
IS	In-Service

ISDN	Integrated Services Digital Network
ISLU	Integrated Services Line Unit
ISLUCC	Integrated Services Line Unit Common Control
ISTF	Integrated Services Test Facility
ITE	Installation Test Equipment
LASS	Local Area Signaling Services
LC	Line Cards
LDFT	Load Disk From Tape
LGC	Line Group Controller
LI	Line Interface
LMOS	Loop Maintenance Operations System
LN	Link Node
LPS	Log Print Status
LS	Listing Services
LS CPDL	Listing Services Call Processing Data Links
LSM	Local Switching Module
LTG	Large Terminal Growth
Mb	Megabyte (one million bytes)
MCC	Master Control Center
MCTSI	Module Controller/Time Slot Interchanger
MCTU	Module Controller/Time Slot Interchange Unit
MEU	Memory Expansion Unit
MF	Multifrequency
MFOS	Multi-Function Operations System
MHD	Moving Head Disk
MI	Message Interface
MIRA	Maintenance Input Request Administrator
MIS	Management Information System
MISC	Miscellaneous
MLHG	Multiline Hunt Group
MLT	Mechanized Loop Test
MML	Man-Machine Language
MMP	Module Message Processor
MMRSM	Multimodule Remote Switching Module
MMSU	Modular Metallic Service Unit
MOP	Mount Off-Line Partition

MSC	Mobile Switching Office
MSCU	Message Switch Control Unit
MSG	Message Switch / Message
MSKP	Message Switch Kernal Process
MSU	Metallic Service Unit
MT	Magnetic Tape Unit
MTC	Magnetic Tape Controller
MTCE	Maintenance
NC	Network Clock
NM	Network Management
NOC	Normalized Office Code
NSC	Network Software Center
NT1	Network Termination
NTR	No Tests Run
OA&M	Operations, Administration, and Maintenance
OAP	OSPS Administrative Processor
ODA	Office Data Administration
ODBE	Office Data Base Editor
ODD	Office Dependent Data
OFFRCR	Off-Site Recent Change Reapplication
OFL	Off-Line
OKP	Operating Kernel Process
OMP	Operations Management Platform
OMS	Office Monitoring System
ONTC	Office Network and Timing Complex
OOD	Out-Of-Date
OOS	Out-Of-Service
ORM	Optically Remote Module
OS	Operations System
OSPS	Operator Services Position System
OSS	Operational Support System
OTR	Operator Trouble Report
PCR	Port and Circuit Renaming
PECC	Product Engineering Control Center
PER	Protocol Error Records
PH	Protocol Handler

PHYMEMSZE	Physical Memory Size
PID	Process Identifier
PIMS	PECC Information Management System
PINIT	Processor Initialization
POSTRCR	Post Retrofit Recent Change Reapplication
PPC	Pump Peripheral Controller
PRI	Primary Rate Interface
PRM	Processor Recovery Message
PTNMGR	Partition Manager
PUCR	Pump Control
RAF	Recorded Announcement Function
RC	Recent Change
RC/V	Recent Change/Verify
RED	Redundant Data
REORG	Automatic Relation Reorganization
REX	Routine Exerciser
RISLU	Remote Integrated Services Line Unit
RLI	Remote Link Interface
RMAS	Remote Memory Access System
RMS-D	Remote Measurement System (Digital)
RMV	Remove
ROP	Read-Only Printer
RPCN	Ring Peripheral Controller Node
RSB	Repair Service Bureau
RSCANS	Reverse Software Change Administration and Notification System
RSM	Remote Switching Module
RT	Remote Terminal
RTAC	Regional Technical Assistance Center
RTRS	Real Time Rating System
SAS	Service Announcement System
SCANS	Software Change Administration and Notification System
SCC	Switching Control Center
SCCS	Switching Control Center System
SCSD	Scanner and Signal Distributor
SCSI	Small Computer System Interface
SDFI	Subscriber Digital Facility Interface

SDLC	Synchronous Data Line Controller
SDS	Shared Data Segment
SEE	Systems Equipment Engineer
SES	Service Evaluation System
SG	System Generation
SLE	Screen List Editing
SIM	System Integrity Monitor
SIO	Service Information Octet
SM	Switching Module
SMARS	Switch Maintenance Analysis and Recovery Strategies
SMD	Storage Module Device
SMKP	Switch Maintenance Kernel Process
SMP	Switching Module Processor
SMPU	Switching Module Processor Unit
SODD	Static Office Dependent Data
SPP	Single-Process Purge
SSR	System Status Register
STA	Synchronous Terminal Adapter
STBY	Standby
STP	Signal Transfer Point
STLWS	Supplemental Trunk and Line Workstation
SU	Software Update
SUMS	Software Update Management Service
SUPR	System Update Procedure(s)
SYS	System
TA	Toll and Assistance
TCC	Technical Control Center
TEO	Telephone Equipment Order
THCOSTAT	Thousands Group Cutover Status
TLC	T Line Card
TLWS	Trunk and Line Work Station
TMP	Temporary
TMS	Time Multiplexed Switch
TNS	Total Network Surveillance System
TOP	Tape Operating Procedure
TOPAS	Testing Operations, Provisioning and Administration System

TRM	Two-Mile Remote Module
TSM	Trunk Status Mapping
TSDATA	Time Slot Data (Audit)
UCB	Unit Control Block
UCL	Unconditional
ULARP	User Level Automatic Restart Process
UNV	Unavailable
VDT	Video Display Terminal
VTOC	Volume Table of Contents

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