SOFTWARE RELEASE RETROFIT PROCEDURES FOR
5ESS® PLATFORMS

The enclosed package is Issue 2.01, an update of Lucent Technologies information product 235-106-306. Use the following instructions as a checklist as you replace the appropriate materials.

Replace the existing Chapters 1, 4 and 5 with the new issue 2.01 Chapters 1, 4 and 5. These chapters have been modified for technical issues.

Division	Pages	Issue Number
UPDATE	1	2.01
BOOK TOC	1	2.01
1	12	2.01
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Lucent Technologies
Bell Labs Innovations

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

5E16.2 Software Release

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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.

- Sections 4.6.4, 5.2.8.6, 5.2.8.7 and 5.3.1 have been updated for technical issues.

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

1.10 USER COMMENTS

We are constantly striving to improve the quality and usability of this information product. Please use one of the following options to provide us with your comments:

- You may use the on-line comment form at **http://www.lucent-info.com/comments**

- You may email your comments to **comments@lucent.com**

Please include with your comments the title, ordering number, issue number, and issue date of the information product, your complete mailing address, and your telephone number.

If you have questions or comments about the distribution of our information products, see Section 1.11, Distribution.

1.11 DISTRIBUTION

For distribution comments or questions, contact your local Lucent Technologies Account Representative.

A documentation coordinator has authorization from Lucent Technologies to purchase our information products at discounted prices. To find out whether your company has this authorization through a documentation coordinator, call **1-888-LUCENT8 (1-888-582-3688)**.

Customers who are not represented by a documentation coordinator and employees of Lucent Technologies should order *5ESS* switch information products directly from Lucent Technologies.

To order, call the following telephone number:

- **1-888-LUCENT8 (1-888-582-3688)** or fax to **1-800-566-9568**; from inside the continental United States

- **1-317-322-6416** or fax to **1-317-322-6699**; from outside the continental United States.

1.12 TECHNICAL ASSISTANCE

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

- **1-866-LUCENT8 (1-866-582-3688)**; from inside the continental United States

- **1-630-224-4672**; from outside the continental United States.

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

5E16.2 Large Terminal Growth Procedures

LIST OF FIGURES

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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.

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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.
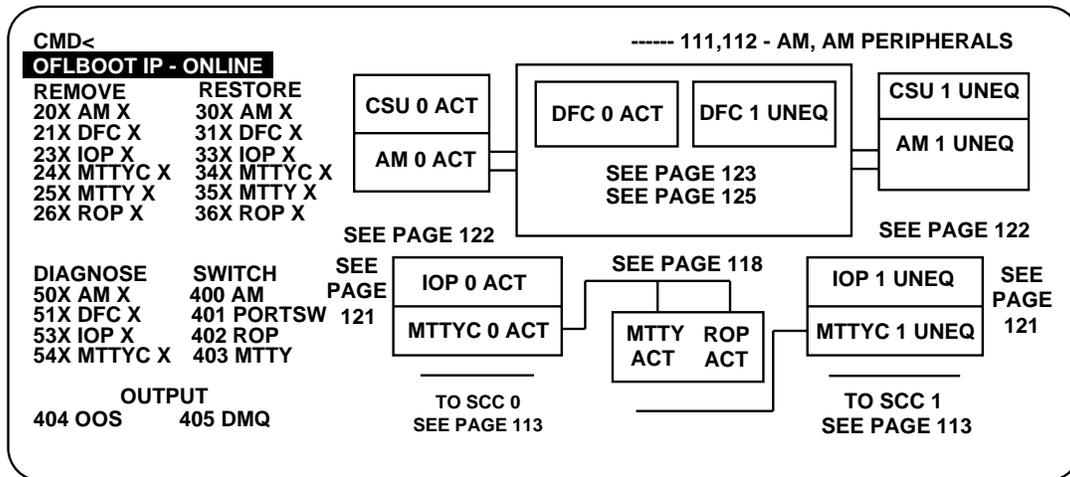
Figure 4-1 — MCC Page 111

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

LIST OF FIGURES

LIST OF TABLES

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*.

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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-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
```

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 = O 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**

```
┌──────────────────────────────────────────────────────────────────┐
│ 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<█                                    ─────── 1980 - PROCEDURE SUMMARY │
│ 2XX STOP PROC      3XX START PROC    4XX SHOW PROC    5XX RESUME PROC │
│ 8XX START TOOLS PAGE                                              │
│                                                 XX = PROCEDURE NUMBER │
│                        AVAILABLE PROCEDURES                       │
│   ┌──────────────┬──────────────┬──────────────┬──────────────┐   │
│   │01 RETRO      │02 UPDATE     │03 LTG        │04            │   │
│   │05            │06 CM2TOCM3   │07 RETROPRP   │08            │   │
│   │09            │10            │11            │12            │   │
│   │13            │14            │15            │16            │   │
│   │17            │18            │19            │20            │   │
│   │21            │22            │23            │24            │   │
│   │25            │26            │27            │28            │   │
│   │29            │30            │31            │32            │   │
│   │33            │34            │35            │36            │   │
│   │37            │38            │39            │40            │   │
│   │41            │42            │43            │44            │   │
│   │45            │46            │47            │48            │   │
│   │49            │50            │51            │52            │   │
│   │53            │54            │55            │56            │   │
│   └──────────────┴──────────────┴──────────────┴──────────────┘   │
│ <                                                                │
└──────────────────────────────────────────────────────────────────┘
```

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.

```
 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



 PAUSED AT STAGE BOUNDARY – RESUME WHEN READY
_____


                            STAGE STATUS AREA
 01 SETUP        02          03          04          05
    EXECUTING
                            STEP STATUS AREA
 01 SETUP_STG    02          03          04
    PAUSE
 05             06          07          08

 09             10          11          12


<
```

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.

```
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< █                                 — 1989,RETRO      — PROCEDURE OPTIONS
3XX – CLEAR OPTION XX     4XX – CHANGE OPTION XX    500 – RESUME
XX = OPTION NUMBER
CONFIGURE OPTIONS AND USE RESUME TO CONTINUE


 Unconditional Execution    01.N
 Tape Drive                 02.
 Load Tools Tape            03.N
 AM Offline Boot            04.Y
 Automatic SM Offline Pump  05.Y
                            06.
                            07.
                            08.
                            09.
                            10.
                            11.
                            12.

<
```

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
```

```
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


▐PAUSED AT STAGE BOUNDARY ─ RESUME WHEN READY                              ▌



                            STAGE STATUS AREA
┌─────────────┬─────────────┬─────────────┬─────────────┬─────────────┐
│01 SETUP     │02 BEGIN     │03           │04           │05           │
│   COMPLETED │   EXECUTING │             │             │             │
└─────────────┴─────────────┴─────────────┴─────────────┴─────────────┘
                            STEP STATUS AREA
┌──────────────┬────────────┬────────────┬────────────┐
│01 BEGIN_STG  │02          │03          │04          │
│   PAUSE      │            │            │            │
├──────────────┼────────────┼────────────┼────────────┤
│05            │06          │07          │08          │
├──────────────┼────────────┼────────────┼────────────┤
│09            │10          │11          │12          │
└──────────────┴────────────┴────────────┴────────────┘
<
```

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 <u>broot,</u> 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.

- **Quiet Duplex**
- **No Major Units OOS**
- **AM Side 0 ACTIVE, Side 1 STANDBY**
- **SMs Side 0 or Side 1 ACTIVE (other side STANDBY)**
- **CMP 0-0 ACTIVE, CMP 1-0 STANDBY**

MCC Page 116:

GENERIC RETROFIT	
ODD EVOL ACT	OSPS EVOL ACT

MCC Page 1985:

BEGIN EXECUTING	BEGIN - STAGE PAUSE
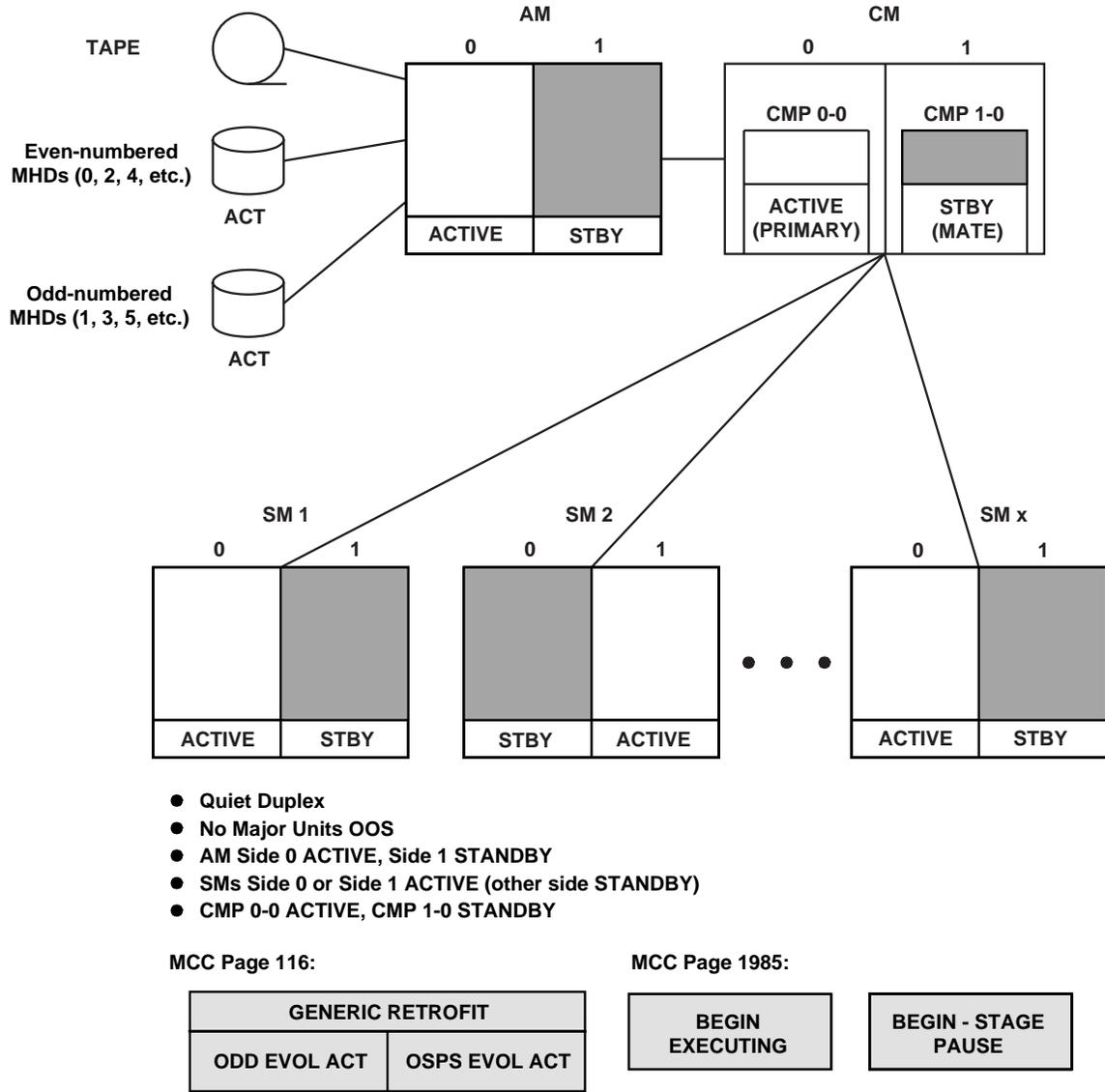
Note: The OSPS EVOL ACT box will only be backlighted for OSPS offices.

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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.*

```
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


 PAUSED AT STAGE BOUNDARY – RESUME WHEN READY



                              STAGE STATUS AREA
 01 SETUP        02 BEGIN        03            04            05
    COMPLETED       EXECUTING
                               STEP STATUS AREA
 01 BEGIN_STG     02            03            04
    PAUSE
 05              06            07            08

 09              10            11            12


<
```

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).

```
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


INITIATE MANUAL AMA TELEPROCESSING OR TAPE SESSION NOW
RESUME WHEN SESSION HAS STARTED


                            STAGE STATUS AREA
01 SETUP       02 BEGIN       03              04              05
   COMPLETED      EXECUTING
                            STEP STATUS AREA
01 BEGIN_STG   02 START WRTAMA   03 AMA SESSION   04
   CONTINUING      COMPLETED        WAITING
05             06               07               08

09             10               11               12

<
```

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
```
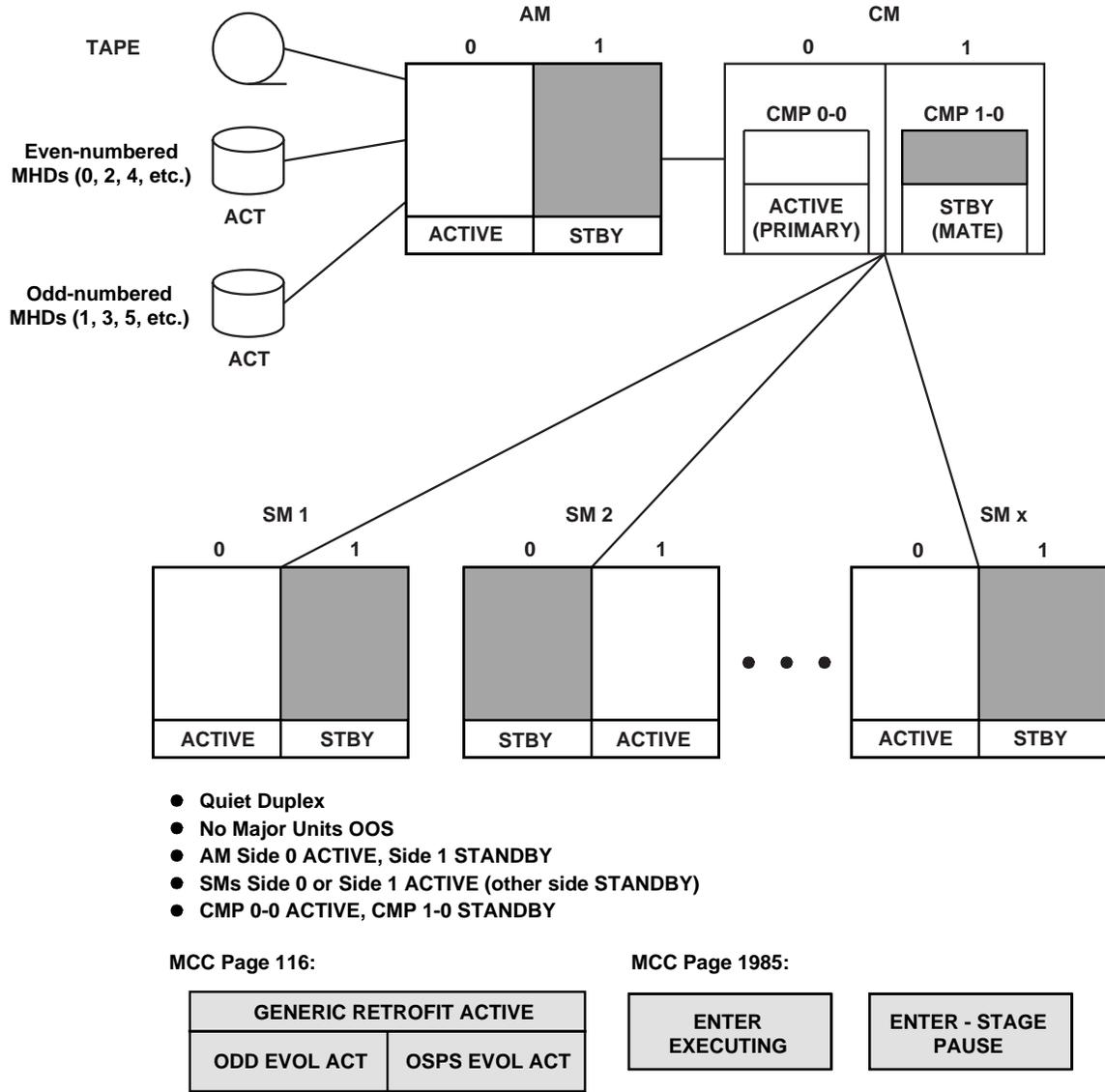
5.4.5   SYSTEM CONFIGURATION

Figure 5-9 shows a typical system configuration at the completion of the Begin stage.

- **Quiet Duplex**
- **No Major Units OOS**
- **AM Side 0 ACTIVE, Side 1 STANDBY**
- **SMs Side 0 or Side 1 ACTIVE (other side STANDBY)**
- **CMP 0-0 ACTIVE, CMP 1-0 STANDBY**

Note: The OSPS EVOL ACT box will only be backlighted for OSPS offices.

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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.

```
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


PAUSED AT STAGE BOUNDARY - RESUME WHEN READY


                           STAGE STATUS AREA
 01 SETUP      02 BEGIN      03 ENTER     04          05
    COMPLETED     COMPLETED     EXECUTING
                            STEP STATUS AREA
 01 ENTER_STG  02           03           04
    PAUSE
 05            06           07           08

 09            10           11           12

<
```

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
```

_____

```
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


MOUNT DATA TAPE FOR MHD 2/3 ON /dev/mt00 AND RESUME



                             STAGE STATUS AREA
 01 SETUP        02 BEGIN        03 ENTER        04             05
    COMPLETED       COMPLETED       EXECUTING 1
                              STEP STATUS AREA
 01 ENTER_STG    02 CLNORM       03 LOAD_MHDs    04 MHD_1_DATA
    CONTINUING      COMPLETED       MHD 3/DATA      COMPLETED
 05 DSKPREP_1    06 MHD_3_DATA   07              08
    COMPLETED       MOUNT
 09              10              11              12

<
```

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_O E800 0001 yyzz zzzz hh hh hh                                     │
│ PRM_O E800 0002 yyzz zzzz hh hh hh                                     │
│ PRM_O E800 0001 yyzz zzzz hh hh hh                                     │
│ PRM_O 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.

```
SYS EMER   CRITICAL   MAJOR    MINOR    BLDG/PWR   GLB FUNC  CKT LIM   SYS NORM
OVERLOAD   SYS INH     AM     AM PERPH   OS LINKS     SM        CM       MISC
CMD<  █                              —— 1985,RETRO      - PROCEDURE STATUS
_____

200 STOP       400 HOLD       500 RESUME      600 BACKOUT


_____
RCL PROGRAM COMPILATION COMPLETED: TIME=0:01



_____

                        STAGE STATUS AREA
 01 SETUP       02 BEGIN       03 ENTER       04            05
    COMPLETED      COMPLETED      EXECUTING 3
                        STEP STATUS AREA
 01 ENTER_STG    02 CLNORM      03 LOAD_MHDs    04 WAIT_BKUP_ODD
    CONTINUING      COMPLETED      WAIT_BKUP_ODD   COMPLETE-XX%
 05             06             07              08


 09             10             11              12


<
```

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_O E800 0001 yyzz zzzz hh hh hh
PRM_O E800 0002 yyzz zzzz hh hh hh
PRM_O E800 0001 yyzz zzzz hh hh hh
PRM_O 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=O TM=2-O
  ----------------------
  CLID - Call Trace DNs
  ----------------------
  CLID LIST CONTAINS O 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_O 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:

```
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


READY TO BEGIN OFFLINE PUMPING SMs
ALL SMs WILL BE SIMPLEXED
RESUME WHEN READY


                            STAGE STATUS AREA
 01 SETUP        02 BEGIN        03 ENTER        04             05
    COMPLETED       COMPLETED       EXECUTING 7
                             STEP STATUS AREA
 01 ENTERHOOK    02 MNT_OFL_PTNS  03 POST_ENTER   04 SM_OFL_PUMP
    COMPLETED       COMPLETED       COMPLETED        WAIT PAUSE
 05              06              07              08

 09              10              11              12

<
```

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.

```
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


OFFLINE PUMP SMs NOW IF NOT ALREADY DONE
DO NOT CONTINUE PAST THIS POINT UNTIL COMPLETED
RESUME WHEN OFFLINE PUMP IS COMPLETED


                           STAGE STATUS AREA
 01 SETUP        02 BEGIN        03 ENTER       04             05
    COMPLETED       COMPLETED       EXECUTING 7
                           STEP STATUS AREA
 01 ENTERHOOK    02 MNT_OFL_PTNS 03 POST_ENTER  04 SM_OFL_PUMP
    COMPLETED       COMPLETED       COMPLETED      PUMP WAIT
 05             06             07             08

 09             10             11             12


<
```

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**.

```
SYS EMER   CRITICAL    MAJOR      MINOR     BLDG/PWR  BLDG INH  CKT LIM   SYS NORM
OVERLOAD   SYS INH      AM       AM PERPH   OS LINKS    SH        CM       MISC
CMD< █                                     —— 1985,LTG          - PROCEDURE STATUS

 200 STOP        400 HOLD        500 RESUME       600 BACKOUT


READY TO BEGIN OFFLINE PUMPING SMs
ALL SMs WILL BE SIMPLEXED
RESUME WHEN READY


                          STAGE STATUS AREA
 01 SETUP         02 BEGIN        03 ENTER       04            05
    COMPLETED        COMPLETED       EXECUTING 7
                           STEP STATUS AREA
 01 ENTERHOOK     02 MNT_OFL_PTNS  03 POST_ENTER  04 SM_OFL_PUMP
    COMPLETED        COMPLETED        COMPLETED      WAIT PAUSE
 05               06               07            08

 09               10               11            12


<
```

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.

```
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< █                                      1990 — SU INSTALLATION OF imr11111xx

           v           BACK-OUT  6                   6                   6
     ┌──┐            ┌──┐                ┌──┐                ┌──┐                ┌──┐
  ──>│VERIFY│   ──>  │PREPARE│   ──>  │ACTIVATE│  ──>  │SOAK  │  ──>  │OFFICIAL│
   1 │COMPLTD│  2    │COMPLTD│  3     │COMPLTD │   4   │COMPLTD│  5   │COMPLTD │
     └──┘            └──┘                └──┘                └──┘                └──┘
           ^          DEACTIVATION  7                   7

   9 ,<SU NAME>   10 STOP INSTALLATION    11 PRINT MSGS FILE
RESPONSE: MAKE OFFICIAL SECTION COMPLETED
"OFFICIAL,---------------------------------------------------------------------"
"
"¥To make the updates applied in this SU official, wait the
"¥prescribed SOAK interval and then enter sequentially the
"¥following command(s):
"
  1 UPD:OFC:UPNM="imr11111xx";
"
──

<
```

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.

```
 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<                                      1990 — SU INSTALLATION OF imr22222xx

          v       BACK-OUT    6                6              6
     ----->|VERIFY  |  ----->|PREPARE |  ----->|ACTIVATE|  ----->| SOAK   |  ----->|OFFICIAL|
          |COMPLTD |        |COMPLTD |        |COMPLTD |        |COMPLTD |        |COMPLTD |
      1    |_____|   2    |_____|   3    |_____|   4    |_____|   5    |_____|
                       ^         DEACTIVATION  7                7

     9 ,<SU NAME>   10 STOP INSTALLATION       11 PRINT MSGS FILE
 RESPONSE: MAKE OFFICIAL SECTION COMPLETED
 "OFFICIAL.----------------------------------------------------------------------"
 "
 " To make the updates applied in this SU official, wait the
 " prescribed SOAK interval and then enter sequentially the
 " following command(s):
 "
   1 UPD:OFC:UPNM="imr22222xx";
 "
 _____
 <
```

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    CRITICAL    MAJOR    MINOR    BLDG/PWR    BLDG INH    CKT LIM    SYS NORM
OVERLOAD    SYS INH     AM     AM PERPH   OS LINKS      SM          CM         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.

```
 SYS EMER  CRITICAL   MAJOR    MINOR    BLDG/PWR  GLB FUNC  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


 PAUSED AT STAGE BOUNDARY - RESUME WHEN READY


                            STAGE STATUS AREA
 | 01 SETUP      | 02 BEGIN     | 03 ENTER     | 04 PROCEED   | 05        |
 |   COMPLETED   |   COMPLETED  |   COMPLETED  |   EXECUTING  |           |
                            STEP STATUS AREA
 | 01 PROCEED_STG| 02           | 03           | 04           |
 |    PAUSE      |              |              |              |
 | 05           | 06           | 07           | 08           |
 |              |              |              |              |
 | 09           | 10           | 11           | 12           |
 |              |              |              |              |
```

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.
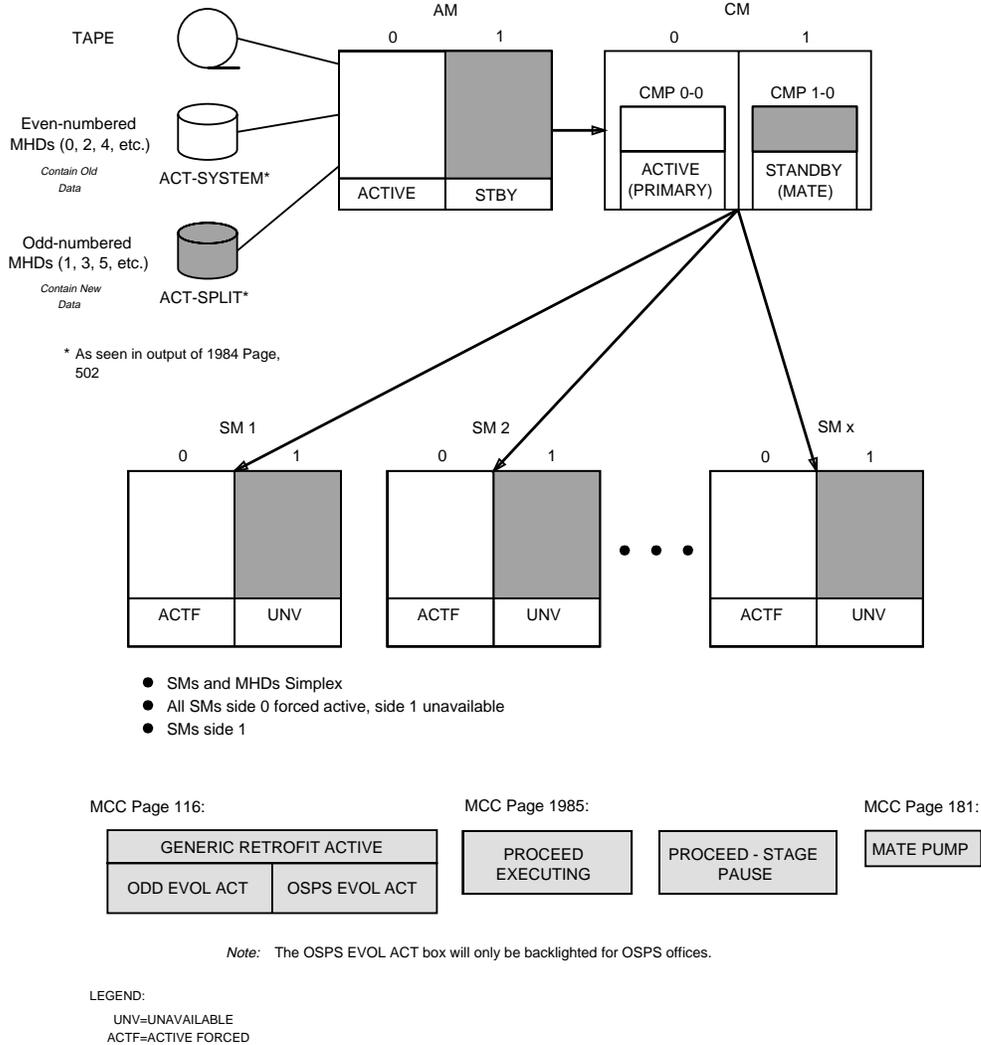
Figure 5-20 — Typical System Configuration at Completion of Enter Stage

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.

```
                              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


 PAUSED AT STAGE BOUNDARY – RESUME WHEN READY


                          STAGE STATUS AREA
 01 SETUP       02 BEGIN       03 ENTER        04 PROCEED      05
    COMPLETED      COMPLETED      COMPLETED       EXECUTING
                          STEP STATUS AREA
 01 PROCEED_STG 02             03              04
    PAUSE
 05             06             07              08

 09             10             11              12

<
```

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 yyyyyy]

[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    yyyyyy]
[SUMMARY OF CORCS LOGGED IN CURRENT evlxx.5E16 FILE]
   [xx yyyyyy]

[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
    ```

```
                          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


PERFORM EAI SETUP AS DIRECTED BY THE TRANSITION MANUAL
RESUME WHEN COMPLETE


                          STAGE STATUS AREA
 01 SETUP        02 BEGIN        03 ENTER        04 PROCEED     05
    COMPLETED       COMPLETED       COMPLETED       EXECUTING
                          STEP STATUS AREA
 01 PROCEED_STG  02              03 EAI_SETUP    04
    CONTINUING                      WAITING
 05              06              07              08

 09              10              11              12


<
```

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.

```
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


INITIATE MANUAL AMA TELEPROCESSING OR TAPE SESSION NOW
RESUME WHEN SESSION HAS STARTED


                             STAGE STATUS AREA
 01 SETUP        02 BEGIN      03 ENTER       04 PROCEED     05
    COMPLETED       COMPLETED     COMPLETED      EXECUTING 5
                              STEP STATUS AREA
 01 PROCEED_STG  02            03 EAI_SETUP    04 PREP_ECD
    CONTINUING                   COMPLETED       COMPLETED
 05 CHG_VTOC     06 PRCDHOOK   07 START WRTAMA  08 AMA SESSION
    COMPLETED       COMPLETED     COMPLETED        WAITING
 09             10            11              12


<
```

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 O 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.

```
CMD<                                    ------ 111,112 - AM, AM PERIPHERALS
OFLBOOT IP - ONLINE
REMOVE          RESTORE      ┌──────────┐   ┌─────────────────────────┐   ┌──────────┐
20X AM X        30X AM X     │ CSU 0 ACT│   │ DFC 0 ACT │ DFC 1 UNEQ  │   │CSU 1 UNEQ│
21X DFC X       31X DFC X    │          │   │           │             │   │          │
23X IOP X       33X IOP X    │ AM 0 ACT │   │                         │   │ AM 1 UNEQ│
24X MTTYC X     34X MTTYC X  │          │   │   SEE PAGE 123          │   │          │
25X MTTY X      35X MTTY X   │          │   │   SEE PAGE 125          │   │          │
26X ROP X       36X ROP X    └──────────┘   └─────────────────────────┘   └──────────┘
                  SEE PAGE 122                                          SEE PAGE 122

DIAGNOSE        SWITCH      SEE   ┌──────────┐      SEE PAGE 118   ┌───────────┐  SEE
50X AM X        400 AM      PAGE  │ IOP 0 ACT│                     │ IOP 1 UNEQ│  PAGE
51X DFC X       401 PORTSW  121   │          │   ┌──────────────┐  │           │  121
53X IOP X       402 ROP           │MTTYC 0 ACT│  │ MTTY   ROP  │  │MTTYC 1 UNEQ│
54X MTTYC X     403 MTTY          └──────────┘   │ ACT    ACT  │  └───────────┘
                                                 └──────────────┘
         OUTPUT                  TO SCC 0                         TO SCC 1
404 OOS        405 DMQ          SEE PAGE 113                     SEE PAGE 113
```

Figure 5-24 — MCC Page 111

```
                                        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


 PAUSED AT STAGE BOUNDARY — RESUME WHEN READY



                        STAGE STATUS AREA
┌────────────┬────────────┬────────────┬────────────┬────────────┐
│01 SETUP    │02 BEGIN    │03 ENTER    │04 PROCEED  │05 SWITCHFWD│
│  COMPLETED │  COMPLETED │  COMPLETED │  COMPLETED │   START UP │
└────────────┴────────────┴────────────┴────────────┴────────────┘
                        STEP STATUS AREA
┌────────────────┬────────────┬────────────┬────────────┐
│01 SWITCHFWD_STG│02          │03          │04          │
│   PAUSE        │            │            │            │
├────────────────┼────────────┼────────────┼────────────┤
│05              │06          │07          │08          │
├────────────────┼────────────┼────────────┼────────────┤
│09              │10          │11          │12          │
└────────────────┴────────────┴────────────┴────────────┘
<
```

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.
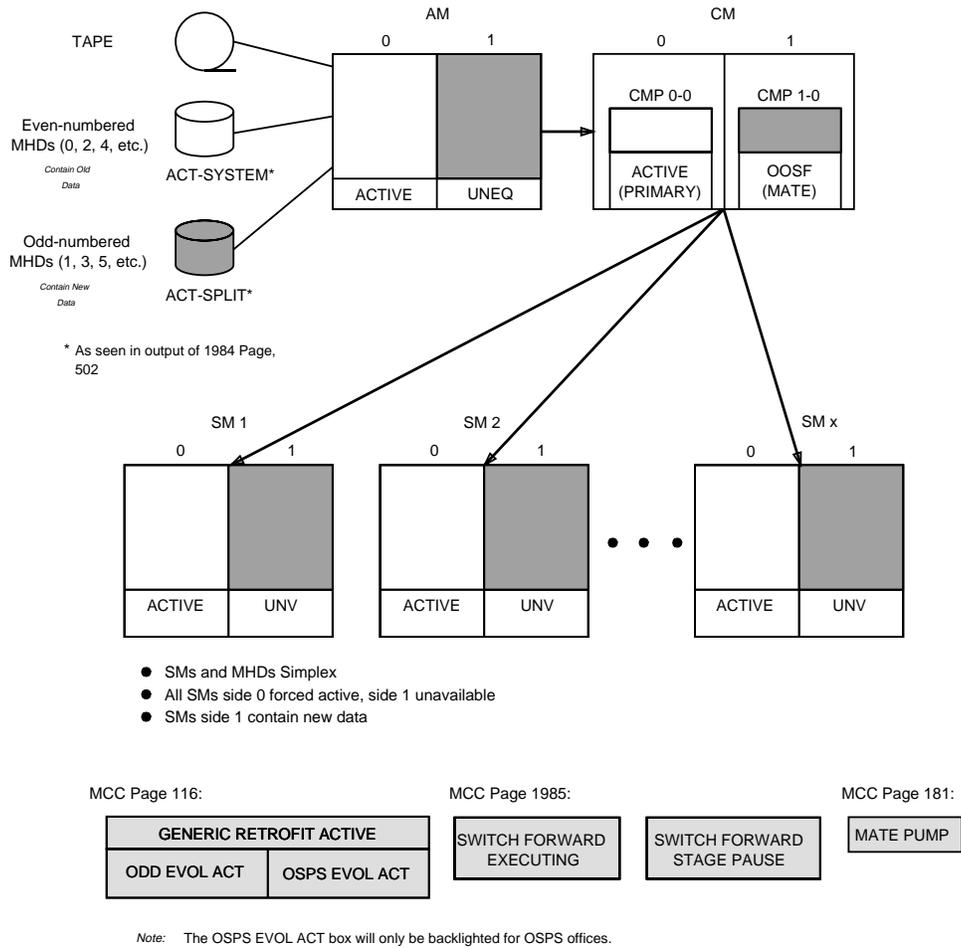
Figure 5-26 — Typical System Configuration at Completion of Proceed Process

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.)

```
                                           ttym-cdM TTY 12
SYS EMER   CRITICAL    MAJOR    MINOR    BLDG/PWR   BLDG INH   CKT LIM   SYS NORM
OVERLOAD   SYS INH      AM     AM PERPH  DS LINKS     SM         CM       MISC
CMD<                                    ── 1985,LTG              ─ PROCEDURE STATUS

200 STOP          400 HOLD        500 RESUME     600 BACKOUT


 PAUSED AT STAGE BOUNDARY ─ RESUME WHEN READY


                            STAGE STATUS AREA
 01 SETUP      02 BEGIN      03 ENTER      04 PROCEED    05 SWITCHFWD
    COMPLETED     COMPLETED     COMPLETED     COMPLETED     START UP
                            STEP STATUS AREA
 01 SWITCHFWD_STG  02           03           04
    PAUSE
 05               06           07           08

 09               10           11           12


 <
```

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
   ```

```
                        ttyo-cd0 TTY 14
SYS EMER   CRITICAL    MAJOR      MINOR     BLDG/PWR   BLDG INH   CKT LIM    SYS NORM
OVERLOAD   SYS INH      AM       AM PERPH   DS LINKS     SM         CM        MISC
CMD< █                              —— 1985,LTG              - PROCEDURE STATUS

200 STOP          400 HOLD        500 RESUME       600 BACKOUT


WARNING - THE NEXT STEP IS SERVICE AFFECTING
NOTIFY EMERGENCY OPERATORS
RESUME WHEN READY


                        STAGE STATUS AREA
01 SETUP         02 BEGIN        03 ENTER         04 PROCEED       05 SWITCHFWD
   COMPLETED        COMPLETED       COMPLETED        COMPLETED        EXECUTING
                        STEP STATUS AREA
01 SWITCHFWD-STAGE  02 CONFIRM SWFWD  03             04
   CONTINUING          WAITING
05                  06                07             08

09                  10                11             12


<
```

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.

```
                              ttyo-cd0 TTY 14
 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,             - PROCEDURE STATUS

 200 STOP          400 HOLD        500 RESUME      600 BACKOUT


 WAITING TO SWITCH SMs and AM.
 ENTER 500 TO SWITCH FORWARD.
 ENTER 600 TO SWITCH BACK.

                              STAGE STATUS AREA
 01 SETUP        02 BEGIN        03 ENTER      04 PROCEED      05 SWITCHFWD
    COMPLETED       COMPLETED       COMPLETED     COMPLETED       EXECUTING 1
                               STEP STATUS AREA
 01 SWITCHFWD-STAGE 02 CONFIRM SWFWD  03 OLD SIDE SM MGR 04 APPLHOOK
    CONTINUING         COMPLETED          WAITING            COMPLETED
 05                 06                07                08

 09                 10                11                12

<
```

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.
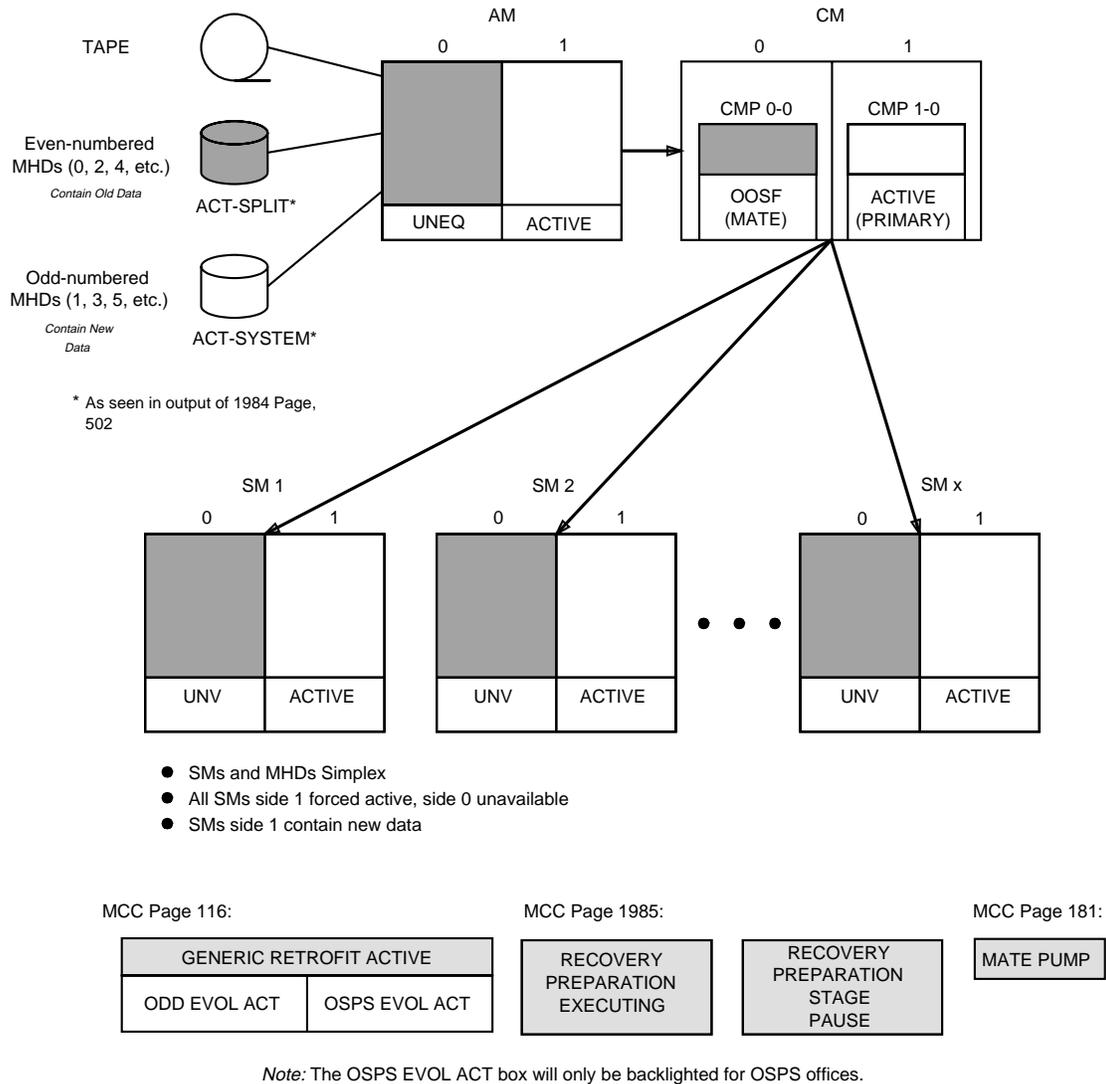
Figure 5-30 — Typical System Configuration at Completion of Switch Forward

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 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 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.

```
..::     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


ENTER 500 TO RESUME PROCEDURE,
IF REQUIRED ENTER 600 TO SWITCH BACK.


                     STAGE STATUS AREA
 01 RCVYPREP   02           03          04          05
    EXECUTING 2
                     STEP STATUS AREA
 01 PREP_ENV      02 ASM_STIM     03 NEW_SIDE_SM_MGR 04
    COMPLETED        COMPLETED       WAITING
 05               06              07          08

 09               10              11          12


CMD<
```

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.

```
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,RETRO           - PROCEDURE STATUS

200 STOP        400 HOLD       500 RESUME      600 BACKOUT


PAUSED AT STAGE BOUNDARY - RESUME WHEN READY



                            STAGE STATUS AREA
01 RCVYPREP    02 POSTBOOT    03          04              05
   COMPLETED      EXECUTING
                            STEP STATUS AREA
01 POSTBOOT_STG  02          03              04
   PAUSE
05               06          07              08

09               10          11              12


<
```

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

```
N21-DAT i98008sy 5e13(1)  01.00        ttyl-cdL TTY 11
 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


 PAUSED AT STAGE BOUNDARY - RESUME WHEN READY



                             STAGE STATUS AREA
  01 RCVYPREP   02 POSTBOOT    03           04           05
     COMPLETED     EXECUTING
                             STEP STATUS AREA
  01 POSTBOOT-STAGE  02          03            04
     PAUSE
  05                06          07            08

  09                10          11            12


 <
```

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
    ```

```
                                       ttyj-cdJ TTY 09
 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<  █                               — 1984, LTG          — PROCEDURE TOOLS
 2XX STOP       5XX RESUME       6XX BACKOUT
                                                        XX = TOOL NUMBER


 01 APPLPROC                   14 TSM
 02 DUMP_MHDSTAT               15 CNI_AUDIT
 03 DUMP_SUPR_LOG              16 OSDE_TRIAL
 04 DUMP_APPL_LOG              17
 05 READHDR                    18
 06 WRT_AMA_DATA               19
 07 STOP_OFLBOOT               20
 08 DUMP_SEQOPT                21
 09 MOP                        22
 10 ISMOP                      23
 11 ALWCHKS                    24
 12 SM_OFL_PUMP                25
 13 INHCHKS                    26

<
```

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
    ```

```
,---.,========================================================,.-.,.-.,
:   :[|                        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
:
:
:   ┌──────────────────────────────────────────────────────────────────┐
:   │EXECUTE TSMRMV FROM TOOL PAGE IF NEEDED                            │
:   │WHEN DONE, ENTER 500 TO CONTINUE                                   │
:   └──────────────────────────────────────────────────────────────────┘
:
:   _____
:                          STAGE STATUS AREA
:   ┌──────────────┬──────────────┬──────────┬──────────┬──────────────┐
:   │01 RCVYPREP   │02 POSTBOOT   │03        │04        │05            │
:   │   COMPLETED  │   EXECUTING 2│          │          │              │
:   └──────────────┴──────────────┴──────────┴──────────┴──────────────┘
:                          STEP STATUS AREA
:   ┌──────────────┬──────────────┬──────────────┬───────────────────┐
:   │01 POSTBOOT_STG│02 ALWCHKS   │03 TSM NEW    │04 TSM RMV         │
:   │   CONTINUING  │   COMPLETED │   COMPLETED  │   TSM RMV         │
:   ├──────────────┼──────────────┼──────────────┼───────────────────┤
:   │05            │06            │07            │08                 │
:   │              │              │              │                   │
:   ├──────────────┼──────────────┼──────────────┼───────────────────┤
:   │09            │10            │11            │12                 │
:   │              │              │              │                   │
:   └──────────────┴──────────────┴──────────────┴───────────────────┘
:
:CMD<
```

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 OFDD 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.
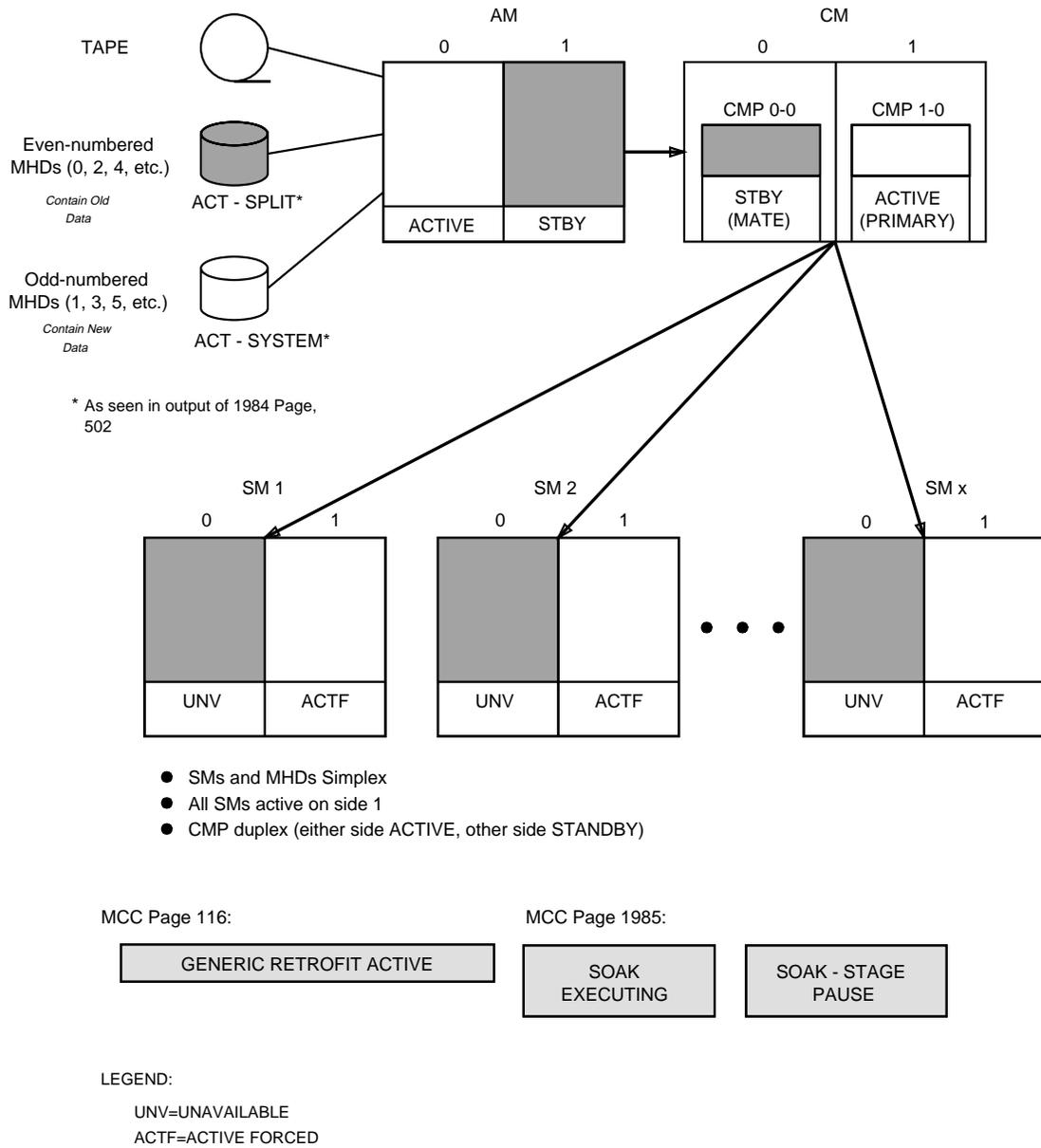
Figure 5-36 — Typical System Configuration at Completion of the Post-Boot Stage

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).

```
                                     ttyo-cd0 TTY 14
 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


 PAUSED AT STAGE BOUNDARY - RESUME WHEN READY



                          STAGE STATUS AREA
 01 RCVYPREP      02 POSTBOOT     03 SOAK         04            05
    COMPLETED        COMPLETED       EXECUTING
                          STEP STATUS AREA
 01 SOAK-STAGE    02              03              04
    PAUSE
 05              06               07              08

 09              10               11              12


<
```

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
   ```

```
┌──┬─────────────────────────────────── 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               │
│                                                                         │
│ ███████████████████████████████████████████████████████████████████     │
│ █PERFORM ACCEPTANCE TESTING AND OTHER ACTIVITIES LISTED IN        █     │
│ █THE SOAK STAGE OF THE TRANSITION MANUAL                          █     │
│ █RESUME WHEN COMPLETED                                            █     │
│ ███████████████████████████████████████████████████████████████████     │
│  ────────────────────────────────────────────────────────────────────  │
│                          STAGE STATUS AREA                              │
│ ┌────────────┬────────────┬────────────┬───────────┬───────────┐       │
│ │01 RCVYPREP │02 POSTBOOT │03 SOAK     │04         │05         │       │
│ │   COMPLETED│   COMPLETED│   EXECUTING│           │           │       │
│ └────────────┴────────────┴────────────┴───────────┴───────────┘       │
│                          STEP STATUS AREA                               │
│ ┌────────────┬────────────┬────────────┬───────────┐                   │
│ │01 SOAK_STG │02 START_ASM_UPD│03 MANUAL_ACT│04      │                   │
│ │   CONTINUING│   COMPLETED│███ WAITING ██│          │                   │
│ │05          │06          │07          │08         │                   │
│ │            │            │            │           │                   │
│ │09          │10          │11          │12         │                   │
│ │            │            │            │           │                   │
│ └────────────┴────────────┴────────────┴───────────┘                   │
│ CMD<                                                                     │
└─────────────────────────────────────────────────────────────────────────┘
```

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.

- AM duplex (either side active, other side standby)
- SMs and MHDs Simplex
- All SMs active on side 1
- CMP duplex (either side ACTIVE, other side STANDBY)

MCC Page 116:

GENERIC RETROFIT ACTIVE

MCC Page 1985:

COMMIT EXECUTING	COMMIT - STAGE PAUSE

LEGEND:

UNV=UNAVAILABLE
ACTF=ACTIVE FORCED
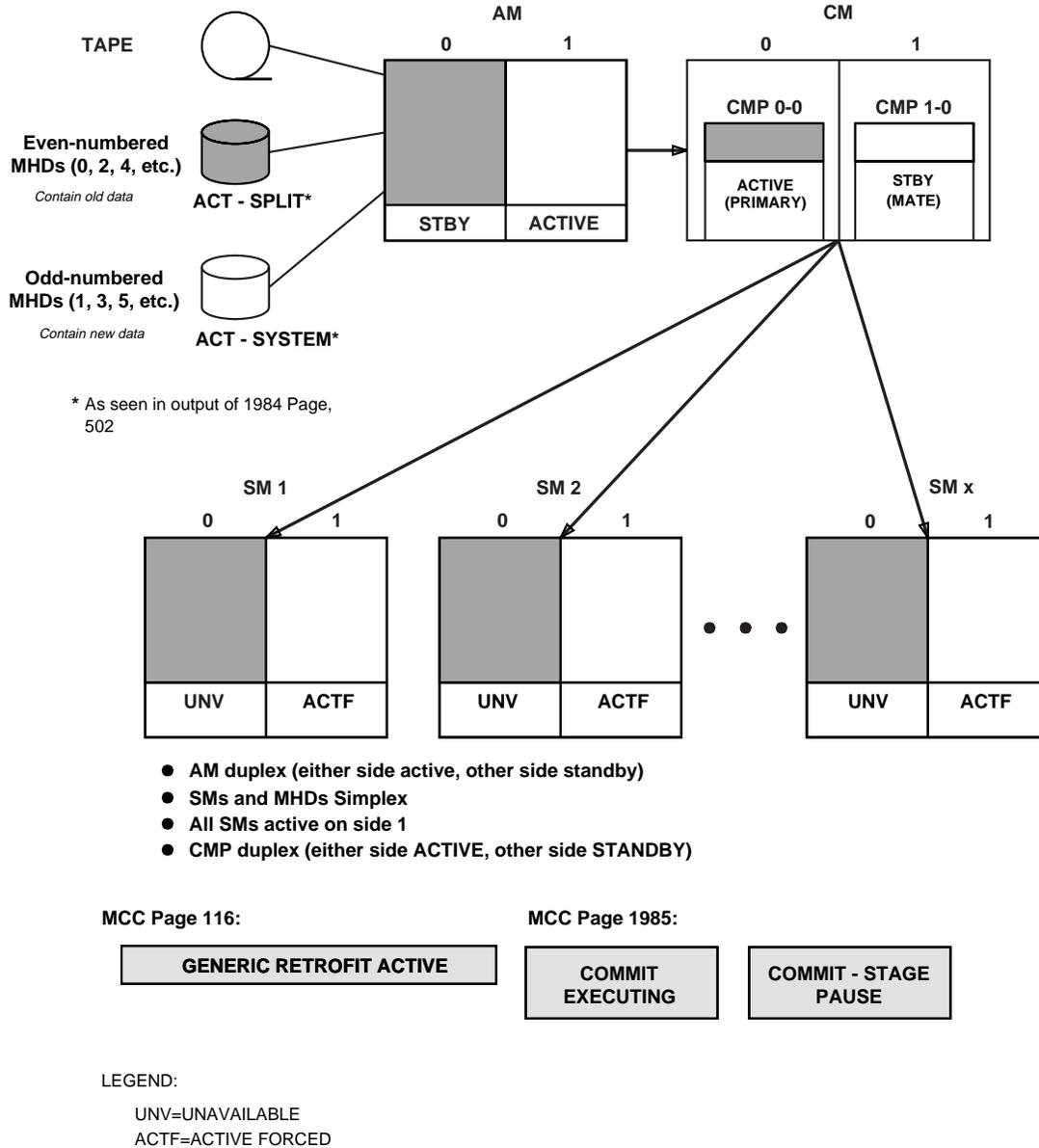
Figure 5-39 — Typical System Configuration at Completion of Soak Stage

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.

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;
```


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.

- AMs, SMs, CMPs duplex (either side ACTIVE, other side STANDBY)
- MHDs Duplex
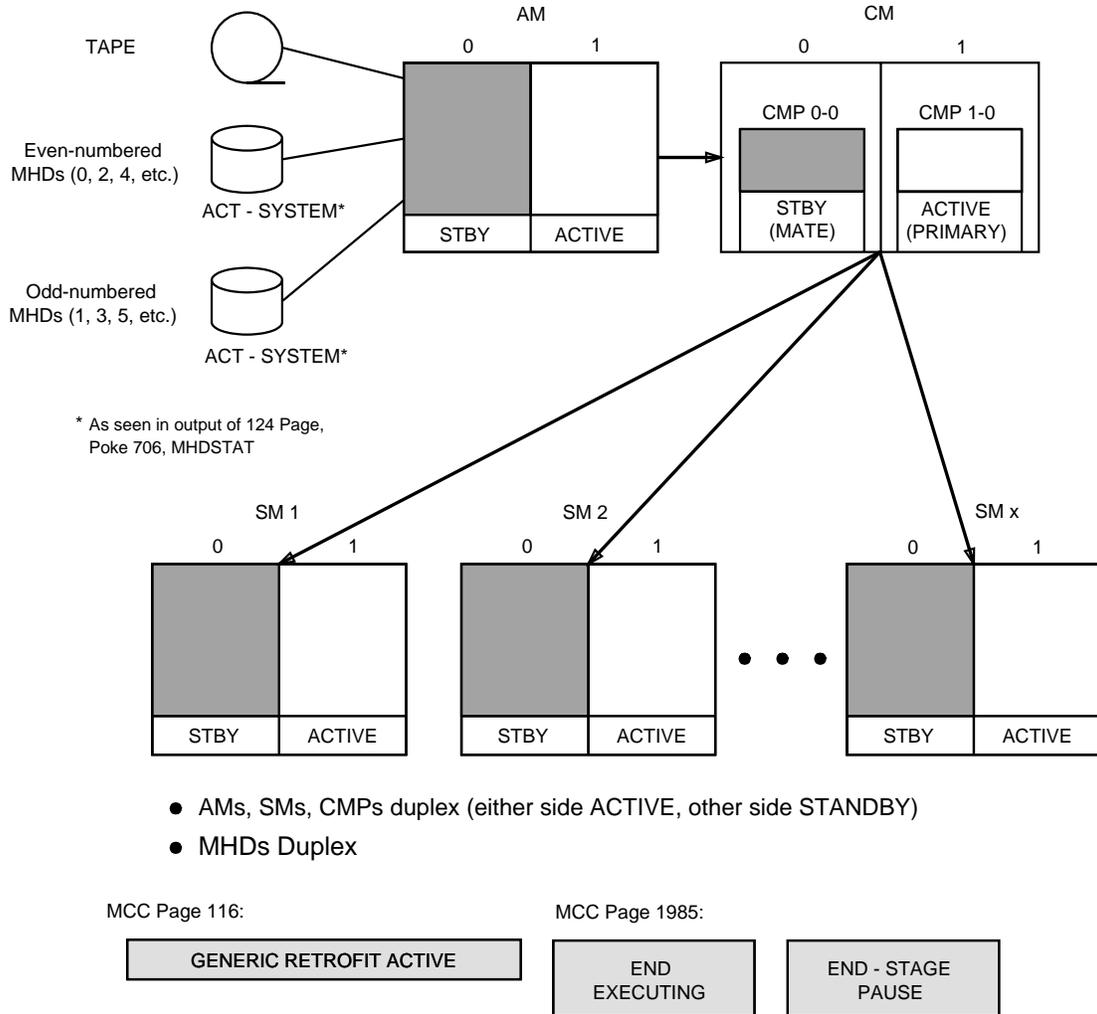
Figure 5-42 — Typical System Configuration at Completion of Commit Stage

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.

```
SYS EMER   CRITICAL   MAJOR    MINOR    BLDG/PWR  GLB FUNC  CKT LIM   SYS NORM
OVERLOAD   SYS INH     AM     AM PERPH   IS LINKS    SM        CM       MISC
CMD< 500;OK              OK - INITIATED  —— 1985,RETRO      - PROCEDURE STATUS

200 STOP        400 HOLD       500 RESUME      600 BACKOUT



COMPLETED ██-██-██ - ██:██


                       STAGE STATUS AREA
01 RCVYPREP     02 POSTBOOT    03 SOAK        04 COMMIT       05 END
   COMPLETED       COMPLETED      COMPLETED      COMPLETED       COMPLETED
                       STEP STATUS AREA
01 END_STG      02 ENDHOOK     03 RCLOG       04 MODECD
   CONTINUING      COMPLETED      COMPLETED      COMPLETED
05 ASMCLNUP     06 RMVTOOLS    07             08
   COMPLETED       COMPLETED
09              10             11             12


<
```

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.
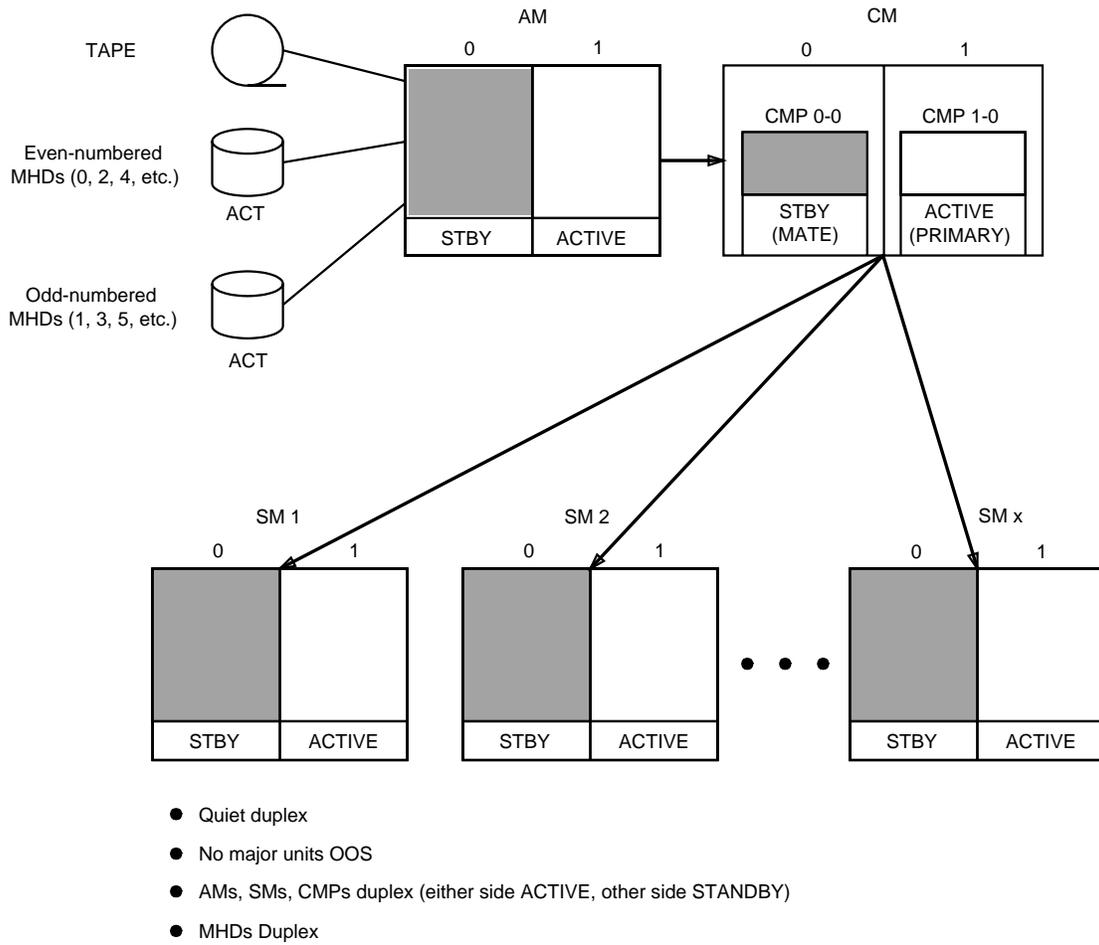
Figure 5-45 — System Configuration at the Completion of the End Stage

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.

C