Tekelec EAGLE® 5 Integrated Signaling System

Release 40.0

Database Administration Manual - System Management

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WEEE - All products shipped to European Union member countries comply with the EU Directive 2002/96/EC, Waste Electronic and Electrical Equipment. All components that are WEEE compliant will be appropriately marked. For more information regarding Tekelec's WEEE program, contact your sales representative.

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Patents

This product is covered by one or more of the following U.S. and foreign patents:
U.S. Patent Numbers:
5,732,213; 5,953,404; 6,115,746; 6,167,129; 6,324,183; 6,327,350; 6,456,845; 6,606,379; 6,639,981; 6,647,113; 6,662,017; 6,735,441; 6,745,041; 6,765,990; 6,795,546; 6,819,932; 6,836,477; 6,839,423; 6,885,872; 6,901,262; 6,914,973; 6,940,866; 6,944,184; 6,954,526;6,954,794; 6,959,076; 6,965,592; 6,967,956; 6,968,048; 6,970,542; 6,987,781; 6,987,849; 6,990,089; 6,990,347; 6,993,038; 7,002,988; 7,020,707; 7,031,340; 7,035,239; 7,035,387; 7,043,000; 7,043,001; 7,043,002; 7,046,667; 7,050,456; 7,050,562; 7,054,422; 7,068,773; 7,072,678; 7,075,331; 7,079,524; 7,088,728; 7,092,505; 7,108,468; 7,110,780; 7,113,581; 7,113,781; 7,117,411; 7,123,710; 7,127,057; 7,133,420; 7,136,477; 7,139,388; 7,145,875; 7,146,181; 7,155,206; 7,155,243; 7,155,505; 7,155,512; 7,181,194; 7,190,702; 7,190,772; 7,190,959; 7,197,036; 7,206,394; 7,215,748; 7,219,264; 7,222,192; 7,227,927; 7,231,024; 7,242,695; 7,254,391; 7,260,086; 7,260,207; 7,283,969; 7,286,516; 7,286,647; 7,286,839; 7,295,579; 7,299,050; 7,301,910; 7,304,957; 7,318,091; 7,319,857; 7,327,670
Foreign Patent Numbers:
EP1062792; EP1308054; EP1247378; EP1303994; EP1252788; EP1161819; EP1177660; EP1169829; EP1135905; EP1364520; EP1192758; EP1240772; EP1173969; CA2352246

Ordering Information

Your Tekelec Sales Representative can provide you with information about how to order additional discs.

Table of Contents

List of Figures

List of Tables

Chapter 1

Introduction

Topics:

Chapter 1, Introduction, contains general information about the database and the organization of this manual.

Overview

The Database *Administration Manual – System Management* describes the procedures used to manage and configure these items.

- EAGLE 5 ISS's database and GPLs
- The date and time
- User IDs and passwords
- Terminal configuration
- Shelves
- SS7 LIMs
- Security Log
- Unauthorized Use Warning Message
- UIM Thresholds
- MCPMs, IP links, and FTP servers for the Measurements Platform
- IPSMs for the IP User Interface (Telnet) feature
- Configuring the Network Security Options
- Configuring the Restore Device State Option
- Configuring the Frame Power Alarm Threshold
- SEAS over IP Configuration
- Using PuTTY or OpenSSH to set up a secure telnet connection to the EAGLE 5 ISS.

Note: Database administration privileges are password restricted. Only those persons with access to the command class "Database Administration" can execute the administrative functions. Other command classes and the commands allowed by those classes are listed in the *Commands Manual*.

Scope and Audience

This manual is intended for database administration personnel or translations personnel responsible for managing the items shown in the *Overview* on page 2 section.

Manual Organization

Throughout this document, the terms database and system software are used. Database refers to all data that can be administered by the user, including shelves, cards, links, routes, global title translation tables, and gateway screening tables. System software refers to data that cannot be administered by the user, including generic program loads (GPLs).

This document is organized into these sections:

Introduction on page 1 contains general information about the database and the organization of this manual.

Database Management Procedures on page 11 describes the different options for managing the database, such as backing up data and copying database tables from one disk to another, and provides procedures for tasks associated with database applications.

GPL Management Procedures on page 97 describes the procedures used for managing the system data (GPLs) on the EAGLE 5 ISS.

System Administration Procedures on page 309 describes the procedures used to administer the items shown in the *Introduction* on page 311.

SEAS Over IP Configuration Procedures on page 485 describes the procedures used to configure the EAGLE 5 ISS to support the SEAS over IP feature.

Controlled Feature Activation Procedures on page 525 describes the procedures necessary to activate and deactivate the controlled features (features that require a feature access key to be activated) contained in this manual.

Setting Up a Secure Telnet Connection to the EAGLE 5 ISS using PuTTY on page 563 describes the steps to set up a secure telnet connection to to the EAGLE 5 ISS using the PuTTY client program.

Setting Up a Secure Telnet Connection to the EAGLE 5 ISS using OpenSSH on page 571 describes the steps to set up a secure telnet connection to to the EAGLE 5 ISS using OpenSSH.

Remote Database Backup and Restore Procedures on page 577 describes the procedures for backing up the database to the DB FTP server and restoring the database from the DB FTP server.

Documentation Admonishments

Admonishments are icons and text throughout this manual that alert the reader to assure personal safety, to minimize possible service interruptions, and to warn of the potential for equipment damage.

Table 1: Admonishments

	**DANGER**: (This icon and text indicate the possibility of *personal injury*.)
	**WARNING**: (This icon and text indicate the possibility of *equipment damage*.)
	**CAUTION**: (This icon and text indicate the possibility of *service interruption*.)

Customer Care Center

The Tekelec Customer Care Center offers a point of contact for product and service support through highly trained engineers or service personnel. When a call is received, a Customer Service Report (CSR) is issued to record the request for service. Each CSR includes an individual tracking number.

After a CSR is issued, the Customer Care Center determines the classification of the trouble. If a critical problem exists, emergency procedures are initiated. If the problem is not critical, information regarding the serial number of the system, Common Language Location Identifier (CLLI), initial problem symptoms (includes outputs and messages) is recorded. A primary Customer Care Center engineer is also assigned to work on the CSR and provide a solution to the problem. The CSR is closed when the problem is resolved.

The Tekelec Customer Care Center is available 24 hours a day, 7 days a week at the following locations:

Tekelec - Global

Email (All Regions): *support.tekelec.com*

- **USA and Canada**

  Phone:

  1-888-FOR-TKLC or 1-888-367-8552 (toll-free, within continental USA and Canada)

  1-919-460-2150 (outside continental USA and Canada)

  TAC Regional Support Office Hours:

  8:00 a.m. through 5:00 p.m. (GMT minus 5 hours), Monday through Friday, excluding holidays

- **Central and Latin America (CALA)**

  Phone:

  USA access code +1-800-658-5454, then 1-888-FOR-TKLC or 1-888-367-8552 (toll-free)

  TAC Regional Support Office Hours (except Brazil):

  10:00 a.m. through 7:00 p.m. (GMT minus 6 hours), Monday through Friday, excluding holidays

  - **Argentina**

    Phone:

    0-800-555-5246 (toll-free)

  - **Brazil**

    Phone:

    0-800-891-4341 (toll-free)

    TAC Regional Support Office Hours:

    8:30 a.m. through 6:30 p.m. (GMT minus 3 hours), Monday through Friday, excluding holidays

  - **Chile**

Phone:

1230-020-555-5468

- **Columbia**

  Phone:

  01-800-912-0537

- **Dominican Republic**

  Phone:

  1-888-367-8552

- **Mexico**

  Phone:

  001-888-367-8552

- **Peru**

  Phone:

  0800-53-087

- **Puerto Rico**

  Phone:

  1-888-367-8552 (1-888-FOR-TKLC)

- **Venezuela**

  Phone:

  0800-176-6497

- **Europe, Middle East, and Africa**

  - **Signaling**

    Phone:

    +44 1784 467 804 (within UK)

    TAC Regional Support Office Hours:

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  - **Software Solutions**

    Phone:

    +33 3 89 33 54 00

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    Phone:

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TAC Regional Support Office Hours:

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- **Singapore**

  Phone:

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  TAC Regional Support Office Hours:

  9:00 a.m. through 6:00 p.m. (GMT plus 8 hours), Monday through Friday, excluding holidays

Emergency Response

In the event of a critical service situation, emergency response is offered by the Tekelec Customer Care Center 24 hours a day, 7 days a week. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

A critical situation is defined as a problem with an EAGLE 5 ISS that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action. Critical problems affect service and/or system operation resulting in:

- A total system failure that results in loss of all transaction processing capability
- Significant reduction in system capacity or traffic handling capability
- Loss of the system's ability to perform automatic system reconfiguration
- Inability to restart a processor or the system
- Corruption of system databases that requires service affecting corrective actions
- Loss of access for maintenance or recovery operations
- Loss of the system ability to provide any required critical or major trouble notification

Any other problem severely affecting service, capacity/traffic, billing, and maintenance capabilities may be defined as critical by prior discussion and agreement with the Tekelec Customer Care Center.

Related Publications

For information about additional publications that are related to this document, refer to the *Related Publications* document. The *Related Publications* document is published as a part of the *Release Documentation* and is also published as a separate document on the Tekelec Customer Support Site.

Documentation Availability, Packaging, and Updates

Tekelec provides documentation with each system and in accordance with contractual agreements. For General Availability (GA) releases, Tekelec publishes a complete EAGLE 5 ISS documentation set. For Limited Availability (LA) releases, Tekelec may publish a documentation subset tailored to specific feature content or hardware requirements. Documentation Bulletins announce a new or updated release.

The Tekelec EAGLE 5 ISS documentation set is released on an optical disc. This format allows for easy searches through all parts of the documentation set.

The electronic file of each manual is also available from the Tekelec Customer Support site. This site allows for 24-hour access to the most up-to-date documentation.

Printed documentation is available for GA releases on request only and with a lead time of six weeks. The printed documentation set includes pocket guides for commands and alarms. Pocket guides may also be ordered as a set or individually. Exceptions to printed documentation are:

- Hardware or Installation manuals are printed only without the linked attachments found in the electronic version of the manuals.
- The Release Notice is available only on the Customer Support site.

Note:

Customers may print a reasonable number of each manual for their own use.

Documentation is updated when significant changes are made that affect system operation. Updates resulting from Severity 1 and 2 PRs are made to existing manuals. Other changes are included in the documentation for the next scheduled release. Updates are made by re-issuing an electronic file to the customer support site. Customers with printed documentation should contact their Sales Representative for an addendum. Occasionally, changes are communicated first with a Documentation Bulletin to provide customers with an advanced notice of the issue until officially released in the documentation. Documentation bulletins are posted on the Customer Support site and can be viewed per product and release.

Maintenance and Administration Subsystem

The maintenance and administration subsystem consists of two processors, MASP (maintenance and administration subsystem processor) A and MASP B.

Each MASP is made up of two cards, the GPSM-II card (general purpose service module) and the TDM (terminal disk module).

The GPSM-II card contains the communications processor and applications processor and provides connections to the IMT bus. The GPSM-II controls the maintenance and database administration activity.

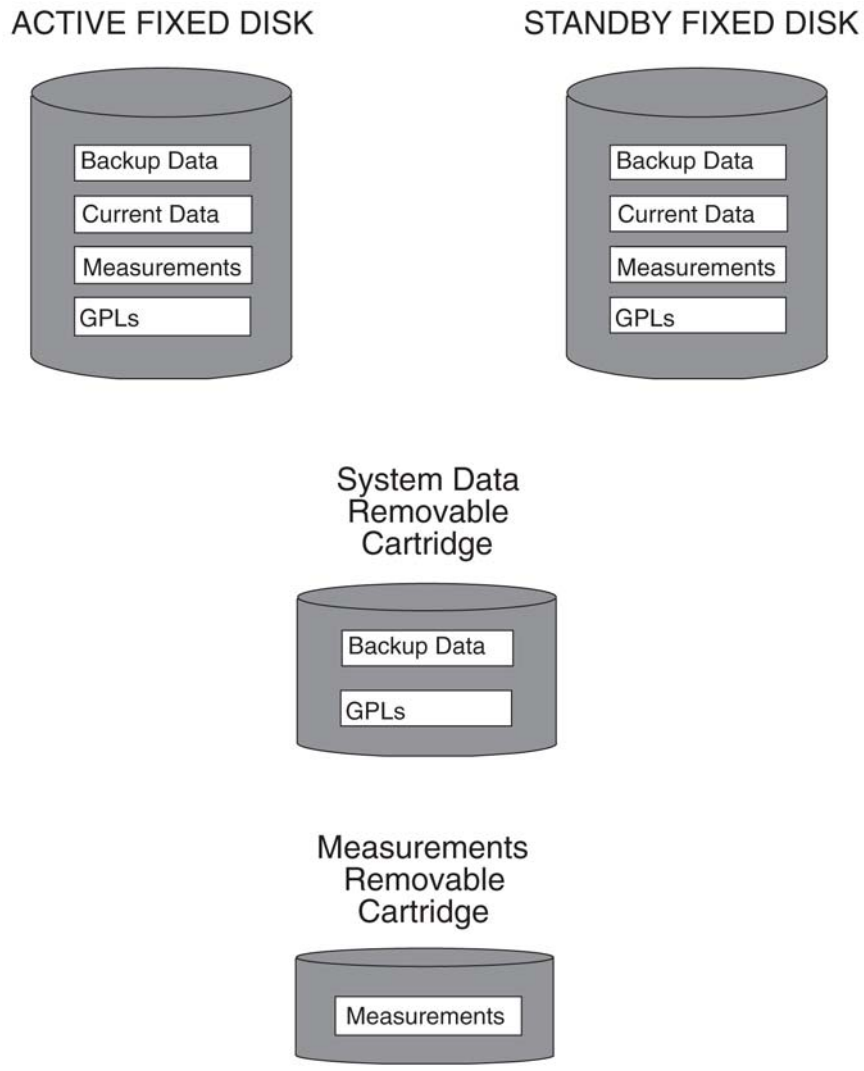
The TDM contains the fixed disk drive, the terminal processor for the 16 serial I/O ports and interfaces to the MDAL (maintenance disk and alarm) card which contains the removable cartridge drive and alarm logic. There is only one MDAL card in the maintenance and administration subsystem and it is shared between the two MASPs.

For more information on these cards, go to the *Hardware Manual* - EAGLE *5* ISS .

EAGLE 5 ISS Database Partitions

The data that the EAGLE 5 ISS uses to perform its functions are stored in two separate areas: the fixed disk drives, and the removable cartridge. The following sections describe these areas and data that is stored on them. These areas and their partitions are shown in *Figure 1: EAGLE 5 ISS Database Partitions* on page 8.

Figure 1: EAGLE 5 ISS Database Partitions



Fixed Disk Drive

There are two fixed disk drives on the EAGLE 5 ISS. The fixed disk drives contain the “master” set of data and programs for the EAGLE 5 ISS. The two fixed disk drives are located on the terminal

disk modules (TDMs). Both disks have the same files. The data stored on the fixed disks is partially replicated on the various cards in the EAGLE 5 ISS. Changes made during database administration sessions are sent to the appropriate cards.

The data on the fixed disks can be viewed as four partitions.

- Current partition
- Backup partition
- Measurements partition
- Generic program loads (GPLs) partition

The data which can be administered by users is stored in two partitions on the fixed disk, a current database partition which has the tables which are changed by on-line administration, and a backup database partition which is a user-controlled copy of the current partition.

All of the on-line data administration commands effect the data in the current partition. The purpose of the backup partition is to provide the users with a means of rapidly restoring the database to a known good state if there has been a problem while changing the current partition.

A full set of GPLs is stored on the fixed disk, in the GPL partition. There is an approved GPL and a trial GPL for each type of GPL in this set and a utility GPL, which has only an approved version. Copies of these GPLs are downloaded to the EAGLE 5 ISS cards. The GPL provides each card with its functionality. For example, the `ss7ansi` GPL provides MTP functionality for link interface modules (LIMs).

Measurement tables are organized as a single partition on the fixed disk. These tables are used as holding areas for the measurement counts.

Removable Cartridge

A removable cartridge is used for two purposes.

- To hold an off-line backup copy of the administered data and system GPLs
- To hold a copy of the measurement tables

Because of the size of the data stored on the fixed disk drives on the TDMs, a single removable cartridge cannot store all of the data in the database, GPL and measurements partitions.

To use a removable cartridge to hold the system data, it must be formatted for system data. To use a removable cartridge to hold measurements data, it must be formatted for measurements data. The EAGLE 5 ISS provides the user the ability to format a removable cartridge for either of these purposes. A removable cartridge can be formatted on the EAGLE 5 ISS by using the `format-disk` command. More information on the `format-disk` command can be found in the *Commands Manual*. More information on the removable cartridge drives can be found in the *Hardware Manual* - EAGLE *5* ISS .

The removable cartridge drive is located on the MDAL card in card location 1117.

Additional and preformatted removable cartridges are available from the *Customer Care Center* on page 4.

Locate Product Documentation on the Customer Support Site

Access to Tekelec's Customer Support site is restricted to current Tekelec customers only. This section describes how to log into Tekelec's Customer Support site and locate a document. Viewing the document requires Adobe Acrobat Reader, which can be downloaded at www.adobe.com.

1. Log into Tekelec's **new** Customer Support site at *support.tekelec.com*.

   Note: If you have not registered for this new site, click the **Register Here** link. Have your customer number available. The response time for registration requests is 24 to 48 hours.

2. Click the **Product Support** tab.
3. Use the Search field to locate a document by its part number, release number, document name, or document type. The Search field accepts both full and partial entries.
4. Click a subject folder to browse through a list of related files.
5. To download a file to your location, right-click the file name and select **Save Target As**.

Chapter 2

Database Management Procedures

Topics:

Chapter 2, Database Management Procedures, describes the different options for managing the database, such as backing up data and copying database tables from one disk to another, and provides procedures for tasks associated with database applications.

Introduction

This chapter contains procedures for creating database backups or backups of the system data, and restoring the database or system data. The term “database” refers to all data that can be administered by the user including shelves, cards, links, routes, global title translation tables, and gateway screening tables. The term “system data” refers to data that cannot be administered by the user including maintenance software and generic program loads (GPLs).

These procedures are to be used as they are presented in this chapter. If these procedures are not followed, and a database backup or restore is attempted, a system failure could result.

The procedures shown in this chapter use a variety of commands. If more information on these commands is needed, go to the *Commands Manual* to find the necessary information.

The database management procedures are used to perform these functions:

- Verifying the database
- Backing up the database
  - on the fixed disk
  - to the removable cartridge
  - to the FTP server
- Restoring the database
  - from the backup partition of the fixed disk
  - from the removable cartridge
  - from the FTP server
- Repairing the database
- Copying the database from the active to the standby fixed disk
- Backing up system data to the removable cartridge
- Restoring system data from a removable cartridge
- Formatting a removable cartridge
- Formatting the fixed disk of the standby TDM

The procedures for performing database backups to the FTP server and restoring the database from the FTP server are in *Remote Database Backup and Restore Procedures* on page 577.

The procedures in this chapter refer to the Maintenance and Administration Subsystem Processor (MASP), Terminal Disk Module (TDM) and the Maintenance Disk and Alarm Card (MDAL).

Each MASP is made up of two cards, the GPSM-II card (general purpose service module) and the TDM (terminal disk module).

The GPSM-II card contains the communications processor and applications processor and provides connections to the Interprocessor Message Transport (IMT) bus. The GPSM-II card controls the maintenance and database administration activity.

The TDM contains the fixed disk drive, the terminal processor for the 16 serial I/O ports and interfaces to the MDAL (maintenance disk and alarm) card, which contains the removable cartridge drive and alarm logic. There is only one MDAL card in the maintenance and administration subsystem, and it is shared between the two MASPs.

The TDM is associated with a specific GPSM-II card. For example, the TDM in location 1114 is associated with the GPSM-II in location 1113 and the combination of these two cards is designated as MASP A. The TDM in location 1116 is associated with the GPSM-II in location 1115 and the combination of these two cards designated as MASP B. When MASP A is active, the GPSM-II in location 1113 and TDM in location 1114 are active. When MASP A is standby, the GPSM-II in location 1113 and TDM in location 1114 are standby. One MASP is always active and the other MASP is always standby.

To determine which MASP is active, enter the `rept-stat-db` command, the `rept-stat-card` command, or examine the LEDs on both TDMs or the MDAL card.

The output of the `rept-stat-db` command shows which MASP is active with the indicator `( ACTV )` following the TDM card location. The indicator `( STDBY)` following the TDM card location shows which MASP is standby.

The output of the `rept-stat-card` command shows which MASP is active with the entry `ACTIVE` in the `SST` field for the GPSM-II card. The entry `STANDBY` in the `SST` field for the GPSM-II card shows which MASP is standby.

If the LED on the TDM is green, the associated MASP is active. If the LED on the TDM is toggling from green to amber, the associated MASP is standby.

The MDAL card has two LEDs that also show the status of each MASP. These LEDs are labeled MASP A and MASP B and the LED that is green shows which MASP is active.

The database commands, such as `rept-stat-db`, refer to the TDM because the TDM contains the fixed disk drive for the MASP. The MDAL is only referred to when inserting or removing the removable cartridge because the removable cartridge drive resides on the MDAL.

Removable Cartridge

Some of these procedures are used with a removable cartridge. When the removable cartridge is not being used, it should be write protected and stored in a secure place. The database on the removable cartridge can be used to restore the database in the event of a catastrophe, or to retrieve a particular database configuration.

The removable cartridge used with these procedures must be formatted for either system data or measurements data. The EAGLE 5 ISS provides the user the ability to format a removable cartridge for either of these purposes. A removable cartridge can be formatted on the EAGLE 5 ISS by using the `format-disk` command. More information on the `format-disk` command can be found in the *Commands Manual*. To format a removable cartridge, go to the *Formatting a Removable Cartridge* on page 77 procedure .

Additional and preformatted removable cartridges are available from the Customer Care Center. Refer to *Customer Care Center* on page 4 for the contact information.

Procedures that use the removable cartridge require that the removable cartridge be either write protected or write enabled. When the cartridge is write protected, no data can be written to the cartridge, nor can the cartridge be formatted. The data can only be read from the cartridge. When the cartridge is write enabled, data can be written to the cartridge, data can be read from the cartridge, and the cartridge can be formatted and any data on the cartridge will be lost.

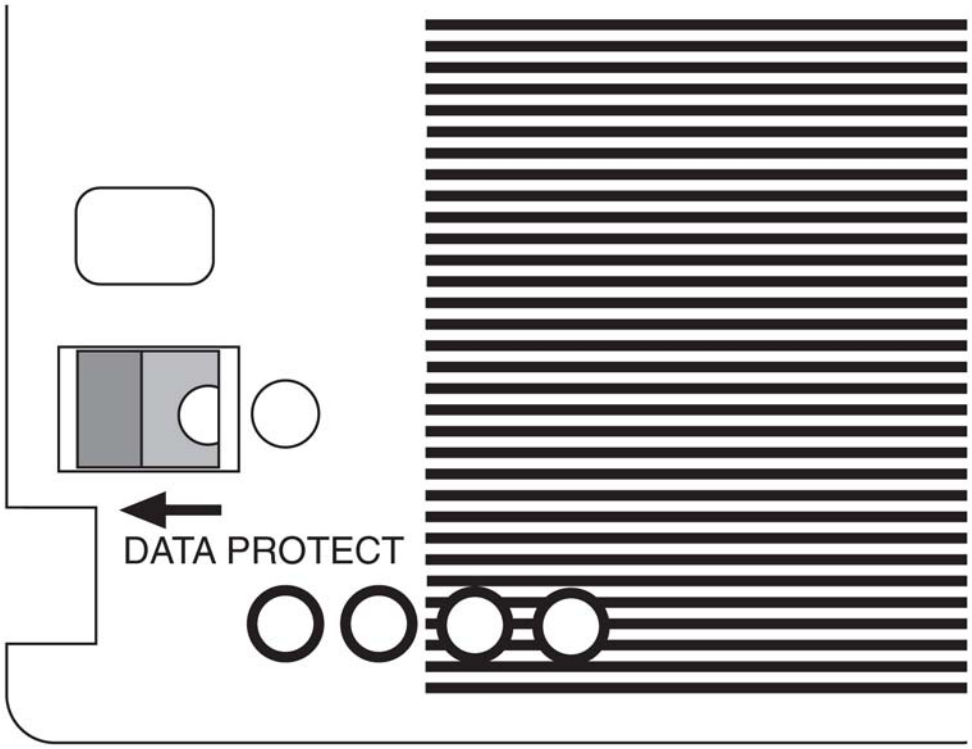
This section contains the procedures for handling removable cartridges. In addition to procedures for write protecting and write enabling the removable cartridge, this section also contains

procedures for inserting the removable cartridge into the removable cartridge drive and removing the removable cartridge from the removable cartridge drive.

Write Protecting the Removable Cartridge

The write protecting mechanism of the removable cartridge is a tab located in the lower left corner of the cartridge. Under the tab is an arrow pointing toward the left edge of the cartridge and the words “DATA PROTECT” are under the arrow. To write protect the removable cartridge, slide the tab to the left, the direction of the arrow, until it snaps into place. The hole to the right of the tab should be clear and open. See *Figure 2: Write Protected Removable Cartridge* on page 14.

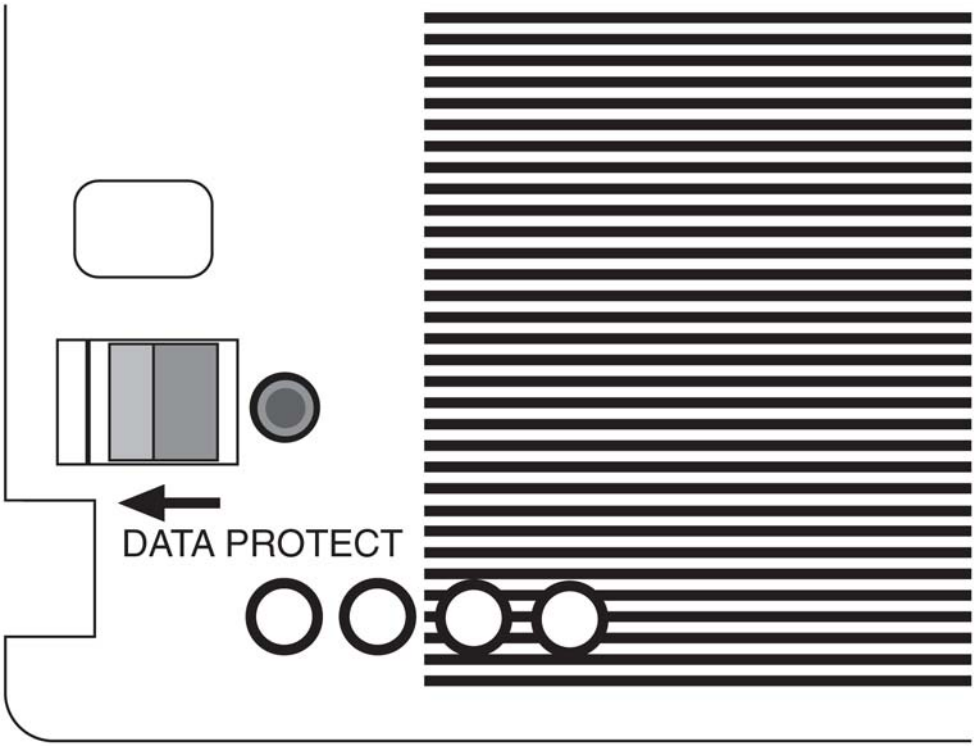
Figure 2: Write Protected Removable Cartridge



Write Enabling the Removable Cartridge

To write enable the removable cartridge, slide the tab to the right, the opposite direction of the arrow, until it snaps into place. The hole to the right of the tab should be filled with a red dot. See *Figure 3: Write Enabled Removable Cartridge* on page 14.

Figure 3: Write Enabled Removable Cartridge

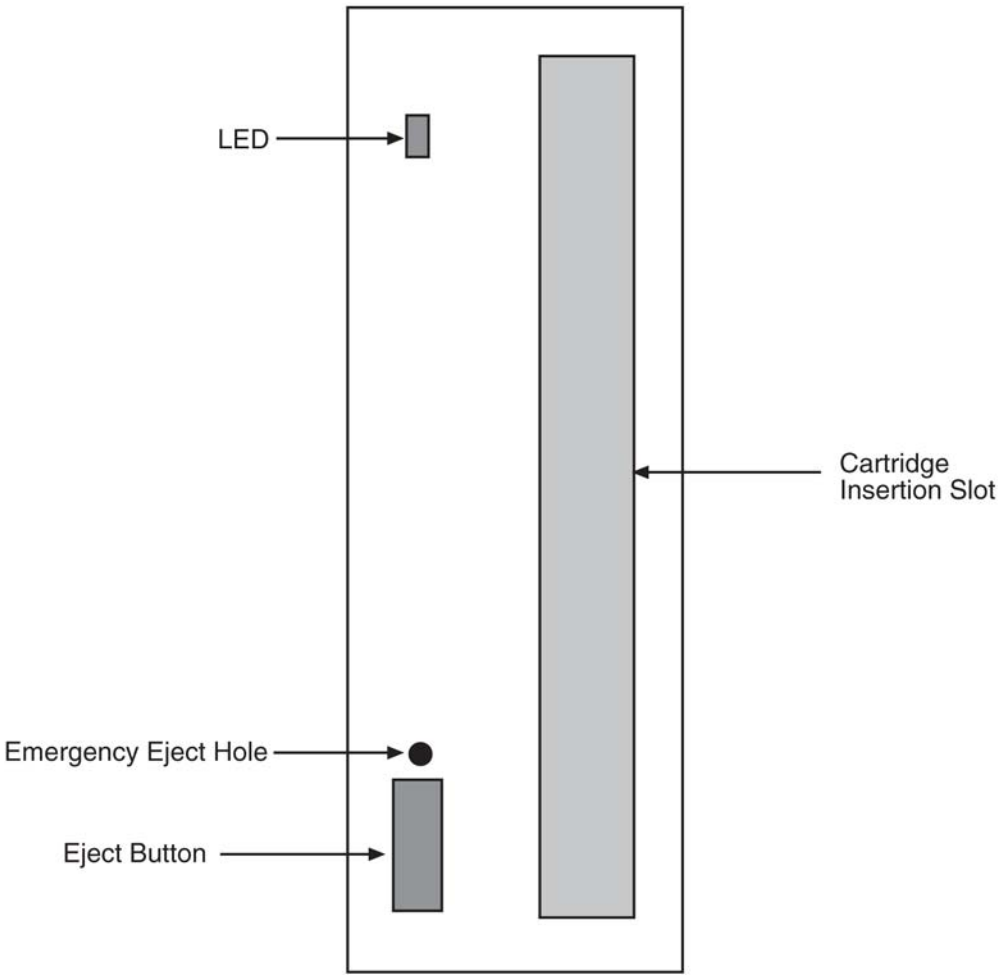


Inserting the Removable Cartridge

The removable cartridge is a two sided cartridge with each side designated as side A and side B. The removable cartridge drive can only access one side of the cartridge at a time, which side is accessed depends on how the cartridge is inserted into the removable cartridge drive. The side indicator is located on the shutter on each side of the removable cartridge.

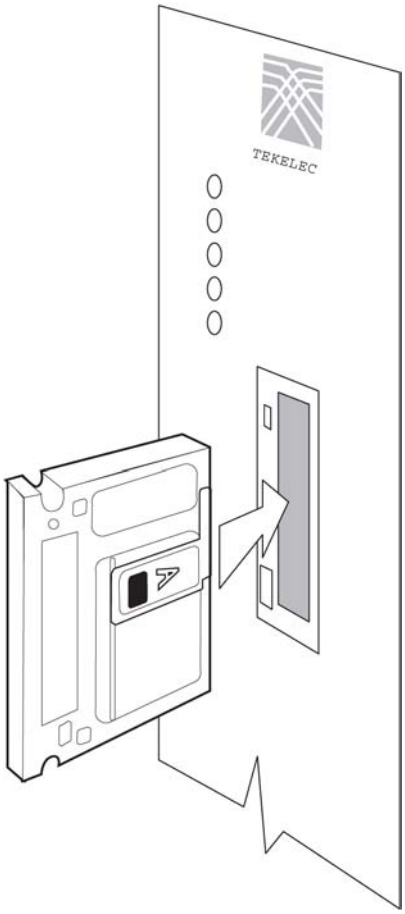
Figure 4: Removable Cartridge Drive Layout on page 15 shows the layout of the removable cartridge drive.

Figure 4: Removable Cartridge Drive Layout



To insert the removable cartridge to access side A, insert the removable cartridge into the cartridge insertion slot of the drive with the indicator for side A on the shutter facing to the right side of the drive and away from the side with the LED and the eject button, as shown in *Figure 5: Inserting the Removable Cartridge to Use Side A* on page 16.

Figure 5: Inserting the Removable Cartridge to Use Side A



To insert the removable cartridge to access side B, insert the removable cartridge into the cartridge insertion slot of the drive with the indicator for side A on the shutter facing to the left side of the drive and toward the side with the LED and the eject button.

When the removable cartridge is inserted into the removable cartridge drive, the LED is yellow while the cartridge is spinning up. When the cartridge is finished spinning up and ready to use, the LED is green.

Removing the Removable Cartridge

To remove the removable cartridge from the removable cartridge drive, the LED should be green. If the LED is yellow, the drive is being accessed by the EAGLE 5 ISS and the cartridge cannot be removed from the drive. Wait until the LED is green before attempting to remove the cartridge from the drive. When the LED is green, push the eject button on the removable cartridge drive. While the cartridge is being ejected from the drive, the LED is yellow. The LED is off when the cartridge is fully ejected from the drive. The cartridge can then be removed from the drive.

Verifying the Database

Verifying the database means to check the operational status of the database. The `rept-stat-db` command is used to check the operational status of the database. The `rept-stat-db` command has three optional parameters that can be used with it, `display`, `loc`, and `db`.

The `display` parameter can use four values: `brief` (the default value), `except`, `all`, and `version`. The value for the `loc` parameter is the card location of the card, based on the GPL assigned to the card, whose database you wish to verify. These card locations are shown in the *Hardware Manual* - EAGLE *5* ISS . The `db` parameter specifies which database to display: `stp` (the EAGLE 5 ISS databases), `mps` (the MPS databases) and `all` (both STP and MPS databases).

The operational status of the database is shown by the indicator **C**. This indicator shows whether the database is coherent. Coherency is an indication of whether the update to the database was successful. Each database has a coherency indicator. When an update is attempted, the coherency indicator is set to "incoherent" before the actual update is executed. When the update has been successfully completed, the coherency indicator is changed to coherent. If the update is not successful, the coherency indicator is not changed. If the coherency indicator is incoherent, this could be an indication of possible internal coherency problems when a restart is executed (for example, an index table was updated, but the corresponding data storage table was not modified).

REPT-STAT-DB Output Fields

The outputs of the `rept-stat-db` command contains these fields. There are fields that are displayed only when specific parameters are specified. Some of these fields are displayed only when certain features are on. The conditions under which these fields are displayed are noted in the description of the fields.

Database Status: – an indication of any database alarms on the MASPs.

>> OK<< – there are no database alarms

>>NOT OK<< – database alarms are present

This indicator is not used with the `loc` parameter output.

(ACTV) – The specified MASP is the active processor. This is not used with the `loc` parameter output.

(STDBY) – The specified MASP is the standby processor. This is not used with the `loc` parameter output.

(NOACCS) – The specified processor is not accessible. This is not used with the `loc` parameter output.

(OFF-LINE) – The specified TDM has been inhibited and may have been removed from the control shelf. This is not used with the `loc` parameter output.

C – an indicator of whether the database is coherent. A "Y" means that the database is coherent; an "N" means that the database is not coherent; a "-" means that the database is not accessible.

LEVEL – the number of updates made to the database partitions.

TIME LAST BACKUP – the date and time the last change was performed on the removable cartridge (if inserted) and the backup partition of the fixed disk. This field is not used with the

`loc` parameter output. If a dash (-) is displayed in this field for the **FD BACKUP** or **RD BACKUP** partitions, then no backup has been created for that partition.

RD BKUP – Removable cartridge backup partition.

FD BKUP – Fixed disk backup partition.

FD CRNT – Fixed disk current partition. This field is not used with the `loc` parameter output.

DIFF CONTENTS – The specified database's contents are different when compared to the other database in that partition.

DIFF LEVEL – The specified database's level (other than the backup partition of the fixed disk – **FD BKUP**) does not match the level of the current partition of the active fixed disk (**FD CRNT**).

DIFF TIME – The specified database's level matches the level of the current partition of the active fixed disk (**FD CRNT**), but the time that the database was updated, when compared to the current partition of the active fixed disk (**FD CRNT**), is different. This occurs when the time/date stamp of the database being updated is corrupted.

CORRUPTED – The specified database is corrupted.

INCOHERENT – The specified database is incoherent.

OFF-LINE – The specified TDM is off-line and has been removed from the control shelf.

EXCEPTION – The condition of the specified database that the EAGLE 5 ISS has detected a problem with. These conditions are: **DIFF CONTENTS** , **DIFF LEVEL** , **DIFF TIME,** **CORRUPTED** , **INCOHERENT** , and **OFF-LINE** . A "-" indicates that the database was not accessible. A blank entry indicates that the database has no problems. A number in this field indicates the number of corrupted records that have been repaired on the specific DSM or E5-SM4G card. The number value is displayed until the DSM or E5-SM4G card is reset. This field is used with the `display=except`, `display=all`, and `loc` parameter outputs.

CARD/APPL – the card type or the application assigned to the card specified in the **LOC** field. This field is not used with the `display=brief` (default) parameter output.

- **TDM-BKUP** – Backup partition on the fixed disk on the TDM.
- **TDM-CRNT** – Current partition on the fixed disk on the TDM.
- **MDAL** – The maintenance disk and alarm card. This card contains the removable cartridge drive.
- **ATMANSI** – The `atmansi` application. This application is used for high-speed ATM signaling links.
- **CCS7ITU** – The `ccs7itu` application. This application is used for CCS7ITU signaling links.
- **IPLIM** – The `iplim` application software for TCP/IP point-to-point ANSI connectivity.
- **IPLIMI** – The `iplimi` application software for TCP/IP point-to-point ITU connectivity.
- **GLS** – The `gls` application. This application is used for the gateway screening feature.
- **SCCP** – The `sccp` application. This application is used for the global title translation feature.
- **VSCCP** – The `vsccp` application. This application is used for the global title translation, G-Flex, INP, G-Port, PPSMS the ELAP Configuration, LNP, EIR, ANSI-41 INP Query, A-Port, IS41 GSM Migration and V-Flex features.
- **SS7ANSI** – The `ss7ansi` application. This application is used for SS7 signaling links.
- **SS7IPGW** – The application software for TCP/IP point-to-multipoint connectivity within an ANSI network.

- **SS7GX25** - The `ss7gx25` application. This application is used for X.25 signaling links.
- **STPLAN** – The `stplan` application. This application is used by the STPLAN feature.

LOC – the card location of the database. This field is not used with the `display=brief` (default) parameter output.

T – an indicator of whether the specified database is in transition. A "Y" means that the database is in transition; an "N" means that the database is not in transition. A database is in transition when the database for the Link Interface Module (LIM) or service module is in the process of being loaded with the new screen set information after an update to the database, and the database has not reached the current reported database level. This field is not used with the `display=brief` (default) parameter output.

TIME LAST UPDATE – the date and time the last change was performed on the specified card and its associated database. This field is not used with the `display=brief` (default) parameter output.

VERSION – The version number of each database.

111-000-000 – The version number of the database. This number will be different for different software releases.
"-" – The database is not available.
This field is only used with the `display=version` parameter output.

STATUS – The operational status of the database version.

NORMAL – The database version is fully operational.
A blank entry indicates that the database is not available or is unknown. A numeric value indicates that the database is invalid. The value displayed is the status value found in the field and is for diagnostic purposes.
This field is only used with the `display=version` parameter output.

EPAP A (ACTV) – The active Eagle Provisioning Application Processor. This field is displayed when any of the features shown in *Table 2: MPS EPAP Features* on page 21 are enabled, and turned on if necessary. This field is not displayed with the `loc` parameter output.

EPAP B (STDBY) – The standby Eagle Provisioning Application Processor. This field is displayed only when any of the features shown in *Table 2: MPS EPAP Features* on page 21 are enabled, and turned on if necessary. This field is not displayed with the `loc` parameter output.

ELAP A (ACTV) – The active Eagle LNP Application Processor. This field is displayed only when the ELAP Configuration feature is enabled and on. This field is not displayed with the `loc` parameter output.

ELAP B (STDBY) – The standby Eagle LNP Application Processor. This field is displayed only when the ELAP Configuration feature is enabled and on. This field is not displayed with the `loc` parameter output.

BIRTHDATE – The date and time of creation for the database. This field is displayed only when any of the features shown in *Table 2: MPS EPAP Features* on page 21 are enabled, and turned on if necessary, or if the ELAP Configuration feature is enabled and turned on.

PDB – The provisioning database status information. This field is displayed only when any of the features shown in *Table 2: MPS EPAP Features* on page 21 are enabled, and turned on if necessary. This field is not displayed with the `loc` parameter output.

RTDB – The provisioning database status information that was used to create the resident real-time database. The RTDB information may be different than the PDB information if the PDB has been reloaded, or if the RTDB has not been loaded from the PDB. If the RTDB birthdate is different than the PDB or if the level is too old to be able to resynchronize the databases, then a "Reload Required" alarm is generated. This field is displayed only when any of the features shown in *Table 2: MPS EPAP Features* on page 21 are enabled, and turned on if necessary, or the ELAP Configuration feature is enabled and on. This field is not displayed with the `loc` parameter output.

RTDB-EAGLE – The EPAP resident real-time database status information. This database is downloaded to DSM s or E5-SM4G cards. If the birthdate or level does not match the DSM or E5-SM4G card, then the DSM or E5-SM4G card generates an alarm. The RTDB database is reloaded from the PDB, and the birthdate and level are reset and will not match the database status information. This database status mismatch condition indicates an abnormal condition that requires the DSM s or E5-SM4G cards to be reloaded. This field is displayed only when any of the features shown in *Table 2: MPS EPAP Features* on page 21 are enabled, and turned on if necessary, or the ELAP Configuration feature is enabled and on. This field is not displayed with the `loc` parameter output.

IN-SRVC – The amount of time, in days (d), hours (h), and minutes (m), that the DSM or E5-SM4G card has been running since it was brought into service. This field is displayed in the `EAGLE RTDB REPORT` section of the `rept-stat-db` output. This field is displayed only when any of the features shown in *Table 2: MPS EPAP Features* on page 21 are enabled, and turned on if necessary, or the ELAP Configuration feature is enabled and on. This field is not displayed with the `display=version` and `loc` parameter outputs.

For any databases that are not accessible, dashes are displayed in the output of the `rept-stat-db` command. Dashes are also displayed in the removable cartridge backup partition (**RD BACKUP**) if no system removable cartridge is in the removable cartridge drive, or if a measurements removable cartridge is in the removable cartridge drive.

Table 2: MPS EPAP Features

Features that must be Enabled and Turned On		
G-Flex	INP	ANSI-41 INP Query
G-Port	A-Port	IS41 GSM Migration
EIR	PPSMS	V-Flex
Features that can be Enabled, and do not have to be Turned On		
ATINP		

REPT-STAT-DB Outputs

The following sections show the different outputs that the `rept-stat-db` command can generate depending on which parameters are specified with the `rept-stat-db` command.

- `display=brief` (the default value)
- `display=except`
- `display=all`
- `display=version`
- `loc`

- db

DISPLAY=BRIEF Parameter

The output of the rept-stat-db command with the display=brief parameter specified (the default parameter if no parameters are specified) contains the operational status of both MASPs and the removable cartridge drive on the MDAL card. This is an example of the output when the display=brief parameter is used or when no parameters are used.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 37.6.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
         MDAL 1117
         - --------
RD BKUP  Y      106 04-05-31 14:29:03 GMT
```

If any of the features shown in *Table 2: MPS EPAP Features* on page 21 are enabled, and turned on if necessary, or the ELAP Configuration feature is enabled and on, the output of the rept-stat-db command also shows the status of the databases on EPAP A and EPAP B as shown in this example.

```
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY )               TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
         MDAL 1117
         - --------
RD BKUP  Y      106 04-06-01 14:29:03 GMT
               EPAP A ( ACTV )
                C  BIRTHDATE           LEVEL       EXCEPTION
                -  -----------------   ----------  -------------
PDB                04-06-01 10:19:18           10        -
RTDB            Y  04-06-01 10:19:18           10        -
RTDB-EAGLE         04-06-01 10:19:18           10        -
               EPAP B ( STDBY )
                C  BIRTHDATE           LEVEL       EXCEPTION
                -  -----------------   ----------  -------------
PDB                04-06-01 10:19:18           10        -
RTDB            Y  04-06-01 10:19:18           10        -
RTDB-EAGLE         04-06-01 10:19:18           10        -
```

If the ELAP Configuration feature is enabled and on, the output of the rept-stat-db command also shows the status of the databases on ELAP A and ELAP B as shown in this example.

```
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       11 04-06-01 08:20:13 GMT  Y       11 04-06-01 08:20:13 GMT
FD CRNT  Y       11                        Y       11
         MDAL 1117
         - --------
RD BKUP  Y        1 04-05-31 15:44:20 GMT
                ELAP A  ( ACTV )
```

```
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE         04-06-01 08:20:04       12345        -
               ELAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE         04-06-01 08:20:04       12345        -
```

DISPLAY=EXCEPT Parameter

The output from the `display=except` parameter contains all the information displayed from the `display=brief` parameter along with the coherency indicator and the number of updates for all the cards whose database level does not match the active fixed disk current partition, reference database level, or is incoherent. All databases that are not accessible are also displayed. The time stamp for the last database update for every card is displayed. This is an example of the output when the `display=except` parameter is used.

```
rlghncxa03w 06-10-01 08:28:59 GMT EAGLE5 37.6.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( ACTV )                 TDM 1116 (
STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       74 04-06-01 23:30:05 GMT  Y       74 04-06-01 23:30:05 GMT
FD CRNT  N       78 CORRUPTED              Y       75 DIFF LEVEL
        MDAL 1117
         - --------
RD BKUP  -    -         -        -

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
SCCP       1101  -  -      -          -          -          -
TDM-CRNT   1114  N  N  78          04-06-01 23:15:06  CORRUPTED
TDM-CRNT   1116  Y  N  75          04-06-01 22:47:05  DIFF LEVEL
CCS7ITU    1207  N  N  78          04-06-01 23:05:06  INCOHERENT
```

If any of the features shown in *Table 2: MPS EPAP Features* on page 21 are enabled, and turned on if necessary,, the output of the `rept-stat-db:display=except` command also shows the status of the databases on EPAP A and EPAP B, followed by the status of the VSCCP card database, as shown in this example.

```
rlghncxa03w 06-10-01 08:55:54 GMT EAGLE5 37.6.0
rept-stat-db:display=except
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------

FD BKUP  Y       11 04-06-01 08:20:13 GMT  Y       11 04-06-01 08:20:13 GMT

FD CRNT  Y       12                        Y       12
         MDAL 1117
         - --------
RD BKUP  Y        1 04-05-31 15:44:20 GMT

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
SS7ANSI    1103  Y  N  10          04-06-01 08:03:48  DIFF LEVEL
TDM-BKUP   1114  Y  -  11          04-06-01 08:04:00  DIFF LEVEL
```

```
 TDM-BKUP   1116  Y  -  11          04-06-01 08:04:00  DIFF LEVEL
 MDAL       1117  Y  -  1           04-05-31 15:06:29  DIFF LEVEL
              EPAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
PDB             Y  04-06-01 08:20:04       12345        -
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -
               EPAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
PDB             Y  04-06-01 08:20:04       12345        -
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -
                EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
VSCCP      1203  Y  04-06-01 08:20:04       12340  DIFF LEVEL   10d 23h 21m
```

If the ELAP Configuration feature is enabled and on, the output of the `rept-stat-db:display=except` command also shows the status of the databases on ELAP A and ELAP B, followed by the status of the VSCCP card database, as shown in this example.

```
rlghncxa03w 06-10-01 08:55:54 GMT EAGLE5 37.6.0
rept-stat-db:display=except
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------

FD BKUP  Y       11 04-06-01 08:20:13 GMT  Y       11 04-06-01 08:20:13 GMT

FD CRNT  Y       12                        Y       12
         MDAL 1117
         - --------
RD BKUP  Y        1 04-05-31 15:44:20 GMT

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
SS7ANSI    1103  Y  N  10          04-06-01 08:03:48  DIFF LEVEL
TDM-BKUP   1114  Y  -  11          04-06-01 08:04:00  DIFF LEVEL
TDM-BKUP   1116  Y  -  11          04-06-01 08:04:00  DIFF LEVEL
MDAL       1117  Y  -  1           04-06-01 15:06:29  DIFF LEVEL
              ELAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -
               ELAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -
                EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
VSCCP      1203  Y  04-06-01 08:20:04       12340  DIFF LEVEL   10d 23h 21m
```

DISPLAY=ALL Parameter

The output from the `display=all` parameter contains the same information displayed from the `display=brief` parameter as well as and the coherency and the number of updates for all the

databases. The time stamp for the last database update for every card is displayed. This is an example of the output when the `display=all` parameter is used.

```
rlghncxa03w 06-10-01 08:39:24 GMT EAGLE5 37.6.0
rept-stat-db:display=all
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------

FD BKUP  Y       11 04-06-01 08:20:13 GMT  Y       11 04-06-01 08:20:13 GMT

FD CRNT  Y       11                        Y       11
         MDAL 1117
         - --------
RD BKUP  Y        1 04-05-31 15:44:20 GMT

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
SS7ANSI    1102  Y  N  11          04-06-01 08:04:00       -
SS7ANSI    1103  Y  N  11          04-06-01 08:04:00       -
VSCCP      1105  Y  N  11          04-06-01 08:04:00       -
STPLAN     1107  Y  N  11          04-06-01 08:04:00       -
TDM-CRNT   1114  Y  N  11          04-06-01 08:04:00       -
TDM-BKUP   1114  Y  -  11          04-06-01 08:04:00       -
TDM-CRNT   1116  Y  N  11          04-06-01 08:04:00       -
TDM-BKUP   1116  Y  -  11          04-06-01 08:04:00       -
MDAL       1117  Y  -  1           04-05-31 15:06:29  DIFF LEVEL
VSCCP      1201  Y  N  11          04-06-01 08:04:00       -
VSCCP      1203  Y  N  11          04-06-01 08:04:00       -
```

If any of the features shown in *Table 2: MPS EPAP Features* on page 21 are enabled, and turned on if necessary, the output of the `rept-stat-db:display=all` command also shows the status of the databases on EPAP A and EPAP B, followed by the status of the VSCCP card database, as shown in this example.

```
rlghncxa03w 06-10-01 08:39:24 GMT EAGLE5 37.6.0
rept-stat-db:display=all
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       11 04-06-01 08:20:13 GMT  Y       11 04-06-01 08:20:13 GMT
FD CRNT  Y       11                        Y       11
         MDAL 1117
         - --------
RD BKUP  Y        1 04-05-31 15:44:20 GMT

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
SS7ANSI    1102  Y  N  11          04-06-01 08:04:00       -
SS7ANSI    1103  Y  N  11          04-06-01 08:04:00       -
STPLAN     1107  Y  N  11          04-06-01 08:04:00       -
TDM-CRNT   1114  Y  N  11          04-06-01 08:04:00       -
TDM-BKUP   1114  Y  -  11          04-06-01 08:04:00       -
TDM-CRNT   1116  Y  N  11          04-06-01 08:04:00       -
TDM-BKUP   1116  Y  -  11          04-06-01 08:04:00       -
MDAL       1117  Y  -  1           04-05-31 15:06:29  DIFF LEVEL
VSCCP      1201  Y  N  11          04-06-01 08:04:00       -
VSCCP      1203  Y  N  11          04-06-01 08:04:00       -

              EPAP A  ( ACTV )
               C  BIRTHDATE          LEVEL       EXCEPTION
```

```
                 -  -----------------  ----------  --------------
PDB              Y  04-06-01 08:20:04       12345        -
RTDB             Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE       Y  04-06-01 08:20:04       12345        -

               EPAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
PDB              Y  04-06-01 08:20:04       12345        -
RTDB             Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE       Y  04-06-01 08:20:04       12345        -

                 EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
VSCCP      1201  Y  04-06-01 08:20:04       12345        -      10d 23h 21m
VSCCP      1203  Y  04-06-01 08:20:04       12345        -       5d  3h  1m
VSCCP      1105  Y  04-06-01 08:20:04       12345        -       9d 12h 37m
```

If the ELAP Configuration feature is enabled and on, the output of the `rept-stat-db:display=all` command also shows the status of the databases on ELAP A and ELAP B, followed by the status of the VSCCP card database, as shown in this example.

```
rlghncxa03w 06-10-01 08:39:24 GMT EAGLE5 37.6.0
rept-stat-db:display=all
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       11 04-06-01 08:20:13 GMT  Y       11 04-06-01 08:20:13 GMT
FD CRNT  Y       11                        Y       11
         MDAL 1117
         - --------
RD BKUP  Y        1 04-05-31 15:44:20 GMT

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
SS7ANSI    1102  Y  N  11          04-06-01 08:04:00       -
SS7ANSI    1103  Y  N  11          04-06-01 08:04:00       -
VSCCP      1105  Y  N  11          04-06-01 08:04:00       -
STPLAN     1107  Y  N  11          04-06-01 08:04:00       -
TDM-CRNT   1114  Y  N  11          04-06-01 08:04:00       -
TDM-BKUP   1114  Y  -  11          04-06-01 08:04:00       -
TDM-CRNT   1116  Y  N  11          04-06-01 08:04:00       -
TDM-BKUP   1116  Y  -  11          04-06-01 08:04:00       -
MDAL       1117  Y  -  1           04-05-31 15:06:29  DIFF LEVEL
VSCCP      1201  Y  N  11          04-06-01 08:04:00       -
VSCCP      1203  Y  N  11          04-06-01 08:04:00       -

               ELAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB             Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE          04-06-01 08:20:04       12345        -

               ELAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB             Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE          04-06-01 08:20:04       12345        -

                 EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
```

```
   VSCCP      1201  Y  04-06-01 08:20:04       12345        -      10d 23h 21m
   VSCCP      1203  Y  04-06-01 08:20:04       12345        -       5d  3h  1m
   VSCCP      1105  Y  04-06-01 08:20:04       12345        -       9d 12h 37m
```

DISPLAY=VERSION Parameter

The output from the `display=version` parameter contains the same information displayed from the `display=all` parameter except that the `EXCEPTION` field is replaced with the `VERSION` and `STATUS` fields. The `display=version` parameter displays this information.

- the coherency indicator for each database
- the number of updates for the active and standby databases
- the database version of each database
- the operational status of each database

This is an example of the output when the `display=version` parameter is used.

```
rlghncxa03w 06-10-01 08:18:47 GMT EAGLE5 37.6.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       74 04-06-01 23:30:05 GMT  Y       74 04-06-01 23:30:05 GMT
FD CRNT  N       78 CORRUPTED              Y       75 DIFF LEVEL
        MDAL 1117
         - --------
RD BKUP  -    -         -        -

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   VERSION      STATUS
---------  ----  -  -  ----------  -----------------  -----------  ------
TDM-CRNT   1114  Y  N  78          04-06-01 23:15:06  111-000-000  NORMAL
TDM-BKUP   1114  Y  -  74          04-06-01 17:24:29  123-081-188  249
TDM-CRNT   1116  Y  N  75          04-06-01 23:47:05  111-000-000  NORMAL
TDM-BKUP   1116  Y  -  74          04-06-01 17:24:29  123-081-188  249
MDAL       1117  -  -      -           -        -          -
```

If the LNP feature is enabled, shown by the entry `LNP TNs` in the `rtrv-ctrl-feat` command output with a quantity greater than zero, the output of the `rept-stat-db:display=version` command include the version number of the LNP database with each database listed in the `CARD/APPL` field as shown in this example.

```
rlghncxa03w 06-10-01 11:34:04  GMT  EAGLE5 37.6.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       74 04-05-31 21:03:21 GMT  Y       74 04-05-31 21:03:21 GMT
FD CRNT  Y       78                        Y       78
         MDAL 1117
         - --------
RD BKUP  Y       74 04-05-31 21:03:21 GMT

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   VERSION STATUS
---------  ----  -  -  ----------  -----------------  -------------------
TDM-CRNT   1114  Y  N  78          04-06-01 23:12:37  111-000-000  NORMAL
    LNP                                               000-000-001
TDM-BKUP   1114  Y  -  74          04-05-31 21:03:21  111-000-000  NORMAL
    LNP                                               000-000-001
TDM-CRNT   1116  Y  N  78          04-06-01 23:12:37  111-000-000  NORMAL
```

```
    LNP                                                 000-000-001
TDM-BKUP   1116  Y  -  74          04-05-31 21:03:21  111-000-000  NORMAL
    LNP                                                 000-000-001
MDAL       1117  Y  -  74          04-05-31 21:03:21  111-000-000  NORMAL
    LNP                                                 000-000-001
```

If any of the features shown in *Table 2: MPS EPAP Features* on page 21 are enabled, and turned on if necessary, the output of the `rept-stat-db:display=version` command also shows the status of the databases on EPAP A and EPAP B, followed by the status of the VSCCP card database, as shown in this example.

```
rlghncxa03w 06-10-01 08:18:47 GMT EAGLE5 37.6.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       74 04-06-01 23:30:05 GMT  Y       74 04-06-01 23:30:05 GMT
FD CRNT  N       78 CORRUPTED              Y       75 DIFF LEVEL
         MDAL 1117
         - --------
RD BKUP  -    -         -        -

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   VERSION      STATUS
---------  ----  -  -  ----------  -----------------  -----------  ------
TDM-CRNT   1114  Y  N  78          04-06-01 23:15:06  111-000-000  NORMAL
TDM-BKUP   1114  Y  -  74          04-06-01 17:24:29  123-081-188  249
TDM-CRNT   1116  Y  N  75          04-06-01 23:47:05  111-000-000  NORMAL
TDM-BKUP   1116  Y  -  74          04-06-01 17:24:29  123-081-188  249
MDAL       1117  -  -      -           -        -          -
              EPAP A ( ACTV )
               C  BIRTHDATE           LEVEL       EXCEPTION
               -  -----------------   ----------  --------------
PDB               04-06-01 10:19:18            8        -
RTDB           Y  04-06-01 10:19:18            8        -
RTDB-EAGLE        04-06-01 10:19:18            8  CORRUPTED

              EPAP B ( STDBY )
               C  BIRTHDATE           LEVEL       EXCEPTION
               -  -----------------   ----------  --------------
PDB               04-06-01 10:19:18            8        -
RTDB           Y  04-06-01 10:19:18           10        -
RTDB-EAGLE        04-06-01 10:10:18           10   DIFF LEVEL

               EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE           LEVEL       EXCEPTION
---------  ----  -  -----------------   ----------  --------------
VSCCP      1101  -     -        -           -           -
VSCCP      1103  N  04-06-01 10:19:18           8      -
VSCCP      1213  Y  04-06-01 10:10:18          10  DIFF LEVEL
```

If the ELAP Configuration feature is enabled and on, the output of the `rept-stat-db:display=version` command also shows the status of the databases on ELAP A and ELAP B, followed by the status of the VSCCP card database, as shown in this example.

```
rlghncxa03w 06-10-01 08:18:47 GMT EAGLE5 37.6.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       74 04-06-01 23:30:05 GMT  Y       74 04-06-01 23:30:05 GMT
FD CRNT  N       78 CORRUPTED              Y       75 DIFF LEVEL
         MDAL 1117
         - --------
```

```
RD BKUP  -    -         -        -

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   VERSION      STATUS
---------  ----  -  -  ----------  -----------------  -----------  ------
TDM-CRNT   1114  Y  N  78          04-06-01 23:15:06  111-000-000  NORMAL
TDM-BKUP   1114  Y  -  74          04-06-01 17:24:29  123-081-188  249
TDM-CRNT   1116  Y  N  75          04-06-01 23:47:05  111-000-000  NORMAL
TDM-BKUP   1116  Y  -  74          04-06-01 17:24:29  123-081-188  249
MDAL       1117  -  -      -           -        -          -

               ELAP A ( ACTV )
                C  BIRTHDATE           LEVEL       EXCEPTION
                -  -----------------   ----------  --------------
RTDB-EAGLE      Y  04-06-01 10:19:18           10  DIFF LEVEL
TIME LAST UPDATE   04-06-01 16:01:48

               ELAP B ( STDBY )
                C  BIRTHDATE           LEVEL       EXCEPTION
                -  -----------------   ----------  --------------
RTDB-EAGLE      Y  04-06-01 10:19:18           10  DIFF LEVEL
TIME LAST UPDATE   04-06-01 16:01:48

                EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE           LEVEL       EXCEPTION
---------  ----  -  -----------------   ----------  --------------
VSCCP      1101  -     -        -           -           -
VSCCP      1103  N  04-06-01 10:19:18            8      -
VSCCP      1213  Y  04-06-01 10:10:18           10  DIFF LEVEL
```

LOC Parameter

The output from the `loc` parameter contains the coherency and the number of updates of the database on the specified application board. The time stamp for the last database update for the specified card is displayed. This is an example of the output when the `loc` parameter is used.

```
rlghncxa03w 06-10-01 08:37:39 GMT EAGLE5 37.6.0
CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
CCS7ITU    1207  Y  N  78          04-06-01 23:15:06       -
```

If any of the features shown in *Table 2: MPS EPAP Features* on page 21 are enabled, and turned on if necessary, or the ELAP Configuration feature is enabled and on, and the card being displayed is a VSCCP card, the output of the `rept-stat-db` command also contains the status of the VSCCP card database, as shown in this example.

```
CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
VSCCP      1213  Y  N          78  04-06-01 23:15:06       -

CARD/APPL  LOC   C  BIRTHDATE           LEVEL       EXCEPTION
---------  ----  -  -----------------   ----------  --------------
VSCCP      1213  Y  04-06-01 10:10:18           10  DIFF LEVEL
```

DB Parameter

The DB parameter specifies which databases to display. Through the DB parameter, you can specify the output to report on:

- EAGLE 5 ISS databases (`db=stp`)

- MPS/ELAP/EPAP databases (`db=mps`), which support the features shown in *Table 2: MPS EPAP Features* on page 21, if any of these features are enabled, and turned on if necessary; or the LNP feature if the ELAP Configuration feature is enabled and on.
- All databases (`db=all`), the default value that provides output for both the STP and MPS databases.

The following example shows an output when the `db=stp` parameter is used on an ELAP or an EPAP.

```
rlghncxa03w 06-10-01 08:39:24 GMT EAGLE5 37.6.0
rept-stat-db:db=stp
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------

FD BKUP  Y       11 04-06-01 08:20:13 GMT  Y       11 04-06-01 08:20:13 GMT

FD CRNT  Y       11                        Y       11
         MDAL 1117
         - --------
RD BKUP  Y        1 04-05-31 15:44:20 GMT
```

The output from the `db` parameter provides expanded detail about the cards in the EAGLE 5 ISS when the `display=all` parameter is used with the `db=stp` parameter, as shown in this example.

```
rlghncxa03w 06-10-01 08:39:24 GMT EAGLE5 37.6.0
rept-stat-db:display=all:db=stp
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       11 04-06-01 08:20:13 GMT  Y       11 04-06-01 08:20:13 GMT
FD CRNT  Y       11                        Y       11
         MDAL 1117
         - --------
RD BKUP  Y        1 04-05-31 15:44:20 GMT

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
SS7ANSI    1102  Y  N  11          04-06-01 08:04:00       -
SS7ANSI    1103  Y  N  11          04-06-01 08:04:00       -
VSCCP      1105  Y  N  11          04-06-01 08:04:00       -
STPLAN     1107  Y  N  11          04-06-01 08:04:00       -
TDM-CRNT   1114  Y  N  11          04-06-01 08:04:00       -
TDM-BKUP   1114  Y  -  11          04-06-01 08:04:00       -
TDM-CRNT   1116  Y  N  11          04-06-01 08:04:00       -
TDM-BKUP   1116  Y  -  11          04-06-01 08:04:00       -
MDAL       1117  Y  -  1           04-05-31 15:06:29  DIFF LEVEL
VSCCP      1201  Y  N  11          04-06-01 08:04:00       -
```

The output from the following `db` parameter displays the MPS database in an ELAP. Because the `display` parameter is not specified, its default of `brief` is used, resulting in no information about any RTDB cards and reporting on only the MPS databases.

```
rlghncxa03w 06-10-01 08:39:24 GMT EAGLE5 37.6.0
rept-stat-db:db=mps

               ELAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
```

```
RTDB             Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE          04-06-01 08:20:04       12345        -

                ELAP B ( STDBY )
                 C  BIRTHDATE          LEVEL       EXCEPTION
                 -  -----------------  ----------  --------------
RTDB             Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE          04-06-01 08:20:04       12345        -
```

When the ELAP Configuration feature is enabled and on, the MPS/ELAP databases are used. The following sample shows the output for `db=mps` to display the MPS databases and for `display=except` to display RTDB card exception conditions.

```
rlghncxa03w 06-10-01 08:55:54 GMT EAGLE5 37.6.0
rept-stat-db:display=except:db=mps

              ELAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -

               ELAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -

                 EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
VSCCP      1203  Y  04-06-01 08:20:04       12340  DIFF LEVEL    5d  3h  1m
```

When any of the features shown in *Table 2: MPS EPAP Features* on page 21 are enabled, and turned on if necessary; the MPS/EPAP databases are used. Output from the DB parameter provides expanded detail about the databases and cards in the MPS/EPAP when the `display=all` parameter is used with the `db=mps` parameter, as shown in this example.

```
rlghncxa03w 06-10-01 08:39:24 GMT EAGLE5 37.6.0
rept-stat-db:display=all:db=mps

               EPAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
PDB             Y  04-06-01 08:20:04       12345        -
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -

               EPAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
PDB             Y  04-06-01 08:20:04       12345        -
RTDB            Y  04-06-01 08:20:04       12345        -
RTDB-EAGLE      Y  04-06-01 08:20:04       12345        -

                 EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
VSCCP      1201  Y  04-06-01 08:20:04       12345        -      10d 23h 21m
```

```
VSCCP      1203  Y  04-06-01 08:20:04       12345        -       5d  3h  1m
VSCCP      1105  Y  04-06-01 08:20:04       12345        -       9d 12h 37m
```

Checking the Status of the Database

To check the operational status of the database:

1. At the prompt, enter the `rept-stat-db` command.
2. The output of the `rept-stat-db` command shows the current operational status of the EAGLE 5 ISS's distributed databases.
3. If the database is coherent, the database has no problems. The procedure is completed.

If any MPS/ELAP/EPAP database is not coherent, find the conditions shown in the output of the `rept-stat-db` command. Then refer to either the ELAP *Administration Manual* or the EPAP *Administration Manual*, and perform the database recovery procedures described in the RTDB / Maintenance menus.

If any STP database is not coherent, find the conditions shown in the output of the `rept-stat-db` command in this list and execute the appropriate command.

- If the current partition of both fixed disks are coherent and the backup partition of the either fixed disk is not coherent, as shown in this output example, use the `chg-db:action=backup:dest=fixed` command. For more information, go to the *Making a Backup of the Database on the Fixed Disk* on page 34 procedure.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 37.6.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 DIFF LEVEL             N       45 INCOHERENT
FD CRNT  Y      106                        Y      106
        MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

  The `chg-db:action=backup:dest=fixed` command is also used to backup the current database on both fixed disks to the backup partition of both fixed disks.

- If the current partition of the active fixed disk is coherent and the database on the removable cartridge is not coherent , as shown in this output example, use the `chg-db:action=backup:dest=remove` command. For more information, go to the *Making a Backup of the Database to the Removable Cartridge* on page 36 procedure.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 37.6.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
        MDAL 1117
         - --------
RD BKUP  N      106 INCOHERENT
```

  The `chg-db:action=backup:dest=remove` command is also used to backup the current database on both fixed disks to the removable cartridge.

- If the backup partition of both fixed disks are coherent and the current partition of both fixed disks are not coherent, use the `chg-db:action=restore:src=fixed` command. For more information, go to the *Restoring the Database from the Backup Partition of the Fixed Disk* on page 39 procedure. This condition is shown in this example output of the `rept-stat-db` command.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 37.6.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y       35 DIFF LEVEL             N       68 INCOHERENT
         MDAL 1117
         - --------
RD BKUP  -    -          -        -
```

- If the database on the removable cartridge is coherent and the current partition of the both fixed disks are not coherent, use the `chg-db:action=restore:src=remove` command. For more information, go to the *Restoring the Database from the Removable Cartridge* on page 42 procedure. This condition is shown in this example output of the `rept-stat-db` command.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 37.6.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106 DIFF LEVEL             N       93 INCOHERENT
         MDAL 1117
         - --------
RD BKUP  Y      106 04-05-31 14:29:03 GMT
```

- If the backup and current partitions on the active fixed disks are coherent and the backup and current partitions on the standby fixed disks are not coherent, use the `chg-db:action=repair` command. For more information, go to the *Repairing the Database* on page 46 procedure. This condition is shown in this example output of the `rept-stat-db` command.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 37.6.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  N       35 INCOHERENT             Y       55 DIFF LEVEL
FD CRNT  N      106 INCOHERENT             Y       55 DIFF LEVEL
         MDAL 1117
         - --------
RD BKUP  -    -          -        -
```

If, after executing the appropriate change database command, the database is still not coherent, contact the Customer Care Center. Refer to *Customer Care Center* on page 4 for the contact information.

Backing Up the Database Locally

The **backup** procedures should be performed according to the preventive maintenance procedures in Chapter 2, "Preventive Maintenance," of the *Maintenance Manual*. The procedures copy the current database to either the nonactive (backup) partition on the fixed disk or to the removable cartridge. To backup a database, the `chg-db` command uses these parameters.

:`action=backup` – the operation to perform on the database, a backup of the current database

:`dest` – the destination of the backup operation, either the backup partition of the fixed disk (`fixed`) or the removable cartridge (`remove`). If the `dest` parameter is not specified, the current database is backed up to the backup partition of the fixed disk.

The database can also be backed up to the FTP server. Perform the procedure *Making a Backup of the Database to the FTP Server* on page 579 to backup the database to the FTP server.

Making a Backup of the Database on the Fixed Disk

This procedure is used to make a backup of the database on the fixed disk using the `chg-db` command with `action=backup` and `dest=fixed` parameters.

The databases in the current partitions of both MASPs (FD CRNT) must be coherent. For more information on verifying the database, read *Verifying the Database* on page 18.

1. Verify that the databases in the current partitions of both MASPs (FD CRNT) are coherent using the `rept-stat-db` command.

   This is an example of the possible output.

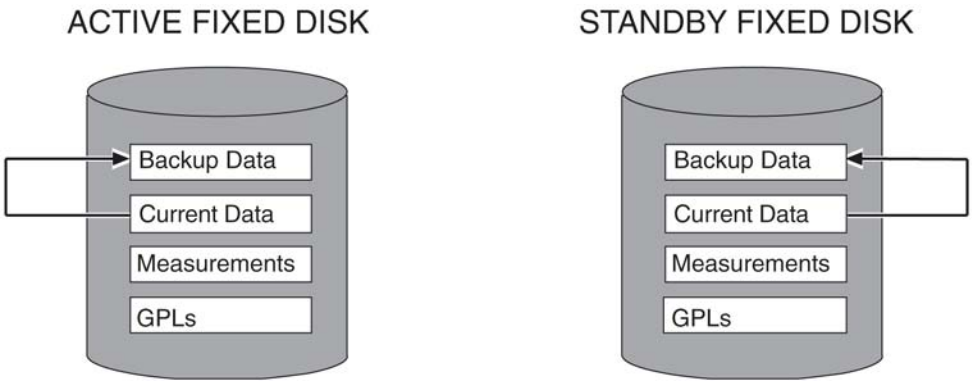
```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
         MDAL 1117
         - --------
RD BKUP  Y      106 04-05-31 14:29:03 GMT
```

2. Enter the `chg-db:action=backup:dest=fixed` command.

   This command can take up to 30 minutes to execute, depending on other system activity that is in progress when this command is entered. The action of this command is shown in *Figure 6: Backup Action on the Fixed Disk* on page 34.

   Note: If this command takes more than 60 minutes to execute, contact the Customer Care Center for assistance. Refer to *Customer Care Center* on page 4 for the contact information.

   Figure 6: Backup Action on the Fixed Disk



During command execution, these messages appear (the active MASP is displayed first):

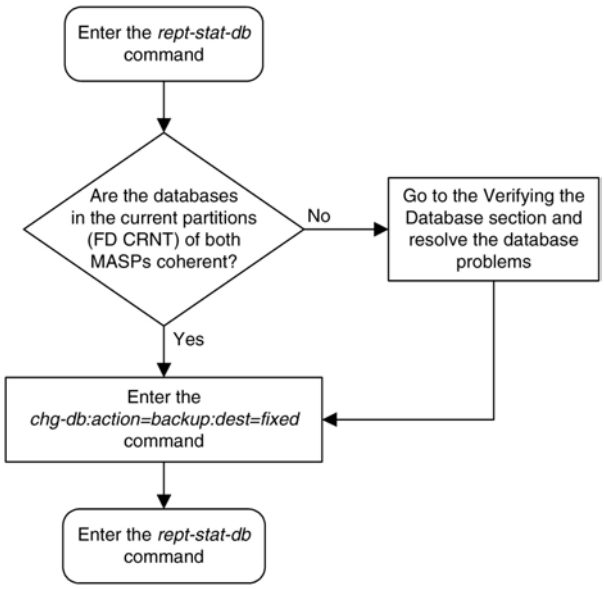
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

3. Verify that the databases of both MASPs are coherent using the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- -------------------  - -------- -------------------
FD BKUP  Y      106 04-06-01 16:09:17 GMT  Y      106 04-06-01 16:09:17 GMT
FD CRNT  Y      106                        Y      106
         MDAL 1117
         - --------
RD BKUP  Y      106 04-05-31 14:29:03 GMT
```

Figure 7: Making a Backup of the Database to the Fixed Disk



Making a Backup of the Database to the Removable Cartridge

This procedure is used to make a backup of the database to the removable cartridge using the `chg-db` command with the `action=backup` and `dest=remove` parameters.

The database in the current partition of the active MASP (FD CRNT) must be coherent. For more information on verifying the database, read *Verifying the Database* on page 18.

A formatted blank removable cartridge that is write enabled is required. If the removable cartridge is not formatted, go to the *Formatting a Removable Cartridge* on page 77 and format the cartridge. To write enable a removable cartridge, see *Write Enabling the Removable Cartridge* on page 14.

1. Verify that the database in the current partition of the active MASP (FD CRNT) is coherent using the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
         MDAL 1117
         - --------
RD BKUP  -    -          -         -
```

2. Insert the pre-formatted removable cartridge in the removable cartridge drive on the MDAL card.

   For more information on inserting the removable cartridge in the removable cartridge drive, see *Inserting the Removable Cartridge* on page 15.

3. Enter the `chg-db:action=backup:dest=remove` command.

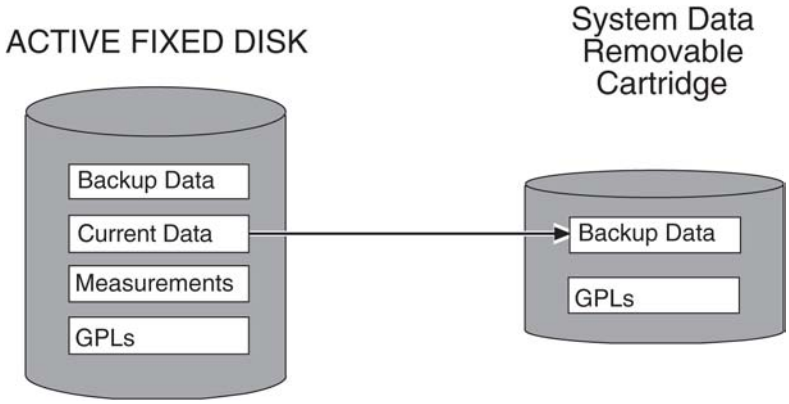
   During command execution, these messages should appear.

```
BACKUP (REMOVABLE) : MASP A - Backup starts on active MASP.
BACKUP (REMOVABLE) : MASP A - Backup to removable cartridge complete.
```

   This command is only performed on the active MASP. The action of this command is shown in *Figure 8: Backup Action to the Removable Cartridge* on page 36. This command can take up to 30 minutes to execute, depending on the size of the database and other system activity that is in progress when this command is entered.

   Note: If this command takes more than 60 minutes to execute, contact the Customer Care Center for assistance. Refer to *Customer Care Center* on page 4 for the contact information.

   Figure 8: Backup Action to the Removable Cartridge



4. Verify that the databases on the removable cartridge (RD BKUP) and the current partition of the active MASP (FD CRNT) are coherent using the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:11:34 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
         MDAL 1117
         - --------
RD BKUP  Y      106 04-05-31 16:09:53 GMT
```

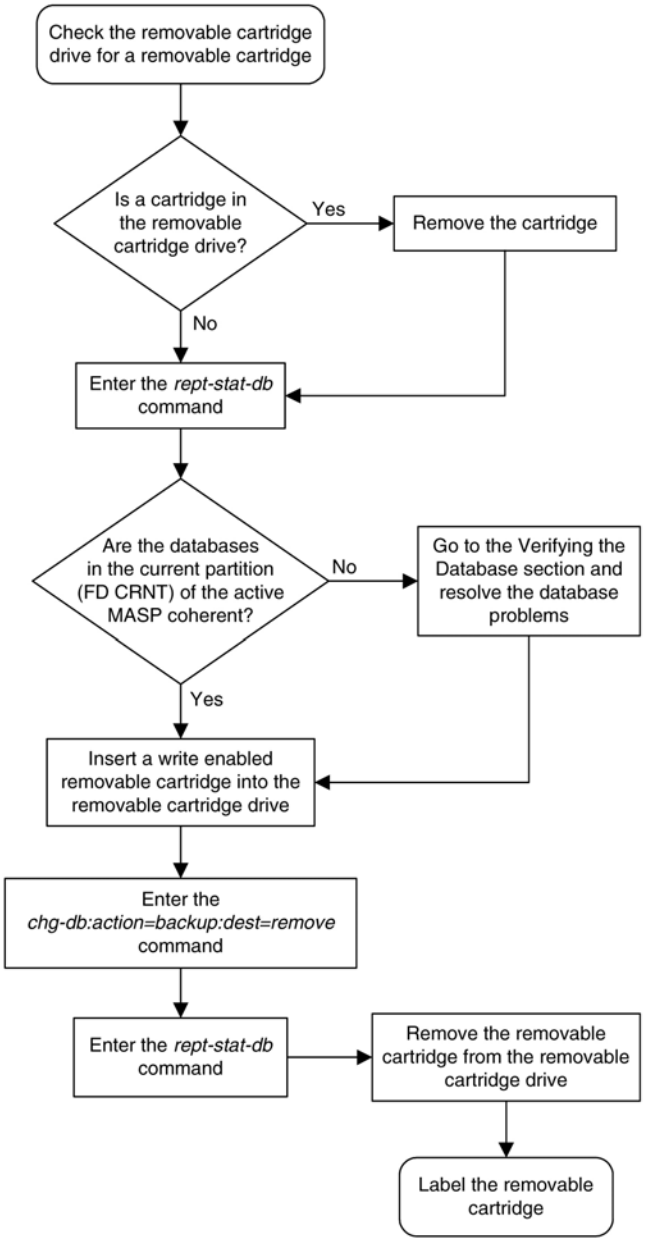
5. Remove the removable cartridge from the removable cartridge drive on the MDAL card.

   For more information on removing the removable cartridge from the removable cartridge drive, see *Removing the Removable Cartridge* on page 17.

6. Label the removable cartridge, 1 through 4 if the backup is performed weekly or monthly, A through D if the backup is performed quarterly.

   For more information on labeling the removable cartridge, see Chapter 2, "Preventive Maintenance," in the *Maintenance Manual*. Store this cartridge in a secure place.

Figure 9: Making a Backup of the Database to the Removable Cartridge



Restoring the Database Locally

The **restore** procedures are used to bring a database from the backup partition of both MASPs and load the database onto the current partitions of both MASPs. It is also used to load a database from a removable cartridge onto the current partitions of both MASPs. To restore a database, the `chg-db` command uses these parameters.

`:action=restore` – the operation to perform on the database, restoring a previously backed up database

:src – the source of the database being restored, either the backup partition of the fixed disk (fixed) or the removable cartridge (remove). If the src parameter is not specified, the database is restored from the backup partition of the fixed disk (fixed).

The database can also be restored from the FTP server. Perform the procedure *Restoring the Database from the FTP Server* on page 583, to restore the database from the FTP server.

CAUTION: If the restore device state option is on, shown by the ON value for the RSTRDEV field in the rtrv-stpopts command output, the state of the cards, SS7 signaling links, TCP/IP data links, and terminals before the chg-db:action=restore and init-sys commands are performed will not be maintained after these commands are performed. The persistent device state table becomes obsolete and is disabled. UIM 1257 is generated.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
1234.1257    SYSTEM       INFO  DB Restore has cleared and disabled PDS
```

Restoring the Database from the Backup Partition of the Fixed Disk

This procedure is used to restore the database from the backup partition of the fixed disk using the chg-db command with the action=restore and src=fixed parameters.

The databases in the backup partitions of both MASPs (RD BKUP) must be coherent. For more information on verifying the database, read *Verifying the Database* on page 18.

CAUTION: Using the action=restore parameter with the chg-db command is an emergency recovery procedure, and requires the init-sys command to download the restored database to all the cards in the EAGLE 5 ISS.

1. Verify that the databases in the backup partitions of both MASPs (FD BKUP) are coherent using the rept-stat-db command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                  TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
         MDAL 1117
         - --------
RD BKUP  -    -          -         -
```

2. Enter the chg-db:action=restore:src=fixed command.

   This command can take up to 30 minutes to execute, depending on other system activity that is in progress when this command is entered.

   Note: If this command takes more than 60 minutes to execute, contact the Customer Care Center for assistance. Refer to *Customer Care Center* on page 4 for the contact information.

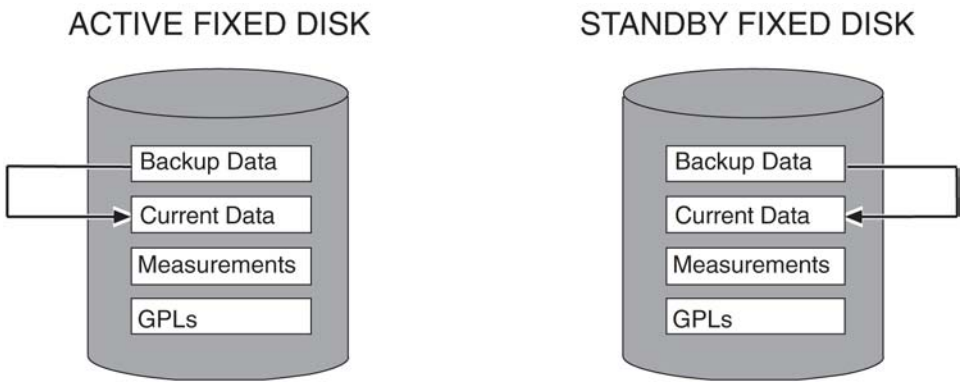
   During command execution, these messages appear (the active MASP is displayed first):

```
RESTORE (FIXED) : MASP A - Restore starts on active MASP.
RESTORE (FIXED) : MASP A - Restore from fixed disk on active MASP complete.
```

```
RESTORE (FIXED) : MASP A - Restore starts on standby MASP.
RESTORE (FIXED) : MASP A - MASP(s) will reboot to load data.
RESTORE (FIXED) : MASP A - Restore from fixed disk on stdby MASP complete.
```

The action of this command is shown in *Figure 10: Restore Action on the Fixed Disk* on page 40.

Figure 10: Restore Action on the Fixed Disk



3. When the commands have successfully completed, re-initialize the EAGLE 5 ISS using the `init-sys` command.

CAUTION

CAUTION: The `init-sys` command causes a complete reload of the EAGLE 5 ISS, and should only be used during periods of low traffic. Using this command ensures that all cards are running the same database, but will interrupt service.

Note: The `init-sys` command must be entered twice within 30 seconds for the EAGLE 5 ISS to be re-initialized. If the `init-sys` command is not executed twice within 30 seconds, the attempt to re-initialize the EAGLE 5 ISS is aborted.

When the `init-sys` command is first entered, this message should appear.

```
rlghncxa03w 06-10-01  07:05:01 GMT  EAGLE5 36.0.0
CAUTION: This command causes a complete system reload, and
will result in traffic loss.
Re-enter command within 30 seconds to confirm.
```

When the `init-sys` command is re-entered within the 30 second time limit, this message should appear.

```
rlghncxa03w 06-10-01  07:05:17 GMT  EAGLE5 36.0.0
Init System command issued at terminal #3
```

From the time that the `init-sys` command is accepted, you must wait approximately 2 minutes before you can perform step 4 (logging into the EAGLE 5 ISS). If the EAGLE 5 ISS terminal is in the VT-100/VT-320 mode, the terminal display will be refreshed with non-zero alarm counts. During this 2 minutes interval, an intermediate screen refresh caused by the MASPs role change from active to standby, and from standby to active. This screen refresh is typically a partial refresh and the alarm indicators are set to zero.

If you are logged into the EAGLE 5 ISS in the KSR mode, the only response you will receive that you are now able to log into the EAGLE 5 ISS is that you will receive UAM 0009, MASP became active. UAM 0009 could be issued twice due to possible transient MASP role change (switching from active to standby). Following the execution of the `init-sys` command, the

MASP that was active before the `init-sys` command was entered will be the active MASP when the EAGLE 5 ISS has finished reinitializing.

4. Log into the EAGLE 5 ISS using the `login` or `act-user` command.

   This is an example of the messages that appear when you have successfully logged onto the EAGLE 5 ISS.

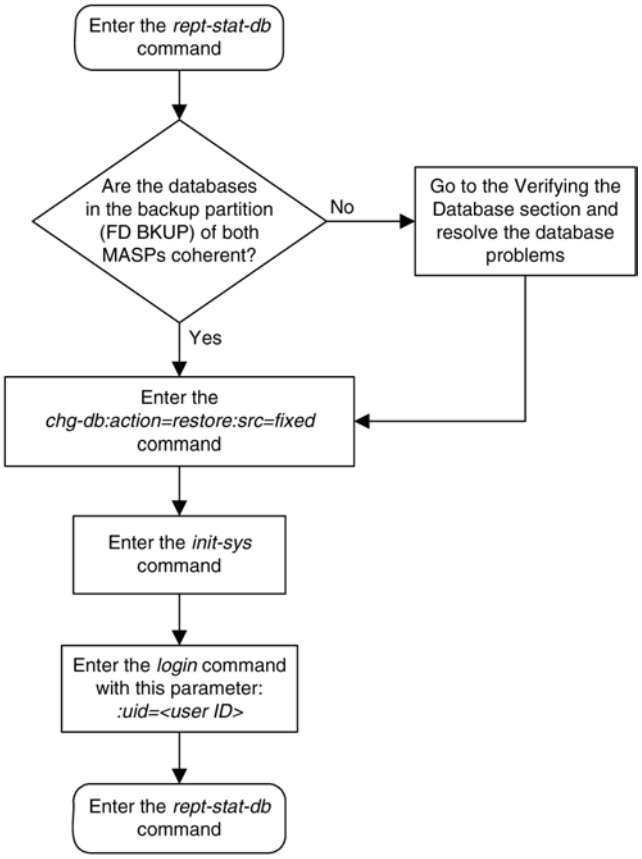
```
NOTICE: This is a private computer system.
Unauthorized access or use may lead to prosecution.

0 LOGIN failures since last successful LOGIN
Last successful LOGIN was on port 4 on 04-06-01 @ 09:34:56
```

5. Verify that the databases of both MASPs are coherent using the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y       35                        Y       35
         MDAL 1117
         - --------
RD BKUP  -    -          -         -
```

Figure 11: Restoring the Database from the Fixed Disk



Restoring the Database from the Removable Cartridge

This procedure is used to restore the database from the removable cartridge using the `chg-db` command with the `action=restore` and `src=remove` parameters.

The database on the removable cartridge (RD BKUP) must be coherent. For more information on verifying the database, see the *Verifying the Database* on page 18 section.

The removable cartridge must contain the database configuration to be restored. The removable cartridge should be write protected. To write protect a removable cartridge, see the *Write Protecting the Removable Cartridge* on page 14 section.

CAUTION

CAUTION: Using the `action=restore` parameter with the `chg-db` command is an emergency recovery procedure, and requires the `init-sys` command to download the restored database to all the cards in the EAGLE 5 ISS.

1. Check the removable cartridge drive on the MDAL card for a removable cartridge.

   If there is a removable cartridge in the drive, remove it. For more information on removing the removable cartridge from the removable cartridge drive, see the *Removing the Removable Cartridge* on page 17 section.

2. Insert the removable cartridge that contains the database configuration to be restored into the removable cartridge drive on the MDAL card.

For more information on inserting the removable cartridge in the removable cartridge drive, see the *Inserting the Removable Cartridge* on page 15 section.

3. Verify that the database on the removable cartridge (RD BKUP) is coherent using the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y       95                        Y       95
         MDAL 1117
         - --------
RD BKUP  Y      106 04-05-31 20:27:53 GMT
```

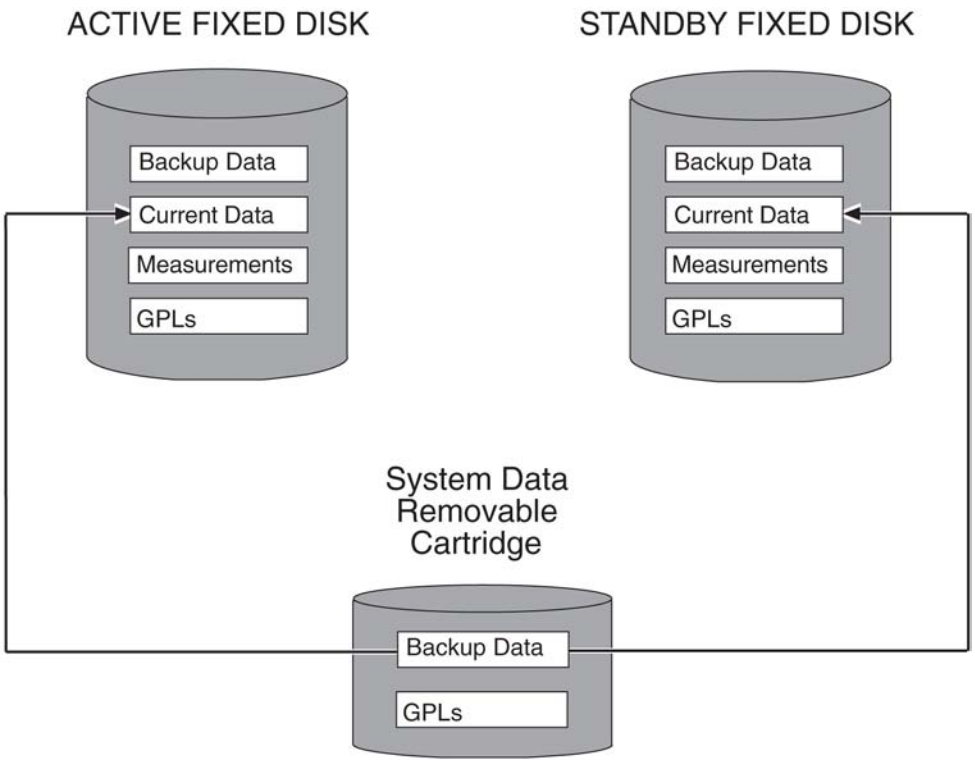
4. Enter the `chg-db:action=restore:src=remove` command.

   This command can take up to 30 minutes to execute, depending on the size of the database and other system activity that is in progress when this command is entered.

   Note: If this command takes more than 60 minutes to execute, contact the Customer Care Center for assistance. Refer to *Customer Care Center* on page 4 for the contact information.

   The action of this command is shown in *Figure 12: Restore Action from the Removable Cartridge* on page 43.

Figure 12: Restore Action from the Removable Cartridge



During command execution, these messages appear (the active MASP is displayed first).

```
RESTORE (REMOVABLE) : MASP A - Restore starts on active MASP.
RESTORE (REMOVABLE) : MASP A - Restore starts on standby MASP.
RESTORE (REMOVABLE) : MASP A - MASP(s) will reboot to load data.
RESTORE (REMOVABLE) : MASP A - Restore from removable cartridge complete.
```

Note: The init-sys command causes a complete reload of the EAGLE 5 ISS, and should only be used during periods of low traffic. Using this command ensures that all cards are running the same database, but will interrupt service.

5. When the commands have successfully completed, re-initialize the EAGLE 5 ISS using the `init-sys` command.

   Note:

   The `init-sys` command must be entered twice within 30 seconds for the EAGLE 5 ISS to be re-initialized. If the `init-sys` command is not executed twice within 30 seconds, the attempt to re-initialize the EAGLE 5 ISS is aborted.

   When the `init-sys` command is first entered, this message should appear.

   ```
   rlghncxa03w 06-10-01  07:05:01 GMT  EAGLE5 36.0.0
   CAUTION: This command causes a complete system reload, and
   will result in traffic loss.
   Re-enter command within 30 seconds to confirm.
   ```

   When the `init-sys` command is re-entered within the 30 second time limit, this message should appear.

   ```
   rlghncxa03w 06-10-01  07:05:17 GMT  EAGLE5 36.0.0
   Init System command issued at terminal #3
   ```

   From the time that the `init-sys` command is accepted, you must wait approximately 2 minutes before you can perform *Step 6* on page 44 (logging into the EAGLE 5 ISS). If the EAGLE 5 ISS terminal is in the VT-100/VT-320 mode, the terminal display will be refreshed with non-zero alarm counts. During this 2 minutes interval, an intermediate screen refresh caused by the MASPs role change from active to standby, and from standby to active. This screen refresh is typically a partial refresh and the alarm indicators are set to zero.

   If you are logged into the EAGLE 5 ISS in the KSR mode, the only response you will receive that you are now able to log into the EAGLE 5 ISS is that you will receive UAM 0009, MASP became active. UAM 0009 could be issued twice due to possible transient MASP role change (switching from active to standby). Following the execution of the `init-sys` command, the MASP that was active before the `init-sys` command was entered will be the active MASP when the EAGLE 5 ISS has finished reinitializing.

6. Log into the EAGLE 5 ISS using the `login` or `act-user` command.

   This is an example of the messages that appear when you have successfully logged into the EAGLE 5 ISS.

   ```
   NOTICE: This is a private computer system.
   Unauthorized access or use may lead to prosecution.

   0 LOGIN failures since last successful LOGIN
   Last successful LOGIN was on port 4 on 04-06-01 @ 09:34:56
   ```

7. Verify that the databases on the removable cartridge (RD BKUP) and the current partitions of both MASPs (FD CRNT) are coherent using the `rept-stat-db` command.

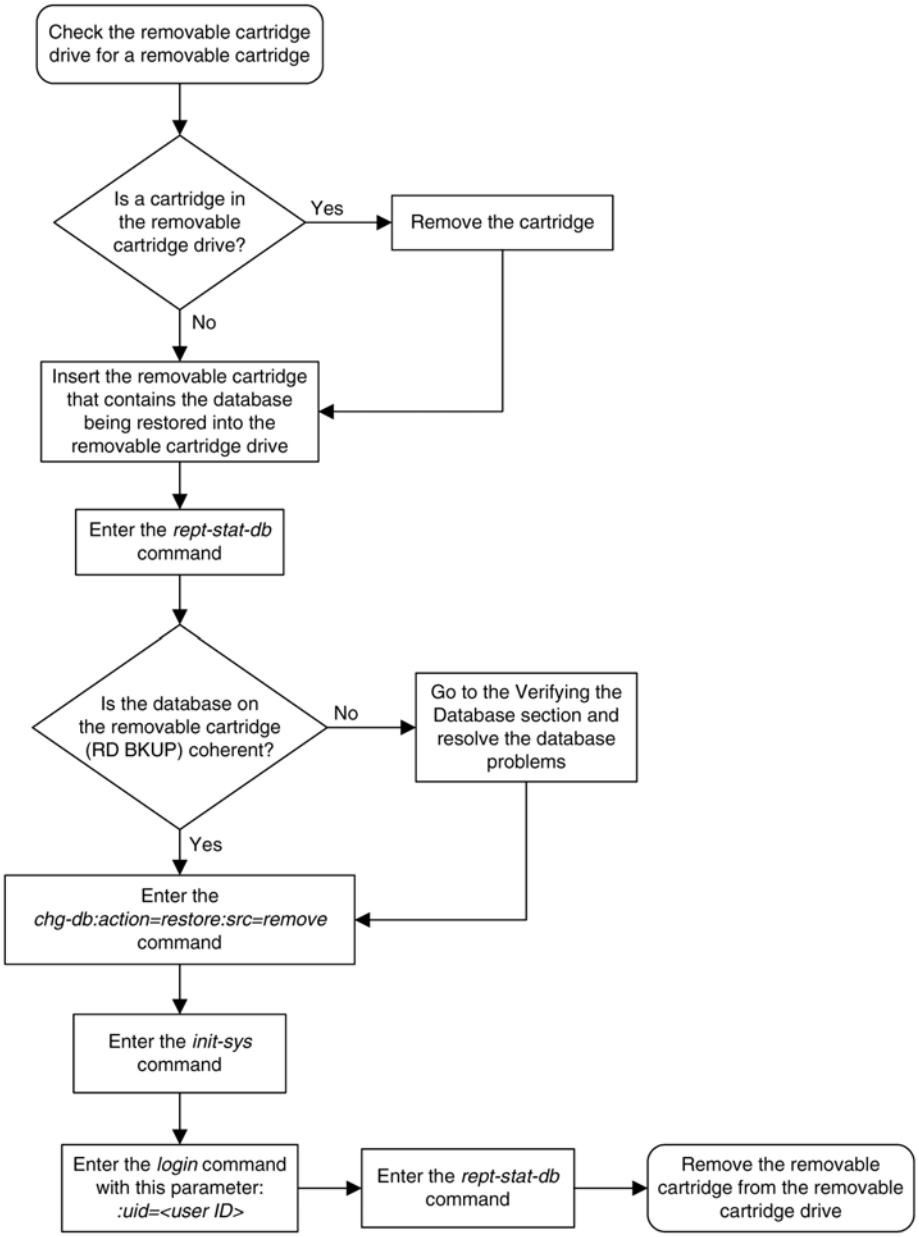
   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
         MDAL 1117
         - --------
RD BKUP  Y      106 04-05-31 20:27:53 GMT
```

8. Remove the removable cartridge from the removable cartridge drive on the MDAL card.

   For more information on removing the removable cartridge from the removable cartridge drive, see the *Removing the Removable Cartridge* on page 17 section.

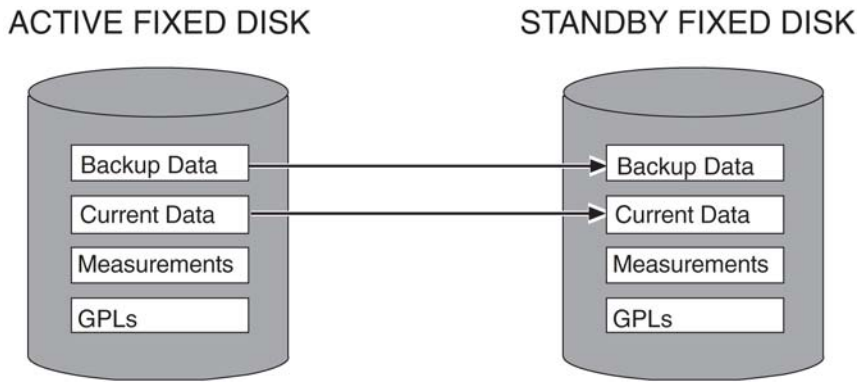
Figure 13: Restoring the Database from the Removable Cartridge



Repairing the Database

Perform the **repair** procedure whenever the two fixed disks have a different database image, such as after a MASP failure. This procedure copies the fixed disk image of the database associated with the active MASP to the fixed disk of the standby MASP. *Figure 14: Action of the Repair Procedure* on page 46 illustrates this action. To repair a database, The `chg-db` command uses only one parameter, `action=repair` – the operation to perform on the database, repairing a database

Figure 14: Action of the Repair Procedure



To repair the database, perform this procedure.

The databases in the current (FD CRNT) and the backup (FD BKUP) partitions of the active MASP must be coherent. For more information on verifying the database, read the *Verifying the Database* on page 18 section.

CAUTION

CAUTION: To prevent any potential database corruption when performing this procedure, the OAP and SEAS terminals must be placed out of service with the `rmv-trm` command before executing the `chg-db:action=repair` command.

1. Verify that the databases in the current (FD CRNT) and the backup (FD BKUP) partitions of the active MASP are coherent using the `rept-stat-db`command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  N       35 INCOHERENT            Y       55 DIFF LEVEL
FD CRNT  N      106 INCOHERENT            Y       55
         MDAL 1117
         - --------
RD BKUP  -    -          -        -
```

2. Display the terminal configuration in the database with the `rtrv-trm` command.

   The OAP terminals are shown in the output with the entry `OAP` in the `TYPE` field. The SEAS terminals are shown in the output with the entry `SEAS` in the `TYPE` field. This is an example of the possible output. In this example, the OAP terminals are terminals 6 and 9, and the SEAS terminals are terminals 18 and 27. If no OAP and SEAS terminals are shown in the `rtrv-trm` command output, go to step 5.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE     COMM         FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1   SW    30    5     99:59:59
2    KSR      9600-7-E-1   HW    30    5     INDEF
3    PRINTER  4800-7-E-1   HW    30    0     00:00:00
4    VT320    2400-7-E-1   BOTH  30    5     00:30:00
5    VT320    9600-7-O-1   NONE  30    5     00:00:30
6    OAP     19200-7-E-1 SW    0     5     INDEF
7    PRINTER  9600-7-N-2   HW    30    5     00:30:00
8    KSR     19200-7-E-2   BOTH  30    5     00:30:00
9    OAP     19200-7-E-1 SW    0     5     INDEF
```

```
10   VT320    9600-7-E-1  HW    30    5     00:30:00
11   VT320    4800-7-E-1  HW    30    5     00:30:00
12   PRINTER  9600-7-E-1  HW    30    4     00:30:00
13   VT320    9600-7-O-1  NONE  30    5     00:30:00
14   VT320    9600-7-E-2  SW    30    8     00:30:00
15   VT320    9600-7-N-2  HW    30    5     00:30:00
16   VT320    9600-7-E-2  BOTH  30    3     00:30:00

TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
17   TELNET    1201             60    5     00:30:00   yes
18   SEAS      1201             60    5     00:30:00   yes
19   TELNET    1201             60    5     00:30:00   yes
20   TELNET    1201             60    5     00:30:00   yes
21   TELNET    1201             60    5     00:30:00   yes
22   TELNET    1201             60    5     00:30:00   yes
23   TELNET    1201             60    5     00:30:00   yes
24   TELNET    1201             60    5     00:30:00   yes
25   TELNET    1203             60    5     00:30:00   yes
26   TELNET    1203             60    5     00:30:00   yes
27   SEAS      1203             60    5     00:30:00   yes
28   TELNET    1203             60    5     00:30:00   yes
29   TELNET    1203             60    5     00:30:00   yes
30   TELNET    1203             60    5     00:30:00   yes
31   TELNET    1203             60    5     00:30:00   yes
32   TELNET    1203             60    5     00:30:00   yes
33   TELNET    1205             60    5     00:30:00   yes
34   TELNET    1205             60    5     00:30:00   yes
35   TELNET    1205             60    5     00:30:00   yes
36   TELNET    1205             60    5     00:30:00   yes
37   TELNET    1205             60    5     00:30:00   yes
38   TELNET    1205             60    5     00:30:00   yes
39   TELNET    1205             60    5     00:30:00   yes
40   TELNET    1205             60    5     00:30:00   yes

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
17   none     none      none       1
19   none     none      none       1
20   none     none      none       1
21   none     none      none       1
22   none     none      none       1
23   none     none      none       1
24   none     none      none       1
25   none     none      none       1
26   none     none      none       1
28   none     none      none       1
29   none     none      none       1
30   none     none      none       1
31   none     none      none       1
32   none     none      none       1
33   none     none      none       1
34   none     none      none       1
35   none     none      none       1
36   none     none      none       1
37   none     none      none       1
38   none     none      none       1
39   none     none      none       1
40   none     none      none       1

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
1    NO   YES  NO  YES NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
3    YES  YES  YES NO  YES YES YES
4    YES  NO   NO  NO  NO  NO  NO
5    NO   YES  NO  NO  NO  NO  YES
```

```
6    YES  YES  YES YES YES YES YES
7    YES  YES  YES YES YES YES YES
8    NO   NO   NO  NO  YES NO  YES
9    YES  YES  YES YES YES YES YES
10   NO   NO   NO  NO  NO  NO  YES
11   YES  YES  YES YES YES YES YES
12   YES  YES  YES YES YES YES YES
13   NO   YES  NO  NO  NO  NO  YES
14   NO   NO   YES NO  NO  NO  NO
15   YES  YES  YES NO  YES YES YES
16   NO   NO   NO  NO  YES NO  YES
17   NO   NO   NO  NO  NO  NO  NO
18   NO   NO   NO  NO  NO  NO  NO
19   NO   NO   NO  NO  NO  NO  NO
20   NO   NO   NO  NO  NO  NO  NO
21   NO   NO   NO  NO  NO  NO  NO
22   NO   NO   NO  NO  NO  NO  NO
23   NO   NO   NO  NO  NO  NO  NO
24   NO   NO   NO  NO  NO  NO  NO
25   NO   NO   NO  NO  YES NO  YES
26   NO   NO   NO  NO  NO  NO  NO
27   NO   NO   NO  NO  NO  NO  NO
28   NO   NO   NO  NO  NO  NO  NO
29   NO   NO   NO  NO  NO  NO  NO
30   NO   NO   NO  NO  NO  NO  NO
31   NO   NO   NO  NO  NO  NO  NO
32   NO   NO   NO  NO  NO  NO  NO
33   NO   NO   NO  NO  NO  NO  NO
34   NO   NO   NO  NO  YES NO  YES
35   NO   NO   NO  NO  NO  NO  NO
36   NO   NO   NO  NO  NO  NO  NO
37   NO   NO   NO  NO  NO  NO  NO
38   NO   NO   NO  NO  NO  NO  NO
39   NO   NO   NO  NO  NO  NO  NO
40   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS   CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
3    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
4    YES  YES YES  YES YES NO  YES YES  YES YES NO   NO
5    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
6    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
7    NO   YES YES  YES YES YES YES YES  YES YES NO   NO
8    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
9    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
10   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
11   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
12   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
13   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
14   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
15   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
16   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
17   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
18   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  YES  NO
19   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
20   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
21   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
22   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
23   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
24   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
25   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
26   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
27   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  YES  NO
```

```
28   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
29   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
30   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
31   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
32   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
33   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
34   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
35   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
36   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
37   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
38   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
39   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
40   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

3. Display the status of the terminals with the `rept-stat-trm` command with the terminal number of the OAP or SEAS terminals.

   If OAP terminals are shown in the `rtrv-trm` output in step 2, for this example, enter these commands.

   ```
   rept-stat-trm:trm=6
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   TRM   PST           SST           AST
   6     IS-NR         Active        -----
   Command Completed.
   ```

   ```
   rept-stat-trm:trm=9
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   TRM   PST           SST           AST
   9     IS-NR         Active        -----
   Command Completed.
   ```

   If SEAS terminals are shown in the `rtrv-trm` output in step 2, for this example, enter these commands.

   ```
   rept-stat-trm:trm=18
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   TRM   PST           SST           AST
   18     IS-NR         Active        -----
   Command Completed.
   ```

   ```
   rept-stat-trm:trm=27
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   TRM   PST           SST           AST
   27     IS-NR         Active        -----
   Command Completed.
   ```

4. Place the OAP or SEAS terminals out of service using the `rmv-trm` command with the number of the terminal displayed in step 3 whose state is not OOS-MT-DSBLD.

The `force=yes` parameter must be used when placing the last OAP or SEAS terminal out of service.

If OAP terminals are shown in the `rept-stat-trm` output in step 3, for this example, enter these commands.

```
rmv-trm:trm=6
```

```
rmv-trm:trm=9:force=yes
```

If SEAS terminals are shown in the `rept-stat-trm` output in step 3, for this example, enter these commands.

```
rmv-trm:trm=18
```

```
rmv-trm:trm=27:force=yes
```

If the status of the OAP and SEAS terminals shown in the `PST` field in step 3 is OOS-MT-DSBLD (out-of-service maintenance disabled), the terminal is already out of service and the `rmv-trm` command does not need to be executed for that terminal.

This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Inhibit message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Command Completed.
```

5. Enter the `chg-db:action=repair` command.

   This command can take up to 30 minutes to execute, depending on the size of the database and other system activity that is in progress when this command is entered.

   Note: If this command takes more than 60 minutes to execute, contact the Customer Care Center. Refer to *Customer Care Center* on page 4 for the contact information.

   During command execution, these messages appear:

```
REPAIR: MASP A - Repair starts on standby MASP.
REPAIR: MASP A - Standby MASP will reboot to load data.
REPAIR: MASP A - Repair from fixed disk complete.
```

6. Verify that the databases of both MASPs are coherent using the `rept-stat-db`command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  N       55 04-06-01 13:11:43 GMT  Y       55 04-06-01 13:11:43 GMT
FD CRNT  N       55                        Y       55
         MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

   If OAP or SEAS terminals are shown in the `rtrv-trm` command output in step 2, go to step 7. Otherwise this procedure is completed.

7. Put the OAP and SEAS terminals back into service with the `rst-trm` command with the number of the terminals specified in step 4.

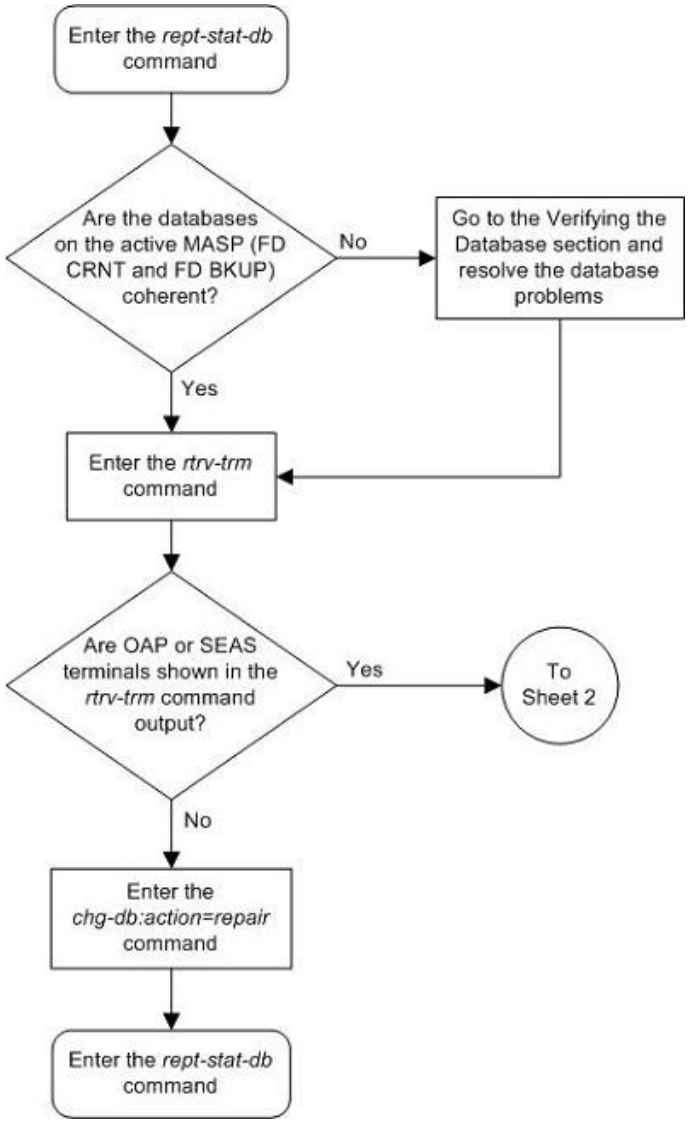
   For this example, enter these commands.

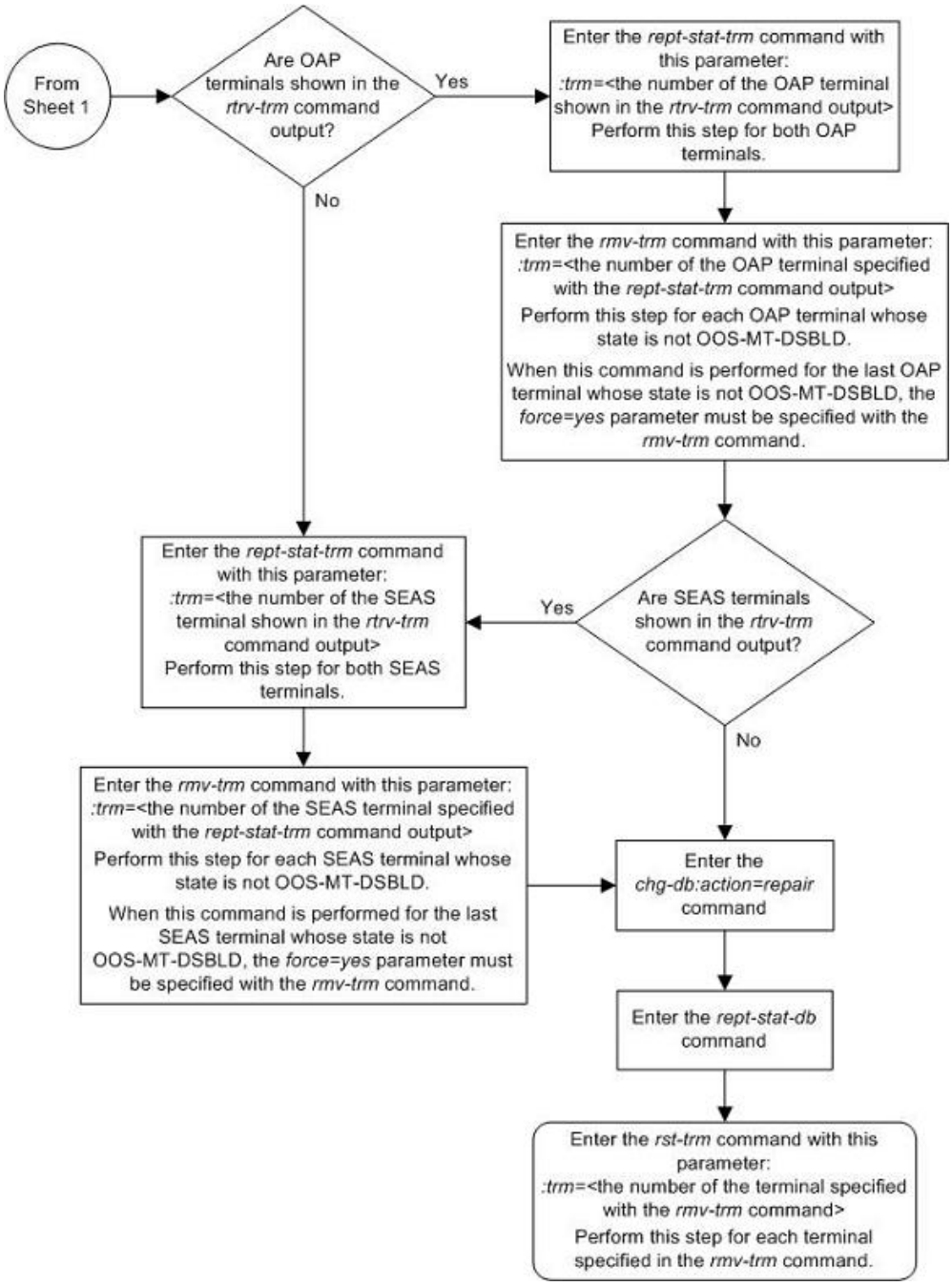
   ```
   rst-trm:trm=6

   rst-trm:trm=9

   rst-trm:trm=18

   rst-trm:trm=27
   ```

   This message should appear when each command has successfully completed.

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   Allow message sent to terminal

   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   Command Completed.
   ```

   Figure 15: Repairing the Database

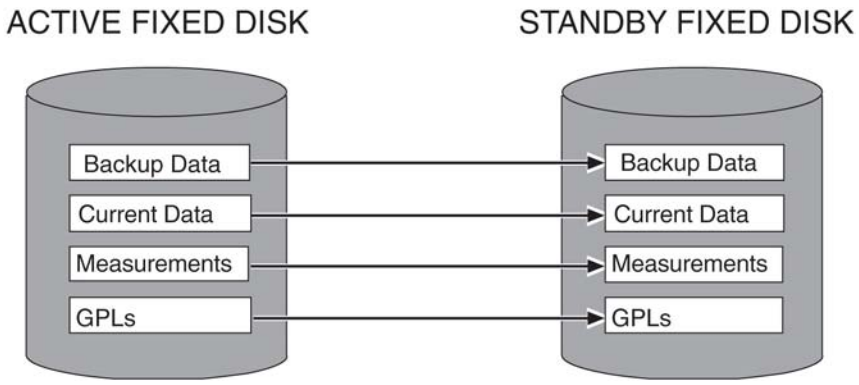

Enter the *rept-stat-db* command
Are the databases on the active MASP (FD CRNT and FD BKUP) coherent?
No
Go to the Verifying the Database section and resolve the database problems
Yes
Enter the *rtrv-trm* command
Are OAP or SEAS terminals shown in the *rtrv-trm* command output?
Yes
To Sheet 2
No
Enter the *chg-db:action=repair* command
Enter the *rept-stat-db* command


From Sheet 1
Are OAP terminals shown in the rtrv-trm command output?
Yes
No
Enter the rept-stat-trm command with this parameter:
:trm=<the number of the OAP terminal shown in the rtrv-trm command output>
Perform this step for both OAP terminals.
Enter the rmv-trm command with this parameter:
:trm=<the number of the OAP terminal specified with the rept-stat-trm command output>
Perform this step for each OAP terminal whose state is not OOS-MT-DSBLD.
When this command is performed for the last OAP terminal whose state is not OOS-MT-DSBLD, the force=yes parameter must be specified with the rmv-trm command.
Are SEAS terminals shown in the rtrv-trm command output?
Yes
No
Enter the rept-stat-trm command with this parameter:
:trm=<the number of the SEAS terminal shown in the rtrv-trm command output>
Perform this step for both SEAS terminals.
Enter the rmv-trm command with this parameter:
:trm=<the number of the SEAS terminal specified with the rept-stat-trm command output>
Perform this step for each SEAS terminal whose state is not OOS-MT-DSBLD.
When this command is performed for the last SEAS terminal whose state is not OOS-MT-DSBLD, the force=yes parameter must be specified with the rmv-trm command.
Enter the chg-db:action=repair command
Enter the rept-stat-db command
Enter the rst-trm command with this parameter:
:trm=<the number of the terminal specified with the rmv-trm command>
Perform this step for each terminal specified in the rmv-trm command.

Copying the Database from the Active to the Standby Fixed Disk

This procedure copies everything on the active fixed disk to the standby fixed disk using the `copy-disk` command. *Figure 16: Action of the Copy Disk Procedure* on page 55 shows the action of the `copy-disk` command.

Figure 16: Action of the Copy Disk Procedure



The `copy-disk` command uses these parameters.

`:sloc` – the card location of the active fixed disk

`:dloc` – the card location of the standby fixed disk

`:force` – does the standby fixed disk contain system data? This parameter provides some protection against data loss from copying over a fixed disk containing system data. If the standby fixed disk contains system data, you must specify the `force=yes` parameter. The default value for this parameter is `no`.

`:format` – is the standby fixed disk to be formatted before the data from the active fixed disk is copied to the standby fixed disk? The default value for this parameter is `yes`, the standby fixed disk will be formatted before copying.

Specify the `format=no` parameter with the `copy-disk` command to copy to the standby fixed disk without formatting the standby fixed disk. The standby fixed disk must be properly formatted to specify the `format=no` parameter. If the standby fixed disk is not properly formatted and the `format=no` parameter is specified, the `copy-disk` command will be rejected with this message.

```
E2819 Cmd Rej: Destination disk is unformatted
```

Note: The performance time required to copy a fixed disk to another fixed disk varies depending on database size and system activity. This operation should typically take no longer than 2.5 hours. If you are not performing the low-level format (`format=no`), the operation should take no longer than 1 hour. If the `copy-disk` operation exceeds 3 hours, contact the Customer Care Center for assistance. Refer to *Customer Care Center* on page 4 for the contact information. If the `copy-disk` operation without the low-level format exceeds 1.5 hours, call the *Customer Care Center* on page 4.

The databases in the current (FD CRNT) and the backup (FD BKUP) partitions of the active MASP must be coherent. For more information on verifying the database, read the *Verifying the Database* on page 18 section. Measurements must be inhibited.

The standby fixed disk cannot be formatted if the security log on the standby fixed disk contains any entries that have not been copied to the FTA area of the fixed disk. This can be verified with the `rept-stat-seculog` command. If the security log on the standby fixed disk contains entries that have not been copied to the file transfer area of the fixed disk, copy these entries to the file transfer area using the `copy-seculog` command.

The `copy-disk` command can be executed if the status of the security log on the standby fixed disk cannot be determined. This allows the `copy-disk` command to format and initialize a previously un-initialized fixed disk. An un-initialized fixed disk does not contain a security log.

CAUTION: To prevent any potential database corruption when performing this procedure, the OAP or SEAS terminals must be placed out of service with the `rmv-trm` command before executing the `copy-disk` command.

1. Verify that the databases in the current (FD CRNT) and the backup (FD BKUP) partitions of the active MASP are coherent using the `rept-stat-db`command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       75 04-06-01 13:11:43 GMT  Y       95 04-06-01 13:11:43 GMT
FD CRNT  N       55 DIFF LEVEL             Y      105
         MDAL 1117
         - --------
RD BKUP  -    -          -         -
```

2. Verify whether or nor the Measurements Platform option is enabled (`PLATFORMENABLE = on`) using the `rtrv-measopts` command.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
PLATFORMENABLE   = on
COLLECT15MIN     = off
CLLIBASEDNAME    = off
----------------------
SYSTOTSTP        = off
SYSTOTTT         = off
```

   Note: The `rtrv-measopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-measopts` command, see the `rtrv-measopts` command description in the *Commands Manual*.

   - If the Measurements Platform is enabled, skip steps 3 and 4, and go to step 5.
   - If the Measurements Platform is not enabled, go to step 3.

3. Verify that measurement collection is on or off using the `rtrv-meas-sched` command.

   This is an example of the possible output. The `COLLECT` field shows whether measurement collection is on or off. In this example, measurement collection is on.

```
rlghncxa03w 06-10-01 12:22:55 GMT EAGLE5 36.0.0
COLLECT        =  on
GTWYLSFLTR     =  both
--------------------
SYSTOT-STP     =  off
```

```
SYSTOT-TT      =  off
SYSTOT-STPLAN  =  on
COMP-LNKSET    =  off
COMP-LINK      =  on
GTWY-STP       =  on
GTWY-LNKSET    =  on
MTCD-STP       =  on
MTCD-LINK      =  on
MTCD-STPLAN    =  on
MTCD-LNKSET    =  on
```

- If measurement collection is off, skip step 4 and go to step 5.
- If measurement collection is on, continue this procedure with step 4.

4. Inhibit all measurements using the `chg-meas:collect=off` command.

CAUTION: Measurements must be inhibited or the `copy-disk` command cannot be executed. The `chg-meas:collect=on` command should not be executed while the `copy-disk` command is in progress. If possible, do not inhibit measurements at midnight since doing so can cause the loss of an entire day of measurements. When measurements are inhibited, measurement collection is stopped. For the period of time that measurements are inhibited, those measurements will be lost.

This message should appear.

```
rlghncxa03w 06-10-01 16:12:50 GMT  EAGLE5 36.0.0
CHG-MEAS: MASP A - COMPLTD
```

5. Verify that the security log on the standby MASP contains no entries that must be copied to the FTA area of the fixed disk with the `rept-stat-seculog` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:59:06 GMT EAGLE5 36.0.0
             -- SINCE LAST UPLOAD --  OLDEST   NEWEST   LAST
LOC  ROLE    ENTRIES %FULL OFLO FAIL  RECORD   RECORD   UPLOAD
1114 Active  8312    84    No   No    03-12-05 04-06-01 04-05-30
                                      11:23:56 15:59:06 14:02:22

1116 Standby 693     7     No   No    03-12-05 04-06-01 04-05-30
                                      11:24:12 14:00:06 14:02:13
```

If the number shown in the `ENTRIES` field for the standby MASP (shown with the entry `Standby` in the `ROLE` field) is 0, go to step 7.

If the number shown in the `ENTRIES` field for the standby MASP is greater than 0, these entries must be copied to the FTA area of the fixed disk. To copy these entries, go to step 6. For this example, go to step 6.

6. Copy the security log entries on the standby MASP to the FTA area on the fixed disk with the `copy-seculog` command.

For this example, enter the `copy-seculog:slog=stb` command. This is an example of the message that should appear.

```
rlghncxa03w 06-10-01 15:59:06 GMT EAGLE5 36.0.0
Security log on TDM 1116 copied to file 961004s.log on TDM 1114
```

7. Display the terminal configuration in the database with the `rtrv-trm` command.

The OAP terminals are shown in the output with the entry OAP in the TYPE field. The SEAS terminals are shown in the output with the entry SEAS in the TYPE field. This is an example of the possible output. In this example, the OAP terminals are terminals 6 and 9, and the SEAS terminals are terminals 18 and 27. If no OAP and SEAS terminals are shown in the rtrv-trm command output, go to step 10.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE     COMM        FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1  SW    30    5     99:59:59
2    KSR      9600-7-E-1  HW    30    5     INDEF
3    PRINTER  4800-7-E-1  HW    30    0     00:00:00
4    VT320    2400-7-E-1  BOTH  30    5     00:30:00
5    VT320    9600-7-O-1  NONE  30    5     00:00:30
6    OAP     19200-7-E-1 SW    0     5     INDEF
7    PRINTER  9600-7-N-2  HW    30    5     00:30:00
8    KSR     19200-7-E-2  BOTH  30    5     00:30:00
9    OAP     19200-7-E-1 SW    0     5     INDEF
10   VT320    9600-7-E-1  HW    30    5     00:30:00
11   VT320    4800-7-E-1  HW    30    5     00:30:00
12   PRINTER  9600-7-E-1  HW    30    4     00:30:00
13   VT320    9600-7-O-1  NONE  30    5     00:30:00
14   VT320    9600-7-E-2  SW    30    8     00:30:00
15   VT320    9600-7-N-2  HW    30    5     00:30:00
16   VT320    9600-7-E-2  BOTH  30    3     00:30:00

TRM  TYPE      LOC             TMOUT MXINV DURAL      SECURE
17   TELNET    1201            60    5     00:30:00   yes
18   SEAS      1201            60    5     00:30:00   yes
19   TELNET    1201            60    5     00:30:00   yes
20   TELNET    1201            60    5     00:30:00   yes
21   TELNET    1201            60    5     00:30:00   yes
22   TELNET    1201            60    5     00:30:00   yes
23   TELNET    1201            60    5     00:30:00   yes
24   TELNET    1201            60    5     00:30:00   yes
25   TELNET    1203            60    5     00:30:00   yes
26   TELNET    1203            60    5     00:30:00   yes
27   SEAS      1203            60    5     00:30:00   yes
28   TELNET    1203            60    5     00:30:00   yes
29   TELNET    1203            60    5     00:30:00   yes
30   TELNET    1203            60    5     00:30:00   yes
31   TELNET    1203            60    5     00:30:00   yes
32   TELNET    1203            60    5     00:30:00   yes
33   TELNET    1205            60    5     00:30:00   yes
34   TELNET    1205            60    5     00:30:00   yes
35   TELNET    1205            60    5     00:30:00   yes
36   TELNET    1205            60    5     00:30:00   yes
37   TELNET    1205            60    5     00:30:00   yes
38   TELNET    1205            60    5     00:30:00   yes
39   TELNET    1205            60    5     00:30:00   yes
40   TELNET    1205            60    5     00:30:00   yes

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
17   none     none      none       1
19   none     none      none       1
20   none     none      none       1
21   none     none      none       1
22   none     none      none       1
23   none     none      none       1
24   none     none      none       1
25   none     none      none       1
26   none     none      none       1
28   none     none      none       1
29   none     none      none       1
```

```
30   none     none      none       1
31   none     none      none       1
32   none     none      none       1
33   none     none      none       1
34   none     none      none       1
35   none     none      none       1
36   none     none      none       1
37   none     none      none       1
38   none     none      none       1
39   none     none      none       1
40   none     none      none       1

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
1    NO   YES  NO  YES NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
3    YES  YES  YES NO  YES YES YES
4    YES  NO   NO  NO  NO  NO  NO
5    NO   YES  NO  NO  NO  NO  YES
6    YES  YES  YES YES YES YES YES
7    YES  YES  YES YES YES YES YES
8    NO   NO   NO  NO  YES NO  YES
9    YES  YES  YES YES YES YES YES
10   NO   NO   NO  NO  NO  NO  YES
11   YES  YES  YES YES YES YES YES
12   YES  YES  YES YES YES YES YES
13   NO   YES  NO  NO  NO  NO  YES
14   NO   NO   YES NO  NO  NO  NO
15   YES  YES  YES NO  YES YES YES
16   NO   NO   NO  NO  YES NO  YES
17   NO   NO   NO  NO  NO  NO  NO
18   NO   NO   NO  NO  NO  NO  NO
19   NO   NO   NO  NO  NO  NO  NO
20   NO   NO   NO  NO  NO  NO  NO
21   NO   NO   NO  NO  NO  NO  NO
22   NO   NO   NO  NO  NO  NO  NO
23   NO   NO   NO  NO  NO  NO  NO
24   NO   NO   NO  NO  NO  NO  NO
25   NO   NO   NO  NO  YES NO  YES
26   NO   NO   NO  NO  NO  NO  NO
27   NO   NO   NO  NO  NO  NO  NO
28   NO   NO   NO  NO  NO  NO  NO
29   NO   NO   NO  NO  NO  NO  NO
30   NO   NO   NO  NO  NO  NO  NO
31   NO   NO   NO  NO  NO  NO  NO
32   NO   NO   NO  NO  NO  NO  NO
33   NO   NO   NO  NO  NO  NO  NO
34   NO   NO   NO  NO  YES NO  YES
35   NO   NO   NO  NO  NO  NO  NO
36   NO   NO   NO  NO  NO  NO  NO
37   NO   NO   NO  NO  NO  NO  NO
38   NO   NO   NO  NO  NO  NO  NO
39   NO   NO   NO  NO  NO  NO  NO
40   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
3    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
4    YES  YES YES  YES YES NO  YES YES  YES YES NO   NO
5    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
6    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
7    NO   YES YES  YES YES YES YES YES  YES YES NO   NO
8    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
9    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
```

```
10   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
11   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
12   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
13   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
14   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
15   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
16   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
17   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
18   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   YES  NO
19   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
20   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
21   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
22   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
23   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
24   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
25   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
26   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
27   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   YES  NO
28   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
29   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
30   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
31   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
32   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
33   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
34   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
35   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
36   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
37   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
38   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
39   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
40   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
```

8. Display the status of the terminals with the `rept-stat-trm` command with the terminal number of the OAP or SEAS terminals.

   If OAP terminals are shown in the `rtrv-trm` output in step 7, for this example, enter these commands.

   ```
   rept-stat-trm:trm=6
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   TRM   PST           SST           AST
   6     IS-NR         Active        -----
   Command Completed.
   ```

   ```
   rept-stat-trm:trm=9
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   TRM   PST           SST           AST
   9     IS-NR         Active        -----
   Command Completed.
   ```

   If SEAS terminals are shown in the `rtrv-trm` output in step 7, for this example, enter these commands.

   ```
   rept-stat-trm:trm=18
   ```

This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
18     IS-NR         Active        -----
Command Completed.
```

`rept-stat-trm:trm=27`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
27     IS-NR         Active        -----
Command Completed.
```

9. Place the OAP or SEAS terminals out of service using the `rmv-trm` command with the number of the terminal displayed in step 8 whose state is not OOS-MT-DSBLD.

   The `force=yes` parameter must be used when placing the last OAP or SEAS terminal out of service.

   If OAP terminals are shown in the `rept-stat-trm` output in step 8, for this example, enter these commands.

   `rmv-trm:trm=6`

   `rmv-trm:trm=9:force=yes`

   If SEAS terminals are shown in the `rept-stat-trm` output in step 8, for this example, enter these commands.

   `rmv-trm:trm=18`

   `rmv-trm:trm=27:force=yes`

   If the status of the OAP and SEAS terminals shown in the `PST` field in step 8 is OOS-MT-DSBLD (out-of-service maintenance disabled), the terminal is already out of service and the `rmv-trm` command does not need to be executed for that terminal.

   This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Inhibit message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Command Completed.
```

10. Enter the `copy-disk` command along with the card location of the standby TDM (shown by the indicator `STDBY` in the `rept-stat-db` command output in step 1) that the data is being copied to.

    If the standby fixed disk contains system data, the `force=yes` parameter must be specified with the `copy-disk` command. If you do not wish to format the standby fixed disk before copying, specify the `format=no` parameter with the `copy-disk` command.

    For this example, enter this command.

    `copy-disk:dloc=1114:sloc=1116:force=yes:format=yes`

In this example, the standby fixed disk contains EAGLE 5 ISS data and will be formatted before any data is copied to the standby fixed disk.

Note: The performance time required to copy a fixed disk to another fixed disk varies depending on database size and system activity. This operation should typically take no longer than 2.5 hours. If you are not performing the low-level format (`format=no`), the operation should take no longer than 1 hour. If the `copy-disk` operation exceeds 3 hours, contact the Customer Care Center for assistance. Refer to *Customer Care Center* on page 4 for the contact information. If the `copy-disk` operation without the low-level format exceeds 1.5 hours, call the *Customer Care Center* on page 4.

WARNING: Failure of the `copy-disk` command may result in corrupted TDMs. If you experience a `copy-disk` command failure, call the Customer Care Center for assistance. Refer to *Customer Care Center* on page 4 for the contact information.

When the command has been executed and completed, these messages should appear.

```
    rlghncxa03w 06-10-01 10:22:05 GMT EAGLE5 36.0.0
    copy-disk:sloc=1116:dloc=1114:force=yes
    Command entered at terminal #3.
;

    rlghncxa03w 06-10-01 10:22:06 GMT EAGLE5 36.0.0
    Copy-disk (fixed): from active (1116) to standby (1114) started.
    Extended processing required, please wait.
;

    rlghncxa03w 06-10-01 10:22:08 GMT EAGLE5 36.0.0
    Copy-disk (fixed): format of standby disk started
;

    rlghncxa03w 06-10-01 10:27:08 GMT EAGLE5 36.0.0
    Copy-disk (fixed): format in progress
;
    rlghncxa03w 06-10-01 10:32:08 GMT EAGLE5 36.0.0
    Copy-disk (fixed): format in progress
;

    rlghncxa03w 06-10-01 11:07:05 GMT EAGLE5 36.0.0
    Copy-disk (fixed): format of standby disk completed
;

    rlghncxa03w 06-10-01 11:07:06 GMT EAGLE5 36.0.0
    Copy-disk (fixed): copying to standby disk started
;

    rlghncxa03w 06-10-01 11:12:06 GMT EAGLE5 36.0.0
    Copy-disk (fixed): copy in progress
;

    rlghncxa03w 06-10-01 11:27:10 GMT EAGLE5 36.0.0
    Copy-disk (fixed): from active (1116) to standby (1114) completed.
    Measurements collection may be turned on now if desired.
```

If the `format=no` parameter was specified in this example, these messages should appear when the `copy-disk` command has successfully completed.

`copy-disk:dloc=1114:sloc=1116:force=yes:format=no`

```
    rlghncxa03w 06-10-01 10:22:06 GMT EAGLE5 36.0.0
```

```
    Copy-disk (fixed): from active (1116) to standby (1114) started.
    Extended processing required, please wait.
;

    rlghncxa03w 06-10-01 11:07:08 GMT EAGLE5 36.0.0
    Copy-disk (fixed): copying to standby disk started
;

    rlghncxa03w 06-10-01 11:12:06 GMT EAGLE5 36.0.0
    Copy-disk (fixed): copy in progress
;

    rlghncxa03w 06-10-01 11:17:06 GMT EAGLE5 36.0.0
    Copy-disk (fixed): copy in progress
;

    rlghncxa03w 06-10-01 11:22:06 GMT EAGLE5 36.0.0
    Copy-disk (fixed): copy in progress
;

    rlghncxa03w 06-10-01 11:27:08 GMT EAGLE5 36.0.0
    Copy-disk (fixed): from active (1116) to standby (1114) completed.
    Measurements collection may be turned on now if desired.
```

The standby MASP is rebooted to load the data when the command completes successfully.

Note: While this command is executing, commands that affect the database configuration cannot be executed. Any attempt to execute such a command will be rejected.

- If measurement collection was turned off in step 4, continue the procedure with step 11.
- If measurement collection was not turned off in step 4, skip step 11, and go to step 12.

11. Turn on the measurements using the `chg-meas:collect=on` command.

This message should appear

.

```
rlghncxa03w 06-10-01 16:12:50 GMT  EAGLE5 36.0.0
CHG-MEAS: MASP A - COMPLTD
```

12. Verify that the databases of both MASPs are coherent using the `rept-stat-db`command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       95 04-06-01 05:53:36 GMT  Y       95 04-06-01 05:53:36 GMT
FD CRNT  Y      105                        Y      105
         MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

If OAP or SEAS terminals are shown in the `rtrv-trm` command output in step 7, go to step 13. Otherwise this procedure is completed.

13. Put the OAP and SEAS terminals back into service using the `rst-trm` command with the number of the terminals specified in step 9 .

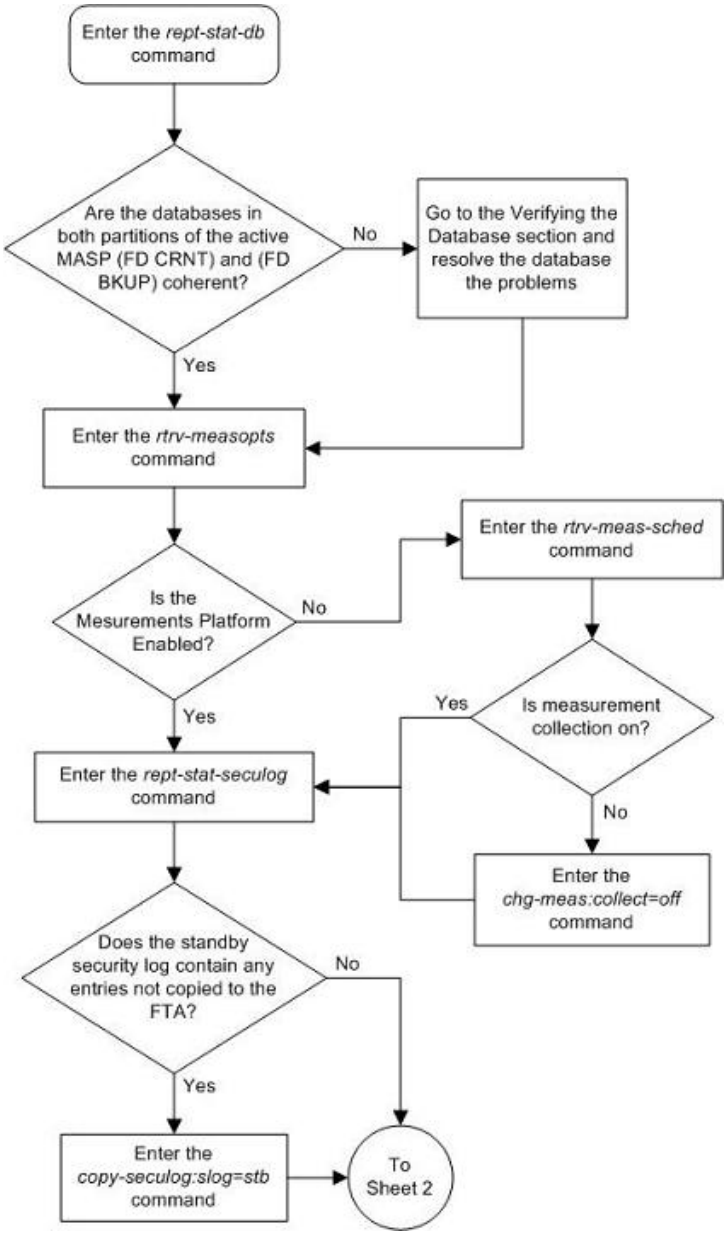
For this example, enter these commands.

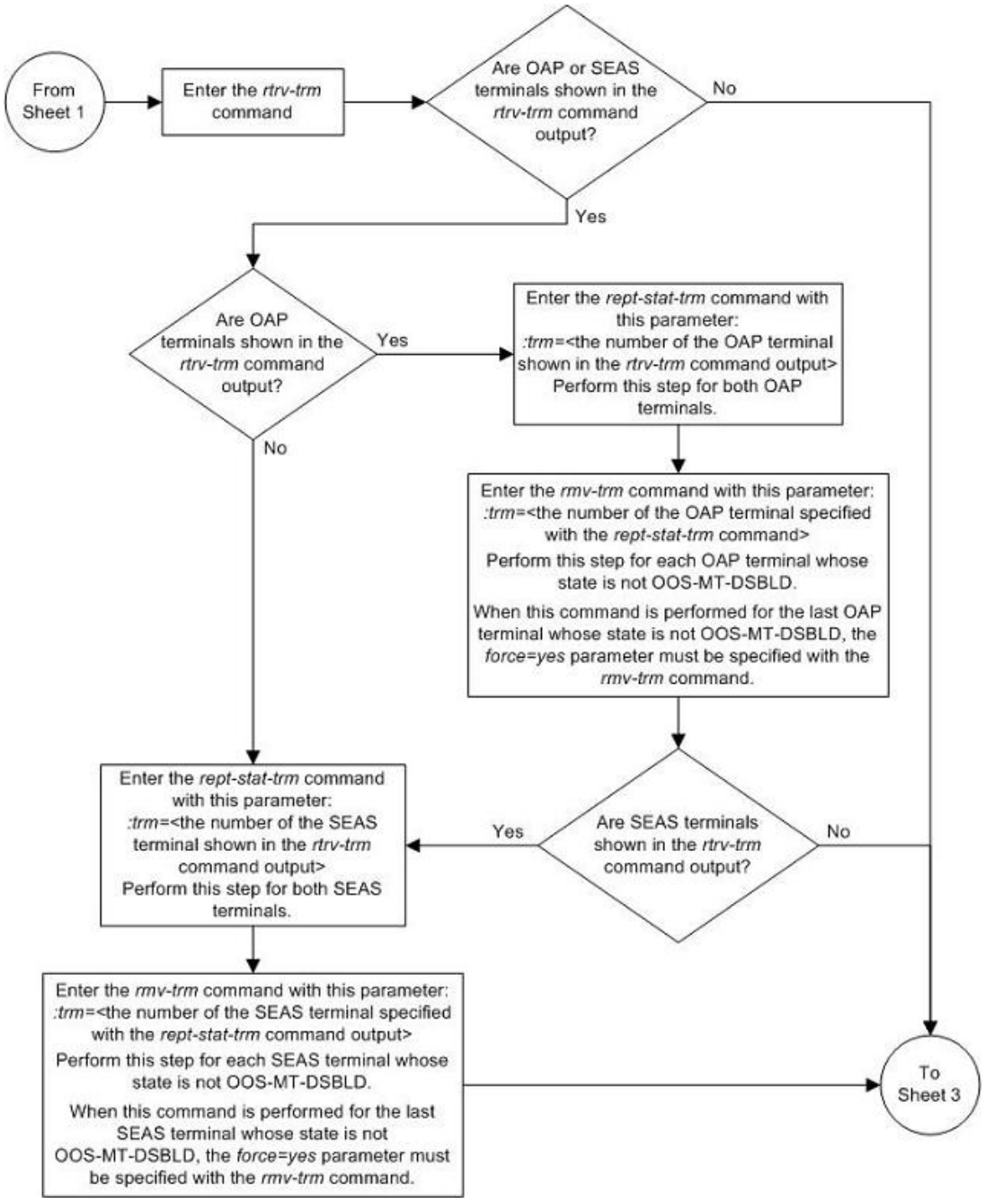
```
rst-trm:trm=6

rst-trm:trm=9

rst-trm:trm=18

rst-trm:trm=27
```

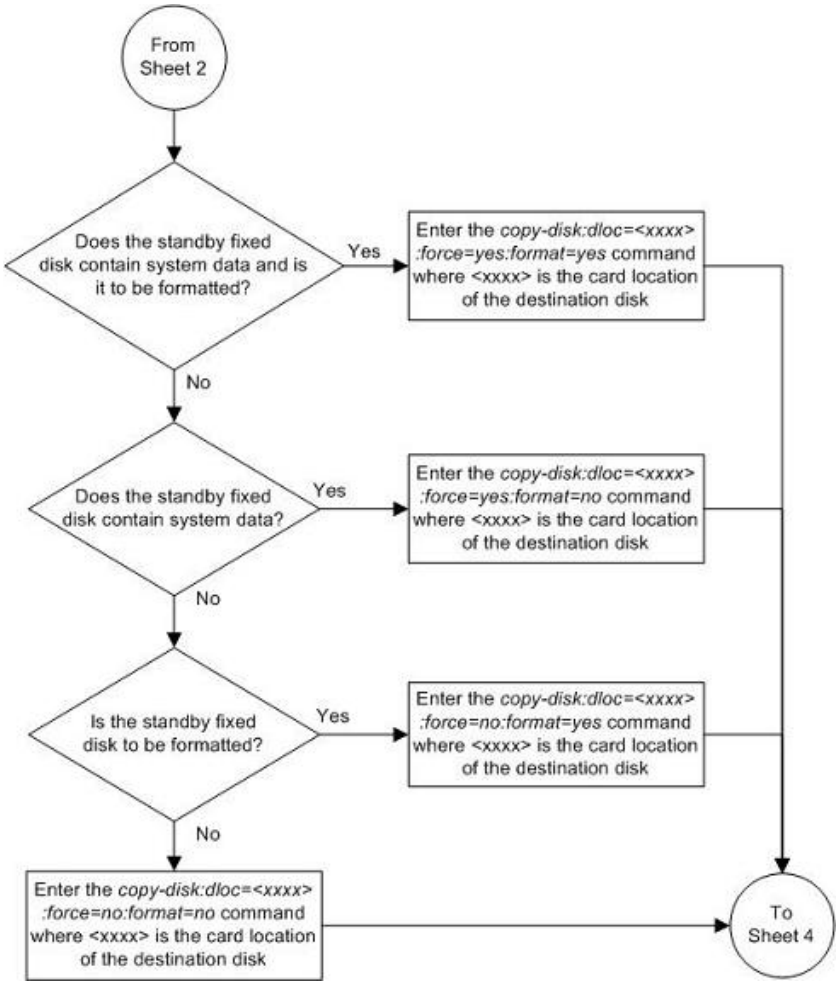
This message should appear when each command has successfully completed.

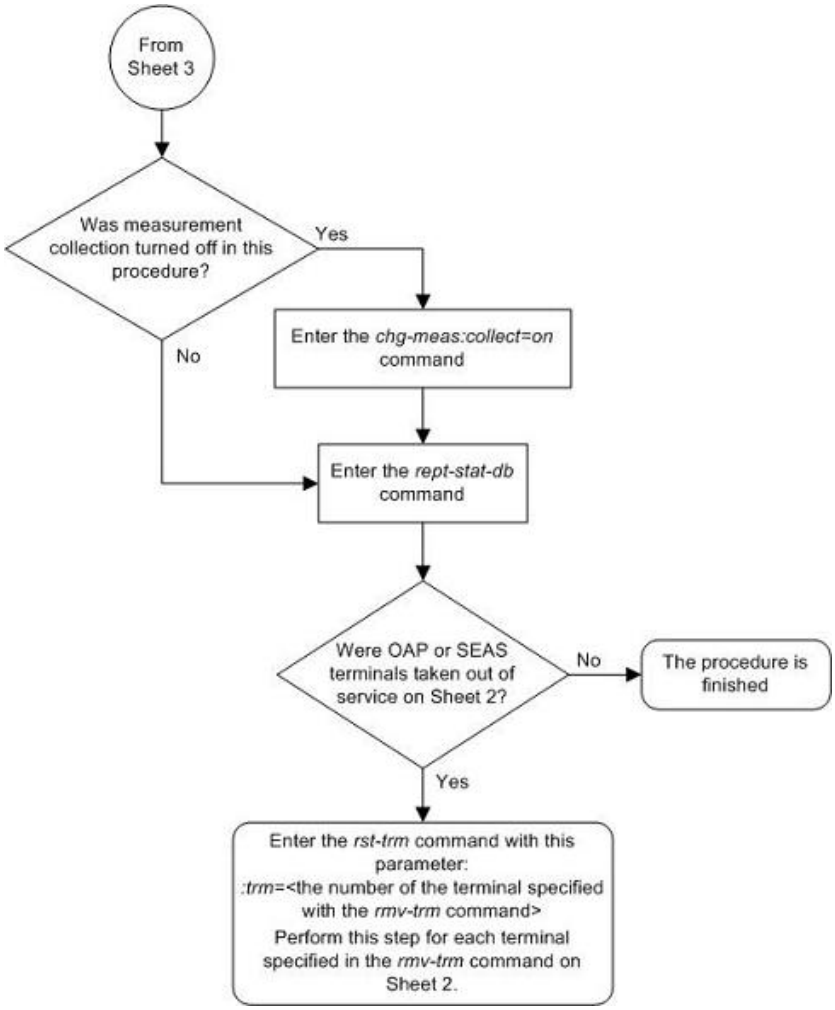
```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Allow message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Command Completed.
```

Figure 17: Copying the Database from the Active to the Standby Fixed Disk


Enter the *rept-stat-db* command
Are the databases in both partitions of the active MASP (FD CRNT) and (FD BKUP) coherent?
No
Go to the Verifying the Database section and resolve the database the problems
Yes
Enter the *rtrv-measopts* command
Is the Mesurements Platform Enabled?
No
Enter the *rtrv-meas-sched* command
Yes
Is measurement collection on?
Yes
No
Enter the *rept-stat-seculog* command
Enter the *chg-meas:collect=off* command
Does the standby security log contain any entries not copied to the FTA?
No
Yes
Enter the *copy-seculog:slog=stb* command
To Sheet 2


From Sheet 1
Enter the rtrv-trm command
Are OAP or SEAS terminals shown in the rtrv-trm command output?
No
Yes
Are OAP terminals shown in the rtrv-trm command output?
Yes
Enter the rept-stat-trm command with this parameter:
:trm=<the number of the OAP terminal shown in the rtrv-trm command output>
Perform this step for both OAP terminals.
No
Enter the rmv-trm command with this parameter:
:trm=<the number of the OAP terminal specified with the rept-stat-trm command>
Perform this step for each OAP terminal whose state is not OOS-MT-DSBLD.
When this command is performed for the last OAP terminal whose state is not OOS-MT-DSBLD, the force=yes parameter must be specified with the rmv-trm command.
Enter the rept-stat-trm command with this parameter:
:trm=<the number of the SEAS terminal shown in the rtrv-trm command output>
Perform this step for both SEAS terminals.
Yes
Are SEAS terminals shown in the rtrv-trm command output?
No
Enter the rmv-trm command with this parameter:
:trm=<the number of the SEAS terminal specified with the rept-stat-trm command output>
Perform this step for each SEAS terminal whose state is not OOS-MT-DSBLD.
When this command is performed for the last SEAS terminal whose state is not OOS-MT-DSBLD, the force=yes parameter must be specified with the rmv-trm command.
To Sheet 3


From Sheet 2
Does the standby fixed disk contain system data and is it to be formatted?
Yes
Enter the copy-disk:dloc=<xxxx> :force=yes:format=yes command where <xxxx> is the card location of the destination disk
No
Does the standby fixed disk contain system data?
Yes
Enter the copy-disk:dloc=<xxxx> :force=yes:format=no command where <xxxx> is the card location of the destination disk
No
Is the standby fixed disk to be formatted?
Yes
Enter the copy-disk:dloc=<xxxx> :force=no:format=yes command where <xxxx> is the card location of the destination disk
No
Enter the copy-disk:dloc=<xxxx> :force=no:format=no command where <xxxx> is the card location of the destination disk
To Sheet 4



Backing Up System Data to the Removable Cartridge

This section details the procedure used to make a backup copy of the system data in addition to the database.

The term “database” refers to all data that can be administered by the user, including shelves, cards, links, routes, global title translation tables, and gateway screening tables. The term “system data” refers to data that cannot be administered by the user, including maintenance software modules and generic program loads (GPLs).

This procedure is used to make a backup copy of the system data.

The database in the current partition of the active MASP (FD CRNT) must be coherent. For more information on verifying the database, see the *Verifying the Database* on page 18 section.

A pre-formatted removable cartridge that is write enabled is required. If the removable cartridge is not formatted, go to the *Formatting a Removable Cartridge* on page 77 and format the cartridge.

To write enable a removable cartridge, see the *Write Enabling the Removable Cartridge* on page 14 section.

1. Verify that the database in the current partition of the active MASP (FD CRNT) is coherent using the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       95 04-06-01 05:53:36 GMT  Y       95 04-06-01 05:53:36 GMT
FD CRNT  Y      105                        Y      105
         MDAL 1117
         - --------
RD BKUP  -    -          -         -
```

2. Insert the pre-formatted removable cartridge in the removable cartridge drive on the MDAL card.

   For more information on inserting the removable cartridge in the removable cartridge drive, see the *Inserting the Removable Cartridge* on page 15 section.

3. Enter the `chg-db:action=backup:dest=remove` command.

   During command execution, these messages should appear.

```
BACKUP (REMOVABLE) : MASP B - Backup starts on active MASP.
BACKUP (REMOVABLE) : MASP B - Backup to removable cartridge complete.
```

4. Verify that the databases on the removable cartridge (RD BKUP) and the current partition of the active MASP (FD CRNT) are coherent using the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:09:34 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       95 04-06-01 05:53:36 GMT  Y       95 04-06-01 05:53:36 GMT
FD CRNT  Y      105                        Y      105
         MDAL 1117
         - --------
RD BKUP  Y      105 04-05-31 16:07:48 GMT
```

5. Make a backup copy of the GPLs on the fixed disk of the active TDM to the removable cartridge using the `copy-gpl` command.

   For this example, enter this command.

   `copy-gpl:sloc=1116:dloc=1117`

   During command execution, these messages should appear.

```
rlghncxa03w 06-10-01 14:50:46 GMT EAGLE5 36.0.0
COPY-GPL: MASP B - COPY STARTS ON ACTIVE MASP
COPY GPL: MASP B - COPY TO REMOVABLE CARTRIDGE COMPLETE
```

6. Verify the GPLs on the removable cartridge with the `rtrv-gpl` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
UTILITY   1114  141-000-000  141-000-000      141-001-000  141-001-000
UTILITY   1116  141-000-000  141-000-000      -----------  -----------
EOAM      1114  113-003-000  113-003-000      113-004-000  113-004-000
EOAM      1116  113-003-000  113-003-000      -----------  -----------
GLS       1114  113-002-000  113-002-000      113-002-000  113-003-000
GLS       1116  113-002-000  113-002-000      113-002-000  -----------
SCCP      1114  113-002-000  113-002-000      113-002-000  113-003-000
SCCP      1116  113-002-000  113-002-000      113-002-000  -----------
VSCCP     1114  113-002-000  113-002-000      113-002-000  113-003-000
VSCCP     1116  113-002-000  113-002-000      113-002-000  -----------
SS7ANSI   1114  113-002-000  113-002-000      113-002-000  113-003-000
SS7ANSI   1116  113-002-000  113-002-000      113-002-000  -----------
ATMANSI   1114  113-002-000  113-002-000      113-001-000  113-002-000
ATMANSI   1116  113-002-000  113-002-000      113-001-000  -----------
IPLIM     1114  113-002-000  113-002-000      113-002-000  113-003-000
IPLIM     1116  113-002-000  113-002-000      113-002-000  -----------
IPLIMI    1114  113-002-000  113-002-000      113-002-000  113-003-000
IPLIMI    1116  113-002-000  113-002-000      113-002-000  -----------
SS7IPGW   1114  113-002-000  113-002-000      113-002-000  113-003-000
SS7IPGW   1116  113-002-000  113-002-000      113-002-000  -----------
SS7ML     1114  113-002-000  113-002-000      113-002-000  113-003-000
SS7ML     1116  113-002-000  113-002-000      113-002-000  -----------
CCS7ITU   1114  113-002-000  113-002-000      113-002-000  113-003-000
CCS7ITU   1116  113-002-000  113-002-000      113-002-000  -----------
SS7GX25   1114  113-001-000  113-001-000      113-001-000  113-002-000
SS7GX25   1116  113-001-000  113-001-000      113-001-000  -----------
STPLAN    1114  113-001-000  113-001-000      113-001-000  113-002-000
STPLAN    1116  113-001-000  113-001-000      113-001-000  -----------
IMT       1114  113-001-000  113-001-000      113-001-000  113-002-000
IMT       1116  113-001-000  113-001-000      113-001-000  -----------
BPHCAP    1114  002-101-000  002-101-000      002-100-000  002-101-000
BPHCAP    1116  002-101-000  002-101-000      002-100-000  -----------
BPDCM     1114  002-101-000  002-101-000      002-100-000  002-101-000
BPDCM     1116  002-101-000  002-101-000      002-100-000  -----------
BPHMUX    1114  111-001-000  111-001-000      111-000-000  111-001-000
BPHMUX    1116  111-001-000  111-001-000      111-000-000  -----------
BPMPL     1114  002-101-000  002-101-000      002-100-000  002-101-000
BPMPL     1116  002-101-000  002-101-000      002-100-000  -----------
VXWSLAN   1114  113-001-000  113-001-000      113-000-000  113-001-000
VXWSLAN   1116  113-001-000  113-001-000      113-000-000  -----------
OAP       1114  026-001-000  026-001-000      -----------  026-001-000
OAP       1116  026-001-000  026-001-000      -----------  -----------
```

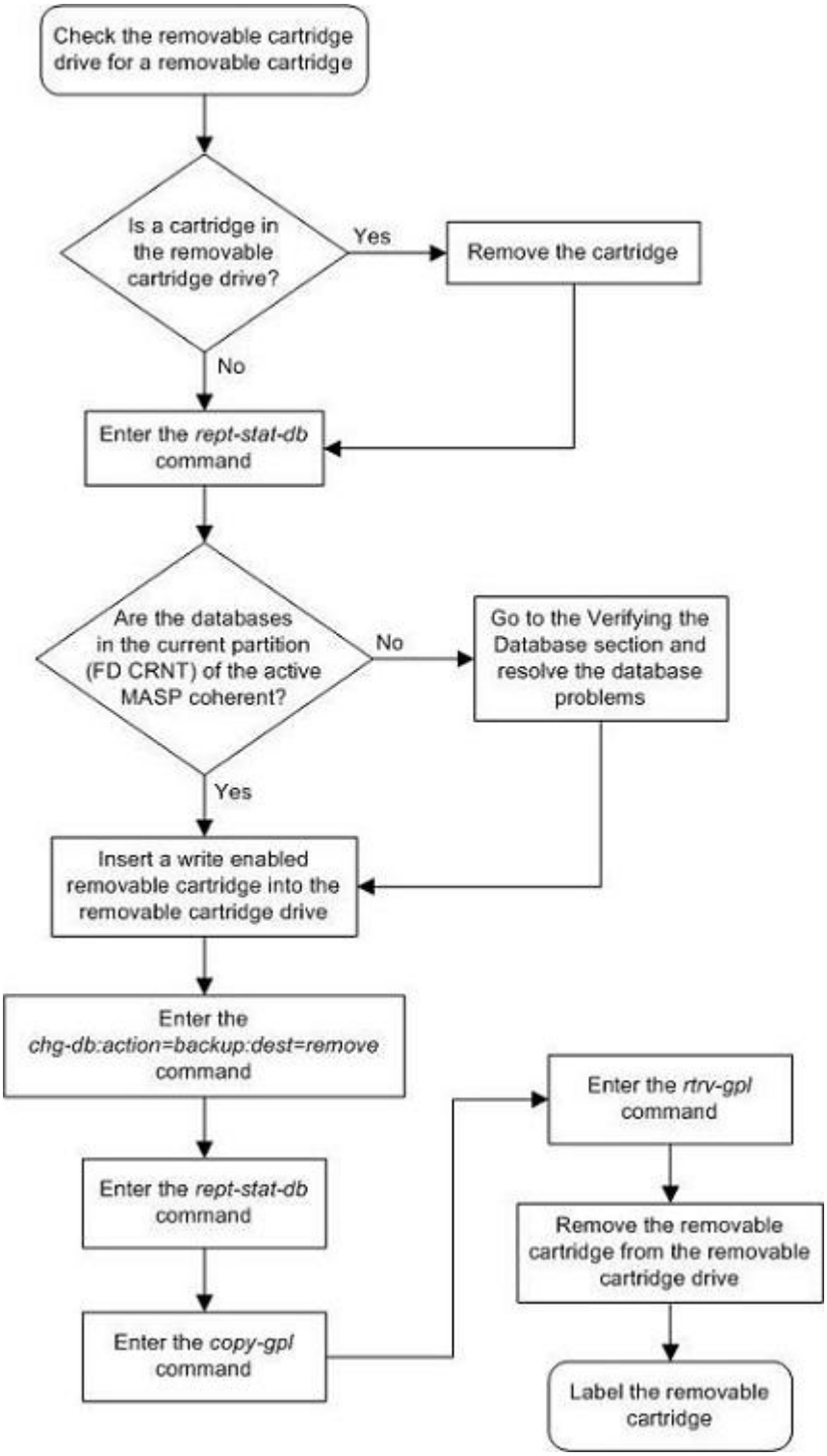
7. Remove the removable cartridge from the removable cartridge drive on the MDAL card.

   For more information on removing the removable cartridge from the removable cartridge drive, see the *Removing the Removable Cartridge* on page 17 section.

8. Label the removable cartridge, 1 through 4 if the backup is performed weekly or monthly, A through D if the backup is performed quarterly.

   For more information on labeling the removable cartridge, see Chapter 2, "Preventive Maintenance," in the *Maintenance Manual*. Store this cartridge in a secure place.

Figure 18: Backing Up System Data to the Removable Cartridge


Check the removable cartridge drive for a removable cartridge
Is a cartridge in the removable cartridge drive?
Yes
Remove the cartridge
No
Enter the rept-stat-db command
Are the databases in the current partition (FD CRNT) of the active MASP coherent?
No
Go to the Verifying the Database section and resolve the database problems
Yes
Insert a write enabled removable cartridge into the removable cartridge drive
Enter the chg-db:action=backup:dest=remove command
Enter the rept-stat-db command
Enter the copy-gpl command
Enter the rtrv-gpl command
Remove the removable cartridge from the removable cartridge drive
Label the removable cartridge

Restoring System Data from a Removable Cartridge

This section presents the procedure for restoring system data from a system backup removable cartridge that was made using the `chg-db` command.

The database on the removable cartridge (RD BKUP) must be coherent. For more information on verifying the database, read the *Verifying the Database* on page 18 section.

The removable cartridge must contain the database configuration to be restored. The removable cartridge should be write protected.

For some commands to be executed, they must use values obtained from previous steps. The best way to do this is echo the output of the command (for example, `rtrv-gpl`) to a printer. Enter the `rtrv-trm` command to make sure the output is echoed to a printer. If the output is not echoed to a printer, go to the *Changing Terminal Characteristics* on page 349 to allow the output to be echoed to a printer.

CAUTION: Using the `action=restore` parameter with the `chg-db` command is an emergency recovery procedure, and requires the `init-sys` command to download the restored database to all the cards in the EAGLE 5 ISS.

CAUTION: If the restore device state option is on, shown by the `ON` value for the `RSTRDEV` field in the `rtrv-stpopts` command output, the state of the cards, SS7 signaling links, TCP/IP data links, and terminals before the `chg-db:action=restore` and `init-sys` commands are performed will not be maintained after these commands are performed. The persistent device state table becomes obsolete and is disabled. UIM 1257 is generated.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
1234.1257    SYSTEM       INFO  DB Restore has cleared and disabled PDS
```

1. Check the removable cartridge drive on the MDAL card for a removable cartridge.

   If there is a removable cartridge in the drive, remove it. For more information on removing the removable cartridge from the removable cartridge drive, see the *Removing the Removable Cartridge* on page 17 section.

2. Make sure the removable cartridge containing the new software is “write protected” (NOT write enabled).

   To write protect a removable cartridge, see the *Write Protecting the Removable Cartridge* on page 14 section.

3. Insert the removable cartridge containing the system data into the removable cartridge drive of the MDAL card.

   For more information on inserting the removable cartridge in the removable cartridge drive, see the *Inserting the Removable Cartridge* on page 15 section.

4. Verify that the database on the removable cartridge (RD BKUP) is coherent using the `rept-stat-db:display=version` command.

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 11:34:04  GMT  EAGLE5 36.0.0
   ```

```
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       74 04-05-31 21:03:21 GMT  Y       74 04-05-31 21:03:21 GMT
FD CRNT  Y       78                        Y       78
         MDAL 1117
         - --------
RD BKUP  Y       74 04-05-31 21:03:21 GMT

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   VERSION STATUS
---------  ----  -  -  ----------  -----------------  -------------------
TDM-CRNT   1114  Y  N  78          04-06-01 23:12:37  111-000-000  NORMAL
    LNP                                               000-000-001
TDM-BKUP   1114  Y  -  74          04-05-31 21:03:21  111-000-000  NORMAL
    LNP                                               000-000-001
TDM-CRNT   1116  Y  N  78          04-06-01 23:12:37  111-000-000  NORMAL
    LNP                                               000-000-001
TDM-BKUP   1116  Y  -  74          04-05-31 21:03:21  111-000-000  NORMAL
    LNP                                               000-000-001
MDAL       1117  Y  -  74          04-05-31 21:03:21  111-000-000  NORMAL
    LNP                                               000-000-001
```

If the LNP feature is not enabled, the LNP database versions are not shown in the `rept-stat-db:display=version` command output.

If the versions of the databases on the fixed disks (`TDM-CRNT` and `TDM-BKUP`) and the removable cartridge (`MDAL`) are not the same, stop performing this procedure and contact the Customer Care Center. Refer to *Customer Care Center* on page 4 for the contact information.

5. Enter the `chg-db:action=restore:src=remove` command.

   During command execution, these messages should appear.

```
RESTORE (REMOVABLE) : MASP A - Restore starts on active MASP.
RESTORE (REMOVABLE) : MASP A - Restore starts on standby MASP.
RESTORE (REMOVABLE) : MASP A - MASP(s) will reboot to load data.
RESTORE (REMOVABLE) : MASP A - Restore from removable cartridge complete.
```

6. Verify that the databases on the removable cartridge (RD BKUP) and the current partitions of both MASPs (FD CRNT) are coherent using the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04  GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       74 04-05-31 21:03:21 GMT  Y       74 04-05-31 21:03:21 GMT
FD CRNT  Y       78                        Y       78
         MDAL 1117
         - --------
RD BKUP  Y       74 04-05-31 21:03:21 GMT
```

7. Remove the removable cartridge from the removable cartridge drive on the MDAL card.

   For more information on removing the removable cartridge from the removable cartridge drive, see the *Removing the Removable Cartridge* on page 17 section.

Note: The `init-sys` command causes a complete reload of the EAGLE 5 ISS, and should only be used during periods of low traffic. Using this command ensures that all cards are running the same database, but will interrupt service.

8. When the commands have successfully completed, re-initialize the EAGLE 5 ISS using the `init-sys` command.

   Note: The `init-sys` command must be entered twice within 30 seconds for the EAGLE 5 ISS to be re-initialized. If the `init-sys` command is not executed twice within 30 seconds, the attempt to re-initialize the EAGLE 5 ISS is aborted.

   When the `init-sys` command is first entered, this message should appear.

```
rlghncxa03w 06-10-01  07:05:01 GMT  EAGLE5 36.0.0
CAUTION: This command causes a complete system reload, and
will result in traffic loss.
Re-enter command within 30 seconds to confirm.
```

   When the `init-sys` command is re-entered within the 30 second time limit, this message should appear.

```
rlghncxa03w 06-10-01  07:05:17 GMT  EAGLE5 36.0.0
Init System command issued at terminal #3
```

   From the time that the `init-sys` command is accepted, you must wait approximately 2 minutes before you can perform *Step 9* on page 74 (logging into the EAGLE 5 ISS). If the EAGLE 5 ISS terminal is in the VT-100/VT-320 mode, the terminal display will be refreshed with non-zero alarm counts. During this 2 minutes interval, an intermediate screen refresh caused by the MASPs role change from active to standby, and from standby to active. This screen refresh is typically a partial refresh and the alarm indicators are set to zero.

   If you are logged into the EAGLE 5 ISS in the KSR mode, the only response you will receive that you are now able to log into the EAGLE 5 ISS is that you will receive UAM 0009, MASP became active. UAM 0009 could be issued twice due to possible transient MASP role change (switching from active to standby). Following the execution of the `init-sys` command, the MASP that was active before the `init-sys` command was entered will be the active MASP when the EAGLE 5 ISS has finished reinitializing.

9. Log into the EAGLE 5 ISS using the `login` or `act-user` command.

   This is an example of the messages that appear when you have successfully logged into the EAGLE 5 ISS.

```
NOTICE: This is a private computer system.
Unauthorized access or use may lead to prosecution.

0 LOGIN failures since last successful LOGIN
Last successful LOGIN was on port 4 on 04-06-01 @ 09:34:56
```

10. Enter the `rept-stat-db:display=all` command.

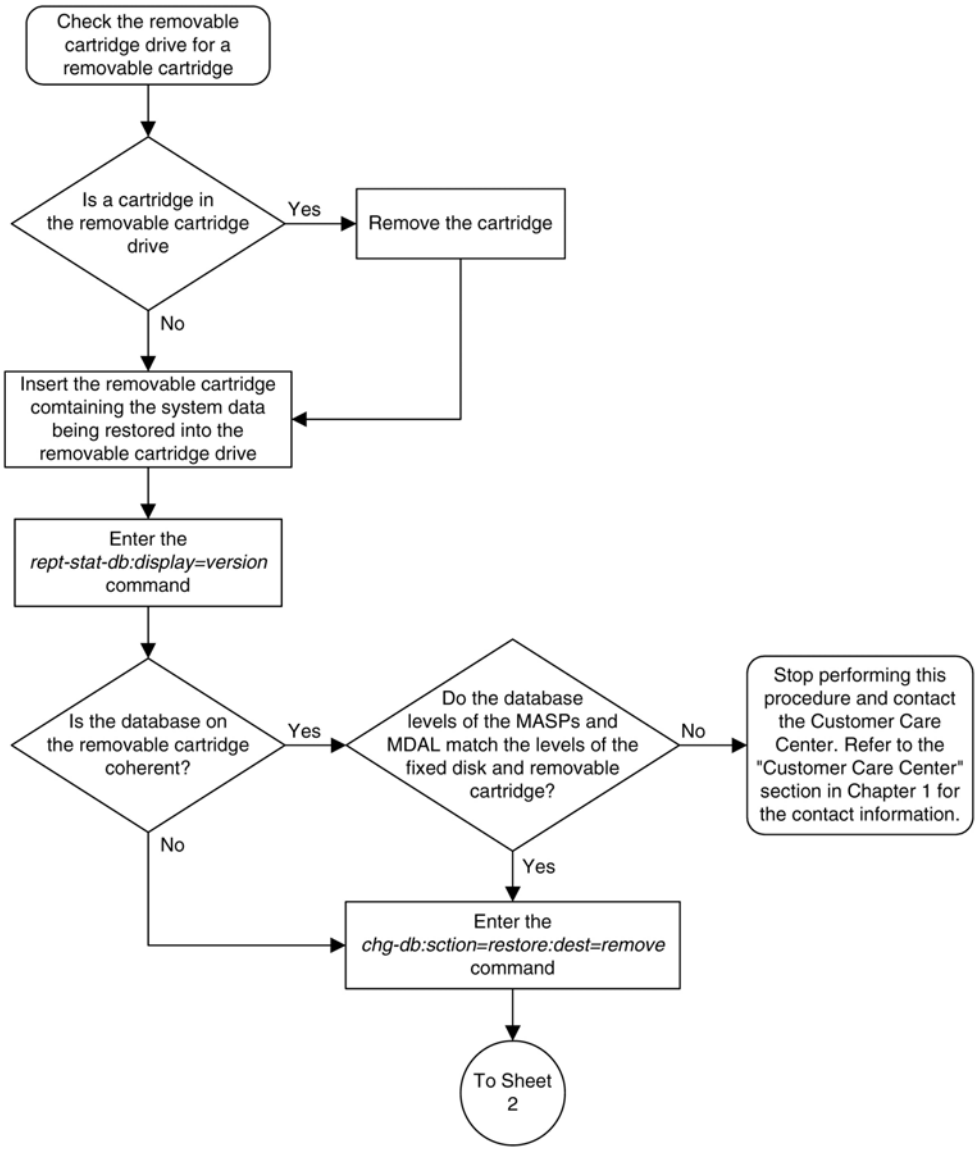
    This is an example of the possible output.

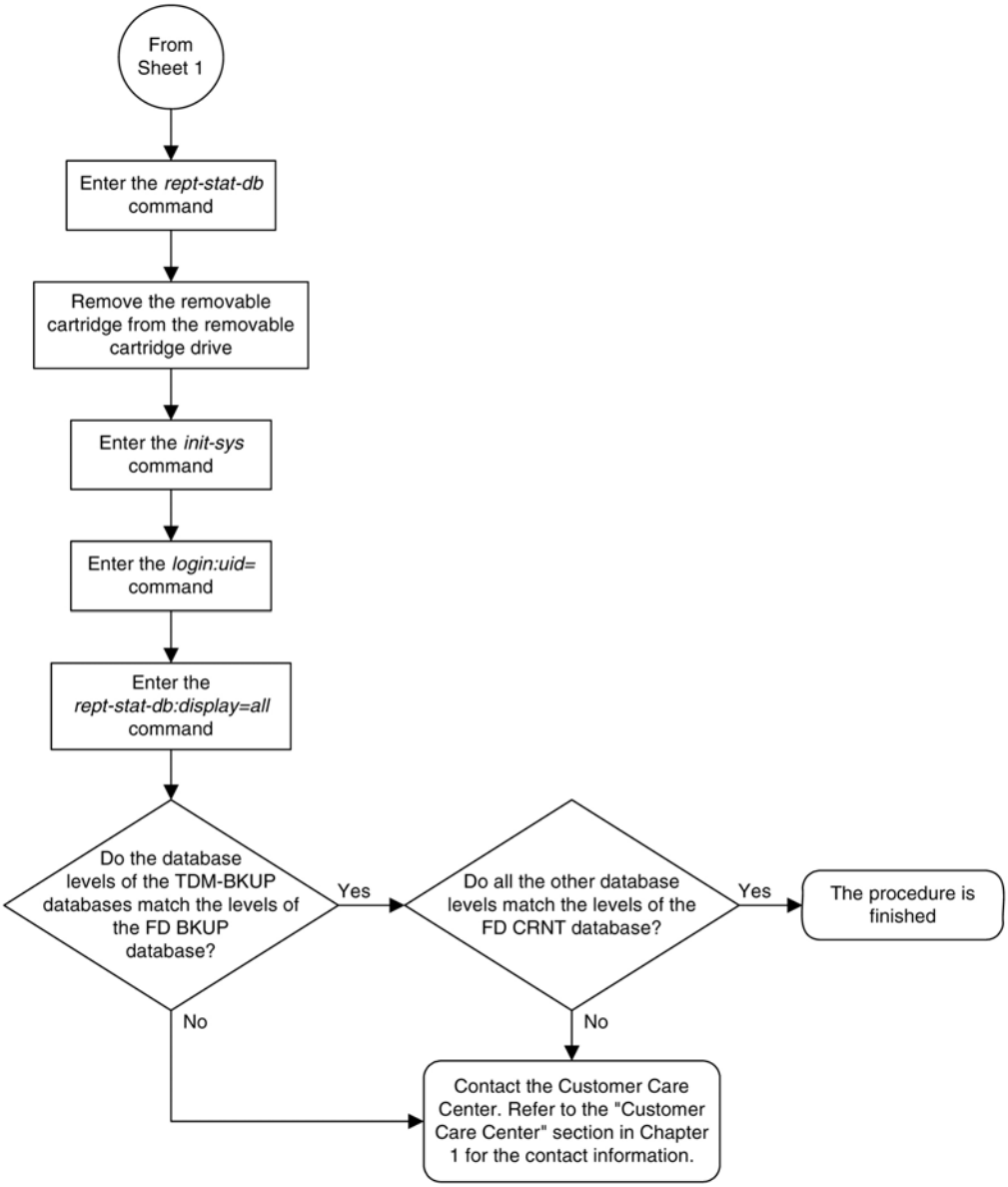
```
rlghncxa03w 06-10-01 11:34:04  GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       74 04-05-31 21:03:21 GMT  Y       74 04-05-31 21:03:21 GMT
FD CRNT  Y       78                        Y       78
         MDAL 1117
```

```
          - --------
RD BKUP   -    -          -         -
CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  -------------
SCCP       1101  Y  N  78          04-06-01 23:15:06       -
TDM-CRNT   1114  Y  N  78          04-06-01 23:15:06       -
TDM-BKUP   1114  Y  -  74          04-05-31 21:03:21       -
TDM-CRNT   1116  Y  N  78          04-06-01 23:15:06       -
TDM-BKUP   1116  Y  -  74          04-05-31 21:03:21       -
MDAL       1117  -  -       -           -         -         -
SS7ANSI    1201  Y  N  78          04-06-01 23:15:06       -
SS7ANSI    1203  Y  N  78          04-06-01 23:15:06       -
SS7ANSI    1205  Y  N  78          04-06-01 23:15:06       -
CCS7ITU    1207  Y  N  78          04-06-01 23:15:06       -
CCS7ITU    1211  Y  N  78          04-06-01 23:15:06       -
ATMANSI    1217  Y  N  78          04-06-01 23:15:06       -
```

The level for the TDM-BKUP database, shown in the CARD/APPL field, should be the same as the level for the FD BKUP database. All other databases shown in the CARD/APPL field should be the same as the level of the FD CRNT database. If the levels of the databases are not the same, contact the Customer Care Center . Refer to *Customer Care Center* on page 4 for the contact information.

Figure 19: Restoring System Data


Check the removable cartridge drive for a removable cartridge
Is a cartridge in the removable cartridge drive
Yes
Remove the cartridge
No
Insert the removable cartridge comtaining the system data being restored into the removable cartridge drive
Enter the rept-stat-db:display=version command
Is the database on the removable cartridge coherent?
Yes
Do the database levels of the MASPs and MDAL match the levels of the fixed disk and removable cartridge?
No
Stop performing this procedure and contact the Customer Care Center. Refer to the "Customer Care Center" section in Chapter 1 for the contact information.
No
Yes
Enter the chg-db:sction=restore:dest=remove command
To Sheet 2



Formatting a Removable Cartridge

Use this procedure to prepare a new removable cartridge for use on the EAGLE 5 ISS or to take a removable cartridge which was previously used for one purpose and prepare it for the use of another purpose (measurements to system disk and vice versa) using the `format-disk` command. The `format-disk` command uses these parameters.

`:type` – The type of disk being formatted.

- `system` – A removable cartridge containing system data (GPLs and the database)
- `meas` – A removable cartridge containing measurements data

- `fixed` – The fixed disk of the standby TDM. To format the fixed disk of the standby TDM, go to the *Formatting the Fixed Disk of the Standby TDM* on page 88 procedure.

`:low` – Is a low level format being performed on the disk, `yes` or `no`? The default value for this parameter is `no`.

`:force` – Format the disk if the disk contains system data, `yes` or `no`. The default value for this parameter is `no`.

`:prtngrp` – Indicates which disk partition group is being formatted, the active partition group (`prtngrp=active`) or the inactive partition group (`prtngrp=inactive`). The default value for the `prtngrp` parameter is `active`. The removable cartridge does not contain an inactive partition group, so the `prtngrp=inactive` cannot be specified in this procedure.

Note: Reduce extended execution time when specifying the `force=yes` option by also using the `low=no` option.

The database in the current (FD CRNT) partition of the active MASP must be coherent. For more information on verifying the database, see the *Verifying the Database* on page 18 section.

Measurements must be inhibited before the `format-disk` command can be executed.

A removable cartridge that is write enabled is required. To write enable a removable cartridge, see the *Write Enabling the Removable Cartridge* on page 14 section.

1. Check the removable cartridge drive on the MDAL card for a removable cartridge.

   If there is a removable cartridge in the drive, and you do not wish to format this removable cartridge, remove it and go to step 2. For more information on removing the removable cartridge from the removable cartridge drive, see the *Removing the Removable Cartridge* on page 17 section.

   If you wish to format the removable cartridge in the drive, skip step 2 and go to step 3.

2. Insert the removable cartridge to be formatted in the removable cartridge drive on the MDAL card, making sure that the removable cartridge is write enabled.

   For more information on inserting the removable cartridge in the removable cartridge drive, see the *Inserting the Removable Cartridge* on page 15 section.

   For more information on write enabling the removable cartridge, see the *Write Enabling the Removable Cartridge* on page 14 section.

   Skip step 3 and go to step 4.

3. If you wish to format the removable cartridge found in the removable cartridge drive, remove it from the drive and verify that is a write enabled removable cartridge.

   If the removable cartridge is not write enabled, see the *Write Enabling the Removable Cartridge* on page 14 section to write enable the removable cartridge. Insert the removable cartridge in the removable cartridge drive and go to step 4.

4. Verify that the database in the current (FD CRNT) partition of the active MASP is coherent using the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:11:34 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
```

```
FD CRNT  Y      106                         Y      106
         MDAL 1117
         - --------
RD BKUP  Y      106 04-05-31 16:09:53 GMT
```

If the current database on the active MASP is not coherent, go to the *Verifying the Database* on page 18 section and resolve the database problem.

5. Verify that measurement collection is on or off using the `rtrv-meas-sched` command.

   This is an example of the possible output. The `COLLECT` field shows whether measurement collection is on or off. In this example, measurement collection is on.

```
rlghncxa03w 06-10-01 12:22:55 GMT EAGLE5 36.0.0
COLLECT        =  on
GTWYLSFLTR     =  both
---------------------
SYSTOT-STP     =  off
SYSTOT-TT      =  off
SYSTOT-STPLAN  =  on
COMP-LNKSET    =  off
COMP-LINK      =  on
GTWY-STP       =  on
GTWY-LNKSET    =  on
MTCD-STP       =  on
MTCD-LINK      =  on
MTCD-STPLAN    =  on
MTCD-LNKSET    =  on
```

   Note: If measurement collection is off, skip step 6 and go to step 7.

6. Inhibit all measurements using the `chg-meas:collect=off` command.

   CAUTION: Measurements must be inhibited or the `format-disk` command cannot be executed. The `chg-meas:collect=on` command should not be executed while the `format-disk` command is in progress. If possible, do not inhibit measurements at midnight since doing so can cause the loss of an entire day of measurements. When measurements are inhibited, measurement collection is stopped. For the period of time that measurements are inhibited, those measurements will be lost.

   This message should appear.

```
rlghncxa03w 06-10-01 16:12:50 GMT  EAGLE5 36.0.0
CHG-MEAS: MASP A - COMPLTD
```

7. Verify whether or nor the Measurements Platform option is enabled (`PLATFORMENABLE = on`) using the `rtrv-measopts` command.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
PLATFORMENABLE   = on
COLLECT15MIN     = off
CLLIBASEDNAME    = off
----------------------
SYSTOTSTP        = off
SYSTOTTT         = off
```

   Note: The `rtrv-measopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-measopts` command, see the `rtrv-measopts` command description in the *Commands Manual*.

Note: If step 7 shows that the Measurements Platform is not enabled, skip steps 8 and 9, and go to step 10.

8. Display the status of the MCPMs in the database with the `rept-stat-meas` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:43:42 GMT  EAGLE5 36.0.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

9. Place all the MCPMs out of service using the `rmv-card` command, specifying the card location of the MCPM.

   If the MCPM to be placed out of service is the last MCPM that is in service, the `force=yes` parameter must also be specified. For this example, enter these commands.

   `rmv-card:loc=2107`

   `rmv-card:loc=2108`

   `rmv-card:loc=2111:force=yes`

   When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
Card has been inhibited.
```

10. Format the removable cartridge.

    If you are formatting the removable cartridge for system data, go to step 11. If you are formatting the removable cartridge for measurements data, go to step 12.

11. To format a removable cartridge for system data, enter this command.

    `format-disk:type=system`

    Note: Because the default value for the `low` parameter (low level format parameter) is `no`, this command will not perform a low level format of the removable cartridge. If you wish to perform a low level format of the removable cartridge, the `low=yes` parameter must be specified with the `format-disk` command.

    If the removable cartridge to be formatted contains system data, the `force=yes` parameter must be specified with the `format-disk` command. All data on the removable cartridge will be lost.

It takes approximately 31 minutes to format a removable cartridge for system data. It may take longer depending on other system activity that is in progress when this command is entered. When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    format-disk:type=system
    Command entered at terminal #3.
;

    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk of system removable cartridge started.
;

    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk (removable cartridge) format in progress.
;
    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk (removable cartridge) format in progress.
;

    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk (removable cartridge) format is complete.
;

    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk of system removable cartridge completed.
    Measurements collection may be turned on now if desired.
```

If you wish to turn measurement collection on, perform steps 13 and 14 , otherwise, this procedure is finished.

12. To format a removable cartridge for measurements data, enter this command.

    `format-disk:type=meas`

    Note: Because the default value for the `low` parameter (low level format parameter) is `no`, this command will not perform a low level format of the removable cartridge. If you wish to perform a low level format of the removable cartridge, the `low=yes` parameter must be specified with the `format-disk` command.

    If the removable cartridge to be formatted contains system data, the `force=yes` parameter must be specified with the `format-disk` command. All data on the removable cartridge will be lost.

    It takes approximately 27 minutes to format a removable cartridge for measurement data. When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    format-disk:type=system
    Command entered at terminal #3.
;

    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk of measurements removable cartridge started.
;

    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk (removable cartridge) format in progress.
;

    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk (removable cartridge) format in progress.
```

```
;

    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk (removable cartridge) format is complete.
;

    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk of measurements removable cartridge completed.
    Measurements collection may be turned on now if desired.
```

Note: If measurement collection was not turned off in step 6, skip steps 13 and 14, and go to step 15.

13. Turn on the measurements using the `chg-meas:collect=on` command.

This message should appear.

```
rlghncxa03w 06-10-01 16:12:50 GMT  EAGLE5 36.0.0
CHG-MEAS: MASP A - COMPLTD
```

14. Verify that measurement collection is on using the `rtrv-meas-sched` command, shown by the `COLLECT = on` field in the output.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 12:22:55 GMT EAGLE5 36.0.0
COLLECT        =  on
GTWYLSFLTR     =  both
--------------------
SYSTOT-STP     =  off
SYSTOT-TT      =  off
SYSTOT-STPLAN  =  on
COMP-LNKSET    =  off
COMP-LINK      =  on
GTWY-STP       =  on
GTWY-LNKSET    =  on
MTCD-STP       =  on
MTCD-LINK      =  on
MTCD-STPLAN    =  on
MTCD-LNKSET    =  on
```

Note: If MCPMs were not placed out of service in step 9, skip steps 15 and 16. This procedure is finished.

15. Place the MCPMs back into service using the `rst-card` specifying the location of each MCPM.

For this example, enter these commands.

`rst-card:loc=2107`

`rst-card:loc=2108`

`rst-card:loc=2111`

When each of these commands have successfully completed, this message should appear.

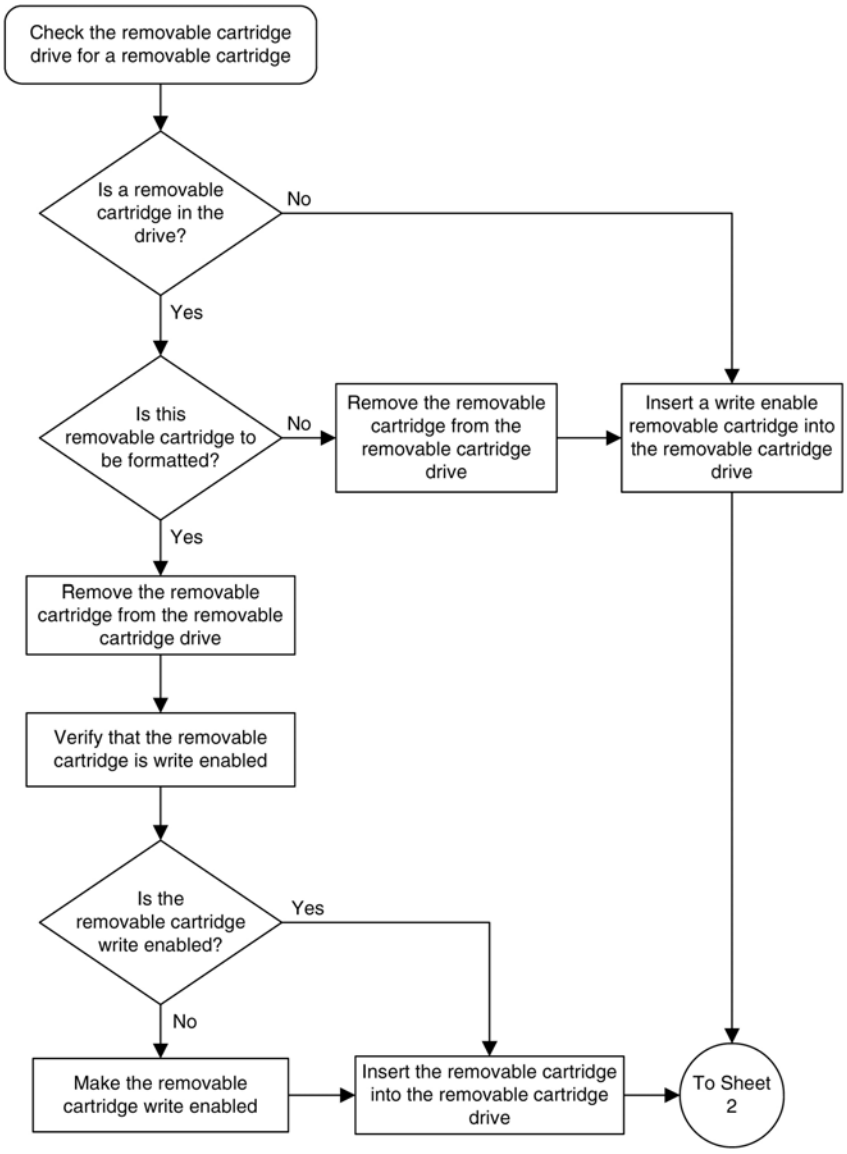
```
rlghncxa03w 06-10-01 21:20:37 GMT EAGLE5 36.0.0
    Card has been allowed.
```

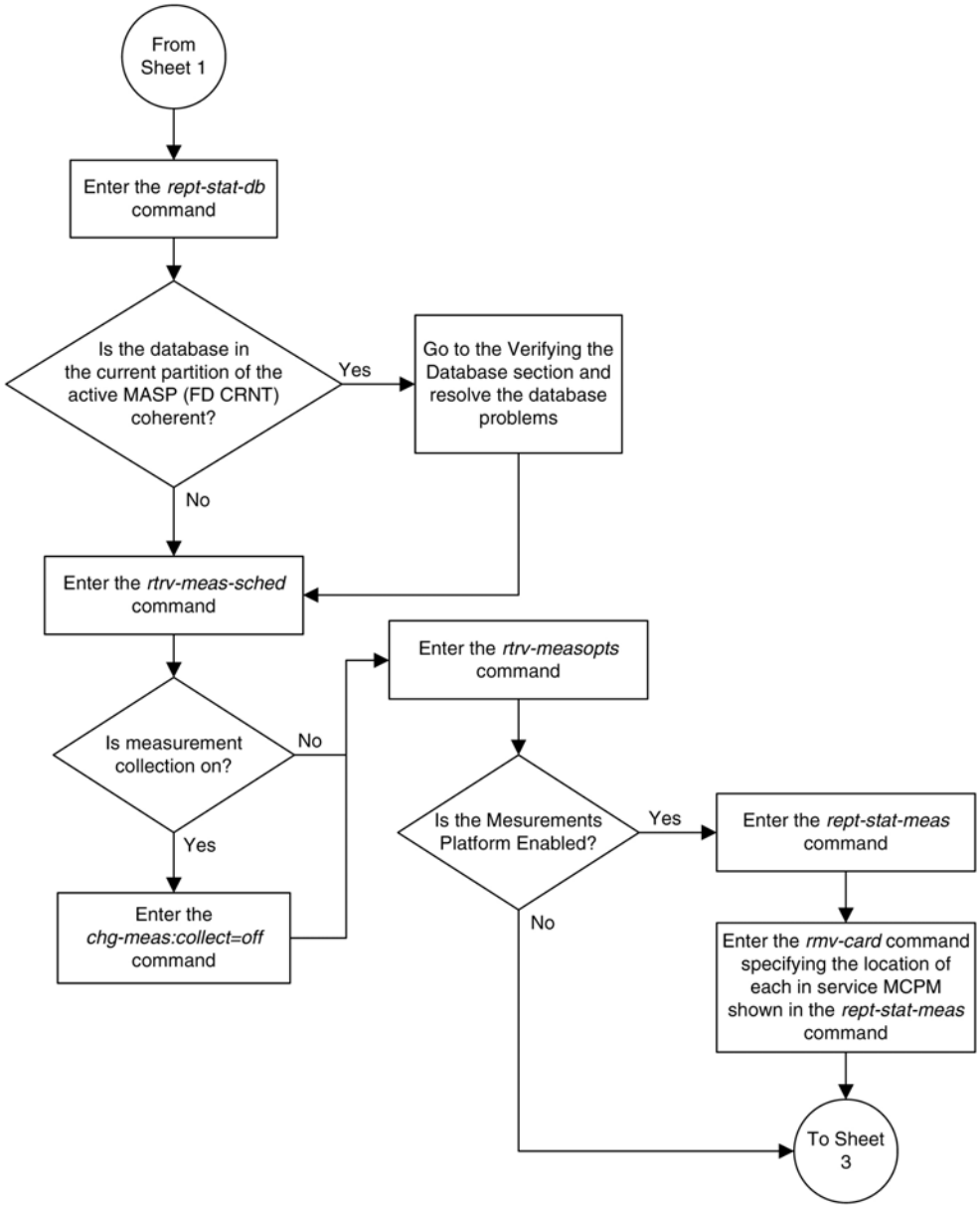
16. Display the status of the MCPMs in the database with the `rept-stat-meas` command.

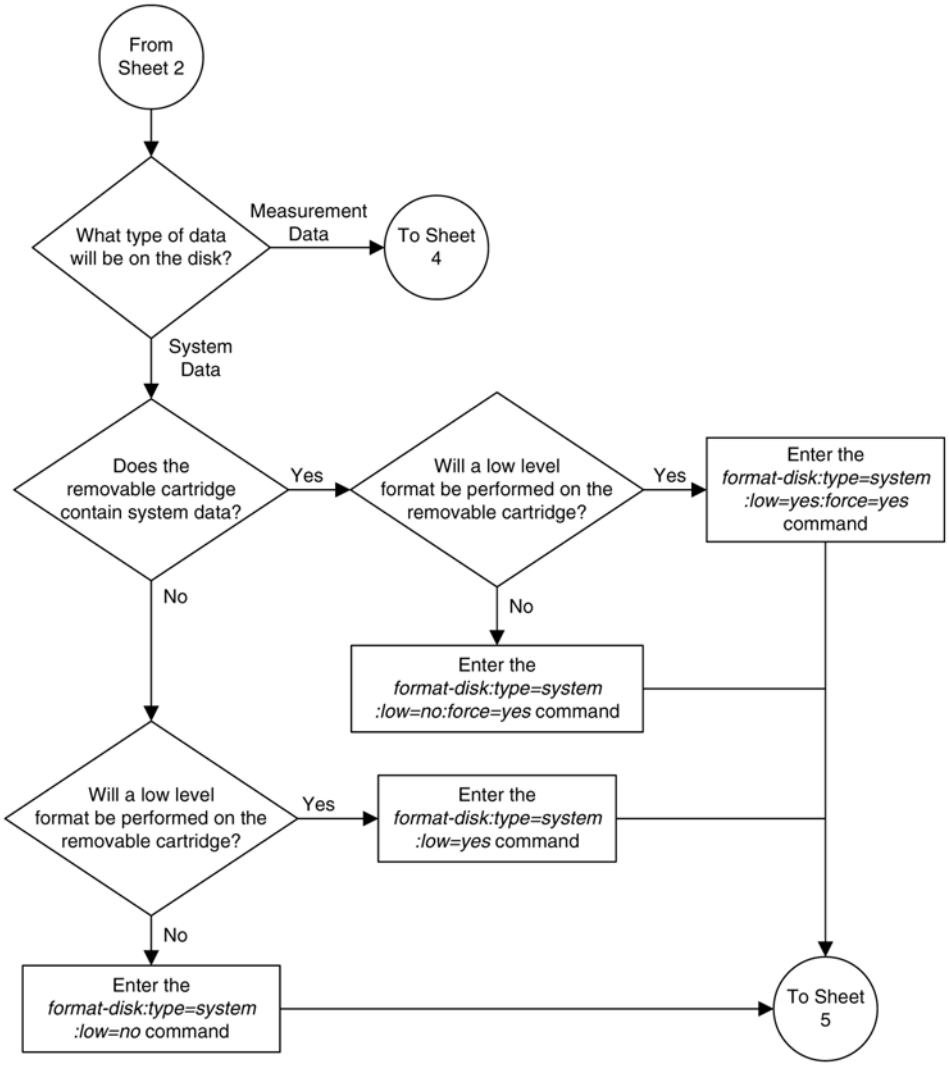
This is an example of the possible output.

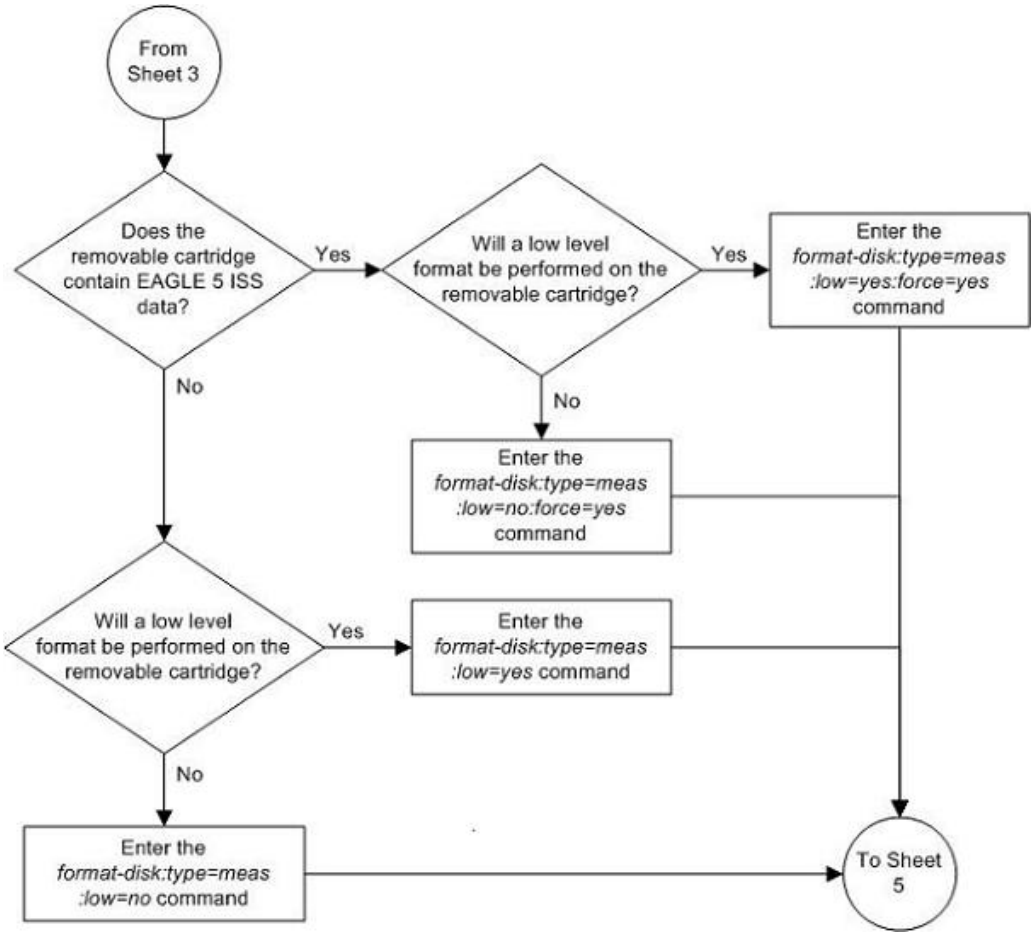
```
rlghncxa03w 06-10-01 16:43:42 GMT  EAGLE5 36.0.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

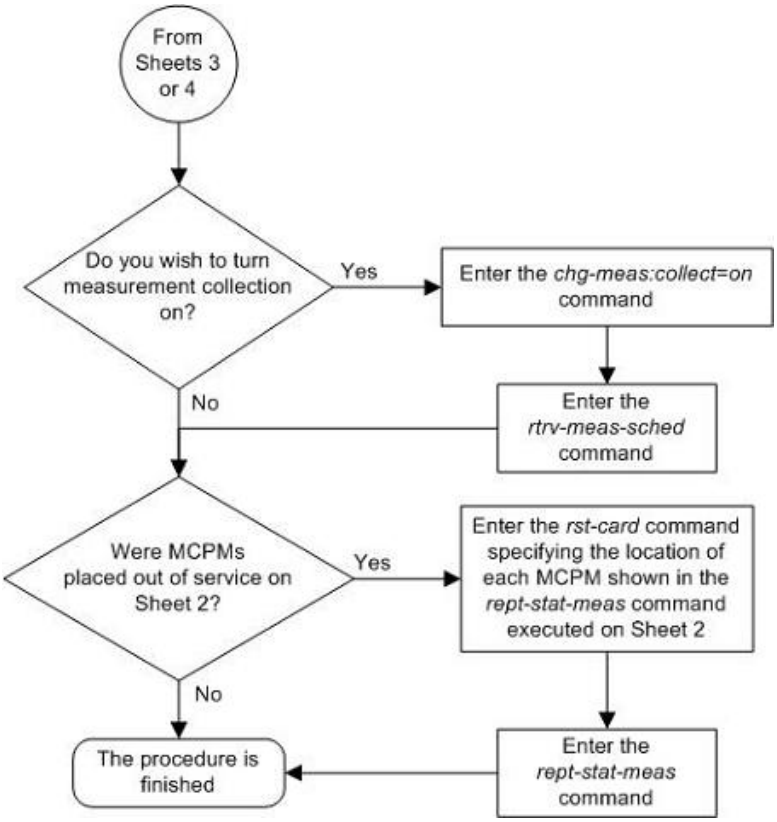
Figure 20: Formatting the Removable Cartridge


Check the removable cartridge drive for a removable cartridge
Is a removable cartridge in the drive?
No
Yes
Is this removable cartridge to be formatted?
No
Remove the removable cartridge from the removable cartridge drive
Insert a write enable removable cartridge into the removable cartridge drive
Yes
Remove the removable cartridge from the removable cartridge drive
Verify that the removable cartridge is write enabled
Is the removable cartridge write enabled?
Yes
No
Make the removable cartridge write enabled
Insert the removable cartridge into the removable cartridge drive
To Sheet 2


From Sheet 1
Enter the *rept-stat-db* command
Is the database in the current partition of the active MASP (FD CRNT) coherent?
Yes
Go to the Verifying the Database section and resolve the database problems
No
Enter the *rtrv-meas-sched* command
Enter the *rtrv-measopts* command
Is measurement collection on?
No
Yes
Enter the *chg-meas:collect=off* command
Is the Mesurements Platform Enabled?
Yes
Enter the *rept-stat-meas* command
No
Enter the *rmv-card* command specifying the location of each in service MCPM shown in the *rept-stat-meas* command
To Sheet 3


From Sheet 2
What type of data will be on the disk?
Measurement Data
To Sheet 4
System Data
Does the removable cartridge contain system data?
Yes
Will a low level format be performed on the removable cartridge?
Yes
Enter the format-disk:type=system :low=yes:force=yes command
No
No
Enter the format-disk:type=system :low=no:force=yes command
Will a low level format be performed on the removable cartridge?
Yes
Enter the format-disk:type=system :low=yes command
No
Enter the format-disk:type=system :low=no command
To Sheet 5


From Sheet 3
Does the removable cartridge contain EAGLE 5 ISS data?
Yes
Will a low level format be performed on the removable cartridge?
Yes
Enter the format-disk:type=meas :low=yes:force=yes command
No
No
Enter the format-disk:type=meas :low=no:force=yes command
Will a low level format be performed on the removable cartridge?
Yes
Enter the format-disk:type=meas :low=yes command
No
Enter the format-disk:type=meas :low=no command
To Sheet 5



Formatting the Fixed Disk of the Standby TDM

Use this procedure to format the fixed disk of the standby TDM using the `format-disk` command.

The `format-disk` command uses these parameters.

`:type` – The type of disk being formatted.

- `system` – A removable cartridge containing system data (GPLs and the database). To format a removable cartridge, go to the *Formatting a Removable Cartridge* on page 77 procedure.
- `meas` – A removable cartridge containing measurements data. To format a removable cartridge, go to the *Formatting a Removable Cartridge* on page 77 procedure.
- `fixed` – The fixed disk of the standby TDM.

  Note: If a `format-disk:type=fixed` command failure causes the standby TDM to boot continuously, insert a removable disk that has the same release as the active TDM into the MDAL. The standby TDM can then boot off of the removable disk.

`:low` – Is a low level format being performed on the disk, `yes` or `no`? The default value for this parameter is `no`.

`:force` – Format the disk if the disk contains system data, `yes` or `no`. The default value for this parameter is `no`.

Note: Reduce extended execution time when specifying the `force=yes` option by also using the `low=no` option.

`:prtngrp` – Indicates which disk partition group is being formatted, the active partition group (`prtngrp=active`) or the inactive partition group (`prtngrp=inactive`). The default value for the `prtngrp` parameter is `active`. The `prtngrp` parameter can be specified only with the `low=no` parameter. Contact the Customer Care Center before using the `prtngrp=inactive` parameter. Refer to *Customer Care Center* on page 4 for the contact information.

The database in the current (FD CRNT) partition of the active MASP must be coherent. For more information on verifying the database, see the *Verifying the Database* on page 18 section.

Measurements must be inhibited before the `format-disk` command can be executed.

The standby fixed disk cannot be formatted if the security log on the standby fixed disk contains any entries that have not been copied to the FTA area of the fixed disk. This can be verified with the `rept-stat-seculog` command. If the security log on the standby fixed disk contains entries that have not been copied to the file transfer area of the fixed disk, copy these entries to the file transfer area using the `copy-seculog` command.

1. Verify that the database in the current (FD CRNT) partition of the active MASP is coherent using the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:11:34 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
         MDAL 1117
         - --------
RD BKUP  - -------- --------------------
```

   If the current database on the active MASP is not coherent, see the *Verifying the Database* on page 18 section and resolve the database problem.

2. Verify that measurement collection is on or off using the `rtrv-meas-sched` command.

   This is an example of the possible output. The `COLLECT` field shows whether measurement collection is on or off. In this example, measurement collection is on

   .

```
rlghncxa03w 06-10-01 12:22:55 GMT EAGLE5 36.0.0
COLLECT        =  on
GTWYLSFLTR     =  both
---------------------
SYSTOT-STP     =  off
SYSTOT-TT      =  off
SYSTOT-STPLAN  =  on
COMP-LNKSET    =  off
COMP-LINK      =  on
GTWY-STP       =  on
GTWY-LNKSET    =  on
MTCD-STP       =  on
MTCD-LINK      =  on
```

```
MTCD-STPLAN    =  on
MTCD-LNKSET    =  on
```

Note: If measurement collection is off, skip step 3 and go to step 4.

3. Inhibit all measurements using the `chg-meas:collect=off` command.

CAUTION: Measurements must be inhibited or the `format-disk` command cannot be executed. The `chg-meas:collect=on` command should not be executed while the `format-disk` command is in progress. If possible, do not inhibit measurements at midnight since doing so can cause the loss of an entire day of measurements. When measurements are inhibited, measurement collection is stopped. For the period of time that measurements are inhibited, those measurements will be lost.

This message should appear.

```
rlghncxa03w 06-10-01 16:12:50 GMT  EAGLE5 36.0.0
CHG-MEAS: MASP A - COMPLTD
```

4. Verify whether or nor the Measurements Platform option is enabled (`PLATFORMENABLE = on`) using the `rtrv-measopts` command.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
PLATFORMENABLE   = on
COLLECT15MIN     = off
CLLIBASEDNAME    = off
---------------------
SYSTOTSTP        = off
SYSTOTTT         = off
```

Note: The `rtrv-measopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-measopts` command, see the `rtrv-measopts` command description in the *Commands Manual*.

Note: If step 4 shows that the Measurements Platform is not enabled, skip steps 5 and 6, and go to step 7.

5. Display the status of the MCPMs in the database with the `rept-stat-meas` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:43:42 GMT  EAGLE5 36.0.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                    IS-NR         Active     Available
    2108   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                    IS-NR         Active     Available
    2111   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                    IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

6. Place all the MCPMs out of service using the `rmv-card` command, `specifying the card location of the MCPM`.

   If the MCPM to be placed out of service is the last MCPM that is in service, the `force=yes` parameter must also be specified. For this example, enter these commands.

   ```
   rmv-card:loc=2107
   ```

   ```
   rmv-card:loc=2108
   ```

   ```
   rmv-card:loc=2111:force=yes
   ```

   When each of these commands have successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
   Card has been inhibited.
   ```

7. Verify that the security log on the standby MASP contains no entries that must be copied to the FTA area of the fixed disk with the `rept-stat-seculog` command.

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 15:59:06 GMT EAGLE5 36.0.0
                -- SINCE LAST UPLOAD --  OLDEST   NEWEST   LAST
   LOC  ROLE    ENTRIES %FULL OFLO FAIL  RECORD   RECORD   UPLOAD
   1114 Active  8312    84    No   No    03-12-05 04-06-01 04-05-30
                                         11:23:56 15:59:06 14:02:22

   1116 Standby 693     7     No   No    03-12-05 04-06-01 04-05-30
                                         11:24:12 14:00:06 14:02:13
   ```

   If the number shown in the `ENTRIES` field for the standby MASP (shown with the entry `Standby` in the `ROLE` field) is 0, go to step 9.

   If the number shown in the `ENTRIES` field for the standby MASP is greater than 0, these entries must be copied to the FTA area of the fixed disk. To copy these entries, go to step 8.

   For this example, go to step 8.

8. Copy the security log entries on the standby MASP to the FTA area on the fixed disk with the `copy-seculog` command.

   For this example, enter the `copy-seculog:slog=stb` command. This is an example of the message that should appear.

   ```
   rlghncxa03w 06-10-01 15:59:06 GMT EAGLE5 36.0.0
   Security log on TDM 1116 copied to file 961004s.log on TDM 1114
   ```

9. Format the fixed disk of the standby TDM by entering the `format-disk` command.

   For this example, the fixed disk of the standby TDM contains system data and a low level format of the fixed disk of the standby TDM is not performed.

   ```
   format-disk:type=fixed:force=yes:low=no
   ```

   Note:

   1. The `force=yes` parameter must be specified with the `format-disk` command if the fixed disk of the standby TDM to be formatted contains system data. All data on the fixed disk of the standby TDM will be lost.

2. The `low=no` parameter specified in this command example does not allow a low level format of the fixed disk of the standby TDM to be performed. If you wish to perform a low level format of the fixed disk of the standby TDM, specify the `low=yes` parameter with the `format-disk` command. Because the default value for the `low` parameter is `no`, the `low` parameter can be omitted when entering the `format-disk` command if you do not wish to perform a `low` level format of the fixed disk of the standby TDM.
3. If a `format-disk:type=fixed` command failure causes the standby TDM to boot continuously, insert a removable disk that has the same release as the active TDM into the MDAL. The standby TDM can then boot off of the removable disk.
4. The optional parameter `prtngrp` parameter can be specified with this command. The `prtngrp` parameter indicates which disk partition group is being formatted, the active partition group (`prtngrp=active`) or the inactive partition group (`prtngrp=inactive`). The default value for the `prtngrp` parameter is `active`. The `prtngrp` parameter can be specified only with the `low=no` parameter. Contact the Customer Care Center before using the `prtngrp=inactive` parameter. Refer to *Customer Care Center* on page 4 for the contact information.

Formatting the fixed disk of the standby TDM can take from 14 minutes to 1 hour and 25 minutes to execute. It may take longer depending on other system activity that is in progress when this command is entered. When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    format-disk:type=fixed:low=no:force=yes
    Command entered at terminal #3.
;

    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk of standby fixed disk started.
    Extended processing required, please wait.
;

    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk (fixed) format in progress.
;

    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk (fixed) format is complete.
;

    rlghncxa03w 06-10-01 09:44:08 GMT  EAGLE5 36.0.0
    Format-disk of standby fixed disk completed.
```

If you wish to turn measurement collection on, go to step 10, otherwise, this procedure is finished.

If measurement collection was not turned off in step 3, skip steps 10 and 11, and go to step 12.

10. If you wish to turn measurement collection on, enter this command.

    `chg-meas:collect=on`

    This message should appear.

```
rlghncxa03w 06-10-01 16:12:50 GMT  EAGLE5 36.0.0
CHG-MEAS: MASP A - COMPLTD
```

11. Verify that measurement collection is on using the `rtrv-meas-sched` command, shown by the `COLLECT = on` field in the output.

    This is an example of the possible output.

```
rlghncxa03w 06-10-01 12:22:55 GMT EAGLE5 36.0.0
COLLECT        =  on
GTWYLSFLTR     =  both
--------------------
SYSTOT-STP     =  off
SYSTOT-TT      =  off
SYSTOT-STPLAN  =  on
COMP-LNKSET    =  off
COMP-LINK      =  on
GTWY-STP       =  on
GTWY-LNKSET    =  on
MTCD-STP       =  on
MTCD-LINK      =  on
MTCD-STPLAN    =  on
MTCD-LNKSET    =  on
```

    Note: MCPMs were not placed out of service in step 6, skip steps 12 and step 13. This procedure is finished.

12. Place the MCPMs back into service using the `rst-card` specifying the location of each MCPM.

    For this example, enter these commands.

    `rst-card:loc=2107`

    `rst-card:loc=2108`

    `rst-card:loc=2111`

    When each of these commands have successfully completed, this message should appear.

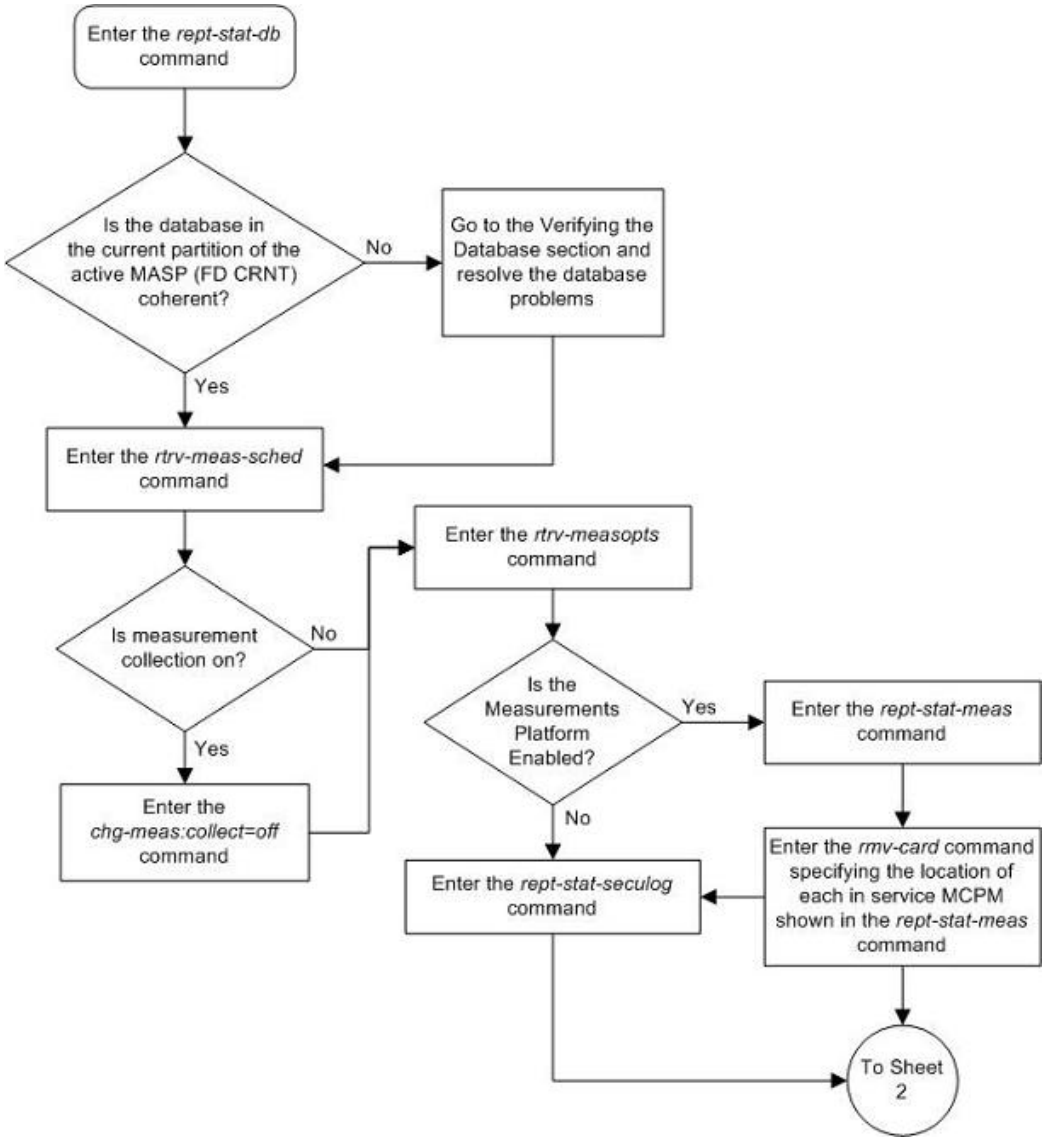
```
rlghncxa03w 06-10-01 21:20:37 GMT EAGLE5 36.0.0
Card has been allowed.
```

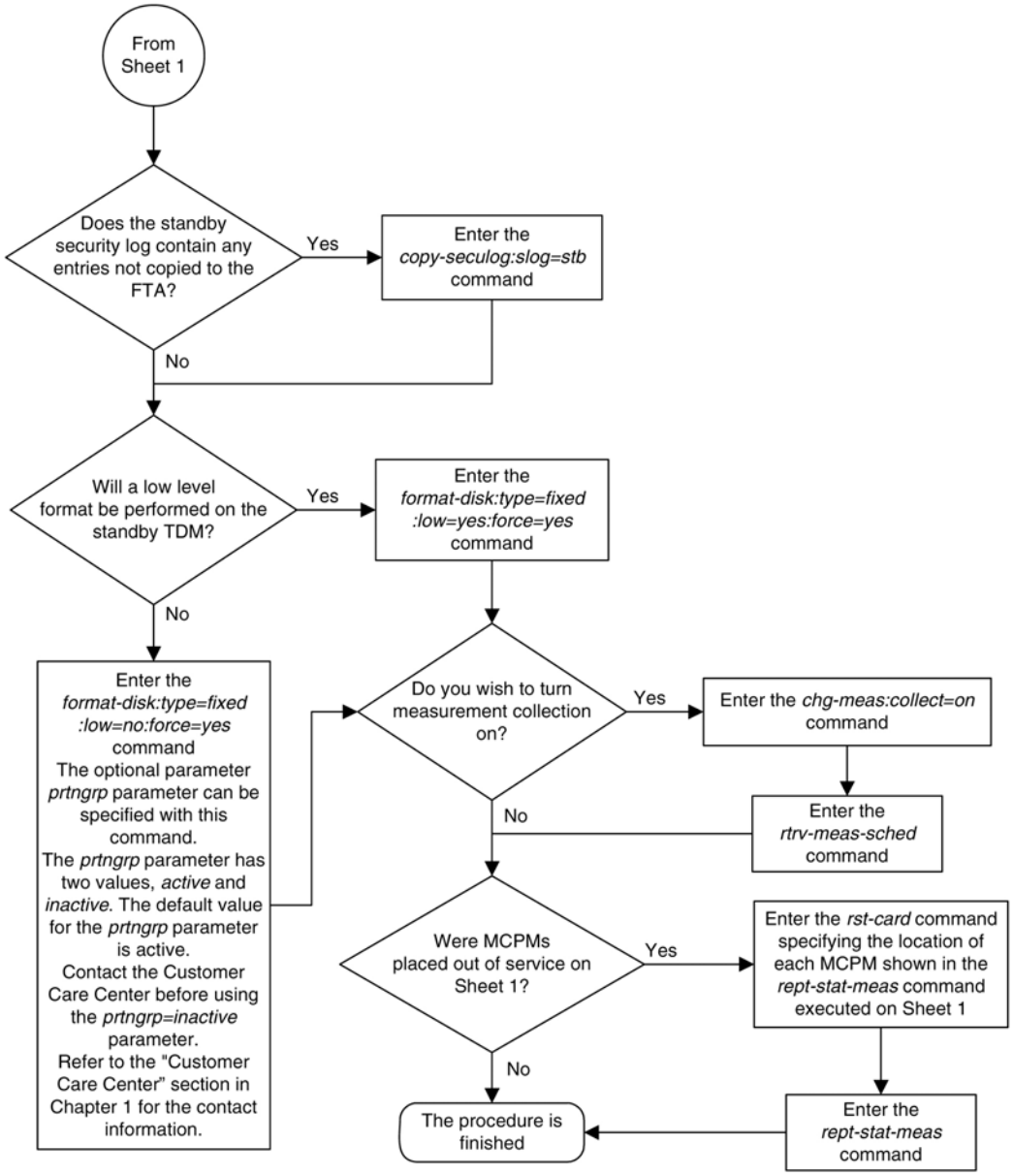
13. Display the status of the MCPMs in the database with the `rept-stat-meas` command.

    This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:43:42 GMT  EAGLE5 36.0.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

Figure 21: Formatting the Fixed Disk of the Standby TDM


Enter the *rept-stat-db* command
Is the database in the current partition of the active MASP (FD CRNT) coherent?
No
Go to the Verifying the Database section and resolve the database problems
Yes
Enter the *rtrv-meas-sched* command
Enter the *rtrv-measopts* command
Is measurement collection on?
No
Yes
Enter the *chg-meas:collect=off* command
Is the Measurements Platform Enabled?
Yes
Enter the *rept-stat-meas* command
No
Enter the *rmv-card* command specifying the location of each in service MCPM shown in the *rept-stat-meas* command
Enter the *rept-stat-seculog* command
To Sheet 2


From Sheet 1
Does the standby security log contain any entries not copied to the FTA?
Yes
Enter the copy-seculog:slog=stb command
No
Will a low level format be performed on the standby TDM?
Yes
Enter the format-disk:type=fixed :low=yes:force=yes command
No
Enter the format-disk:type=fixed :low=no:force=yes command
The optional parameter prtngrp parameter can be specified with this command.
The prtngrp parameter has two values, active and inactive. The default value for the prtngrp parameter is active.
Contact the Customer Care Center before using the prtngrp=inactive parameter.
Refer to the "Customer Care Center" section in Chapter 1 for the contact information.
Do you wish to turn measurement collection on?
Yes
Enter the chg-meas:collect=on command
No
Enter the rtrv-meas-sched command
Were MCPMs placed out of service on Sheet 1?
Yes
Enter the rst-card command specifying the location of each MCPM shown in the rept-stat-meas command executed on Sheet 1
No
The procedure is finished
Enter the rept-stat-meas command

Chapter 3

GPL Management Procedures

Topics:

Chapter 3, GPL Management Procedures, describes the procedures used for managing the system data (GPLs) on the EAGLE 5 ISS.

Introduction

A GPL is the software that is loaded onto a card that allows the various features in the EAGLE 5 ISS to work. The EAGLE 5 ISS currently uses these GPLs:

- ATMHC – The application GPL used for high-speed ANSI and E1 ATM signaling links that are assigned to E5-ATM cards.
- ATMANSI– The application GPL used for high-speed ANSI ATM signaling links that are assigned to LIMATM cards.
- ATMITU– The application GPL used for high-speed E1 ATM signaling links that are assigned to LIME1ATM cards.
- BLBIOS – A flash GPL containing the BIOS ROM image on the HC MIMs.
- BLCPLD – A flash GPL containing the bit files for the CPLD on the HC MIM , E5-E1T1, E5-STC, E5-SLAN, E5-SM4G, E5-ENET , E5-IPSM , and E5-ATM cards.
- BLDIAG6 – A flash GPL containing the diagnostic code on HC MIM, E5-E1T1, E5-STC, E5-SLAN, E5-SM4G, E5-ENET , E5-IPSM , and E5-ATM cards.
- BLBEPM – A flash GPL containing the BIOS ROM image on E5-E1T1, E5-STC, E5-SLAN, E5-ENET , E5-IPSM , and E5-ATM cards.
- BLROM1 – A flash GPL containing the boot loader code for the VxWorks operating system on the HC MIMs.
- BLBSMG – A flash GPL containing the BIOS ROM image on E5-SM4G cards.
- BLVXW6 – A flash GPL containing the VxWorks operating system on HC MIM, E5-E1T1, E5-STC, E5-SLAN, E5-SM4G, E5-ENET , E5-IPSM , and E5-ATM cards.
- BPHCAP – The communication GPL used in place of the IMT GPL on the LIMATM and E1 ATM.
- BPHCAPT – The communication GPL used in place of the IMT GPL on the newer versions of the LIMATM and E1 ATM.
- BPDCM – The communication GPL used in place of the IMT GPL on the Database Communications Module (DCM), Database Services Module (DSM), and General Purpose Services Module (GPSM-II).
- BPDCM2 – The communication GPL used in place of the IMT GPL on the General Purpose Services Module (GPSM-II).
- BPHMUX – The communication GPL used on the High Speed Multiplexer (HMUX) card.
- BPMPL – The communication GPL used in place of the IMT GPL on the Multi-Port LIM (MPL).
- BPMPLT – The communication GPL used in place of the IMT GPL on the Multi-Port LIM-T (MPLT) and the E1/T1 MIM.
- CCS7ITU – The application GPL used for CCS7ITU signaling links.
- EOAM – The application GPL used by the GPSM-II card for enhanced OAM functions.
- EROUTE – The application GPL used on the STC (Sentinel-Transport Card) for the EAGLE 5 Integrated Monitoring Support feature.
- ERTHC - The application GPL used on the E5-STC card for the EAGLE 5 Integrated Monitoring Support feature.
- GLS– The application GPL used for the gateway screening feature.
- GLSHC– The application GPL used for the gateway screening feature on E5-TSMs.
- HIPR – The communication GPL used on the High-Speed IMT Packet Router (HIPR) card.
- IMT – The communication GPL that operates the IMT bus on these cards only; ACMENET, TSM, and all LIMs that can contain a maximum of 2 signaling links.

- IMTPCI – The communication GPL that operates the IMT bus on HC MIM, E5-E1T1, E5-STC, E5-SLAN, E5-SM4G, E5-ENET , E5-IPSM , and E5-ATM cards.
- IPGHC – The application GPL used by the E5-ENET card to support TCP/IP point-to-multipoint connectivity for both ANSI and ITU point codes.
- IPLIM – The application GPL used for TCP/IP point-to-point ANSI connectivity.
- IPLHC – The application GPL used by the E5-ENET card for TCP/IP point-to-point connectivity for both ANSI and ITU point codes.
- IPGWI – The application GPL used for TCP/IP point-to-multipoint connectivity within an ITU-I or ITU-N network.
- IPLIMI – The application GPL used for TCP/IP point-to-point ITU connectivity.
- IPS – The application GPL used on the IPSMs for the IP User Interface and FTP Retrieve and Replace features.
- IPSG – The application GPL used for the IP Signaling Gateway M2PA and M3UA signaling links.
- IPSHC – The application GPL used on the E5-IPSM cards for the IP User Interface and FTP Retrieve and Replace features.
- MCP – The application GPL used on the MCPM (Measurement Collection & Polling Module) for the Measurements Platform feature.
- OAP – The application GPL running on the OAP used for the SEAS feature.
- PLDPMC1 – A flash GPL used on HC MIMs or E5-E1T1 cards for E1 or T1 signaling links and used on E5-ENET cards for IP signaling links..
- SCCP – The application GPL used on TSMs for the global title translation features.
- SCCPHC –The application GPL used on E5-SM4G cards for the global title translation features.
- SLANHC – The application GPL used on E5-SLAN cards for the STPLAN feature.
- SS7ANSI – The application GPL used for SS7 signaling links.
- SS7EPM – The application GPL used by the E5-E1T1 cards to support E1 and T1 signaling links.
- SS7GX25 – The application GPL used for X.25 signaling links.
- SS7HC – The application GPL used by the HC MIMs to support E1 and T1 signaling links.
- SS7IPGW – The application GPL used for TCP/IP point-to-multipoint connectivity within an ANSI network.
- SS7ML – The application GPL used on the Multi-Port LIM (MPL or MPLT) for SS7 signaling links and on the E1/T1MIM for E1 and T1 signaling links.
- STPLAN – The application GPL used by the ACM for the STPLAN feature.
- UTILITY – The application GPL used by the factory for testing and has no use in the field.
- VSCCP – The application GPL used on DSMs for the global title translation features.
- VXWSLAN – The application GPL used by the DCM for the STPLAN feature.

Managing GPLs

Managing these GPLs consists of loading them onto the EAGLE 5 ISS from a removable cartridge, downloading these GPLs to the appropriate cards in the EAGLE 5 ISS, then allowing the cards to run these GPLs. The GPLs can be in one of two states, trial and approved.

A trial GPL is a GPL that has not been approved for use and does not match the version number in the system release ID table. The trial GPL is the GPL that the EAGLE 5 ISS is not running.

The approved GPL is the GPL that the EAGLE 5 ISS should be running and has been approved for use. The approved GPL version number should match the version number of the GPL contained in the system release ID table.

The system release ID table contains the version numbers of the approved GPLs that the EAGLE 5 ISS should be running. The system release ID table is contained on the TDMs (Terminal Disk Modules) and on the removable cartridge containing the GPLs that are being loaded onto the EAGLE 5 ISS. The GPLs are loaded onto the EAGLE 5 ISS from a removable cartridge. To get the GPLs from the removable cartridge onto the EAGLE 5 ISS in the approved state, two commands are used, `chg-gpl` and `act-gpl`.

CHG-GPL Command

The `chg-gpl` command copies a GPL from the removable cartridge disk to the TDMs. The new GPL becomes the trial version on each of the TDMs. This command also copies the system release ID table from the removable cartridge to the TDMs. The `chg-gpl` command uses these parameters:

`gpl` – the GPL being loaded onto the EAGLE 5 ISS

`ver` – the version number of the GPL

`audit` – Specifies whether the active MASP system release version is to be audited every 90 seconds.

If you are loading a GPL onto the EAGLE 5 ISS, the `gpl` and `ver` parameters must be specified with the `chg-gpl` command and a removable cartridge containing the GPL being loaded must be in the removable cartridge drive on the MDAL. The only exception to this is if you are loading either the OAP GPL. The `ver` parameter is not required when loading the OAP GPL.

The `audit` parameter is required only when turning the GPL auditing on or off.

ACT-GPL Command

The `act-gpl` command changes the state of the trial GPL from "trial" to "approved." This is also referred to as activating the GPL. The state of the previously approved GPL is changed from "approved" to "trial."

The version of the GPL shown in the `RELEASE` column of the `rtrv-gpl` output (the GPL version in the system release ID table) is updated to the new approved version when this command is performed.

The `act-gpl` command uses these parameters:

`gpl` – the GPL being loaded onto the EAGLE 5 ISS

`ver` – the version number of the GPL

All the GPLs can be activated with the `act-gpl` command except for these:

- OAP
- UTILITY

Displaying GPL Information

Two commands can be used to display the GPL information in the database, `rept-stat-gpl` and `rtrv-gpl`. The `rept-stat-gpl` command shows the versions of the GPLs that are running on the cards in the EAGLE 5 ISS. The `rtrv-gpl` command shows the versions of the GPLs contained on the fixed disks.

REPT-STAT-GPL Command

The `rept-stat-gpl` command output contains these five columns and displays this information:

- GPL – The GPLs contained on the TDMs (Terminal Disk Modules). The TDMs contain the fixed disks.
- CARD – The cards that are running the GPLs
- RUNNING – The version number of the GPLs the cards are running
- APPROVED – The version numbers of the approved GPLs
- TRIAL – The version numbers of the trial GPLs

The following is an example of the rept-stat-gpl command output.

```
GPL       CARD      RUNNING           APPROVED      TRIAL
SS7ANSI   1201      126-002-000       126-002-000   126-001-000
```

The example rept-stat-gpl output shows that the card in slot 1201 is running the SS7ANSI GPL, version number 126-002-000, which is also the approved version of the SS7ANSI GPL. The trial version number of the SS7ANSI GPL is 126-001-000.

You can display all the GPLs used by all the cards in the EAGLE 5 ISS except the communication GPLs, a specific GPL, or all application and communication GPLs used by all the cards in the EAGLE 5 ISS. The communication GPLs are the IMT, BPHCAP, BPHCAPT, BPDCM, BPMPL, BPMPLT, BPHMUX, IMTPCI, and HIPR GPLs. The application GPLs are the other GPLs in the EAGLE 5 ISS.

If you specify the rept-stat-gpl command with no parameters, all the GPLs on all the cards in the EAGLE 5 ISS are displayed except for the communication GPLs, as shown in this example.

```
rlghncxa03w 07-05-01 07:01:08 GMT EAGLE5 37.0.0
GPL       CARD      RUNNING           APPROVED      TRIAL
EOAM      1113      126-002-000       126-002-000   -----------
EOAM      1115      126-002-000       126-002-000   -----------
SCCP      1212      126-001-000       126-001-000   126-001-000
VSCCP     1103      126-001-000       126-001-000   126-001-000
SS7ANSI   1201      126-002-000       126-002-000   126-001-000
SS7ANSI   1202      126-002-000       126-002-000   126-001-000
SS7ANSI   1203      126-002-000       126-002-000   126-001-000
SS7ML     1204      126-002-000       126-002-000   126-001-000
SS7ANSI   1205      126-002-000       126-002-000   126-001-000
CCS7ITU   1301      126-001-000       126-001-000   126-001-000
CCS7ITU   1302      126-001-000       126-001-000   126-001-000
IPLIM     1303      126-001-000       126-001-000   126-001-000
ATMANSI   1305      126-001-000       126-001-000   126-001-000
SS7IPGW   1307      126-001-000       126-001-000   126-001-000
ATMANSI   1311      126-001-000       126-001-000   126-001-000
SS7IPGW   2101      126-002-000       126-002-000   126-003-000
VXWSLAN   2113      126-002-000       126-002-000   126-003-000
VXWSLAN   2205      126-002-000       126-002-000   126-003-000
VXWSLAN   2207      126-002-000       126-002-000   126-003-000
VXWSLAN   2213      126-002-000       126-002-000   126-003-000
IPLIM     2301      126-002-000       126-002-000   126-003-000
IPLIM     2303      126-002-000       126-002-000   126-003-000
IPLIM     2305      126-002-000       126-002-000   126-003-000
IPLIM     2307      126-002-000       126-002-000   126-003-000
EROUTE    2311      126-002-000       126-002-000   126-003-000
EROUTE    2313      126-002-000       126-002-000   126-003-000
EROUTE    2315      126-002-000       126-002-000   126-003-000
MCP       2317      126-002-000       126-002-000   126-003-000
MCP       3101      126-002-000       126-002-000   126-003-000
MCP       3103      126-002-000       126-002-000   126-003-000
OAP          A      028-001-000       028-001-000   -----------
```

```
OAP          B      028-001-000       028-001-000   -----------
Command Completed.
```

If a specific GPL, including the communication GPLs, is specified, then all the cards running that GPL are displayed. For example, if the `rept-stat-gpl:gpl=ss7ansi` command is entered, then all cards running the SS7ANSI GPL are displayed as shown in the following example.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
GPL       CARD      RUNNING           APPROVED      TRIAL
SS7ANSI   1201      126-002-000       126-002-000   126-001-000
SS7ANSI   1202      126-002-000       126-002-000   126-001-000
SS7ANSI   1203      126-002-000       126-002-000   126-001-000
SS7ANSI   1205      126-002-000       126-002-000   126-001-000
Command Completed
```

If a communication GPL (IMT, BPHCAP, BPHCAPT, BPDCM, BPMPL, or BPMPLT) is specified with the `rept-stat-gpl` command, for example, `rept-stat-gpl:gpl=bpdcm`, then all cards running the communication GPL are displayed. In the following example, all the cards running the BPDCM GPL are displayed as the output for the `rept-stat-gpl:gpl=bpdcm` command.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
GPL       CARD      RUNNING           APPROVED      TRIAL
BPDCM     1303      126-002-000       126-002-000   126-003-000
BPDCM     1307      126-002-000       126-002-000   126-003-000
BPDCM     2101      126-002-000       126-002-000   126-003-000
BPDCM     2103      126-002-000       126-002-000   126-003-000
BPDCM     2105      126-002-000       126-002-000   126-003-000
BPDCM     2113      126-002-000       126-002-000   126-003-000
BPDCM     2205      126-002-000       126-002-000   126-003-000
BPDCM     2207      126-002-000       126-002-000   126-003-000
BPDCM     2213      126-002-000       126-002-000   126-003-000
BPDCM     2301      126-002-000       126-002-000   126-003-000
BPDCM     2303      126-002-000       126-002-000   126-003-000
BPDCM     2305      126-002-000       126-002-000   126-003-000
BPDCM     2307      126-002-000       126-002-000   126-003-000
BPDCM     2311      126-002-000       126-002-000   126-003-000
BPDCM     2313      126-002-000       126-002-000   126-003-000
BPDCM     2315      126-002-000       126-002-000   126-003-000
BPDCM     2317      126-002-000       126-002-000   126-003-000
BPDCM     3101      126-002-000       126-002-000   126-003-000
BPDCM     3103      126-002-000       126-002-000   126-003-000
Command Completed
```

If the `display=all` parameter is specified with the `rept-stat-gpl` command, then all GPLs, application and communication GPLs used by all the cards in the EAGLE 5 ISS are displayed as shown in this example.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
GPL       CARD      RUNNING           APPROVED      TRIAL
EOAM      1113      126-002-000       126-002-000   126-002-000
      IMT           126-001-000       126-001-000   126-001-003
EOAM      1115      126-002-000       126-002-000   126-002-000
      IMT           126-001-000       126-001-000   126-001-003
SCCP      1212      126-001-000       126-001-000   126-001-000
      IMT           126-001-000       126-001-000   126-001-003
VSCCP     1103      126-001-000       126-001-000   126-001-000
      BPDCM         126-001-000       126-001-000   126-001-003
SS7ANSI   1201      126-002-000       126-002-000   126-001-000
      IMT           126-001-000       126-001-000   126-001-003
SS7ANSI   1202      126-002-000       126-002-000   126-001-000
      IMT           126-001-000       126-001-000   126-001-003
SS7ANSI   1203      126-002-000       126-002-000   126-001-000
```

```
      IMT           126-001-000         126-001-000   126-001-003
SS7ML     1204      126-002-000         126-002-000   126-001-000
      BPMPL         126-001-000         126-001-000   126-001-003
SS7ANSI   1205      126-002-000         126-002-000   126-001-000
      IMT           126-001-003  ALM    126-001-000   126-001-003
CCS7ITU   1301      126-001-000         126-001-000   126-001-000
      IMT           126-001-000         126-001-000   126-001-003
CCS7ITU   1302      126-001-000         126-001-000   126-001-000
      IMT           126-001-000         126-001-000   126-001-003
IPLIM     1303      126-001-000         126-001-000   126-001-000
      BPDCM         126-001-000         126-001-000   126-001-003
ATMANSI   1305      126-001-000         126-001-000   126-001-000
      BPHCAP        126-001-000         126-001-000   126-001-003
SS7IPGW   1307      126-001-000         126-001-000   126-001-000
      BPDCM         126-001-000         126-001-000   126-001-003
ATMANSI   1311      126-001-000         126-001-000   126-001-000
      BPHCAP        126-001-003  ALM    126-001-000   126-001-003
SS7IPGW   2101      126-002-000         126-002-000   126-003-000
      BPDCM         126-001-003  ALM+   126-001-000   126-001-003
VXWSLAN   2113      126-002-000         126-002-000   126-003-000
      BPDCM         126-001-000         126-001-000   126-001-003
VXWSLAN   2205      126-002-000         126-002-000   126-003-000
      BPDCM         126-001-000         126-001-000   126-001-003
VXWSLAN   2207      126-002-000         126-002-000   126-003-000
      BPDCM         126-001-000         126-001-000   126-001-003
VXWSLAN   2213      126-002-000         126-002-000   126-003-000
      BPDCM         126-001-000         126-001-000   126-001-003
IPLIM     2301      126-002-000         126-002-000   126-003-000
      BPDCM         126-001-000         126-001-000   126-001-003
IPLIM     2303      126-002-000         126-002-000   126-003-000
      BPDCM         126-001-000         126-001-000   126-001-003
IPLIM     2305      126-002-000         126-002-000   126-003-000
      BPDCM         126-001-000         126-001-000   126-001-003
IPLIM     2307      126-002-000         126-002-000   126-003-000
      BPDCM         126-001-000         126-001-000   126-001-003
EROUTE    2311      126-002-000         126-002-000   126-003-000
      BPDCM         126-001-000         126-001-000   126-001-003
EROUTE    2313      126-002-000         126-002-000   126-003-000
      BPDCM         126-001-000         126-001-000   126-001-003
EROUTE    2315      126-002-000         126-002-000   126-003-000
      BPDCM         126-001-000         126-001-000   126-001-003
MCP       2317      126-002-000         126-002-000   126-003-000
      BPDCM         126-001-000         126-001-000   126-001-003
MCP       3101      126-002-000         126-002-000   126-003-000
      BPDCM         126-001-000         126-001-000   126-001-003
MCP       3103      126-002-000         126-002-000   126-003-000
      BPDCM         126-001-000         126-001-000   126-001-003
BPHMUX    1109      118-001-000         118-001-000   118-001-003
BPHMUX    1110      118-001-000         118-001-000   118-001-003
BPHMUX    1209      118-001-000         118-001-000   118-001-003
BPHMUX    1210      118-001-000         118-001-000   118-001-003
BPHMUX    1309      118-001-000         118-001-000   118-001-003
BPHMUX    1310      118-001-000         118-001-000   118-001-003
BPHMUX    2109      118-001-000         118-001-000   118-001-003
BPHMUX    2110      118-001-000         118-001-000   118-001-003
BPHMUX    2209      118-001-000         118-001-000   118-001-003
BPHMUX    2210      118-001-000         118-001-000   118-001-003
BPHMUX    2309      118-001-000         118-001-000   118-001-003
BPHMUX    2310      118-001-000         118-001-000   118-001-003
BPHMUX    3109      118-001-000         118-001-000   118-001-003
BPHMUX    3110      118-001-000         118-001-000   118-001-003
OAP          A      028-001-000         028-001-000   -----------
```

```
OAP          B      028-001-001  ALM   028-001-000   -----------
Command Completed.
```

If the `loc` parameter is specified with the `rept-stat-gpl` command, all the GPLs running on the specified card are displayed. For HC MIMs, this includes all non-activated flash GPLs, as shown in the following example.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 39.0.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    SS7HC      1203      126-001-000        126-001-000   126-001-000
           IMTPCI                          126-001-000   126-001-000
           BLBIOS                          126-001-000   126-001-000
           BLCPLD                          126-001-000   126-001-000
           BLVXW6                          126-001-000   126-001-000
           BLDIAG6                         126-001-000   126-001-000
           BLROM1                          126-001-000   126-001-000
           PLDPMC1                         126-001-000   126-001-000

                                           ACTIVE        INACTIVE
           IMTPCI        126-001-000       126-002-000 * -----------     (Note
 1)
           BLBIOS        126-001-000       126-001-000   126-003-000  *  (Note
 2)
           BLCPLD        126-001-000       126-001-000 * -----------
           BLVXW6        126-002-000ALM    126-002-000 * -----------     (Note
 3)
           BLDIAG6       126-003-000ALM+   126-002-000 * 126-003-000     (Note
 4)
           BLROM1        126-001-000   +   126-002-000 * 126-001-000     (Note
 5)
           PLDPMC1       126-001-000       126-001-000   -----------
    Command Completed.
```

Notes:

1. The IMTPCIGPL has been downloaded with the `init-flash` command. The card has reset and the IMTPCIGPL was activated normally with the `act-flash` command.
2. The BLBIOSGPL has been downloaded with the `init-flash` command, but the card has not been initialized. When the card is initialized again, the inactive version of the BLBIOSGPL will be loaded onto the card.
3. The BLVXW6 GPL has been downloaded with the `init-flash` command. The card has been reset. The BLVXW6 GPL was activated with the `act-flash` command, but the activated version of the BLVXW6 GPL is not the approved version of the BLVXW6 GPL on the TDM.
4. The BLDIAG6 GPL has been downloaded with the `init-flash` command. The card has been reset so the inactive version is running. This version of the BLDIAG6 GPL is not the approved version of the GPL, shown with the `ALM` indicator. This version of the BLDIAG6 GPL has not been activated, shown with the '+' indicator. The '*' next to the active version indicates that if the card is reset again, the card will be running the active version of the BLDIAG6 GPL.
5. The BLROM1 GPL has been downloaded with the `init-flash` command. The card has been reset, but the BLROM1 GPL has not been activated yet. This is the same condition as note 4, except that there is no alarm condition.

The following is an example of using the `loc` parameter with the `rept-stat-gpl` command with a card that is not a high-capacity card.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
    GPL Auditing  ON
```

```
GPL        CARD      RUNNING            APPROVED      TRIAL
ATMANSI    1217      126-001-000        126-001-000   126-001-000
       BPHCAP        126-001-000        126-001-000   126-001-000
Command Completed.
```

The display=all, gpl, and loc parameters cannot be specified in the same command.

If GPL auditing is on, a minor alarm is generated, and ALM is displayed for each GPL in the RUNNING column whose version does not match the version of the GPL shown in the system release ID table. The GPL versions in the system release ID table are shown in the RELEASE column of the rtrv-gpl command output.

If GPL auditing is off, the minor alarm is not generated, but ALM is displayed for each GPL whose version does not match the version of the GPL shown in the system release ID table. The detection, marking, and reporting of corrupt GPLs continues to be performed and is not affected by turning GPL auditing off.

If a GPL is not found, a version of "----------" is displayed.

If a card is inhibited, "----------" is displayed in the RUNNING column.

A plus (+) symbol appears in the output when any of the communication or flash GPLs are specified for the rept-stat-gpl command. The plus symbol indicates that the specified GPL currently running on the card has not yet been activated on the card.

RTRV-GPL Command

The rtrv-gpl command output contains these six columns and displays this information:

- GPL – The GPLs contained on the TDMs.
- CARD – The card location of the TDMs, either card locations 1114 or 1116
- RELEASE – The version number of the GPL contained in the system release ID table.
- APPROVED – The version numbers of the approved GPLs
- TRIAL – The version numbers of the trial GPLs
- REMOVE TRIAL – The version number of the GPLs contained on the removable cartridge. Entries in the REMOVE TRIAL column are shown only if the removable cartridge is inserted into the removable cartridge drive and only for the TDM that is associated with the active MASP. If the removable cartridge is not in the removable cartridge drive, dashes are shown in the REMOVE TRIAL column. Dashes are also shown in the REMOVE TRIAL column for the TDM that is associated with the standby MASP.

The following is an example of the rtrv-gpl command output.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  126-002-000  126-002-000      126-001-000  126-003-000
SS7ANSI   1116  126-002-000  126-002-000      126-001-000  ----------
```

The example rtrv-gpl output shows that the version number of the SS7ANSI GPL in the system release ID table on both TDMs is 126-002-000, which is also the approved version of the SS7ANSI GPL. The trial version of the SS7ANSI GPL is 126-001-000. A removable cartridge is in the removable cartridge drive on the MDAL containing another version of the SS7ANSI GPL, version number 126-003-000. The GPL auditing function is on. The TDM in card slot 1114 is associated with the active MASP.

You can display all the GPLs in the EAGLE 5 ISS or a specific GPL in the EAGLE 5 ISS.

If you specify the `rtrv-gpl` command with no parameters, all the GPLs in the EAGLE 5 ISS are displayed as shown in this example.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 39.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
EOAM      1114  126-003-000  126-003-000      126-004-000  126-004-000
EOAM      1116  126-003-000  126-003-000      -----------  -----------
SS7ANSI   1114  126-002-000  126-002-000      126-002-000  126-003-000
SS7ANSI   1116  126-002-000  126-002-000      126-002-000  -----------
SCCP      1114  126-002-000  126-002-000      126-002-000  126-003-000
SCCP      1116  126-002-000  126-002-000      126-002-000  -----------
GLS       1114  126-002-000  126-002-000      126-002-000  126-003-000
GLS       1116  126-002-000  126-002-000      126-002-000  -----------
CDU       1114  153-000-000  153-000-000      153-001-000  153-001-000
CDU       1116  153-000-000  153-000-000      -----------  -----------
CCS7ITU   1114  126-002-000  126-002-000      126-002-000  126-003-000
CCS7ITU   1116  126-002-000  126-002-000      126-002-000  -----------
SS7GX25   1114  126-001-000  126-001-000      126-001-000  126-002-000
SS7GX25   1116  126-001-000  126-001-000      126-001-000  -----------
STPLAN    1114  126-001-000  126-001-000      126-001-000  126-002-000
STPLAN    1116  126-001-000  126-001-000      126-001-000  -----------
IMT       1114  126-001-000  126-001-000      126-001-000  126-002-000
IMT       1116  126-001-000  126-001-000      126-001-000  -----------
ATMANSI   1114  126-002-000  126-002-000      126-001-000  126-002-000
ATMANSI   1116  126-002-000  126-002-000      126-001-000  -----------
BPHCAP    1114  126-001-000  126-001-000      126-000-000  126-001-000
BPHCAP    1116  126-001-000  126-001-000      126-000-000  -----------
BPDCM     1114  126-001-000  126-001-000      126-000-000  126-001-000
BPDCM     1116  126-001-000  126-001-000      126-000-000  -----------
VXWSLAN   1114  126-001-000  126-001-000      126-000-000  126-001-000
VXWSLAN   1116  126-001-000  126-001-000      126-000-000  -----------
IPLIM     1114  126-002-000  126-002-000      126-002-000  126-003-000
IPLIM     1116  126-002-000  126-002-000      126-002-000  -----------
IPLIMI    1114  126-002-000  126-002-000      126-002-000  126-003-000
IPLIMI    1116  126-002-000  126-002-000      126-002-000  -----------
SS7IPGW   1114  126-002-000  126-002-000      126-002-000  126-003-000
SS7IPGW   1116  126-002-000  126-002-000      126-002-000  -----------
VSCCP     1114  126-002-000  126-002-000      126-002-000  126-003-000
VSCCP     1116  126-002-000  126-002-000      126-002-000  -----------
ATMITU    1114  126-002-000  126-002-000      126-002-000  126-003-000
ATMITU    1116  126-002-000  126-002-000      126-002-000  -----------
VCDU      1114  153-000-000  153-000-000      153-001-000  153-001-000
VCDU      1116  153-000-000  153-000-000      -----------  -----------
BPMPL     1114  126-001-000  126-001-000      126-000-000  126-001-000
BPMPL     1116  126-001-000  126-001-000      126-000-000  -----------
SS7ML     1114  126-002-000  126-002-000      126-002-000  126-003-000
SS7ML     1116  126-002-000  126-002-000      126-002-000  -----------
BPHMUX    1114  118-001-000  118-001-000      118-000-000  118-001-000
BPHMUX    1116  118-001-000  118-001-000      118-000-000  -----------
IPGWI     1114  126-002-000  126-002-000      126-002-000  126-003-000
IPGWI     1116  126-002-000  126-002-000      126-002-000  -----------
IPS       1114  126-002-000  126-002-000      126-002-000  126-003-000
IPS       1116  126-002-000  126-002-000      126-002-000  -----------
EROUTE    1114  126-001-000  126-001-000      126-000-000  126-001-000
EROUTE    1116  126-001-000  126-001-000      126-000-000  -----------
BPMPLT    1114  126-001-000  126-001-000      126-000-000  126-001-000
BPMPLT    1116  126-001-000  126-001-000      126-000-000  -----------
MCP       1114  126-001-000  126-001-000      126-000-000  126-001-000
MCP       1116  126-001-000  126-001-000      126-000-000  -----------
BPHCAP    1114  126-001-000  126-001-000      126-000-000  126-001-000
```

```
BPHCAP    1116  126-001-000  126-001-000      126-000-000  -----------
HIPR      1114  126-001-000  126-001-000      126-000-000  126-001-000
HIPR      1116  126-001-000  126-001-000      126-000-000  -----------
SS7HC     1114  126-002-000  126-002-000      126-002-000  126-003-000
SS7HC     1116  126-002-000  126-002-000      126-002-000  -----------
BLCPLD    1114  126-001-000  126-001-000      126-000-000  126-001-000
BLCPLD    1116  126-001-000  126-001-000      126-000-000  -----------
BLROM1    1114  126-001-000  126-001-000      126-000-000  126-001-000
BLROM1    1116  126-001-000  126-001-000      126-000-000  -----------
PLDPMC1   1114  126-001-000  126-001-000      126-000-000  126-001-000
PLDPMC1   1116  126-001-000  126-001-000      126-000-000  -----------
BLBIOS    1114  126-001-000  126-001-000      126-000-000  126-001-000
BLBIOS    1116  126-001-000  126-001-000      126-000-000  -----------
IMTPCI    1114  126-001-000  126-001-000      126-000-000  126-001-000
IMTPCI    1116  126-001-000  126-001-000      126-000-000  -----------
OAP       1114  028-001-000  028-001-000      -----------  028-001-000
OAP       1116  028-001-000  028-001-000      -----------  -----------
IPLHC     1114  126-003-000  126-003-000      126-002-000  126-003-000
IPLHC     1116  126-003-000  126-003-000      126-002-000  -----------
IPGHC     1114  126-003-000  126-003-000      126-002-000  126-003-000
IPGHC     1116  126-003-000  126-003-000      126-002-000  -----------
SS7EPM    1114  126-003-000  126-003-000      126-002-000  126-003-000
SS7EPM    1116  126-003-000  126-003-000      126-002-000  -----------
BLBEPM    1114  126-003-000  126-003-000      126-002-000  126-003-000
BLBEPM    1116  126-003-000  126-003-000      126-002-000  -----------
BLVXW6    1114  126-003-000  126-003-000      126-002-000  126-003-000
BLVXW6    1116  126-003-000  126-003-000      126-002-000  -----------
BLDIAG6   1114  126-003-000  126-003-000      126-002-000  126-003-000
BLDIAG6   1116  126-003-000  126-003-000      126-002-000  -----------
SCCPHC    1114  126-003-000  126-003-000      126-002-000  126-003-000
SCCPHC    1116  126-003-000  126-003-000      126-002-000  -----------
BLBSMG    1114  126-003-000  126-003-000      126-002-000  126-003-000
BLBSMG    1116  126-003-000  126-003-000      126-002-000  -----------
SLANHC    1114  126-003-000  126-003-000      126-002-000  126-003-000
SLANHC    1116  126-003-000  126-003-000      126-002-000  -----------
ERTHC     1114  126-003-000  126-003-000      126-002-000  126-003-000
ERTHC     1116  126-003-000  126-003-000      126-002-000  -----------
IPSHC     1114  126-003-000  126-003-000      126-002-000  126-003-000
IPSHC     1116  126-003-000  126-003-000      126-002-000  -----------
ATMHC     1114  126-003-000  126-003-000      126-002-000  126-003-000
ATMHC     1116  126-003-000  126-003-000      126-002-000  -----------
IPSG      1114  126-003-000  126-003-000      126-002-000  126-003-000
IPSG      1116  126-003-000  126-003-000      126-002-000  -----------
```

If a specific GPL is specified, then only that GPL is displayed. For example, if the `rtrv-gpl:gpl=ss7ansi` command is entered, then only the SS7ANSI GPL is displayed as shown in the following example.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  126-002-000  126-002-000      126-001-000  126-003-000
SS7ANSI   1116  126-002-000  126-002-000      126-001-000  -----------
```

If GPL auditing is on, a minor alarm is generated, and `ALM` is displayed for each approved GPL version that does not match the GPL version shown in the `RELEASE` column. If GPL auditing is `off`, the minor alarm is not generated, but `ALM` is displayed for each GPL version that does not match the GPL version shown in the `RELEASE` column. The detection, marking, and reporting of corrupt GPLs continues to be performed and is not affected by turning GPL auditing off. The GPL version shown in the `RELEASE` column is updated when the `act-gpl` command is performed.

If a GPL is not found, a version of "`----------`" is displayed.

Loading a GPL onto the System

This section gives a general overview as to how a GPL is loaded onto the EAGLE 5 ISS to be used by the applicable cards. The requirements and steps for each GPL are different and are detailed in the procedures contained in this chapter.

1. A removable cartridge containing the GPL being loaded onto the EAGLE 5 ISS is inserted into the removable cartridge drive on the MDAL card. If a specific GPL is displayed with the `rtrv-gpl` command, for example the SS7ANSI GPL, the following would be displayed.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  126-002-000  126-002-000      126-001-000  126-003-000
SS7ANSI   1116  126-002-000  126-002-000      126-001-000  -----------
```

   Displaying the SS7ANSI GPL with the `rept-stat-gpl` command would display all the cards running the SS7ANSI GPL, as shown in this example.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
GPL       CARD      RUNNING           APPROVED      TRIAL
SS7ANSI   1201      126-002-000       126-002-000   126-001-000
SS7ANSI   1202      126-002-000       126-002-000   126-001-000
SS7ANSI   1203      126-002-000       126-002-000   126-001-000
SS7ANSI   1205      126-002-000       126-002-000   126-001-000
Command Completed
```

2. When the `chg-gpl` command is executed, the specific GPL is copied from the removable cartridge to the fixed disks. The specific GPL and the version number of the GPL on the removable cartridge must be specified with the `chg-gpl` command. The version number is found in the `REMOVE TRIAL` column of the `rtrv-gpl` output. For this example the `chg-gpl :gpl=ss7ansi:ver=123-003-000` command would be entered at the EAGLE 5 ISS terminal. The system release ID table contained on the removable cartridge is also copied to the fixed disks.
3. The new version of the GPL is now the trial version of the GPL as shown in the examples of the `rtrv-gpl` and `rept-stat-gpl` outputs.

   `rtrv-gpl:gpl=ss7ansi`

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  126-002-000  126-002-000      126-003-000  126-003-000
SS7ANSI   1116  126-002-000  126-002-000      126-003-000  -----------
```

   `rept-stat-gpl:gpl=ss7ansi`

```
rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
GPL     CARD   RUNNING           APPROVED      TRIAL
SS7ANSI  1201   126-002-000       126-002-000   126-003-000
SS7ANSI  1202   126-002-000       126-002-000   126-003-000
SS7ANSI  1203   126-002-000       126-002-000   126-003-000
SS7ANSI  1205   126-002-000       126-002-000   126-003-000
Command Completed
```

4. To make the trial version of the GPL the approved version, the `act-gpl` command is executed after the GPL has been copied from the removable cartridge with the `chg-gpl` command (steps

1 to 3 in the Trial GPL section). The trial and approved versions of the specific GPL are swapped as shown in these `rtrv-gpl` and `rept-stat-gpl` output examples.

`rtrv-gpl:gpl=ss7ansi`

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  126-003-000  126-003-000      126-002-000  126-003-000
SS7ANSI   1116  126-003-000  126-003-000      126-002-000  -----------
```

The system release ID table is updated with the version of the GPL specified with the `act-gpl` command. This GPL version is shown in the RELEASE column of the `rtrv-gpl` output after the `act-gpl` command is performed.

The ALM indicator is not displayed in the `rtrv-gpl` output because the approved version of the GPL matches the version in the system release ID table.

`rept-stat-gpl:gpl=ss7ansi`

```
rlghncxa03w 06-10-01 11:50:11 GMT  EAGLE5 36.0.0
GPL      CARD   RUNNING           APPROVED      TRIAL
SS7ANSI  1201   126-002-000 ALM   126-003-000   126-002-000
SS7ANSI  1202   126-002-000 ALM   126-003-000   126-002-000
SS7ANSI  1203   126-002-000 ALM   126-003-000   126-002-000
SS7ANSI  1205   126-002-000 ALM   126-003-000   126-002-000
Command Completed
```

The ALM indicator is displayed for the cards that are running the version of the GPL that does not match the version in the system release ID table (shown in the RELEASE column of the `rtrv-gpl` output). In this example, the cards are running the trial version which does not match the version in the system release ID table.

5. To load the card with the new version of the GPL, the card must be inhibited with the `rmv-card` command, then placed back into service with the `rst-card` command. To load the approved version of the GPL onto the card, the `code=appr` parameter can be specified with the `rst-card` command. It is not necessary to specify the `code=appr` parameter to load the approved version of the GPL. Entering the `rst-card` command without the code parameter loads the approved version of the GPL onto the card.

   If you wish to load the trial version of the GPL onto the card, the `code=trial` parameter must be specified with the `rst-card` command.

   The following examples show the outputs of the `rtrv-gpl` and `rept-stat-gpl` commands after the card has been reloaded. The outputs will vary depending on whether or not the new version of the GPL has been made the approved version with the `act-gpl` command, and which version (trial or approved) of the GPL is loaded onto the card.

   Example 1

   The new GPL is the APPROVED version and the card 1201 was reloaded with the APPROVED version of the GPL. Card 1201 is now running the APPROVED and RELEASE versions of the GPL. The ALM indicator is not shown in the `rtrv-gpl` output and is not shown for card 1201 in `rept-stat-gpl` output. The ALM indicator is shown for cards 1202, 1203, and 1205 because they are not running the RELEASE version of the GPL.

RTRV-GPL Output

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  126-003-000  126-003-000      126-002-000  126-003-000
SS7ANSI   1116  126-003-000  126-003-000      126-002-000  -----------
```

REPT-STAT-GPL Output

```
rlghncxa03w 06-10-01 11:50:11 GMT  EAGLE5 36.0.0
GPL     CARD   RUNNING           APPROVED      TRIAL

SS7ANSI  1201   126-003-000       126-003-000   126-002-000
SS7ANSI  1202   126-002-000 ALM   126-003-000   126-002-000
SS7ANSI  1203   126-002-000 ALM   126-003-000   126-002-000
SS7ANSI  1205   126-002-000 ALM   126-003-000   126-002-000
Command Completed
```

Example 2

The new GPL is the APPROVED version and the card 1201 was reloaded with the TRIAL version of the GPL. Card 1201 is now running the TRIAL version of the GPL which is not the RELEASE version of the GPL. The ALM indicator is not shown in the `rtrv-gpl` output, but is not shown for all the cards in `rept-stat-gpl` output because they are not running the RELEASE version of the GPL.

RTRV-GPL Output

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  126-003-000  126-003-000      126-002-000  126-003-000
SS7ANSI   1116  126-003-000  126-003-000      126-002-000  -----------
```

REPT-STAT-GPL Output

```
rlghncxa03w 06-10-01 11:50:11 GMT  EAGLE5 36.0.0
GPL      CARD   RUNNING           APPROVED      TRIAL
SS7ANSI  1201   126-002-000 ALM   126-003-000   126-002-000
SS7ANSI  1202   126-002-000 ALM   126-003-000   126-002-000
SS7ANSI  1203   126-002-000 ALM   126-003-000   126-002-000
SS7ANSI  1205   126-002-000 ALM   126-003-000   126-002-000
Command Completed
```

Example 3

The new GPL is the TRIAL version and the card 1201 was reloaded with the TRIAL version of the GPL. Card 1201 is now running the TRIAL version of the GPL, but not the RELEASE version of the GPL. The ALM indicator is not shown in the `rtrv-gpl` output because the RELEASE version of the GPL has not changed. The ALM indicator is shown for card 1201 in the `rept-stat-gpl` output because card 1201 is not running the RELEASE version of the GPL.

RTRV-GPL Output

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
```

```
SS7ANSI   1114  126-002-000  126-002-000      126-003-000  126-003-000
SS7ANSI   1116  126-002-000  126-002-000      126-003-000  -----------
```

REPT-STAT-GPL Output

```
rlghncxa03w 06-10-01 11:50:11 GMT  EAGLE5 36.0.0
GPL     CARD   RUNNING           APPROVED      TRIAL
SS7ANSI  1201   126-003-000 ALM   126-002-000   126-003-000
SS7ANSI  1202   126-002-000       126-002-000   126-003-000
SS7ANSI  1203   126-002-000       126-002-000   126-003-000
SS7ANSI  1205   126-002-000       126-002-000   126-003-000
Command Completed
```

Example 4

The new GPL is the TRIAL version and the card 1201 was reloaded with the APPROVED version of the GPL. Card 1201 is now running the APPROVED version of the GPL which is the RELEASE version of the GPL. The ALM indicator is not shown in the `rtrv-gpl` output, and for all the cards in `rept-stat-gpl` output because they are running the RELEASE version of the GPL.

RTRV-GPL Output

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  126-002-000  126-002-000      126-003-000  126-003-000
SS7ANSI   1116  126-002-000  126-002-000      126-003-000  -----------
```

REPT-STAT-GPL Output

```
rlghncxa03w 06-10-01 11:50:11 GMT  EAGLE5 36.0.0
GPL      CARD   RUNNING           APPROVED      TRIAL
SS7ANSI  1201   126-002-000       126-002-000   126-003-000
SS7ANSI  1202   126-002-000       126-002-000   126-003-000
SS7ANSI  1203   126-002-000       126-002-000   126-003-000
SS7ANSI  1205   126-002-000       126-002-000   126-003-000
Command Completed
```

Updating the IMT GPL

This section presents the procedure for updating the `imt` generic program load (GPL). There are two versions of GPLs used on the EAGLE 5 ISS, approved and trial versions. The `imt` GPL on the removable cartridge serves as the trial GPL.

The `imt` GPL can be loaded on these cards only: all LIMS that can contain a maximum of 2 signaling links.

The removable cartridge that contains the `imt` GPL to be loaded on to the EAGLE 5 ISS is required.

1. Check the removable cartridge drive on the MDAL card for a removable cartridge.

If there is a removable cartridge in the drive, display the `imt` GPLs on the fixed disk and on the removable cartridge using the `rtrv-gpl:gpl=imt` command. This is an example of the possible output.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
IMT       1114  126-001-000  126-001-000      -----------  -----------
IMT       1116  126-001-000  126-001-000      126-000-000  126-002-000
```

If the version of the `imt` GPL shown in the `REMOVE TRIAL` column of the `rtrv-gpl` output is not the version that is to be loaded onto the cards, remove the cartridge and go to step 2. For more information on removing the removable cartridge from the removable cartridge drive, see *Removing the Removable Cartridge* on page 17.

If the version of the `imt` GPL shown in the `REMOVE TRIAL` column of the `rtrv-gpl` output is the version that is to be loaded onto the cards, skip steps 2 and 3, and go to step 4.

2. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled).

   To write protect a removable cartridge, see *Write Protecting the Removable Cartridge* on page 14.

3. Insert the removable cartridge containing the `imt` GPL into the removable cartridge drive on the MDAL card.

   For more information on inserting the removable cartridge in the removable cartridge drive, see *Inserting the Removable Cartridge* on page 15. After the removable cartridge has been inserted into the removable cartridge drive, repeat the `rtrv-gpl` command in step 1 and verify the version of the `imt` GPL on the removable cartridge.

4. Verify the `imt` GPLs on the fixed disk and which cards are running the `imt` GPLs using the `rept-stat-gpl:gpl=imt` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
GPL       CARD      RUNNING            APPROVED      TRIAL
IMT       1113      126-001-000       126-001-000   126-000-000
IMT       1115      126-001-000       126-001-000   126-000-000
IMT       1201      126-001-000       126-001-000   126-000-000
IMT       1202      126-001-000       126-001-000   126-000-000
IMT       1203      126-001-000       126-001-000   126-000-000
IMT       1205      126-001-000       126-001-000   126-000-000
IMT       1207      126-001-000       126-001-000   126-000-000
IMT       1211      126-001-000       126-001-000   126-000-000
IMT       1212      126-001-000       126-001-000   126-000-000
Command Completed.
```

5. Change the GPLs, using the `chg-gpl` command and specifying the value for the trial `imt` GPL shown in the REMOVE TRIAL column in the output of the `rtrv-gpl` command used in step 1.

   For this example, enter this command.

   `chg-gpl:gpl=imt:ver=123-002-000`

These messages should appear.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
GPL Auditing  ON

IMT upload on 1114 completed
IMT upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

6. Activate the trial GPL, using the `act-gpl` command and specifying the value for the trial `imt` GPL shown in step 5.

   For this example, enter the `act-gpl:gpl=imt:ver=123-002-000` command. These messages should appear.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
IMT activate on 1114 completed
IMT activate on 1116 completed
```

   The `act-gpl:gpl=imt:ver=<IMT GPL version>` command makes the trial `imt`GPL the approved `imt` GPL on every card connected to the IMT bus. When the `act-gpl:gpl=imt:ver=<IMT GPL version>` command is entered, these messages are displayed on the terminal.

   - UIM 1105 – REPT EVT:IMT GPL reloading – displayed after the `act-gpl:gpl=imt:ver=<IMT GPL version>` command is entered. The entry, `cards loaded:`, shows that one card out of the total number of cards connected to the IMT bus has been reloaded with the new approved imt GPL. For this example, the EAGLE 5 ISS has 25 cards connected to the IMT bus.
   - UAM 0014 – Card is present – displayed for each card connected to the IMT bus when GPL version specified in the `act-gpl:gpl=imt:ver=<IMT GPL version>` command has been made the approved imt GPL.
   - UIM 1106 – REPT COND:IMT GPL reloading – displayed periodically to update the number of cards that have been reloaded, and when the `act-gpl:gpl=imt:ver=<IMT GPL version>` command has finished. The entry, `cards loaded:`, shows the number of cards that have been reloaded with the new approved `imt` GPL since the previous UIM 1106 was issued or since UIM 1105 was issued. For this example, 5 of the 25 cards connected to the IMT bus have been reloaded with the new approved `imt` GPL..

     When UIM 1106 shows that the number of cards that have been reloaded with the new approved imt GPL is equal to the number of cards connected to the IMT bus (for example, `cards loaded: 25 of 25`), the `act-gpl:gpl=imt:ver=<IMT GPL version>` command has finished.

     This is an example of these messages and the order in which they appear on the terminal.

```
    rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
    0191.1105    SYSTEM         INFO   REPT EVT:IMT GPL reloading
                  cards   loaded:   1 of 25
            Report Date: 05-03-01  Time: 07:01:08
;

    rlghncxa03w 06-10-01 07:01:09 GMT EAGLE5 36.0.0
    0192.0014    CARD 1201 SS7ANSI     Card is present
;

    rlghncxa03w 06-10-01 07:01:10 GMT EAGLE5 36.0.0
```

```
    0193.0014    CARD 1202 SS7ANSI     Card is present
;

    rlghncxa03w 06-10-01 07:01:11 GMT EAGLE5 36.0.0
    0194.0014    CARD 1203 SS7ANSI     Card is present
;

    rlghncxa03w 06-10-01 07:01:12 GMT EAGLE5 36.0.0
    0195.0014    CARD 1204 SS7ANSI     Card is present
;

    rlghncxa03w 06-10-01 07:01:12 GMT EAGLE5 36.0.0
    0196.0014    CARD 1205 SS7ANSI     Card is present
;
    rlghncxa03w 06-10-01 07:01:14 GMT EAGLE5 36.0.0
    0197.1106    SYSTEM         INFO   REPT COND:IMT GPL reloading
                 cards  loaded:     5 of 25
            Report Date: 05-03-01  Time: 07:01:14

;
```

7. Load the approved `imt` GPL on to specific cards using the `init-imt-gpl:code=appr` command specifying the location of one of the cards shown in step 4.

   For this example, the approved `imt` GPL is loaded on to card 1201. Enter the `init-imt-gpl:loc=1201:code=appr` command. If you wish to load the approved `imt` GPL to all cards in the EAGLE 5 ISS, enter the `init-imt-gpl:code=appr` command and do not specify the `loc` parameter.

   CAUTION: The `init-imt-gpl` command places the specified card out of service, and should only be used during periods of low traffic. This command allows the trial imt GPL to be loaded on the specified card, but will interrupt service on that card.

   When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
    Initializing IMT GPL for card 1201.
;

    rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
*   0192.0013  * CARD 1201 SS7ANSI     Card is isolated from the system
;

    rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
    0193.0014    CARD 1201 SS7ANSI     Card is present
;

    rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
    0194.0096    CARD 1201 SS7ANSI     Card has been reloaded
;
```

8. Verify the `imt` GPLs on the cards using the `rept-stat-gpl:gpl=imt` command.

   If any card is not running the version of the IMT GPL shown in the system release ID table, the indicator `ALM` is displayed next to the GPL version in the `RUNNING` column for that card in the `rept-stat-gpl` output. By performing the `act-gpl` command in step 6, the system release ID table is updated with the new IMT GPL version number, and the new version of the IMT GPL is shown as the approved version in the `rept-stat-gpl` output.

For this example, card 1201 was loaded with the new approved version of the IMT GPL. This is an example of the possible output.

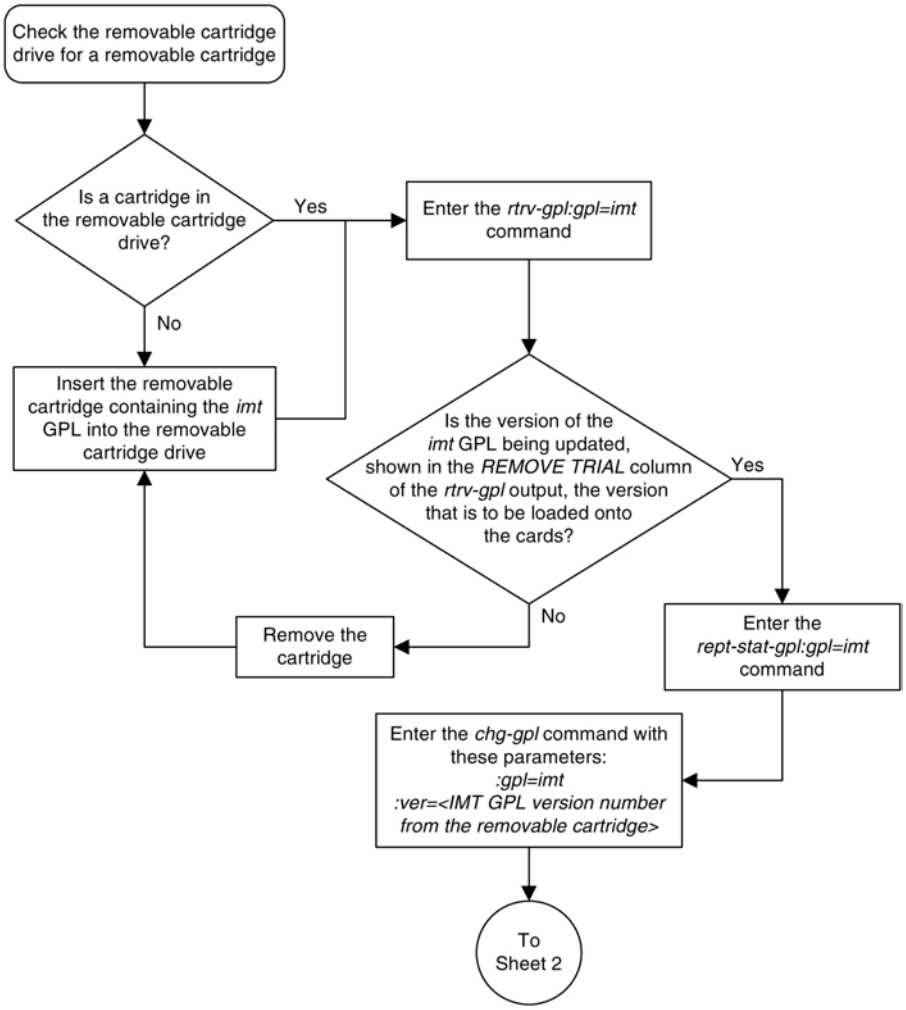
```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
GPL       CARD      RUNNING            APPROVED      TRIAL
IMT       1113      126-001-000 ALM    126-002-000   126-001-000
IMT       1115      126-001-000 ALM    126-002-000   126-001-000
IMT       1201      126-002-000        126-002-000   126-001-000
IMT       1202      126-001-000 ALM    126-002-000   126-001-000
IMT       1203      126-001-000 ALM    126-002-000   126-001-000
IMT       1205      126-001-000 ALM    126-002-000   126-001-000
IMT       1207      126-001-000 ALM    126-002-000   126-001-000
IMT       1211      126-001-000 ALM    126-002-000   126-001-000
IMT       1212      126-001-000 ALM    126-002-000   126-001-000
Command Completed.
```

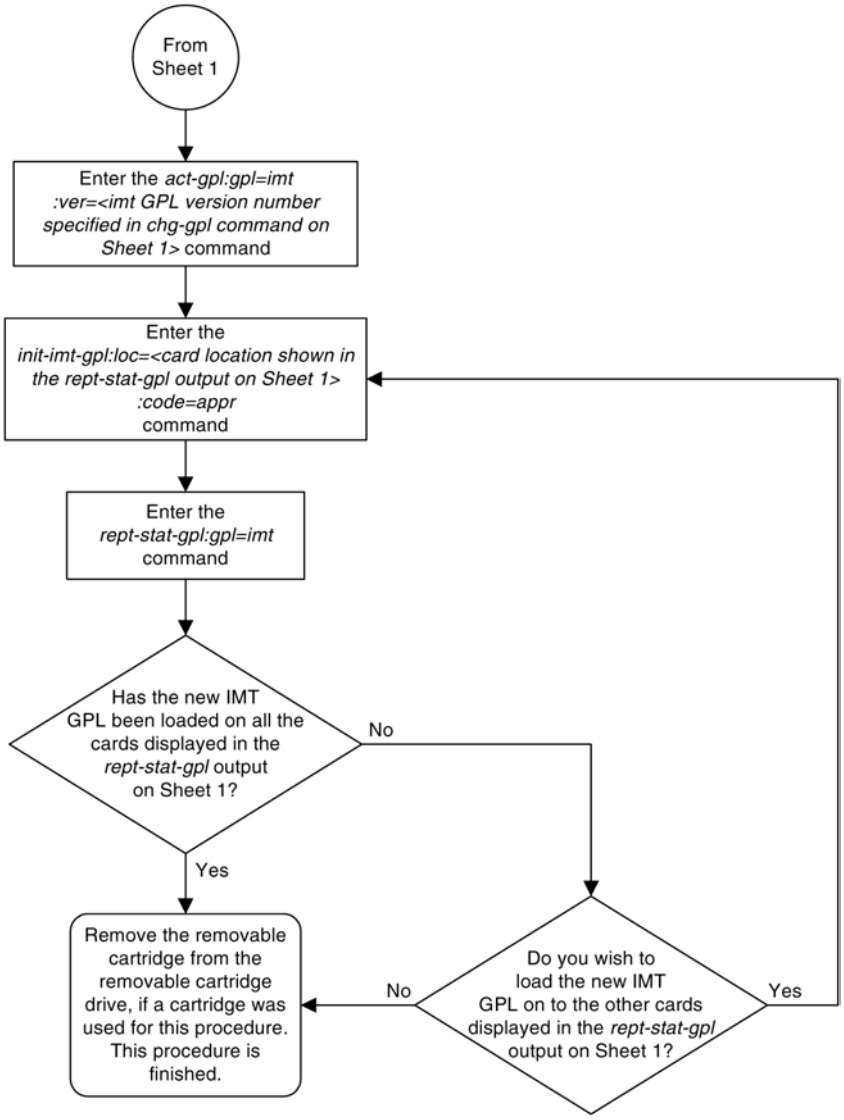
9. If the new IMT GPL has been loaded onto all the cards shown in step 4, or if you do not wish to load the new IMT GPL onto other cards, this procedure is finished.

   Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see *Removing the Removable Cartridge* on page 17.

   If you wish to load the new IMT GPL onto the other cards shown in step 4, repeat this procedure from step 7 for each card shown in step 4.

Figure 22: Updating the IMT GPL


Check the removable cartridge drive for a removable cartridge
Is a cartridge in the removable cartridge drive?
Yes
No
Enter the rtrv-gpl:gpl=imt command
Insert the removable cartridge containing the imt GPL into the removable cartridge drive
Is the version of the imt GPL being updated, shown in the REMOVE TRIAL column of the rtrv-gpl output, the version that is to be loaded onto the cards?
Yes
No
Remove the cartridge
Enter the rept-stat-gpl:gpl=imt command
Enter the chg-gpl command with these parameters:
:gpl=imt
:ver=<IMT GPL version number from the removable cartridge>
To Sheet 2



Updating the EOAM GPL

This section presents the procedure for loading the `eoam` generic program load (GPL) on the GPSM-II card in card locations 1113 and 1115 as a trial version from a removable cartridge, then making the trial version of the `eoam` GPL the approved version of the `eoam` GPL. The GPSM-II card in card locations 1113 and 1115 is used in combination with the TDM to form the Maintenance and Administration Subsystem Processor (MASP).

If any card is not running the version of the GPL shown in the `RELEASE` column of the `rtrv-gpl` output, the indicator `ALM` is displayed next to the GPL version in the `RUNNING` column of the `rept-stat-gpl` output, and next to the GPL version in the `APPROVED` column in the `rtrv-gpl` output.

If a new version of the eoam GPL is being loaded on to the EAGLE 5 ISS, the removable cartridge that contains the new version of the eoam GPL is required.

1. Check the removable cartridge drive on the MDAL card for a removable cartridge.

   If there is a removable cartridge in the drive, display the eoam GPLs on the fixed disk and on the removable cartridge using the rtrv-gpl:gpl=eoam command. This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
EOAM      1114  126-002-000  126-002-000      126-001-000  126-003-000
EOAM      1116  126-002-000  126-002-000      126-001-000  -----------
```

   If the version of the eoam GPL shown in the REMOVE TRIAL column of the rtrv-gpl output is not the version that is to be loaded onto the cards, remove the cartridge and go to step 2. For more information on removing the removable cartridge from the removable cartridge drive, see the *Removing the Removable Cartridge* on page 17 section.

   If the version of the eoam GPL shown in the REMOVE TRIAL column of the rtrv-gpl output is the version that is to be loaded onto the cards, skip steps 2 and 3, and go to step 4.

2. Check the removable cartridge drive on the MDAL card for a removable cartridge.

   If there is a removable cartridge in the drive, remove it. For more information on removing the removable cartridge from the removable cartridge drive, see the *Removing the Removable Cartridge* on page 17 section.

3. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled).

   To write protect a removable cartridge, see the *Write Protecting the Removable Cartridge* on page 14 section.

4. Load the new version of the eoam GPL using the chg-gpl command and specifying the value for the trial eoam GPL shown in the REMOVE TRIAL column in the output of the rtrv-gpl output in step 1.

   For this example, enter this command.

   chg-gpl:gpl=eoam:ver=123-003-000

   These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
GPL Auditing  ON

EOAM   upload on 1114 completed
EOAM   upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

5. Verify that the trial eoam GPL has been made the approved GPL using the rtrv-gpl:gpl=eoam command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 36.0.0
```

```
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
EOAM      1114  126-003-000  126-003-000      126-002-000  126-003-000
EOAM      1116  126-003-000  126-003-000      126-002-000  -----------
```

6. Verify which cards are running the `eoam` GPLs using the `rept-stat-gpl:gpl=eoam` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
GPL      CARD   RUNNING           APPROVED      TRIAL
EOAM     1113   126-002-000 ALM   126-003-000   126-002-000
EOAM     1115   126-002-000 ALM   126-003-000   126-002-000
Command Completed
```

7. To load the `eoam` GPL, it must be loaded on the standby MASP (GPSM-II) first.

   To determine which MASP is active, enter the `rept-stat-db` command. This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 05-03-01 10:19:18 GMT  Y       35 05-03-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
         MDAL 1117
         - --------
RD BKUP  Y      106 05-02-31 20:27:53 GMT
```

   The output of the `rept-stat-db` command shows which MASP is active with the indicator `( ACTV )` following the TDM card location. The indicator `( STDBY)` following the TDM card location shows which MASP is standby.

   For this example, the MASP associated with TDM 1116 is active and the MASP associated with TDM 1114 is standby.

8. Display the terminal configuration in the database with the `rtrv-trm` command.

   The OAP terminals are shown in the output with the entry `OAP` in the `TYPE` field. The SEAS terminals are shown in the output with the entry `SEAS` in the `TYPE` field. This is an example of the possible output. In this example, the OAP terminals are terminals 6 and 9, and the SEAS terminals are terminals 18 and 27. If no OAP and SEAS terminals are shown in the `rtrv-trm` command output, go to step 12.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE     COMM        FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1  SW    30    5     99:59:59
2    KSR      9600-7-E-1  HW    30    5     INDEF
3    PRINTER  4800-7-E-1  HW    30    0     00:00:00
4    VT320    2400-7-E-1  BOTH  30    5     00:30:00
5    VT320    9600-7-O-1  NONE  30    5     00:00:30
6    OAP     19200-7-E-1 SW    0     5     INDEF
7    PRINTER  9600-7-N-2  HW    30    5     00:30:00
8    KSR     19200-7-E-2  BOTH  30    5     00:30:00
9    OAP     19200-7-E-1 SW    0     5     INDEF
10   VT320    9600-7-E-1  HW    30    5     00:30:00
11   VT320    4800-7-E-1  HW    30    5     00:30:00
12   PRINTER  9600-7-E-1  HW    30    4     00:30:00
13   VT320    9600-7-O-1  NONE  30    5     00:30:00
```

```
14   VT320    9600-7-E-2  SW    30    8     00:30:00
15   VT320    9600-7-N-2  HW    30    5     00:30:00
16   VT320    9600-7-E-2  BOTH  30    3     00:30:00

TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
17   TELNET    1201             60    5     00:30:00   yes
18   SEAS      1201             60    5     00:30:00   yes
19   TELNET    1201             60    5     00:30:00   yes
20   TELNET    1201             60    5     00:30:00   yes
21   TELNET    1201             60    5     00:30:00   yes
22   TELNET    1201             60    5     00:30:00   yes
23   TELNET    1201             60    5     00:30:00   yes
24   TELNET    1201             60    5     00:30:00   yes
25   TELNET    1203             60    5     00:30:00   yes
26   TELNET    1203             60    5     00:30:00   yes
27   SEAS      1203             60    5     00:30:00   yes
28   TELNET    1203             60    5     00:30:00   yes
29   TELNET    1203             60    5     00:30:00   yes
30   TELNET    1203             60    5     00:30:00   yes
31   TELNET    1203             60    5     00:30:00   yes
32   TELNET    1203             60    5     00:30:00   yes
33   TELNET    1205             60    5     00:30:00   yes
34   TELNET    1205             60    5     00:30:00   yes
35   TELNET    1205             60    5     00:30:00   yes
36   TELNET    1205             60    5     00:30:00   yes
37   TELNET    1205             60    5     00:30:00   yes
38   TELNET    1205             60    5     00:30:00   yes
39   TELNET    1205             60    5     00:30:00   yes
40   TELNET    1205             60    5     00:30:00   yes

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
17   none     none      none       1
19   none     none      none       1
20   none     none      none       1
21   none     none      none       1
22   none     none      none       1
23   none     none      none       1
24   none     none      none       1
25   none     none      none       1
26   none     none      none       1
28   none     none      none       1
29   none     none      none       1
30   none     none      none       1
31   none     none      none       1
32   none     none      none       1
33   none     none      none       1
34   none     none      none       1
35   none     none      none       1
36   none     none      none       1
37   none     none      none       1
38   none     none      none       1
39   none     none      none       1
40   none     none      none       1

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
1    NO   YES  NO  YES NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
3    YES  YES  YES NO  YES YES YES
4    YES  NO   NO  NO  NO  NO  NO
5    NO   YES  NO  NO  NO  NO  YES
6    YES  YES  YES YES YES YES YES
7    YES  YES  YES YES YES YES YES
8    NO   NO   NO  NO  YES NO  YES
9    YES  YES  YES YES YES YES YES
```

```
10   NO   NO   NO   NO   NO   NO   YES
11   YES  YES  YES  YES  YES  YES  YES
12   YES  YES  YES  YES  YES  YES  YES
13   NO   YES  NO   NO   NO   NO   YES
14   NO   NO   YES  NO   NO   NO   NO
15   YES  YES  YES  NO   YES  YES  YES
16   NO   NO   NO   NO   YES  NO   YES
17   NO   NO   NO   NO   NO   NO   NO
18   NO   NO   NO   NO   NO   NO   NO
19   NO   NO   NO   NO   NO   NO   NO
20   NO   NO   NO   NO   NO   NO   NO
21   NO   NO   NO   NO   NO   NO   NO
22   NO   NO   NO   NO   NO   NO   NO
23   NO   NO   NO   NO   NO   NO   NO
24   NO   NO   NO   NO   NO   NO   NO
25   NO   NO   NO   NO   YES  NO   YES
26   NO   NO   NO   NO   NO   NO   NO
27   NO   NO   NO   NO   NO   NO   NO
28   NO   NO   NO   NO   NO   NO   NO
29   NO   NO   NO   NO   NO   NO   NO
30   NO   NO   NO   NO   NO   NO   NO
31   NO   NO   NO   NO   NO   NO   NO
32   NO   NO   NO   NO   NO   NO   NO
33   NO   NO   NO   NO   NO   NO   NO
34   NO   NO   NO   NO   YES  NO   YES
35   NO   NO   NO   NO   NO   NO   NO
36   NO   NO   NO   NO   NO   NO   NO
37   NO   NO   NO   NO   NO   NO   NO
38   NO   NO   NO   NO   NO   NO   NO
39   NO   NO   NO   NO   NO   NO   NO
40   NO   NO   NO   NO   NO   NO   NO

     APP  APP
TRM  SERV SS   CARD CLK  DBG  GTT  GWS  MEAS MON  MPS  SEAS SLAN
1    YES  YES  YES  YES  YES  YES  YES  YES  YES  YES  NO   NO
2    YES  YES  YES  YES  YES  YES  YES  YES  YES  YES  NO   NO
3    YES  YES  YES  YES  YES  YES  YES  YES  YES  YES  NO   NO
4    YES  YES  YES  YES  YES  NO   YES  YES  YES  YES  NO   NO
5    YES  YES  YES  YES  YES  YES  YES  YES  YES  YES  NO   NO
6    YES  YES  YES  YES  YES  YES  YES  YES  YES  YES  YES  YES
7    NO   YES  YES  YES  YES  YES  YES  YES  YES  YES  NO   NO
8    YES  YES  YES  YES  YES  YES  YES  YES  YES  YES  YES  YES
9    YES  YES  YES  YES  YES  YES  YES  YES  YES  YES  YES  YES
10   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
11   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
12   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
13   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
14   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
15   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
16   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
17   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
18   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   YES  NO
19   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
20   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
21   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
22   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
23   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
24   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
25   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
26   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
27   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   YES  NO
28   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
29   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
30   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
31   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
```

```
32   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
33   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
34   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
35   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
36   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
37   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
38   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
39   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
40   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

9. Display the status of the terminals with the `rept-stat-trm` command with the terminal number of the OAP or SEAS terminals.

   If OAP terminals are shown in the `rtrv-trm` output in step 8, for this example, enter these commands.

   rept-stat-trm:trm=6

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
6     IS-NR         Active        -----
Command Completed.
```

   rept-stat-trm:trm=9

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
9     IS-NR         Active        -----
Command Completed.
```

   If SEAS terminals are shown in the `rtrv-trm` output in step 8, for this example, enter these commands.

   rept-stat-trm:trm=18

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
18     IS-NR         Active        -----
Command Completed.
```

   rept-stat-trm:trm=27

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
27     IS-NR         Active        -----
Command Completed.
```

10. Place the OAP or SEAS terminals out of service using the `rmv-trm` command with the number of the terminal displayed in step 9 whose state is not OOS-MT-DSBLD.

    The `force=yes` parameter must be used when placing the last OAP or SEAS terminal out of service.

If OAP terminals are shown in the `rtrv-trm` output in step 8, for this example, enter these commands.

```
rmv-trm:trm=6
```

```
rmv-trm:trm=9:force=yes
```

If SEAS terminals are shown in the `rtrv-trm` output in step 8, for this example, enter these commands.

```
rmv-trm:trm=18
```

```
rmv-trm:trm=27:force=yes
```

If the status of the OAP and SEAS terminals shown in the `PST` field in step 9 is OOS-MT-DSBLD (out-of-service maintenance disabled), the terminal is already out of service and the `rmv-trm` command does not need to be executed for that terminal.

This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Inhibit message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Command Completed.
```

11. Change the terminal type of the OAP or SEAS terminals to NONE with the `chg-trm` command, the `type=none` parameter, and with the values of the OAP or SEAS terminals used in step 10.

If OAP terminals are shown in the `rtrv-trm` output in step 8, for this example, enter these commands.

```
chg-trm:trm=6:type=none
```

```
chg-trm:trm=9:type=none
```

If SEAS terminals are shown in the `rtrv-trm` output in step 8, for this example, enter these commands.

```
chg-trm:trm=18:type-none
```

```
chg-trm:trm=27:type=none
```

This message should appear when these commands have successfully completed.

```
rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
CHG-TRM: MASP B - COMPLTD
```

12. Using the outputs of steps 6 and 7 as a guide, place the GPSM-II card making up the standby MASP out of service using the `rmv-card` command.

For this example, enter this command.

```
rmv-card:loc=1113
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
Card has been inhibited.
```

13. Put the card that was inhibited in step 12 back into service using the `rst-card` command.

The rst-card command also loads the approved version of the eoam GPL onto the card

For this example, enter this command.

```
rst-card:loc=1113
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
Card has been allowed.
```

14. Verify the eoam GPLs on the GPSM-II cards using the rept-stat-gpl:gpl=eoam command.

    If any card is not running the release version of the GPL, shown in the RELEASE column of the rtrv-gpl output in step 5, the indicator ALM is displayed next to the GPL version in the RUNNING column of the rept-stat-gpl output. This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
GPL      CARD   RUNNING           APPROVED      TRIAL
EOAM     1113   126-003-000       126-003-000   126-002-000
EOAM     1115   126-002-000 ALM   126-003-000   126-002-000
Command Completed
```

15. If you wish to load the new eoam GPL onto the GPSM-II card making up the active MASP, enter the init-card command specifying the location of the GPSM-II card making up active MASP. For this example, enter the init-card:loc=1115 command. This message should appear.

```
rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
Init Card command issued to card 1115
```

    After this step has been performed, or if you did not wish to load the new version of the eoam GPL onto the other GPSM-II card, continue this procedure with either steps 16 or 18 based on the following conditions:

    - If OAP and SEAS terminals were not shown in the rtrv-trm command output in step 8, skip steps 16 and 17, and go to step 18.
    - If OAP and SEAS terminals were shown in the rtrv-trm command output in step 8, go to step 16.

16. Change the terminal type of the terminals that were changed to NONE in step 11 to the terminal type OAP or SEAS with the chg-trm command and either the type=oap (for OAP terminals) or type=seas (for SEAS terminals) parameter.

    The terminal type is shown in the TYPE field in the rtrv-trm command output in step 8.

    If OAP terminals were changed in step 11, for this example, enter these commands.

```
chg-trm:trm=6:type=oap
```

```
chg-trm:trm=9:type=oap
```

    If SEAS terminals were changed in step 11, for this example, enter these commands.

```
chg-trm:trm=18:type=seas
```

```
chg-trm:trm=27:type=seas
```

This message should appear when these commands have successfully completed.

```
rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
CHG-TRM: MASP B - COMPLTD
```

17. Put the OAP and SEAS terminals back into service using the `rst-trm` command with the number of the terminals specified in step 16.

    For this example, enter these commands.

    ```
    rst-trm:trm=6

    rst-trm:trm=9

    rst-trm:trm=18

    rst-trm:trm=27
    ```

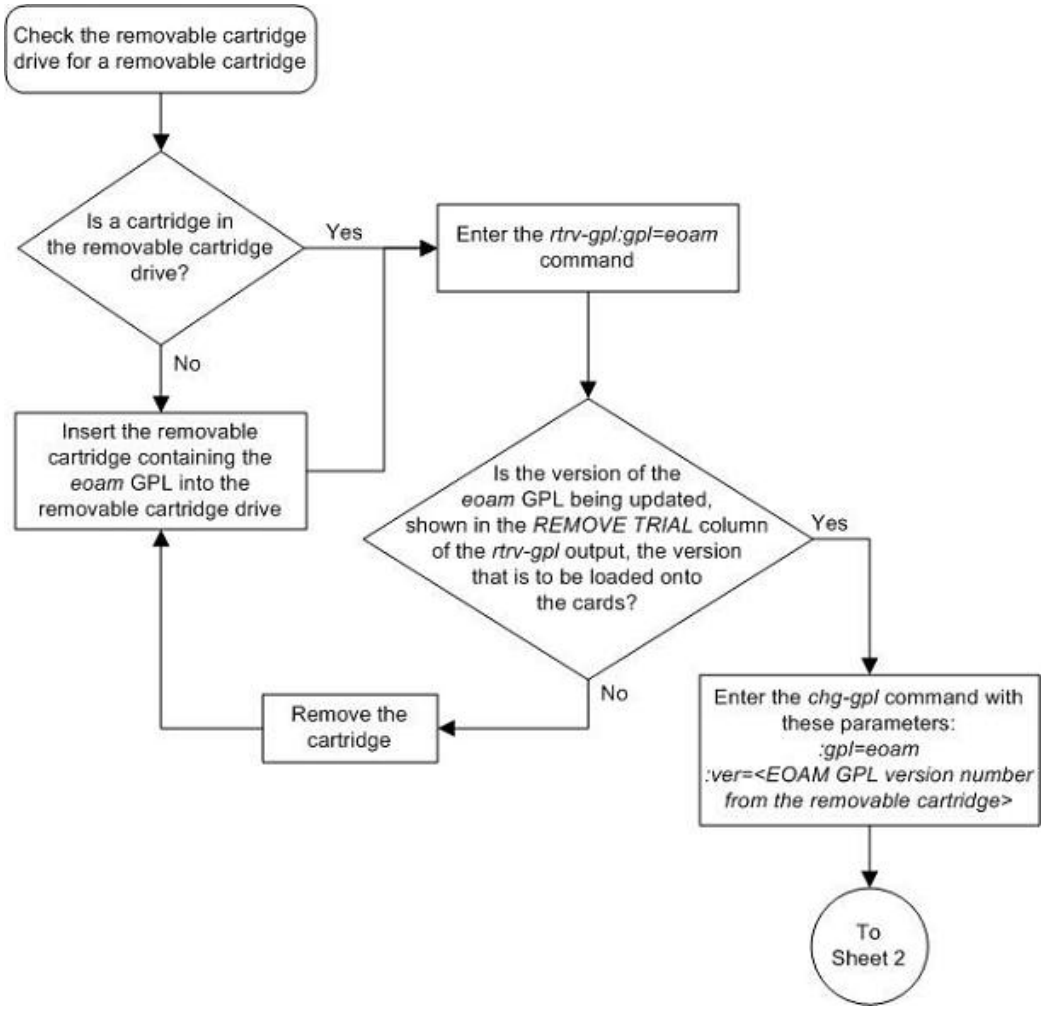
    This message should appear when each command has successfully completed.

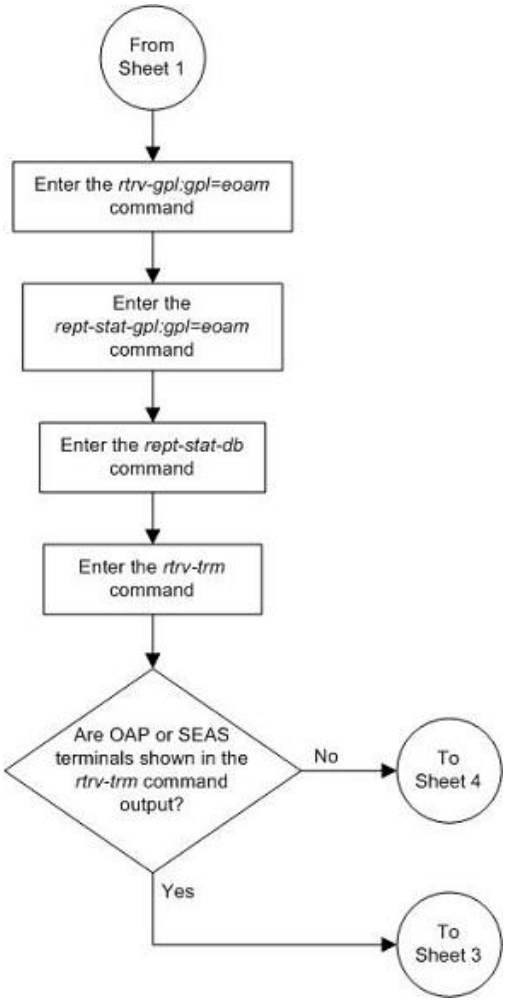
    ```
    rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
    Allow message sent to terminal

    rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
    Command Completed.
    ```

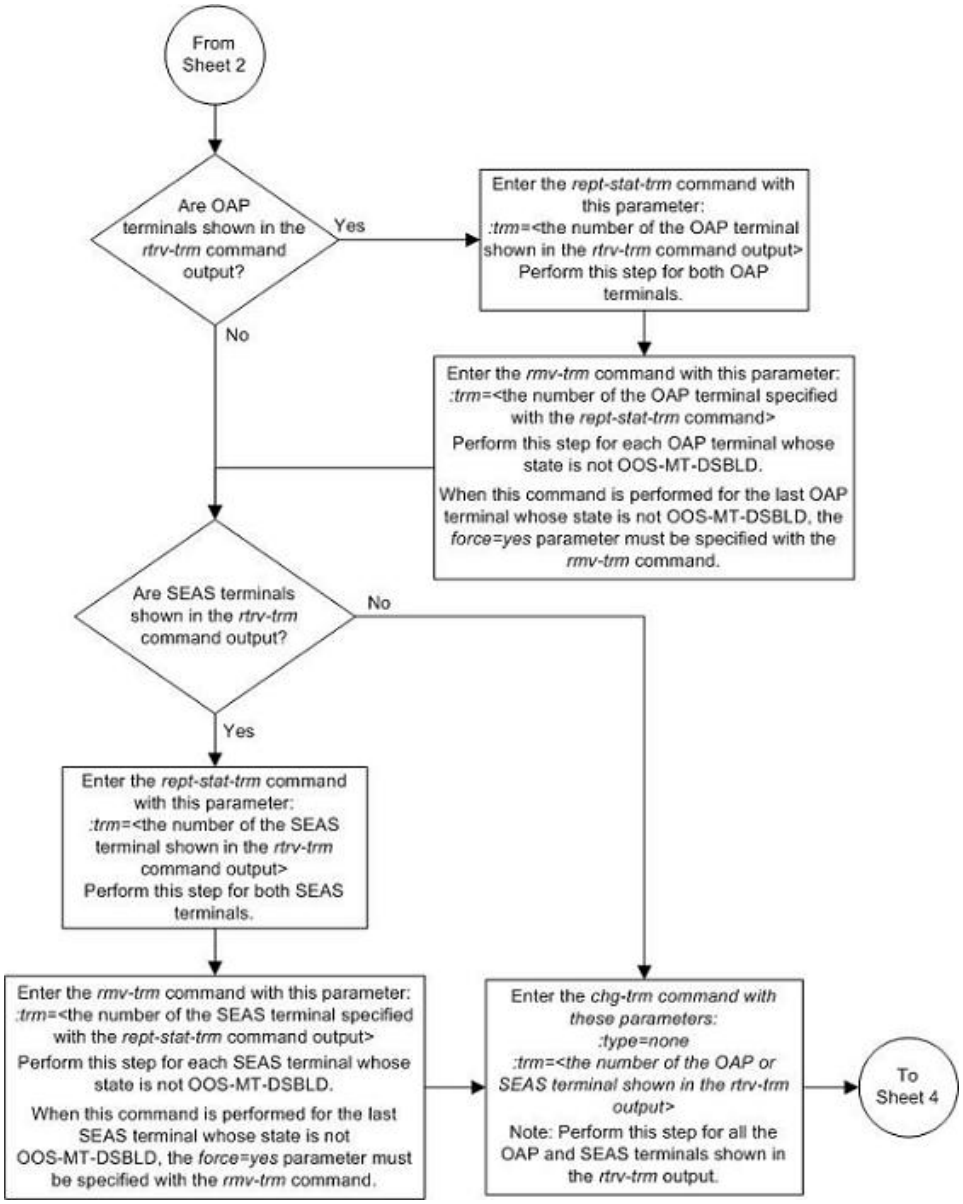
18. Remove the removable cartridge from the removable cartridge drive on the MDAL card.

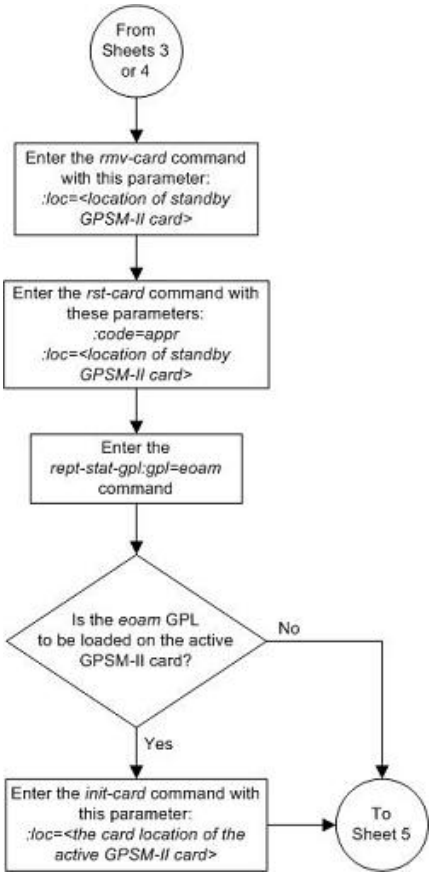
    For more information on removing the removable cartridge from the removable cartridge drive, see the *Removing the Removable Cartridge* on page 17 section.

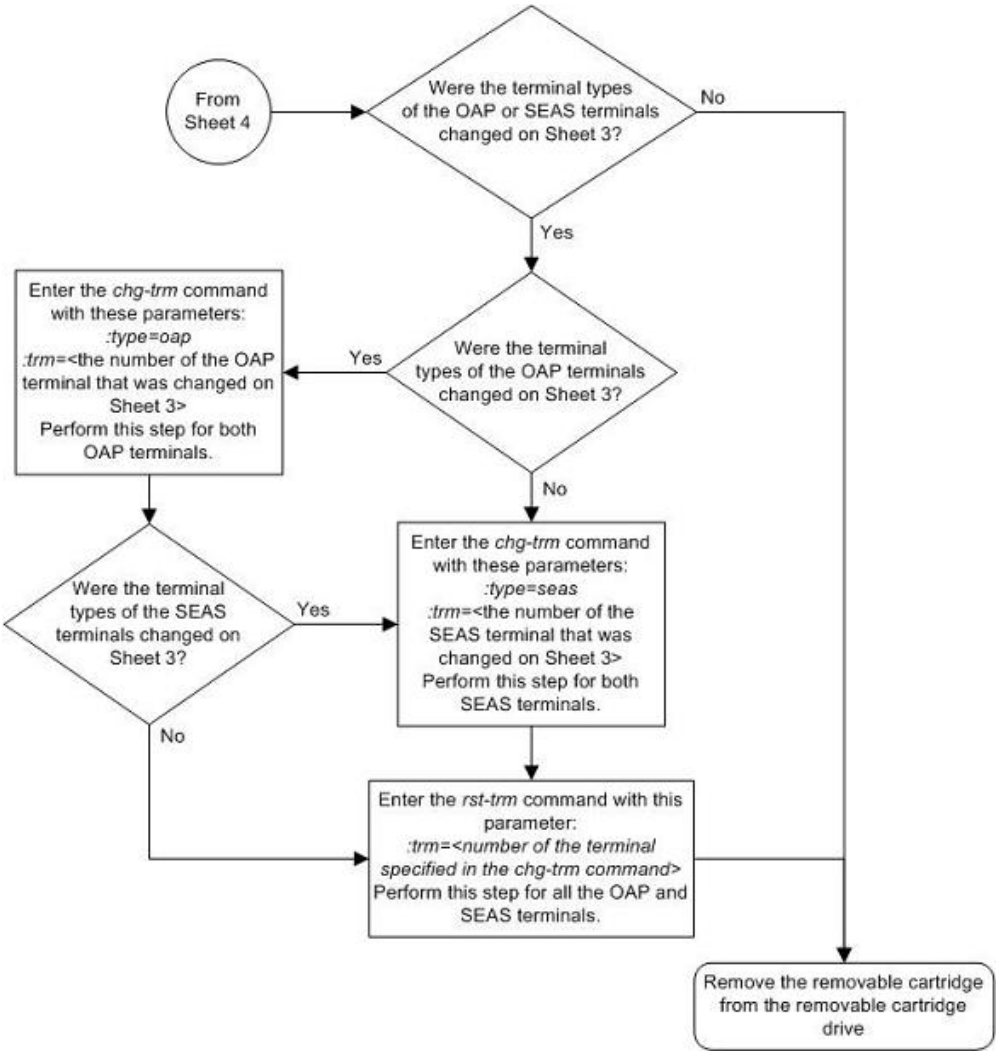
Figure 23: Updating the EOAM GPL


Check the removable cartridge drive for a removable cartridge
Is a cartridge in the removable cartridge drive?
Yes
No
Enter the rtrv-gpl:gpl=eoam command
Insert the removable cartridge containing the eoam GPL into the removable cartridge drive
Is the version of the eoam GPL being updated, shown in the REMOVE TRIAL column of the rtrv-gpl output, the version that is to be loaded onto the cards?
Yes
No
Remove the cartridge
Enter the chg-gpl command with these parameters: :gpl=eoam :ver=<EOAM GPL version number from the removable cartridge>
To Sheet 2


From Sheet 1
Enter the rtrv-gpl:gpl=eoam command
Enter the rept-stat-gpl:gpl=eoam command
Enter the rept-stat-db command
Enter the rtrv-trm command
Are OAP or SEAS terminals shown in the rtrv-trm command output?
No
To Sheet 4
Yes
To Sheet 3


From Sheet 2
Are OAP terminals shown in the rtrv-trm command output?
Yes
No
Enter the rept-stat-trm command with this parameter:
:trm=<the number of the OAP terminal shown in the rtrv-trm command output>
Perform this step for both OAP terminals.
Enter the rmv-trm command with this parameter:
:trm=<the number of the OAP terminal specified with the rept-stat-trm command>
Perform this step for each OAP terminal whose state is not OOS-MT-DSBLD.
When this command is performed for the last OAP terminal whose state is not OOS-MT-DSBLD, the force=yes parameter must be specified with the rmv-trm command.
Are SEAS terminals shown in the rtrv-trm command output?
No
Yes
Enter the rept-stat-trm command with this parameter:
:trm=<the number of the SEAS terminal shown in the rtrv-trm command output>
Perform this step for both SEAS terminals.
Enter the rmv-trm command with this parameter:
:trm=<the number of the SEAS terminal specified with the rept-stat-trm command output>
Perform this step for each SEAS terminal whose state is not OOS-MT-DSBLD.
When this command is performed for the last SEAS terminal whose state is not OOS-MT-DSBLD, the force=yes parameter must be specified with the rmv-trm command.
Enter the chg-trm command with these parameters:
:type=none
:trm=<the number of the OAP or SEAS terminal shown in the rtrv-trm output>
Note: Perform this step for all the OAP and SEAS terminals shown in the rtrv-trm output.
To Sheet 4


From Sheets 3 or 4
Enter the rmv-card command with this parameter: :loc=<location of standby GPSM-II card>
Enter the rst-card command with these parameters: :code=appr :loc=<location of standby GPSM-II card>
Enter the rept-stat-gpl:gpl=eoam command
Is the eoam GPL to be loaded on the active GPSM-II card?
No
Yes
Enter the init-card command with this parameter: :loc=<the card location of the active GPSM-II card>
To Sheet 5



Updating the Signaling Link and Data Link GPLs

This procedure is used to update these GPLs: `ss7ansi`, `ss7gx25`, `ccs7itu`, `ss7ml`, `ss7ipgw`, `iplim`, `iplimi`, `ipgwi`, `atmansi`, `atmitu`, `stplan`, `vxwslan`,`slanhc`, `ss7hc`, `ss7epm`, `iplhc`, `ipghc` , `atmhc`, and `ipsg` . These names are used as the value of the `gpl` parameter of the `chg-gpl`, `act-gpl`, `rept-stat-gpl`, and `rtrv-gpl` commands.

Signaling links are assigned to cards running these GPLs: `ss7ansi`, `ss7gx25`, `ccs7itu`, `ss7ml`, `ss7ipgw`, `iplim`, `iplimi`, `ipgwi`, `atmansi`, `atmitu`, `ss7hc`, `ss7epm`, `iplhc`, `ipghc` , `atmhc`, `ipsg` . The signaling link GPLs are assigned to the card types shown in *Table 3: SS7 LIM Card Types* on page 131.

Table 3: SS7 LIM Card Types

GPL	Card Type
ss7ansi, ccs7itu, & ss7ml	limds0, limocu, limv35, lime1, limch, limt1
ss7gx25	limds0, limocu, limv35
atmansi, atmhc	limatm (cards running the atmhc GPL must be E5-ATM cards)
atmitu, atmhc	lime1atm (cards running the atmhc GPL must be E5-ATM cards)
ss7ipgw, iplim, iplimi, ipgwi, iplhc, ipghc, ipsg	dcm (cards running the iplhc, ipghc, or ipsg GPLs must be E5-ENET cards)
ss7hc	lime1, limt1 (these cards must be HC MIMs)
ss7epm	lime1, limt1 (these cards must be E5-E1T1 cards)

Data links are assigned to cards running either the `vxwslan`, `slanhc`, or `stplan` GPLs. The data link GPLs are assigned to the card types shown in *Table 4: Data Link Card Types* on page 131.

Table 4: Data Link Card Types

GPL	Card Type
stplan	acmenet
vxwslan	dcm
slanhc	dcm (these cards must be E5-SLAN cards)

The card types shown in *Table 3: SS7 LIM Card Types* on page 131 and *Table 4: Data Link Card Types* on page 131 are the values used for the `type` parameter of the `ent-card` command.

The cards running the `ss7ml` GPL are the Multi-port LIM (MPL) and the E1/T1 MIM. These cards are both single-slot cards that can support eight signaling links. The `rtrv-card` output shows these cards running either the `ss7ansi` or `ccs7itu` applications, but the `rept-stat-card` and `rept-stat-gpl` output shows that these cards are actually running the `ss7ml` GPL.

The cards running the `ss7hc` GPL are HC MIMs which are dual-slot cards that can support up to 64 signaling links. The HC MIMs are either LIM-E1 or LIM-T1 cards. The `rtrv-card` output shows these cards running either the `ss7ansi` or `ccs7itu` applications, but the `rept-stat-card` and `rept-stat-gpl` output shows that these cards are actually running the `ss7hc` GPL.

The cards running the ss7epm GPL are E5-E1T1 cards which are single-slot cards that can support up to 32 signaling links. The E5-E1T1 cards are either LIM-E1 or LIM-T1 cards. The rtrv-card output shows these cards running either the ss7ansi or ccs7itu applications, but the rept-stat-card and rept-stat-gpl output shows that these cards are actually running the ss7epm GPL.

The cards running the iplhc and ipghc GPLs are E5-ENET cards supporting IP signaling links. The iplhc GPL allows the E5-ENET card to support IPLIM (ANSI IPLIM) or IPLIMI (ITU IPLIM) signaling links. The rtrv-card output shows this card running either the iplim or iplimi applications, but the rept-stat-card and rept-stat-gpl output shows that these cards are actually running the iplhc GPL. The ipghc GPL allows the E5-ENET card to support SS7IPGW (ANSI IP Gateway) or IPGWI (ITU IP Gateway) signaling links. The rtrv-card output shows this card running either the ss7ipgw or ipgwi applications, but the rept-stat-card and rept-stat-gpl output shows that these cards are actually running the ipghc GPL.

The cards running the atmhc GPL are cards that can contain the ATM high-speed signaling links on E5-ATM cards. The rtrv-card output shows these cards running either the atmansi or atmitu applications, but the rept-stat-card and rept-stat-gpl output shows that these cards are actually running the atmhc GPL.

The cards running the stplan, vxwslan, and slanhc GPLs are the STPLAN cards supporting the STPLAN feature. ACMs run the stplan GPL; DCMs run the vxwslan GPL; and E5-SLAN cards run the slanhc GPL. The rtrv-card output shows these cards running the stplan application, but the rept-stat-card and rept-stat-gpl output shows that these cards are actually running the stplan, vxwslan, or slanhc GPLs.

If the GPL is being updated to a new version, a removable cartridge containing the GPL being updated is required.

If any card is not running the version of the GPL shown in the RELEASE column of the rtrv-gpl output, the indicator ALM is displayed next to the GPL version in the RUNNING column of the rept-stat-gpl output, and next to the GPL version in the APPROVED column in the rtrv-gpl output.

Canceling the REPT-STAT-SLK and RTRV-SLK Commands

Because the rept-stat-slk and rtrv-slk commands used in this procedure can output information for a long period of time, the rept-stat-slk and rtrv-slk commands can be canceled and the output to the terminal stopped. There are three ways that the rept-stat-slk and rtrv-slk commands can be canceled.

- Press the F9 function key on the keyboard at the terminal where the rept-stat-slk or rtrv-slk commands command were entered.
- Enter the canc-cmd without the trm parameter at the terminal where the rept-stat-slk or rtrv-slk commands were entered.
- Enter the canc-cmd:trm=<xx>, where <xx> is the terminal where the rept-stat-slk or rtrv-slk commands were entered, from another terminal other that the terminal where the rept-stat-slk or rtrv-slk commands were entered. To enter the canc-cmd:trm=<xx> command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the rtrv-secu-trm command. The user's permissions can be verified with the rtrv-user or rtrv-secu-user commands.

For more information about the canc-cmd command, go to the *Commands Manual*.

1. Check the removable cartridge drive on the MDAL card for a removable cartridge.

   If there is a removable cartridge in the drive, display the GPLs on the fixed disk and on the removable cartridge using the `rtrv-gpl` command with the `gpl` parameter value equal to the GPL being updated. These are examples of the possible output.

   `rtrv-gpl:gpl=ss7ml`

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL        CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ML      1114  126-002-000  126-002-000      126-001-000  126-003-000
SS7ML      1116  126-002-000  126-002-000      126-001-000  -----------
```

   `rtrv-gpl:gpl=vxwslan`

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL        CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
VXWSLAN    1114  126-002-000  126-002-000      126-001-000  126-003-000
VXWSLAN    1116  126-002-000  126-002-000      126-001-000  -----------
```

   If the version of the GPL shown in the `REMOVE TRIAL` column of the `rtrv-gpl` output is not the version that is to be loaded onto the cards, remove the cartridge and go to step 2. For more information on removing the removable cartridge from the removable cartridge drive, see *Removing the Removable Cartridge* on page 17.

   If the version of the GPL shown in the `REMOVE TRIAL` column of the `rtrv-gpl` output is the version that is to be loaded onto the cards, skip steps 2 and 3, and go to step 4.

2. Make sure the removable cartridge containing the new software is “write protected” (NOT write enabled).

   To write protect a removable cartridge, see *Write Protecting the Removable Cartridge* on page 14.

3. Insert the removable cartridge containing the GPL being updated into the removable cartridge drive on the MDAL card.

   For more information on inserting the removable cartridge in the removable cartridge drive, see *Inserting the Removable Cartridge* on page 15. After the removable cartridge has been inserted into the removable cartridge drive, repeat the `rtrv-gpl` command in step 1 and verify the version of the GPL on the removable cartridge that you wish to update.

4. Change the GPLs, using the `chg-gpl` command and specifying the value for the trial GPL shown in the REMOVE TRIAL column in the output of the `rtrv-gpl` command used in step 1.

   For this example, enter these commands.

   `chg-gpl:gpl=ss7ml:ver=123-003-000`

   These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
GPL Auditing  ON

SS7ML upload on 1114 completed
SS7ML upload on 1116 completed
```

```
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

`chg-gpl:gpl=vxwslan:ver=123-003-000`

These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
GPL Auditing  ON

VXWSLAN upload on 1114 completed
VXWSLAN upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

5. Activate the trial GPL, using the`act-gpl` command and specifying the value for the trial GPL shown in step 4.

   For this example, enter this command.

   `act-gpl:gpl=ss7ml:ver=123-003-000`

   These messages should appear.

```
rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
SS7ML activate on 1114 completed
SS7ML activate on 1116 completed
```

   `act-gpl:gpl=vxwslan:ver=123-003-000`

   These messages should appear.

```
rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
VXWSLAN activate on 1114 completed
VXWSLAN activate on 1116 completed
```

6. Verify that the trial GPL has been made the approved GPL using the `rtrv-gpl` command with the `gpl` parameter value specified in steps 4 and 5.

   For this example, enter these commands.

   `rtrv-gpl:gpl=ss7ml`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ML     1114  126-003-000  126-003-000      126-002-000  126-003-000
SS7ML     1116  126-003-000  126-003-000      126-002-000  -----------
```

   `rtrv-gpl:gpl=vxwslan`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
VXWSLAN   1114  126-003-000  126-003-000      126-002-000  126-003-000
VXWSLAN   1116  126-003-000  126-003-000      126-002-000  -----------
```

7. Verify which cards are running the GPL using the `rept-stat-gpl` command with the `gpl` parameter value specified in step 6.

   For this example, enter these commands.

   ```
   rept-stat-gpl:gpl=ss7ml
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
   GPL      CARD   RUNNING           APPROVED      TRIAL
   SS7ML    1201   126-002-000 ALM   126-003-000   126-002-000
   SS7ML    1204   126-002-000 ALM   126-003-000   126-002-000
   SS7ML    1211   126-002-000 ALM   126-003-000   126-002-000
   SS7ML    1215   126-002-000 ALM   126-003-000   126-002-000
   SS7ML    1307   126-002-000 ALM   126-003-000   126-002-000
   SS7ML    2111   126-002-000 ALM   126-003-000   126-002-000
   SS7ML    2112   126-002-000 ALM   126-003-000   126-002-000
   SS7ML    2115   126-002-000 ALM   126-003-000   126-002-000
   SS7ML    2116   126-002-000 ALM   126-003-000   126-002-000
   Command Completed
   ```

   ```
   rept-stat-gpl:gpl=vxwslan
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
   GPL      CARD   RUNNING           APPROVED      TRIAL
   VXWSLAN  2105   126-002-000 ALM   126-003-000   126-002-000
   VXWSLAN  2113   126-002-000 ALM   126-003-000   126-002-000
   VXWSLAN  2301   126-002-000 ALM   126-003-000   126-002-000
   Command Completed
   ```

   Note: If the GPL being updated is either STPLAN, VXWSLAN, or SLANHC, skip steps 8 and 9, and go to step 10.

8. Display the signaling links associated with the cards shown in step 7.

   Enter the `rtrv-slk` command. This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0

                                    L2T         L1                PCR  PCR
   LOC  LINK LSN         SLC TYPE    SET  BPS    MODE TSET  ECM    N1   N2
   1201 A    lsnmpl1      0  LIMDS0  2    56000  ---  ---   BASIC  ---  -----
   1201 B    lsnmpl2      0  LIMDS0  3    56000  ---  ---   PCR    76   3800
   1201 A1   lsnmpl3      0  LIMDS0  2    56000  ---  ---   PCR    120  5034
   1201 B1   lsnmpl4      0  LIMDS0  1    56000  ---  ---   BASIC  ---  -----
   1204 A    lsnmpl1      1  LIMDS0  2    56000  ---  ---   BASIC  ---  -----
   1204 B    lsnmpl2      1  LIMDS0  3    56000  ---  ---   PCR    76   3800
   1204 A2   lsnmpl3      1  LIMDS0  2    56000  ---  ---   PCR    120  5034
   1204 B2   lsnmpl5      0  LIMDS0  3    56000  ---  ---   PCR    76   3800
   1211 A    lsnmpl1      2  LIMDS0  2    56000  ---  ---   BASIC  ---  -----
   1211 B    lsnmpl3      2  LIMDS0  2    56000  ---  ---   PCR    120  5034
   1211 A3   lsnmpl5      1  LIMDS0  3    56000  ---  ---   PCR    76   3800
   1211 B3   lsnmpl6      0  LIMDS0  1    56000  ---  ---   PCR    120  5034
   1215 A1   lsnmpl7      0  LIMDS0  1    56000  ---  ---   BASIC  ---  -----
   1215 B2   lsnmpl1      3  LIMDS0  2    56000  ---  ---   BASIC  ---  -----
   1215 A3   lsnmpl6      1  LIMDS0  1    56000  ---  ---   PCR    120  5034
   1215 B3   lsnmpl7      1  LIMDS0  1    56000  ---  ---   BASIC  ---  -----
   1307 A    lsnmpl6      2  LIMDS0  1    56000  ---  ---   PCR    120  5034
   1307 B2   lsnmpl7      2  LIMDS0  1    56000  ---  ---   BASIC  ---  -----
   1307 A3   lsnmpl6      3  LIMDS0  1    56000  ---  ---   PCR    120  5034
   ```

```
1307 B3   lsnmpl7      3  LIMDS0   1    56000  ---  ---   BASIC ---  -----

                                   LP            ATM
LOC  LINK LSN         SLC TYPE     SET  BPS      TSEL      VCI    VPI   LL
1302 A    atm1302a     5  LIMATM   3    1544000  INTERNAL  35     15    0
1305 A    atm1305a     5  LIMATM   5    1544000  LINE      5      0     2

                                   LP         ATM                    E1ATM
LOC  LINK LSN         SLC TYPE     SET BPS    TSEL     VCI   VPI  CRC4 SI SN
2101 A    atmitu1      0  LIME1ATM 5   2.048M LINE     150   2    ON   1  20
2105 A    atmitu1      1  LIME1ATM 5   2.048M LINE     35    15   ON   2  15

                                   L2T               PCR  PCR   E1   E1
LOC  LINK LSN         SLC TYPE     SET  BPS    ECM   N1   N2    LOC  PORT TS
2111 A    lsne145      0  LIME1    1    56000  BASIC ---  ----- 2111 2    10
2112 A    lsne145      1  LIMCH    1    56000  BASIC ---  ----- 2111 1    14
2112 A2   lsne145      2  LIMCH    1    56000  BASIC ---  ----- 2111 1    20

                                   L2T               PCR  PCR   T1   T1
LOC  LINK LSN         SLC TYPE     SET  BPS    ECM   N1   N2    LOC  PORT TS
2115 A    lsnt145      0  LIMT1    1    56000  BASIC ---  ----- 2115 2    3
2116 A    lsnt145      1  LIMCH    1    56000  BASIC ---  ----- 2115 1    11
2116 A2   lsnt145      2  LIMCH    1    56000  BASIC ---  ----- 2115 1    19

SLK table is (30 of 1200) 3% full.
```

9. Using the outputs of steps 7 and 8 as a guide, select a card to load the approved GPL onto.

   Deactivate the SS7 signaling links on that card using the `dact-slk` command. For this example, enter these commands.

   ```
   dact-slk:loc=1201:link=a
   dact-slk:loc=1201:link=b
   dact-slk:loc=1201:link=a1
   dact-slk:loc=1201:link=b1
   ```

   CAUTION: These command examples place the SS7 signaling links on card 1201 out of service. This will interrupt service on the SS7 signaling links on card 1201 and allow the approved GPL to be loaded on to card 1201.

   Do not deactivate all the SS7 signaling links in the EAGLE 5 ISS at the same time. Doing so will take all the SS7 signaling links out of service and isolate the EAGLE 5 ISS from the network.

   When each of these commands have successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 11:45:18 GMT  EAGLE5 36.0.0
   Deactivate SLK message sent to card
   ```

   Note: If the GPL being updated is not VXWSLAN, STPLAN, or SLANHC, skip steps 10 and 11, and go to step 12.

10. Display the data links, and their status, associated with the cards shown in step 7.

    Enter the `rept-stat-dlk` command. This is an example of the possible output.

    ```
    rlghncxa03w 06-10-01 17:00:36 GMT  EAGLE5 36.0.0
    DLK    PST           SST        AST
    2105   IS-NR         Avail      ---
    ```

```
2113   IS-NR         Avail      ---
2301   IS-NR         Avail      ---
Command Completed.
```

11. Deactivate the TCP/IP data link on the card (shown in step 10) that you wish to load the trial GPL onto, using the `canc-dlk` command.

    For this example, enter this command.

    `canc-dlk:loc=2105`

    CAUTION: This command example places the TCP/IP data link on card 2105 out of service. This will interrupt service on the TCP/IP data link on card 2105 and allow the trial GPL to be loaded on to card 2105.

    Do not deactivate all the TCP/IP data links in the EAGLE 5 ISS at the same time. Doing so will take all the TCP/IP data links out of service and cause the STPLAN feature to be disabled.

    If there is only one TCP/IP data link in the EAGLE 5 ISS, placing the card out of service will cause the STPLAN feature to be disabled.

    When this command has successfully completed, this message should appear.

    ```
    rlghncxa03w 06-10-01 11:45:18 GMT  EAGLE5 36.0.0
    Deactivate Link message sent to card.
    Command Completed.
    ```

12. Place the card specified in either steps 9 or 11 out of service using the `rmv-card` command.

    If the card contains the last signaling link in a linkset, the `force=yes` parameter must be specified. For this example, enter this command.

    `rmv-card:loc=1201:force=yes`

    `rmv-card:loc=2105`

    When this command has successfully completed, this message should appear.

    ```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Card has been inhibited.
    ```

13. Put the cards that were inhibited in step 12 back into service using the `rst-card` command.

    The `rst-card` command also loads the approved version of the GPL onto the card.

    For this example, enter this command.

    `rst-card:loc=1201`

    `rst-card:loc=2105`

    When this command has successfully completed, this message should appear.

    ```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Card has been allowed.
    ```

14. Verify the GPLs on the cards using the `rept-stat-gpl` command with the `gpl` parameter value specified in step 7.

If any card is not running the release version of the GPL, shown in the RELEASE column of the `rtrv-gpl` output in step 6, the indicator ALM is displayed next to the GPL version in the RUNNING column of the `rept-stat-gpl` output. For this example, enter these commands.

```
rept-stat-gpl:gpl=ss7ml
```

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
GPL      CARD   RUNNING           APPROVED      TRIAL
SS7ML    1201   126-003-000       126-003-000   126-002-000
SS7ML    1204   126-002-000 ALM   126-003-000   126-002-000
SS7ML    1211   126-002-000 ALM   126-003-000   126-002-000
SS7ML    1215   126-002-000 ALM   126-003-000   126-002-000
SS7ML    1307   126-002-000 ALM   126-003-000   126-002-000
SS7ML    2111   126-002-000 ALM   126-003-000   126-002-000
SS7ML    2112   126-002-000 ALM   126-003-000   126-002-000
SS7ML    2115   126-002-000 ALM   126-003-000   126-002-000
SS7ML    2116   126-002-000 ALM   126-003-000   126-002-000
Command Completed
```

```
rept-stat-gpl:gpl=vxwslan
```

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
GPL      CARD   RUNNING           APPROVED      TRIAL
VXWSLAN  2105   126-003-000       126-003-000   126-002-000
VXWSLAN  2113   126-002-000 ALM   126-003-000   126-002-000
VXWSLAN  2301   126-002-000 ALM   126-003-000   126-002-000
Command Completed
```

Note: If the GPL being updated is either VXWSLAN, STPLAN, or SLANHC, skip steps 15 and 16, and go to step 17.

15. Place the signaling links that were deactivated in step 9 back into service using the `act-slk` command.

    For this example, enter these commands.

    ```
    act-slk:loc=1201:link=a
    ```

    ```
    act-slk:loc=1201:link=b
    ```

    ```
    act-slk:loc=1201:link=a1
    ```

    ```
    act-slk:loc=1201:link=b1
    ```

    When each of these commands have successfully completed, this message should appear.

    ```
    rlghncxa03w 06-10-01 11:55:49 GMT  EAGLE5 36.0.0
    Activate SLK message sent to card
    ```

16. Verify that the signaling links activated in step 15 are back in service using the `rept-stat-slk` command with the card location and signaling link.

    For this example, enter these commands.

    ```
    rept-stat-slk:loc=1201:link=a
    ```

This is an example of the possible output.

```
rlghncxa03w 06-10-01 13:06:25 GMT EAGLE5 36.0.0
SLK      LSN       CLLI        PST          SST       AST
1201,A   lsnmpl1   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

`rept-stat-slk:loc=1201:link=b`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 13:06:25 GMT EAGLE5 36.0.0
SLK      LSN       CLLI        PST          SST       AST
1201,B   lsnmpl2   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

`rept-stat-slk:loc=1201:link=a1`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 13:06:25 GMT EAGLE5 36.0.0
SLK      LSN       CLLI        PST          SST       AST
1201,A1  lsnmpl3   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

`rept-stat-slk:loc=1201:link=b1`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 13:06:25 GMT EAGLE5 36.0.0
SLK      LSN       CLLI        PST          SST       AST
1201,B1  lsnmpl4   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

Note: If the GPL being updated is not VXWSLAN, STPLAN, or SLANHC, skip steps 17 and 18, and go to step 19.

17. Place the TCP/IP data link that was deactivated in step 11 back into service using the `act-dlk` command.

For this example, enter this command.

`act-dlk:loc=2105`

When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 11:55:49 GMT  EAGLE5 36.0.0
Activate Link message sent to card.
```

18. Verify that the TCP/IP date links activated in step 17 are back in service with the `rept-stat-dlk` command.

This is an example of the possible output.

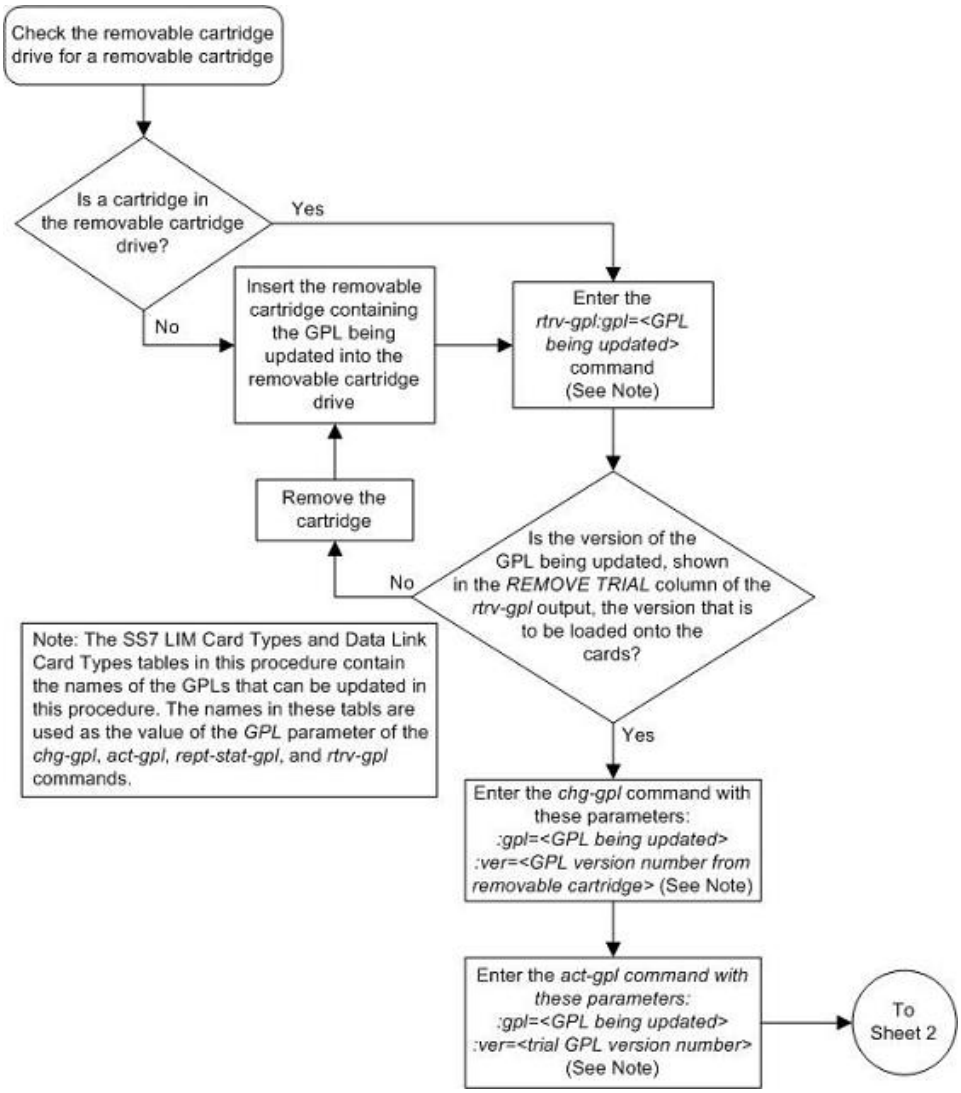
```
rlghncxa03w 06-10-01 12:57:50 GMT EAGLE5 36.0.0
DLK    PST          SST        AST
2105   IS-NR        Avail      ---
```

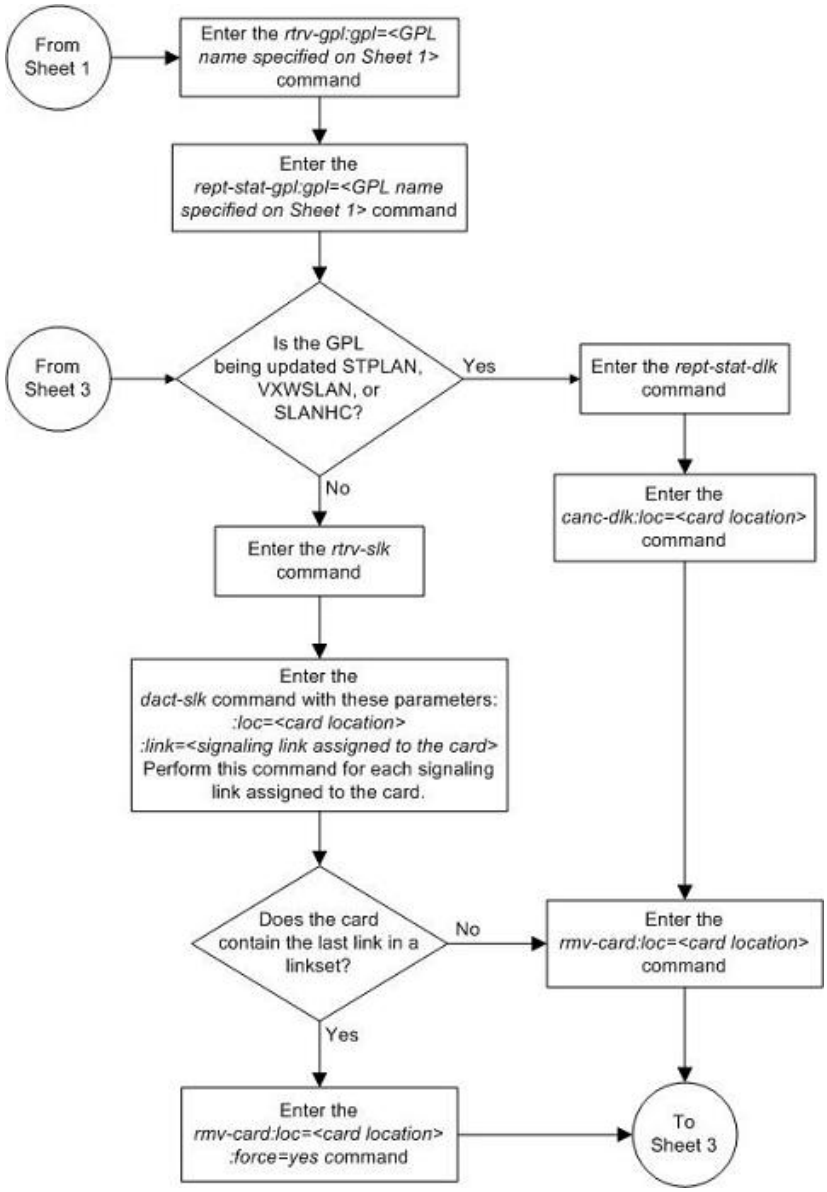
```
2113   IS-NR         Avail      ---
2301   IS-NR         Avail      ---
Command Completed.
```

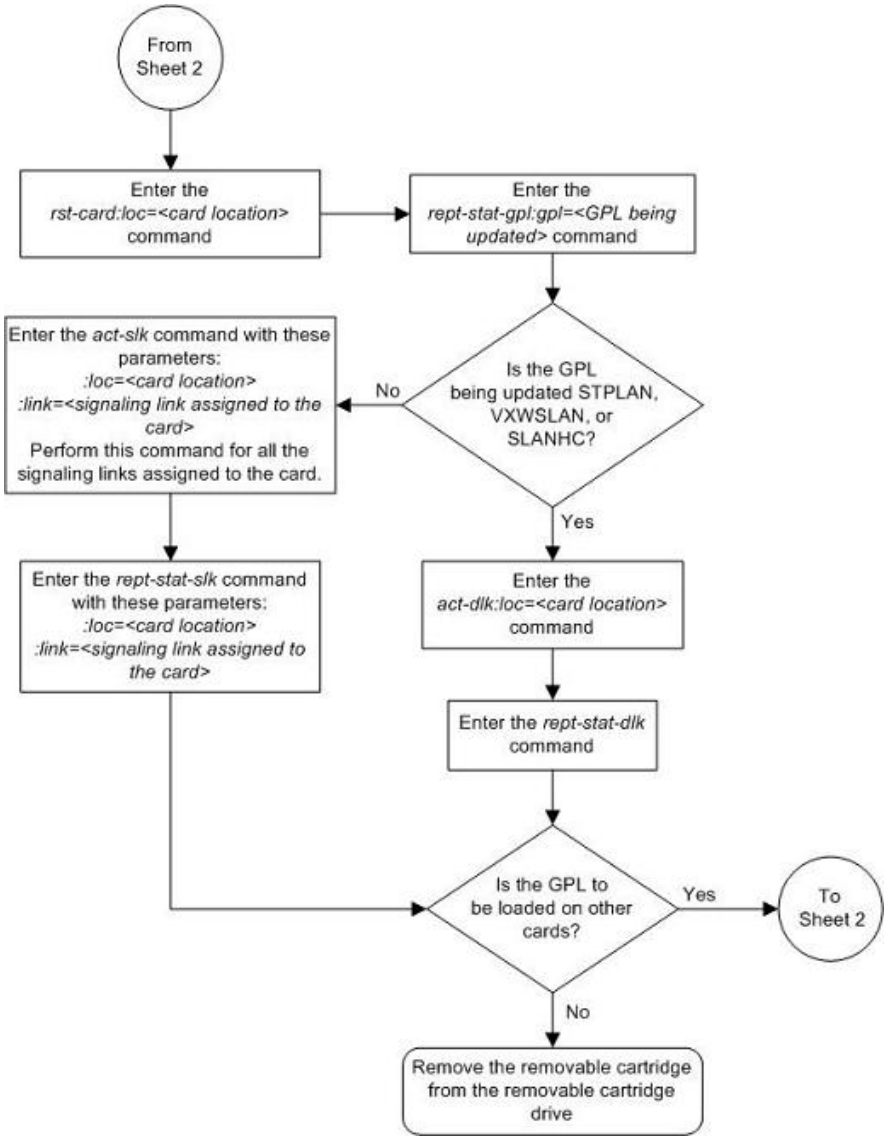
19. If you wish to load the new GPL onto the other cards shown in step 7, repeat this procedure from either steps 9 or 11 for each card shown in step 7.
20. Remove the removable cartridge from the removable cartridge drive on the MDAL card.

    For more information on removing the removable cartridge from the removable cartridge drive, see *Removing the Removable Cartridge* on page 17.

Figure 24: Updating the Signaling Link and Data Link GPLs




From Sheet 1
Enter the rtrv-gpl:gpl=<GPL name specified on Sheet 1> command
Enter the rept-stat-gpl:gpl=<GPL name specified on Sheet 1> command
From Sheet 3
Is the GPL being updated STPLAN, VXWSLAN, or SLANHC?
Yes
Enter the rept-stat-dlk command
No
Enter the canc-dlk:loc=<card location> command
Enter the rtrv-slk command
Enter the dact-slk command with these parameters: :loc=<card location> :link=<signaling link assigned to the card> Perform this command for each signaling link assigned to the card.
Does the card contain the last link in a linkset?
No
Enter the rmv-card:loc=<card location> command
Yes
Enter the rmv-card:loc=<card location> :force=yes command
To Sheet 3



Updating the Service GPLs

This procedure is used to update these GPLs: `sccp`, `vsccp`, `gls`, `eroute`, `mcp`, `ips`, `sccphc`, `erthc`, and `ipshc`. These names are used as the value of the `gpl` parameter of the `chg-gpl`, `act-gpl`, `rept-stat-gpl`, and `rtrv-gpl` commands.

These GPLs are assigned to the card types shown in *Table 5: Service GPL Card Types* on page 143.

Table 5: Service GPL Card Types

GPL	Card Type
sccp, gls	tsm
vsccp	dsm (these cards must be DSMs)
eroute	stc (these cards must be single-slot or dual-slot STCs)
mcp	mcpm
ips	ipsm
sccphc	dsm (these cards must be E5-SM4G cards)
erthc	stc (these cards must be E5-STC cards)
iphsc	ipsm (these cards must be E5-IPSM cards)
glshc	tsm (these cards must be E5-TSM cards)

The card types shown in *Table 5: Service GPL Card Types* on page 143 are the values used for the `type` parameter of the `ent-card` command.

If the GPL is being updated to a new version, a removable cartridge containing the GPL being updated is required.

If any card is not running the version of the GPL shown in the `RELEASE` column of the `rtrv-gpl` output, the indicator `ALM` is displayed next to the GPL version in the `RUNNING` column of the `rept-stat-gpl` output, and next to the GPL version in the `APPROVED` column in the `rtrv-gpl` output.

1. Check the removable cartridge drive on the MDAL card for a removable cartridge.

   If there is a removable cartridge in the drive, display the GPLs on the fixed disk and on the removable cartridge using the `rtrv-gpl` command with the `gpl` parameter value equal to the GPL being updated. This is an example of the possible output.

   `rtrv-gpl:gpl=vsccp`

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL        CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
VSCCP      1114  126-002-000  126-002-000      126-001-000  126-003-000
VSCCP      1116  126-002-000  126-002-000      126-001-000  -----------
```

   If the version of the GPL shown in the `REMOVE TRIAL` column of the `rtrv-gpl` output is not the version that is to be loaded onto the cards, remove the cartridge and continue the procedure with *Step 2* on page 144. For more information on removing the removable cartridge from the removable cartridge drive, see the *Removing the Removable Cartridge* on page 17 section.

   If the version of the GPL shown in the `REMOVE TRIAL` column of the `rtrv-gpl` output is the version that is to be loaded onto the cards, continue the procedure with *Step 4* on page 144.

2. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled).

   To write protect a removable cartridge, see the *Write Protecting the Removable Cartridge* on page 14 section.

3. Insert the removable cartridge containing the GPL being updated into the removable cartridge drive on the MDAL card.

   For more information on inserting the removable cartridge in the removable cartridge drive, see the *Inserting the Removable Cartridge* on page 15 section. After the removable cartridge has been inserted into the removable cartridge drive, repeat the `rtrv-gpl` command in *Step 1* on page 143 and verify the version of the GPL on the removable cartridge that you wish to update.

4. Change the GPLs, using the `chg-gpl` command and specifying the value for the trial GPL shown in the `REMOVE TRIAL` column in the output of the `rtrv-gpl` command used in *Step 1* on page 143 .

   For this example, enter this command.

   ```
   chg-gpl:gpl=vsccp:ver=123-003-000
   ```

   These messages should appear.

   ```
   rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
   GPL Auditing  ON

   VSCCP upload on 1114 completed
   VSCCP upload on 1116 completed
   System Release ID table upload 1114 completed
   System Release ID table upload 1116 completed
   ```

5. Activate the trial GPL, using the `act-gpl` command and specifying the value for the trial GPL shown in *Step 4* on page 144 .

   For this example, enter this command.

   ```
   act-gpl:gpl=vsccp:ver=123-003-000
   ```

   These messages should appear.

   ```
   rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
   VSCCP activate on 1114 completed
   VSCCP activate on 1116 completed
   ```

6. Verify that the trial GPL has been made the approved GPL using the `rtrv-gpl` command with the `gpl` parameter value specified in *Step 4* on page 144 and *Step 5* on page 144 .

   For this example, enter this command.

   ```
   rtrv-gpl:gpl=vsccp
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 36.0.0
   GPL Auditing  ON

   GPL        CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
   VSCCP      1114  126-003-000  126-003-000      126-002-000  126-003-000
   VSCCP      1116  126-003-000  126-003-000      126-002-000  -----------
   ```

7. Verify which cards are running the GPL using the `rept-stat-gpl` command with the `gpl` parameter value specified in *Step 6* on page 144 .

   For this example, enter this command.

   ```
   rept-stat-gpl:gpl=vsccp
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
   GPL      CARD   RUNNING           APPROVED      TRIAL
   VSCCP    1101   126-002-000 ALM   126-003-000   126-002-000
   VSCCP    1102   126-002-000 ALM   126-003-000   126-002-000
   VSCCP    1103   126-002-000 ALM   126-003-000   126-002-000
   Command Completed
   ```

   If the GLS or GLSHC GPL is being loaded onto the cards, continue the procedure with *Step 16* on page 150.

   If the GPL that is being loaded onto the card is not GLS or GLSHC, continue the procedure with *Step 8* on page 145.

8. *Step 9* on page 145 through *Step 15* on page 149 are performed based on the GPL being updated (shown in the `rept-stat-gpl` output in *Step 7* on page 145).

   The following list shows the steps that are performed for the GPL being updated.

   - SCCP, VSCCP, SCCPHC – Perform *Step 9* on page 145, then continue the procedure with *Step 16* on page 150.
   - MCP – Perform *Step 10* on page 145, then continue the procedure with *Step 16* on page 150.
   - EROUTE, ERTHC – Perform *Step 11* on page 146, then continue the procedure with *Step 16* on page 150.
   - IPS , IPSHC – Continue the procedure with *Step 12* on page 146.

9. Display the status of the service modules by entering the `rept-stat-sccp` command.

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 09:57:31 GMT  EAGLE5 36.0.0

   CARD
   VERSION      PST             SST        AST       MSU USAGE  CPU USAGE
   ------------------------------------------------------------------------------
   1101  126-002-001  IS-NR           Active     -----       47%         81%
   1102  126-002-001  IS-NR           Active     -----       34%         50%
   1103  126-002-001  IS-NR           Active     -----       21%         29%
   ------------------------------------------------------------------------------
   SCCP Service Average MSU Capacity = 36%       Average CPU Capacity = 56%
   Command Completed.
   ```

   Continue the procedure with *Step 16* on page 150.

   Note: The `rept-stat-sccp` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rept-stat-sccp` command, see the `rept-stat-sccp` command description in the *Commands Manual*.

10. Display the status of the MCPMs in the database by entering the `rept-stat-meas` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:43:42 GMT  EAGLE5 36.0.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 126-002-000     MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   123-200-000     MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   126-002-000     MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

Continue the procedure with *Step 16* on page 150.

11. Display the status of the STC cards using the `rept-stat-eroute` command.

    This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0

EROUTE SUBSYSTEM REPORT IS-NR         Active     -----
STC Cards Configured= 8  Cards IS-NR= 8
EISCOPY BIT = ON
System Threshold = 80% Total Capacity
System Peak EROUTE Load:            8000 Buffers/Sec
System Total EROUTE Capacity:       9600 Buffers/Sec

SYSTEM ALARM STATUS = No Alarms.

CARD   VERSION      PST           SST        AST       TVG   CPU
                                                       USAGE USAGE
------------------------------------------------------------------
1105   126-002-000  IS-NR         Active     -----      35%    52%
1205   126-002-000  IS-NR         Active     -----      35%    52%
1211   126-002-000  IS-NR         Active     -----      35%    52%
1303   126-002-000  IS-NR         Active     -----      35%    52%
1311   126-002-000  IS-NR         Active     -----      35%    52%
1313   126-002-000  IS-NR         Active     -----      35%    52%
2211   126-002-000  IS-NR         Active     -----      35%    52%
2213   126-002-000  IS-NR         Active     -----      35%    52%
------------------------------------------------------------------
EROUTE Service Average TVG Capacity =  35%  Average CPU Capacity =  52%
```

Continue the procedure with *Step 16* on page 150.

12. Display the status of the IPSMs (if the IPS or IPSHC GPL is being updated) using the `rept-stat-card` command and specifying the location of the card shown in the `rept-stat-gpl` output in *Step 7* on page 145 .

    For this example, enter this command.

    `rept-stat-card:loc=2301`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL         PST            SST        AST
2301   126-001-000  IPSM      IPS         IS-NR          Active     -----

  ALARM STATUS       = No Alarms.
  BPDCM GPL          = 126-002-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
Command Completed.
```

13. Display the terminal configuration in the database with the `rtrv-trm` command.

    The IP terminals are shown by the terminal numbers 17 through 40. The `rtrv-trm` output shows the location of the IPSM associated with the IP terminals. This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE    COMM         FC     TMOUT MXINV DURAL
1    VT320    9600-7-E-1 SW     30    5     99:59:59
2    KSR      9600-7-E-1 HW     30    5     INDEF
3    PRINTER  4800-7-E-1 HW     30    0     00:00:00
4    VT320    2400-7-E-1 BOTH   30    5     00:30:00
5    VT320    9600-7-O-1 NONE   30    5     00:00:30
6    OAP     19200-7-E-1 SW     0     5     INDEF
7    PRINTER  9600-7-N-2 HW     30    5     00:30:00
8    KSR     19200-7-E-2 BOTH   30    5     00:30:00
9    OAP     19200-7-E-1 SW     0     5     INDEF
10   VT320    9600-7-E-1 HW     30    5     00:30:00
11   VT320    4800-7-E-1 HW     30    5     00:30:00
12   PRINTER  9600-7-E-1 HW     30    4     00:30:00
13   VT320    9600-7-O-1 NONE   30    5     00:30:00
14   VT320    9600-7-E-2 SW     30    8     00:30:00
15   VT320    9600-7-N-2 HW     30    5     00:30:00
16   VT320    9600-7-E-2 BOTH   30    3     00:30:00

TRM  TYPE      LOC              TMOUT MXINV DURAL
17   TELNET    3101             60    5     00:30:00
18   TELNET    3101             60    5     00:30:00
19   TELNET    3101             60    5     00:30:00
20   TELNET    3101             60    5     00:30:00
21   TELNET    3101             60    5     00:30:00
22   TELNET    3101             60    5     00:30:00
23   TELNET    3101             60    5     00:30:00
24   TELNET    3101             60    5     00:30:00
25   TELNET    3105             60    5     00:30:00
26   TELNET    3105             60    5     00:30:00
27   TELNET    3105             60    5     00:30:00
28   TELNET    3105             60    5     00:30:00
39   TELNET    3105             60    5     00:30:00
30   TELNET    3105             60    5     00:30:00
31   TELNET    3105             60    5     00:30:00
32   TELNET    3105             60    5     00:30:00
33   TELNET    3111             60    5     00:30:00
34   TELNET    3111             60    5     00:30:00
35   TELNET    3111             60    5     00:30:00
36   TELNET    3111             60    5     00:30:00
37   TELNET    3111             60    5     00:30:00
38   TELNET    3111             60    5     00:30:00
39   TELNET    3111             60    5     00:30:00
40   TELNET    3111             60    5     00:30:00

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
```

```
     (sec)    (sec)     (msec)
17   none     none      none       1
18   none     none      none       1
19   none     none      none       1
20   none     none      none       1
21   none     none      none       1
22   none     none      none       1
23   none     none      none       1
24   none     none      none       1
25   none     none      none       1
26   none     none      none       1
27   none     none      none       1
28   none     none      none       1
29   none     none      none       1
30   none     none      none       1
31   none     none      none       1
32   none     none      none       1
33   none     none      none       1
34   none     none      none       1
35   none     none      none       1
36   none     none      none       1
37   none     none      none       1
38   none     none      none       1
39   none     none      none       1
40   none     none      none       1

TRM  TRAF LINK SA  SYS PU  DB
1    NO   YES  NO  YES NO  YES
2    NO   NO   NO  NO  NO  NO
.
.
.
39   NO   NO   NO  NO  NO  NO
40   NO   NO   NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
.
.
.
39   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
40   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

14. Display the status of the terminals with the `rept-stat-trm` command.

    This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
```

```
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

15. Place the terminals associated with the IPSM that will be updated with the new IPS or IPSHC GPL out of service using the `rmv-trm` command.

    If the last in service SEAS terminal is assigned to the card containing the terminals that are being inhibited in this step, the `force=yes` parameter must be specified for that terminal.

    For this example, enter these commands.

    ```
    rmv-trm:trm=17

    rmv-trm:trm=18

    rmv-trm:trm=19

    rmv-trm:trm=20

    rmv-trm:trm=21

    rmv-trm:trm=22

    rmv-trm:trm=23

    rmv-trm:trm=24
    ```

    CAUTION: Placing these terminals out of service will disable any sessions running on these terminals.

    If the status of any of the terminals shown in the `PST` field in *Step 14* on page 148 is OOS-MT-DSBLD (out-of-service maintenance disabled), that terminal is already out of service and the `rmv-trm` command does not need to be executed for that terminal.

This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Inhibit message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Command Completed.
```

16. The card that the new version of the GPL will be loaded onto must be out of service.

    Place the card, selected from the outputs of *Step 7* on page 145, *Step 9* on page 145, *Step 10* on page 145, *Step 11* on page 146, or *Step 12* on page 146 , out of service using the `rmv-card` command. If there is only one of these cards running these GPLs in service (`sccp`, `vsccp`, `gls`, `mcp` , `glshc`), the `force=yes` parameter must be specified with the `rmv-card` command.

    For this example, enter this command.

    ```
    rmv-card:loc=1101
    ```

    CAUTION: Do not place all the cards running the same GPL in the EAGLE 5 ISS out of service at the same time. Doing so will cause all traffic carried by these cards to be lost and disable the feature associated with these cards.

    CAUTION: If there is only one in service card running the GPL being updated in the EAGLE 5 ISS, placing the card out of service will cause the traffic carried by this card to be lost and disable the feature associated with this card.

    When this command has successfully completed, this message should appear.

    ```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Card has been inhibited.
    ```

17. Put the card that was inhibited in *Step 16* on page 150 back into service using the `rst-card` command.

    The `rst-card` command also loads the approved version of the GPL onto the card.

    For this example, enter this command.

    ```
    rst-card:loc=1101
    ```

    When this command has successfully completed, this message should appear.

    ```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Card has been allowed.
    ```

18. Verify the GPLs on the cards using the `rept-stat-gpl` command with the `gpl` parameter value equal to the `gpl` parameter value specified in *Step 7* on page 145 .

    If any card is not running the release version of the GPL, shown in the `RELEASE` column of the `rtrv-gpl` output in *Step 6* on page 144 , the indicator `ALM` is displayed next to the GPL version in the `RUNNING` column of the `rept-stat-gpl` output. For this example, enter these commands.

    ```
    rept-stat-gpl:gpl=vsccp
    ```

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
GPL      CARD   RUNNING           APPROVED      TRIAL
VSCCP    1101   126-003-000       126-003-000   126-002-000
VSCCP    1102   126-002-000 ALM   126-003-000   126-002-000
VSCCP    1103   126-002-000 ALM   126-003-000   126-002-000
Command Completed
```

Note: If the IPS or IPSHC GPL is not being updated in this procedure, continue the procedure with *Step 21* on page 152.

19. Put the terminals that were placed out of service in *Step 15* on page 149 back into service using the `rst-trm` command.

For this example, enter these commands.

```
rst-trm:trm=17

rst-trm:trm=18

rst-trm:trm=19

rst-trm:trm=20

rst-trm:trm=21

rst-trm:trm=22

rst-trm:trm=23

rst-trm:trm=24
```

This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Allow message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Command Completed.
```

20. Verify that the terminals are in service with the `rept-stat-trm` command.

This is an example of the possible output.

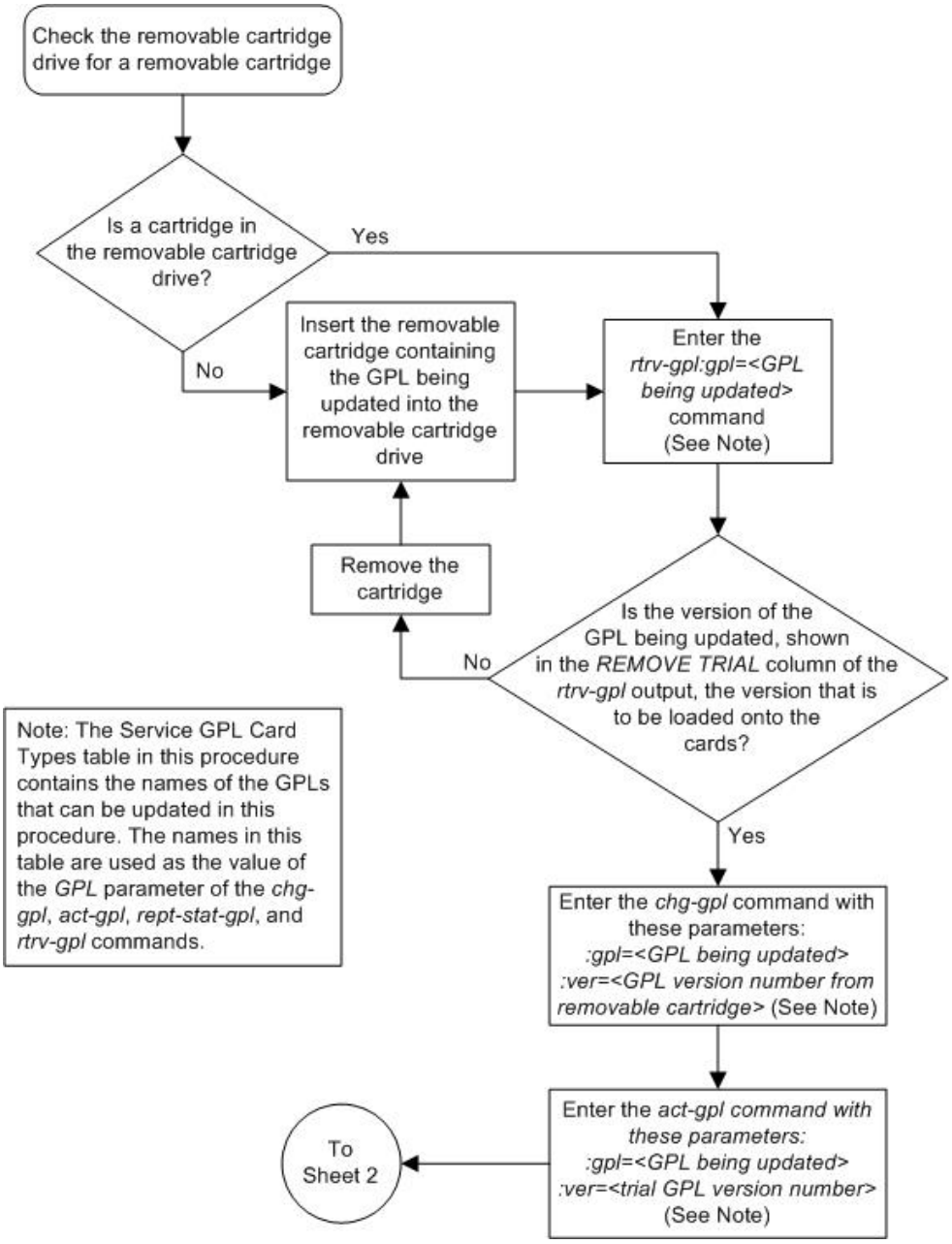
```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST          SST          AST
1     IS-NR        Active       -----
2     IS-NR        Active       -----
3     IS-NR        Active       -----
4     IS-NR        Active       -----
5     IS-NR        Active       -----
6     IS-NR        Active       -----
7     IS-NR        Active       -----
8     IS-NR        Active       -----
9     IS-NR        Active       -----
10    IS-NR        Active       -----
11    IS-NR        Active       -----
12    IS-NR        Active       -----
13    IS-NR        Active       -----
14    IS-NR        Active       -----
15    IS-NR        Active       -----
16    IS-NR        Active       -----
```

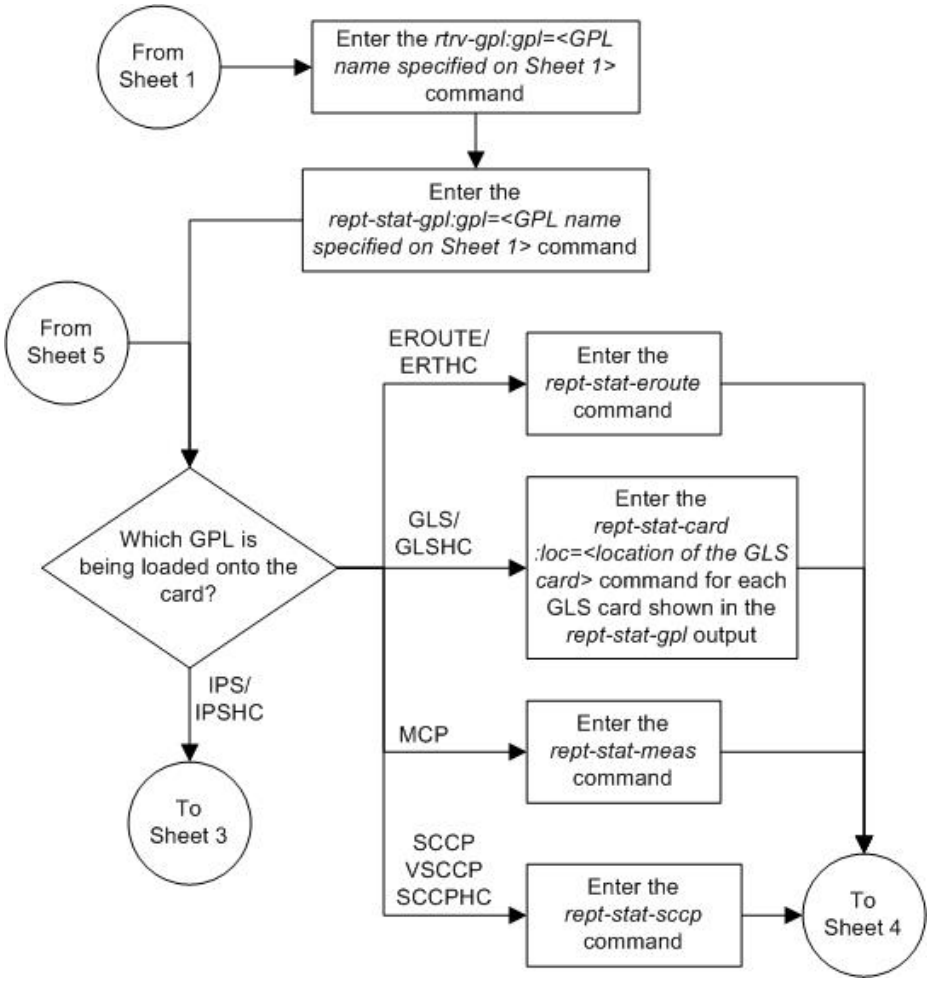
```
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

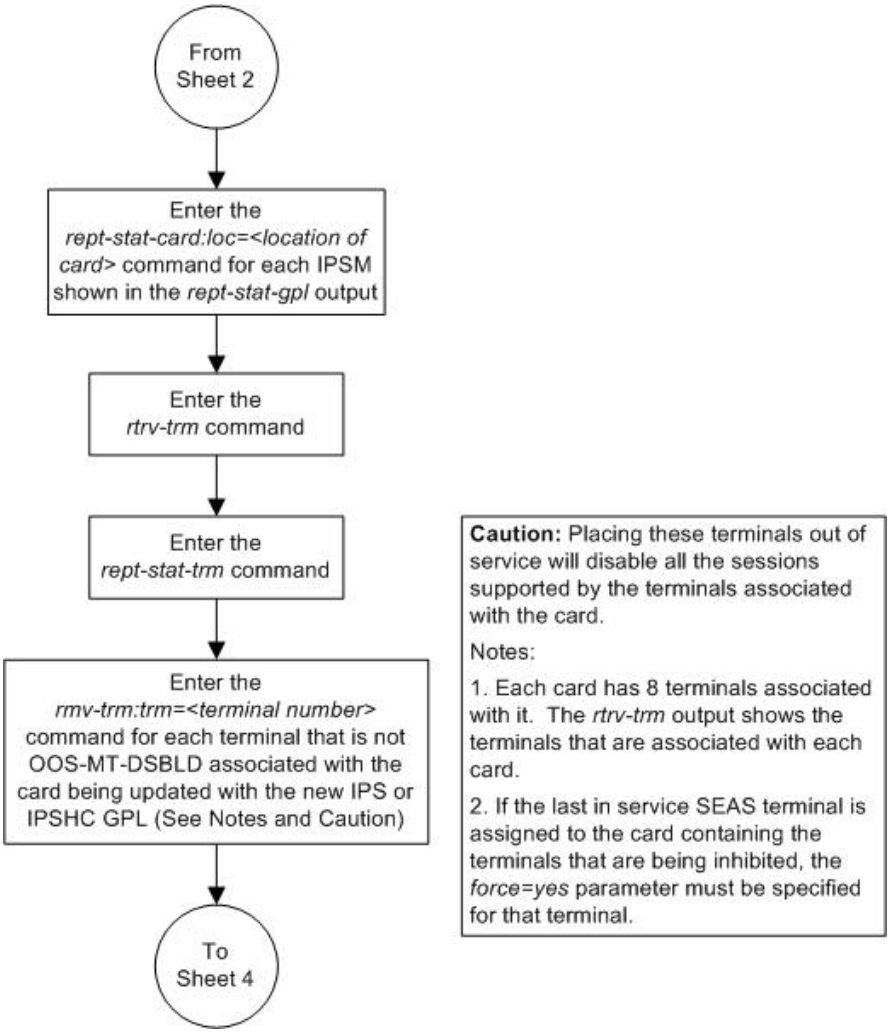
21. If you wish to load the new GPL onto the other cards shown in *Step 7* on page 145 , repeat this procedure from *Step 7* on page 145 for each card shown in *Step 7* on page 145 .
22. Remove the removable cartridge from the removable cartridge drive on the MDAL card.

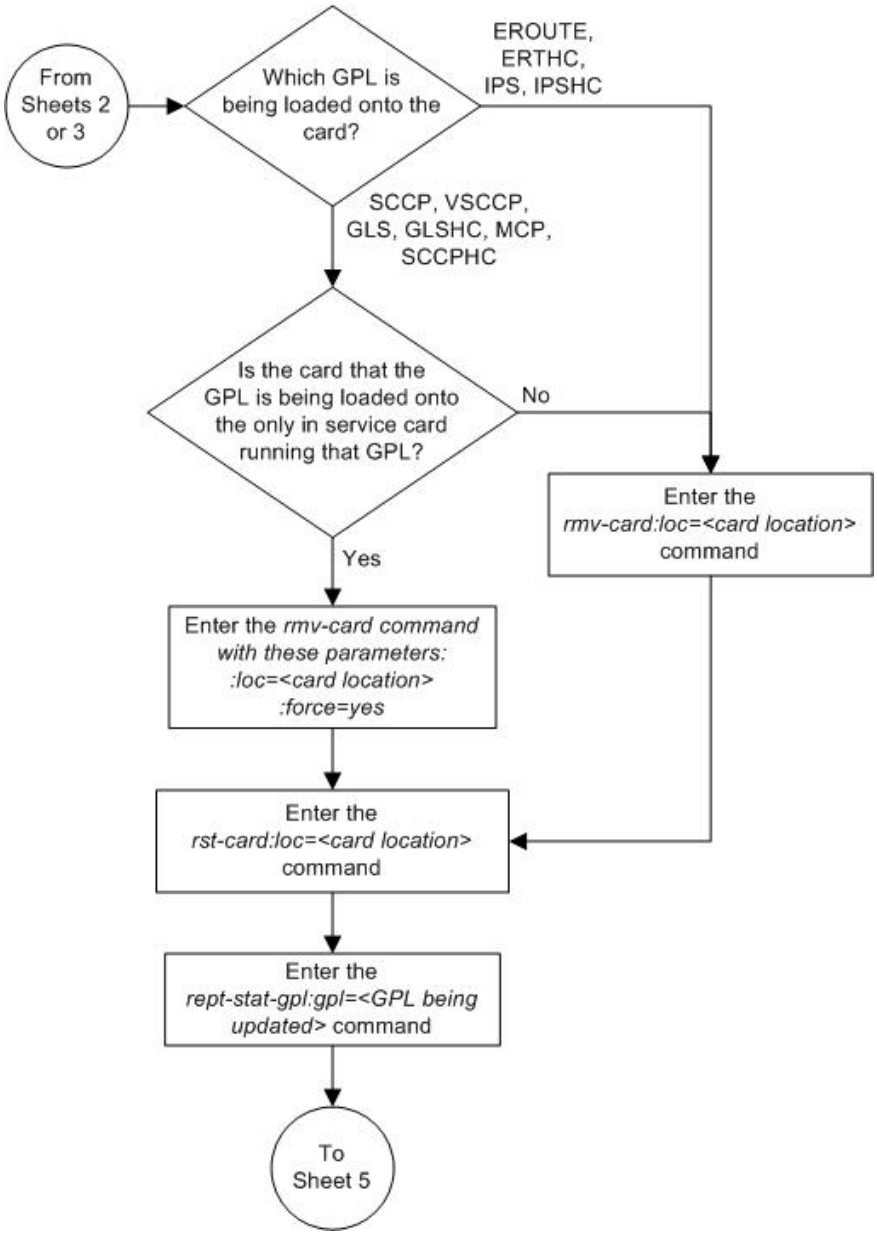
    For more information on removing the removable cartridge from the removable cartridge drive, see the *Removing the Removable Cartridge* on page 17 section.

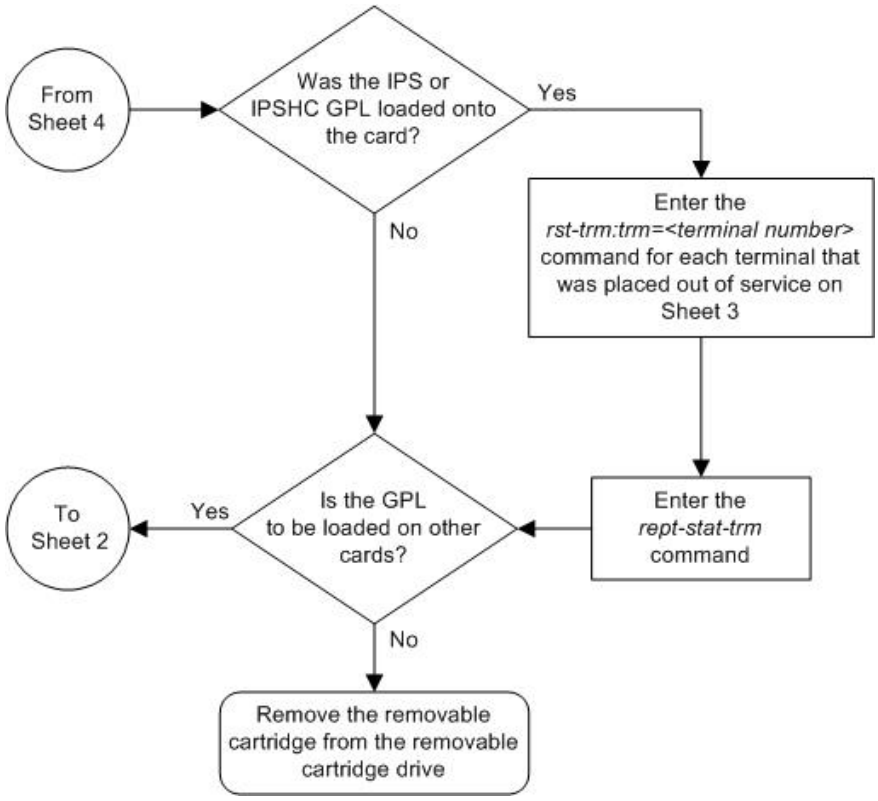
Figure 25: Updating the Service GPLs


Check the removable cartridge drive for a removable cartridge
Is a cartridge in the removable cartridge drive?
Yes
No
Insert the removable cartridge containing the GPL being updated into the removable cartridge drive
Enter the rtrv-gpl:gpl=<GPL being updated> command (See Note)
Remove the cartridge
Is the version of the GPL being updated, shown in the REMOVE TRIAL column of the rtrv-gpl output, the version that is to be loaded onto the cards?
No
Yes
Note: The Service GPL Card Types table in this procedure contains the names of the GPLs that can be updated in this procedure. The names in this table are used as the value of the GPL parameter of the chg-gpl, act-gpl, rept-stat-gpl, and rtrv-gpl commands.
Enter the chg-gpl command with these parameters: :gpl=<GPL being updated> :ver=<GPL version number from removable cartridge> (See Note)
Enter the act-gpl command with these parameters: :gpl=<GPL being updated> :ver=<trial GPL version number> (See Note)
To Sheet 2


From Sheet 1
Enter the rtrv-gpl:gpl=<GPL name specified on Sheet 1> command
Enter the rept-stat-gpl:gpl=<GPL name specified on Sheet 1> command
From Sheet 5
Which GPL is being loaded onto the card?
EROUTE/ ERTHC
Enter the rept-stat-eroute command
GLS/ GLSHC
Enter the rept-stat-card :loc=<location of the GLS card> command for each GLS card shown in the rept-stat-gpl output
IPS/ IPSHC
To Sheet 3
MCP
Enter the rept-stat-meas command
SCCP VSCCP SCCPHC
Enter the rept-stat-sccp command
To Sheet 4


From Sheet 2
Enter the rept-stat-card:loc=<location of card> command for each IPSM shown in the rept-stat-gpl output
Enter the rtrv-trm command
Enter the rept-stat-trm command
Enter the rmv-trm:trm=<terminal number> command for each terminal that is not OOS-MT-DSBLD associated with the card being updated with the new IPS or IPSHC GPL (See Notes and Caution)
To Sheet 4
Caution: Placing these terminals out of service will disable all the sessions supported by the terminals associated with the card.
Notes:
1. Each card has 8 terminals associated with it. The rtrv-trm output shows the terminals that are associated with each card.
2. If the last in service SEAS terminal is assigned to the card containing the terminals that are being inhibited, the force=yes parameter must be specified for that terminal.


From Sheets 2 or 3
Which GPL is being loaded onto the card?
EROUTE, ERTHC, IPS, IPSHC
SCCP, VSCCP, GLS, GLSHC, MCP, SCCPHC
Is the card that the GPL is being loaded onto the only in service card running that GPL?
No
Yes
Enter the rmv-card:loc=<card location> command
Enter the rmv-card command with these parameters: :loc=<card location> :force=yes
Enter the rst-card:loc=<card location> command
Enter the rept-stat-gpl:gpl=<GPL being updated> command
To Sheet 5



Updating the Flash GPLs

This procedure is used to update these GPLs: `bphcap`, `bphcapt`, `bpmpl`, `bpmplt`, `bpdcm`, `bpdcm2` . These names are used as the value of the `gpl` parameter of the `chg-gpl`, `act-gpl`, `rept-stat-gpl`, and `rtrv-gpl` commands.

There are other flash GPLs in the EAGLE 5 ISS, but these flash GPLs are not covered in this procedure. The GPLs that run on high-capacity cards are shown in *Table 6: High-Capacity Card Flash GPLs* on page 157 .

Table 6: High-Capacity Card Flash GPLs

HC MIM	E5-E1T1 E5-ENET	E5-STC E5-SLAN E5-IPSM E5-ATM E5-TSM	E5-SM4G
BLCPLD	BLCPLD	BLCPLD	BLCPLD
IMTPCI	IMTPCI	IMTPCI	IMTPCI
BLVXW6	BLVXW6	BLVXW6	BLVXW6
BLBIOS	BLBEPM	BLBEPM	BLBSMG
BLDIAG6	BLDIAG6	BLDIAG6	BLDIAG6

HC MIM	E5-E1T1 E5-ENET	E5-STC E5-SLAN E5-IPSM E5-ATM E5-TSM	E5-SM4G
PLDPMC1	PLDPMC1		
BLROM1			
To update the GPLs on these cards, perform one of these procedures. *Updating One of the Flash GPLs on the High-Capacity Cards* on page 192. *Updating All the Flash GPLs on the High-Capacity Cards* on page 221.			

Updating the bphmux and hipr GPLs are not covered in this procedure. The bphmux flash GPL runs only on the HMUX cards. To update the bphmux GPL, go to the *Updating the BPHMUX GPL* on page 270 procedure. The hipr flash GPL runs only on the HIPR cards. To update the hipr GPL, go to the *Updating the HIPR GPL* on page 278 procedure.

The flash GPLs are used in place of the IMT GPL on these cards:

- BPHCAP and BPHCAPT – LIM-ATM, LIME1ATM, used for high-speed ATM SS7 signaling links.
- BPMPL – The Multi-Port LIM running the SS7ML application for SS7 signaling links.
- BPMPLT – Multi-Port LIM (MPLT) or E1/T1 MIM running the SS7ML application GPL. The MPLT is used for SS7 signaling links. The E1/T1 MIM is used for either E1 or T1 signaling links.
- BPDCM – Cards running these application GPLs:
  - STPLAN – Used to support the STPLAN feature
  - SS7IPGW, IPGWI, IPLIM, or IPLIMI – Used to support IP signaling links
  - VSCCP – Used to support the Global Title Translation feature and its related features.
  - EROUTE – Used to support the Eagle with 5-Integrated Monitoring Support feature
  - MCP – Used to support the Measurements Platform feature.
  - EOAM – Loaded on the GPSM-II card in card locations 1113 and 1115. The GPSM-II cards is used in combination with the TDM to form the Maintenance and Administration Subsystem Processor (MASP).
  - IPS – used to support the IP User Interface and FTP Retrieve and Replace features.
- BPDCM2 – the GPSM-II card in card locations 1113 and 1115. The GPSM-II cards are used in combination with the TDM to form the Maintenance and Administration Subsystem Processor (MASP. This GPL is also used on MCPMs, cards running the MCP application GPL and supporting the Measurements Platform feature.

If the GPL is being updated to a new version, a removable cartridge containing the GPL being updated is required.

Canceling the REPT-STAT-SLK and RTRV-SLK Commands

Because the `rept-stat-slk` and `rtrv-slk` commands used in this procedure can output information for a long period of time, the `rept-stat-slk` and `rtrv-slk` commands can be canceled and the output to the terminal stopped. There are three ways that the `rept-stat-slk` and `rtrv-slk` commands can be canceled.

- Press the F9 function key on the keyboard at the terminal where the rept-stat-slk or rtrv-slk commands command were entered.
- Enter the canc-cmd without the trm parameter at the terminal where the rept-stat-slk or rtrv-slk commands were entered.
- Enter the canc-cmd:trm=<xx>, where <xx> is the terminal where the rept-stat-slk or rtrv-slk commands were entered, from another terminal other that the terminal where the rept-stat-slk or rtrv-slk commands were entered. To enter the canc-cmd:trm=<xx> command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the rtrv-secu-trm command. The user's permissions can be verified with the rtrv-user or rtrv-secu-user commands.

For more information about the canc-cmd command, go to the *Commands Manual*.

1. Check the removable cartridge drive on the MDAL card for a removable cartridge.

   If there is a removable cartridge in the drive, display the flash GPLs on the fixed disk and on the removable cartridge using the rtrv-gpl command with the gpl parameter value equal to the flash GPL being updated. For this example, enter this command.

   ```
   rtrv-gpl:gpl=bpdcm
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
   GPL Auditing  ON

   GPL        CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
   BPDCM      1114  126-002-000  126-002-000      126-001-000  126-003-000
   BPDCM      1116  126-002-000  126-002-000      126-001-000  -----------
   ```

   If the version of the flash GPL shown in the REMOVE TRIAL column of the rtrv-gpl output is not the version that is to be loaded onto the cards, remove the cartridge and go to step 2. For more information on removing the removable cartridge from the removable cartridge drive, see the *Removing the Removable Cartridge* on page 17 section.

   If the version of the flash GPL shown in the REMOVE TRIAL column of the rtrv-gpl output is the version that is to be loaded onto the cards, skip steps 2 and 3, and go to step 4.

2. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled).

   To write protect a removable cartridge, see the *Write Protecting the Removable Cartridge* on page 14 section.

3. Insert the removable cartridge containing the flash GPL being updated into the removable cartridge drive on the MDAL card.

   For more information on inserting the removable cartridge in the removable cartridge drive, see the *Inserting the Removable Cartridge* on page 15 section. After the removable cartridge has been inserted into the removable cartridge drive, repeat the rtrv-gpl command in step 1 and verify the version of the flash GPL on the removable cartridge that you wish to update.

4. Change the flash GPLs, using the chg-gpl command and specifying the value for the flash GPL shown in the REMOVE TRIAL column in the output of the rtrv-gpl command used in step 1.

For this example, enter this command.

```
chg-gpl:gpl=bpdcm:ver=002-003-000
```

These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
GPL Auditing  ON

BPDCM upload on 1114 completed
BPDCM upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

5. Activate the trial flash GPL, using the `act-gpl` command and specifying the name and version of the trial flash GPL specified in step 4.

   For this example, enter this command.

   ```
   act-gpl:gpl=bpdcm:ver=002-003-000
   ```

   These messages should appear.

   ```
   rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
   BPDCM activate on 1114 completed
   BPDCM activate on 1116 completed
   ```

6. Verify that the flash GPL on the removable cartridge is the approved flash GPL on the fixed disk using the `rtrv-gpl` command with the `gpl` parameter value specified in step 5.

   For this example, enter this command.

   ```
   rtrv-gpl:gpl=bpdcm
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 36.0.0
   GPL Auditing ON

   GPL       CARD
   RELEASE      APPROVED         TRIAL        REMOVE TRIAL
   BPDCM     1114  126-003-000  126-003-000      126-002-000  126-003-000
   BPDCM     1116  126-003-000  126-003-000      126-002-000  -----------
   ```

7. Verify the flash GPLs on the fixed disk and the cards that are running the flash GPLs using the `rept-stat-gpl` command with the `gpl` parameter value equal specified in step 6.

   For this example, enter this command.

   ```
   rept-stat-gpl:gpl=bpdcm
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
   GPL      CARD   RUNNING           APPROVED      TRIAL
   BPDCM    1113   126-002-000 ALM   126-003-000   126-002-000
   BPDCM    1115   126-002-000 ALM   126-003-000   126-002-000
   BPDCM    1303   126-002-000 ALM   126-003-000   126-002-000
   BPDCM    2101   126-002-000 ALM   126-003-000   126-002-000
   BPDCM    2103   126-002-000 ALM   126-003-000   126-002-000
   BPDCM    2105   126-002-000 ALM   126-003-000   126-002-000
   BPDCM    2107   126-002-000 ALM   126-003-000   126-002-000
   ```

```
BPDCM    2111   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2113   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2115   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2205   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2207   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2213   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2301   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2303   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2305   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2307   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2311   126-002-000 ALM   126-003-000   126-002-000
BPDCM    3103   126-002-000 ALM   126-003-000   126-002-000
BPDCM    3105   126-002-000 ALM   126-003-000   126-002-000
BPDCM    3107   126-002-000 ALM   126-003-000   126-002-000
Command Completed
```

Note: If the flash GPL being displayed by the `rept-stat-gpl` command is the bpdcm or bpdcm2 GPL, the output of the `rept-stat-gpl` command will show any DCMs, DSMs, or GPSM-II cards that are inserted in the EAGLE 5 ISS, whether they are configured in the database or not.

8. Display the status of the card, shown in the `rept-stat-gpl` output in step 7, that the flash GPL will be loaded onto using the `rept-stat-card` command and specifying the location of the card.

   For this example, enter this command.

   ```
   rept-stat-card:loc=2105
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
   CARD  VERSION      TYPE    GPL       PST           SST       AST
   2105  126-003-000  DCM     VXWSLAN   IS-NR         Active    -----
     ALARM STATUS      = No Alarms.
     BPDCM GPL         = 126-002-000
     IMT BUS A         = Conn
     IMT BUS B         = Conn
     SLK A PST         = IS-NR       LS=lsnsspn2  CLLI=-----------
     SCCP SERVICE CARD = 1212
     SLAN SERVICE CARD = ----
   Command Completed.
   ```

9. Steps 10 through 20 are performed based on the application GPL running on the card shown in the `GPL` column in the `rept-stat-card` output in step 8.

   The following list shows the steps that are performed for the application GPL running on the card that is being updated with the new flash GPL.

   - EROUTE – Step 8 shows the status of the card running the EROUTE GPL.

     Skip steps 10 through 20 and go to step 21.

   - ATMANSI, ATMITU, SS7ML, IPLIM, IPLIMI, SS7IPGW, IPGWI – Perform steps 10 and 11, then go to step 21.

     Skip steps 12 through 20.

   - VXWSLAN – Perform steps 12 and 13, then go to step 21.

     Skip steps 10 and 11, and steps 14 through 20.

   - VSCCP – Perform step 14, then go to step 21.

Skip steps 10 through 13, and steps 15 through 20.

- MCP – Perform step 15, then go to step 21.

  Skip the steps 10 through 14, and steps 16 through 20.

- EOAM – Perform steps 16 through 20, then go to step 21.

  Skip steps 10 through 15.

- IPS – Perform steps 17, 18, and 19, then go to step 21.

  Skip steps 10 through 16 and step 20.

10. Display the signaling links associated with the card shown in step 8.

Enter the `rtrv-slk` command with the card location specified in step 8. This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:16:37 GMT  EAGLE5 36.0.0

                                    L2T          L1                PCR  PCR
LOC  LINK LSN          SLC TYPE     SET  BPS     MODE TSET  ECM    N1   N2
1201 A    lsn1201a      0  LIMDS0   1   56000    ---  ---   BASIC  ---  -----
1201 B    lsn1201b      0  LIMDS0   1   56000    ---  ---   BASIC  ---  -----
1201 A1   lsn1201a      1  LIMDS0   1   56000    ---  ---   BASIC  ---  -----
1201 B1   lsn1201b      1  LIMDS0   1   56000    ---  ---   BASIC  ---  -----
```

11. Deactivate the SS7 signaling links on the card using the `dact-slk` command.

For this example, enter these commands.

```
dact-slk:loc=1201:link=a
dact-slk:loc=1201:link=b
dact-slk:loc=1201:link=a1
dact-slk:loc=1201:link=b1
```

CAUTION: These command examples place the SS7 signaling links on card 1201 out of service. This will interrupt service on the SS7 signaling links on card 1201 and allow the approved flash GPL to be loaded on to card 1201.

CAUTION: Do not deactivate all the SS7 signaling links in the EAGLE 5 ISS at the same time. Doing so will take all the SS7 signaling links out of service and isolate the EAGLE 5 ISS from the network.

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 11:45:18 GMT  EAGLE5 36.0.0
Deactivate SLK message sent to card
```

Skip steps 12 through 20, and go to step 21.

12. Display the TCP/IP data links, and their status, associated with the cards shown in steps 7 and 8.

Enter the `rept-stat-dlk` command. This is an example of the possible output.

```
rlghncxa03w 06-10-01 17:00:36 GMT  EAGLE5 36.0.0
```

```
DLK    PST           SST        AST
1303   IS-NR         Avail      ---
2101   IS-NR         Avail      ---
2103   IS-NR         Avail      ---
2105   IS-NR         Avail      ---
2113   IS-NR         Avail      ---
2301   IS-NR         Avail      ---
Command Completed.
```

13. Deactivate the TCP/IP data link on the card that you wish to load the flash GPL onto, shown in step 12, using the `canc-dlk` command.

    For this example, enter this command.

    `canc-dlk:loc=2105`

    CAUTION: This command example places the TCP/IP data link on card 2105 out of service. This will interrupt service on the TCP/IP data link on card 2105 and allow the trial flash GPL to be loaded on to card 2105.

    CAUTION: Do not deactivate all the TCP/IP data links in the EAGLE 5 ISS at the same time. Doing so will take all the TCP/IP data links out of service and cause the STPLAN feature to be disabled.

    CAUTION: If there is only one TCP/IP data link in the EAGLE 5 ISS, placing the card out of service will cause the STPLAN feature to be disabled.

    When this command has successfully completed, this message should appear.

    ```
    rlghncxa03w 06-10-01 11:45:18 GMT  EAGLE5 36.0.0
    Deactivate Link message sent to card.
    Command Completed.
    ```

    Skip steps 14 through 20, and go to step 21.

14. Display the status of the service modules by entering the `rept-stat-sccp` command.

    This is an example of the possible output.

    ```
    rlghncxa03w 06-10-01 09:57:31 GMT  EAGLE5 36.0.0

    CARD
    VERSION      PST             SST        AST       MSU USAGE  CPU USAGE
    ------------------------------------------------------------------------
    2311  126-002-001  IS-NR           Active     -----       47%         81%
    3101  126-002-001  IS-NR           Active     -----       34%         50%
    3103  126-002-001  IS-NR           Active     -----       21%         29%
    ------------------------------------------------------------------------
    SCCP Service Average MSU Capacity = 34%       Average CPU Capacity = 54%
    Command Completed.
    ```

    Skip steps 15 through 20, and go to step 21.

    Note: The `rept-stat-sccp` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rept-stat-sccp` command, see the `rept-stat-sccp` command description in the *Commands Manual*.

15. Display the status of the MCPMs in the database with the `rept-stat-meas` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:43:42 GMT  EAGLE5 36.0.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 126-002-000     MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   126-002-000     MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2115   126-002-000     MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

Skip steps 16 through 20, and go to step 21.

Note: Step 16 is performed only if the application GPL running on the card shown in the `rept-stat-card` output in step 8 is EOAM. If the application running on the card is IPS, skip step 16 and go to step 17.

16. To load the `bpdcm` or `bpdcm2` GPL on the GPSM-II, it must be loaded on the standby MASP (GPSM-II) first.

To determine which MASP is active, enter the `rept-stat-db` command. This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 05-03-01 10:19:18 GMT  Y       35 05-03-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
         MDAL 1117
         - --------
RD BKUP  Y      106 05-02-31 20:27:53 GMT
```

The output of the `rept-stat-db` command shows which MASP is active with the indicator `( ACTV )` following the TDM card location. The indicator `( STDBY)` following the TDM card location shows which MASP is standby.

For this example, the MASP associated with TDM 1116 is active and the MASP associated with TDM 1114 is standby.

17. Display the terminal configuration in the database with the `rtrv-trm` command.

If the application GPL running on the card is EOAM, the OAP and SEAS terminals must be taken out of service. The OAP terminals are shown in the output with the entry `OAP` in the `TYPE` field. The SEAS terminals are shown in the output with the entry `SEAS` in the `TYPE` field.If no OAP or SEAS terminals are shown in the `rtrv-trm` command output, skip steps 18 through 20 and go to step 21.

If the application GPL running on the card is IPS, the Telnet terminals associated with the card shown in step 8 must be taken out of service. The Telnet terminals are shown in the output with the entry `TELNET` in the `TYPE` field.

This is an example of the possible output. In this example, the OAP terminals are terminals 6 and 9. The SEAS terminals are terminals 27 and 36. The Telnet terminals that must be taken out of service are terminals 17 to 24.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE     COMM         FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1   SW    30    5     99:59:59
2    KSR      9600-7-E-1   HW    30    5     INDEF
3    PRINTER  4800-7-E-1   HW    30    0     00:00:00
4    VT320    2400-7-E-1   BOTH  30    5     00:30:00
5    VT320    9600-7-O-1   NONE  30    5     00:00:30
6    OAP     19200-7-E-1   SW    0     5     INDEF
7    PRINTER  9600-7-N-2   HW    30    5     00:30:00
8    KSR     19200-7-E-2   BOTH  30    5     00:30:00
9    OAP     19200-7-E-1   SW    0     5     INDEF
10   VT320    9600-7-E-1   HW    30    5     00:30:00
11   VT320    4800-7-E-1   HW    30    5     00:30:00
12   PRINTER  9600-7-E-1   HW    30    4     00:30:00
13   VT320    9600-7-O-1   NONE  30    5     00:30:00
14   VT320    9600-7-E-2   SW    30    8     00:30:00
15   VT320    9600-7-N-2   HW    30    5     00:30:00
16   VT320    9600-7-E-2   BOTH  30    3     00:30:00

TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
17   TELNET    1201             60    5     00:30:00   yes
18   TELNET    1201             60    5     00:30:00   yes
19   TELNET    1201             60    5     00:30:00   yes
20   TELNET    1201             60    5     00:30:00   yes
21   TELNET    1201             60    5     00:30:00   yes
22   TELNET    1201             60    5     00:30:00   yes
23   TELNET    1201             60    5     00:30:00   yes
24   TELNET    1201             60    5     00:30:00   yes
25   TELNET    1203             60    5     00:30:00   yes
26   TELNET    1203             60    5     00:30:00   yes
27   SEAS      1203             60    5     00:30:00   yes
28   TELNET    1203             60    5     00:30:00   yes
29   TELNET    1203             60    5     00:30:00   yes
30   TELNET    1203             60    5     00:30:00   yes
31   TELNET    1203             60    5     00:30:00   yes
32   TELNET    1203             60    5     00:30:00   yes
33   TELNET    1205             60    5     00:30:00   yes
34   TELNET    1205             60    5     00:30:00   yes
35   TELNET    1205             60    5     00:30:00   yes
36   SEAS      1205             60    5     00:30:00   yes
37   TELNET    1205             60    5     00:30:00   yes
38   TELNET    1205             60    5     00:30:00   yes
39   TELNET    1205             60    5     00:30:00   yes
40   TELNET    1205             60    5     00:30:00   yes

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
17   none     none      none       1
18   none     none      none       1
19   none     none      none       1
20   none     none      none       1
21   none     none      none       1
22   none     none      none       1
23   none     none      none       1
24   none     none      none       1
25   none     none      none       1
26   none     none      none       1
28   none     none      none       1
29   none     none      none       1
30   none     none      none       1
31   none     none      none       1
```

```
32   none     none      none       1
33   none     none      none       1
34   none     none      none       1
35   none     none      none       1
37   none     none      none       1
38   none     none      none       1
39   none     none      none       1
40   none     none      none       1

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
1    NO   YES  NO  YES NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
3    YES  YES  YES NO  YES YES YES
4    YES  NO   NO  NO  NO  NO  NO
5    NO   YES  NO  NO  NO  NO  YES
6    YES  YES  YES YES YES YES YES
7    YES  YES  YES YES YES YES YES
8    NO   NO   NO  NO  YES NO  YES
9    YES  YES  YES YES YES YES YES
10   NO   NO   NO  NO  NO  NO  YES
11   YES  YES  YES YES YES YES YES
12   YES  YES  YES YES YES YES YES
13   NO   YES  NO  NO  NO  NO  YES
14   NO   NO   YES NO  NO  NO  NO
15   YES  YES  YES NO  YES YES YES
16   NO   NO   NO  NO  YES NO  YES
17   NO   NO   NO  NO  NO  NO  NO
18   NO   NO   NO  NO  NO  NO  NO
19   NO   NO   NO  NO  NO  NO  NO
20   NO   NO   NO  NO  NO  NO  NO
21   NO   NO   NO  NO  NO  NO  NO
22   NO   NO   NO  NO  NO  NO  NO
23   NO   NO   NO  NO  NO  NO  NO
24   NO   NO   NO  NO  NO  NO  NO
25   NO   NO   NO  NO  YES NO  YES
26   NO   NO   NO  NO  NO  NO  NO
27   NO   NO   NO  NO  NO  NO  NO
28   NO   NO   NO  NO  NO  NO  NO
29   NO   NO   NO  NO  NO  NO  NO
30   NO   NO   NO  NO  NO  NO  NO
31   NO   NO   NO  NO  NO  NO  NO
32   NO   NO   NO  NO  NO  NO  NO
33   NO   NO   NO  NO  NO  NO  NO
34   NO   NO   NO  NO  YES NO  YES
35   NO   NO   NO  NO  NO  NO  NO
36   NO   NO   NO  NO  NO  NO  NO
37   NO   NO   NO  NO  NO  NO  NO
38   NO   NO   NO  NO  NO  NO  NO
39   NO   NO   NO  NO  NO  NO  NO
40   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
3    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
4    YES  YES YES  YES YES NO  YES YES  YES YES NO   NO
5    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
6    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
7    NO   YES YES  YES YES YES YES YES  YES YES NO   NO
8    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
9    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
10   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
11   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
12   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

```
13   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
14   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
15   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
16   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
17   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
18   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
19   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
20   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
21   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
22   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
23   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
24   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
25   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
26   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
27   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   YES  NO
28   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
29   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
30   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
31   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
32   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
33   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
34   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
35   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
36   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   YES  NO
37   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
38   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
39   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
40   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
```

18. Display the status of the terminals with the `rept-stat-trm` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
```

```
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

19. Place the required terminals out of service using the `rmv-trm` command.

If the OAP or SEAS terminals are being placed out of service, the `force=yes` parameter must be used when placing the last OAP or SEAS terminal out of service.

To place the OAP terminals out of service in this example, enter these commands.

```
rmv-trm:trm=6
```

```
rmv-trm:trm=9:force=yes
```

To place the SEAS terminals out of service in this example, enter these commands.

```
rmv-trm:trm=27
```

```
rmv-trm:trm=36:force=yes
```

CAUTION: Placing the OAP or SEAS terminals out of service will disable the SEAS feature on the EAGLE 5 ISS.

To place the Telnet terminals out of service in this example, enter these commands.

```
rmv-trm:trm=17
```

```
rmv-trm:trm=18
```

```
rmv-trm:trm=19
```

```
rmv-trm:trm=20
```

```
rmv-trm:trm=21
```

```
rmv-trm:trm=22
```

```
rmv-trm:trm=23
```

```
rmv-trm:trm=24
```

CAUTION: Placing the Telnet terminals out of service will disable any Telnet sessions running on these terminals.

If the status of any of the terminals shown in the `PST` field in step 18 is OOS-MT-DSBLD (out-of-service maintenance disabled), the terminal is already out of service and the `rmv-trm` command does not need to be executed for that terminal.

This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Inhibit message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Command Completed.
```

- Step 20 is performed only if the OAP or SEAS terminals were placed out of service in this step. If the OAP or SEAS terminals were not placed out of service in this step, skip step 20 and go to step 21.
- If the OAP or SEAS terminals were placed out of service in this step, go to step 20.

20. Change the terminal type of the OAP or SEAS terminals to NONE with the `chg-trm` command, the `type=none` parameter, and with the values of the OAP or SEAS terminals used in step 19.

If OAP terminals are shown in the `rtrv-trm` output in step 17, for this example, enter these commands.

```
chg-trm:trm=6:type=none
```

```
chg-trm:trm=9:type=none
```

If SEAS terminals are shown in the `rtrv-trm` output in step 17, for this example, enter these commands.

```
chg-trm:trm=27:type-none
```

```
chg-trm:trm=36:type=none
```

This message should appear when these commands have successfully completed.

```
rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
CHG-TRM: MASP B - COMPLTD
```

21. Place the card shown in step 8 out of service using the `rmv-card` command.

CAUTION: Multiple cards running the same flash GPL can be updated at the same time with the `init-flash` command (step 24). This requires that the cards in the locations specified with the `init-flash` command in step 24 are out of service. All the cards running a one of these application GPLs (ss7ml, `atmansi`, `atmitu`, `iplim`, `iplimi`, `ss7ipgw`, `ipgwi`, `vxwslan`, `vsccp`, `mcp`, `eroute`, and `ips`) can be placed out of service. However, it is recommended that only some of the cards running a specific application GPL are placed out of service. Placing all the cards running a specific application GPL out of service will cause the traffic carried by these cards to be lost and disable the features supported by these cards.

CAUTION: If the `eoam` GPL is being updated, the card being placed out of service must be the GPSM-II associated with the standby MASP. Both cards running the `eoam` GPL cannot be placed out of service at the same time.

CAUTION: If there is only one card running these application GPLs (`ss7ml`, `ccs7itu`, `atmansi`, `atmitu`, `iplim`, `iplimi`, `ss7ipgw`, `ipgwi`, `vxwslan`, `vsccp`, `mcp`, `eroute`, or `ips`), shown in the `GPL` column in the `rept-stat-card` output in step 8, in the EAGLE 5 ISS, placing the card out of service will cause the traffic carried by this card to be lost and disable the feature that this card supports.

For this example, enter this command.

```
rmv-card:loc=2105
```

Note: If more than one card running the same flash GPL is to be updated in step 24, repeat this step for those cards.

When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
Card has been inhibited.
```

If the card is running the `ss7ml`, `ccs7itu`, `iplim`, `iplimi`, `ss7ipgw`, or `ipgwi` application GPLs, and the card contains the last signaling link in a linkset, the `force=yes` parameter must be specified.

If the card is running the `vsccp` or `mcp` application GPLs, and is the last in service card running the vsccp or mcp application GPL, the `force=yes` parameter must be specified.

Note: If you do not wish to reload the TDM clock LCA bitfile, skip steps 22 and 23, and go to step 24.

22. Verify the status of the high-speed clocks by entering the `rept-stat-clk` command.

This is an example of the possible output.

```
rlghncxa03w 08-06-01 11:34:04 GMT  EAGLE5 39.0.0
COMPOSITE                           PST           SST       AST
    SYSTEM CLOCK                    IS-NR         Active    -----
ALARM STATUS = No Alarms.
    Primary Comp Clk 1114   (CLK A)    IS-NR         Active    -----
    Primary Comp Clk 1116   (CLK B)    IS-NR         Active    -----
    Secondary Comp Clk 1114 (CLK A)    IS-NR         Idle      -----
    Secondary Comp Clk 1116 (CLK B)    IS-NR         Idle      -----

Clock      Using         Bad
CLK A        9            0
CLK B        0            0
CLK I        0            --

HIGH SPEED                          PST           SST       AST
    SYSTEM CLOCK                    IS-NR         Idle      -----
ALARM STATUS = No Alarms.
    Primary HS Clk 1114    (HS CLK A)  IS-NR         Active    -----
    Primary HS Clk 1116    (HS CLK B)  IS-NR         Active    -----
    Secondary HS Clk 1114  (HS CLK A)  IS-NR         Idle      -----
    Secondary HS Clk 1116  (HS CLK B)  IS-NR         Idle      -----

HS CLK TYPE 1114     = RS422
HS CLK LINELEN 1114  = LONGHAUL
HS CLK TYPE 1116     = RS422
HS CLK LINELEN 1116  = LONGHAUL

Clock      Using         Bad
HS CLK A     2            0
HS CLK B     0            0
HS CLK I     0            --

Command Completed
```

If the `rept-stat-clk` output does not show any high-speed clocks (`HIGH SPEED SYSTEM CLOCK`, `Primary HS Clk`, `Secondary HS Clk`, `HS CLK TYPE`, and `HS CLK LINELEN`

fields), the EAGLE 5 ISS does not contain any cards that are capable of using high-speed master timing.

Note: If the `HS CLK TYPE` and `HS CLK LINELEN` values shown in step 1 are set to the system default values (`HS CLK TYPE = RS422` and `HS CLK LINELEN = LONGHAUL`), skip step 23 and go to step 24.

23. Visually verify the part numbers of both TDMs in the EAGLE 5 ISS.

To load the TDM clock LCA bitfile, the part numbers of both TDMs must be 870-0774-15 or later.

If the TDM part numbers are 870-0774-15 or later, go to step 25.

If the TDM part numbers are not 870-0774-15 or later, the TDMs must be replaced with TDM part numbers 870-0774-15. Refer to *Customer Care Center* on page 4 for the contact information. If the older TDMs are not replaced, this procedure cannot be performed.

24. Load the flash GPL onto the card inhibited in step 21 using the `init-flash` command with the `code=appr` parameter to load the approved version of the flash GPL onto the card.

For this example, enter this command.

```
init-flash:code=appr:loc=2105
```

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Downloading for card 2105 Started.
;
    rlghncxa03w 06-10-01  11:11:28 GMT EAGLE5 36.0.0
    BPHCAP Downloading for card 2105 Complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
```

If the card inhibited in step 21 is a GPSM-II, and you are reloading the TDM clock LCA bitfile, the `initclk=yes` and, if necessary, the `force=yes` parameters must be specified with the `init-flash` command.

CAUTION: If reloading the TDM clock LCA bitfile would cause a system clock outage, the `force=yes` parameter must be used with the `init-flash` command. A system clock outage can be caused by either the EAGLE 5 ISS having only one TDM (a simplex MASP configuration) or if the status of the high-speed clocks, shown in the `rept-stat-clk` output in step 22, on the TDM which is not being reset is Fault. A system clock outage will result in a loss of traffic on some or all signaling links.

The following command example loads the flash GPL onto the GPSM-II card and reloads the TDM clock LCA bitfile.

```
init-flash:initclk=yes:loc=1113:code=appr
```

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Download for card 1113 Started.
;
```

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Download for card 1113 Completed.
```

Updating more than One Card at the Same Time

If more than one card running the same flash GPL is being updated, enter the `init-flash` command with these parameters along with the `code=appr` parameter:

`sloc` – the first card location in the range of card locations

`eloc` – the last card location in the range of card locations

`gpl` – the flash GPL being updated

Note: The `sloc`, `eloc`, and `gpl` parameters cannot be specified with the `loc` parameter. When the `sloc`, `eloc`, and `gpl` parameters are specified, only the cards running the flash GPL specified by the `gpl` parameter and within the range specified by the `sloc` and `eloc` parameters are updated. All other cards in the range specified by the `sloc` and `eloc` parameters are skipped.

Entering this example command will update the cards in the locations 1101 to 2115 running the `bpdcm` flash GPL with the approved version of the `bpdcm` GPL.

```
init-flash:code=appr:sloc=1101:eloc=2115:gpl=bpdcm
```

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Download for cards 1101 - 2115 Started.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Download for cards 1101 - 2115 Completed.
    LOC 1101 : PASSED
    LOC 1102 : PASSED
    LOC 1112 : PASSED
    LOC 2105 : PASSED
    LOC 2107 : PASSED
    LOC 2111 : PASSED
    LOC 2112 : PASSED
    LOC 2115 : PASSED

    ALL CARD RESULTS PASSED
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
```

When the `init-flash` command has completed successfully, the card specified in the `init-flash` command is rebooted.

25. Put the cards that were inhibited in step 21 back into service using the `rst-card` command.

    For this example, enter this command.

    ```
    rst-card:loc=2105
    ```

    When this command has successfully completed, this message should appear.

    ```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Card has been allowed.
    ```

26. Verify that the flash GPL from step 24 has loaded and that the card has returned to its in-service normal (IS-NR) state using the `rept-stat-card` command.

For this example, enter this command.

```
rept-stat-card:loc=2105
```

```
rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
CARD  VERSION      TYPE    GPL       PST           SST       AST
2105  126-003-000  DCM     VXWSLAN   IS-NR         Active    -----
  ALARM STATUS      = No Alarms.
  BPDCM GPL         = 126-003-000 +
  IMT BUS A         = Conn
  IMT BUS B         = Conn
  SLK A PST         = IS-NR       LS=lsnsspn2  CLLI=-----------
  SCCP SERVICE CARD = 1212
  SLAN SERVICE CARD = ----
Command Completed.
```

The '+' symbol indicates that the flash GPL has not been activated.

Note: If the version number of the `bpdcm` or `bpdcm2`GPL shown in the `rept-stat-card` command output is different than the version specified in step 8, contact the Customer Care Center. Refer to *Customer Care Center* on page 4 for the contact information.

27. Activate the approved flash GPL loaded onto the cards in step 24 using the `act-flash` command.

For this example, enter this command.

```
act-flash:loc=2105
```

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Activation for card 2105 Completed.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
```

Activating more than One Card at the Same Time

If more than one card running the same flash GPL was updated in step 24, enter the `act-flash` command with these parameters:

`sloc` – the first card location in the range of card locations

`eloc` – the last card location in the range of card locations

`gpl` – the flash GPL being activated

Note: The `sloc`, `eloc`, and `gpl` parameters cannot be specified with the `loc` parameter. When the `sloc`, `eloc`, and `gpl` parameters are specified, only the cards running the flash GPL specified by the `gpl` parameter and within the range specified by the `sloc` and `eloc` parameters are updated. All other cards in the range specified by the `sloc` and `eloc` parameters are skipped.

Entering this example command will activate the flash GPLs on the cards in the locations 1101 to 2115.

```
act-flash:sloc=1101:eloc=2115:gpl=bpdcm
```

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
```

```
    FLASH Memory Activation for cards 1101 - 2115 Started.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Activation for cards 1101 - 2115 Completed.
    LOC 1101 : PASSED
    LOC 1102 : PASSED
    LOC 1112 : PASSED
    LOC 2105 : PASSED
    LOC 2107 : PASSED
    LOC 2111 : PASSED
    LOC 2112 : PASSED
    LOC 2115 : PASSED

    ALL CARD RESULTS PASSED
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
```

28. Verify the flash GPLs on the cards using the `rept-stat-gpl` command with the `gpl` parameter value specified in step 5.

    If any card is not running the release version of the flash GPL, shown in the `RELEASE` column of the `rtrv-gpl` output in step 6, the indicator `ALM` is displayed next to the flash GPL version in the `RUNNING` column of the `rept-stat-gpl` output. For this example, enter this command.

    ```
    rept-stat-gpl:gpl=bpdcm
    ```

    This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
GPL      CARD   RUNNING           APPROVED      TRIAL
BPDCM    1113   126-002-000 ALM   126-003-000   126-002-000
BPDCM    1115   126-002-000 ALM   126-003-000   126-002-000
BPDCM    1303   126-002-000 ALM   126-003-000   126-002-000
BPDCM    1307   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2101   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2103   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2105   126-003-000       126-003-000   126-002-000
BPDCM    2113   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2205   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2207   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2213   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2301   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2303   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2305   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2307   126-002-000 ALM   126-003-000   126-002-000
BPDCM    2311   126-002-000 ALM   126-003-000   126-002-000
BPDCM    3101   126-002-000 ALM   126-003-000   126-002-000
BPDCM    3103   126-002-000 ALM   126-003-000   126-002-000
BPDCM    3105   126-002-000 ALM   126-003-000   126-002-000
BPDCM    3107   126-002-000 ALM   126-003-000   126-002-000
Command Completed
```

    Note: If the flash GPL being displayed by the `rept-stat-gpl` command is the `bpdcm` or `bpdcm2`GPL, the output of the `rept-stat-gpl` command will show any DCMs, DSMs, or GPSM-II cards that are inserted in the EAGLE 5 ISS, whether they are configured in the database or not.

    Note: If the card's application GPL, shown in the `rept-stat-card` output in step 8, is `ss7ml`, `atmansi`, `atmitu`, `iplim`, `iplimi`, `ss7ipgw`, or `ipgwi`, perform steps 29 and 30, then go to step 38. Skip steps 31 through 37.

29. Place the signaling links that were deactivated in step 11 back into service using the `act-slk` command.

    For this example, enter these commands.

    ```
    act-slk:loc=1201:link=a
    act-slk:loc=1201:link=b
    act-slk:loc=1201:link=a1
    act-slk:loc=1201:link=b1
    ```

    When each of these commands have successfully completed, this message should appear.

    ```
    rlghncxa03w 06-10-01 11:55:49 GMT  EAGLE5 36.0.0
    Activate SLK message sent to card
    ```

30. Verify that the signaling links activated in step 29 are back in service using the `rept-stat-slk` command with the card location and signaling link.

    For this example, enter these commands.

    ```
    rept-stat-slk:loc=1201:link=a
    ```

    This is an example of the possible output.

    ```
    rlghncxa03w 06-10-01 13:06:25 GMT EAGLE5 36.0.0
    SLK      LSN       CLLI        PST          SST       AST
    1201,A   lsnmpl1   ----------- IS-NR        Avail     ----
      ALARM STATUS       = No Alarms.
      UNAVAIL REASON     = --
    ```

    ```
    rept-stat-slk:loc=1201:link=b
    ```

    This is an example of the possible output.

    ```
    rlghncxa03w 06-10-01 13:06:25 GMT EAGLE5 36.0.0
    SLK      LSN       CLLI        PST          SST       AST
    1201,B   lsnmpl2   ----------- IS-NR        Avail     ----
      ALARM STATUS       = No Alarms.
      UNAVAIL REASON     = --
    ```

    ```
    rept-stat-slk:loc=1201:link=a1
    ```

    This is an example of the possible output.

    ```
    rlghncxa03w 06-10-01 13:06:25 GMT EAGLE5 36.0.0
    SLK      LSN       CLLI        PST          SST       AST
    1201,A1  lsnmpl3   ----------- IS-NR        Avail     ----
      ALARM STATUS       = No Alarms.
      UNAVAIL REASON     = --
    ```

    ```
    rept-stat-slk:loc=1201:link=b1
    ```

    This is an example of the possible output.

    ```
    rlghncxa03w 06-10-01 13:06:25 GMT EAGLE5 36.0.0
    SLK      LSN       CLLI        PST          SST       AST
    1201,B1  lsnmpl4   ----------- IS-NR        Avail     ----
      ALARM STATUS       = No Alarms.
    ```

```
  UNAVAIL REASON     = --
Command Completed.
```

Note: If the card's application GPL, shown in the `rept-stat-card` output in step 8, is `vxwslan`, perform steps 31 and 32, then go to step 38. Skip steps 33 through 37.

31. Place the TCP/IP data link that was deactivated in step 14 back into service using the `act-dlk` command.

    For this example, enter this command.

    `act-dlk:loc=2105`

    When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 11:55:49 GMT  EAGLE5 36.0.0
Activate Link message sent to card.
```

32. Verify that the TCP/IP data links activated in step 31 are back in service with the `rept-stat-dlk` command.

    This is an example of the possible output.

```
rlghncxa03w 06-10-01 17:00:36 GMT  EAGLE5 36.0.0
DLK    PST           SST        AST
1303   IS-NR         Avail      ---
2101   IS-NR         Avail      ---
2103   IS-NR         Avail      ---
2105   IS-NR         Avail      ---
2113   IS-NR         Avail      ---
2301   IS-NR         Avail      ---
```

    Note: If the application GPL running on the card is not EOAM, skip steps 33 through 37, and go to step 38.

    Note: If the application GPL running on the card is IPS, perform steps 35 and 36, then go to step 38. Skip steps 33, 34, and 37.

33. If you wish to load the new GPL onto the GPSM-II card making up the active MASP, enter the `init-card` command specifying the location of the GPSM-II card making up active MASP.

    For this example, enter the `init-card:loc=1115` command. This message should appear.

```
rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
Init Card command issued to card 1115
```

    After the `init-card` command has completed, repeat this procedure from step 21, specifying the card location used in the `init-card` command.

    If you did not wish to load the new version of the `bpdcm` or `bpdcm2` GPL onto the other GPSM-II card running the EOAM application, continue this procedure with either steps 34 or 37 based on the following conditions:

    - If OAP and SEAS terminals were not shown in the `rtrv-trm` command output in step 17, skip steps 34 through 36, and go to step 37.
    - If OAP and SEAS terminals were shown in the `rtrv-trm` command output in step 17, go to step 34.

34. Change the terminal type of the terminals that were changed to NONE in step 20 to the terminal type OAP or SEAS with the chg-trm command and either the type=oap (for OAP terminals) or type=seas (for SEAS terminals) parameter

    The terminal type is shown in the TYPE field in the rtrv-trm command output in step 17.

    If OAP terminals were changed in step 20, for this example, enter these commands.

    ```
    chg-trm:trm=6:type=oap
    ```

    ```
    chg-trm:trm=9:type=oap
    ```

    If SEAS terminals were changed in step 20, for this example, enter these commands.

    ```
    chg-trm:trm=27:type=seas
    ```

    ```
    chg-trm:trm=36:type=seas
    ```

    This message should appear when these commands have successfully completed.

    ```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    CHG-TRM: MASP B - COMPLTD
    ```

35. Put the required terminals back into service with the rst-trm command.

    If OAP terminals were placed out of service in step 19, for this example, enter these commands.

    ```
    rst-trm:trm=6
    ```

    ```
    rst-trm:trm=9
    ```

    If SEAS terminals were placed out of service in step 19, for this example, enter these commands.

    ```
    rst-trm:trm=27
    ```

    ```
    rst-trm:trm=36
    ```

    If Telnet terminals were placed out of service in step 19, for this example, enter these commands.

    ```
    rst-trm:trm=17
    ```

    ```
    rst-trm:trm=18
    ```

    ```
    rst-trm:trm=19
    ```

    ```
    rst-trm:trm=20
    ```

    ```
    rst-trm:trm=21
    ```

    ```
    rst-trm:trm=22
    ```

    ```
    rst-trm:trm=23
    ```

    ```
    rst-trm:trm=24
    ```

    This message should appear when each of these commands have successfully completed.

    ```
    rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
    Allow message sent to terminal

    rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
    Command Completed.
    ```

36. Verify that the terminals are in service with the rept-stat-trm command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

37. This procedure is finished.

    Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see the *Removing the Removable Cartridge* on page 17 section.

    If you wish to update one of the other flash GPLs, remove the removable cartridge from the removable cartridge drive on the MDAL card, and repeat this procedure from step 1.

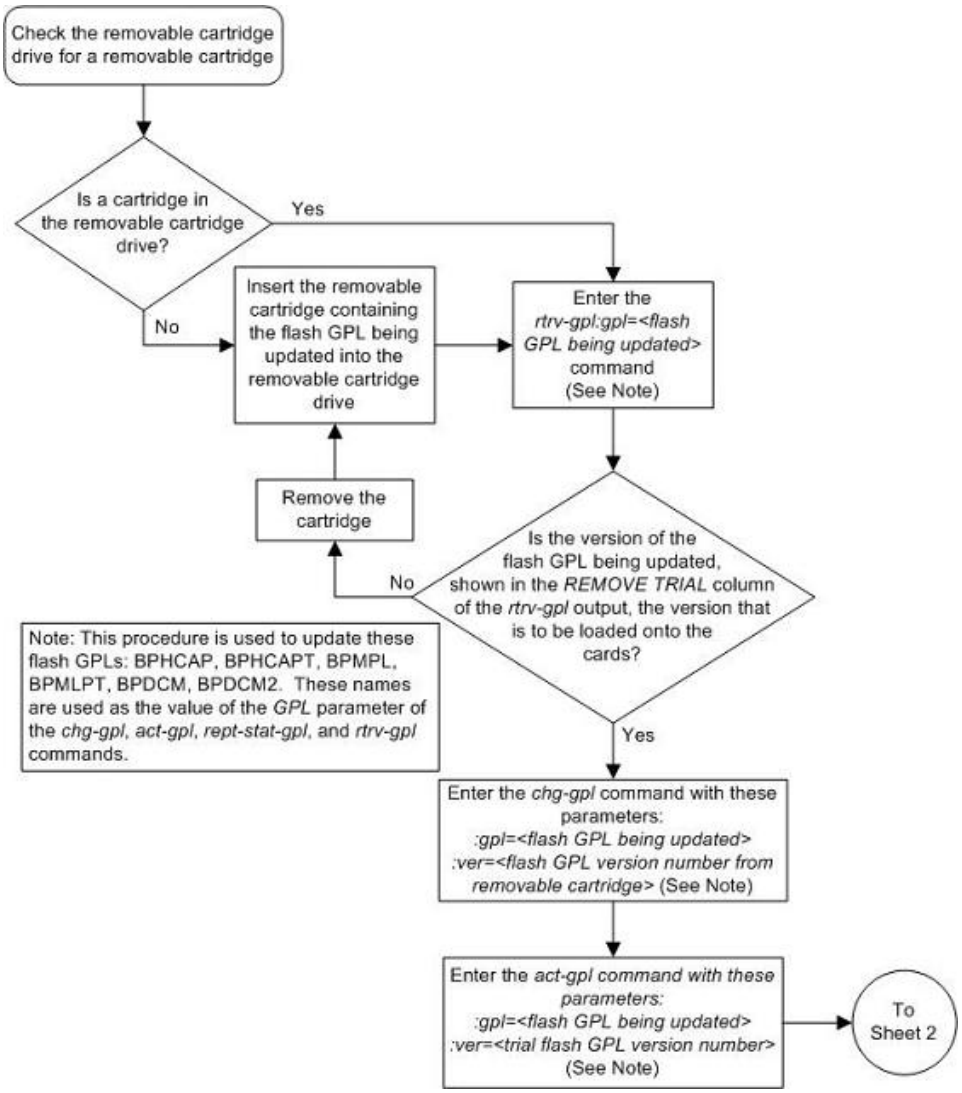
    Note: If the application GPL running on the card is EOAM, do not perform step 38. This procedure is finished.

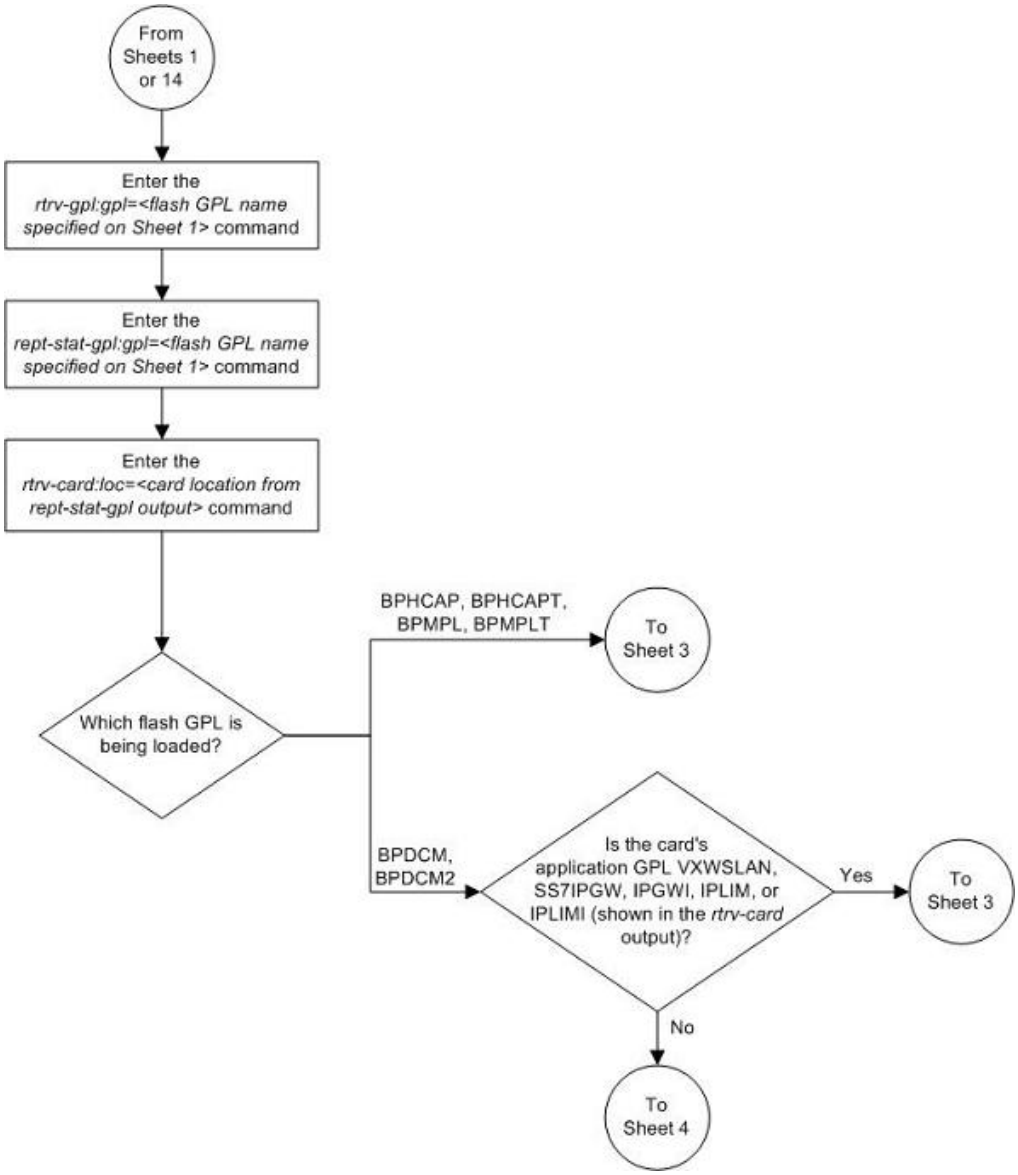
38. If you wish to load the new GPL onto the other cards, other than the GPSM-II, shown in step 7, repeat this procedure from step 8 for each card.

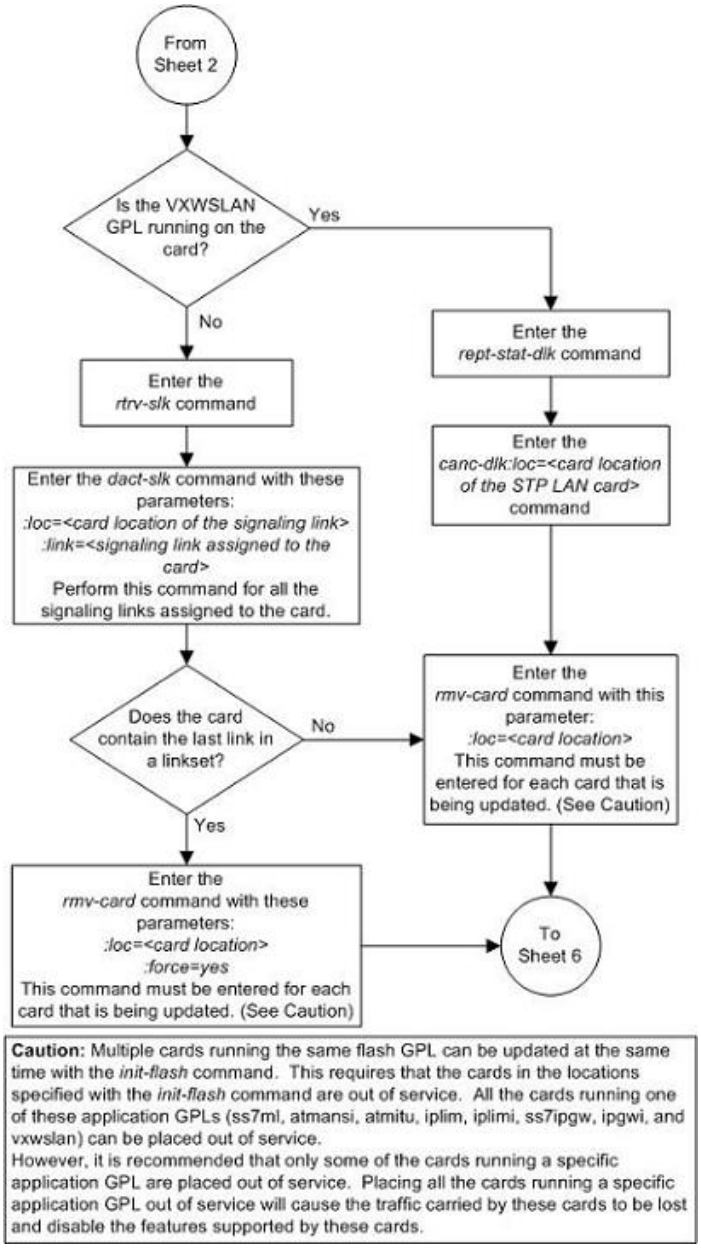
If the new GPL updated in this procedure is not being loaded on the other cards in the EAGLE 5 ISS, this procedure is finished. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see the *Removing the Removable Cartridge* on page 17 section.

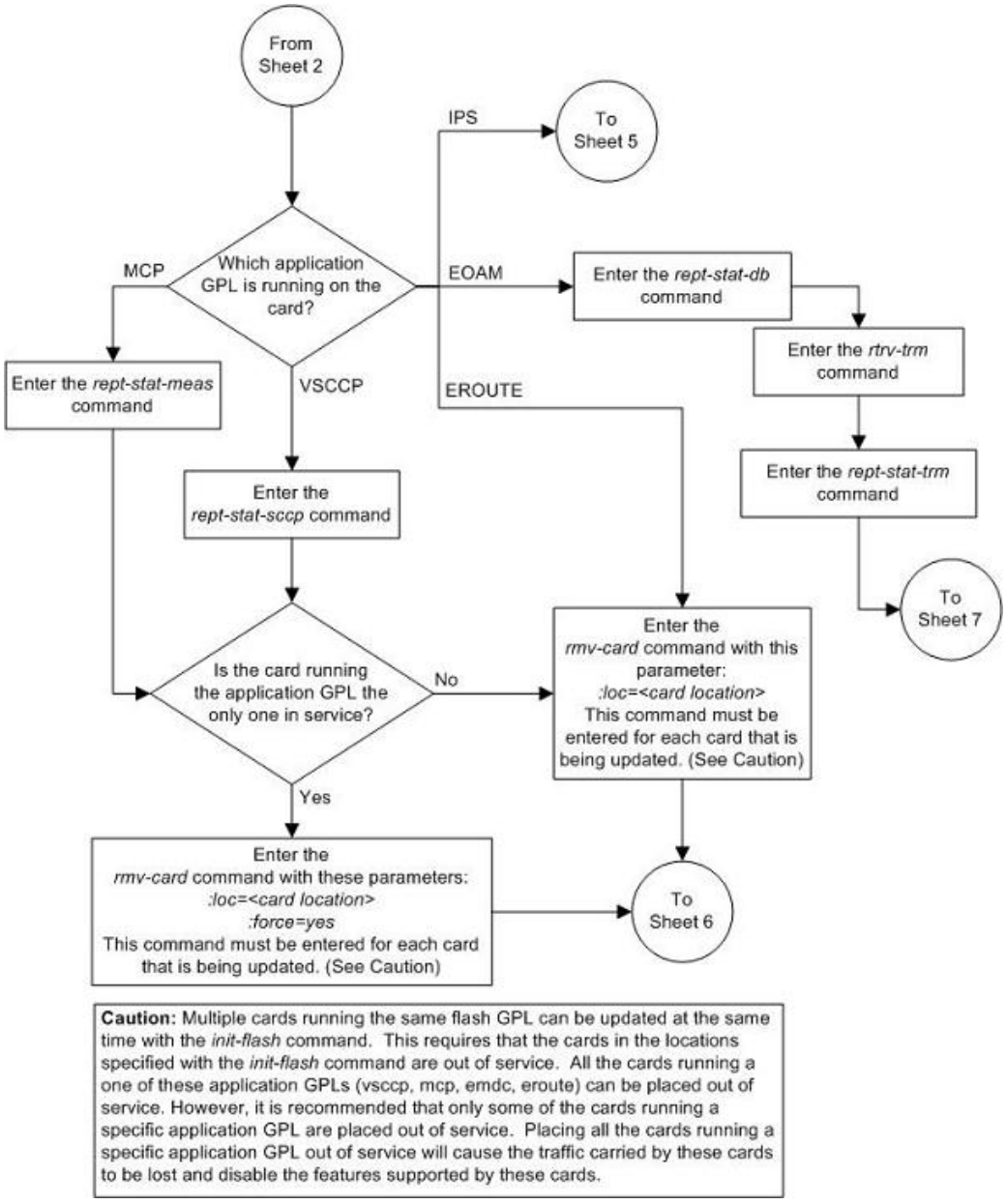
If you wish to update one of the other flash GPLs, repeat this procedure from step 1.

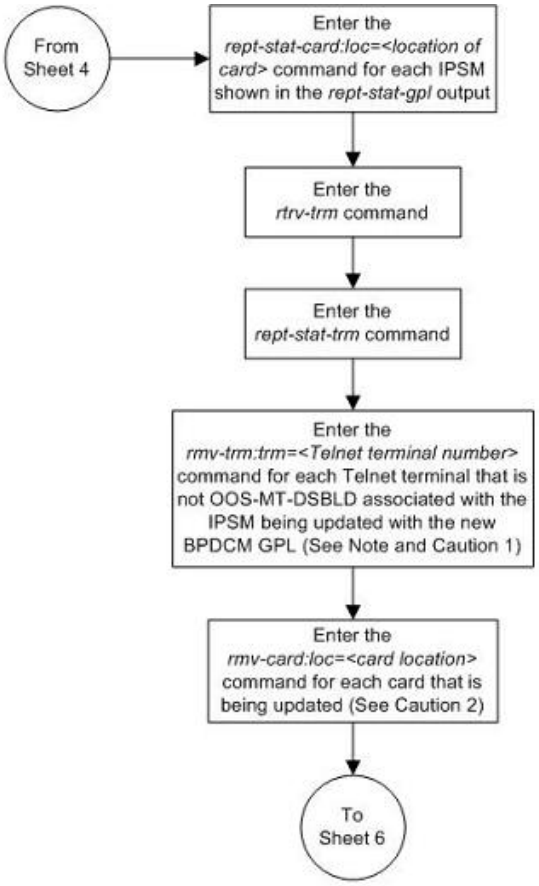
Figure 26: Updating the Flash GPLs




From Sheets 1 or 14
Enter the rtrv-gpl:gpl=<flash GPL name specified on Sheet 1> command
Enter the rept-stat-gpl:gpl=<flash GPL name specified on Sheet 1> command
Enter the rtrv-card:loc=<card location from rept-stat-gpl output> command
Which flash GPL is being loaded?
BPHCAP, BPHCAPT, BPMPL, BPMPLT
To Sheet 3
BPDCM, BPDCM2
Is the card's application GPL VXWSLAN, SS7IPGW, IPGWI, IPLIM, or IPLIMI (shown in the rtrv-card output)?
Yes
To Sheet 3
No
To Sheet 4


From Sheet 2
Is the VXWSLAN GPL running on the card?
Yes
No
Enter the rept-stat-dlk command
Enter the canc-dlk:loc=<card location of the STP LAN card> command
Enter the rtrv-slk command
Enter the dact-slk command with these parameters:
:loc=<card location of the signaling link>
:link=<signaling link assigned to the card>
Perform this command for all the signaling links assigned to the card.
Does the card contain the last link in a linkset?
No
Yes
Enter the rmv-card command with this parameter:
:loc=<card location>
This command must be entered for each card that is being updated. (See Caution)
Enter the rmv-card command with these parameters:
:loc=<card location>
:force=yes
This command must be entered for each card that is being updated. (See Caution)
To Sheet 6
Caution: Multiple cards running the same flash GPL can be updated at the same time with the init-flash command. This requires that the cards in the locations specified with the init-flash command are out of service. All the cards running one of these application GPLs (ss7ml, atmansi, atmitu, iplim, iplimi, ss7ipgw, ipgwi, and vxwslan) can be placed out of service.
However, it is recommended that only some of the cards running a specific application GPL are placed out of service. Placing all the cards running a specific application GPL out of service will cause the traffic carried by these cards to be lost and disable the features supported by these cards.


From Sheet 2
Which application GPL is running on the card?
IPS
To Sheet 5
MCP
EOAM
Enter the rept-stat-db command
Enter the rtrv-trm command
Enter the rept-stat-meas command
VSCCP
EROUTE
Enter the rept-stat-trm command
Enter the rept-stat-sccp command
To Sheet 7
Is the card running the application GPL the only one in service?
No
Enter the rmv-card command with this parameter: :loc=<card location> This command must be entered for each card that is being updated. (See Caution)
Yes
Enter the rmv-card command with these parameters: :loc=<card location> :force=yes This command must be entered for each card that is being updated. (See Caution)
To Sheet 6
Caution: Multiple cards running the same flash GPL can be updated at the same time with the init-flash command. This requires that the cards in the locations specified with the init-flash command are out of service. All the cards running a one of these application GPLs (vsccp, mcp, emdc, eroute) can be placed out of service. However, it is recommended that only some of the cards running a specific application GPL are placed out of service. Placing all the cards running a specific application GPL out of service will cause the traffic carried by these cards to be lost and disable the features supported by these cards.

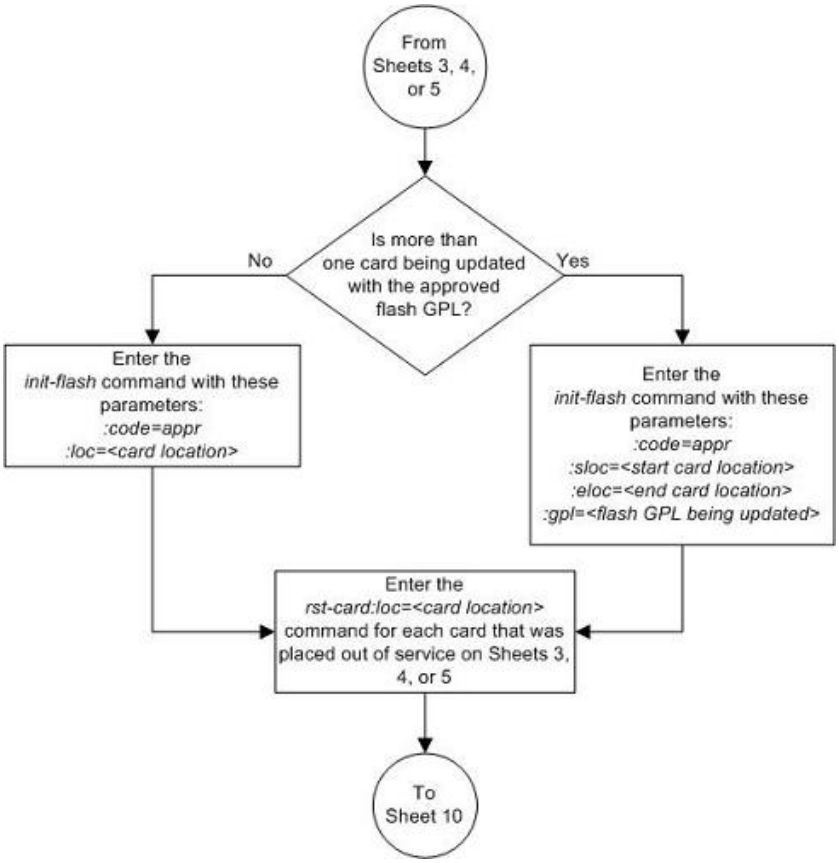


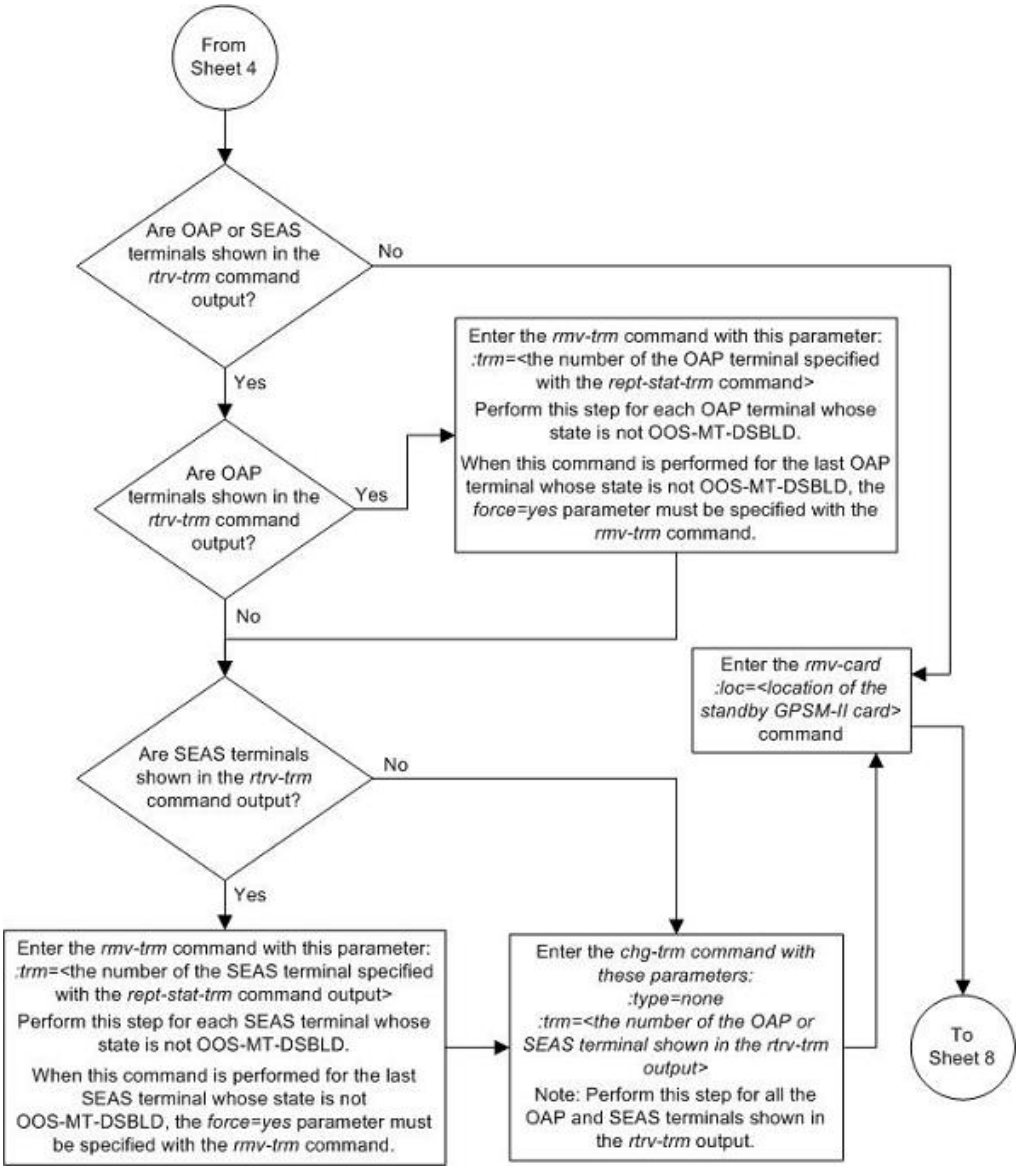
Note: Each IPSM has 8 Telnet terminals associated with it. The *rtrv-trm* output shows the Telnet terminals that are associated with each IPSM.

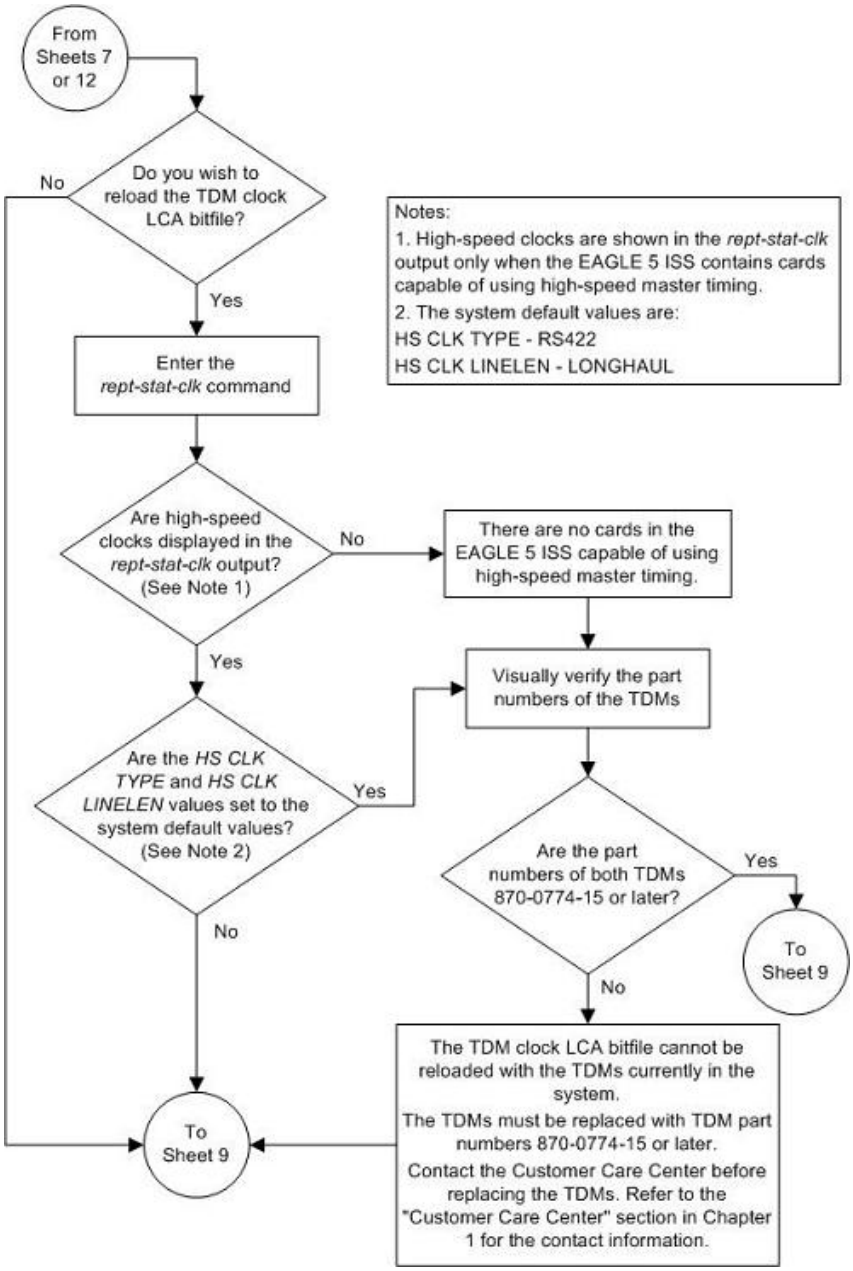
Cautions:

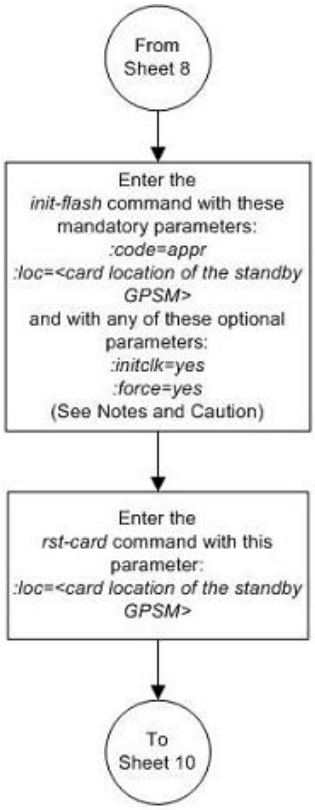
1. Placing the Telnet terminals out of service will disable all Telnet sessions supported by the terminals associated with the IPSM.

2. Multiple cards running the same flash GPL can be updated at the same time with the *init-flash* command. This requires that the cards in the locations specified with the *init-flash* command are out of service. All the IPSMs can be placed out of service at the same time. However, it is recommended that only some of the IPSMs are placed out of service. Placing all the IPSMs out of service will cause the traffic carried by IPSMs to be lost and disable the IP User Interface and FTP Retrieve and Replace features.


From Sheets 3, 4, or 5
Is more than one card being updated with the approved flash GPL?
No
Yes
Enter the init-flash command with these parameters: :code=appr :loc=<card location>
Enter the init-flash command with these parameters: :code=appr :sloc=<start card location> :eloc=<end card location> :gpl=<flash GPL being updated>
Enter the rst-card:loc=<card location> command for each card that was placed out of service on Sheets 3, 4, or 5
To Sheet 10


From Sheet 4
Are OAP or SEAS terminals shown in the rtrv-trm command output?
No
Yes
Enter the rmv-trm command with this parameter: :trm=<the number of the OAP terminal specified with the rept-stat-trm command>
Perform this step for each OAP terminal whose state is not OOS-MT-DSBLD.
When this command is performed for the last OAP terminal whose state is not OOS-MT-DSBLD, the force=yes parameter must be specified with the rmv-trm command.
Are OAP terminals shown in the rtrv-trm command output?
Yes
No
Enter the rmv-card :loc=<location of the standby GPSM-II card> command
Are SEAS terminals shown in the rtrv-trm command output?
No
Yes
Enter the rmv-trm command with this parameter: :trm=<the number of the SEAS terminal specified with the rept-stat-trm command output>
Perform this step for each SEAS terminal whose state is not OOS-MT-DSBLD.
When this command is performed for the last SEAS terminal whose state is not OOS-MT-DSBLD, the force=yes parameter must be specified with the rmv-trm command.
Enter the chg-trm command with these parameters: :type=none :trm=<the number of the OAP or SEAS terminal shown in the rtrv-trm output>
Note: Perform this step for all the OAP and SEAS terminals shown in the rtrv-trm output.
To Sheet 8

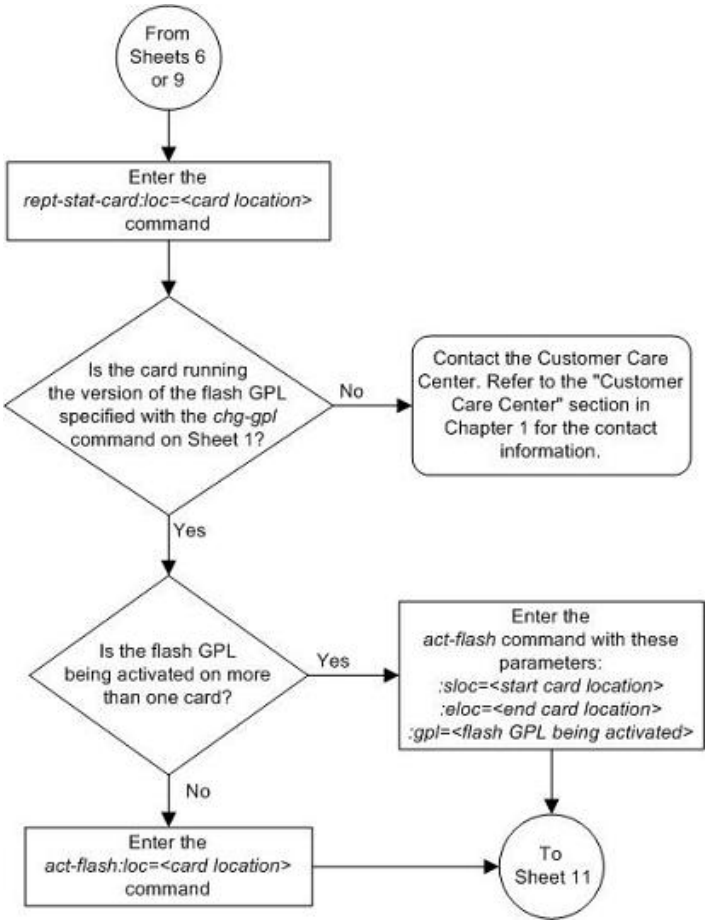

From Sheets 7 or 12
Do you wish to reload the TDM clock LCA bitfile?
No
Yes
Enter the rept-stat-clk command
Are high-speed clocks displayed in the rept-stat-clk output? (See Note 1)
No
There are no cards in the EAGLE 5 ISS capable of using high-speed master timing.
Yes
Visually verify the part numbers of the TDMs
Are the HS CLK TYPE and HS CLK LINELEN values set to the system default values? (See Note 2)
Yes
Are the part numbers of both TDMs 870-0774-15 or later?
Yes
To Sheet 9
No
No
The TDM clock LCA bitfile cannot be reloaded with the TDMs currently in the system.
The TDMs must be replaced with TDM part numbers 870-0774-15 or later.
Contact the Customer Care Center before replacing the TDMs. Refer to the "Customer Care Center" section in Chapter 1 for the contact information.
To Sheet 9
Notes:
1. High-speed clocks are shown in the rept-stat-clk output only when the EAGLE 5 ISS contains cards capable of using high-speed master timing.
2. The system default values are:
HS CLK TYPE - RS422
HS CLK LINELEN - LONGHAUL

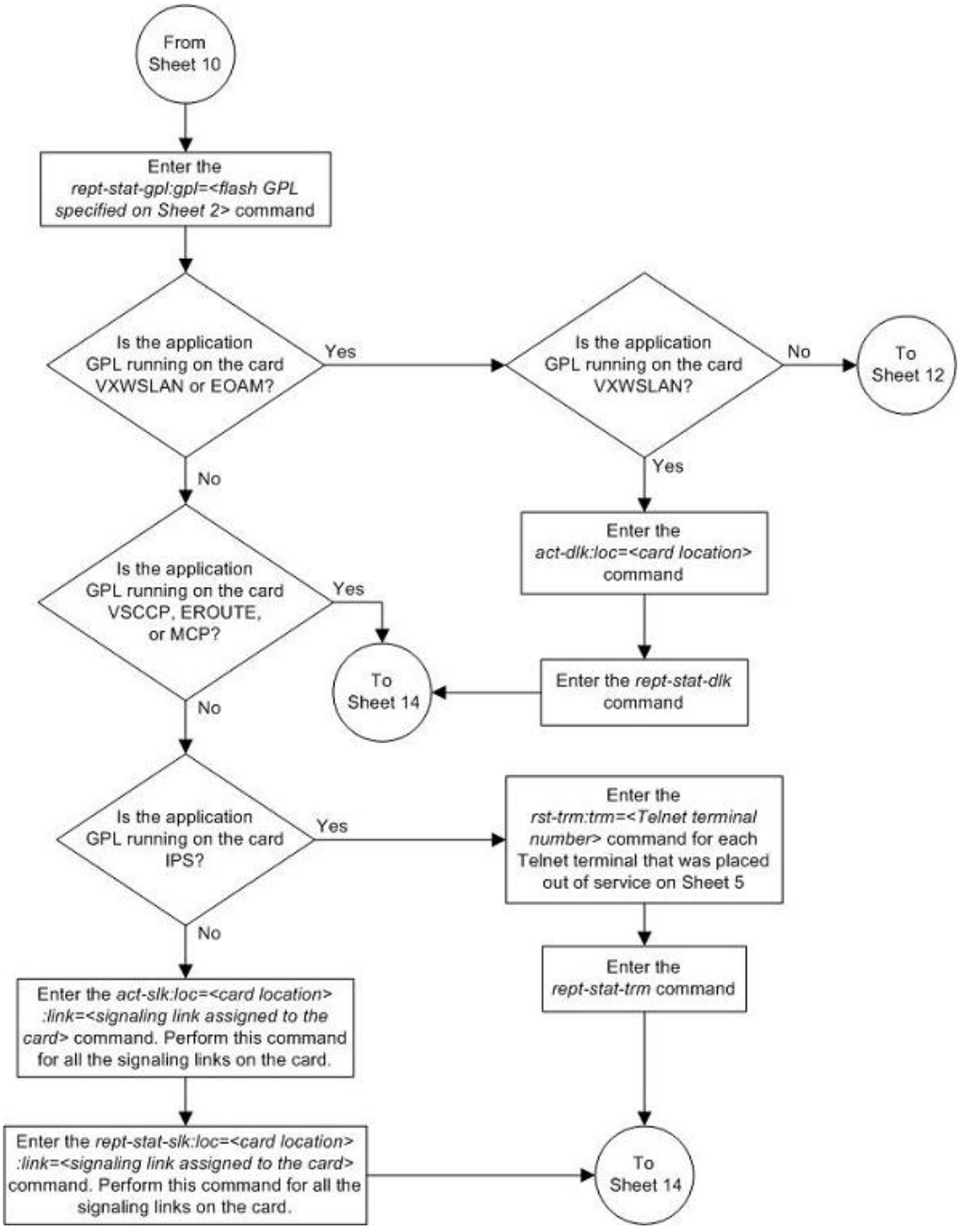


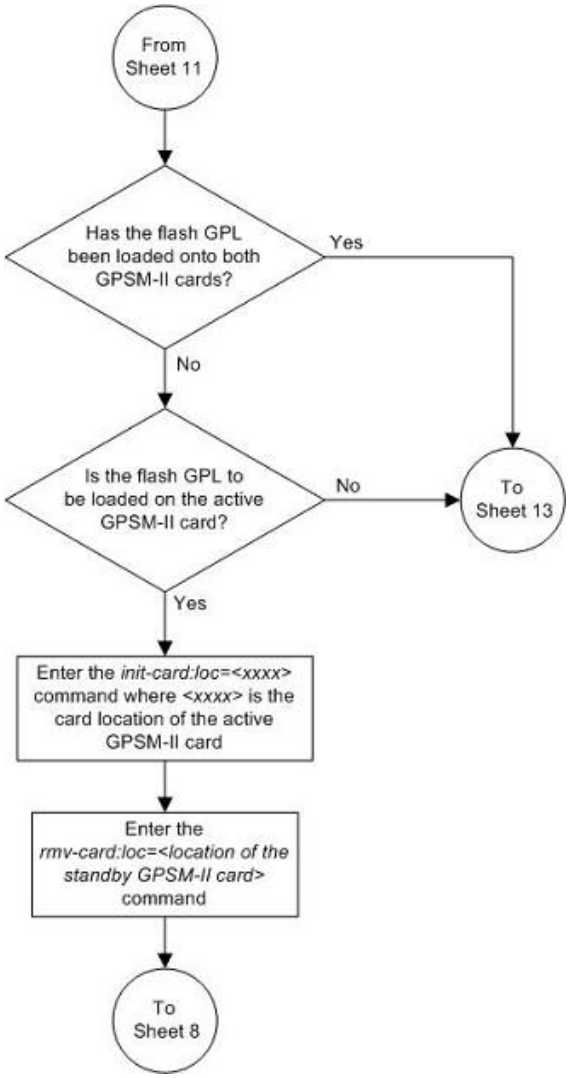
Notes:

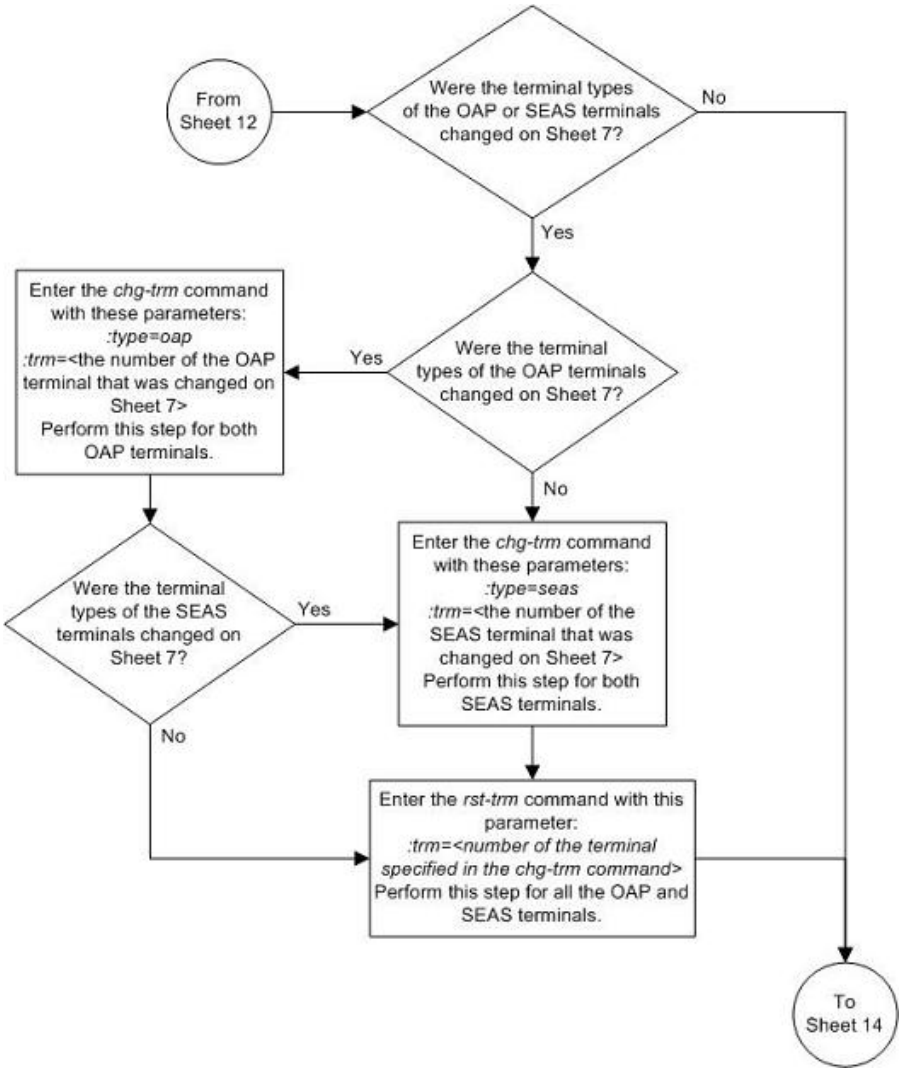
1. The *initclk=yes* parameter can be specified only if the part numbers of the TDMs in the system are 870-0774-15 or later. See Sheet 8.
2. The *force=yes* parameter can be specified only if the *initclk=yes* parameter is specified.
3. The *force=yes* parameter should be used only if the TDM clock LCA bitfile reload would cause a system clock outage. A system clock outage can be caused by either the system having only one TDM (a simplex MASP configuration) or if the status of high-speed clocks on the TDM which is not being reset is Fault. See the *rept-stat-clk* output from Sheet 8.

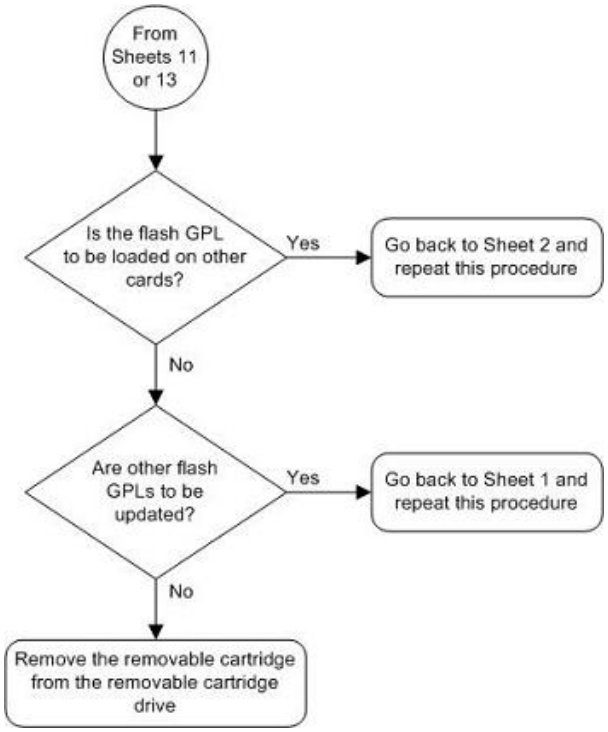
Caution: A clock outage will result in a loss of traffic on some or all signaling links.


From Sheets 6 or 9
Enter the rept-stat-card:loc=<card location> command
Is the card running the version of the flash GPL specified with the chg-gpl command on Sheet 1?
No
Contact the Customer Care Center. Refer to the "Customer Care Center" section in Chapter 1 for the contact information.
Yes
Is the flash GPL being activated on more than one card?
Yes
Enter the act-flash command with these parameters: :sloc=<start card location> :eloc=<end card location> :gpl=<flash GPL being activated>
No
Enter the act-flash:loc=<card location> command
To Sheet 11


From Sheet 10
Enter the rept-stat-gpl:gpl=<flash GPL specified on Sheet 2> command
Is the application GPL running on the card VXWSLAN or EOAM?
Yes
Is the application GPL running on the card VXWSLAN?
No
To Sheet 12
Yes
No
Enter the act-dlk:loc=<card location> command
Is the application GPL running on the card VSCCP, EROUTE, or MCP?
Yes
To Sheet 14
Enter the rept-stat-dlk command
No
Is the application GPL running on the card IPS?
Yes
Enter the rst-trm:trm=<Telnet terminal number> command for each Telnet terminal that was placed out of service on Sheet 5
No
Enter the rept-stat-trm command
Enter the act-slk:loc=<card location> :link=<signaling link assigned to the card> command. Perform this command for all the signaling links on the card.
Enter the rept-stat-slk:loc=<card location> :link=<signaling link assigned to the card> command. Perform this command for all the signaling links on the card.
To Sheet 14


From Sheet 11
Has the flash GPL been loaded onto both GPSM-II cards?
Yes
No
Is the flash GPL to be loaded on the active GPSM-II card?
No
To Sheet 13
Yes
Enter the init-card:loc=<xxxx> command where <xxxx> is the card location of the active GPSM-II card
Enter the rmv-card:loc=<location of the standby GPSM-II card> command
To Sheet 8


From Sheet 12
Were the terminal types of the OAP or SEAS terminals changed on Sheet 7?
No
Yes
Were the terminal types of the OAP terminals changed on Sheet 7?
Yes
Enter the chg-trm command with these parameters:
:type=oap
:trm=<the number of the OAP terminal that was changed on Sheet 7>
Perform this step for both OAP terminals.
No
Were the terminal types of the SEAS terminals changed on Sheet 7?
Yes
Enter the chg-trm command with these parameters:
:type=seas
:trm=<the number of the SEAS terminal that was changed on Sheet 7>
Perform this step for both SEAS terminals.
No
Enter the rst-trm command with this parameter:
:trm=<number of the terminal specified in the chg-trm command>
Perform this step for all the OAP and SEAS terminals.
To Sheet 14



Updating One of the Flash GPLs on the High-Capacity Cards

The high-capacity cards and their flash GPLs are shown in *Table 7: High-Capacity Card Flash GPLs* on page 192 .

Table 7: High-Capacity Card Flash GPLs

HC MIM	E5-E1T1 E5-ENET	E5-STC E5-SLAN E5-IPSM E5-ATM E5-TSM	E5-SM4G
BLCPLD	BLCPLD	BLCPLD	BLCPLD
IMTPCI	IMTPCI	IMTPCI	IMTPCI
BLVXW6	BLVXW6	BLVXW6	BLVXW6
BLBIOS	BLBEPM	BLBEPM	BLBSMG
BLDIAG6	BLDIAG6	BLDIAG6	BLDIAG6
PLDPMC1	PLDPMC1		
BLROM1			
To update the GPLs on these cards, perform one of these procedures. *Updating One of the Flash GPLs on the High-Capacity Cards* on page 192.			

HC MIM	E5-E1T1 E5-ENET	E5-STC E5-SLAN E5-IPSM E5-ATM E5-TSM	E5-SM4G
Updating All the Flash GPLs on the High-Capacity Cards on page 221.			

This procedure updates each high-capacity card flash GPL individually using the `init-flash` and `act-flash` commands instead of updating all the card GPLs at the same time using the `flash-card` command. To update all the GPLs on the high-capacity card at the same time using the `flash-card` command, perform the *Updating All the Flash GPLs on the High-Capacity Cards* on page 221 procedure.

The flash GPL names shown in *Table 7: High-Capacity Card Flash GPLs* on page 192 are used as the value of the `gpl` parameter of the `chg-gpl`, `act-gpl`, `rept-stat-gpl`, and `rtrv-gpl` commands. The applications and entities supported by the high-capacity cards are shown in *Table 8: High-Capacity Card Applications* on page 193.

Table 8: High-Capacity Card Applications

High-Capacity Card	Card Name (as shown on the card label)	Application	Application GPL Running on the Card	Supported Entities
HC MIM	HC MIM	SS7ANSI, CCS71TU	SS7HC	E1 or T1 signaling links
E5-E1T1	E5-E1T1	SS7ANSI, CCS71TU	SS7EPM	E1 or T1 signaling links
E5-ENET	E5-ENET	SS7IPGW, IPLIM, IPLIMI, IPGWI, IPSG	IPLHC, IPGHC, IPSG	IP signaling links
E5-STC	E5-ENET	EROUTE	ERTHC	EAGLE 5 Integrated Monitoring Support
E5-SM4G	E5-SM4G	VSCCP	SCCPHC	GTT-related features
E5-SLAN	E5-ENET	STPLAN	SLANHC	TCP/IP data links for the STPLAN feature
E5-IPSM	E5-IPSM	IPS	IPSHC	Telnet sessions for remote connections to the EAGLE 5 ISS and SEAS terminals for the SEAS over IP feature

High-Capacity Card	Card Name (as shown on the card label)	Application	Application GPL Running on the Card	Supported Entities
E5-ATM	E5-ATM	ATMANSI, ATMITU	ATMHC	ANSI and ITU ATM high-speed signaling links
E5-TSM	E5-TSM	GLS	GLSHC	Gateway Screening related features

A removable cartridge containing the high-capacity flash GPLs that are being updated is required.

CAUTION: Before any of the flash GPLs on the high-capacity card can be updated, all the traffic hosted by the high-capacity card must be stopped, and the high-capacity card must be taken out of service.

Canceling the REPT-STAT-SLK and RTRV-SLK Commands

Because the `rept-stat-slk` and `rtrv-slk` commands used in this procedure can output information for a long period of time, the `rept-stat-slk` and `rtrv-slk` commands can be canceled and the output to the terminal stopped. There are three ways that the `rept-stat-slk` and `rtrv-slk` commands can be canceled.

- Press the `F9` function key on the keyboard at the terminal where the `rept-stat-slk` or `rtrv-slk` commands command were entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rept-stat-slk` or `rtrv-slk` commands were entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rept-stat-slk` or `rtrv-slk` commands were entered, from another terminal other that the terminal where the `rept-stat-slk` or `rtrv-slk` commands were entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, go to the *Commands Manual*.

1. Check the removable cartridge drive on the MDAL card for a removable cartridge.

   If there is a removable cartridge in the drive, display the GPLs on the fixed disk and on the removable cartridge using the `rtrv-gpl` command with the `gpl` parameter value equal to the GPL being updated. For this example, enter this command.

   ```
   rtrv-gpl:gpl=imtpci
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
   GPL Auditing  ON

   GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
   ```

```
IMTPCI    1114  126-002-000  126-002-000      126-001-000  126-003-000
IMTPCI    1116  126-002-000  126-002-000      126-001-000  -----------
```

If the version of the GPL shown in the `REMOVE TRIAL` column of the `rtrv-gpl` output is not the version that is to be loaded onto the cards, remove the cartridge and go to step 2. For more information on removing the removable cartridge from the removable cartridge drive, see the *Removing the Removable Cartridge* on page 17 section.

If the version of the GPL shown in the `REMOVE TRIAL` column of the `rtrv-gpl` output is the version that is to be loaded onto the cards, skip steps 2 and 3, and go to step 4.

2. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled).

   To write protect a removable cartridge, see the *Write Protecting the Removable Cartridge* on page 14section.

3. Insert the removable cartridge containing the GPL being updated into the removable cartridge drive on the MDAL card.

   For more information on inserting the removable cartridge in the removable cartridge drive, see the *Inserting the Removable Cartridge* on page 15 section. After the removable cartridge has been inserted into the removable cartridge drive, repeat the `rtrv-gpl` command in step 1 and verify the version of the GPL on the removable cartridge that you wish to update.

4. Change the GPLs, using the `chg-gpl` command and specifying the value for the trial GPL shown in the `REMOVE TRIAL` column in the output of the `rtrv-gpl` command used in step 1.

   For this example, enter this command.

   ```
   chg-gpl:gpl=imtpci:ver=126-003-000
   ```

   These messages should appear.

   ```
   rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
   GPL Auditing  ON

   IMTPCI upload on 1114 completed
   IMTPCI upload on 1116 completed
   System Release ID table upload 1114 completed
   System Release ID table upload 1116 completed
   ```

5. Activate the trial GPL, using the `act-gpl` command and specifying the name and version of the trial GPL specified in step 4.

   For this example, enter this command.

   ```
   act-gpl:gpl=imtpci:ver=126-003-000
   ```

   These messages should appear.

   ```
   rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
   IMTPCI activate on 1114 completed
   IMTPCI activate on 1116 completed
   ```

6. Verify that the GPL on the removable cartridge is the trial GPL on the fixed disk using the `rtrv-gpl` command with the `gpl` parameter value specified in step 5.

   For this example, enter this command.

```
rtrv-gpl:gpl=imtpci
```

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 36.0.0
GPL Auditing ON

GPL       CARD
RELEASE      APPROVED         TRIAL        REMOVE TRIAL
IMTPCI    1114  126-003-000  126-003-000      126-002-000  126-003-000
IMTPCI    1116  126-003-000  126-003-000      126-002-000  -----------
```

7. Verify the GPLs on the fixed disk and the cards that are running the GPLs using the `rept-stat-gpl` command with the `gpl` parameter value equal to the `gpl` parameter value specified in step 6.

   For this example, enter this command.

   ```
   rept-stat-gpl:gpl=imtpci
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
   GPL      CARD   RUNNING           APPROVED      TRIAL
   IMTPCI   1303   126-002-000 ALM   126-003-000   126-002-000
   IMTPCI   2101   126-002-000 ALM   126-003-000   126-002-000
   IMTPCI   2103   126-002-000 ALM   126-003-000   126-002-000
   IMTPCI   2205   126-002-000 ALM   126-003-000   126-002-000
   IMTPCI   2207   126-002-000 ALM   126-003-000   126-002-000
   IMTPCI   2211   126-002-000 ALM   126-003-000   126-002-000
   Command Completed
   ```

8. Display the status of the card, shown in the `rept-stat-gpl` output in step 7, that the GPL will be loaded onto using the `rept-stat-card` command and specifying the location of the card.

   For this example, enter this command.

   ```
   rept-stat-card:loc=1303
   ```

   For an HC MIM, this is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 39.0.0
   CARD   VERSION      TYPE      GPL        PST            SST        AST
   1303   126-003-000  LIME1     SS7HC      IS-NR          Active     -----
     ALARM STATUS       =  No Alarms.
     IMTPCI  GPL version = 126-002-000
     BLCPLD  GPL version = 126-002-000
     BLDIAG6 GPL version = 126-002-000
     BLBIOS  GPL version = 126-002-000
     BLVXW6  GPL version = 126-002-000
     BLROM1  GPL version = 126-002-000
     PLDPMC1 GPL version = 126-002-000
     IMT BUS A           = Conn
     IMT BUS B           = Conn
     SIGNALING LINK STATUS
         SLK    PST               LS            CLLI
         A      IS-NR             e11303a       -----------
         B      IS-NR             e11303b       -----------
         A1     IS-NR             e11303a       -----------
   ```

```
      B3     IS-NR              e11303b       -----------
Command Completed.
```

For an E5-E1T1 card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  LIME1     SS7EPM     IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  PLDPMC1 GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)     [ALARM TEMP:  60C (140F)]
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             e11303a       -----------
      B      IS-NR             e11303b       -----------
      A1     IS-NR             e11303a       -----------
      B3     IS-NR             e11303b       -----------
Command Completed.
```

For an E5-ENET card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  DCM       IPLHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  PLDPMC1 GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)     [ALARM TEMP:  60C (140F)]
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             e11303a       -----------
      B      IS-NR             e11303b       -----------
      A1     IS-NR             e11303a       -----------
      B3     IS-NR             e11303b       -----------
Command Completed.
```

For an E5-STC card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  STC       ERTHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
```

```
  CURRENT TEMPERATURE   =  61C (142F)
  PEAK TEMPERATURE:     =  61C (142F)     [06-05-02 13:40]
  NTP broadcast = VALID
  STC IP PORT A:                          OOS-MT         Unavail    -----
      ALARM STATUS  = **  0084 IP Connection Unavailable
      ERROR STATUS  = DHCP Lease. Physical Link.
  STC IP PORT B:                          OOS-MT         Unavail    -----
      ALARM STATUS  = **  0084 IP Connection Unavailable
      ERROR STATUS  = DHCP Lease. Physical Link.
Command Completed.
```

For an E5-SLAN card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  DCM       SLANHC     IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  60C (140F)
  PEAK TEMPERATURE:     =  63C (146F)     [00-02-12 21:58]
  DLK A   PST        = IS-NR         SST = Avail     AST = -----
  SLAN % EAGLE CAPACITY    = 57%
  SLAN % HOST CAPACITY     = 49%
Command Completed.
```

For an E5-SM4G card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  DSM       SCCPHC     IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBSMG  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  31C ( 88F)
  PEAK TEMPERATURE:     =  32C ( 90F)     [07-05-12 15:55]
  SCCP % OCCUP        = 1%

Command Completed.
```

For an E5-IPSM card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  IPSM      IPSHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)
```

```
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  Command Completed.
```

For an E5-ATM card, this is an example of the possible output.

```
rlghncxa03w 08-03-01 09:12:36 GMT EAGLE5 38.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  LIMATM    ATMHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  38C (101F)
  PEAK TEMPERATURE:     =  38C (101F)     [07-11-23 06:10]
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             ls1           -----------


Command Completed.
```

For an E5-TSM card, this is an example of the possible output.

```
rlghncxa03w 08-12-01 09:12:36 GMT EAGLE5 40.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   132-003-000  TSM       GLSHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  38C (101F)
  PEAK TEMPERATURE:     =  38C (101F)     [07-11-23 06:10]

Command Completed.
```

Continue the procedure by performing one of these actions:

- If card is running one of these application GPLs: SS7HC, SS7EPM, IPLHC, IPGHC, ATMHC , IPSG (shown in the `GPL` column in the `rept-stat-card` output in step 8), continue the procedure with step 9.
- If card is running one of these application GPLs: ERTHC, E5-TSM, or SCCPHC, (shown in the `GPL` column in the `rept-stat-card` output in step 8), continue the procedure with step 16.
- If the card is running the SLANHC application GPL(shown in the `GPL` column in the `rept-stat-card` output in step 8), continue the procedure with step 11.
- If the card is running the IPSHC application GPL, (shown in the `GPL` column in the `rept-stat-card` output in step 8), continue the procedure with step 13.

9. Display the signaling links associated with the card shown in step 8.

   Enter the `rtrv-slk` command with the card location specified in step 8. For this example, enter this command.

```
rtrv-slk:loc=1303
```

This is an example of the possible output for an HC MIM or E5-E1T1 card.

```
rlghncxa03w 06-10-01 21:16:37 GMT  EAGLE5 36.0.0

                                   L2T               PCR  PCR   E1   E1
LOC  LINK LSN         SLC TYPE     SET  BPS    ECM   N1   N2    LOC  PORT TS
1303 A    e11303a      0  LIME1    1    64000  PCR   76   3800  1303 2    12
1303 B    e11303b      0  LIME1    1    56000  BASIC ---  ----- 1303 1    2
1303 A1   e11303a      1  LIME1    1    56000  BASIC ---  ----- 1303 1    3
1303 B3   e11303b      1  LIME1    1    56000  BASIC ---  ----- 1303 1    7
```

This is an example of the possible output for an E5-ENET card.

```
rlghncxa03w 06-10-01 21:16:37 GMT  EAGLE5 36.0.0

LOC  LINK LSN         SLC TYPE     IPLIML2
1303 A    e11303a      0  IPLIM    M2PA
1303 B    e11303b      0  IPLIM    M2PA
1303 A1   e11303a      1  IPLIM    M2PA
1303 B3   e11303b      1  IPLIM    M2PA
```

This is an example of the possible output for an E5-ATM card.

```
rlghncxa03w 06-10-01 21:16:37 GMT  EAGLE 38.0.0

                                   LP            ATM
LOC  LINK LSN         SLC TYPE     SET  BPS      TSEL      VCI    VPI   LL

1303 A    ls2          2  LIMATM   1    1544000  LINE      5      0     0
1303 B    ls1          3  LIMATM   1    1544000  LINE      5      0     0
```

10. Deactivate the SS7 signaling links on the card using the `dact-slk` command.

    For this example, enter these commands.

    ```
    dact-slk:loc=1303:link=a
    ```

    ```
    dact-slk:loc=1303:link=b
    ```

    ```
    dact-slk:loc=1303:link=a1
    ```

    ```
    dact-slk:loc=1303:link=b3
    ```

CAUTION: These command examples place the signaling links on card 1303 out of service. This will interrupt service on the signaling links on card 1303 and allow the flash GPL to be loaded on to card 1303.

CAUTION: Do not deactivate all the E1 or T1 assigned to the HC MIMs or E5-E1T1 cards, or the IP signaling links assigned to the E5-ENET cards in the EAGLE 5 ISS at the same time. Doing so will take all the E1, T1, or IP signaling links out of service and the traffic on these signaling links could be lost.

CAUTION: Do not deactivate all the signaling links assigned to these cards: HC MIMs, E5-E1T1, E5-ENET, E5-ATM, at the same time. Doing so will take all the E1, T1, IP, ATM signaling links out of service and the traffic on these signaling links could be lost.

CAUTION: If the EAGLE 5 ISS contains only signaling links assigned to these cards: HC MIM, E5-ENET E5-E1T1, E5-ATM, deactivating these signaling links at the same time take all these signaling links out of service and isolate the EAGLE 5 ISS from the network.

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 11:45:18 GMT  EAGLE5 36.0.0
Deactivate SLK message sent to card
```

After step 10 has been performed, skip steps 11 through 15, and go to step 16.

11. Display the data link, and its status, associated with the card shown in step 8. Enter the rept-stat-dlk command with the card location specified in step 8.

    For this example, enter this command.

    `rept-stat-dlk:loc=1303`

    This is an example of the possible output.

```
rlghncxa03w 067-05-01  17:00:36 GMT  EAGLE5 37.0.0
DLK       PST      SST   AST
1303      IS-NR    Avail ---
Command Completed.
```

12. Deactivate the TCP/IP data link on the card that you wish to load the GPL onto using the canc-dlk command. For this example, enter this command.

    `canc-dlk:loc=1303`

CAUTION: This command example places the TCP/IP data link on card 1303 out of service. This will interrupt service on the TCP//IP data lnk on card 1303 and allow the flash GPL to be loaded onto card 1303.

CAUTION: If there is only one TCP/IP data link in the EAGLE 5 ISS, placing the card out of service will cause the STPLAN feature to be disabled.

When this command has successfully completed, these messages should appear.

```
rlghncxa03w 07-05-01  11:45:18 GMT  EAGLE5 37.0.0
Deactivate Link message sent to card.
Command Completed.
```

After step 12 has been performed, skip steps 13 through 15, and go to step 16.

13. Display the terminal configuration in the database with the `rtrv-trm` command.

    The Telnet terminals associated with the card shown in step 8 must be taken out of service. The Telnet terminals are shown in the output with the entry `TELNET` in the `TYPE` field. This is an example of the possible output. In this example, the Telnet terminals that must be taken out of service are terminals 17 to 24.

```
rlghncxa03w 07-05-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE    COMM        FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1 SW    30    5     99:59:59
2    KSR      9600-7-E-1 HW    30    5     INDEF
3    PRINTER  4800-7-E-1 HW    30    0     00:00:00
4    VT320    2400-7-E-1 BOTH  30    5     00:30:00
```

```
5    VT320    9600-7-O-1 NONE  30    5     00:00:30
6    OAP     19200-7-E-1 SW    0     5     INDEF
7    PRINTER  9600-7-N-2 HW    30    5     00:30:00
8    KSR     19200-7-E-2 BOTH  30    5     00:30:00
9    OAP     19200-7-E-1 SW    0     5     INDEF
10   VT320    9600-7-E-1 HW    30    5     00:30:00
11   VT320    4800-7-E-1 HW    30    5     00:30:00
12   PRINTER  9600-7-E-1 HW    30    4     00:30:00
13   VT320    9600-7-O-1 NONE  30    5     00:30:00
14   VT320    9600-7-E-2 SW    30    8     00:30:00
15   VT320    9600-7-N-2 HW    30    5     00:30:00
16   VT320    9600-7-E-2 BOTH  30    3     00:30:00

TRM  TYPE      LOC              TMOUT MXINV DURAL
17   TELNET    1303             60    5     00:30:00
18   TELNET    1303             60    5     00:30:00
19   TELNET    1303             60    5     00:30:00
20   TELNET    1303             60    5     00:30:00
21   TELNET    1303             60    5     00:30:00
22   TELNET    1303             60    5     00:30:00
23   TELNET    1303             60    5     00:30:00
24   TELNET    1303             60    5     00:30:00
25   TELNET    1203             60    5     00:30:00
26   TELNET    1203             60    5     00:30:00
27   TELNET    1203             60    5     00:30:00
28   TELNET    1203             60    5     00:30:00
39   TELNET    1203             60    5     00:30:00
30   TELNET    1203             60    5     00:30:00
31   TELNET    1203             60    5     00:30:00
32   TELNET    1203             60    5     00:30:00
33   TELNET    1208             60    5     00:30:00
34   TELNET    1208             60    5     00:30:00
35   TELNET    1208             60    5     00:30:00
36   TELNET    1208             60    5     00:30:00
37   TELNET    1208             60    5     00:30:00
38   TELNET    1208             60    5     00:30:00
39   TELNET    1208             60    5     00:30:00
40   TELNET    1208             60    5     00:30:00

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
17   none     none      none       1
18   none     none      none       1
19   none     none      none       1
20   none     none      none       1
21   none     none      none       1
22   none     none      none       1
23   none     none      none       1
24   none     none      none       1
25   none     none      none       1
26   none     none      none       1
27   none     none      none       1
28   none     none      none       1
29   none     none      none       1
30   none     none      none       1
31   none     none      none       1
32   none     none      none       1
33   none     none      none       1
34   none     none      none       1
35   none     none      none       1
36   none     none      none       1
37   none     none      none       1
38   none     none      none       1
39   none     none      none       1
40   none     none      none       1
```

```
TRM  TRAF LINK SA  SYS PU  DB
1    NO   YES  NO  YES NO  YES
2    NO   NO   NO  NO  NO  NO
.
.
.
39   NO   NO   NO  NO  NO  NO
40   NO   NO   NO  NO  NO  NO




     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
.
.
.
39   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
40   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

14. Display the status of the terminals with the `rept-stat-trm` command. This is an example of the possible output.

```
rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
```

```
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

15. Place the required terminals out of service using the `rmv-trm` command. For this example, enter these commands.

    `rmv-trm:trm=17`

    `rmv-trm:trm=18`

    `rmv-trm:trm=19`

    `rmv-trm:trm=20`

    `rmv-trm:trm=21`

    `rmv-trm:trm=22`

    `rmv-trm:trm=23`

    `rmv-trm:trm=24`

    Note: If the terminal that is being taken out of service is the last in service SEAS terminal, the `force=yes` parameter must be specified with the `rmv-trm` command for that terminal.

    CAUTION: Placing the Telnet terminals out of service will disable any Telnet sessions running on these terminals.

    If the status of any of the terminals shown in the `PST` field in step 14 is OOS-MT-DSBLD (out-of-service maintenance disabled), the terminal is already out of service and the `rmv-trm` command does not need to be executed for that terminal.

    This message should appear when each of these commands have successfully completed.

    ```
    rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
    Inhibit message sent to terminal

    rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
    Command Completed.
    ```

16. Place the card shown in step 8 out of service using the `rmv-card` command.

    CAUTION: Multiple cards running the same flash GPL can be updated at the same time with the `init-flash` command (step 17). This requires that the cards in the locations specified with the `init-flash` command in step 17 are out of service. All the high-capacity cards running the same flash GPL being updated can be placed out of service. However it is is recommended that only some of these high-capacity cards are placed out of service. Placing all these high-capacity cards out of service will case all traffic hosted by high-capacity cards to be lost.

    CAUTION: If there is only one high-capacity card running the flash GPL being updated, placing this card out of service will cause all the traffic hosted by this high-capacity card to be lost.

For this example, enter this command.

`rmv-card:loc=1303`

If more than one card running the same flash GPL is to be updated in step 17, repeat this step for those cards.

When this command has successfully completed, this message should appear.

If the HC MIM, E5-E1T1, or E5-ENET card contains the last signaling link in a linkset, or if the E5-TSM is the last E5-TSM that is in service, the `force=yes` parameter must be specified.

17. Load the approved version of the flash GPL onto the card inhibited in step 16 using the `init-flash` command with the `code=appr` parameter.

Note: If the BLBIOS GPL (on an HC MIM), BLBEPM GPL (on either the E5-E1T1, E5-ENET, E5-STC, E5-SLAN , E5-IPSM , E5-TSM , or E5-ATM card), or the BLBSMG GPL (on an E5-SM4G card) is specified with the `init-flash` command, and the BLCPLD GPL currently running on the card is not activated (the `act-flash` command has not been performed on the BLCPLD GPL), then the `init-flash` command will be rejected.

Note: If the BLCPLD GPL is specified with the `init-flash` command, and the BLBIOS GPL (on an HC MIM), the BLBEPM GPL (on either the E5-E1T1, E5-ENET, E5-STC, E5-SLAN, E5-IPSM , E5-TSM , or E5-ATM card, or the BLBSMG GPL (on a E5-SM4G card currently running on the card is not activated (the `act-flash` command has not been performed on the BLBIOS, BLBEPM, or BLBSMG GPL), the then `init-flash` command will be rejected.

Note: The `init-flash` command contains the boot parameter which has two values, yes or no. The yes value is the default value for the boot parameter. The high-capacity card will be re-initialized when the flash GPL download is complete if the boot parameter is not specified or if the `boot=yes` parameter is specified. To prevent the high-capacity card from being re-initialized, the `boot=no` parameter must be specified with the `init-flash` command. However, the high-capacity card must be re-initialized after these GPLs are downloaded to the high-capacity card:

HC MIM, E5-ENET, E5-E1T1, E5-STC, E5-SLAN, E5-SM4G,, E5-IPSM, or E5-ATM cards - BLCPLD or BLDIAG6 GPLs.

For this example, enter this command.

`init-flash:code=appr:loc=1303:gpl=imtpci`

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    FLASH Memory Downloading for card 1303 Started.
;
    rlghncxa03w 07-05-01  11:11:28 GMT EAGLE5 37.0.0
    IMTPCI Downloading for card 1303 Complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Command Completed.
```

Updating more than One Card at the Same Time

If more than one card running the same flash GPL is being updated, enter the `init-flash` command with these parameters along with the `code=appr` parameter:

`sloc` - the first card location in the range of card locations

`eloc` - the last card location in the range of card locations

`gpl` - the flash GPL being updated

Note: The `sloc`, `eloc`, and `gpl` parameters cannot be specified with the loc parameter. When the `sloc`, `eloc`, and `gpl` parameters are specified, only the cards running the flash GPL specified by the `gpl` parameter and within the range specified by the `sloc` and `eloc` parameters are updated. All other cards in the range specified by the `sloc` and `eloc` parameters are skipped.

Entering the example command will update the cards in the locations 1303 to 2103 running the `imtpci` flash GPL with the approved version of the `imptci` GPL.

```
init-flash:code=appr:sloc=1303:eloc=2103:gpl=imtpci
```

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    FLASH Memory Download for cards 1303 - 2103 Started.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    FLASH Memory Download for cards 1303 - 2103 Completed.
    LOC 1303 : PASSED
    LOC 2101 : PASSED
    LOC 2103 : PASSED

    ALL CARD RESULTS PASSED
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Command Completed.
```

See the third note in step 17.

18. Put the cards that were inhibited in step 16 back into service using the `rst-card` command.

    The `rst-card` command also loads the approved version of the GPL onto the card.

    For this example, enter this command.

    ```
    rst-card:code=appr:loc=1303
    ```

    When this command has successfully completed, this message should appear.

    ```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Card has been allowed.
    ```

19. Verify that the GPL from step 17 has loaded and that the card has returned to its in-service normal (IS-NR) state using the `rept-stat-card` command.

    For this example, enter this command.

    ```
    rept-stat-card:loc=1303
    ```

    For an HC MIM, this is an example of the possible output.

    ```
    rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 39.0.0
    CARD   VERSION      TYPE      GPL        PST            SST        AST
    1303   126-003-000  LIME1     SS7HC      IS-NR          Active     -----
      ALARM STATUS       =  No Alarms.
      IMTPCI  GPL version = 126-002-000 +
      BLCPLD  GPL version = 126-002-000
      BLDIAG6 GPL version = 126-002-000
      BLBIOS  GPL version = 126-002-000
      BLVXW6  GPL version = 126-002-000
      BLROM1  GPL version = 126-002-000
      PLDPMC1 GPL version = 126-002-000
      IMT BUS A           = Conn
      IMT BUS B           = Conn
    ```

```
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      OOS-MT-DSBLD      e11303a       -----------
      B      OOS-MT-DSBLD      e11303b       -----------
      A1     OOS-MT-DSBLD      e11303a       -----------
      B3     OOS-MT-DSBLD      e11303b       -----------
Command Completed.
```

For an E5-E1T1 card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  IPLIM     SS7EPM     IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-003-000 +
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  PLDPMC1 GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)     [ALARM TEMP:  60C (140F)]
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             e11303a       -----------
      B      IS-NR             e11303b       -----------
      A1     IS-NR             e11303a       -----------
      B3     IS-NR             e11303b       -----------
Command Completed.
```

For an E5-ENET card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  DCM       IPLHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-003-000 +
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  PLDPMC1 GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)     [ALARM TEMP:  60C (140F)]
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             e11303a       -----------
      B      IS-NR             e11303b       -----------
      A1     IS-NR             e11303a       -----------
      B3     IS-NR             e11303b       -----------
Command Completed.
```

For an E5-STC card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  STC       ERTHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-003-000 +
  BLVXW6  GPL version = 126-002-000
```

```
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  61C (142F)
  PEAK TEMPERATURE:     =  61C (142F)     [06-05-02 13:40]
  NTP broadcast = VALID
  STC IP PORT A:                        OOS-MT         Unavail    -----
      ALARM STATUS  = **  0084 IP Connection Unavailable
      ERROR STATUS  = DHCP Lease. Physical Link.
  STC IP PORT B:                        OOS-MT         Unavail    -----
      ALARM STATUS  = **  0084 IP Connection Unavailable
      ERROR STATUS  = DHCP Lease. Physical Link.
Command Completed.
```

For an E5-SLAN card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  DCM       SLANHC     IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-003-000 +
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  60C (140F)
  PEAK TEMPERATURE:     =  63C (146F)     [00-02-12 21:58]
  DLK A   PST        = IS-NR         SST = Avail     AST = -----
  SLAN % EAGLE CAPACITY    = 57%
  SLAN % HOST CAPACITY     = 49%
Command Completed.
```

For an E5-SM4G card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  DSM       SCCPHC     IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-003-000 +
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBSMG  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  31C ( 88F)
  PEAK TEMPERATURE:     =  32C ( 90F)     [07-05-12 15:55]
  SCCP % OCCUP        = 1%

Command Completed.
```

For an E5-IPSM card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  IPSM      IPSHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-003-000 +
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
```

```
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  Command Completed.
```

For an E5-ATM card, this is an example of the possible output.

```
rlghncxa03w 08-03-01 09:12:36 GMT EAGLE5 38.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  LIMATM    ATMHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  IMTPCI  GPL version = 126-003-000 +
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  38C (101F)
  PEAK TEMPERATURE:     =  38C (101F)     [07-11-23 06:10]
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             ls1           -----------


Command Completed.
```

For an E5-TSM card, this is an example of the possible output.

```
rlghncxa03w 08-12-01 09:12:36 GMT EAGLE5 40.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   132-003-000  TSM       GLSHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  IMTPCI  GPL version = 126-003-000 +
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  38C (101F)
  PEAK TEMPERATURE:     =  38C (101F)     [07-11-23 06:10]

Command Completed.
```

The '+' symbol indicates that the GPL has not been activated.

Note: If the version number of the flash GPL being updated in this procedure and shown in the `rept-stat-card` command output in this step is not the version specified in step 4, contact the Customer Care Center. Refer to *Customer Care Center* on page 4 for the contact information.

20. Activate the flash GPL loaded onto the cards specified in step 17 using the `act-flash` command with the card location and the name of the flash GPL specified in step 17.

    For this example, enter this command.

    `act-flash:loc=1303:gpl=imtpci`

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Activation for card 1303 Completed.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
```

Activating more than One Card at the Same Time

If more than one card running the same flash GPL was updated in step 17, enter the `act-flash` command with these parameters:

`sloc` – the first card location in the range of card locations

`eloc` – the last card location in the range of card locations

`gpl` – the flash GPL being activated

Note: The `sloc`, `eloc`, and `gpl` parameters cannot be specified with the `loc` parameter. When the `sloc`, `eloc`, and `gpl` parameters are specified, only the cards running the GPL specified by the `gpl` parameter and within the range specified by the `sloc` and `eloc` parameters are updated. All other cards in the range specified by the `sloc` and `eloc` parameters are skipped.

Entering this example command will activate the flash GPLs on the cards in the locations 1303 to 2103.

```
act-flash:sloc=1303:eloc=2103:gpl=imtpci
```

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Activation for cards 1303 - 2103 Started.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Activation for cards 1303 - 2103 Completed.
    LOC 1303 : PASSED
    LOC 2101 : PASSED
    LOC 2103 : PASSED

    ALL CARD RESULTS PASSED
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
```

21. Verify the flash GPLs on the cards using the `rept-stat-gpl` command with the `gpl` parameter value specified in step 20.

If any card is not running the release version of the flash GPL, shown in the `RELEASE` column of the `rtrv-gpl` output in step 6, the indicator `ALM` is displayed next to the flash GPL version in the `RUNNING` column of the `rept-stat-gpl` output. For this example, enter this command.

```
rept-stat-gpl:gpl=imtpci
```

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
GPL      CARD   RUNNING           APPROVED      TRIAL
IMTPCI   1303   126-003-000       126-003-000   126-002-000
IMTPCI   2101   126-002-000 ALM   126-003-000   126-002-000
IMTPCI   2103   126-002-000 ALM   126-003-000   126-002-000
IMTPCI   2205   126-002-000 ALM   126-003-000   126-002-000
```

```
IMTPCI   2207   126-002-000 ALM   126-003-000   126-002-000
IMTPCI   2211   126-002-000 ALM   126-003-000   126-002-000
Command Completed
```

Continue the procedure by performing one of these actions:

- If card is running one of these application GPLs: SS7HC, SS7EPM, IPLHC, IPGHC, ATMHC , IPSG (shown in the `GPL` column in the `rept-stat-card` output in step 19), continue the procedure with step 22.
- If card is running one of these application GPLs: ERTHC or SCCPHC, (shown in the `GPL` column in the `rept-stat-card` output in step 19), continue the procedure with step 28.
- If the card is running the SLANHC application GPL, (shown in the `GPL` column in the `rept-stat-card` output in step 19), continue the procedure with step 24.
- If the card is running the IPSHC application GPL, (shown in the `GPL` column in the `rept-stat-card` output in step 19), continue the procedure with step 26.

22. Place the signaling links that were deactivated in step 10 back into service using the `act-slk` command.

For this example, enter these commands.

```
act-slk:loc=1303:link=a
```

```
act-slk:loc=1303:link=b
```

```
act-slk:loc=1303:link=a1
```

```
act-slk:loc=1303:link=b3
```

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 11:55:49 GMT  EAGLE5 36.0.0
Activate SLK message sent to card
```

23. Verify that the signaling links activated in step 22 are back in service using the `rept-stat-slk` command with the card location and signaling link.

For this example, enter these commands.

```
rept-stat-slk:loc=1303:link=a
```

This is an example of the possible output.

```
rlghncxa03w 06-10-01 13:06:25 GMT EAGLE5 36.0.0
SLK      LSN       CLLI        PST          SST       AST
1303,A   e11303a   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

```
rept-stat-slk:loc=1303:link=b
```

This is an example of the possible output.

```
rlghncxa03w 06-10-01 13:06:25 GMT EAGLE5 36.0.0
SLK      LSN       CLLI        PST          SST       AST
1303,B   e11303b   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

```
rept-stat-slk:loc=1303:link=a1
```

This is an example of the possible output.

```
rlghncxa03w 06-10-01 13:06:25 GMT EAGLE5 36.0.0
SLK      LSN       CLLI        PST          SST       AST
1303,A1  e11303a   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

`rept-stat-slk:loc=1303:link=b3`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 13:06:25 GMT EAGLE5 36.0.0
SLK      LSN       CLLI        PST          SST       AST
1303,B3  e11303b   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

After step 23 has been performed, skip steps 24 through 27, and go to step 28.

24. Place the TCP/IP data link that was deactivated in step 12 back into using the `act-dlk` command. For this example, enter this command.

`act-dlk:loc=1303`

When this command has successfully completed, this message should appear.

```
rlghncxa03w 07-07-01 11:55:49 GMT EAGLE5 37.0.0
Activate Link message sent to card.
```

25. Verify that the TCP/IP data link activated in step 24 is back in service with the `rept-stat-dlk` command. For this example, enter this command.

`rept-stat-dlk:loc=1303`

This is an example of the possible output.

```
rlghncxa03w 07-05-01 17:00:36 GMT EAGLE5 37.0.0
DLK        PST          SST        AST
1303       IS-NR        Avail      ---

Command Completed.
```

After step 25 has been performed, skip steps 26 and 27, and go to step 28.

26. Put the required terminals back into service with the `rst-trm` command. For this example, enter these commands.

`rst-trm:trm=17`

`rst-trm:trm=18`

`rst-trm:trm=19`

`rst-trm:trm=20`

`rst-trm:trm=21`

`rst-trm:trm=22`

`rst-trm:trm=23`

`rst-trm:trm=24`

This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
Allow message sent to terminal
```

```
rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
Command Completed.
```

27. Verify that the terminals are in service with the `rept-stat-trm` command. This is an example of the possible output.

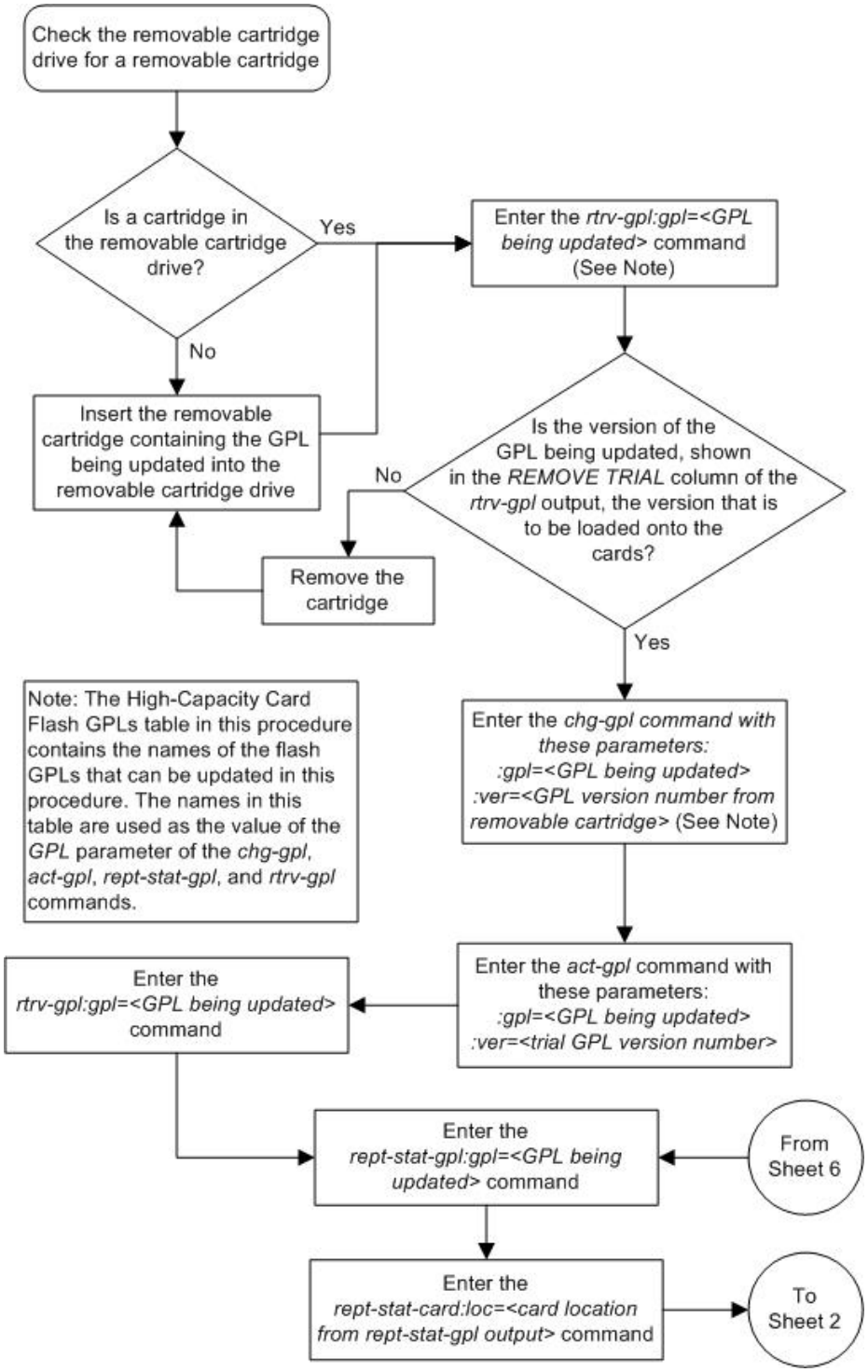
```
rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

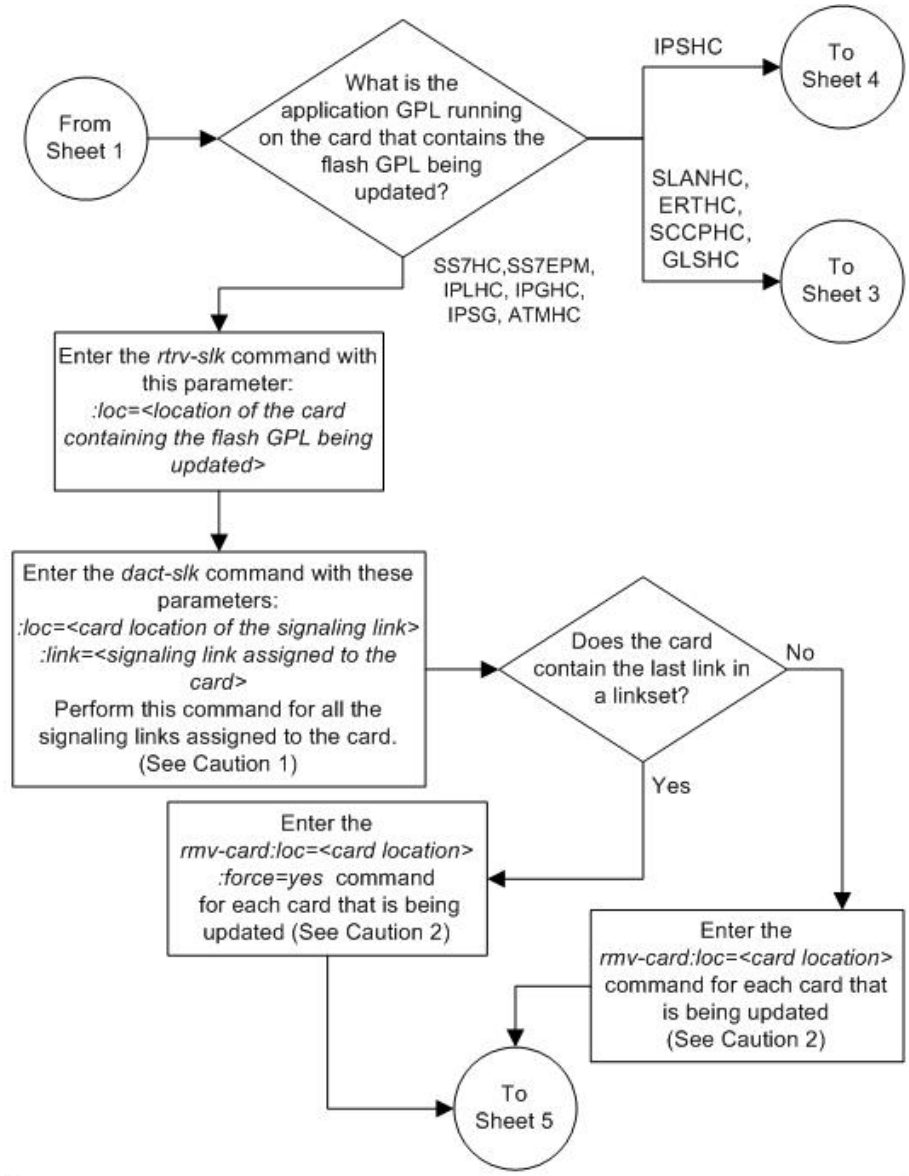
28. If you wish to load the new approved GPL onto the other cards repeat this procedure from step 8 for each card.

    If the new GPL updated in this procedure is not being loaded on the other cards in the EAGLE 5 ISS, this procedure is finished. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see the *Removing the Removable Cartridge* on page 17 section.

    If you wish to update one of the other flash GPLs, repeat this procedure from step 1.

Figure 27: Updating One of the Flash GPLs on the High-Capacity Cards


Check the removable cartridge drive for a removable cartridge
Is a cartridge in the removable cartridge drive?
Yes
No
Enter the rtrv-gpl:gpl=<GPL being updated> command (See Note)
Insert the removable cartridge containing the GPL being updated into the removable cartridge drive
Is the version of the GPL being updated, shown in the REMOVE TRIAL column of the rtrv-gpl output, the version that is to be loaded onto the cards?
No
Yes
Remove the cartridge
Note: The High-Capacity Card Flash GPLs table in this procedure contains the names of the flash GPLs that can be updated in this procedure. The names in this table are used as the value of the GPL parameter of the chg-gpl, act-gpl, rept-stat-gpl, and rtrv-gpl commands.
Enter the chg-gpl command with these parameters: :gpl=<GPL being updated> :ver=<GPL version number from removable cartridge> (See Note)
Enter the act-gpl command with these parameters: :gpl=<GPL being updated> :ver=<trial GPL version number>
Enter the rtrv-gpl:gpl=<GPL being updated> command
Enter the rept-stat-gpl:gpl=<GPL being updated> command
From Sheet 6
Enter the rept-stat-card:loc=<card location from rept-stat-gpl output> command
To Sheet 2



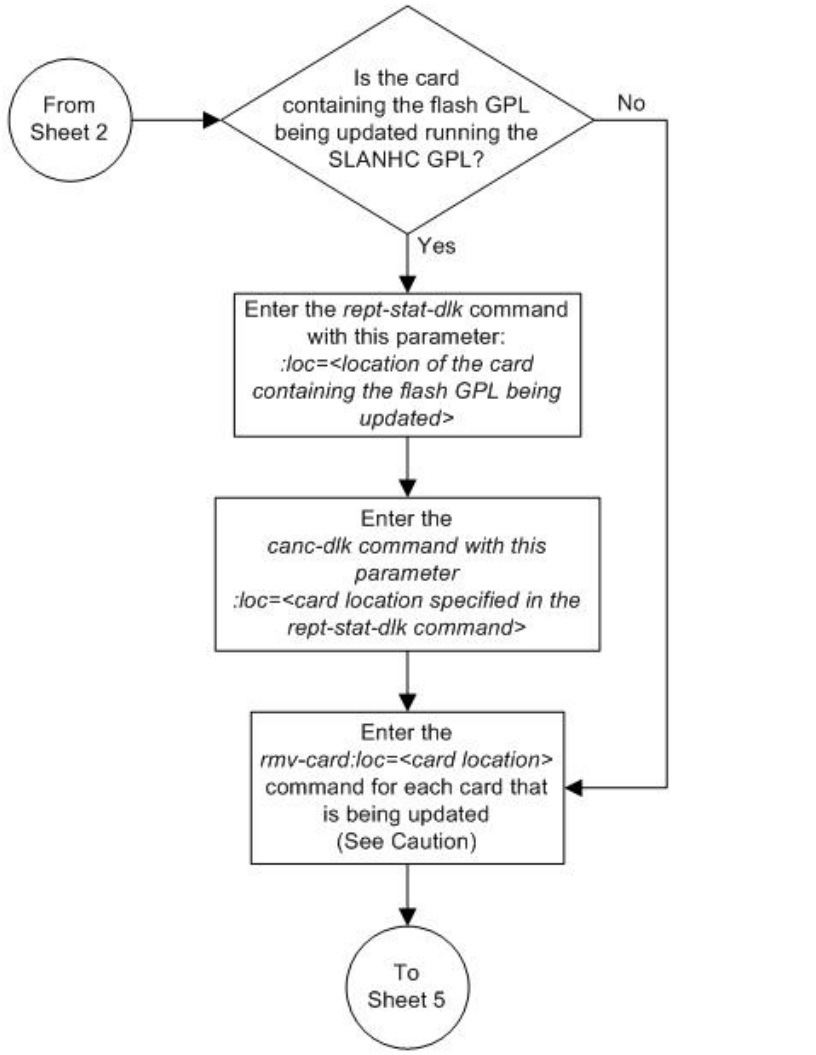
Cautions:

1. Do not deactivate all the signaling links assigned to the high-capacity cards in the EAGLE 5 ISS at the same time. Doing so will take all the signaling links out of service and the traffic on these signaling links could be lost.

   If the EAGLE 5 ISS contains only signaling links assigned to high-capacity cards, deactivating all the links assigned to these cards at the same time take all these signaling links out of service and isolate the EAGLE 5 ISS from the network.

2. Multiple high-capacity cards can be updated at the same time with the *init-flash* command. This requires that the high-capacity cards in the locations specified with the *init-flash* command are out of service.

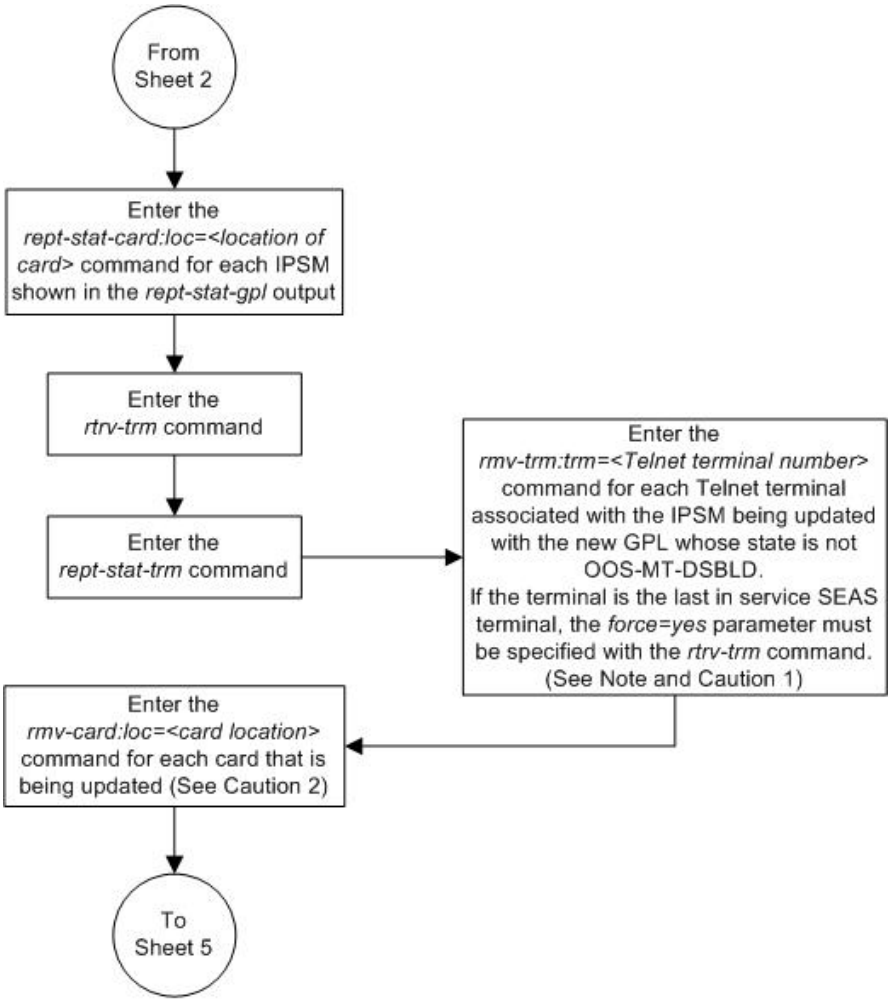
   However, it is recommended that only some of the high-capacity cards are placed out of service. Placing all the high-capacity cards out of service will cause all the traffic hosted by the high-capacity cards to be lost.



Caution:

Multiple high-capacity cards can be updated at the same time with the *init-flash* command. This requires that the high-capacity cards in the locations specified with the *init-flash* command are out of service.

However, it is recommended that only some of the high-capacity cards are placed out of service. Placing all the high-capacity cards out of service will cause all the traffic hosted by the high-capacity cards to be lost.

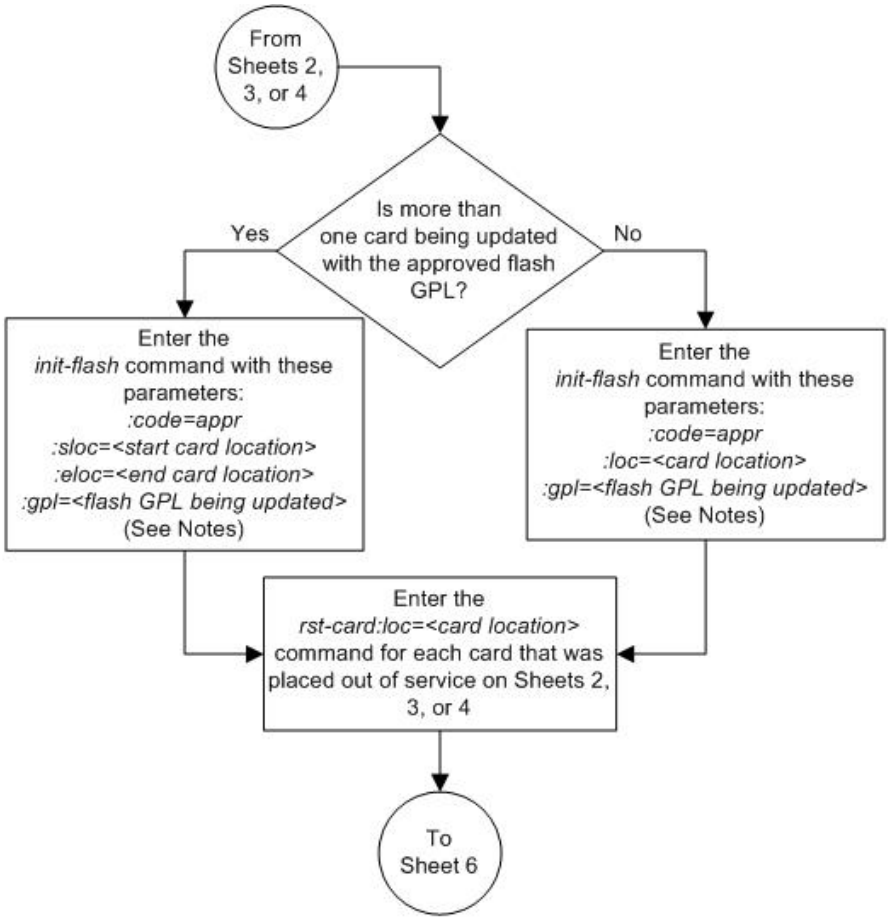


Note: Each IPSM has 8 Telnet terminals associated with it. The *rtrv-trm* output shows the Telnet terminals that are associated with each IPSM.

Cautions:

1. Placing the Telnet terminals out of service will disable all Telnet sessions supported by the terminals associated with the IPSM.

2. Multiple cards running the same flash GPL can be updated at the same time with the *init-flash* command. This requires that the cards in the locations specified with the *init-flash* command are out of service. All the IPSMs can be placed out of service at the same time. However, it is recommended that only some of the IPSMs are placed out of service. Placing all the IPSMs out of service will cause the traffic carried by IPSMs to be lost and disable the IP User Interface and FTP Retrieve and Replace features.



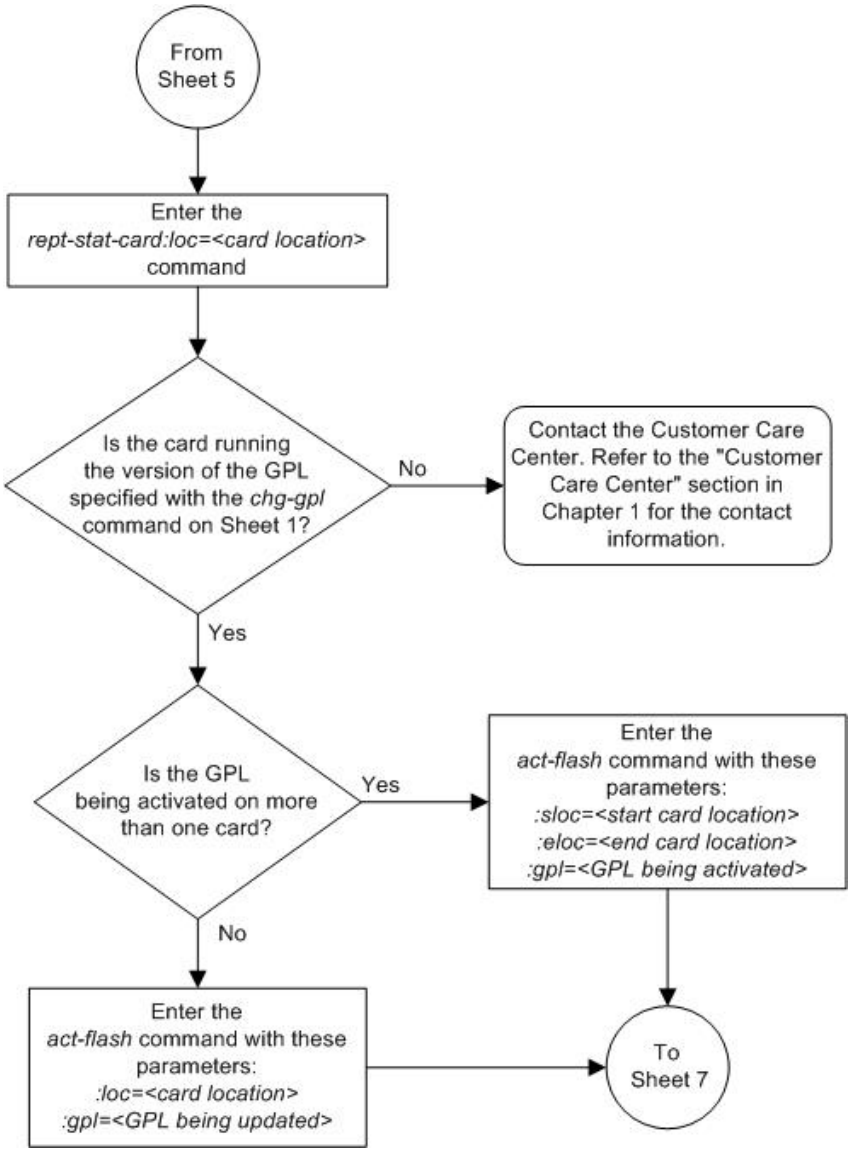
Notes:

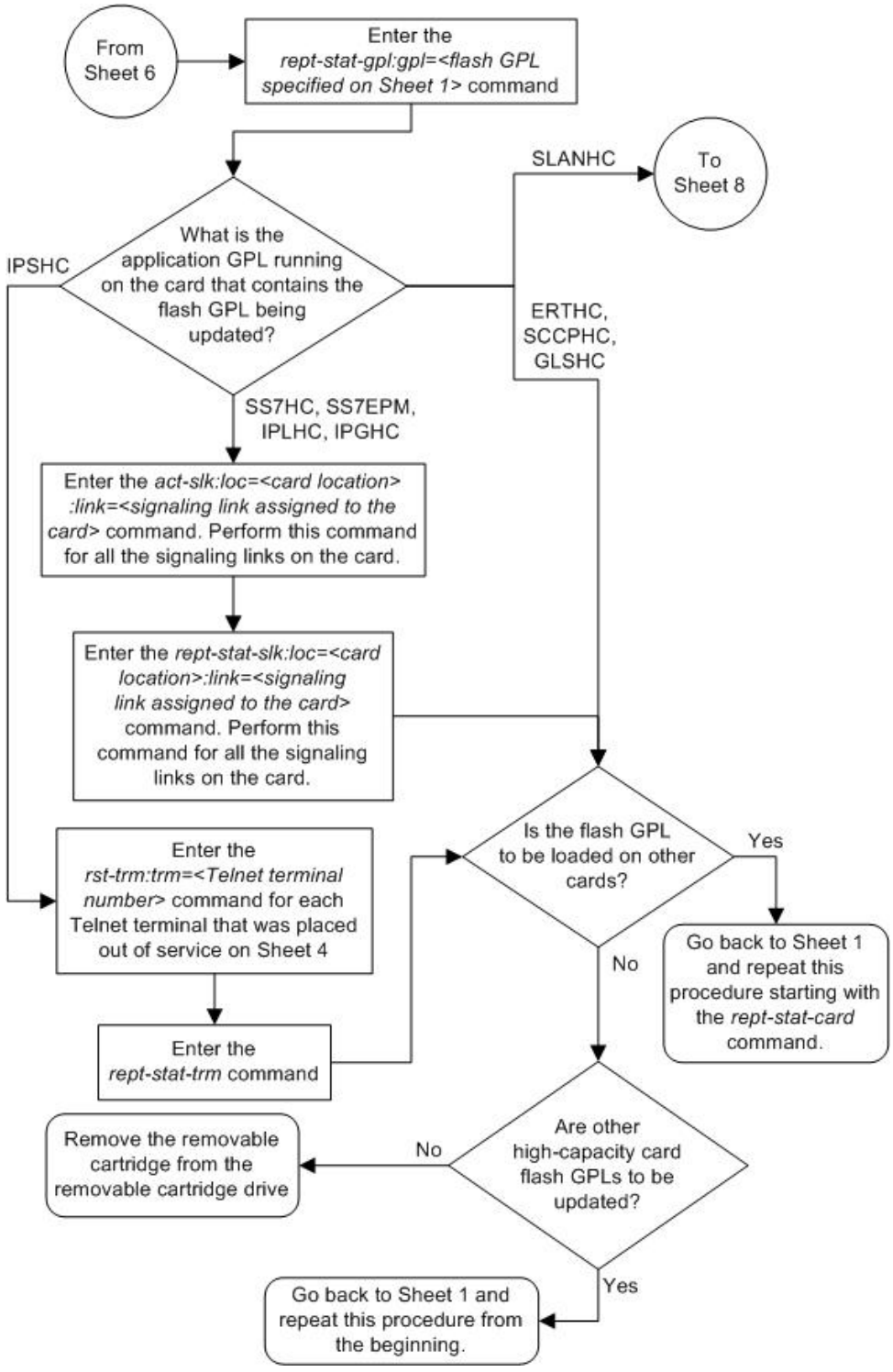
1. The card or cards specified in the *init-flash* command will be re-initialized.

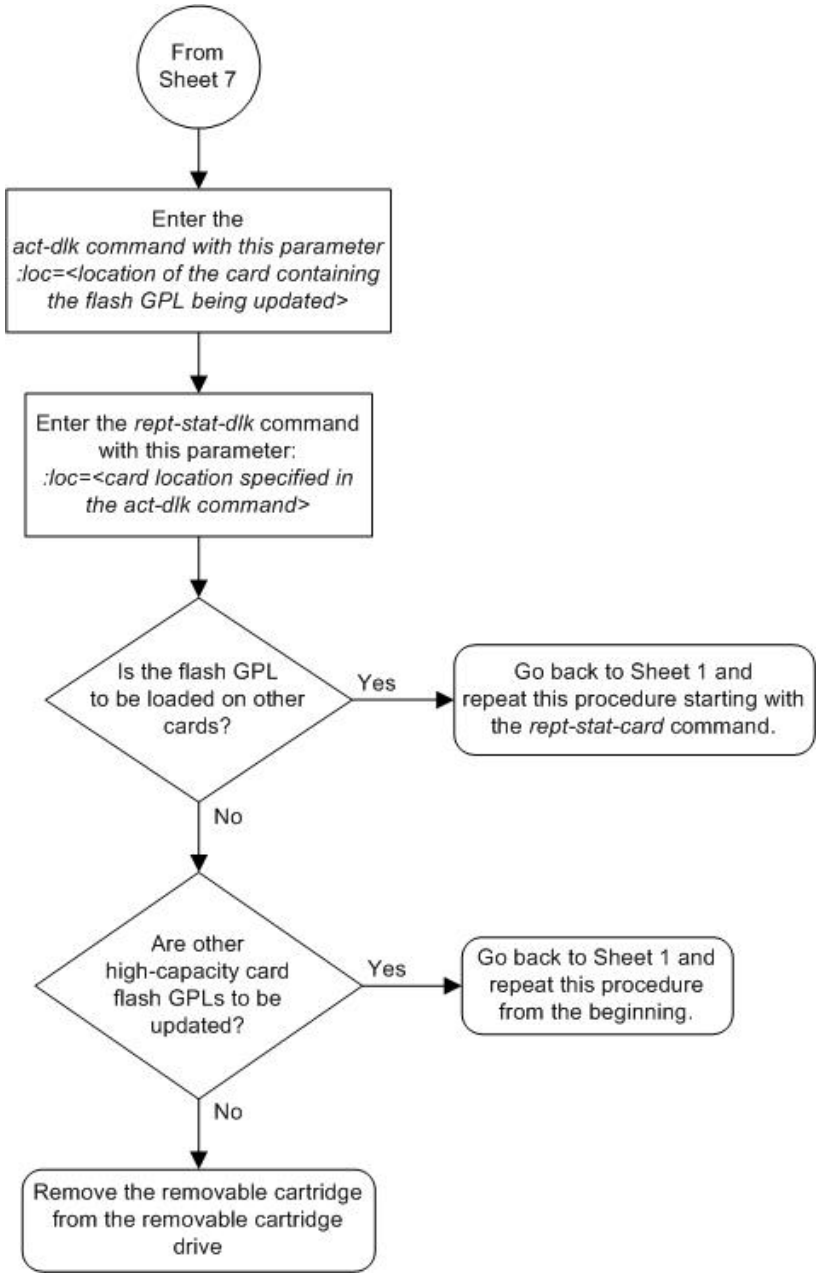
2. If the BLBIOS GPL (on an HC MIM), the BLBEPM GPL (on an E5-E1T1, E5-ENET, E5-STC, E5-SLAN, E5-IPSM, E5-TSM, or E5-ATM cards), or the BLBSMG GPL (on an E5-SM4G card) is specified with the *init-flash* command, and the BLCPLD GPL currently running on the card is not activated (the *act-flash* command has not been performed on the BLCPLD GPL), then the *init-flash* command will be rejected.

3. If the BLCPLD GPL is specified with the *init-flash* command, and the BLBIOS GPL (on an HC MIM), the BLBEPM GPL (on one of E5-E1T1, E5-ENET, E5-STC, E5-SLAN, E5-IPSM, E5-TSM, or E5-ATM cards), or the BLBSMG GPL (on an E5-SM4G card) currently running on the card is not activated (the *act-flash* command has not been performed on the BLBIOS, BLBEPM, or BLBSMG GPL), then the *init-flash* command will be rejected.

4. The *init-flash* command contains the *boot* parameter which has two values, *yes* or *no*. The *yes* value is the default value for the *boot* parameter. The high-capacity card will be re-initialized when the flash GPL download is complete if the *boot* parameter is not specified or if the *boot=yes* parameter is specified. To prevent the high-capacity card from being re-initialized, the *boot=no* parameter must be specified with the *init-flash* command. However, the high-capacity card must be re-initialized after the BLCPLD or BLDIAG6 GPLs flash GPLs are downloaded to the high-capacity card.


From Sheet 5
Enter the rept-stat-card:loc=<card location> command
Is the card running the version of the GPL specified with the chg-gpl command on Sheet 1?
No
Contact the Customer Care Center. Refer to the "Customer Care Center" section in Chapter 1 for the contact information.
Yes
Is the GPL being activated on more than one card?
Yes
Enter the act-flash command with these parameters:
:sloc=<start card location>
:eloc=<end card location>
:gpl=<GPL being activated>
No
Enter the act-flash command with these parameters:
:loc=<card location>
:gpl=<GPL being updated>
To Sheet 7


From Sheet 6
Enter the rept-stat-gpl:gpl=<flash GPL specified on Sheet 1> command
What is the application GPL running on the card that contains the flash GPL being updated?
SLANHC
To Sheet 8
IPSHC
ERTHC, SCCPHC, GLSHC
SS7HC, SS7EPM, IPLHC, IPGHC
Enter the act-slk:loc=<card location> :link=<signaling link assigned to the card> command. Perform this command for all the signaling links on the card.
Enter the rept-stat-slk:loc=<card location>:link=<signaling link assigned to the card> command. Perform this command for all the signaling links on the card.
Enter the rst-trm:trm=<Telnet terminal number> command for each Telnet terminal that was placed out of service on Sheet 4
Enter the rept-stat-trm command
Is the flash GPL to be loaded on other cards?
Yes
No
Go back to Sheet 1 and repeat this procedure starting with the rept-stat-card command.
Are other high-capacity card flash GPLs to be updated?
No
Remove the removable cartridge from the removable cartridge drive
Yes
Go back to Sheet 1 and repeat this procedure from the beginning.



Updating All the Flash GPLs on the High-Capacity Cards

The high-capacity cards and their flash GPLs are shown in *Table 9: High-Capacity Card Flash GPLs* on page 222 .

Table 9: High-Capacity Card Flash GPLs

HC MIM	E5-E1T1 E5-ENET	E5-STC E5-SLAN E5-IPSM E5-ATM E5-TSM	E5-SM4G
BLCPLD	BLCPLD	BLCPLD	BLCPLD
IMTPCI	IMTPCI	IMTPCI	IMTPCI
BLVXW6	BLVXW6	BLVXW6	BLVXW6
BLBIOS	BLBEPM	BLBEPM	BLBSMG
BLDIAG6	BLDIAG6	BLDIAG6	BLDIAG6
PLDPMC1	PLDPMC1		
BLROM1			
To update the GPLs on these cards, perform one of these procedures. *Updating One of the Flash GPLs on the High-Capacity Cards* on page 192. *Updating All the Flash GPLs on the High-Capacity Cards* on page 221.			

This procedure updates all the flash GPLs at the same time using the `flash-card` command, instead of updating each flash GPL individually using the `init-flash` and `act-flash` commands. To update each of these flash GPLs individually using the `init-flash` and `act-flash` commands, perform the *Updating One of the Flash GPLs on the High-Capacity Cards* on page 192 procedure.

The flash GPL names shown in *Table 9: High-Capacity Card Flash GPLs* on page 222 are used as the value of the `gpl` parameter of the `chg-gpl`, `act-gpl`, `rept-stat-gpl`, and `rtrv-gpl` commands. The applications and entities supported by the high-capacity cards are shown in *Table 10: High-Capacity Card Applications* on page 222.

Table 10: High-Capacity Card Applications

High-Capacity Card	Card Name (as shown on the card label)	Application	Application GPL Running on the Card	Supported Entities
HC MIM	HC MIM	SS7ANSI CCS71TU	SS7HC	E1 or T1 signaling links
E5-E1T1	E5-E1T1	SS7ANSI, CCS71TU	SS7EPM	E1 or T1 signaling links
E5-ENET	E5-ENET	SS7IPGW, IPLIM, IPLIMI, IPGWI, IPSG	IPLHC, IPGHC, IPSG	IP signaling links
E5-STC	E5-ENET	EROUTE	ERTHC	EAGLE 5 Integrated Monitoring Support

High-Capacity Card	Card Name (as shown on the card label)	Application	Application GPL Running on the Card	Supported Entities
E5-SM4G	E5-SM4G	VSCCP	SCCPHC	GTT-related features
E5-SLAN	E5-ENET	STPLAN	SLANHC	TCP/IP data links for the STPLAN feature
E5-IPSM	E5-IPSM	IPS	IPSHC	Telnet sessions for remote connections to the EAGLE 5 ISS and SEAS terminals for the SEAS over IP feature
E5-ATM	E5-ATM	ATMANSI, ATMITU	ATMHC	ANSI and ITU ATM high-speed signaling links
E5-TSM	E5-TSM	GLS	GLSHC	Gateway Screening related features

A removable cartridge containing the high-capacity card flash GPLs that are being updated is required.

CAUTION: Before any of the flash GPLs on the high-capacity card can be updated, all traffic hosted by the high-capacity cards must be stopped and the high-capacity card must be taken out of service.

Canceling the REPT-STAT-SLK and RTRV-SLK Commands

Because the `rept-stat-slk` and `rtrv-slk` commands used in this procedure can output information for a long period of time, the `rept-stat-slk` and `rtrv-slk` commands can be canceled and the output to the terminal stopped. There are three ways that the `rept-stat-slk` and `rtrv-slk` commands can be canceled.

- Press the `F9` function key on the keyboard at the terminal where the `rept-stat-slk` or `rtrv-slk` commands command were entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rept-stat-slk` or `rtrv-slk` commands were entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rept-stat-slk` or `rtrv-slk` commands were entered, from another terminal other that the terminal where the `rept-stat-slk` or `rtrv-slk` commands were entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, go to the *Commands Manual*.

1. Check the removable cartridge drive on the MDAL card for a removable cartridge.

If there is a removable cartridge in the drive, display the flash GPLs on the fixed disk and on the removable cartridge using the `rtrv-gpl` command with the `gpl` parameter value equal to the GPL being updated. Enter the `rtrv-gpl` command for each flash high-capacity card.

For an HC MIM, enter these commands.

`rtrv-gpl:gpl=blvxw6`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 39.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLVXW6    1114  126-002-000  126-002-000      126-001-000  126-003-000
BLVXW6    1116  126-002-000  126-002-000      126-001-000  -----------
```

`rtrv-gpl:gpl=blbios`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLBIOS    1114  126-002-000  126-002-000      126-001-000  126-003-000
BLBIOS    1116  126-002-000  126-002-000      126-001-000  -----------
```

`rtrv-gpl:gpl=bldiag6`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLDIAG6   1114  126-002-000  126-002-000      126-001-000  126-003-000
BLDIAG6   1116  126-002-000  126-002-000      126-001-000  -----------
```

`rtrv-gpl:gpl=blcpld`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLCPLD    1114  126-002-000  126-002-000      126-001-000  126-003-000
BLCPLD    1116  126-002-000  126-002-000      126-001-000  -----------
```

`rtrv-gpl:gpl=blrom1`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 39.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLROM1    1114  126-002-000  126-002-000      126-001-000  126-003-000
BLROM1    1116  126-002-000  126-002-000      126-001-000  -----------
```

`rtrv-gpl:gpl=pldpmc1`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
PLDPMC1   1114  126-002-000  126-002-000      126-001-000  126-003-000
PLDPMC1   1116  126-002-000  126-002-000      126-001-000  -----------
```

`rtrv-gpl:gpl=imtpci`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
IMTPCI    1114  126-002-000  126-002-000      126-001-000  126-003-000
IMTPCI    1116  126-002-000  126-002-000      126-001-000  -----------
```

For an E5-E1T1, E5-ENET, E5-STC, E5-SLAN, E5-IPSM, E5-TSM, , or E5-ATM card, enter these commands.

`rtrv-gpl:gpl=blvxw6`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLVXW6    1114  126-002-000  126-002-000      126-001-000  126-003-000
BLVXW6    1116  126-002-000  126-002-000      126-001-000  -----------
```

`rtrv-gpl:gpl=blbepm`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLBEPM    1114  126-002-000  126-002-000      126-001-000  126-003-000
BLBEPM    1116  126-002-000  126-002-000      126-001-000  -----------
```

`rtrv-gpl:gpl=bldiag6`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLDIAG6   1114  126-002-000  126-002-000      126-001-000  126-003-000
BLDIAG6   1116  126-002-000  126-002-000      126-001-000  -----------
```

`rtrv-gpl:gpl=blcpld`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON
```

```
GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLCPLD    1114  126-002-000  126-002-000      126-001-000  126-003-000
BLCPLD    1116  126-002-000  126-002-000      126-001-000  -----------
```

`rtrv-gpl:gpl=imtpci`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
IMTPCI    1114  126-002-000  126-002-000      126-001-000  126-003-000
IMTPCI    1116  126-002-000  126-002-000      126-001-000  -----------
```

`rtrv-gpl:gpl=pldpmc1`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
PLDPMC1   1114  126-002-000  126-002-000      126-001-000  126-003-000
PLDPMC1   1116  126-002-000  126-002-000      126-001-000  -----------
```

Note: The GPL `rtrv-gpl:gpl=pldpmc1` command applies to E5-ENET and E5-E1T1 cards only.

For an E5-SM4G card, enter these commands.

`rtrv-gpl:gpl=blvxw6`

This is an example of the possible output.

```
rlghncxa03w 07-05-01 11:34:04 GMT  EAGLE5 37.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLVXW6    1114  126-002-000  126-002-000      126-001-000  126-003-000
BLVXW6    1116  126-002-000  126-002-000      126-001-000  -----------
```

`rtrv-gpl:gpl=blcpld`

This is an example of the possible output.

```
rlghncxa03w 07-05-01 11:34:04 GMT  EAGLE5 37.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLCPLD    1114  126-002-000  126-002-000      126-001-000  126-003-000
BLCPLD    1116  126-002-000  126-002-000      126-001-000  -----------
```

`rtrv-gpl:gpl=imtpci`

This is an example of the possible output.

```
rlghncxa03w 07-05-01 11:34:04 GMT  EAGLE5 37.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
```

```
IMTPCI    1114  126-002-000  126-002-000      126-001-000  126-003-000
IMTPCI    1116  126-002-000  126-002-000      126-001-000  -----------
```

`rtrv-gpl:gpl=bldiag6`

This is an example of the possible output.

```
rlghncxa03w 07-05-01 11:34:04 GMT  EAGLE5 37.0.0
GPL Auditing  ON

GPL        CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLDIAG6    1114  126-002-000  126-002-000      126-001-000  126-003-000
BLDIAG6    1116  126-002-000  126-002-000      126-001-000  -----------
```

`rtrv-gpl:gpl=blbsmg`

This is an example of the possible output.

```
rlghncxa03w 07-05-01 11:34:04 GMT  EAGLE5 37.0.0
GPL Auditing  ON

GPL        CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLBSMG     1114  126-002-000  126-002-000      126-001-000  126-003-000
BLBSMG     1116  126-002-000  126-002-000      126-001-000  -----------
```

If any of the versions of the high-capacity card flash GPLs shown in the `REMOVE TRIAL` column of the `rtrv-gpl` output are not the version that is to be loaded onto the cards, remove the cartridge and go to step 2. For more information on removing the removable cartridge from the removable cartridge drive, see the *Removing the Removable Cartridge* on page 17 section.

If all of the versions of the high-capacity card flash GPLs shown in the `REMOVE TRIAL` column of the `rtrv-gpl` output are the versions that are to be loaded onto the cards, skip steps 2 and 3, and go to step 4.

2. Make sure the removable cartridge containing the new software is “write protected” (NOT write enabled).

   To write a removable cartridge, see the *Write Protecting the Removable Cartridge* on page 14 section.

3. Insert the removable cartridge containing the latest high-capacity flash GPLs being updated into the removable cartridge drive on the MDAL card.

   For more information on inserting the removable cartridge in the removable cartridge drive, see the *Inserting the Removable Cartridge* on page 15 section. After the removable cartridge has been inserted into the removable cartridge drive, repeat the `rtrv-gpl` command in step 1 and verify the versions of the flash GPLs on the removable cartridge that you wish to update.

4. Change the flash GPLs using the `chg-gpl` command and specifying the value for the trial flash GPL shown in the `REMOVE TRIAL` column in the output of the `rtrv-gpl` command (in step 1) for each flash GPL.

   For an HC MIM, enter these commands.

   `chg-gpl:gpl=blvxw6:ver=126-003-000`

   These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 39.0.0
GPL Auditing  ON

BLVXW6 upload on 1114 completed
```

```
BLVXW6 upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

```
chg-gpl:gpl=blbios:ver=126-003-000
```

These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
GPL Auditing  ON

BLBIOS upload on 1114 completed
BLBIOS upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

```
chg-gpl:gpl=bldiag6:ver=126-003-000
```

These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 39.0.0
GPL Auditing  ON

BLDIAG6 upload on 1114 completed
BLDIAG6 upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

```
chg-gpl:gpl=blcpld:ver=126-003-000
```

These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
GPL Auditing  ON

BLCPLD upload on 1114 completed
BLCPLD upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

```
chg-gpl:gpl=blrom1:ver=126-003-000
```

These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 39.0.0
GPL Auditing  ON

BLROM1 upload on 1114 completed
BLROM1 upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

```
chg-gpl:gpl=pldpmc1:ver=126-003-000
```

These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
GPL Auditing  ON

PLDPMC1 upload on 1114 completed
PLDPMC1 upload on 1116 completed
```

```
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

`chg-gpl:gpl=imtpci:ver=126-003-000`

These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
GPL Auditing  ON

IMTPCI upload on 1114 completed
IMTPCI upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

For an E5-E1T1, E5-ENET, E5-STC, E5-SLAN, E5-IPSM, E5-TSM, or E5-ATM card, enter these commands.

`chg-gpl:gpl=blvxw6:ver=126-003-000`

These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
GPL Auditing  ON

BLVXW6 upload on 1114 completed
BLVXW6 upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

`chg-gpl:gpl=blbepm:ver=126-003-000`

These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
GPL Auditing  ON

BLBEPM upload on 1114 completed
BLBEPM upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

`chg-gpl:gpl=bldiag6:ver=126-003-000`

These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
GPL Auditing  ON

BLDIAG6 upload on 1114 completed
BLDIAG6 upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

`chg-gpl:gpl=blcpld:ver=126-003-000`

These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
GPL Auditing  ON

BLCPLD upload on 1114 completed
BLCPLD upload on 1116 completed
```

```
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

`chg-gpl:gpl=imtpci:ver=126-003-000`

These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
GPL Auditing  ON

IMTPCI upload on 1114 completed
IMTPCI upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

`chg-gpl:gpl=pldpmc1:ver=126-003-000`

These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
GPL Auditing  ON

PLDPMC1 upload on 1114 completed
PLDPMC1 upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

Note: The `chg-gpl:gpl=pldpmc1` command applies to E5-ENET and E5-E1T1 cards only.

For an E5-SM4G card, enter these commands.

`chg-gpl:gpl=blvxw6:ver=126-003-000`

These messages should appear.

```
rlghncxa03w 07-05-01  11:43:04  GMT  EAGLE5 37.0.0
GPL Auditing  ON

BLVXW6 upload on 1114 completed
BLVXW6 upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

`chg-gpl:gpl=blbsmg:ver=126-003-000`

These messages should appear.

```
rlghncxa03w 07-05-01  11:43:04  GMT  EAGLE5 37.0.0
GPL Auditing  ON

BLBSMG upload on 1114 completed
BLBSMG upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

`chg-gpl:gpl=bldiag6:ver=126-003-000`

These messages should appear.

```
rlghncxa03w 07-05-01  11:43:04  GMT  EAGLE5 37.0.0
GPL Auditing  ON

BLDIAG6 upload on 1114 completed
BLDIAG6 upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

```
chg-gpl:gpl=blcpld:ver=126-003-000
```

These messages should appear.

```
rlghncxa03w 07-05-01  11:43:04  GMT  EAGLE5 37.0.0
GPL Auditing  ON

BLCPLD upload on 1114 completed
BLCPLD upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

```
chg-gpl:gpl=imtpci:ver=126-003-000
```

These messages should appear.

```
rlghncxa03w 07-05-01  11:43:04  GMT  EAGLE5 37.0.0
GPL Auditing  ON

IMTPCI upload on 1114 completed
IMTPCI upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

5. Activate the trial GPL, using the `act-gpl` command and specifying the name and version of the trial GPL specified in step 4.

   For an HC MIM, enter these commands.

   ```
   act-gpl:gpl=blvxw6:ver=126-003-000
   ```

   These messages should appear.

   ```
   rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 39.0.0
   BLVXW6 activate on 1114 completed
   BLVXW6 activate on 1116 completed
   ```

   ```
   act-gpl:gpl=blbios:ver=126-003-000
   ```

   These messages should appear.

   ```
   rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
   BLBIOS activate on 1114 completed
   BLBIOS activate on 1116 completed
   ```

   ```
   act-gpl:gpl=bldiag6:ver=126-003-000
   ```

   These messages should appear.

   ```
   rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 39.0.0
   BLDIAG6 activate on 1114 completed
   BLDIAG6 activate on 1116 completed
   ```

   ```
   act-gpl:gpl=blcpld:ver=126-003-000
   ```

   These messages should appear.

   ```
   rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
   BLCPLD activate on 1114 completed
   BLCPLD activate on 1116 completed
   ```

   ```
   act-gpl:gpl=blrom1:ver=126-003-000
   ```

These messages should appear.

```
rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 39.0.0
BLROM1 activate on 1114 completed
BLROM1 activate on 1116 completed
```

```
act-gpl:gpl=pldpmc1:ver=126-003-000
```

These messages should appear.

```
rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
PLDPMC1 activate on 1114 completed
PLDPMC1 activate on 1116 completed
```

```
act-gpl:gpl=imtpci:ver=126-003-000
```

These messages should appear.

```
rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
IMTPCI activate on 1114 completed
IMTPCI activate on 1116 completed
```

For an E5-E1T1, E5-ENET, E5-STC, E5-SLAN, E5-IPSM, E5-TSM, or E5-ATM card, enter these commands.

```
act-gpl:gpl=blvxw6:ver=126-003-000
```

These messages should appear.

```
rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
BLVXW6 activate on 1114 completed
BLVXW6 activate on 1116 completed
```

```
act-gpl:gpl=blbepm:ver=126-003-000
```

These messages should appear.

```
rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
BLBEPM activate on 1114 completed
BLBEPM activate on 1116 completed
```

```
act-gpl:gpl=bldiag6:ver=126-003-000
```

These messages should appear.

```
rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
BLDIAG6 activate on 1114 completed
BLDIAG6 activate on 1116 completed
```

```
act-gpl:gpl=blcpld:ver=126-003-000
```

These messages should appear.

```
rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
BLCPLD activate on 1114 completed
BLCPLD activate on 1116 completed
```

```
act-gpl:gpl=imtpci:ver=126-003-000
```

These messages should appear.

```
rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
```

```
IMTPCI activate on 1114 completed
IMTPCI activate on 1116 completed
```

`act-gpl:gpl=pldpmc1:ver=126-003-000`

These messages should appear.

```
rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
PLDPMC1 activate on 1114 completed
PLDPMC1 activate on 1116 completed
```

Note: The `act-gpl:gpl=pldpmc1` command applies to E5-ENET and E5-E1T1 cards only.

For an E5-SM4G card, enter these commands.

`act-gpl:gpl=blvxw6:ver=126-003-000`

These messages should appear.

```
rlghncxa03w 07-05-01 06:54:39 GMT EAGLE5 37.0.0
BLVXW6 activate on 1114 completed
BLVXW6 activate on 1116 completed
```

`act-gpl:gpl=blbsmg:ver=126-003-000`

These messages should appear.

```
rlghncxa03w 07-05-01 06:54:39 GMT EAGLE5 37.0.0
BLBSMG activate on 1114 completed
BLBSMG activate on 1116 completed
```

`act-gpl:gpl=bldiag6:ver=126-003-000`

These messages should appear.

```
rlghncxa03w 07-05-01 06:54:39 GMT EAGLE5 37.0.0
BLDIAG6 activate on 1114 completed
BLDIAG6 activate on 1116 completed
```

`act-gpl:gpl=blcpld:ver=126-003-000`

These messages should appear.

```
rlghncxa03w 07-05-01 06:54:39 GMT EAGLE5 37.0.0
BLCPLD activate on 1114 completed
BLCPLD activate on 1116 completed
```

`act-gpl:gpl=imtpci:ver=126-003-000`

These messages should appear.

```
rlghncxa03w 07-05-01 06:54:39 GMT EAGLE5 37.0.0
IMTPCI activate on 1114 completed
IMTPCI activate on 1116 completed
```

6. Verify that the GPL on the removable cartridge is the trial GPL on the fixed disk using the `rtrv-gpl` command with the `gpl` parameter value specified in step 5.

   For an HC MIM, enter these commands.

   `rtrv-gpl:gpl=blvxw6`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 39.0.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
```

```
BLVXW6    1114  126-003-000  126-003-000      126-002-000  126-003-000
BLVXW6    1116  126-003-000  126-003-000      126-002-000  -----------
```

`rtrv-gpl:gpl=blbios`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 36.0.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLBIOS    1114  126-003-000  126-003-000      126-002-000  126-003-000
BLBIOS    1116  126-003-000  126-003-000      126-002-000  -----------
```

`rtrv-gpl:gpl=bldiag6`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 39.0.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLDIAG6    1114  126-003-000  126-003-000      126-002-000  126-003-000
BLDIAG6    1116  126-003-000  126-003-000      126-002-000  -----------
```

`rtrv-gpl:gpl=blcpld`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 36.0.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLCPLD    1114  126-003-000  126-003-000      126-002-000  126-003-000
BLCPLD    1116  126-003-000  126-003-000      126-002-000  -----------
```

`rtrv-gpl:gpl=blrom1`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 39.0.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLROM1    1114  126-003-000  126-003-000      126-002-000  126-003-000
BLROM1    1116  126-003-000  126-003-000      126-002-000  -----------
```

`rtrv-gpl:gpl=pldpmc1`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 36.0.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
PLDPMC1   1114  126-003-000  126-003-000      126-002-000  126-003-000
PLDPMC1   1116  126-003-000  126-003-000      126-002-000  -----------
```

`rtrv-gpl:gpl=imtpci`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 36.0.0
```

```
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
IMTPCI    1114  126-003-000  126-003-000      126-002-000  126-003-000
IMTPCI    1116  126-003-000  126-003-000      126-002-000  -----------
```

For an E5-E1T1, E5-ENET, E5-STC, E5-SLAN, E5-IPSM, E5-TSM, or E5-ATM card, enter these commands.

`rtrv-gpl:gpl=blvxw6`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 36.0.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLVXW6    1114  126-003-000  126-003-000      126-002-000  126-003-000
BLVXW6    1116  126-003-000  126-003-000      126-002-000  -----------
```

`rtrv-gpl:gpl=blbepm`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 36.0.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLBEPM    1114  126-003-000  126-003-000      126-002-000  126-003-000
BLBEPM    1116  126-003-000  126-003-000      126-002-000  -----------
```

`rtrv-gpl:gpl=bldiag6`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 36.0.0
GPL Auditing ON

GPL        CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLDIAG6    1114  126-003-000  126-003-000      126-002-000  126-003-000
BLDIAG6    1116  126-003-000  126-003-000      126-002-000  -----------
```

`rtrv-gpl:gpl=blcpld`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 36.0.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLCPLD    1114  126-003-000  126-003-000      126-002-000  126-003-000
BLCPLD    1116  126-003-000  126-003-000      126-002-000  -----------
```

`rtrv-gpl:gpl=imtpci`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 36.0.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
```

```
IMTPCI    1114  126-003-000  126-003-000      126-002-000  126-003-000
IMTPCI    1116  126-003-000  126-003-000      126-002-000  -----------
```

`rtrv-gpl:gpl=pldpmc1`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT EAGLE5 36.0.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
PLDPMC1   1114  126-003-000  126-003-000      126-002-000  126-003-000
PLDPMC1   1116  126-003-000  126-003-000      126-002-000  -----------
```

Note: The `rtrv-gpl:gpl=pldpmc1` command example applies to E5-ENET and E5-E1T1 cards only.

For an E5-SM4G card, enter these commands.

`rtrv-gpl:gpl=blvxw6`

This is an example of the possible output.

```
rlghncxa03w 07-05-01 11:34:04 GMT EAGLE5 37.0.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLVXW6    1114  126-003-000  126-003-000      126-002-000  126-003-000
BLVXW6    1116  126-003-000  126-003-000      126-002-000  -----------
```

`rtrv-gpl:gpl=blbsmg`

This is an example of the possible output.

```
rlghncxa03w 07-05-01 11:34:04 GMT EAGLE5 37.0.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLBSMG    1114  126-003-000  126-003-000      126-002-000  126-003-000
BLBSMG    1116  126-003-000  126-003-000      126-002-000  -----------
```

`rtrv-gpl:gpl=bldiag6`

This is an example of the possible output.

```
rlghncxa03w 07-05-01 11:34:04 GMT EAGLE5 37.0.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLDIAG6   1114  126-003-000  126-003-000      126-002-000  126-003-000
BLDIAG6   1116  126-003-000  126-003-000      126-002-000  -----------
```

`rtrv-gpl:gpl=blcpld`

This is an example of the possible output.

```
rlghncxa03w 07-05-01 11:34:04 GMT EAGLE5 37.0.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BLCPLD    1114  126-003-000  126-003-000      126-002-000  126-003-000
BLCPLD    1116  126-003-000  126-003-000      126-002-000  -----------
```

`rtrv-gpl:gpl=imtpci`

This is an example of the possible output.

```
rlghncxa03w 07-05-01 11:34:04 GMT EAGLE5 37.0.0
GPL Auditing ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
IMTPCI    1114  126-003-000  126-003-000      126-002-000  126-003-000
IMTPCI    1116  126-003-000  126-003-000      126-002-000  -----------
```

7. Verify the cards in the EAGLE 5 ISS using the `rept-stat-gpl` command with the `gpl` parameter.

   The value of the `gpl` parameter is the type of application gpl running on the card that contains the flash GPLs being updated. For an HC MIM, enter this command.

   `rept-stat-gpl:gpl=ss7hc`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL     CARD   RUNNING           APPROVED      TRIAL
SS7HC   1303   126-003-000       126-003-000   126-002-000
SS7HC   2101   126-003-000       126-003-000   126-002-000
SS7HC   2103   126-003-000       126-003-000   126-002-000
SS7HC   2205   126-003-000       126-003-000   126-002-000
SS7HC   2207   126-003-000       126-003-000   126-002-000
SS7HC   2211   126-003-000       126-003-000   126-002-000

Command Completed
```

   For an E5-E1T1 card, enter this command.

   `rept-stat-gpl:gpl=ss7epm`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL     CARD   RUNNING           APPROVED      TRIAL
SS7EPM  1303   126-003-000       126-003-000   126-002-000
SS7EPM  2101   126-003-000       126-003-000   126-002-000
SS7EPM  2103   126-003-000       126-003-000   126-002-000
SS7EPM  2205   126-003-000       126-003-000   126-002-000
SS7EPM  2207   126-003-000       126-003-000   126-002-000
SS7EPM  2211   126-003-000       126-003-000   126-002-000

Command Completed
```

   For an E5-ENET card, specify the `gpl` parameter values `iplhc`, `ipghc`, or `ipsg`. Enter this command.

   `rept-stat-gpl:gpl=iplhc`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL     CARD   RUNNING           APPROVED      TRIAL
IPLHC   1303   126-003-000       126-003-000   126-002-000
IPLHC   2101   126-003-000       126-003-000   126-002-000
```

```
IPLHC   2103   126-003-000       126-003-000   126-002-000
IPLHC   2205   126-003-000       126-003-000   126-002-000
IPLHC   2207   126-003-000       126-003-000   126-002-000
IPLHC   2211   126-003-000       126-003-000   126-002-000

Command Completed
```

For an E5-STC card, enter this command.

`rept-stat-gpl:gpl=erthc`

This is an example of the possible output.

```
rlghncxa03w 07-05-01 11:40:26 GMT  EAGLE5 37.0.0
GPL Auditing  ON

GPL     CARD   RUNNING           APPROVED      TRIAL
ERTHC   1303   126-003-000       126-003-000   126-002-000
ERTHC   2101   126-003-000       126-003-000   126-002-000
ERTHC   2103   126-003-000       126-003-000   126-002-000
ERTHC   2205   126-003-000       126-003-000   126-002-000
ERTHC   2207   126-003-000       126-003-000   126-002-000
ERTHC   2211   126-003-000       126-003-000   126-002-000

Command Completed.
```

For an E5-SLAN card, enter this command.

`rept-stat-gpl:gpl=slanhc`

This is an example of the possible output.

```
rlghncxa03w 07-05-01 11:40:26 GMT  EAGLE5 37.0.0
GPL Auditing  ON

GPL     CARD   RUNNING           APPROVED      TRIAL
SLANHC  1303   126-003-000       126-003-000   126-002-000
SLANHC  2101   126-003-000       126-003-000   126-002-000
SLANHC  2103   126-003-000       126-003-000   126-002-000
SLANHC  2205   126-003-000       126-003-000   126-002-000
SLANHC  2207   126-003-000       126-003-000   126-002-000
SLANHC  2211   126-003-000       126-003-000   126-002-000

Command Completed.
```

For an E5-SM4G card, enter this command.

`rept-stat-gpl:gpl=sccphc`

This is an example of the possible output.

```
rlghncxa03w 07-05-01 11:40:26 GMT  EAGLE5 37.0.0
GPL Auditing  ON

GPL     CARD   RUNNING           APPROVED      TRIAL
SCCPHC  1303   126-003-000       126-003-000   126-002-000
SCCPHC  2101   126-003-000       126-003-000   126-002-000
SCCPHC  2103   126-003-000       126-003-000   126-002-000
SCCPHC  2205   126-003-000       126-003-000   126-002-000
SCCPHC  2207   126-003-000       126-003-000   126-002-000
SCCPHC  2211   126-003-000       126-003-000   126-002-000
```

```
Command Completed
```

For an E5-IPSM card, enter this command.

```
rept-stat-gpl:gpl=ipshc
```

This is an example of the possible output.

```
rlghncxa03w 07-05-01 11:40:26 GMT  EAGLE5 37.0.0
GPL Auditing  ON

GPL     CARD   RUNNING           APPROVED      TRIAL
IPSHC   1303   126-003-000       126-003-000   126-002-000
IPSHC   2101   126-003-000       126-003-000   126-002-000
IPSHC   2103   126-003-000       126-003-000   126-002-000
IPSHC   2205   126-003-000       126-003-000   126-002-000
IPSHC   2207   126-003-000       126-003-000   126-002-000
IPSHC   2211   126-003-000       126-003-000   126-002-000

Command Completed
```

For an E5-ATM card, enter this command.

```
rept-stat-gpl:gpl=atmhc
```

This is an example of the possible output.

```
rlghncxa03w 07-05-01 11:40:26 GMT  EAGLE5 37.0.0
GPL Auditing  ON

GPL     CARD   RUNNING           APPROVED      TRIAL
ATMHC   1303   126-003-000       126-003-000   126-002-000
ATMHC   2101   126-003-000       126-003-000   126-002-000
ATMHC   2103   126-003-000       126-003-000   126-002-000
ATMHC   2205   126-003-000       126-003-000   126-002-000
ATMHC   2207   126-003-000       126-003-000   126-002-000
ATMHC   2211   126-003-000       126-003-000   126-002-000

Command Completed
```

For an E5-TSM card, enter this command.

```
rept-stat-gpl:gpl=glshc
```

This is an example of the possible output.

```
rlghncxa03w 08-12-01 11:40:26 GMT  EAGLE5 40.0.0
GPL Auditing  ON

GPL     CARD   RUNNING           APPROVED      TRIAL
GLSHC   1303   126-003-000       126-003-000   126-002-000
GLSHC   2101   126-003-000       126-003-000   126-002-000
GLSHC   2103   126-003-000       126-003-000   126-002-000
GLSHC   2205   126-003-000       126-003-000   126-002-000
GLSHC   2207   126-003-000       126-003-000   126-002-000
GLSHC   2211   126-003-000       126-003-000   126-002-000

Command Completed
```

8. Choose one of the cards displayed in step 7.

   Display the flash GPLs running on the card, using the `rept-stat-gpl` command and specifying the location of the card. For this example, enter this command.

```
rept-stat-gpl:loc=1303
```

For an HC MIM, this is an example of the possible output.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    SS7HC      1203      126-003-000        126-003-000   126-002-000
           IMTPCI        126-002-000 ALM    126-003-000   126-002-000
           BLBIOS        126-002-000 ALM    126-003-000   126-002-000
           BLCPLD        126-002-000 ALM    126-003-000   126-002-000
           BLVXW6        126-002-000 ALM    126-003-000   126-002-000
           BLDIAG6       126-002-000 ALM    126-003-000   126-002-000
           BLROM1        126-002-000 ALM    126-003-000   126-002-000
           PLDPMC1       126-002-000 ALM    126-003-000   126-002-000

                                            ACTIVE        INACTIVE
           IMTPCI        126-002-000 ALM    126-002-000   -----------
           BLBIOS        126-002-000 ALM    126-002-000   -----------
           BLCPLD        126-002-000 ALM    126-002-000   -----------
           BLVXW6        126-002-000 ALM    126-002-000   -----------
           BLDIAG6       126-002-000 ALM    126-002-000   -----------
           BLROM1        126-002-000 ALM    126-002-000   -----------
           PLDPMC1       126-002-000 ALM    126-002-000   -----------

Command Completed.
```

For an E5-E1T1 card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    SS7EPM     1203      126-003-000        126-003-000   126-002-000
           IMTPCI        126-002-000 ALM    126-003-000   126-002-000
           BLBEPM        126-002-000 ALM    126-003-000   126-002-000
           BLCPLD        126-002-000 ALM    126-003-000   126-002-000
           BLVXW6        126-002-000 ALM    126-003-000   126-002-000
           BLDIAG6       126-002-000 ALM    126-003-000   126-002-000
           PLDPMC1       126-002-000 ALM    126-003-000   126-002-000

                                            ACTIVE        INACTIVE
           IMTPCI        126-002-000 ALM    126-002-000   -----------
           BLBEPM        126-002-000 ALM    126-002-000   -----------
           BLCPLD        126-002-000 ALM    126-002-000   -----------
           BLVXW6        126-002-000 ALM    126-002-000   -----------
           BLDIAG6       126-002-000 ALM    126-002-000   -----------
           PLDPMC1       126-002-000 ALM    126-002-000   -----------

Command Completed.
```

For an E5-ENET card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    IPLHC      1203      126-003-000        126-003-000   126-002-000
           IMTPCI        126-002-000 ALM    126-003-000   126-002-000
           BLBEPM        126-002-000 ALM    126-003-000   126-002-000
           BLCPLD        126-002-000 ALM    126-003-000   126-002-000
           BLVXW6        126-002-000 ALM    126-003-000   126-002-000
```

```
           BLDIAG6       126-002-000 ALM    126-003-000   126-002-000
           PLDPMC1       126-002-000 ALM    126-003-000   126-002-000

                                            ACTIVE        INACTIVE
           IMTPCI        126-002-000 ALM    126-002-000   -----------
           BLBEPM        126-002-000 ALM    126-002-000   -----------
           BLCPLD        126-002-000 ALM    126-002-000   -----------
           BLVXW6        126-002-000 ALM    126-002-000   -----------
           BLDIAG6       126-002-000 ALM    126-002-000   -----------
           PLDPMC1       126-002-000 ALM    126-002-000   -----------

Command Completed.
```

For an E5-STC card, this is an example of the possible output.

```
rlghncxa03w 07-05-01 07:01:08 GMT EAGLE5 37.0.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    ERTHC      1203      126-003-000        126-003-000   126-002-000
           IMTPCI        126-002-000 ALM    126-003-000   126-002-000
           BLBEPM        126-002-000 ALM    126-003-000   126-002-000
           BLCPLD        126-002-000 ALM    126-003-000   126-002-000
           BLVXW6        126-002-000 ALM    126-003-000   126-002-000
           BLDIAG6       126-002-000 ALM    126-003-000   126-002-000

                                            ACTIVE        INACTIVE
           IMTPCI        126-002-000 ALM    126-002-000   -----------
           BLBEPM        126-002-000 ALM    126-002-000   -----------
           BLCPLD        126-002-000 ALM    126-002-000   -----------
           BLVXW6        126-002-000 ALM    126-002-000   -----------
           BLDIAG6       126-002-000 ALM    126-002-000   -----------

Command Completed.
```

For an E5-SLAN card, this is an example of the possible output.

```
rlghncxa03w 07-05-01 07:01:08 GMT EAGLE5 37.0.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    SLANHC     1203      126-003-000        126-003-000   126-002-000
           IMTPCI        126-002-000 ALM    126-003-000   126-002-000
           BLBEPM        126-002-000 ALM    126-003-000   126-002-000
           BLCPLD        126-002-000 ALM    126-003-000   126-002-000
           BLVXW6        126-002-000 ALM    126-003-000   126-002-000
           BLDIAG6       126-002-000 ALM    126-003-000   126-002-000

                                            ACTIVE        INACTIVE
           IMTPCI        126-002-000 ALM    126-002-000   -----------
           BLBEPM        126-002-000 ALM    126-002-000   -----------
           BLCPLD        126-002-000 ALM    126-002-000   -----------
           BLVXW6        126-002-000 ALM    126-002-000   -----------
           BLDIAG6       126-002-000 ALM    126-002-000   -----------

Command Completed.
```

For an E5-SM4G card, this is an example of the possible output.

```
rlghncxa03w 07-05-01 07:01:08 GMT EAGLE5 37.0.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    SCCPHC     1203      126-003-000        126-003-000   126-002-000
           IMTPCI        126-002-000 ALM    126-003-000   126-002-000
           BLBSMG        126-002-000 ALM    126-003-000   126-002-000
           BLCPLD        126-002-000 ALM    126-003-000   126-002-000
```

```
           BLVXW6        126-002-000 ALM    126-003-000   126-002-000
           BLDIAG6       126-002-000 ALM    126-003-000   126-002-000

                                            ACTIVE        INACTIVE
           IMTPCI        126-002-000 ALM    126-002-000   -----------
           BLBSMG        126-002-000 ALM    126-002-000   -----------
           BLCPLD        126-002-000 ALM    126-002-000   -----------
           BLVXW6        126-002-000 ALM    126-002-000   -----------
           BLDIAG6       126-002-000 ALM    126-002-000   -----------

Command Completed.
```

For an E5-IPSM card, this is an example of the possible output.

```
rlghncxa03w 07-05-01 07:01:08 GMT EAGLE5 37.0.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    IPSHC      1203      126-003-000        126-003-000   126-002-000
           IMTPCI        126-002-000 ALM    126-003-000   126-002-000
           BLBEPM        126-002-000 ALM    126-003-000   126-002-000
           BLCPLD        126-002-000 ALM    126-003-000   126-002-000
           BLVXW6        126-002-000 ALM    126-003-000   126-002-000
           BLDIAG6       126-002-000 ALM    126-003-000   126-002-000

                                            ACTIVE        INACTIVE
           IMTPCI        126-002-000 ALM    126-002-000   -----------
           BLBEPM        126-002-000 ALM    126-002-000   -----------
           BLCPLD        126-002-000 ALM    126-002-000   -----------
           BLVXW6        126-002-000 ALM    126-002-000   -----------
           BLDIAG6       126-002-000 ALM    126-002-000   -----------

Command Completed.
```

For an E5-ATM card, this is an example of the possible output.

```
rlghncxa03w 07-05-01 07:01:08 GMT EAGLE5 37.0.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    ATMHC      1203      126-003-000        126-003-000   126-002-000
           IMTPCI        126-002-000 ALM    126-003-000   126-002-000
           BLBEPM        126-002-000 ALM    126-003-000   126-002-000
           BLCPLD        126-002-000 ALM    126-003-000   126-002-000
           BLVXW6        126-002-000 ALM    126-003-000   126-002-000
           BLDIAG6       126-002-000 ALM    126-003-000   126-002-000

                                            ACTIVE        INACTIVE
           IMTPCI        126-002-000 ALM    126-002-000   -----------
           BLBEPM        126-002-000 ALM    126-002-000   -----------
           BLCPLD        126-002-000 ALM    126-002-000   -----------
           BLVXW6        126-002-000 ALM    126-002-000   -----------
           BLDIAG6       126-002-000 ALM    126-002-000   -----------

Command Completed.
```

For an E5-TSM card, this is an example of the possible output.

```
rlghncxa03w 08-12-01 07:01:08 GMT EAGLE5 40.0.0
    GPL Auditing  ON

    GPL        CARD      RUNNING            APPROVED      TRIAL
    GLSHC      1203      126-003-000        126-003-000   126-002-000
           IMTPCI        126-002-000 ALM    126-003-000   126-002-000
           BLBEPM        126-002-000 ALM    126-003-000   126-002-000
           BLCPLD        126-002-000 ALM    126-003-000   126-002-000
```

```
           BLVXW6        126-002-000 ALM    126-003-000   126-002-000
           BLDIAG6       126-002-000 ALM    126-003-000   126-002-000

                                            ACTIVE        INACTIVE
           IMTPCI        126-002-000 ALM    126-002-000   -----------
           BLBEPM        126-002-000 ALM    126-002-000   -----------
           BLCPLD        126-002-000 ALM    126-002-000   -----------
           BLVXW6        126-002-000 ALM    126-002-000   -----------
           BLDIAG6       126-002-000 ALM    126-002-000   -----------

Command Completed.
```

The `flash-card` command will load only those flash GPLs whose approved versions are different from the versions that the card is running. The version of the flash GPL that the card is running is shown in the Running column in the `rept-stat-gpl` output. The approved version of the flash GPL is shown in the approved column of the `rept-stat-gpl` output. If the running and approved versions of a flash GPL are the same, the `flash-card` command will not load that flash GPL.

9. Display the status of the card using the `rept-stat-card` command and specifying the location of the card used in step 8.

   For this example, enter this command.

   ```
   rept-stat-card:loc=1303
   ```

   For an HC MIM, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  LIME1     SS7HC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBIOS  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLROM1  GPL version = 126-002-000
  PLDPMC1 GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             e11303a       -----------
      B      IS-NR             e11303b       -----------
      A1     IS-NR             e11303a       -----------
      B3     IS-NR             e11303b       -----------
Command Completed.
```

   For an E5-E1T1 card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  LIME1     SS7EPM     IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  PLDPMC1 GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
```

```
  CURRENT TEMPERATURE   =  32C ( 90F)     [ALARM TEMP:  60C (140F)]
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             e11303a       -----------
      B      IS-NR             e11303b       -----------
      A1     IS-NR             e11303a       -----------
      B3     IS-NR             e11303b       -----------
Command Completed.
```

For an E5-ENET card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  DCM       IPLHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  PLDPMC1 GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)     [ALARM TEMP:  60C (140F)]
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             e11303a       -----------
      B      IS-NR             e11303b       -----------
      A1     IS-NR             e11303a       -----------
      B3     IS-NR             e11303b       -----------
Command Completed.
```

For an E5-STC card, this is an example of the possible output.

```
rlghncxa03w 07-05-01 09:12:36 GMT EAGLE5 37.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  STC       ERTHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  61C (142F)
  PEAK TEMPERATURE:     =  61C (142F)     [00-02-14 10:33]
  EROUTE % OCCUP     = 0%
  NTP broadcast = VALID
  STC IP PORT A:                        OOS-MT         Unavail    -----
      ALARM STATUS  = **  0084 IP Connection Unavailable
      ERROR STATUS  = DHCP Lease. Physical Link.
  STC IP PORT B:                        OOS-MT         Unavail    -----
      ALARM STATUS  = **  0084 IP Connection Unavailable
      ERROR STATUS  = DHCP Lease. Physical Link.

Command Completed.
```

For an E5-SLAN card, this is an example of the possible output.

```
rlghncxa03w 07-05-01 09:12:36 GMT EAGLE5 37.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  DCM       SLANHC     IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
```

```
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  60C (140F)
  PEAK TEMPERATURE:     =  63C (146F)     [00-02-12 21:58]
  DLK A   PST        = IS-NR         SST = Avail     AST = -----
  SLAN % EAGLE CAPACITY    = 57%
  SLAN % HOST CAPACITY     = 49%

Command Completed.
```

For an E5-SM4G card, this is an example of the possible output.

```
rlghncxa03w 07-05-01 09:12:36 GMT EAGLE5 37.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  DSM       SCCPHC     IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBSMG  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  31C ( 88F)
  PEAK TEMPERATURE:     =  32C ( 90F)     [07-05-12 15:55]
  SCCP % OCCUP        = 1%

Command Completed.
```

For an E5-IPSM card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  IPSM      IPSHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  Command Completed.
```

For an E5-ATM card, this is an example of the possible output.

```
rlghncxa03w 08-03-01 09:12:36 GMT EAGLE5 38.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  LIMATM    ATMHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  38C (101F)
  PEAK TEMPERATURE:     =  38C (101F)     [07-11-23 06:10]
```

```
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             ls1           -----------


Command Completed.
```

For an E5-TSM card, this is an example of the possible output.

```
rlghncxa03w 08-12-01 09:12:36 GMT EAGLE5 40.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   132-003-000  TSM       GLSHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  38C (101F)
  PEAK TEMPERATURE:     =  38C (101F)     [07-11-23 06:10]

Command Completed.
```

Continue the procedure by performing one of these actions:

- If card is running one of these application GPLs: SS7HC, SS7EPM, IPLHC, IPGHC, ATMHC , IPSG (shown in the `GPL` column in the `rept-stat-card` output in step 9), continue the procedure with step 10.
- If card is running one of these application GPLs: ERTHC, E5-TSM, or SCCPHC, (shown in the `GPL` column in the `rept-stat-card` output in step 9), continue the procedure with step 17.
- If the card is running the SLANHC application GPL(shown in the `GPL` column in the `rept-stat-card` output in step 9), continue the procedure with step 12.
- If the card is running the IPSHC application GPL, (shown in the `GPL` column in the `rept-stat-card` output in step 9), continue the procedure with step 14.

10. Display the signaling links associated with the card shown in step 9.

Enter the `rtrv-slk` command with the card location specified in step 9. For this example, enter this command.

`rtrv-slk:loc=1303`

This is an example of the possible output for an HC MIM or E5-E1T1 card.

```
rlghncxa03w 06-10-01 21:16:37 GMT  EAGLE5 36.0.0

                                   L2T               PCR  PCR   E1   E1
LOC  LINK LSN         SLC TYPE     SET  BPS    ECM   N1   N2    LOC  PORT TS
1303 A    e11303a      0  LIME1    1    64000  PCR   76   3800  1303 2    12
1303 B    e11303b      0  LIME1    1    56000  BASIC ---  ----- 1303 1    2
1303 A1   e11303a      1  LIME1    1    56000  BASIC ---  ----- 1303 1    3
1303 B3   e11303b      1  LIME1    1    56000  BASIC ---  ----- 1303 1    7
```

This is an example of the possible output for an E5-ENET card.

```
rlghncxa03w 06-10-01 21:16:37 GMT  EAGLE5 36.0.0

LOC  LINK LSN         SLC TYPE     IPLIML2
```

```
1303 A    e11303a      0  IPLIM    M2PA
1303 B    e11303b      0  IPLIM    M2PA
1303 A1   e11303a      1  IPLIM    M2PA
1303 B3   e11303b      1  IPLIM    M2PA
```

This is an example of the possible output for an E5-ATM card.

```
rlghncxa03w 06-10-01 21:16:37 GMT  EAGLE 38.0.0

                                   LP            ATM
LOC  LINK LSN         SLC TYPE     SET  BPS      TSEL      VCI    VPI   LL

1303 A    ls2          2  LIMATM   1    1544000  LINE      5      0     0
1303 B    ls1          3  LIMATM   1    1544000  LINE      5      0     0
```

11. Deactivate the SS7 signaling links on the card using the `dact-slk` command.

For this example, enter these commands.

```
dact-slk:loc=1303:link=a
```

```
dact-slk:loc=1303:link=b
```

```
dact-slk:loc=1303:link=a1
```

```
dact-slk:loc=1303:link=b3
```

CAUTION: These command examples place the signaling links on card 1303 out of service. This will interrupt service on the signaling links on card 1303 and allow the flash GPLs to be loaded on to card 1303.

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 11:45:18 GMT  EAGLE5 36.0.0
Deactivate SLK message sent to card
```

After step 11 is performed, skip steps 12 through 16, and go to step 17.

12. Display the data link, and its status, associated with the card shown in step 9.

Enter the `rept-stat-dlk` command with the card location specified in step 9. For this example, enter this command.

```
rept-stat-dlk:loc=1303
```

This is an example of the possible output.

```
rlghncxa03w 07-05-01 17:00:36 GMT  EAGLE5 37.0.0
DLK    PST           SST        AST
1303   IS-NR         Avail      ---

Command Completed.
```

13. Deactivate the TCP/IP data link on the card that you wish to load the GPL onto using the canc-dlk command. For this example, enter this command.

```
canc=dlk:loc=1303
```

CAUTION: This command example places the TCP/IP data link on card 1303 out of service. This will interrupt service on the TCP/IP data link on card 1303 and allow the flash GPLs to be loaded on to card 1303.

If there is only one TCP/IP data link in the EAGLE 5 ISS, placing the card out of service will cause the STPLAN feature to be disabled. When this command has successfully completed, this message should appear.

When this command has successfully completed, this message should appear.

```
rlghncxa03w 07-05-01 11:45:18 GMT  EAGLE5 37.0.0
Deactivate Link message sent to card.
Command Completed.
```

After step 13 has been performed, skip steps 14 through 16, and go to step 17.

14. Display the terminal configuration in the database with the `rtrv-trm` command.

The Telnet terminals associated with the card shown in step 9 must be taken out of service. The Telnet terminals are shown in the output with the entry `TELNET` in the `TYPE` field. This is an example of the possible output. In this example, the Telnet terminals that must be taken out of service are terminals 17 to 24.

```
rlghncxa03w 07-05-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE    COMM         FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1 SW    30    5     99:59:59
2    KSR      9600-7-E-1 HW    30    5     INDEF
3    PRINTER  4800-7-E-1 HW    30    0     00:00:00
4    VT320    2400-7-E-1 BOTH  30    5     00:30:00
5    VT320    9600-7-O-1 NONE  30    5     00:00:30
6    OAP     19200-7-E-1 SW    0     5     INDEF
7    PRINTER  9600-7-N-2 HW    30    5     00:30:00
8    KSR     19200-7-E-2 BOTH  30    5     00:30:00
9    OAP     19200-7-E-1 SW    0     5     INDEF
10   VT320    9600-7-E-1 HW    30    5     00:30:00
11   VT320    4800-7-E-1 HW    30    5     00:30:00
12   PRINTER  9600-7-E-1 HW    30    4     00:30:00
13   VT320    9600-7-O-1 NONE  30    5     00:30:00
14   VT320    9600-7-E-2 SW    30    8     00:30:00
15   VT320    9600-7-N-2 HW    30    5     00:30:00
16   VT320    9600-7-E-2 BOTH  30    3     00:30:00

TRM  TYPE      LOC              TMOUT MXINV DURAL
17   TELNET    1303             60    5     00:30:00
18   TELNET    1303             60    5     00:30:00
19   TELNET    1303             60    5     00:30:00
20   TELNET    1303             60    5     00:30:00
21   TELNET    1303             60    5     00:30:00
22   TELNET    1303             60    5     00:30:00
23   TELNET    1303             60    5     00:30:00
24   TELNET    1303             60    5     00:30:00
25   TELNET    1203             60    5     00:30:00
26   TELNET    1203             60    5     00:30:00
27   TELNET    1203             60    5     00:30:00
28   TELNET    1203             60    5     00:30:00
39   TELNET    1203             60    5     00:30:00
30   TELNET    1203             60    5     00:30:00
31   TELNET    1203             60    5     00:30:00
32   TELNET    1203             60    5     00:30:00
33   TELNET    1208             60    5     00:30:00
34   TELNET    1208             60    5     00:30:00
35   TELNET    1208             60    5     00:30:00
36   TELNET    1208             60    5     00:30:00
37   TELNET    1208             60    5     00:30:00
38   TELNET    1208             60    5     00:30:00
39   TELNET    1208             60    5     00:30:00
40   TELNET    1208             60    5     00:30:00

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
```

```
     (sec)    (sec)     (msec)
17   none     none      none       1
18   none     none      none       1
19   none     none      none       1
20   none     none      none       1
21   none     none      none       1
22   none     none      none       1
23   none     none      none       1
24   none     none      none       1
25   none     none      none       1
26   none     none      none       1
27   none     none      none       1
28   none     none      none       1
29   none     none      none       1
30   none     none      none       1
31   none     none      none       1
32   none     none      none       1
33   none     none      none       1
34   none     none      none       1
35   none     none      none       1
36   none     none      none       1
37   none     none      none       1
38   none     none      none       1
39   none     none      none       1
40   none     none      none       1

TRM  TRAF LINK SA  SYS PU  DB
1    NO   YES  NO  YES NO  YES
2    NO   NO   NO  NO  NO  NO
.
.
.
39   NO   NO   NO  NO  NO  NO
40   NO   NO   NO  NO  NO  NO


     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
.
.
.
39   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
40   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

15. Display the status of the terminals with the `rept-stat-trm` command. This is an example of the possible output.

```
rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
```

```
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

16. Place the required terminals out of service using the `rmv-trm` command. For this example, enter these commands.

```
rmv-trm:trm=17

rmv-trm:trm=18

rmv-trm:trm=19

rmv-trm:trm=20

rmv-trm:trm=21

rmv-trm:trm=22

rmv-trm:trm=23

rmv-trm:trm=24
```

Note: If the terminal that is being taken out of service is the last in service SEAS terminal, the `force=yes` parameter must be specified with the `rmv-trm` command for that terminal.

CAUTION: Placing the Telnet terminals out of service will disable any Telnet sessions running on these terminals.

If the status of any of the terminals shown in the `PST` field in step 15 is OOS-MT-DSBLD (out-of-service maintenance disabled), the terminal is already out of service and the `rmv-trm` command does not need to be executed for that terminal.

This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
Inhibit message sent to terminal
```

```
rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
Command Completed.
```

17. Place the card shown in step 9 out of service using the `rmv-card` command.

    For this example, enter this command.

    `rmv-card:loc=1303`

    When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
Card has been inhibited.
```

    If the card contains the last signaling link in a linkset, the `force=yes` parameter must be specified.

18. Load the approved version of the flash GPLs onto the card inhibited in step 17 using the `flash-card` command with the `code=appr` parameter.

    The `flash-card` command will load only those flash GPLs whose approved versions are different from the versions that the card is running. The version of the flash GPL that the card is running is shown in the `RUNNING` column in the `rept-stat-gpl` output. The approved version of the flash GPL is shown in the `APPROVED` column of the `rept-stat-gpl` output. If the `RUNNING` and `APPROVED` versions of an flash GPL are the same, the `flash-card` command will not load that flash GPL.

    CAUTION: The `force=yes` is an optional parameter of the `flash-card` command. The `force=yes` parameter must be specified if the card was not taken out of service with the `rmv-card` command in step 17. If the `force=yes` parameter is specified with the `flash-card` command, the signaling links on the card will be taken out of service and traffic on these links could be lost.

    For this example, enter this command.

    `flash-card:code=appr:loc=1303`

    When this command has successfully completed on an HC MIM, these messages should appear.

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Downloading BLBIOS on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Card 1303 download BLBIOS complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Downloading BLDIAG6 on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Card 1303 download BLDIAG6 complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Downloading BLROM1 on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Card 1303 download BLROM1 complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Downloading IMTPCI on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
```

```
    Flash Card: Card 1303 download IMTPCI complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Downloading BLVXW6 on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Card 1303 download BLVXW6 complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Downloading PLDPMC1 on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Card 1303 download PLDPMC1 complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Activating BLBIOS on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Card 1303 activation BLBIOS complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Activating BLDIAG6 on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Card 1303 activation BLDIAG6 complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Activating BLROM1 on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Card 1303 activation BLROM1 complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Activating IMTPCI on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Card 1303 activation IMTPCI complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Activating BLVXW6 on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Card 1303 activation BLVXW6 complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Activating PLDPMC1 on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Card 1303 activation PLDPMC1 complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Downloading BLCPLD on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Card 1303 download BLCPLD complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Activating BLCPLD on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Flash Card: Card 1303 activation BLCPLD complete.
;
```

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 39.0.0
    Command Completed.
```

When this command has successfully completed on an E5-E1T1 or E5-ENET card, these messages should appear.

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Downloading BLBEPM on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Card 1303 download BLBEPM complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Downloading BLDIAG6 on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Card 1303 download BLDIAG6 complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Downloading IMTPCI on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Card 1303 download IMTPCI complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Downloading BLVXW6 on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Card 1303 download BLVXW6 complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Downloading PLDPMC1 on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Card 1303 download PLDPMC1 complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Activating BLBEPM on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Card 1303 activation BLBEPM complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Activating BLDIAG6 on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Card 1303 activation BLDIAG6 complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Activating IMTPCI on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Card 1303 activation IMTPCI complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Activating BLVXW6 on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Card 1303 activation BLVXW6 complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Downloading BLCPLD on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
```

```
    Flash Card: Card 1303 download BLCPLD complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Activating BLCPLD on card 1303.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Flash Card: Card 1303 activation BLCPLD complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
```

When this command has successfully completed on an E5-STC, E5-SLAN, E5-IPSM, E5-TSM, or E5-ATM card, these messages should appear.

```
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Downloading BLBEPM on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 download BLBEPM complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Downloading BLDIAG6 on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 download BLDIAG6 complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Downloading IMTPCI on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 download IMTPCI complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Downloading BLVXW6 on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 download BLVXW6 complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Activating BLBEPM on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 activation BLBEPM complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Activating BLDIAG6 on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 activation BLDIAG6 complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Activating IMTPCI on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 activation IMTPCI complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Activating BLVXW6 on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 activation BLVXW6 complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Downloading BLCPLD on card 1303.
;
```

```
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 download BLCPLD complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Activating BLCPLD on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 activation BLCPLD complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Command Completed.
```

When this command has successfully completed on an E5-SM4G card, these messages should appear.

```
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Downloading BLBSMG on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 download BLBSMG complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Downloading BLDIAG6 on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 download BLDIAG6 complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Downloading IMTPCI on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 download IMTPCI complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Downloading BLVXW6 on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 download BLVXW6 complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Activating BLBEPM on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 activation BLBEPM complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Activating BLDIAG6 on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 activation BLDIAG6 complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Activating IMTPCI on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 activation IMTPCI complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Activating BLVXW6 on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 activation BLVXW6 complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Downloading BLCPLD on card 1303.
```

```
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 download BLCPLD complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Activating BLCPLD on card 1303.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Flash Card: Card 1303 activation BLCPLD complete.
;
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    Command Completed.
```

The card specified in the `flash-card` command will be re-initialized when the flash GPL downloads are complete.

19. Put the card that was taken out of service in step 17 back into service using the `rst-card` command.

    The `rst-card` command also loads the approved versions of the flash GPLs onto the card.

    For this example, enter this command.

    `rst-card:loc=1303`

    When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
Card has been allowed.
```

20. Verify that the flash GPLs from step 18 have loaded and that the card has returned to its in-service normal (IS-NR) state using the `rept-stat-card` command.

    For this example, enter this command.

    `rept-stat-card:loc=1303`

    For an HC MIM, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  LIME1     SS7HC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-003-000
  BLCPLD  GPL version = 126-003-000
  BLDIAG6 GPL version = 126-003-000
  BLBIOS  GPL version = 126-003-000
  BLVXW6  GPL version = 126-003-000
  BLROM1  GPL version = 126-003-000
  PLDPMC1 GPL version = 126-003-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             e11303a       -----------
      B      IS-NR             e11303b       -----------
      A1     IS-NR             e11303a       -----------
      B3     IS-NR             e11303b       -----------
Command Completed.
```

For an E5-E1T1 card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
```

```
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  LIME1     SS7EPM     IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-003-000
  BLCPLD  GPL version = 126-003-000
  BLDIAG6 GPL version = 126-003-000
  BLBEPM  GPL version = 126-003-000
  PLDPMC1 GPL version = 126-003-000
  BLVXW6  GPL version = 126-003-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)     [ALARM TEMP:  60C (140F)]
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             e11303a       -----------
      B      IS-NR             e11303b       -----------
      A1     IS-NR             e11303a       -----------
      B3     IS-NR             e11303b       -----------
Command Completed.
```

For an E5-ENET card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  DCM       IPLHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-003-000
  BLCPLD  GPL version = 126-003-000
  BLDIAG6 GPL version = 126-003-000
  BLBEPM  GPL version = 126-003-000
  PLDPMC1 GPL version = 126-003-000
  BLVXW6  GPL version = 126-003-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)     [ALARM TEMP:  60C (140F)]
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             e11303a       -----------
      B      IS-NR             e11303b       -----------
      A1     IS-NR             e11303a       -----------
      B3     IS-NR             e11303b       -----------
Command Completed.
```

For an E5-STC card, this is an example of the possible output.

```
rlghncxa03w 07-05-01 09:12:36 GMT EAGLE5 37.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  STC       ERTHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  IMTPCI  GPL version = 126-003-000
  BLVXW6  GPL version = 126-003-000
  BLDIAG6 GPL version = 126-003-000
  BLBEPM  GPL version = 126-003-000
  BLCPLD  GPL version = 126-003-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  61C (142F)
  PEAK TEMPERATURE:     =  61C (142F)     [00-02-14 10:33]
  EROUTE % OCCUP     = 0%
  NTP broadcast = VALID
  STC IP PORT A:                         OOS-MT         Unavail    -----
      ALARM STATUS  = **  0084 IP Connection Unavailable
      ERROR STATUS  = DHCP Lease. Physical Link.
```

```
  STC IP PORT B:                          OOS-MT         Unavail    -----
      ALARM STATUS  = **  0084 IP Connection Unavailable
      ERROR STATUS  = DHCP Lease. Physical Link.

Command Completed.
```

For an E5-SLAN card, this is an example of the possible output.

```
rlghncxa03w 07-05-01 09:12:36 GMT EAGLE5 37.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  DCM       SLANHC     IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  IMTPCI  GPL version = 126-003-000
  BLVXW6  GPL version = 126-003-000
  BLDIAG6 GPL version = 126-003-000
  BLBEPM  GPL version = 126-003-000
  BLCPLD  GPL version = 126-003-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  60C (140F)
  PEAK TEMPERATURE:     =  63C (146F)     [00-02-12 21:58]
  DLK A   PST        = IS-NR         SST = Avail     AST = -----
  SLAN % EAGLE CAPACITY    = 57%
  SLAN % HOST CAPACITY     = 49%

Command Completed.
```

For an E5-SM4G card, this is an example of the possible output.

```
rlghncxa03w 07-05-01 09:12:36 GMT EAGLE5 37.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  DSM       SCCPHC     IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  IMTPCI  GPL version = 126-003-000
  BLVXW6  GPL version = 126-003-000
  BLDIAG6 GPL version = 126-003-000
  BLBSMG  GPL version = 126-003-000
  BLCPLD  GPL version = 126-003-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  31C ( 88F)
  PEAK TEMPERATURE:     =  32C ( 90F)     [07-05-12 15:55]
  SCCP % OCCUP        = 1%

Command Completed.
```

For an E5-IPSM card, this is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  IPSM      IPSHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-003-000
  BLVXW6  GPL version = 126-003-000
  BLDIAG6 GPL version = 126-003-000
  BLBEPM  GPL version = 126-003-000
  BLCPLD  GPL version = 126-003-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  Command Completed.
```

For an E5-ATM card, this is an example of the possible output.

```
rlghncxa03w 08-03-01 09:12:36 GMT EAGLE5 38.0.0
```

```
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   126-003-000  LIMATM    ATMHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  IMTPCI  GPL version = 126-003-000
  BLVXW6  GPL version = 126-003-000
  BLDIAG6 GPL version = 126-003-000
  BLBEPM  GPL version = 126-003-000
  BLCPLD  GPL version = 126-003-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  38C (101F)
  PEAK TEMPERATURE:     =  38C (101F)     [07-11-23 06:10]
  SIGNALING LINK STATUS
      SLK    PST               LS            CLLI
      A      IS-NR             ls1           -----------


Command Completed.
```

For an E5-TSM card, this is an example of the possible output.

```
rlghncxa03w 08-12-01 09:12:36 GMT EAGLE5 40.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1303   132-003-000  TSM       GLSHC      IS-NR          Active     -----
  ALARM STATUS       = No Alarms.
  IMTPCI  GPL version = 126-003-000
  BLVXW6  GPL version = 126-003-000
  BLDIAG6 GPL version = 126-003-000
  BLBEPM  GPL version = 126-003-000
  BLCPLD  GPL version = 126-003-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  38C (101F)
  PEAK TEMPERATURE:     =  38C (101F)     [07-11-23 06:10]

Command Completed.
```

Note: If the any of versions of the flash GPLs shown in the `rept-stat-card` command output are not the versions specified in step 5, contact the Customer Care Center. Refer to *Customer Care Center* on page 4 for the contact information.

Continue the procedure by performing one of these actions:

- If card is running one of these application GPLs: SS7HC, SS7EPM, IPLHC, IPGHC, ATMHC , IPSG (shown in the `GPL` column in the `rept-stat-card` output in step 20), continue the procedure with step 21.
- If card is running one of these application GPLs: ERTHC, E5-TSM, or SCCPHC, (shown in the `GPL` column in the `rept-stat-card` output in step 20), continue the procedure with step 27.
- If the card is running the SLANHC application GPL, (shown in the `GPL` column in the `rept-stat-card` output in step 20), continue the procedure with step 23.
- If the card is running the IPSHC application GPL, (shown in the `GPL` column in the `rept-stat-card` output in step 20), continue the procedure with step 25.

21. Place the signaling links that were deactivated in step 11 back into service using the `act-slk` command.

For this example, enter these commands.

```
act-slk:loc=1303:link=a
```

```
act-slk:loc=1303:link=b
```

```
act-slk:loc=1303:link=a1
```

```
act-slk:loc=1303:link=b3
```

When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 11:55:49 GMT  EAGLE5 36.0.0
Activate SLK message sent to card
```

22. Verify that the signaling links activated in step 21 are back in service using the `rept-stat-slk` command with the card location and signaling link.

    For this example, enter these commands.

    ```
    rept-stat-slk:loc=1303:link=a
    ```

    This is an example of the possible output.

    ```
    rlghncxa03w 06-10-01 13:06:25 GMT EAGLE5 36.0.0
    SLK      LSN       CLLI        PST          SST       AST
    1303,A   e11303a   ----------- IS-NR        Avail     ----
      ALARM STATUS       = No Alarms.
      UNAVAIL REASON     = --
    ```

    ```
    rept-stat-slk:loc=1303:link=b
    ```

    This is an example of the possible output.

    ```
    rlghncxa03w 06-10-01 13:06:25 GMT EAGLE5 36.0.0
    SLK      LSN       CLLI        PST          SST       AST
    1303,B   e11303b   ----------- IS-NR        Avail     ----
      ALARM STATUS       = No Alarms.
      UNAVAIL REASON     = --
    ```

    ```
    rept-stat-slk:loc=1303:link=a1
    ```

    This is an example of the possible output.

    ```
    rlghncxa03w 06-10-01 13:06:25 GMT EAGLE5 36.0.0
    SLK      LSN       CLLI        PST          SST       AST
    1303,A1  e11303a   ----------- IS-NR        Avail     ----
      ALARM STATUS       = No Alarms.
      UNAVAIL REASON     = --
    ```

    ```
    rept-stat-slk:loc=1303:link=b3
    ```

    This is an example of the possible output.

    ```
    rlghncxa03w 06-10-01 13:06:25 GMT EAGLE5 36.0.0
    SLK      LSN       CLLI        PST          SST       AST
    1303,B3  e11303b   ----------- IS-NR        Avail     ----
      ALARM STATUS       = No Alarms.
      UNAVAIL REASON     = --
    Command Completed.
    ```

    After step 22 has been performed, skip steps 20 and 21, and go to step 22skip steps 23 through 26, and go to step 27.

23. Place the TCP/IP data link that was deactivated in step 13 back into using the `act-dlk` command. For this example, enter this command.

```
act-dlk:loc=1303
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 07-05-01 11:55:49 GMT  EAGLE5 37.0.0
Activate Link message sent to card.
```

24. Verify that the TCP/IP data link activated in step 23 is back in service with the `rept-stat-dlk` command. For this example, enter this command.

```
rept-stat-dlk:loc=1303
```

This is an example of the possible output.

```
rlghncxa03w 07-05-01 17:00:36 GMT  EAGLE5 37.0.0
DLK    PST           SST        AST
1303   IS-NR         Avail      ---

Command Completed.
```

After step 24 has been performed, skip steps 25 and 26, and go to step 27.

25. Put the required terminals back into service with the `rst-trm` command. For this example, enter these commands.

```
rst-trm:trm=17
rst-trm:trm=18
rst-trm:trm=19
rst-trm:trm=20
rst-trm:trm=21
rst-trm:trm=22
rst-trm:trm=23
rst-trm:trm=24
```

This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
Allow message sent to terminal

rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
Command Completed.
```

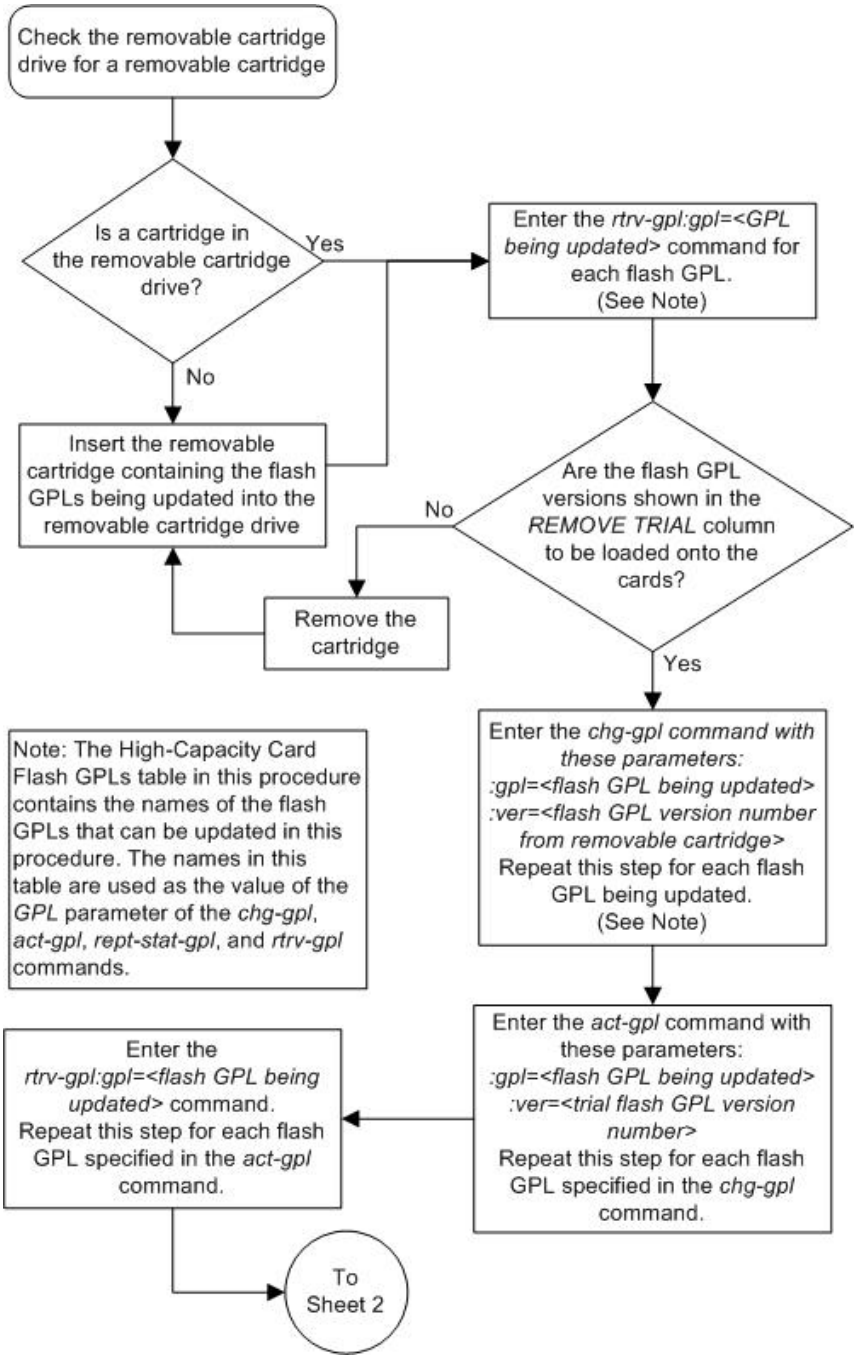
26. Verify that the terminals are in service with the `rept-stat-trm` command. This is an example of the possible output.

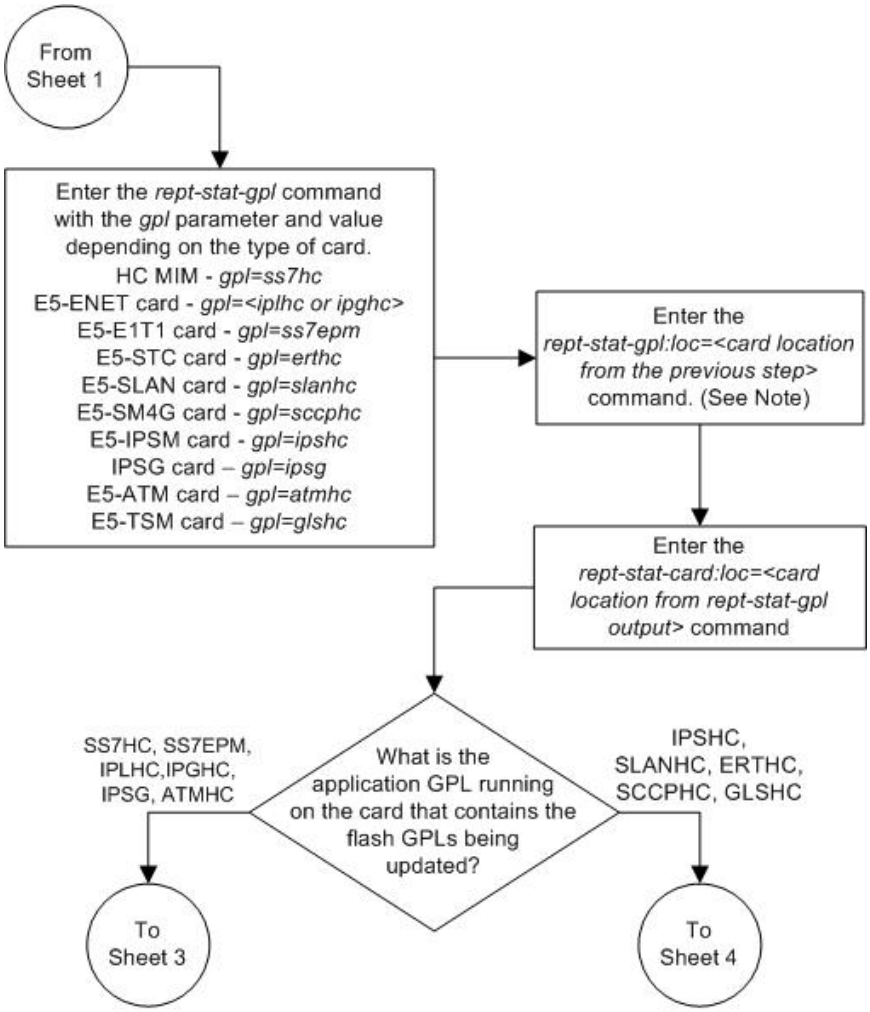
```
rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
```

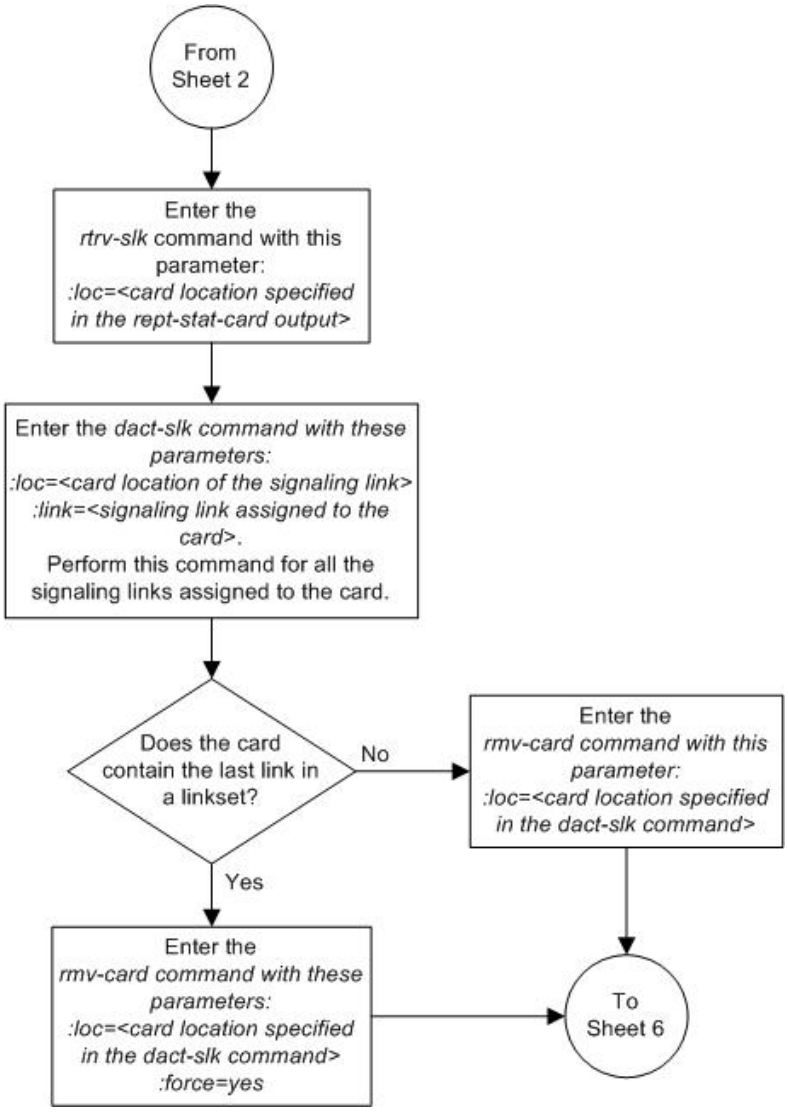
```
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

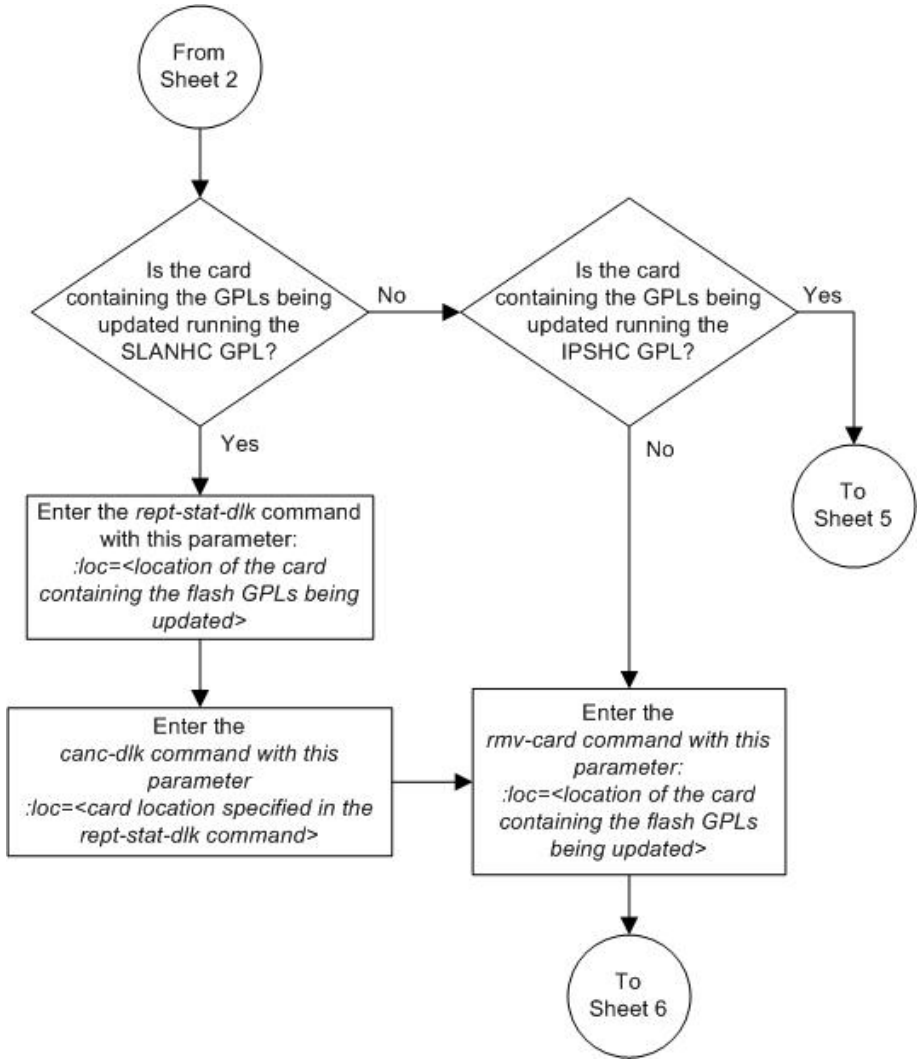
27. Remove the removable cartridge from the removable cartridge drive on the MDAL card.

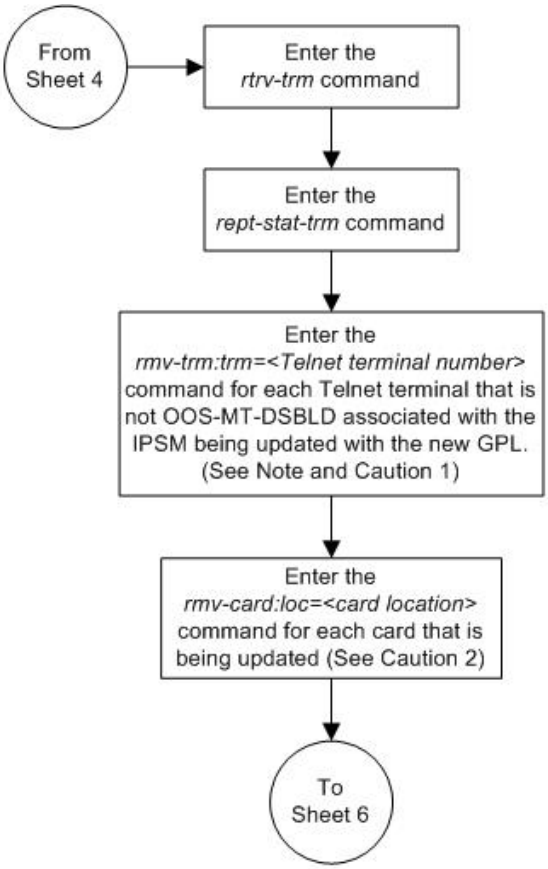
Figure 28: Updating All the Flash GPLs on the High-Capacity Cards


Check the removable cartridge drive for a removable cartridge
Is a cartridge in the removable cartridge drive?
Yes
No
Enter the rtrv-gpl:gpl=<GPL being updated> command for each flash GPL. (See Note)
Insert the removable cartridge containing the flash GPLs being updated into the removable cartridge drive
Are the flash GPL versions shown in the REMOVE TRIAL column to be loaded onto the cards?
No
Yes
Remove the cartridge
Note: The High-Capacity Card Flash GPLs table in this procedure contains the names of the flash GPLs that can be updated in this procedure. The names in this table are used as the value of the GPL parameter of the chg-gpl, act-gpl, rept-stat-gpl, and rtrv-gpl commands.
Enter the chg-gpl command with these parameters: :gpl=<flash GPL being updated> :ver=<flash GPL version number from removable cartridge> Repeat this step for each flash GPL being updated. (See Note)
Enter the act-gpl command with these parameters: :gpl=<flash GPL being updated> :ver=<trial flash GPL version number> Repeat this step for each flash GPL specified in the chg-gpl command.
Enter the rtrv-gpl:gpl=<flash GPL being updated> command. Repeat this step for each flash GPL specified in the act-gpl command.
To Sheet 2


From Sheet 1
Enter the rept-stat-gpl command with the gpl parameter and value depending on the type of card.
HC MIM - gpl=ss7hc
E5-ENET card - gpl=<iplhc or ipghc>
E5-E1T1 card - gpl=ss7epm
E5-STC card - gpl=erthc
E5-SLAN card - gpl=slanhc
E5-SM4G card - gpl=sccphc
E5-IPSM card - gpl=ipshc
IPSG card – gpl=ipsg
E5-ATM card – gpl=atmhc
E5-TSM card – gpl=glshc
Enter the rept-stat-gpl:loc=<card location from the previous step> command. (See Note)
Enter the rept-stat-card:loc=<card location from rept-stat-gpl output> command
What is the application GPL running on the card that contains the flash GPLs being updated?
SS7HC, SS7EPM, IPLHC,IPGHC, IPSG, ATMHC
IPSHC, SLANHC, ERTHC, SCCPHC, GLSHC
To Sheet 3
To Sheet 4
Note: The flash-card command will load only those flash GPLs whose approved versions are different from the versions that the high-capacity card is running.
The version of the flash GPL that the card is running is shown in the RUNNING column in the rept-stat-gpl output.
The approved version of the flash GPL is shown in the APPROVED column of the rept-stat-gpl output.
If the RUNNING and APPROVED versions of an flash GPL are the same, the flash-card command will not load that flash GPL.


From Sheet 2
Enter the rtrv-slk command with this parameter: :loc=<card location specified in the rept-stat-card output>
Enter the dact-slk command with these parameters: :loc=<card location of the signaling link> :link=<signaling link assigned to the card>. Perform this command for all the signaling links assigned to the card.
Does the card contain the last link in a linkset?
No
Enter the rmv-card command with this parameter: :loc=<card location specified in the dact-slk command>
Yes
Enter the rmv-card command with these parameters: :loc=<card location specified in the dact-slk command> :force=yes
To Sheet 6


From Sheet 2
Is the card containing the GPLs being updated running the SLANHC GPL?
No
Is the card containing the GPLs being updated running the IPSHC GPL?
Yes
To Sheet 5
Yes
No
Enter the *rept-stat-dlk* command with this parameter: *:loc=<location of the card containing the flash GPLs being updated>*
Enter the *canc-dlk command with this parameter :loc=<card location specified in the rept-stat-dlk command>*
Enter the *rmv-card command with this parameter: :loc=<location of the card containing the flash GPLs being updated>*
To Sheet 6

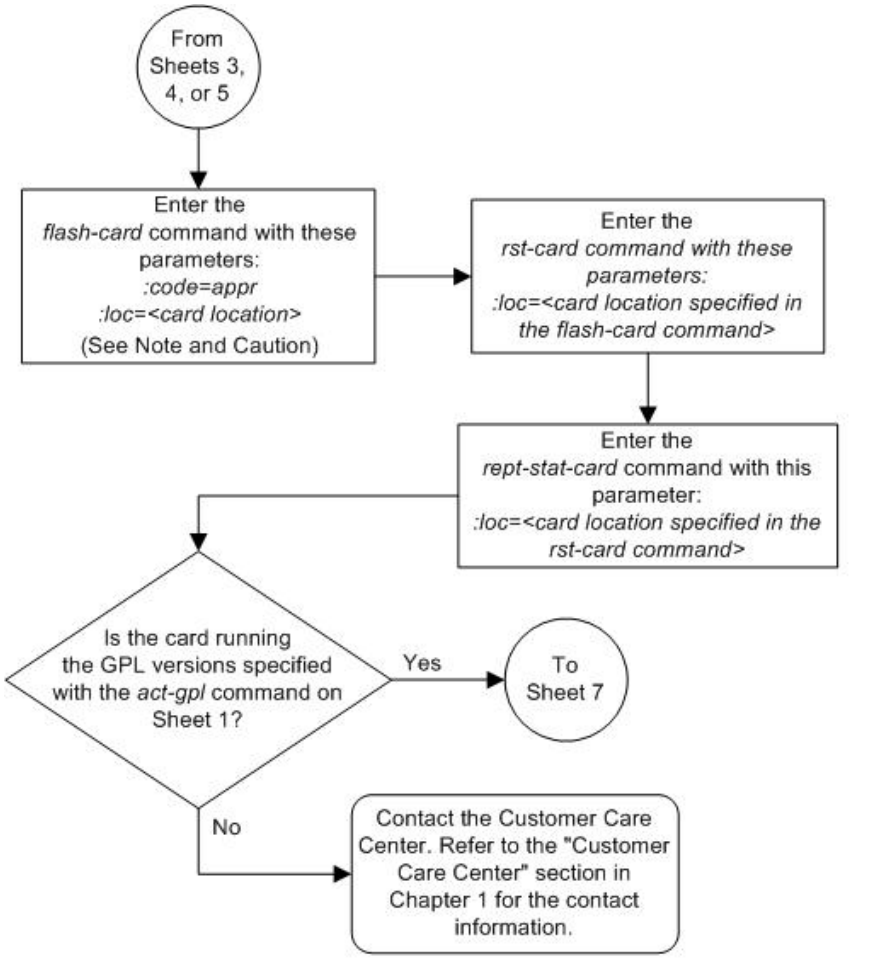


Note: Each IPSM has 8 Telnet terminals associated with it. The *rtrv-trm* output shows the Telnet terminals that are associated with each IPSM.

Cautions:

1. Placing the Telnet terminals out of service will disable all Telnet sessions supported by the terminals associated with the IPSM.

2. Multiple cards running the same flash GPL can be updated at the same time with the *init-flash* command. This requires that the cards in the locations specified with the *init-flash* command are out of service. All the IPSMs can be placed out of service at the same time. However, it is recommended that only some of the IPSMs are placed out of service. Placing all the IPSMs out of service will cause the traffic carried by IPSMs to be lost and disable the IP User Interface and FTP Retrieve and Replace features.



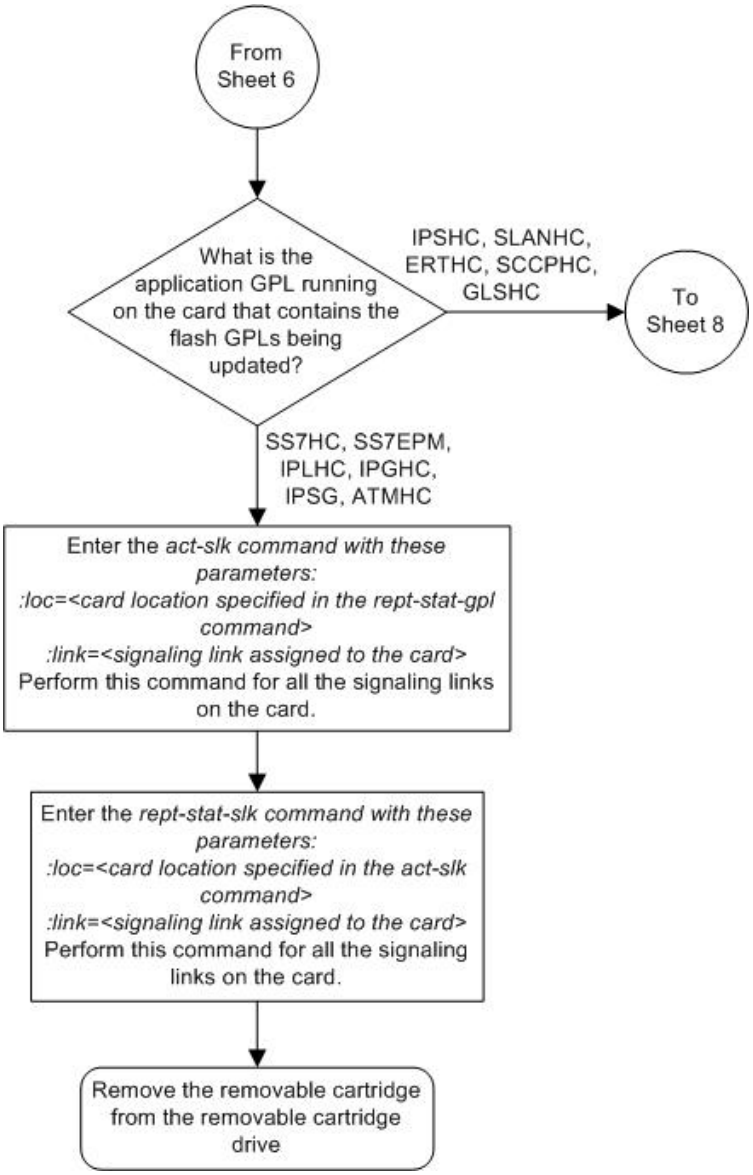
Note: The *flash-card* command will load only those flash GPLs whose approved versions are different from the versions that the high-capacity card is running.

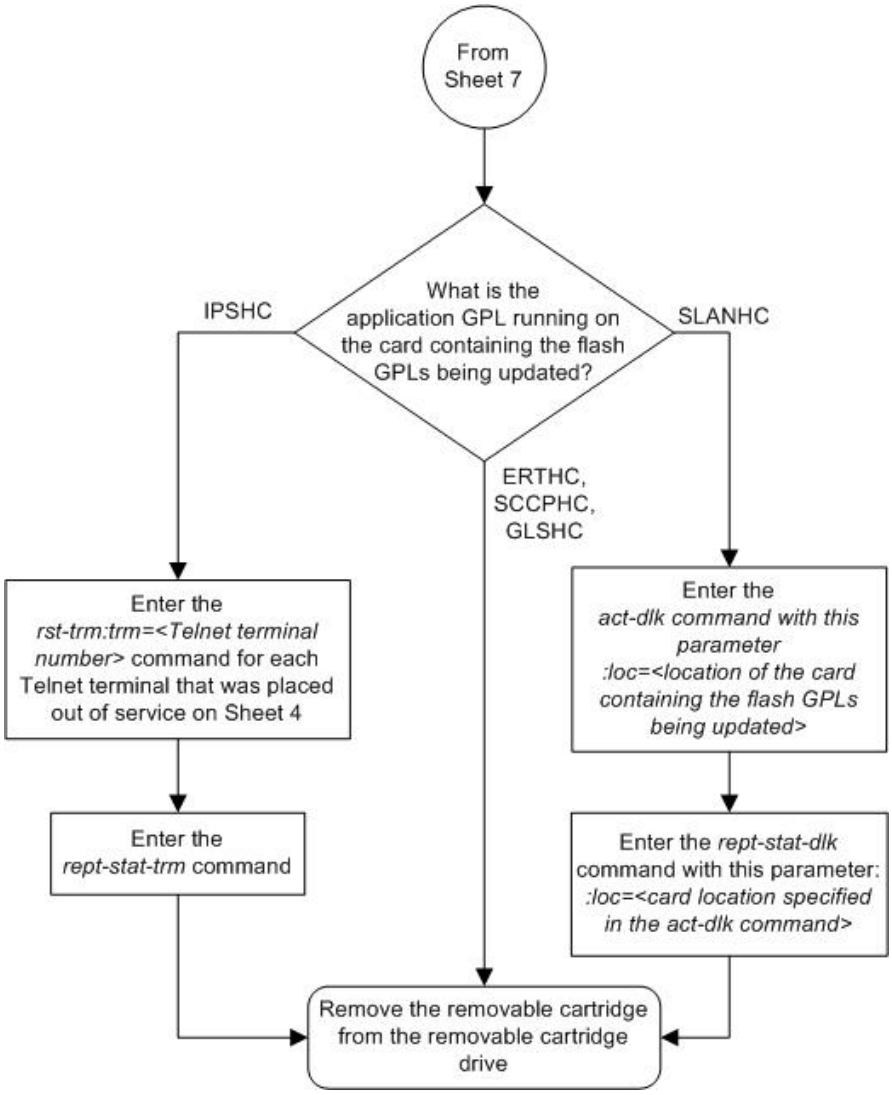
The version of the flash GPL that the card is running is shown in the *RUNNING* column in the *rept-stat-gpl* output.

The approved version of the flash GPL is shown in the *APPROVED* column of the *rept-stat-gpl* output.

If the *RUNNING* and *APPROVED* versions of an flash GPL are the same, the *flash-card* command will not load that flash GPL.

CAUTION: The *force=yes* is an optional parameter of the *flash-card* command. The *force=yes* parameter must be specified if the high-capacity card was not taken out of service with the *rmv-card* command on Sheets 2 and 3. If the *force=yes* parameter is specified with the *flash-card* command, the high-capacity card will be taken out of service and all traffic hosted by the high-capacity card will be lost.


From Sheet 6
What is the application GPL running on the card that contains the flash GPLs being updated?
IPSHC, SLANHC, ERTHC, SCCPHC, GLSHC
To Sheet 8
SS7HC, SS7EPM, IPLHC, IPGHC, IPSG, ATMHC
Enter the act-slk command with these parameters:
:loc=<card location specified in the rept-stat-gpl command>
:link=<signaling link assigned to the card>
Perform this command for all the signaling links on the card.
Enter the rept-stat-slk command with these parameters:
:loc=<card location specified in the act-slk command>
:link=<signaling link assigned to the card>
Perform this command for all the signaling links on the card.
Remove the removable cartridge from the removable cartridge drive



Updating the BPHMUX GPL

This section presents the procedure for updating the `bphmux` generic program load (GPL). The `bphmux` GPL is used by the High-Speed Multiplexer (HMUX) card to control the IMT bus and resides on the fixed disk. The HMUX card resides only in slots 9 and 10 in each shelf in the EAGLE 5 ISS.

This section presents the procedure for loading the `bphmux` GPL onto the EAGLE 5 ISS as a trial version from a removable cartridge, then making the trial version of the `bphmux` GPL the approved version.

If any card is not running the version of the GPL shown in the `RELEASE` column of the `rtrv-gpl` output, the indicator `ALM` is displayed next to the GPL version in the `RUNNING` column of the

rept-stat-gpl output, and next to the GPL version in the APPROVED column in the rtrv-gpl output.

The removable cartridge that contains the bphmux GPL to be loaded on to the EAGLE 5 ISS is required.

1. Check the removable cartridge drive on the MDAL card for a removable cartridge.

   If there is a removable cartridge in the drive, remove it. For more information on removing the removable cartridge from the removable cartridge drive, see *Removing the Removable Cartridge* on page 17.

2. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled).

   To write protect a removable cartridge, see *Write Protecting the Removable Cartridge* on page 14.

3. Insert the removable cartridge containing the bphmux GPL into the removable cartridge drive on the MDAL card.

   For more information on inserting the removable cartridge in the removable cartridge drive, see *Inserting the Removable Cartridge* on page 15.

4. Display the bphmux GPLs on the fixed disk and on the removable cartridge using the rtrv-gpl:gpl=bphmux command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL        CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BPHMUX     1114  118-002-000  118-002-000      118-001-000  118-003-000
BPHMUX     1116  118-002-000  118-002-000      118-001-000  -----------
```

5. Change the GPLs, using the chg-gpl command and specifying the value for the trial bphmux GPL shown in the REMOVE TRIAL column in the output of the rtrv-gpl command used in step 4.

   For this example, enter this command.

   chg-gpl:gpl=bphmux:ver=118-003-000

   These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
GPL Auditing  ON

BPHMUX upload on 1114 completed
BPHMUX upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

6. Activate the trial GPL, using the act-gpl command and specifying the value for the trial bphmux GPL used in step 5.

   For this example, enter this command.

   act-gpl:gpl=bphmux:ver=118-003-000

These messages should appear.

```
rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
BPHMUX activate on 1114 completed
BPHMUX activate on 1116 completed
```

7. Verify that the `bphmux` GPL on the removable cartridge is the approved GPL on the fixed disk using the `rtrv-gpl:gpl=bphmux` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD
RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BPHMUX    1114  118-003-000  118-003-000      118-002-000  118-003-000
BPHMUX    1116  118-003-000  118-003-000      118-002-000  -----------
```

8. Verify the `bphmux` GPLs on the fixed disk and the cards that are running the `bphmux` GPLs using the `rept-stat-gpl:gpl=bphmux` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
GPL      CARD   RUNNING           APPROVED      TRIAL
BPHMUX   1109   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1110   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1209   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1210   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1309   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1310   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   2109   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   2110   118-002-000 ALM   118-003-000   118-002-000
Command Completed
```

9. Load the approved `bphmux` GPL onto a card selected from the cards shown in step 8 using the `init-flash:code=appr` command.

   For this example, enter this command.

   `init-flash:code=appr:loc=1109`

   When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Downloading for card 1109 Started.
;
    rlghncxa03w 06-10-01  11:11:28 GMT EAGLE5 36.0.0
    BPHMUX Downloading for card 1109 Complete.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
```

Updating more than One HMUX Card at the Same Time

Multiple HMUX cards can be updated at the same time with the `init-flash` command. The multiple HMUXcards being updated must be on the same IMT bus. Specifying card locations XX09 for the `sloc` and `eloc` parameters specifies the HMUX cards on IMT bus A. Specifying card locations XX10 for the `sloc` and `eloc` parameters specifies the HMUX cards on IMT bus B.

To update more than one HMUX card on the same IMT bus, enter the `init-flash` command with these parameters along with the `code=appr` parameter:

`sloc` – the first card location in the range of card locations

`eloc` – the last card location in the range of card locations

`gpl` – bphmux

Note: The `sloc`, `eloc`, and `gpl` parameters cannot be specified with the `loc` parameter.

For example, to update the HMUX cards on IMT Bus B shown in step 8 with the approved version of the `bphmux` GPL, enter this command.

```
init-flash:code=appr:sloc=1110:eloc=2110:gpl=bphmux
```

To update the HMUX cards on IMT bus A shown in step 8, the `sloc=1109` and `eloc=2109` parameters would be specified with the `init-flash` command.

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Download for cards 1110 - 2110 Started.
;
    rlghncxa03w 06-10-01 13:07:15 GMT EAGLE5 36.0.0
    FLASH Memory Download for cards 1110 - 2110 Completed.
    LOC 1110 : PASSED
    LOC 1210 : PASSED
    LOC 1310 : PASSED
    LOC 2110 : PASSED

    ALL CARD RESULTS PASSED
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
```

10. Re-initialize the HMUX cards specified in step 9 using the `init-mux` command with the `loc` parameter.

    For this example, enter this command.

    ```
    init-mux:loc=1109
    ```

    If more than one HMUX card was specified in step 9, re-initialize the IMT bus containing the cards specified in step 9 by entering `init-mux` command and specifying the IMT bus (the `bus` parameter) containing the cards specified in step 9. Specifying card locations XX09 for the `sloc` and `eloc` parameters in step 9 requires that IMT bus A is re-initialized. Specifying card locations XX10 for the `sloc` and `eloc` parameters in step 9 requires that IMT bus B is re-initialized.

    For this example, enter this command.

    ```
    init-mux:bus=a
    ```

    When this command has successfully completed, this message should appear.

    ```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
    ```

    Note: Executing this command produces two alarms: 0002 - Card is not running approved GPL, indicating that the version of the `bphmux`GPL running on the card is not the approved version, and 0004 - Card is running non-activated GPL, indicating that the new version of the `bphmux`GPL running on the card has not been activated.

11. Verify that the approved bphmux GPL from step 10 has loaded and that the state of the card is in-service normal (IS-NR) state using the rept-stat-card command.

    If more than one card was specified in steps 9 and 10, enter the rept-stat-card command for each specified card. For this example, enter this command.

    rept-stat-card:loc=1109:mode=full

```
rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1109   118-003-000  HMUX      HMUX       IS-NR          Active     -----
  ALARM STATUS       = No Alarms
  APPROVED VERSION     = 118-003-000
  FPGA VERSION       = 022-005
Command Completed.
```

    Note: If the version number of the bphmuxGPL shown in the rept-stat-card command output is different than the version specified in step 5, contact the Customer Care Center. Refer to *Customer Care Center* on page 4 for the contact information.

12. Activate the approved bphmux GPL loaded onto the card in step 9 using the act-flash command.

    For this example, enter this command.

    act-flash:loc=1109

    When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Activation for card 1109 Completed.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
```

    Activating the BPHMUXGPL on more than One HMUXCard at the Same Time

    If more than one HMUX card was specified in step 9, enter the act-flash command with these parameters:

    sloc – the first card location in the range of card locations

    eloc – the last card location in the range of card locations

    gpl – bphmux

    Note: The sloc, eloc, and gpl parameters cannot be specified with the loc parameter.

    For example, to activate the BPHMUX GPL on the HMUX cards on IMT Bus B shown in step 8 with the trial version of the bphmux GPL, enter this command.

    act-flash:sloc=1110:eloc=2110:gpl=bphmux

    To activate the BPHMUX GPL on the HMUX cards on IMT bus A shown in step 8, the sloc=1109 and eloc=2109 parameters would be specified with the act-flash command.

    When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Activation for cards 1110 - 2110 Started.
;
    rlghncxa03w 06-10-01 13:07:15 GMT EAGLE5 36.0.0
    FLASH Memory Activation for cards 1110 - 2110 Completed.
```

```
    LOC 1110 : PASSED
    LOC 1210 : PASSED
    LOC 1310 : PASSED
    LOC 2110 : PASSED

    ALL CARD RESULTS PASSED
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
```

13. Verify the `bphmux` GPLs on the fixed disk and the cards that are running the `bphmux` GPLs using the `rept-stat-gpl:gpl=bphmux` command.

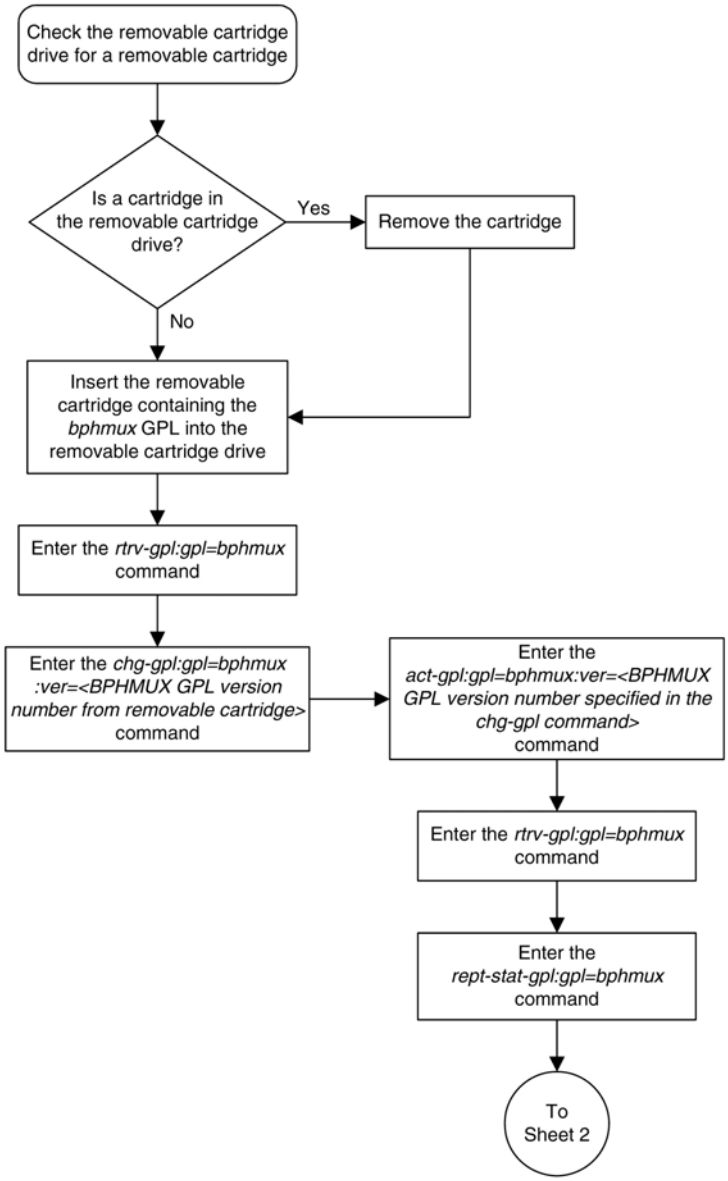
    This is an example of the possible output.

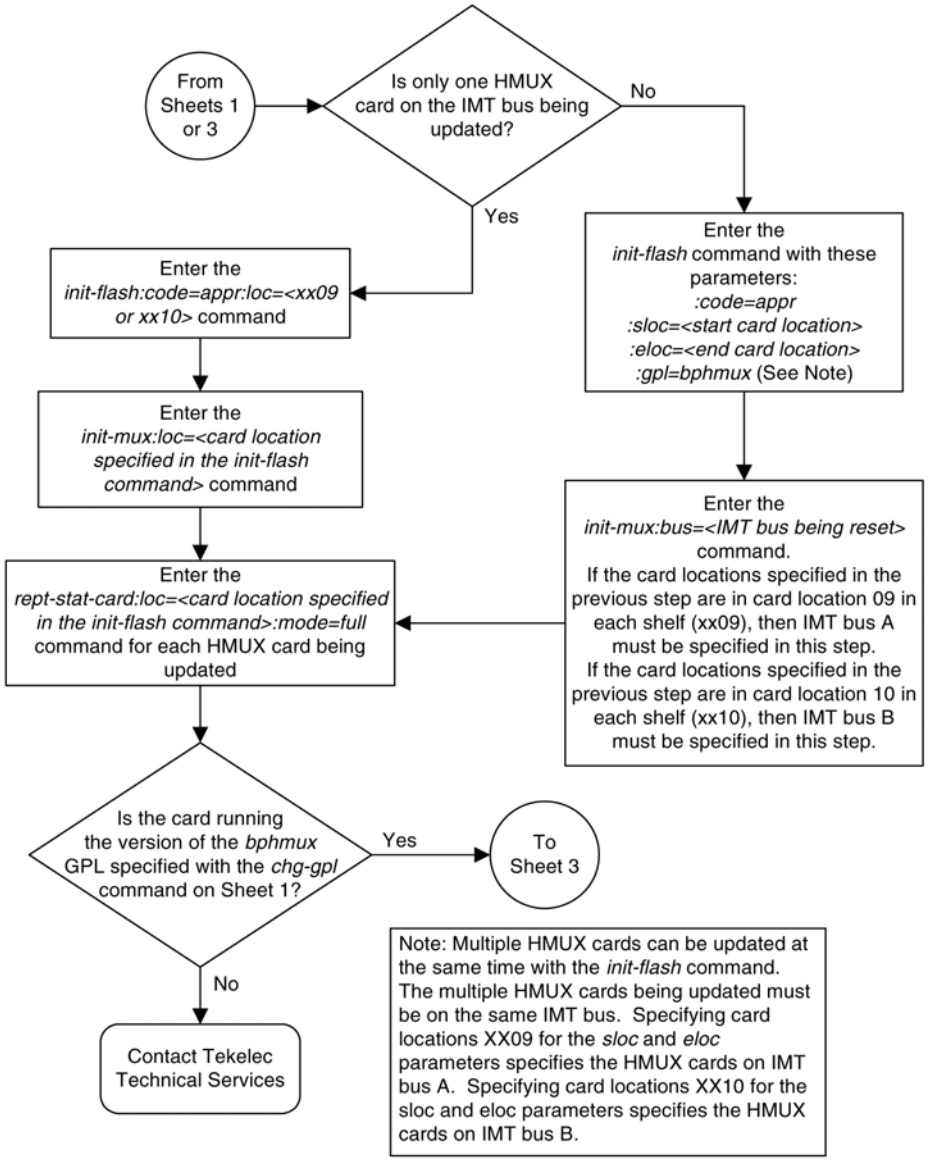
```
rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
GPL      CARD   RUNNING           APPROVED      TRIAL
BPHMUX   1109   118-003-000       118-003-000   118-002-000
BPHMUX   1110   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1209   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1210   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1309   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   1310   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   2109   118-002-000 ALM   118-003-000   118-002-000
BPHMUX   2110   118-002-000 ALM   118-003-000   118-002-000
Command Completed
```

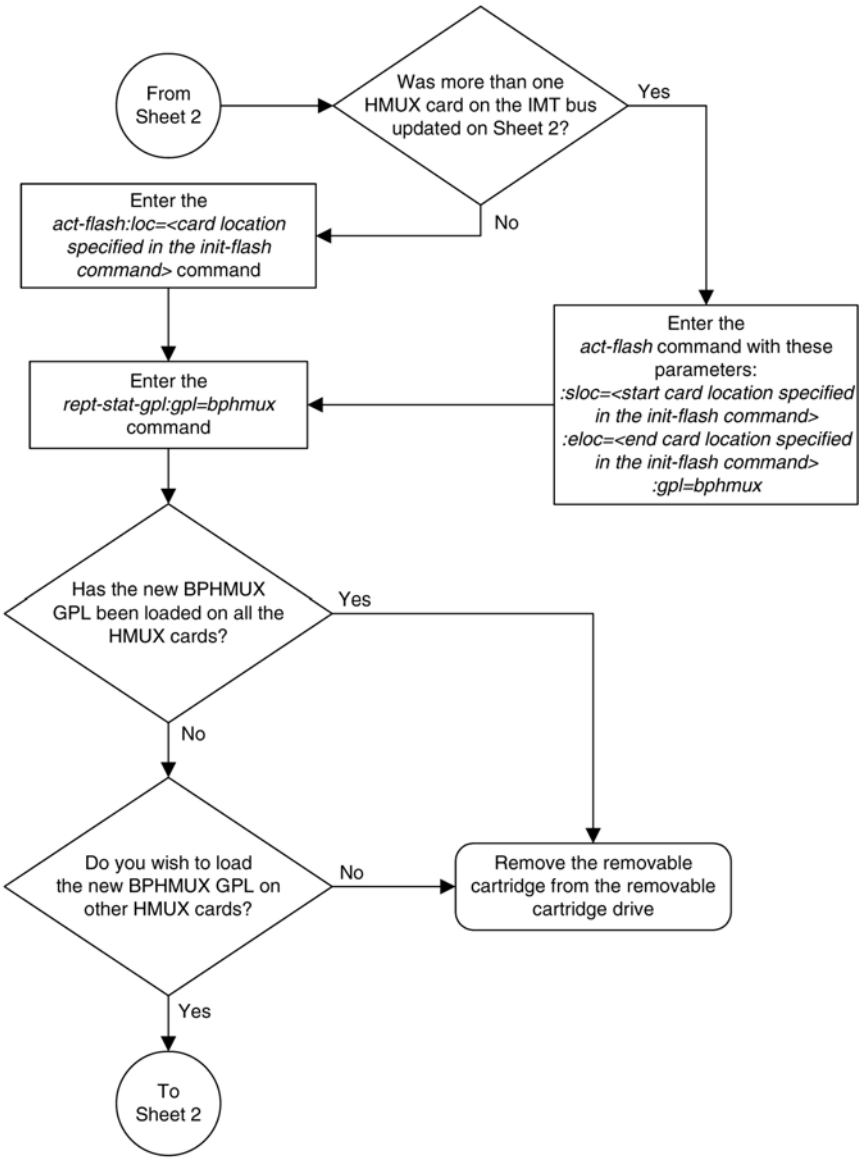
14. To load the `bphmux` GPL on the other HMUX cards, repeat steps 9 through 13 for each card.
15. Remove the removable cartridge from the removable cartridge drive on the MDAL card.

    For more information on removing the removable cartridge from the removable cartridge drive, see *Removing the Removable Cartridge* on page 17.

Figure 29: Updating the BPHMUX GPL


Check the removable cartridge drive for a removable cartridge
Is a cartridge in the removable cartridge drive?
Yes
Remove the cartridge
No
Insert the removable cartridge containing the bphmux GPL into the removable cartridge drive
Enter the rtrv-gpl:gpl=bphmux command
Enter the chg-gpl:gpl=bphmux :ver=<BPHMUX GPL version number from removable cartridge> command
Enter the act-gpl:gpl=bphmux:ver=<BPHMUX GPL version number specified in the chg-gpl command> command
Enter the rtrv-gpl:gpl=bphmux command
Enter the rept-stat-gpl:gpl=bphmux command
To Sheet 2


From Sheets 1 or 3
Is only one HMUX card on the IMT bus being updated?
No
Yes
Enter the init-flash:code=appr:loc=<xx09 or xx10> command
Enter the init-flash command with these parameters: :code=appr :sloc=<start card location> :eloc=<end card location> :gpl=bphmux (See Note)
Enter the init-mux:loc=<card location specified in the init-flash command> command
Enter the init-mux:bus=<IMT bus being reset> command. If the card locations specified in the previous step are in card location 09 in each shelf (xx09), then IMT bus A must be specified in this step. If the card locations specified in the previous step are in card location 10 in each shelf (xx10), then IMT bus B must be specified in this step.
Enter the rept-stat-card:loc=<card location specified in the init-flash command>:mode=full command for each HMUX card being updated
Is the card running the version of the bphmux GPL specified with the chg-gpl command on Sheet 1?
Yes
To Sheet 3
No
Contact Tekelec Technical Services
Note: Multiple HMUX cards can be updated at the same time with the init-flash command. The multiple HMUX cards being updated must be on the same IMT bus. Specifying card locations XX09 for the sloc and eloc parameters specifies the HMUX cards on IMT bus A. Specifying card locations XX10 for the sloc and eloc parameters specifies the HMUX cards on IMT bus B.



Updating the HIPR GPL

This section presents the procedure for updating the `hipr` generic program load (GPL). The `hipr` GPL is used by the High-Speed IMT Packet Router (HIPR) card to control the IMT bus and resides on the fixed disk. The HIPR card resides only in slots 9 and 10 in each shelf in the EAGLE 5 ISS.

This section presents the procedure for loading the `hipr` GPL onto the EAGLE 5 ISS as a trial version from a removable cartridge, then making the trial version of the `hipr` GPL the approved version.

If any card is not running the approved version of the GPL shown in the `RELEASE` column of the `rtrv-gpl` output, the indicator `ALM` is displayed next to the GPL version in the `RUNNING` column

of the `rept-stat-gpl` output, and next to the GPL version in the `APPROVED` column in the `rtrv-gpl` output.

The removable cartridge that contains the `hipr` GPL to be loaded on to the EAGLE 5 ISS is required.

1. Check the removable cartridge drive on the MDAL card for a removable cartridge.

   If there is a removable cartridge in the drive, remove it. For more information on removing the removable cartridge from the removable cartridge drive, see *Removing the Removable Cartridge* on page 17.

2. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled).

   To write protect a removable cartridge, see *Write Protecting the Removable Cartridge* on page 14.

3. Insert the removable cartridge containing the `hipr` GPL into the removable cartridge drive on the MDAL card.

   For more information on inserting the removable cartridge in the removable cartridge drive, see *Inserting the Removable Cartridge* on page 15.

4. Display the `hipr` GPLs on the fixed disk and on the removable cartridge using the `rtrv-gpl:gpl=hipr` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
HIPR      1114  126-002-000  126-002-000      126-001-000  126-003-000
HIPR      1116  126-002-000  126-002-000      126-001-000  -----------
```

5. Change the GPLs, using the `chg-gpl` command and specifying the value for the trial `hipr` GPL shown in the `REMOVE TRIAL` column in the output of the `rtrv-gpl` command used in step 4.

   For this example, enter this command.

   `chg-gpl:gpl=hipr:ver=125-003-000`

   These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
GPL Auditing  ON

HIPR upload on 1114 completed
HIPR upload on 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

   Note: If you wish to leave the HIPR cards running the trial version of the `hipr`GPL, skip steps 6 and 7, and go to step 8.

6. Activate the trial GPL, using the `act-gpl` command and specifying the value for the trial `hipr` GPL shown in step 5.

   For this example, enter this command.

   `act-gpl:gpl=hipr:ver=125-003-000`

These messages should appear.

```
rlghncxa03w 06-10-01 06:54:39 GMT EAGLE5 36.0.0
HIPR activate on 1114 completed
HIPR activate on 1116 completed
```

7. Verify that the `hipr` GPL on the removable cartridge is the approved GPL on the fixed disk using the `rtrv-gpl:gpl=hipr` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:34:04 GMT  EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
HIPR      1114  126-003-000  126-003-000      126-002-000  126-003-000
HIPR      1116  126-003-000  126-003-000      126-002-000  -----------
```

8. Verify the `hipr` GPLs on the fixed disk and the cards that are running the `hipr` GPLs using the `rept-stat-gpl:gpl=hipr` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
GPL      CARD   RUNNING           APPROVED      TRIAL
HIPR     1109   126-002-000 ALM   126-003-000   126-002-000
HIPR     1110   126-002-000 ALM   126-003-000   126-002-000
HIPR     1209   126-002-000 ALM   126-003-000   126-002-000
HIPR     1210   126-002-000 ALM   126-003-000   126-002-000
HIPR     1309   126-002-000 ALM   126-003-000   126-002-000
HIPR     1310   126-002-000 ALM   126-003-000   126-002-000
HIPR     2109   126-002-000 ALM   126-003-000   126-002-000
HIPR     2110   126-002-000 ALM   126-003-000   126-002-000
Command Completed
```

9. Load the approved `hipr` GPL onto a card selected from the cards shown in step 8 using the `init-flash:code=appr` command.

   For this example, enter this command.

   `init-flash:code=appr:loc=1109`

   When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Downloading for card 1109 Started.
;
    rlghncxa03w 06-10-01  11:11:28 GMT EAGLE5 36.0.0
    HIPR Downloading for card 1109 Complete.
;

    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
```

Updating more than One HIPRCard at the Same Time

Multiple HIPR cards can be updated at the same time with the `init-flash` command. The multiple HIPR cards being updated must be on the same IMT bus. Specifying card locations XX09 for the `sloc` and `eloc` parameters specifies the HIPR cards on IMT bus A. Specifying card locations XX10 for the `sloc` and `eloc` parameters specifies the HIPR cards on IMT bus B.

To update more than one HIPR card on the same IMT bus, enter the `init-flash` command with these parameters along with the `code=appr` parameter:

`sloc` – the first card location in the range of card locations

`eloc` – the last card location in the range of card locations

`gpl` – hipr

Note: The `sloc`, `eloc`, and `gpl` parameters cannot be specified with the `loc` parameter.

For example, to update the HIPR cards on IMT Bus B shown in step 8 with the approved version of the `hipr`GPL, enter this command.

```
init-flash:code=appr:sloc=1110:eloc=2110:gpl=hipr
```

To update the HIPR cards on IMT bus A shown in step 8, the `sloc=1109` and `eloc=2109` parameters would be specified with the `init-flash` command.

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Download for cards 1110 - 2110 Started.
;
    rlghncxa03w 06-10-01 13:07:15 GMT EAGLE5 36.0.0
    FLASH Memory Download for cards 1110 - 2110 Completed.
    LOC 1110 : PASSED
    LOC 1210 : PASSED
    LOC 1310 : PASSED
    LOC 2110 : PASSED

    ALL CARD RESULTS PASSED
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
```

10. Re-initialize the HIPR cards specified in step 9 using the `init-mux` command with the `loc` parameter.

    For this example, enter this command.

    ```
    init-mux:loc=1109
    ```

    If more than one HMUX card was specified in step 9, re-initialize the IMT bus containing the cards specified in step 9 by entering `init-mux` command and specifying the IMT bus (the `bus` parameter) containing the cards specified in step 9. Specifying card locations XX09 for the `sloc` and `eloc` parameters in step 9 requires that IMT bus A is re-initialized. Specifying card locations XX10 for the `sloc` and `eloc` parameters in step 9 requires that IMT bus B is re-initialized.

    For this example, enter this command.

    ```
    init-mux:bus=a
    ```

    When this command has successfully completed, this message should appear.

    ```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
    ```

    Note: Executing this command produces two alarms: 0002 - Card is not running approved GPL, indicating that the version of the `hipr`GPL running on the card is not the approved version, and 0004 - Card is running non-activated GPL, indicating that the new version of the `hipr`GPL running on the card has not been activated.

11. Verify that the approved `hipr` GPL from step 10 has loaded and that the state of the card is in-service normal (IS-NR) state using the `rept-stat-card` command.

    If more than one card was specified in steps 9 and 10, enter the `rept-stat-card` command for each specified card. For this example, enter this command.

    `rept-stat-card:loc=1109:mode=full`

```
rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1109   126-003-000  HIPR      HIPR       IS-NR          Active     -----
  ALARM STATUS       = No Alarms
  TRIAL  VERSION     = 126-003-000
  FPGA VERSION       = 022-005
Command Completed.
```

    Note: If the version number of the `hipr`GPL shown in the `rept-stat-card` command output is different than the version specified in step 5, contact the Customer Care Center. Refer to *Customer Care Center* on page 4 for the contact information.

12. Activate the approved `hipr` GPL loaded onto the card in step 9 using the `act-flash` command.

    For this example, enter this command.

    `act-flash:loc=1109`

    When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Activation for card 1109 Completed.
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
```

    Activating the HIPR GPL on more than One HIPRCard at the Same TimeIf more than one HIPR card was specified in step 9, enter the `act-flash` command with these parameters:

    `sloc` – the first card location in the range of card locations

    `eloc` – the last card location in the range of card locations

    `gpl` – hipr

    Note: The `sloc`, `eloc`, and `gpl` parameters cannot be specified with the `loc` parameter.

    For example, to activate the HIPR GPL on the HIPR cards on IMT Bus B shown in step 8 with the trial version of the `hipr` GPL, enter this command.

    `act-flash:sloc=1110:eloc=2110:gpl=hipr`

    To activate the HIPR GPL on the HIPR cards on IMT bus A shown in step 8, the `sloc=1109` and `eloc=2109` parameters would be specified with the `act-flash` command.

    When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    FLASH Memory Activation for cards 1110 - 2110 Started.
;
    rlghncxa03w 06-10-01 13:07:15 GMT EAGLE5 36.0.0
    FLASH Memory Activation for cards 1110 - 2110 Completed.
    LOC 1110 : PASSED
```

```
    LOC 1210 : PASSED
    LOC 1310 : PASSED
    LOC 2110 : PASSED

    ALL CARD RESULTS PASSED
;
    rlghncxa03w 06-10-01  11:11:28 GMT  EAGLE5 36.0.0
    Command Completed.
```

13. Verify the `hipr` GPLs on the fixed disk and the cards that are running the `hipr` GPLs using the `rept-stat-gpl:gpl=hipr` command.

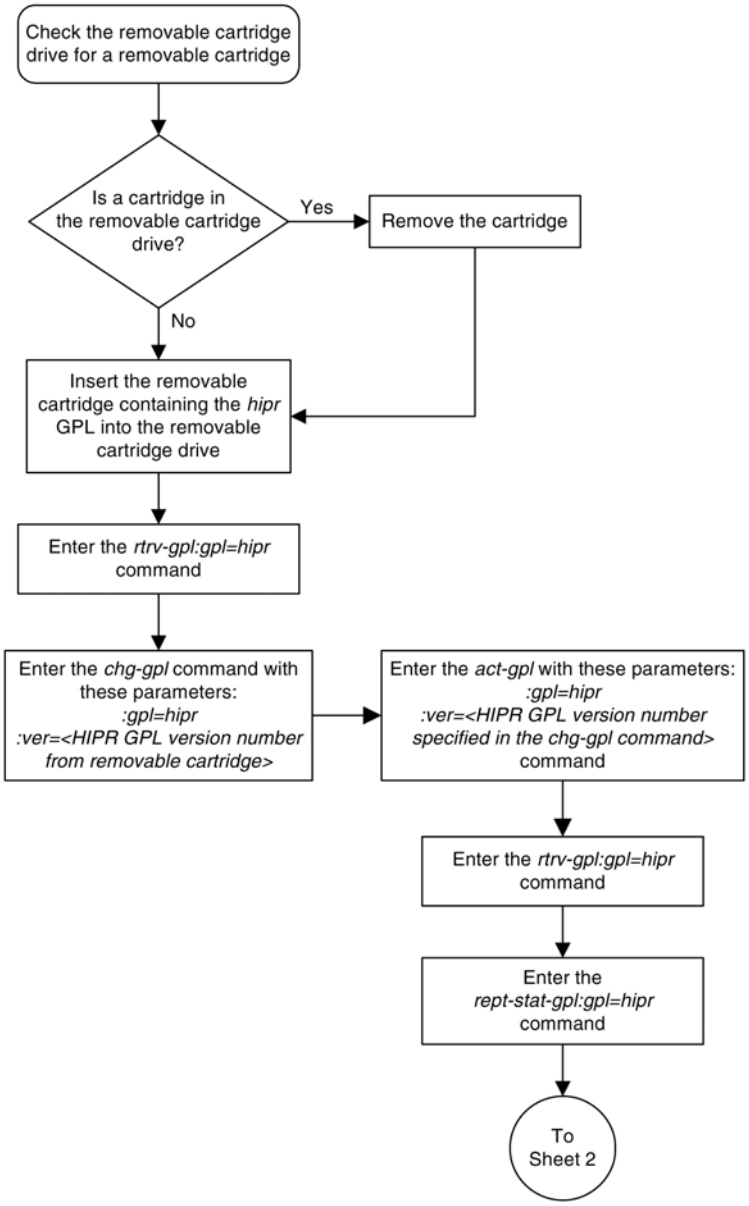
    This is an example of the possible output.

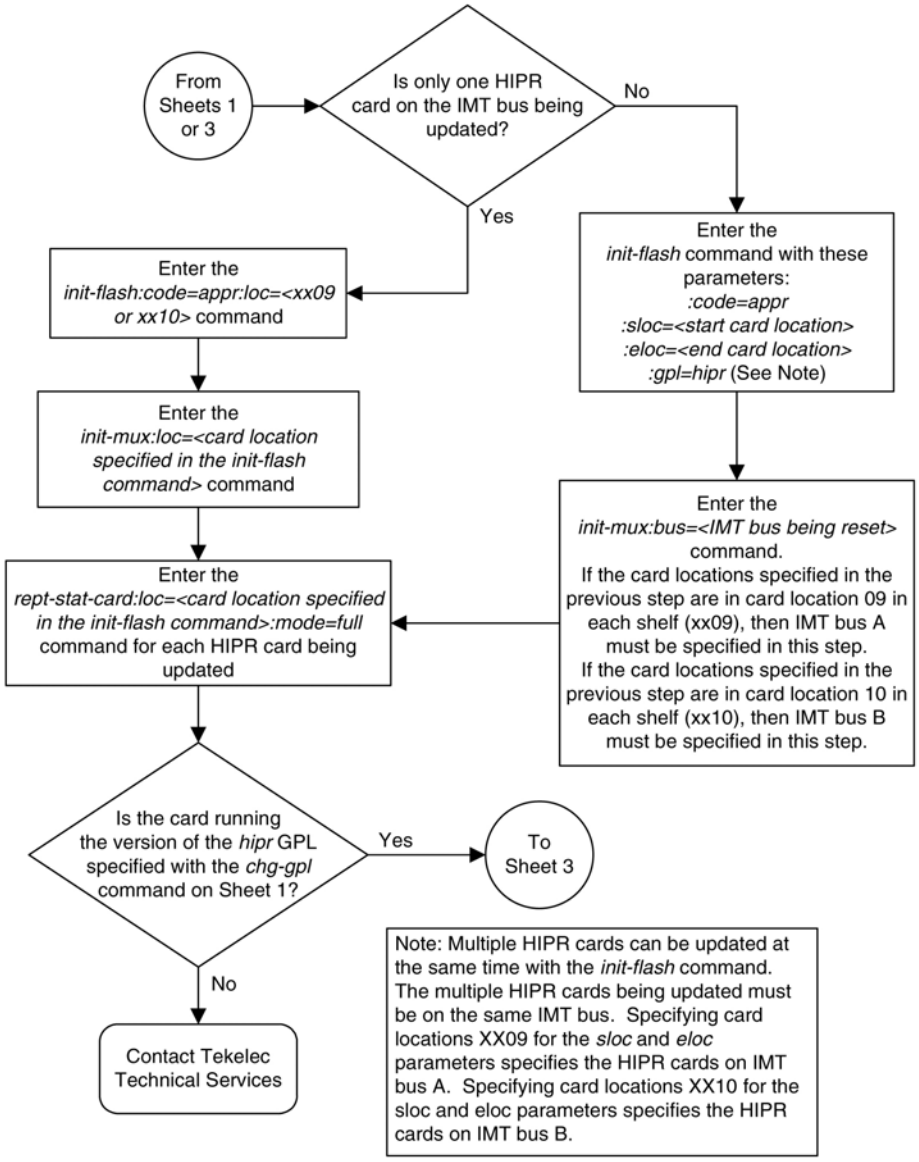
```
rlghncxa03w 06-10-01 11:40:26 GMT  EAGLE5 36.0.0
GPL      CARD   RUNNING           APPROVED      TRIAL
HIPR     1109   126-003-000       126-003-000   126-002-000
HIPR     1110   126-002-000 ALM   126-003-000   126-002-000
HIPR     1209   126-002-000 ALM   126-003-000   126-002-000
HIPR     1210   126-002-000 ALM   126-003-000   126-002-000
HIPR     1309   126-002-000 ALM   126-003-000   126-002-000
HIPR     1310   126-002-000 ALM   126-003-000   126-002-000
HIPR     2109   126-002-000 ALM   126-003-000   126-002-000
HIPR     2110   126-002-000 ALM   126-003-000   126-002-000
Command Completed
```

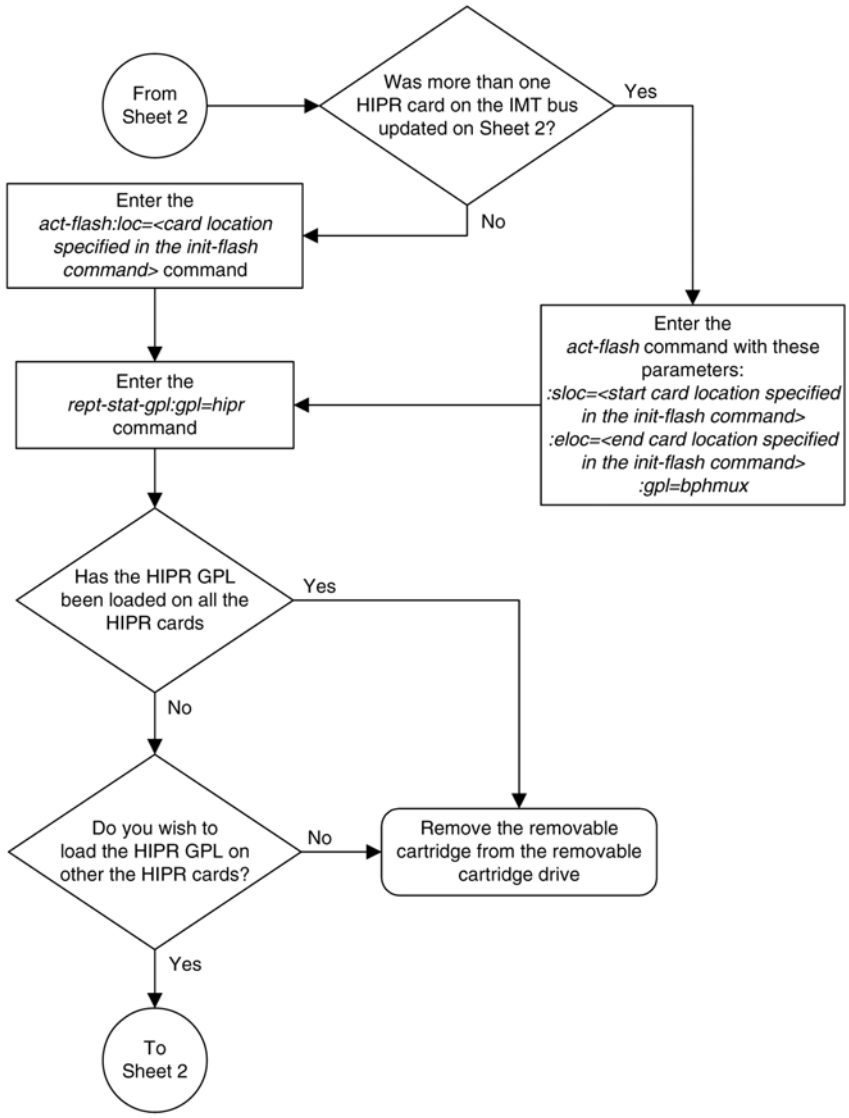
14. To load the `hipr` GPL on the other HIPR cards, repeat steps 9 through 13 for each card.
15. Remove the removable cartridge from the removable cartridge drive on the MDAL card.

    For more information on removing the removable cartridge from the removable cartridge drive, see *Removing the Removable Cartridge* on page 17.

Figure 30: Updating the HIPR GPL


Check the removable cartridge drive for a removable cartridge
Is a cartridge in the removable cartridge drive?
Yes
Remove the cartridge
No
Insert the removable cartridge containing the hipr GPL into the removable cartridge drive
Enter the rtrv-gpl:gpl=hipr command
Enter the chg-gpl command with these parameters: :gpl=hipr :ver=<HIPR GPL version number from removable cartridge>
Enter the act-gpl with these parameters: :gpl=hipr :ver=<HIPR GPL version number specified in the chg-gpl command> command
Enter the rtrv-gpl:gpl=hipr command
Enter the rept-stat-gpl:gpl=hipr command
To Sheet 2


From Sheets 1 or 3
Is only one HIPR card on the IMT bus being updated?
No
Yes
Enter the init-flash command with these parameters: :code=appr :sloc=<start card location> :eloc=<end card location> :gpl=hipr (See Note)
Enter the init-flash:code=appr:loc=<xx09 or xx10> command
Enter the init-mux:loc=<card location specified in the init-flash command> command
Enter the init-mux:bus=<IMT bus being reset> command. If the card locations specified in the previous step are in card location 09 in each shelf (xx09), then IMT bus A must be specified in this step. If the card locations specified in the previous step are in card location 10 in each shelf (xx10), then IMT bus B must be specified in this step.
Enter the rept-stat-card:loc=<card location specified in the init-flash command>:mode=full command for each HIPR card being updated
Is the card running the version of the hipr GPL specified with the chg-gpl command on Sheet 1?
Yes
To Sheet 3
No
Contact Tekelec Technical Services
Note: Multiple HIPR cards can be updated at the same time with the init-flash command. The multiple HIPR cards being updated must be on the same IMT bus. Specifying card locations XX09 for the sloc and eloc parameters specifies the HIPR cards on IMT bus A. Specifying card locations XX10 for the sloc and eloc parameters specifies the HIPR cards on IMT bus B.



Making the Trial Utility GPL the Approved Utility GPL

This procedure is used to make the trial `utility` generic program load (GPL) the approved `utility` GPL.

The `utility` GPL cannot be loaded and run from the removable cartridge like the other GPLs. The approved version of the `utility` GPL is on the fixed disk. The trial version of the `utility` GPL is located on the removable cartridge. This procedure loads the trial `utility` GPL from the removable cartridge to the fixed disk and makes it the approved `utility` GPL.

The removable cartridge that contains the `utility` GPL to be loaded on to the EAGLE 5 ISS is required.

1. Check the removable cartridge drive on the MDAL card for a removable cartridge.

If there is a removable cartridge in the drive, remove it. For more information on removing the removable cartridge from the removable cartridge drive, see *Removing the Removable Cartridge* on page 17.

2. Make sure the removable cartridge containing the new software is "write protected" (NOT write enabled).

   To write protect a removable cartridge, see *Write Protecting the Removable Cartridge* on page 14.

3. Insert the removable cartridge containing the `utility` GPL into the removable cartridge drive on the MDAL card.

   For more information on inserting the removable cartridge in the removable cartridge drive, see *Inserting the Removable Cartridge* on page 15.

4. Display the `utility` GPLs on the fixed disk and on the removable cartridge using the `rtrv-gpl:gpl=utility` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
GPL Auditing  ON

GPL        CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
UTILITY    1114  153-000-000  153-000-000      153-001-000  153-001-000
UTILITY    1116  153-000-000  153-000-000      -----------  -----------
```

5. Change the GPLs, using the `chg-gpl` command and specifying the value for the trial `utility` GPL shown in the output of the `rtrv-gpl` command used in step 4.

   For this example, enter this command.

   `chg-gpl:gpl=utility:ver=153-001-000`

   This message should appear.

```
rlghncxa03w 06-10-01 06:52:20 GMT EAGLE5 36.0.0
GPL Auditing  ON

UTILITY upload to 1114 completed
UTILITY upload to 1116 completed
System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

6. Display the `utility` GPLs on the fixed disk and on the removable cartridge using the `rtrv-gpl:gpl=utility` command.

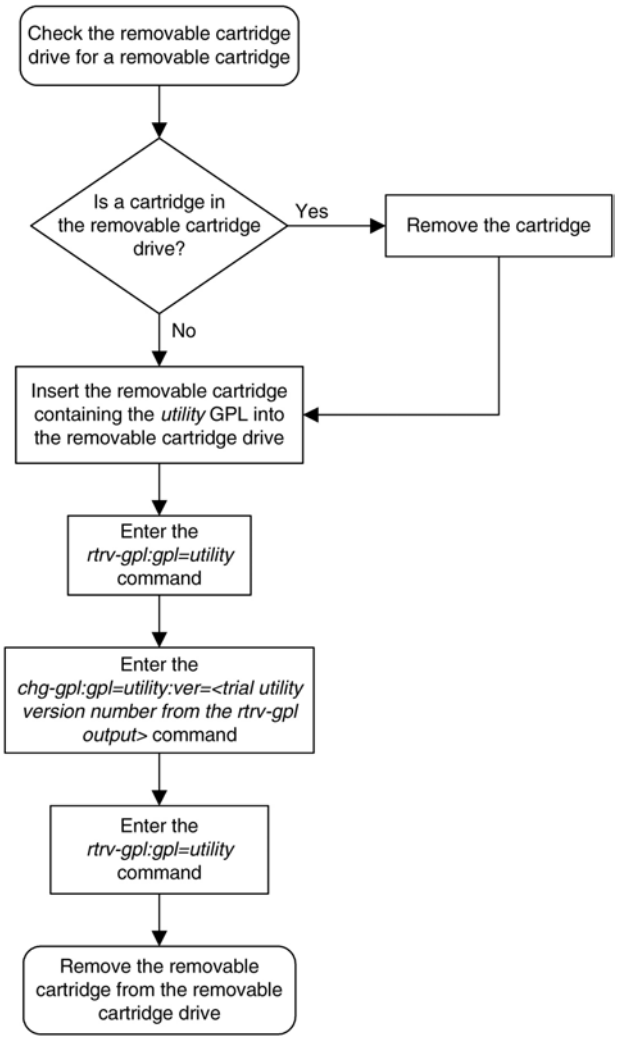
   This is an example of the possible output.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
GPL Auditing  ON

GPL        CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
UTILITY    1114  153-001-000  153-001-000      153-001-000  153-001-000
UTILITY    1116  153-001-000  153-001-000      -----------  -----------
```

7. Remove the removable cartridge from the removable cartridge drive on the MDAL card.

For more information on removing the removable cartridge from the removable cartridge drive, see *Removing the Removable Cartridge* on page 17.

Figure 31: Making the Trial Utility GPL the Approved Utility GPL



Updating the OAP GPL

This section presents the procedure for updating the `oap` generic program load (GPL). The `oap` GPL is the software running on the `oap` used for the SEAS feature. This software is assigned a version number using the GPL numbering scheme used by the EAGLE 5 ISS GPL version numbers. When the OAP is connected to the EAGLE 5 ISS, the `oap` GPL version number is transmitted to the EAGLE 5 ISS.

The EAGLE 5 ISS's system release ID table contains the version numbers of all the GPLs used on the EAGLE 5 ISS, including the `oap` GPL. The `oap` GPL version number must match the number contained in the EAGLE 5 ISS's system release ID table. The EAGLE 5 ISS's system release ID table

contains the approved version number of the oap GPL. This version number is shown in the APPROVED column of the rept-stat-gpl command output and in the RELEASE and APPROVED columns of the rtrv-gpl command outputs. If the oap GPL version transmitted to the EAGLE 5 ISS does not match the oap GPL version number in the EAGLE 5 ISS's system release ID table, the indicator ALM is displayed next to the GPL version in the RUNNING column of the rept-stat-gpl output. The RUNNING column in the rept-stat-gpl command output shows what oap GPL version the OAP is actually running. The ALM indicator is also displayed next to the APPROVED column in the rtrv-gpl output.

There is no trial version of the oap GPL, so dashes are displayed in the TRIAL column in both the rtrv-gpl and rept-stat-gpl command outputs.

If a removable cartridge is in the removable cartridge drive on the MDAL, the oap GPL version number on the removable cartridge is displayed in the REMOVE TRIAL column in the rtrv-gpl command output.

Only OAPs that are connected to the EAGLE 5 ISS are shown in the rtrv-gpl and rept-stat-gpl command outputs. The OAPs are shown in the rtrv-gpl and rept-stat-gpl command outputs as OAP A and OAP B. If only one OAP is connected to the EAGLE 5 ISS, it is shown rtrv-gpl and rept-stat-gpl command outputs as OAP A and is the only OAP shown in the rtrv-gpl and rept-stat-gpl command outputs.

To get rid of the alarm condition caused by the mismatched oap GPL versions, either the OAP must be upgraded, or the correct oap GPL must be loaded from a removable cartridge using the chg-gpl:gpl=oap command. To determine which action must be performed, enter the rept-stat-gpl command. If the oap GPL version shown in the RUNNING column is less than the oap GPL version shown in the APPROVED column, contact the Customer Care Center (refer to *Customer Care Center* on page 4 for the contact information) to have the OAPs upgraded.

If the oap GPL version shown in the RUNNING column is greater than the oap GPL version shown in the APPROVED column, then the oap GPL must be loaded from the removable cartridge with the chg-gpl command.

CAUTION: The chg-gpl:gpl=oap command copies the system release ID table from the removable cartridge onto the EAGLE 5 ISS. This not only changes the approved version number of the oap GPL on the EAGLE 5 ISS, but will also change the approved GPL version numbers of any GPLs whose version numbers on the removable cartridge are different from the version numbers that are on the EAGLE 5 ISS. This results in the cards not running the approved GPL and the ALM indicator will be shown in the rept-stat-gpl and rtrv-gpl command outputs for that GPL. Go to the procedures for that GPL located in this chapter to clear the ALM indicator for that GPL.

The removable cartridge that contains the oap GPL to be loaded on to the EAGLE 5 ISS is required if the oap GPL is to be loaded onto the EAGLE 5 ISS using the chg-gpl command.

1. Display the oap GPLs on the fixed disk and on the removable cartridge using the rtrv-gpl:gpl=oap command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
```

```
OAP          A  028-003-000  028-003-000      -----------  -----------
OAP          B  028-003-000  028-003-000      -----------  -----------
```

2. Display the `oap` GPLs in the database using the `rept-stat-gpl:gpl=oap` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 12:55:34 GMT EAGLE5 36.0.0
GPL       CARD      RUNNING            APPROVED      TRIAL
OAP          A      028-004-000 ALM    028-003-000   -----------
OAP          B      028-003-000        028-003-000   -----------
Command Completed.
```

   If the `oap` GPL version shown in the `RUNNING` column is less than the `oap` GPL version shown in the `APPROVED` column, contact the Customer Care Center (refer to *Customer Care Center* on page 4 for the contact information) to have the OAPs upgraded.

   If the `oap` GPL version shown in the `RUNNING` column is greater than the `oap` GPL version shown in the `APPROVED` column, then the `oap` GPL must be loaded from the removable cartridge with the `chg-gpl` command.

   If there are two OAPs connected to the EAGLE 5 ISS and they are running different `oap` GPL versions, as shown in the output example in this step, the OAP not showing the `ALM` indicator should be upgraded to run the same `oap` GPL version as the one that has the `ALM` indicator. Contact the Customer Care Center (refer to *Customer Care Center* on page 4 for the contact information) to have the OAPs upgraded.

   For this example, the `oap`GPL must be loaded from the removable cartridge using the `chg-gpl` command. Go to step 3.

3. Check the removable cartridge drive on the MDAL card for a removable cartridge.

   If there is a removable cartridge in the drive, remove it. For more information on removing the removable cartridge from the removable cartridge drive, see *Removing the Removable Cartridge* on page 17.

4. Make sure the removable cartridge containing the new software is “write protected” (NOT write enabled).

   To write protect a removable cartridge, see *Write Enabling the Removable Cartridge* on page 14.

5. Insert the removable cartridge containing the `oap` GPL into the removable cartridge drive on the MDAL card.

   For more information on inserting the removable cartridge in the removable cartridge drive, see *Inserting the Removable Cartridge* on page 15.

6. Display the `oap` GPLs on the fixed disk and on the removable cartridge using the `rtrv-gpl:gpl=oap` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
OAP          A  028-003-000  028-003-000      -----------  028-004-000
OAP          B  028-003-000  028-003-000      -----------  -----------
```

7. Load the `oap` GPL from the removable cartridge using the `chg-gpl:gpl=oap` command.

These messages should appear.

```
rlghncxa03w 06-10-01  11:43:04  GMT  EAGLE5 36.0.0
GPL Auditing  ON

System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

8. Verify the `oap` GPLs on the fixed disk and on the removable cartridge using the `rtrv-gpl:gpl=oap` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 07:01:08 GMT EAGLE5 36.0.0
GPL Auditing  ON

GPL       CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
OAP          A  028-004-000  028-004-000      -----------  028-004-000
OAP          B  028-004-000  028-004-000      -----------  -----------
```

9. Display the `oap` GPLs in the database using the `rept-stat-gpl:gpl=oap` command.

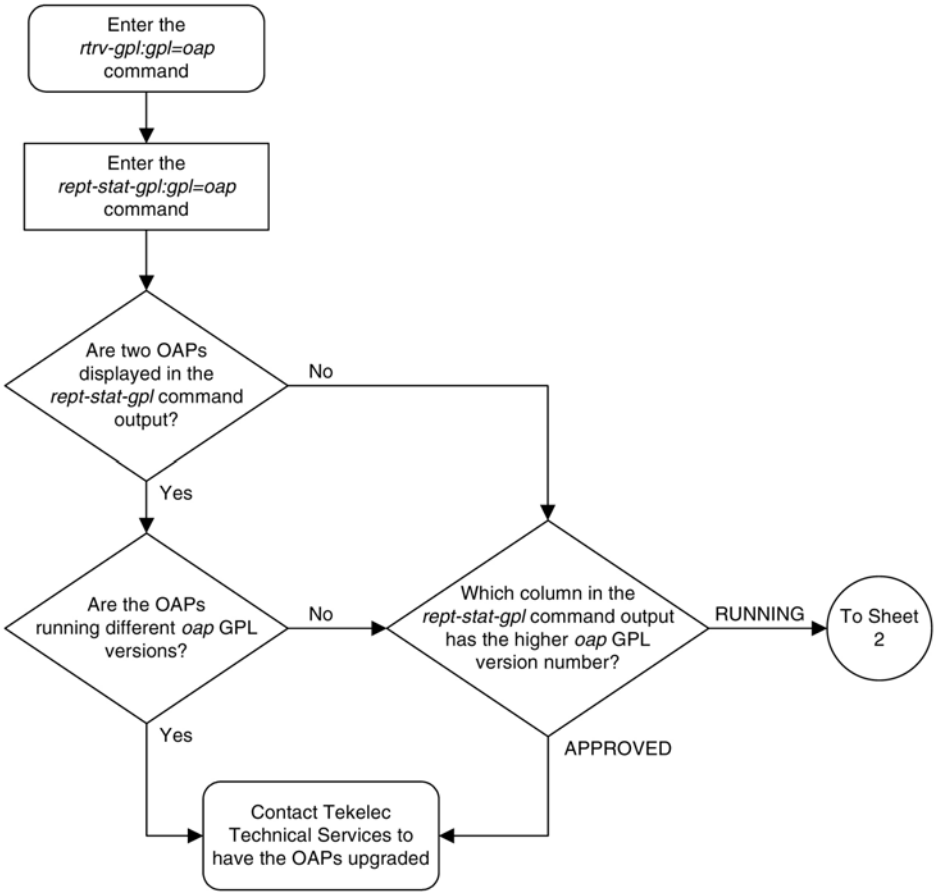
   This is an example of the possible output.

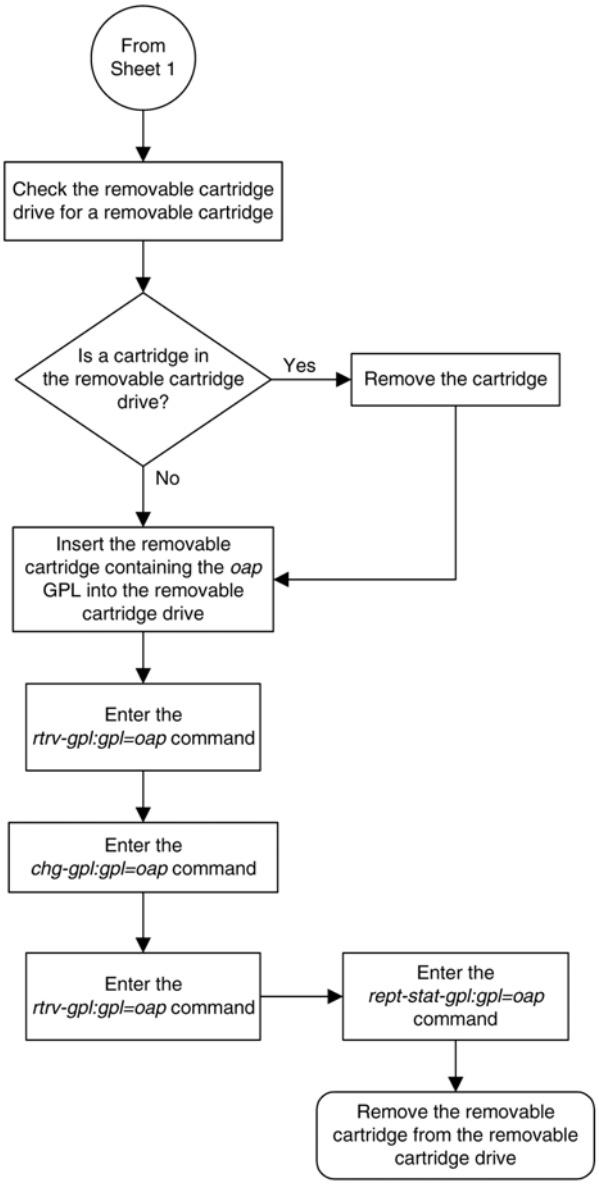
```
rlghncxa03w 06-10-01 12:55:34 GMT EAGLE5 36.0.0
GPL      CARD      RUNNING            APPROVED      TRIAL
OAP         A      028-004-000        028-004-000   -----------
OAP         B      028-004-000        028-004-000   -----------
Command Completed.
```

10. Remove the removable cartridge from the removable cartridge drive on the MDAL card.

    For more information on removing the removable cartridge from the removable cartridge drive, see *Removing the Removable Cartridge* on page 17.

Figure 32: Updating the OAP GPL


Enter the *rtrv-gpl:gpl=oap* command
Enter the *rept-stat-gpl:gpl=oap* command
Are two OAPs displayed in the *rept-stat-gpl* command output?
No
Yes
Are the OAPs running different *oap* GPL versions?
No
Which column in the *rept-stat-gpl* command output has the higher *oap* GPL version number?
RUNNING
To Sheet 2
Yes
APPROVED
Contact Tekelec Technical Services to have the OAPs upgraded



Reloading the TDM LCA Clock Bitfile

This procedure is used to reload the clock LCA (logic cell array) bitfile on the TDMs using the `init-card` command. To reload the TDM clock LCA bitfile, the GPSM-II card associated with the TDM being reloaded is initialized by entering the `init-card` command with the `initclk=yes` parameter.

It is recommended that the card specified in the `init-card` command is the GPSM-II card in the standby MASP. The `rept-stat-db` output in *Step 7* on page 299 shows which TDM is the standby TDM with the indicator `( STDBY)` after the TDM's card location. If the TDM in card location 1114

is the standby TDM, card location 1113 must be specified. If the TDM in card location 1116 is the standby TDM, card location 1115 must be specified.

The TDM clock LCA bitfile can be reloaded only on TDMs with part numbers 870-0774-15 or later. If the EAGLE 5 ISS contains older TDMs, these TDMs must be replaced with TDMs 870-0774-15 or later to perform this procedure.

Note: Contact the Customer Care Center before replacing the TDMs. Refer to *Customer Care Center* on page 4 for the contact information.

The `init-card` also contains the `force=yes` parameter. The `force=yes` parameter can be used only with the `initclk=yes` parameter. The `force=yes` parameter must be used if reloading the TDM clock LCA bitfile would cause a system clock outage.

CAUTION: A system clock outage can be caused by either the EAGLE 5 ISS having only one TDM (a simplex MASP configuration) or if the status of the high-speed clocks, shown in the `rept-stat-clk` output in *Step 1* on page 294, on the TDM which is not being reset is Fault. A system clock outage will result in a loss of traffic on some or all signaling links.

1. Verify the status of the high-speed clocks by entering the `rept-stat-clk` command. This is an example of the possible output.

```
rlghncxa03w 08-06-01 11:34:04 GMT  EAGLE5 39.0.0
COMPOSITE                           PST           SST       AST
    SYSTEM CLOCK                    IS-NR         Active    -----
ALARM STATUS = No Alarms.
    Primary Comp Clk 1114   (CLK A)    IS-NR         Active    -----
    Primary Comp Clk 1116   (CLK B)    IS-NR         Active    -----
    Secondary Comp Clk 1114 (CLK A)    IS-NR         Idle      -----
    Secondary Comp Clk 1116 (CLK B)    IS-NR         Idle      -----

Clock      Using         Bad
CLK A        9            0
CLK B        0            0
CLK I        0            --

HIGH SPEED                          PST           SST       AST
    SYSTEM CLOCK                    IS-NR         Idle      -----
ALARM STATUS = No Alarms.
    Primary HS Clk 1114    (HS CLK A)  IS-NR         Active    -----
    Primary HS Clk 1116    (HS CLK B)  IS-NR         Active    -----
    Secondary HS Clk 1114  (HS CLK A)  IS-NR         Idle      -----
    Secondary HS Clk 1116  (HS CLK B)  IS-NR         Idle      -----

HS CLK TYPE 1114     = RS422
HS CLK LINELEN 1114  = LONGHAUL
HS CLK TYPE 1116     = RS422
HS CLK LINELEN 1116  = LONGHAUL

Clock      Using         Bad
HS CLK A     2            0
HS CLK B     0            0
HS CLK I     0            --

Command Completed
```

If the `rept-stat-clk` output does not show any high-speed clocks `HIGH SPEED SYSTEM CLOCK`,`Primary HS Clk`, `Secondary HS Clk`, `HS CLK TYPE`, and `HS CLK LINELEN`

fields), the EAGLE 5 ISS does not contain any cards that are capable of using high-speed master timing.

- If the HS CLK TYPE and HS CLK LINELEN values shown in *Step 1* on page 294 are set to the system default values (HS CLK TYPE = RS422 and HS CLK LINELEN = LONGHAUL), continue the procedure with *Step 3* on page 295.
- If the HS CLK TYPE and HS CLK LINELEN values shown in *Step 1* on page 294 are not set to the system default values (HS CLK TYPE = RS422 and HS CLK LINELEN = LONGHAUL), continue the procedure with *Step 2* on page 295.

2. Visually verify the part numbers of both TDMs in the EAGLE 5 ISS. To load the TDM clock LCA bitfile, the part numbers of both TDMs must be 870-0774-15 or later.

   If the TDM part numbers are 870-0774-15 or later, continue the procedure with *Step 3* on page 295.

   f the TDM part numbers are not 870-0774-15 or later, the TDMs must be replaced with TDM part numbers 870-0774-15 or later. Contact the Customer Care Center before replacing the TDMs. Refer to *Customer Care Center* on page 4 for the contact information. If the older TDMs are not replaced, this procedure cannot be performed.

3. Display the terminal configuration in the database with the rtrv-trm command.

   If any OAP or SEAS terminals are present, they must be taken out of service. The OAP terminals are shown in the output with the entry OAP in the TYPE field. The SEAS terminals are shown in the output with the entry SEAS in the TYPE field. If no OAP or SEAS terminals are shown in the rtrv-trm command output, continue the procedure with *Step 7* on page 299 .

   This is an example of the possible output. In this example, the OAP terminals are terminals 6 and 9, and the SEAS terminals are terminals 18 and 27.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE      COMM         FC    TMOUT MXINV DURAL
1    VT320     9600-7-E-1   SW    30    5     99:59:59
2    KSR       9600-7-E-1   HW    30    5     INDEF
3    PRINTER   4800-7-E-1   HW    30    0     00:00:00
4    VT320     2400-7-E-1   BOTH  30    5     00:30:00
5    VT320     9600-7-O-1   NONE  30    5     00:00:30
6    OAP      19200-7-E-1 SW    0     5     INDEF
7    PRINTER   9600-7-N-2   HW    30    5     00:30:00
8    KSR      19200-7-E-2   BOTH  30    5     00:30:00
9    OAP      19200-7-E-1 SW    0     5     INDEF
10   VT320     9600-7-E-1   HW    30    5     00:30:00
11   VT320     4800-7-E-1   HW    30    5     00:30:00
12   PRINTER   9600-7-E-1   HW    30    4     00:30:00
13   VT320     9600-7-O-1   NONE  30    5     00:30:00
14   VT320     9600-7-E-2   SW    30    8     00:30:00
15   VT320     9600-7-N-2   HW    30    5     00:30:00
16   VT320     9600-7-E-2   BOTH  30    3     00:30:00

TRM  TYPE       LOC              TMOUT MXINV DURAL      SECURE
17   TELNET     1201             60    5     00:30:00   yes
18   SEAS       1201             60    5     00:30:00   yes
19   TELNET     1201             60    5     00:30:00   yes
20   TELNET     1201             60    5     00:30:00   yes
21   TELNET     1201             60    5     00:30:00   yes
22   TELNET     1201             60    5     00:30:00   yes
23   TELNET     1201             60    5     00:30:00   yes
24   TELNET     1201             60    5     00:30:00   yes
25   TELNET     1203             60    5     00:30:00   yes
26   TELNET     1203             60    5     00:30:00   yes
```

```
27   SEAS      1203              60    5     00:30:00   yes
28   TELNET    1203              60    5     00:30:00   yes
29   TELNET    1203              60    5     00:30:00   yes
30   TELNET    1203              60    5     00:30:00   yes
31   TELNET    1203              60    5     00:30:00   yes
32   TELNET    1203              60    5     00:30:00   yes
33   TELNET    1205              60    5     00:30:00   yes
34   TELNET    1205              60    5     00:30:00   yes
35   TELNET    1205              60    5     00:30:00   yes
36   TELNET    1205              60    5     00:30:00   yes
37   TELNET    1205              60    5     00:30:00   yes
38   TELNET    1205              60    5     00:30:00   yes
39   TELNET    1205              60    5     00:30:00   yes
40   TELNET    1205              60    5     00:30:00   yes

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
17   none     none      none       1
19   none     none      none       1
20   none     none      none       1
21   none     none      none       1
22   none     none      none       1
23   none     none      none       1
24   none     none      none       1
25   none     none      none       1
26   none     none      none       1
28   none     none      none       1
29   none     none      none       1
30   none     none      none       1
31   none     none      none       1
32   none     none      none       1
33   none     none      none       1
34   none     none      none       1
35   none     none      none       1
36   none     none      none       1
37   none     none      none       1
38   none     none      none       1
39   none     none      none       1
40   none     none      none       1

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
1    NO   YES  NO  YES NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
3    YES  YES  YES NO  YES YES YES
4    YES  NO   NO  NO  NO  NO  NO
5    NO   YES  NO  NO  NO  NO  YES
6    YES  YES  YES YES YES YES YES
7    YES  YES  YES YES YES YES YES
8    NO   NO   NO  NO  YES NO  YES
9    YES  YES  YES YES YES YES YES
10   NO   NO   NO  NO  NO  NO  YES
11   YES  YES  YES YES YES YES YES
12   YES  YES  YES YES YES YES YES
13   NO   YES  NO  NO  NO  NO  YES
14   NO   NO   YES NO  NO  NO  NO
15   YES  YES  YES NO  YES YES YES
16   NO   NO   NO  NO  YES NO  YES
17   NO   NO   NO  NO  NO  NO  NO
18   NO   NO   NO  NO  NO  NO  NO
19   NO   NO   NO  NO  NO  NO  NO
20   NO   NO   NO  NO  NO  NO  NO
21   NO   NO   NO  NO  NO  NO  NO
22   NO   NO   NO  NO  NO  NO  NO
23   NO   NO   NO  NO  NO  NO  NO
24   NO   NO   NO  NO  NO  NO  NO
```

```
25   NO   NO   NO   NO   YES  NO   YES
26   NO   NO   NO   NO   NO   NO   NO
27   NO   NO   NO   NO   NO   NO   NO
28   NO   NO   NO   NO   NO   NO   NO
29   NO   NO   NO   NO   NO   NO   NO
30   NO   NO   NO   NO   NO   NO   NO
31   NO   NO   NO   NO   NO   NO   NO
32   NO   NO   NO   NO   NO   NO   NO
33   NO   NO   NO   NO   NO   NO   NO
34   NO   NO   NO   NO   YES  NO   YES
35   NO   NO   NO   NO   NO   NO   NO
36   NO   NO   NO   NO   NO   NO   NO
37   NO   NO   NO   NO   NO   NO   NO
38   NO   NO   NO   NO   NO   NO   NO
39   NO   NO   NO   NO   NO   NO   NO
40   NO   NO   NO   NO   NO   NO   NO

     APP  APP
TRM  SERV SS   CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
3    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
4    YES  YES YES  YES YES NO  YES YES  YES YES NO   NO
5    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
6    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
7    NO   YES YES  YES YES YES YES YES  YES YES NO   NO
8    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
9    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
10   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
11   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
12   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
13   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
14   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
15   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
16   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
17   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
18   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  YES  NO
19   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
20   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
21   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
22   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
23   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
24   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
25   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
26   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
27   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  YES  NO
28   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
29   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
30   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
31   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
32   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
33   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
34   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
35   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
36   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
37   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
38   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
39   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
40   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

4. Display the status of the terminals with the `rept-stat-trm` command. This is an example of the possible output.

```
rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
TRM   PST           SST           AST
```

```
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

5. Place the OAP or SEAS terminals out of service using the `rmv-trm` command with the number of the terminal displayed in *Step 4* on page 297 whose state is not OOS-MT-DSBLD.

   The `force=yes` parameter must be used when placing the last OAP or SEAS terminal out of service.

   If OAP terminals are shown in the `rtrv-trm` output in *Step 3* on page 295, for this example, enter these commands.

   `rmv-trm:trm=6`

   `rmv-trm:trm=9:force=yes`

   If SEAS terminals are shown in the `rtrv-trm` output in *Step 3* on page 295, for this example, enter these commands.

   `rmv-trm:trm=18`

   `rmv-trm:trm=27:force=yes`

CAUTION: Placing the OAP and SEAS terminals out of service will disable the SEAS feature on the EAGLE 5 ISS.

If the status of any of the terminals shown in the PST field in *Step 4* on page 297 is OOS-MT-DSBLD (out-of-service maintenance disabled), the terminal is already out of service and the `rmv-trm` command does not need to be executed for that terminal.

This message should appear when each of these commands have successfully completed.

```
rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
Inhibit message sent to terminal

rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
Command Completed.
```

- NOTE: *Step 6* on page 299 is performed only if the OAP or SEAS terminals were placed out of service in *Step 5* on page 298. If the OAP or SEAS terminals were not placed out of service in this step, continue the procedure with *Step 7* on page 299 .
- If the OAP or SEAS terminals were placed out of service in this step, continue the procedure with *Step 6* on page 299.

6. Change the terminal type of the OAP or SEAS terminals to NONE with the `chg-trm` command, the `type=none` parameter, and with the values of the OAP or SEAS terminals used in *Step 5* on page 298.

   If OAP terminals are shown in the `rtrv-trm` output in *Step 3* on page 295, for this example, enter these commands.

   ```
   chg-trm:trm=6:type=none
   ```

   ```
   chg-trm:trm=9:type=none
   ```

   If SEAS terminals are shown in the `rtrv-trm` output in *Step 3* on page 295, for this example, enter these commands.

   ```
   chg-trm:trm=18:type-none
   ```

   ```
   chg-trm:trm=27:type=none
   ```

   This message should appear when these commands have successfully completed.

   ```
   rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
   CHG-TRM: MASP B - COMPLTD
   ```

7. Enter the `rept-stat-db` command, to determine which MASP is active, This is an example of the possible output.

   ```
   rlghncxa03w 08-06-01 16:07:48 GMT  EAGLE5 39.0.0
   DATABASE STATUS: >> OK <<
           TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
            C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
            - -------- --------------------  - -------- --------------------
   FD BKUP  Y       35 08-06-01 10:19:18 GMT  Y       35 08-06-01 10:19:18 GMT
   FD CRNT  Y      106                        Y      106
            MDAL 1117
   ```

```
          - --------
RD BKUP   -     -          -         -
```

The output of the `rept-stat-db` command shows which MASP is active with the indicator `( ACTV )` following the TDM card location. The indicator `( STDBY)` following the TDM card location shows which MASP is standby.

For this example, the MASP associated with TDM 1114 is active and the MASP associated with TDM 1116 is standby.

8. Place the GPSM-II card in the standby MASP out of service using the `rmv-card` command.

   The `rept-stat-db` output in *Step 7* on page 299 shows which TDM is the standby TDM with the entry after the TDMs card location. If the TDM in card location 1114 is the standby TDM, card location 1113 must be specified in this step. If the TDM in card location 1116 is the standby TDM, card location 1115 must be specified in this step.

   For this example, enter this command.

   ```
   rmv-card:loc=1115
   ```

   When this command has successfully completed, this message should appear.

   ```
   rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
   Card has been inhibited.
   ```

9. Load the TDM clock LCA bitfile onto the TDM associated with the GPSM-II card inhibited in *Step 8* on page 300 using the `init-card` command with the `initclk=yes` parameter and the card location of the standby GSPM-II card.

   CAUTION: If reloading the TDM clock LCA bitfile would cause a system clock outage, the force=yes parameter must be used with the `init-card` command. A system clock outage can be caused by either the EAGLE 5 ISS having only one TDM (a simplex MASP configuration) or if the status of the high-speed clocks, shown in the `rept-stat-clk` output in *Step 1* on page 294, on the TDM which is not being reset is Fault. A system clock outage will result in a loss of traffic on some or all signaling links.

   For this example, enter this command.

   ```
   init-card:initclk=yes:loc=1115
   ```

   When this command has successfully completed, these messages should appear.

   ```
       rlghncxa03w 07-05-01 13:01:59 GMT  EAGLE5 37.0.0
       Init Card command issued to card 1115
   ;

       rlghncxa03w 07-05-01 13:01:59 GMT  EAGLE5 37.0.0
   *   3021.0013  * CARD 1115 EOAM        Card is isolated from the system
   ;

       rlghncxa03w 07-05-01 13:03:10 GMT  EAGLE5 37.0.0
       3022.0014    CARD 1115 EOAM        Card is present
                    ASSY SN:  1216115
   ```

10. Put the GPSM-II card that was inhibited in *Step 9* on page 300 back into service using the `rst-card` command with the card location specified in *Step 9* on page 300. For this example, enter this command.

    ```
    rst-card:loc=1115
    ```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
Card has been allowed.
```

- If the TDM clock LCA bitfile will not be loaded on the other TDM in the EAGLE 5 ISS, continue the procedure with *Step 12* on page 301.
- If the TDM clock LCA bitfile will be loaded on the other TDM in the EAGLE 5 ISS, continue the procedure with *Step 11* on page 301.

11. If you wish to load the TDM clock LCA bitfile onto the TDM making up the active MASP, enter the `init-card` command specifying the location of the GPSM-II card making up active MASP. Initializing the GPSM-II card of the active MASP makes the MASPs switch roles. The active MASP becomes the standby MASP, and the standby (text is missing from this point)

For this example, enter the `init-card:loc=1113` command. This message should appear.

```
rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
Init Card command issued to card 1113
```

After the `init-card` command has completed, repeat *Step 8* on page 300, *Step 9* on page 300, and *Step 10* on page 300, specifying the card location used in the `init-card` command.

12. Verify the status of the high-speed clocks by entering the `rept-stat-clk` command. This is an example of the possible output.

```
rlghncxa03w 08-06-01 11:34:04 GMT  EAGLE5 39.0.0
COMPOSITE                           PST           SST       AST
    SYSTEM CLOCK                    IS-NR         Active    -----
ALARM STATUS = No Alarms.
    Primary Comp Clk 1114   (CLK A)    IS-NR         Active    -----
    Primary Comp Clk 1116   (CLK B)    IS-NR         Active    -----
    Secondary Comp Clk 1114 (CLK A)    IS-NR         Idle      -----
    Secondary Comp Clk 1116 (CLK B)    IS-NR         Idle      -----

Clock      Using         Bad
CLK A        9            0
CLK B        0            0
CLK I        0            --

HIGH SPEED                          PST           SST       AST
    SYSTEM CLOCK                    IS-NR         Idle      -----
ALARM STATUS = No Alarms.
    Primary HS Clk 1114    (HS CLK A)  IS-NR         Active    -----
    Primary HS Clk 1116    (HS CLK B)  IS-NR         Active    -----
    Secondary HS Clk 1114  (HS CLK A)  IS-NR         Idle      -----
    Secondary HS Clk 1116  (HS CLK B)  IS-NR         Idle      -----

HS CLK TYPE 1114     = RS422
HS CLK LINELEN 1114  = LONGHAUL
HS CLK TYPE 1116     = RS422
HS CLK LINELEN 1116  = LONGHAUL

Clock      Using         Bad
HS CLK A     2            0
HS CLK B     0            0
HS CLK I     0            --

Command Completed
```

- If OAP terminals are not shown in the `rtrv-trm` command output in *Step 3* on page 295, continue the procedure with *Step 16* on page 303.

- If OAP terminals are shown in the `rtrv-trm` command output in *Step 3* on page 295, continue the procedure with *Step 13* on page 302.

13. Change the terminal type of the terminals that were changed to `NONE` in *Step 6* on page 299 to the terminal type `OAP` or `SEAS` with the `chg-trm` command and either the `type=oap` (for OAP terminals) or `type=seas` (for SEAS terminals) parameter. The terminal type is shown in the `TYPE` field in the `rtrv-trm` command output in *Step 3* on page 295.

    If OAP terminals were changed in *Step 6* on page 299, for this example, enter these commands.

    ```
    chg-trm:trm=6:type=oap
    ```

    ```
    chg-trm:trm=9:type=oap
    ```

    If SEAS terminals were changed in *Step 6* on page 299, for this example, enter these commands.

    ```
    chg-trm:trm=18:type=seas
    ```

    ```
    chg-trm:trm=27:type=seas
    ```

    This message should appear when these commands have successfully completed.

    ```
    rlghncxa03w 07-05-01  11:11:28 GMT  EAGLE5 37.0.0
    CHG-TRM: MASP B - COMPLTD
    ```

14. If the OAP or SEAS terminals were placed out of service in *Step 5* on page 298, put the OAP or SEAS terminals back into service using the `rst-trm` command with the number of the terminals specified in *Step 13* on page 302 . For this example, enter these commands.

    ```
    rst-trm:trm=6
    ```

    ```
    rst-trm:trm=9
    ```

    ```
    rst-trm:trm=18
    ```

    ```
    rst-trm:trm=27
    ```

    This message should appear when each of these commands have successfully completed.

    ```
    rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
    Allow message sent to terminal

    rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
    Command Completed.
    ```

15. Verify that the terminals are in service with the `rept-stat-trm` command. This is an example of the possible output.

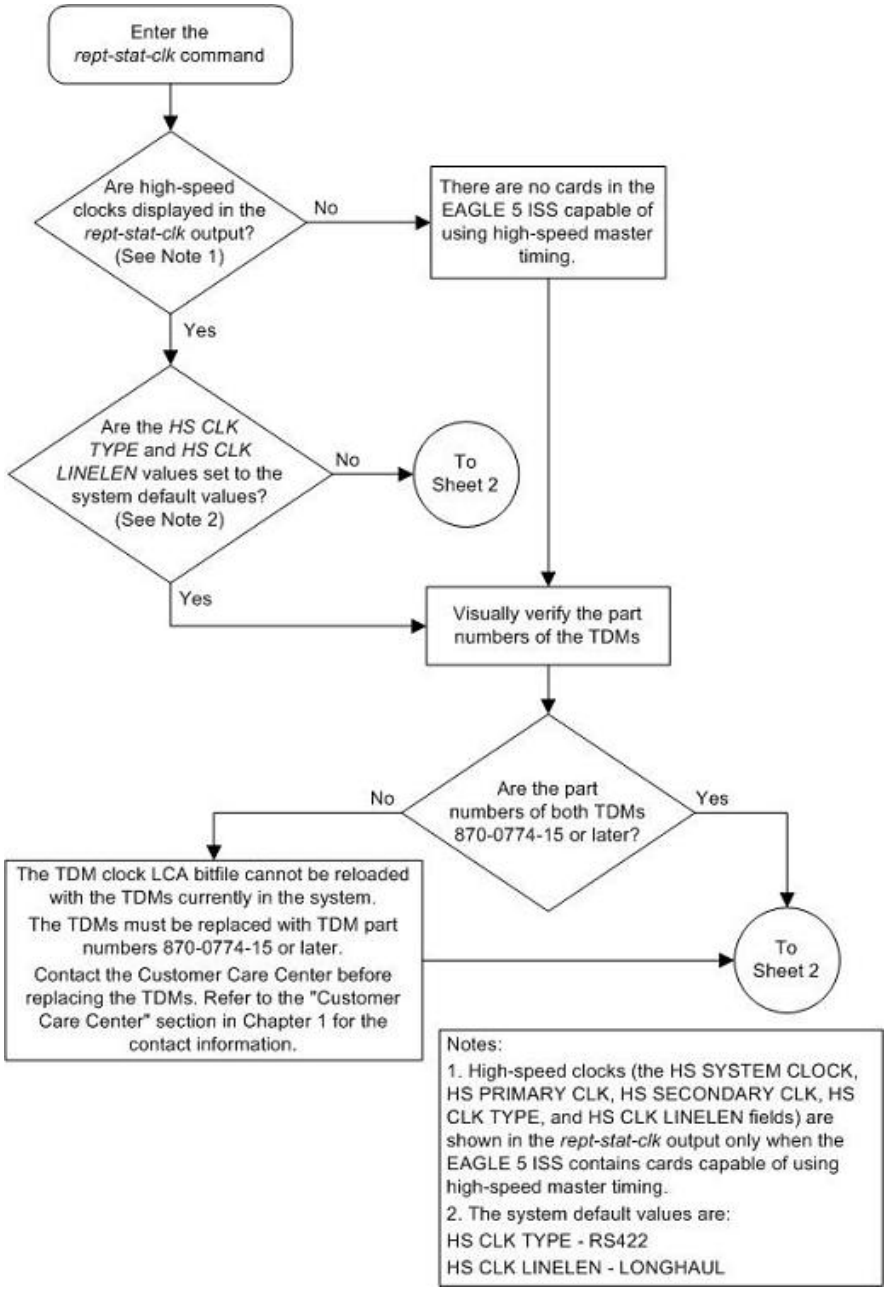
    ```
    rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
    TRM   PST           SST           AST
    1     IS-NR         Active        -----
    2     IS-NR         Active        -----
    3     IS-NR         Active        -----
    4     IS-NR         Active        -----
    5     IS-NR         Active        -----
    6     IS-NR         Active        -----
    7     IS-NR         Active        -----
    8     IS-NR         Active        -----
    9     IS-NR         Active        -----
    10    IS-NR         Active        -----
    11    IS-NR         Active        -----
    12    IS-NR         Active        -----
    13    IS-NR         Active        -----
    14    IS-NR         Active        -----
    15    IS-NR         Active        -----
    ```

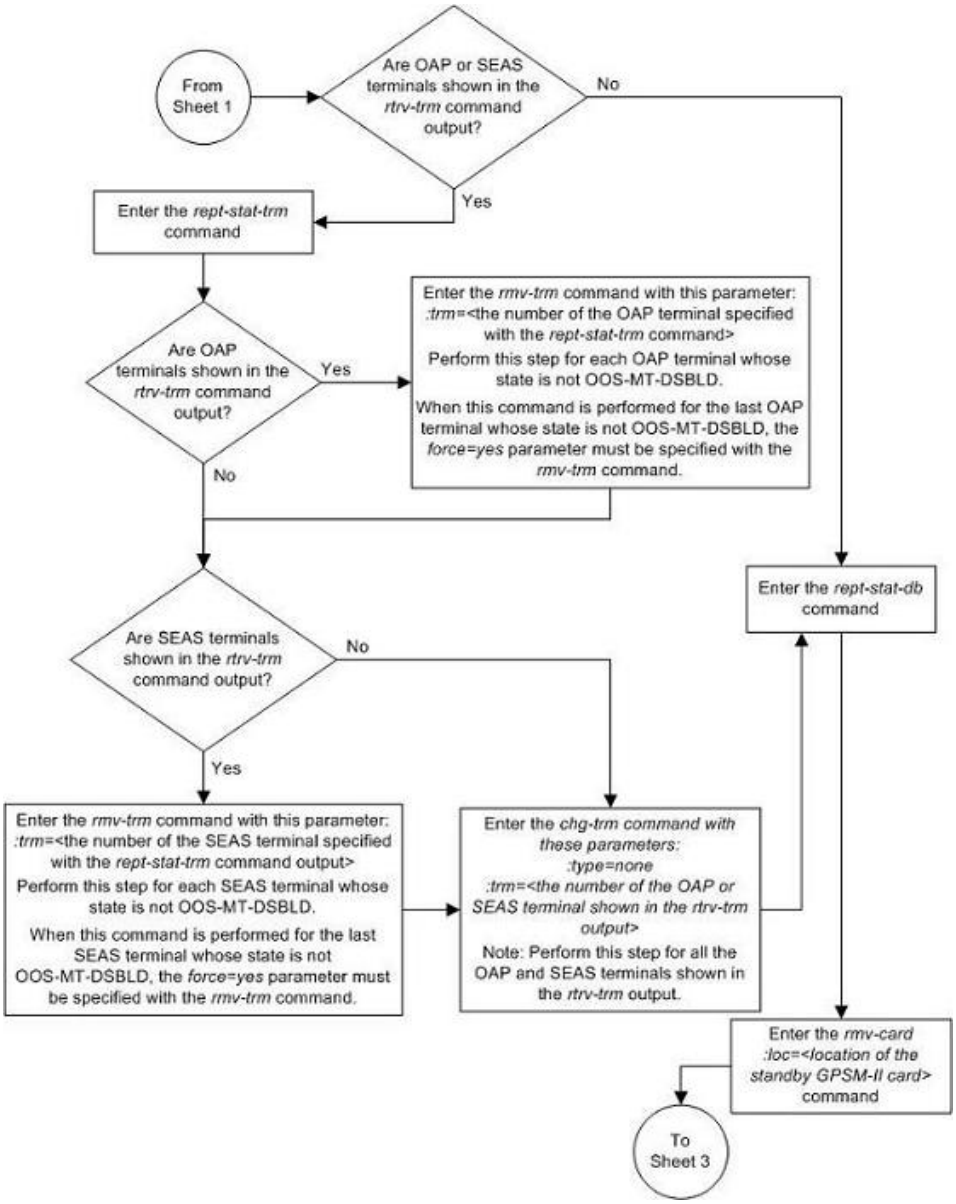
```
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

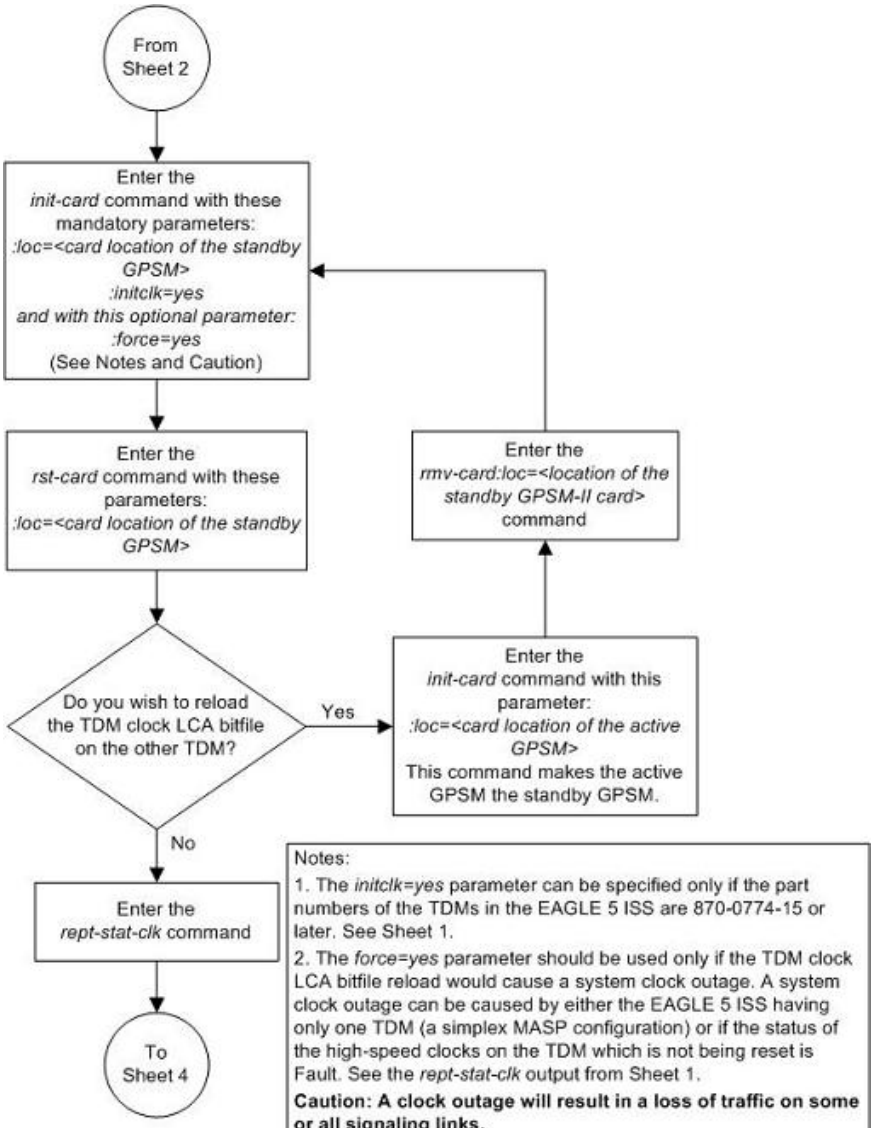
16. Back up the new changes using the `chg-db:action=backup:dest=fixed` command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

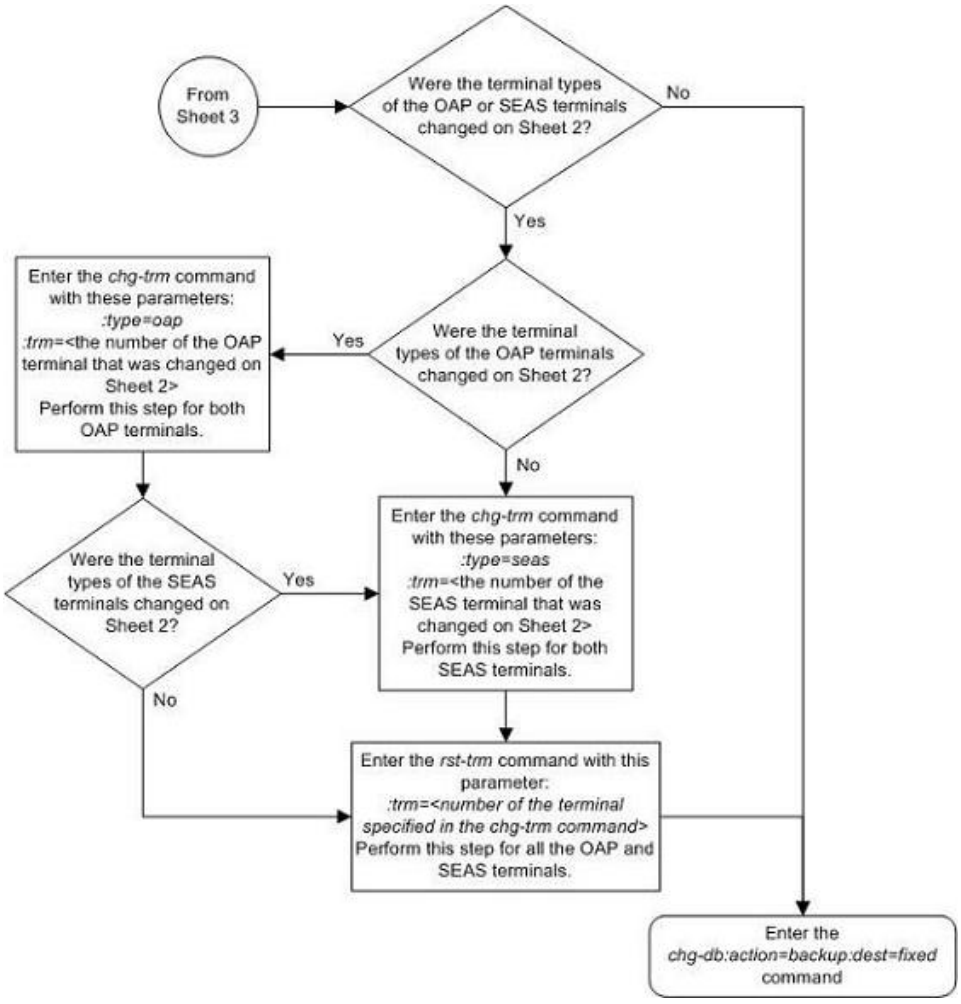
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 33: Reloading the TDM LCA Clock Bitfile


Enter the rept-stat-clk command
Are high-speed clocks displayed in the rept-stat-clk output? (See Note 1)
No
There are no cards in the EAGLE 5 ISS capable of using high-speed master timing.
Yes
Are the HS CLK TYPE and HS CLK LINELEN values set to the system default values? (See Note 2)
No
To Sheet 2
Yes
Visually verify the part numbers of the TDMs
Are the part numbers of both TDMs 870-0774-15 or later?
No
Yes
The TDM clock LCA bitfile cannot be reloaded with the TDMs currently in the system.
The TDMs must be replaced with TDM part numbers 870-0774-15 or later.
Contact the Customer Care Center before replacing the TDMs. Refer to the "Customer Care Center" section in Chapter 1 for the contact information.
To Sheet 2
Notes:
1. High-speed clocks (the HS SYSTEM CLOCK, HS PRIMARY CLK, HS SECONDARY CLK, HS CLK TYPE, and HS CLK LINELEN fields) are shown in the rept-stat-clk output only when the EAGLE 5 ISS contains cards capable of using high-speed master timing.
2. The system default values are:
HS CLK TYPE - RS422
HS CLK LINELEN - LONGHAUL


From Sheet 1
Are OAP or SEAS terminals shown in the rtrv-trm command output?
No
Yes
Enter the rept-stat-trm command
Are OAP terminals shown in the rtrv-trm command output?
Yes
Enter the rmv-trm command with this parameter: :trm=<the number of the OAP terminal specified with the rept-stat-trm command>
Perform this step for each OAP terminal whose state is not OOS-MT-DSBLD.
When this command is performed for the last OAP terminal whose state is not OOS-MT-DSBLD, the force=yes parameter must be specified with the rmv-trm command.
No
Enter the rept-stat-db command
Are SEAS terminals shown in the rtrv-trm command output?
No
Yes
Enter the rmv-trm command with this parameter: :trm=<the number of the SEAS terminal specified with the rept-stat-trm command output>
Perform this step for each SEAS terminal whose state is not OOS-MT-DSBLD.
When this command is performed for the last SEAS terminal whose state is not OOS-MT-DSBLD, the force=yes parameter must be specified with the rmv-trm command.
Enter the chg-trm command with these parameters: :type=none :trm=<the number of the OAP or SEAS terminal shown in the rtrv-trm output>
Note: Perform this step for all the OAP and SEAS terminals shown in the rtrv-trm output.
Enter the rmv-card :loc=<location of the standby GPSM-II card> command
To Sheet 3


From Sheet 2
Enter the init-card command with these mandatory parameters: :loc=<card location of the standby GPSM> :initclk=yes and with this optional parameter: :force=yes (See Notes and Caution)
Enter the rst-card command with these parameters: :loc=<card location of the standby GPSM>
Enter the rmv-card:loc=<location of the standby GPSM-II card> command
Do you wish to reload the TDM clock LCA bitfile on the other TDM?
Yes
Enter the init-card command with this parameter: :loc=<card location of the active GPSM> This command makes the active GPSM the standby GPSM.
No
Enter the rept-stat-clk command
To Sheet 4
Notes:
1. The initclk=yes parameter can be specified only if the part numbers of the TDMs in the EAGLE 5 ISS are 870-0774-15 or later. See Sheet 1.
2. The force=yes parameter should be used only if the TDM clock LCA bitfile reload would cause a system clock outage. A system clock outage can be caused by either the EAGLE 5 ISS having only one TDM (a simplex MASP configuration) or if the status of the high-speed clocks on the TDM which is not being reset is Fault. See the rept-stat-clk output from Sheet 1.
Caution: A clock outage will result in a loss of traffic on some or all signaling links.


From Sheet 3
Were the terminal types of the OAP or SEAS terminals changed on Sheet 2?
No
Yes
Were the terminal types of the OAP terminals changed on Sheet 2?
Yes
Enter the chg-trm command with these parameters:
:type=oap
:trm=<the number of the OAP terminal that was changed on Sheet 2>
Perform this step for both OAP terminals.
No
Were the terminal types of the SEAS terminals changed on Sheet 2?
Yes
Enter the chg-trm command with these parameters:
:type=seas
:trm=<the number of the SEAS terminal that was changed on Sheet 2>
Perform this step for both SEAS terminals.
No
Enter the rst-trm command with this parameter:
:trm=<number of the terminal specified in the chg-trm command>
Perform this step for all the OAP and SEAS terminals.
Enter the chg-db:action=backup:dest=fixed command

Chapter 4

System Administration Procedures

Topics:

Chapter 4, System Administration Procedures, describes the procedures used to administer the items shown in the *Introduction* on page 311.

Introduction

This chapter contains system administration procedures. The items discussed in this section are:

- The date and time
- User IDs and passwords
- Terminal configuration
- Shelves
- Cards
- Security Log
- Unauthorized Use Warning Message
- UIM Thresholds
- MCPMs, IP links, and FTP servers for the Measurements Platform
- IPSMs for the IP User Interface (Telnet) feature
- Configuring the Network Security Options
- Configuring the Restore Device State Option
- Configuring the Frame Power Alarm Threshold

The procedures shown in this chapter use a variety of commands. If more information on these commands is needed, go to the *Commands Manual* to find the required information.

Setting the Clock and Date on the EAGLE 5 ISS

This procedure is used to set the EAGLE 5 ISS's clock and date.

1. To set the date, use the `set-date` command.

   The date must be entered in the form YYMMDD (YY for the year, MM for the month, and DD for the day of the month). For example, to set the date to March 7, 2003, enter this command.

   ```
   set-date:date=030307
   ```

   When this command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 09:33:19 GMT  EAGLE5 36.0.0
   Date set complete.
   ```

2. To set the clock, use the `set-time` command.

   The time must be entered in the form HHMM (HH for the hour, and MM for the minutes). The hour is based on a 24-hour clock. The time zone can also be specified. If the time zone is not specified, then the EAGLE 5 ISS uses the time zone that was entered with the previous `set-time` command. The values for the time zone parameter are shown in *Table 11: Time Zones* on page 312. The entry in the Abbreviation column of *Table 11: Time Zones* on page 312 is the value to be specified for the time zone parameter.

Table 11: Time Zones

Time Zone	Abbreviation	Offset from GMT (hours)
Greenwich Mean Time	GMT	0
US Eastern Daylight Time	EDT	- 4
US Eastern Standard Time	EST	- 5
US Pacific Daylight Time	PDT	- 7
US Pacific Standard Time	PST	- 8
US Mountain Daylight Time	MDT	- 6
US Mountain Standard Time	MST	- 7
US Central Daylight Time	CDT	- 5
US Central Standard Time	CST	- 6
US Hawaiian Daylight Time	HDT	- 9
US Hawaiian Standard Time	HST	- 10
Atlantic Daylight Time	ADT	- 3
Atlantic Standard Time	AST	- 4
Western European Time	WET	0
Universal Time Coordinated	UTC	0
British Summer Time	BST	+ 1
Western European Summer Time	WEST	+ 1
Central European Time	CET	+ 1
Central European Summer Time	CEST	+ 2
Eastern European Time	EET	+ 2

Time Zone	Abbreviation	Offset from GMT (hours)
Eastern European Summer Time	EEST	+ 3
French Summer Time	FST	+ 2
French Winter Time	FWT	+ 1
Brazil Standard Time	BRA	- 3
Middle European Time	MET	+ 1
Middle European Summer Time	MEST	+ 2
Moscow Time	MSK	+ 3
Moscow Summer Time	MSD	+ 4
Australian Eastern Standard Time	AEST	+ 10
Australian Eastern Daylight Time	AEDT	+ 11
Australian Western Standard Time	AWST	+ 8
Australian Western Daylight Time	AWDT	+ 9
Australian Central Standard Time	ACST	+ 9.5
Australian Central Daylight Time	ACDT	+ 10.5
New Zealand Standard Time	NZST	+ 12
New Zealand Daylight Time	NZDT	+ 13
South African Standard Time	SAST	+ 2
China Coast Time	CCT	+ 8
Republic of Korea	ROK	+ 9
India Standard Time	IST	+ 5.5

Time Zone	Abbreviation	Offset from GMT (hours)
India Daylight Time	IDT	+ 6.5
Alaska Standard Time	AKST	-9
Alaska Daylight Time	AKDT	-8
Newfoundland Standard Time	NST	-3.5
Newfoundland Daylight Time	NDT	-2.5

For example, to set the time to 14:20 (2:20 PM) in the Greenwich Mean time zone, enter this command.

```
set-time:time = 1420:tz=gmt
```

When this command has successfully completed, this message should appear.

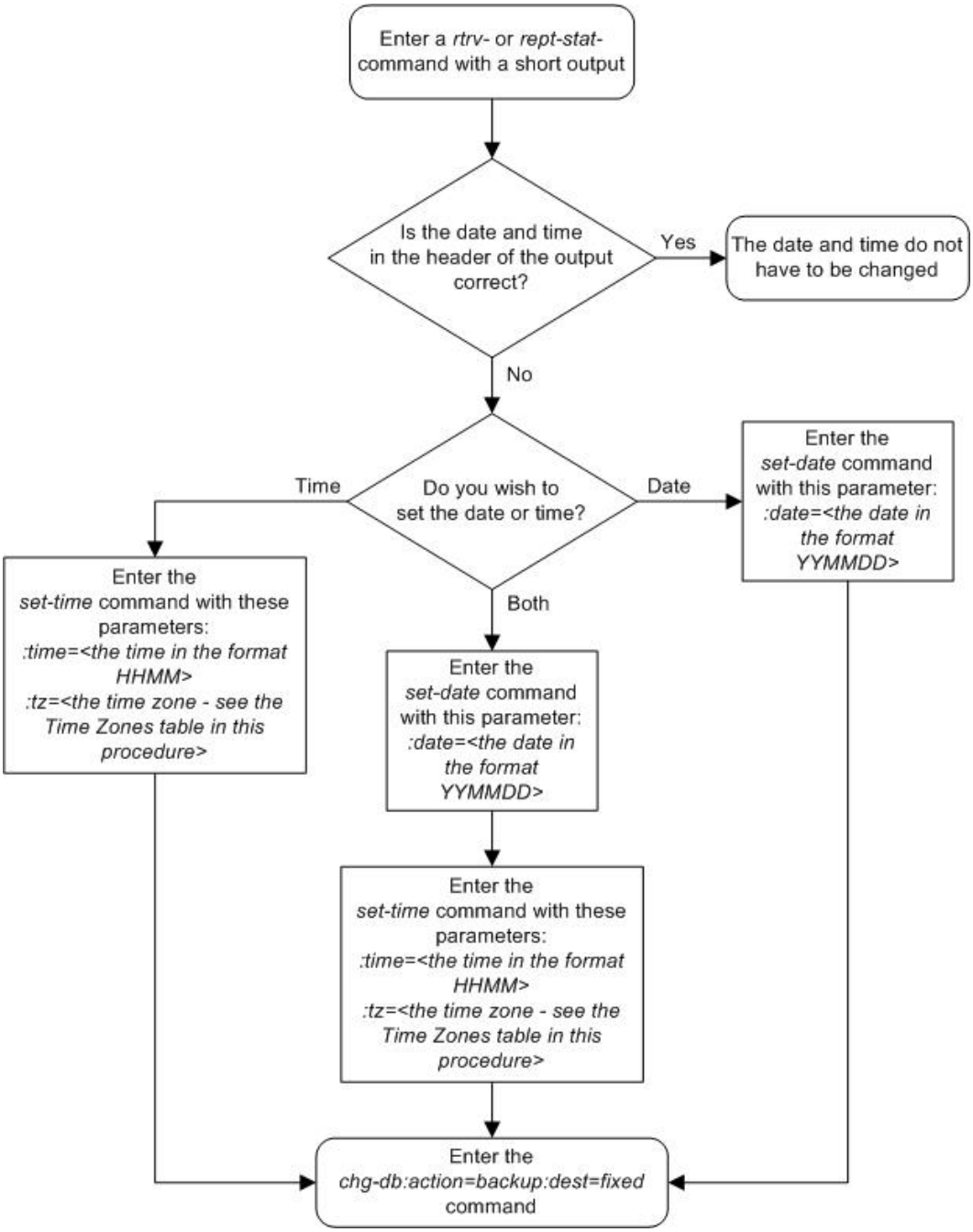
```
rlghncxa03w 06-10-01 14:20:00 GMT  EAGLE5 36.0.0
Time set complete.
```

3. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 34: Setting the System Clock and Date



Changing the Security Defaults

This procedure is used to change the user ID and password requirements for the EAGLE 5 ISS using the `chg-secu-dflt` command. The `chg-secu-dflt` command uses these parameters.

:page – The amount of time, in days, that the specified user's password can be used before the user must change their password. The value of this parameter applies to all EAGLE 5 ISS user IDs unless a different value is specified for a specific user ID with the ent-user or chg-user command.

:uout – The number of consecutive days that a user ID can remain active in the EAGLE 5 ISS and not be used. When the user ID has not been used for the number of days specified by the uout parameter, that user ID is no longer valid and the EAGLE 5 ISS rejects any attempt to log into the EAGLE 5 ISS with that user ID. The value of this parameter applies to all user IDs in the EAGLE 5 ISS unless a different value is specified for a specific user ID with the ent-user or chg-user command.

:multlog – are the user IDs allowed to log on to more than one terminal at any given time.

:minlen – the minimum length of the password

:alpha – the minimum number of alpha characters (a - z)

:num – the minimum number of numeric characters (0 - 9)

:punc – the minimum number of punctuation characters (any printable character that is not an alphabetic character, a numeric character, the space bar)

The chg-secu-dflt command also contains the wrnln , wrntx , and clrwrntx parameters. These parameters are used to configure the unauthorized use warning message that is displayed when a user logs into the EAGLE 5 ISS. To configure the unauthorized use warning message, go to the *Configuring the Unauthorized Use Warning Message* on page 318 procedure.

Even though the minlen parameter specifies the minimum length of a password, the password must also contain the minimum number characters defined by the alpha, num, and punc parameters.

The examples in this procedure are used to change the security defaults to these values.

page = 100 days

uout = 50 days

multlog = yes, to allow the user IDs in the EAGLE 5 ISS to log onto more than one terminal at any given time.

minlen = 12 characters

alpha = 2 characters

num = 2 characters

punc = 2 characters

Note:

When the EAGLE 5 ISS is delivered to the user, the database will contain these security default values.

:page = 90 days

:uout = 90 days

:multlog = no

:minlen = 8 characters

:alpha = 1 character

:num = 1 character

:punc = 1 character

The rtrv-secu-dflt command uses the msg parameter to specify whether the unauthorized use warning message text is displayed in the command output. The msg parameter has two values.

yes – the unauthorized use warning message text is displayed.

no – the unauthorized use warning message text is not displayed.

The default value for this parameter is no.

Regardless of the value specified for the msg parameter, the user ID and password security defaults are displayed in the rtrv-secu-dflt command output.

1. Display the current security defaults by entering the rtrv-secu-dflt command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
SECURITY DEFAULTS
-----------------
PAGE           60
UOUT           90
MULTLOG        NO
MINLEN          8
ALPHA           1
NUM             1
PUNC            1
```

2. Change the current security defaults by entering the chg-secu-dflt command.

   For this example, enter this command.

```
chg-secu-dflt:page=100:uout=50:multlog=yes:minlen=12:alpha=2
:num=2:punc=2
```

   When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 11:43:04 GMT EAGLE5 36.0.0
CHG-SECU-DFLT: MASP A - COMPLTD
```

3. Verify the changes with the rtrv-secu-dflt command.

   This is an example of the possible output.

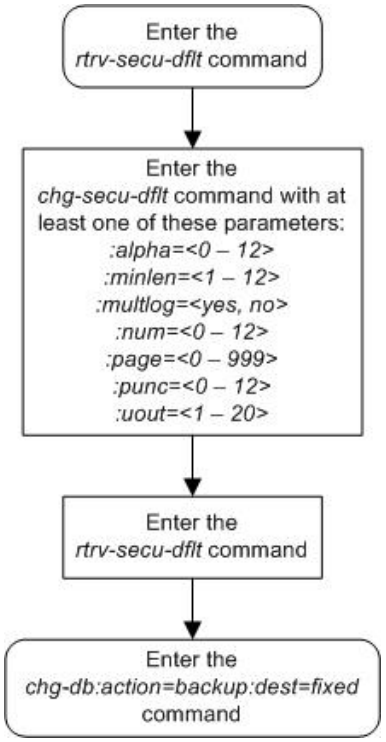
```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
SECURITY DEFAULTS
-----------------
PAGE          100
UOUT           50
MULTLOG       YES
MINLEN         12
ALPHA           2
NUM             2
PUNC            2
```

4. Back up the new changes using the chg-db:action=backup:dest=fixed command.

These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 35: Changing the System's Security Defaults



Configuring the Unauthorized Use Warning Message

This procedure is used to configure the unauthorized use warning message that is displayed after a user successfully logs into the EAGLE 5 ISS.

These parameters are used in this procedure.

`:wrnln` – the line number of the text of the unauthorized use warning message. The unauthorized use warning message can contain from 1 to 20 lines of text.

`:wrntx` – the text of the line number of the unauthorized use warning message. The each line of text can contain up to 70 alphanumeric characters and must be enclosed in quotes (“). A blank line is specified with this text string, “ “, the blank space character enclosed in double quotes.

`:clrwrntx` - This parameter specifies whether or not the text of the warning message is removed and will not be displayed. This parameter has three values.

- `no` - the text of a specific line in the warning message is not removed.

- yes - the text of a specific line in the warning message is removed and will not be displayed.
- all - the text in all the lines of the warning message are removed and no warning message will be displayed.

The clrwrntx=yes parameter can be specified only with the wrnln parameter.

chg-secu-dflt command also contains these parameters: page, uout, multlog, minlen, alpha, num, and punc. These parameters are used to change the user ID and password security defaults on the EAGLE 5 ISS. To change the user ID and password security defaults, go to the *Changing the Security Defaults* on page 315 procedure.

Note: When the EAGLE 5 ISS is delivered to the user, the database will contain this login warning message.

```
NOTICE: This is a private computer system.
Unauthorized access or use may lead to prosecution.
```

The example in this procedure is used to change the unauthorized use warning message from the system default message to this message.

```
************************************************************
* NOTICE: This is a private computer system.                *
* UNAUTHORIZED ACCESS OR USE WILL BE PROSECUTED             *
*                                                          *
*                                                          *
* 03/17/08 Notice!!! System will be upgraded between       *
* the hours of 2am-3am on 04/01/08                         *
*                                                          *
*                                                          *
************************************************************
```

The rtrv-secu-dflt command uses the msg parameter to specify whether the unauthorized use warning message text is displayed in the command output. The msg parameter has two values.

yes – the unauthorized use warning message text is displayed.

no – the unauthorized use warning message text is not displayed.

The default value for this parameter is no.

Regardless of the value specified for the msg parameter, the user ID and password security defaults are displayed in the rtrv-secu-dflt command output.

1. Display the current text of the unauthorized use warning message by entering the rtrv-secu-dflt command with the msg=yes parameter.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
SECURITY DEFAULTS
-----------------
PAGE           60
UOUT           90
MULTLOG        NO
MINLEN          8
ALPHA           1
NUM             1
PUNC            1
WARNING MESSAGE
---------------
1:"NOTICE: This is a private computer system."
2:"Unauthorized access or use may lead to prosecution."
3:" "
```

```
4:""
5:""
6:""
7:""
8:""
9:""
10:""
11:""
12:""
13:""
14:""
15:""
16:""
17:""
18:""
19:""
20:""
```

2. Change the unauthorized use warning message by entering the `chg-secu-dflt` command with the `wrnln`, `wrntx`, and `clrwrntx` parameters.

   For this example, to configure a new warning message, enter these commands.

```
chg-secu-dflt:wrnln=1:wrntx="*****************************************************"

chg-secu-dflt:wrnln=2:wrntx="*  NOTICE: This is a private computer
system. *"

chg-secu-dflt:wrnln=3:wrntx="*  UNAUTHORIZED ACCESS OR USE WILL BE
PROSECUTED *"

chg-secu-dflt:wrnln=4:wrntx="*.............................................*"

chg-secu-dflt:wrnln=5:wrntx=".............................................*"

chg-secu-dflt:wrnln=6:wrntx="* 03/17/08 Notice!!! System will be
upgraded between*"

chg-secu-dflt:wrnln=7:wrntx="* the hours of 2am-3am on 04/01/08 *"

chg-secu-dflt:wrnln=8:wrntx="*.............................................*"

chg-secu-dflt:wrnln=9:wrntx="*.............................................*"

chg-secu-dflt:wrnln=10:wrntx="*****************************************************"

chg-secu-dflt:wrnln=11:wrntx=" "

chg-secu-dflt:wrnln=12:clrwrntx=yes

chg-secu-dflt:wrnln=13:clrwrntx=yes

chg-secu-dflt:wrnln=14:clrwrntx=yes

chg-secu-dflt:wrnln=15:clrwrntx=yes

chg-secu-dflt:wrnln=16:clrwrntx=yes

chg-secu-dflt:wrnln=17:clrwrntx=yes

chg-secu-dflt:wrnln=18:clrwrntx=yes

chg-secu-dflt:wrnln=19:clrwrntx=yes

chg-secu-dflt:wrnln=20:clrwrntx=yes
```

If you wish to remove the current warning message, enter this command.

`chg-secu-dflt:clrwrntx=all`

If you wish to configure a new warning message after removing the current warning message, repeat this step with the `wrnln`, `wrntx`, and `clrwrntx=yes` parameters as needed.

When each of these commands has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
CHG-SECU-DFLT: MASP A - COMPLTD
```

3. Verify the changes with the `rtrv-secu-dflt:msg=yes` command.

   This is an example of the possible output.

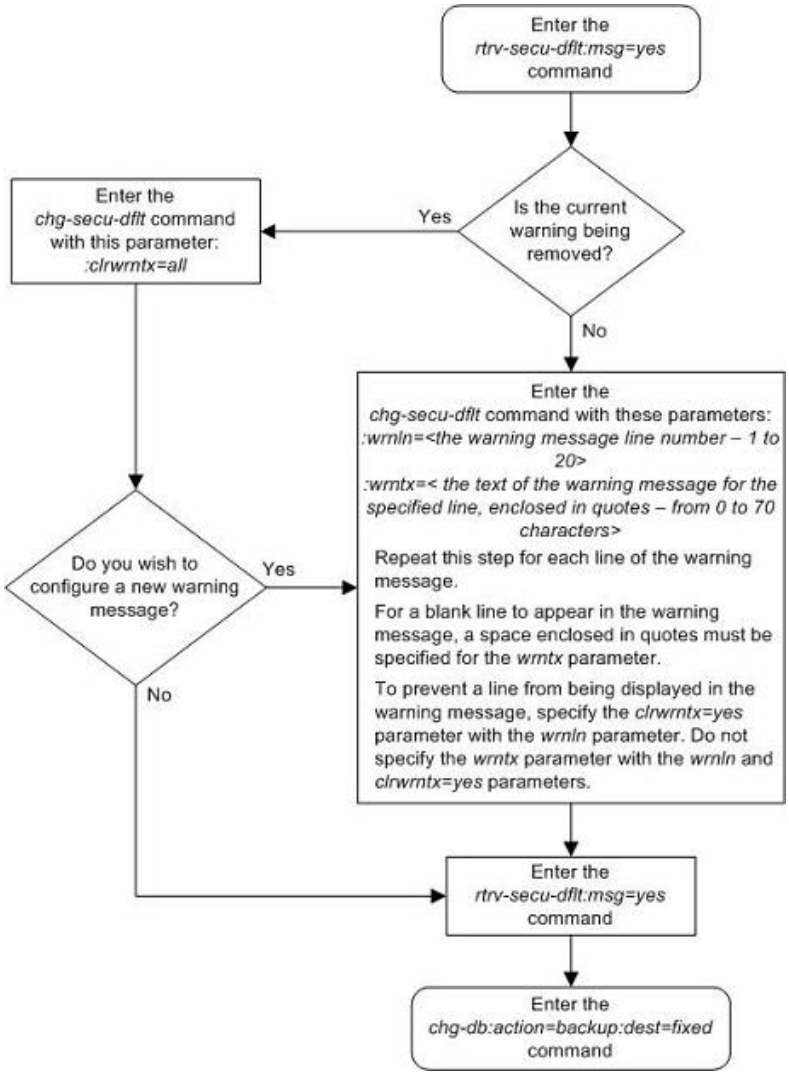
```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
SECURITY DEFAULTS
-----------------
PAGE           60
UOUT           90
MULTLOG        NO
MINLEN          8
ALPHA           1
NUM             1
PUNC            1
WARNING MESSAGE
---------------
1:"*****************************************************"
2:"*  NOTICE: This is a private computer system.       *"
3:"*  UNAUTHORIZED ACCESS OR USE WILL BE PROSECUTED    *"
4:"*                                                   *"
5:"*                                                   *"
6:"* 03/17/08 Notice!!! System will be upgraded between *"
7:"*                 the hours of 2am-3am on 04/01/08  *"
8:"*                                                   *"
9:"*                                                   *"
10:"*****************************************************"
11:" "
12:""
13:""
14:""
15:""
16:""
17:""
18:""
19:""
20:""
```

4. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 36: Configuring the Unauthorized Use Warning Message



Changing the Security Log Characteristics

This procedure is used to change the characteristics of the EAGLE 5 ISS's security log using the `chg-attr-seculog` command. The `chg-attr-seculog` command uses these parameters.

`:upldalm` – whether the security log alarms are on. The security log alarms are:

- upload required – the percentage of the maximum capacity of the security log exceeds the value of the `upslg` parameter. The security log entries need to be copied to the file transfer area of the fixed disk.
- log overflowed – the security log has become 100% full and log entries are being lost. The security log entries must be copied to the file transfer area of the fixed disk.
- standby log contains >0 un-uploaded entries – the security log on the standby fixed disk contains entries that have not been copied to the file transfer area of the fixed disk. Usually, the security

log on the standby fixed disk contains no entries, but for some reason, for example, a MASP switchover resulting in the active MASP security log becoming the standby MASP security log, the security log on the standby fixed disk contains uncopied security log entries.

The `uplalm=yes` parameter turns the security log alarms on. The `uplalm=no` turns the security log alarms off. If a security log alarm has been generated, the `uplalm=no` parameter lowers the alarm.

`:upslg` – the threshold at which the EAGLE 5 ISS generates the upload required security log alarm, if the `uplalm=yes` parameter has been specified. The threshold is the percentage of the maximum capacity of the security log.

When the EAGLE 5 ISS is delivered to the user, the security log characteristics will be set to these values:

`:upldalm = yes`

`:upslg = 90`

1. Display the current characteristics of the security log by entering the `rtrv-attr-seculog` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
Security log attributes
-----------------------
UPLDALM       no
UPSLG         80
```

2. Change the characteristics of the security log by entering the `chg-attr-seculog` command.

   For this example, enter this command.

   `chg-attr-seculog:upldalm=yes:upslg=90`

   When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
CHG-ATTR-SECULOG: MASP A - COMPLTD
```

3. Verify the changes with the `rtrv-attr-seculog` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
Security log attributes
-----------------------
UPLDALM      yes
UPSLG         90
```

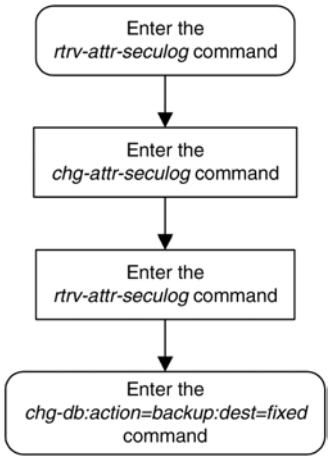
4. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
```

```
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 37: Changing the Security Log Characteristics



Copying the Security Log to the File Transfer Area

This procedure is used to copy the EAGLE 5 ISS's security log to the file transfer area of the fixed disk using the `copy-seculog` command. The `copy-seculog` command uses these parameters.

`:dfile` – the name of the file created in the file transfer area containing the security log entries copied with the `copy-seculog` command.

`:slog` – the security log that is copied to the file transfer area, the security log on the active fixed disk or the standby fixed disk.

`:dloc` – the file transfer area that is receiving the copy of the security log, the file transfer area on the active fixed disk or the file transfer area on the standby fixed disk.

The filename can contain from 1 to 32 characters. If the filename contains special characters such as blank spaces, colons, dashes, periods, ampersands (&), etc. (for example, `eagle123.doc`), the filename must be enclosed in double quotes. For example, `:dfile="eagle123.doc"`.

If a filename is not specified, the EAGLE 5 ISS specifies its own filename with this format, `yymmddx.log`, where `yymmdd` are the current year/month/day that the security log file was created, and `x` is either `a` for the copy of the security log on the active fixed disk or `s` for the copy of the security log on the standby fixed disk.

1. Display the current characteristics of the security log by entering the `rept-stat-seculog` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
             -- SINCE LAST UPLOAD --  OLDEST   NEWEST   LAST
LOC  ROLE    ENTRIES %FULL OFLO FAIL  RECORD   RECORD   UPLOAD
1114 Active  8312    84    No   No    03-12-05 04-06-01 04-05-30
                                      11:23:56 15:59:06 14:02:22
```

```
1116 Standby 693     7     No   No    03-12-05 04-06-01 04-05-30
                                      11:24:12 14:00:06 14:02:13
```

2. Copy the security log to the file transfer area by entering the `copy-seculog` command.

   For this example, copy the security log on the active fixed disk to the file transfer area on the fixed disk. Enter this command.

   ```
   copy-seculog:dfile=security1.log:slog=act:dloc=act
   ```

   When this command has successfully completed, this message should appear.

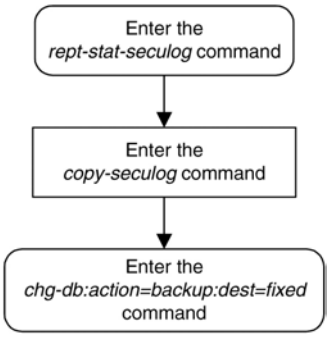
   ```
   rlghncxa03w 06-10-17 16:02:37 GMT  EAGLE5 36.0.0
   Security log on TDM 1114 copied to file security1.log on TDM 1114
   ```

3. Verify the changes with the `rept-stat-seculog` command.

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 16:04:43 GMT  EAGLE5 36.0.0
                -- SINCE LAST UPLOAD --  OLDEST   NEWEST   LAST
   LOC  ROLE    ENTRIES %FULL OFLO FAIL  RECORD   RECORD   UPLOAD
   1114 Active  1       1     No   No    04-06-01 04-06-01 04-06-01
                                        16:04:43 16:04:43 16:02:37

   1116 Standby 0       0     No   No    03-12-05 04-06-01 04-05-30
                                        11:24:12 14:00:06 14:02:13
   ```

Figure 38: Copying the Security Log to the File Transfer Area



Adding a User to the System

This procedure is used to add a user to the EAGLE 5 ISS using the `ent-user` command. This procedure can only be performed if you have been assigned the command class "Security Administration." If the user ID does not exist in the database, the user's characteristics cannot be changed.

Note: This procedure can be performed on all terminals (1 - 40) if the Eagle OA&M IP Security Enhancements feature is on. If this feature is on, the entry `YES` is shown for terminals 17 through 40 in the `SECURE` column in the `rtrv-trm` output. The output of the `rtrv-ctrl-feat` command also shows if this feature is on or off. If this feature is off, this procedure can be performed only on terminals 1 through 16. If you wish to use the Eagle OA&M IP Security Enhancements feature,

and the feature is not on, go to the *Activating the Eagle OA&M IP Security Enhancement Controlled Feature* on page 534 procedure to enable and activate this feature.

The `ent-user` command uses these parameters.

`:uid` – The user ID to be added to the database

`:all` – The user has access to all commands in all non-configurable command classes (`dbg`, `link`, `sys`, `sa`, `pu`, `db`, and if the LNP feature is enabled, `lnpbas`).

`:dbg` – The user has access to all commands in the command class "Debug."

`:link` – The user has access to all commands in the command class "Link Maintenance."

`:sys` – The user has access to all commands in the command class "System Maintenance."

`:sa` – The user has access to all commands in the command class "Security Administration."

`:pu` – The user has access to all commands in the command class "Program Update."

`:db` – The user has access to all commands in the command class "Database Administration."

`:lnpbas` – The user has access to all commands in the command class "LNP Basic."

`:cc1` - `:cc8` – Eight configurable command classes. These parameters specified whether or not the user has access to the commands in the specified configurable command class. The value of these parameters consist of the configurable command class name (1 alphabetic character followed by 2 alphanumeric characters), and either yes or no. The command class name and the yes or no values are separated by a dash. For example, to assign a user the permission to use the commands in configurable command class `db1`, the `cc1=db1-yes` parameter would be specified.

To specify any configurable command classes, the Command Class Management feature must be enabled and activated. Enter the `rtrv-ctrl-feat` command to verify whether or not the Command Class Management feature is enabled. If the Command Class Management feature is not enabled or activated, go to the *Activating Controlled Features* on page 526 procedure to enable and activate the Command Class Management feature. Up to 32 configurable command classes can be assigned to users. When the Command Class Management feature is enabled and activated, the configurable command class names are given the names `u01` - `u32`. These command class names, the descriptions of these command classes, and the commands assigned to these command classes can be changed using the *Configuring Command Classes* on page 377 procedure.

The `ent-user` command allows up to eight configurable command classes to be assigned to the user. Use the *Changing User Information* on page 336 procedure to assign the other 24 configurable command classes to the user, if desired.

:`page` – The amount of time, in days, that the specified user's password can be used before the user must change their password.

If the `page` parameter is not specified with the `ent-user` command, the EAGLE 5 ISS uses the value configured for the `page` parameter specified by the `chg-secu-dflt` command to determine the age of the user's password.

:`uout` – The number of consecutive days that a user ID can remain active in the EAGLE 5 ISS and not be used. When the user ID has not been used for the number of days specified by the `uout` parameter, that user ID is no longer valid and the EAGLE 5 ISS rejects any attempt to log into the EAGLE 5 ISS with that user ID.

If the `uout` parameter is not specified with the `ent-user` command, the EAGLE 5 ISS uses the value configured for the `uout` parameter specified by the `chg-secu-dflt` command to determine

the number of consecutive days that a user ID can remain active on the EAGLE 5 ISS and not be used

:`revoke` – Is the specified user ID in service? Any login attempts using a revoked user ID are rejected by the EAGLE 5 ISS. The `revoke=yes` parameter cannot be specified for a user ID assigned to the security administration command class.

The words `seas` or `none` cannot be used for user IDs to prevent any conflict with the use of these words in the UID field of the security log. The word `none` in the UID field of the security log refers to any command that was logged that had no user ID associated with it. The word `seas` refers to any command logged in the security log that entered the EAGLE 5 ISS on either the OAP terminals or SEAS terminals.

To assign a user to the LNP Basic command class, the LNP feature must be enabled. This can be verified with the `rtrv-ctrl-feat` command. If the LNP feature is not enabled, perform the procedures in the LNP *Feature Activation Guide* to enable the LNP feature.

This example shows an `rtrv-secu-user` command output when the LNP feature is enabled and the Command Class Management feature is enabled and activated. If the LNP feature is not enabled, the field `LNPBAS` is not shown in the `rtrv-secu-user` command output. If the Command Class Management feature is not enabled and activated, the 32 configurable command classes, shown in the following example as fields `U01` - `U32`, are not shown in the `rtrv-secu-user` command output.

An asterisk (*) displayed after the value in the `PAGE` or `UOUT` fields indicates that the system-wide default `page` or `uout` parameter values, as configured on the `chg-secu-dflt` command, is in effect for the user ID.

```
rlghncxa03w 06-10-01 08:33:48 GMT EAGLE5 36.0.0

                                                                  LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
frodo                750 0    0    NO  YES  YES YES YES YES YES YES

            U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES NO

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO  NO  YES

                                                                  LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
manny                36  60   60   NO  YES  YES YES YES YES YES YES

            U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            NO  NO  NO  NO  YES YES YES YES YES YES YES YES YES YES YES YES

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO  NO  YES

                                                                  LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
moe                  100 30   60   YES YES  YES YES YES YES YES YES

            U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES NO

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO
```

```
                                                                    LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
jack                 10  30 * 30 * NO  YES  YES YES YES YES YES YES

            U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES NO  NO  NO  NO  YES YES YES YES YES NO
```

Canceling the RTRV-SECU-USER Command

Because the `rtrv-secu-user` command used in this procedure can output information for a long period of time, the `rtrv-secu-user` command can be canceled and the output to the terminal stopped. There are three ways that the `rtrv-secu-user` command can be canceled.

- Press the `F9` function key on the keyboard at the terminal where the `rtrv-secu-user` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rtrv-secu-user` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rtrv-secu-user` command was entered, from another terminal other that the terminal where the `rtrv-secu-user` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, go to the *Commands Manual*.

1. Verify whether or not the user ID you wish to add to the database is in the database by entering the `rtrv-secu-user` command and specifying the desired user ID with the `uid` parameter.

   For this example, enter this command.

   ```
   rtrv-secu-user:uid=frodo
   ```

   If the user ID being added to the database is displayed in the `rtrv-secu-user` output, the user ID cannot be used in this procedure. The attributes of the user ID shown in the `rtrv-secu-user` output can be changed in the *Changing User Information* on page 336 procedure.

   If the user ID being added to the database is not in the database, the error message E2199 is displayed.

   ```
   E2199 Cmd Rej: The specified user identification is not defined
   ```

   Note: If the `lnpbas` parameter is not being specified in this procedure, or the `LNPBAS` field is shown in the `rtrv-secu-user` output, skip this step, and go to step 3.

2. Verify that the LNP feature is enabled by entering the `rtrv-ctrl-feat` command.

   If the LNP feature is enabled, the LNP telephone number quantity is shown in the `LNP TNs` field of the `rtrv-ctrl-feat` output.

   The `rtrv-ctrl-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-ctrl-feat` command, see the `rtrv-ctrl-feat` command description in the *Commands Manual*.

If the LNP feature is enabled, go to step 3.

If the LNP feature is not enabled, perform the procedures in the LNP *Feature Activation Guide* to enable the LNP feature.

Note: If the `cc1` through `cc8` parameters are not being specified in this procedure, skip steps 3 and 4, and go to step 5. If configurable command classes are shown in the `rtrv-secu-user` output, skip this step, and go to step 4.

3. Verify that the Command Class Management feature is enabled and activated, by entering the `rtrv-ctrl-feat` command with the partnum=893005801 parameter.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  off     ----
```

   Note: The `rtrv-ctrl-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-ctrl-feat` command, see the `rtrv-ctrl-feat` command description in the *Commands Manual*.

   If the Command Class Management feature is enabled and activated (`status = on`), go to step 4.

   If the Command Class Management feature is not enabled or activated, go to the *Activating Controlled Features* on page 526 procedure and enable and activate the Command Class Management feature.

   CAUTION: If the Command Class Management feature is temporarily enabled, the configurable command classes can be assigned and used only for the amount of time shown in the `Trial Period Left` column in the `rtrv-ctrl-feat` output.

4. Display the descriptions of the configurable command classes in the database by entering the `rtrv-cmd` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CMD                 CLASS
alw-slk             link, u11
ent-user            sa
unhb-slk            link
rtrv-attr-seculog   sa, u31
inh-slk             link, abc
rtrv-meas-sched     link, abc, def
act-lbp             link
act-dlk             link
act-slk             link
rtrv-seculog        sa, abc, def, ghi
act-lpo             link
blk-slk             link, abc, u23, u31
dact-lbp            link
canc-dlk            link
inh-card            sys
canc-lpo            link, u01, u02, u03, u04, u05, u06, u07, u08, u09, u10,
                    u11, u12, u13
canc-slk            link
```

```
ublk-slk            link, u01, u02, u03, u04, u05, u06, u07, u08, u09, u10,
                    u11, u12, u13, u14, u15, u16, u17, u18, u19, u20, u21,
                    u22, u23, u24, u25, u26, u27, u28, u29, u30, u31, u32
rept-x25-meas       link
inh-trm             sys, krb
rept-meas           link
.
.
.
chg-meas            link
tst-dlk             link, krb
tst-slk             link
```

If the desired configurable command class descriptions are not in the database, go to the *Configuring Command Classes* on page 377 procedure and configure the desired command classes.

5. After you enter the `ent-user` command, you will be prompted for a password for the user that is being added.

   The password must meet the requirements defined by the `chg-secu-dflt` command. Once you enter the `ent-user` command, you will not be able to enter any other commands until the user ID and password combination has been accepted by the EAGLE 5 ISS. The password requirements must be verified before the `ent-user` command is executed. Display the password requirements by entering the `rtrv-secu-dflt` command. This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
SECURITY DEFAULTS
-----------------
PAGE           60
UOUT           90
MULTLOG        NO
MINLEN          8
ALPHA           1
NUM             1
PUNC            1
```

   The password can contain from one to twelve characters. For this example, the password must contain at lease eight characters, no more than twelve, with at least one alpha character (a-z), at least one numeric character (0-9), and at least one punctuation character (any printable character that is not an alphabetic character, a numeric character, the space bar). The password requirements are shown in these fields in the `rtrv-secu-dflt` command output.

   - `MINLEN` – the minimum length of the password
   - `ALPHA` – the minimum number of alpha characters
   - `NUM` – the minimum number of numeric characters
   - `PUNC` – the minimum number of punctuation characters

   The password is not case sensitive. For security reasons, the password is never displayed on the terminal.

6. Add the new user ID to the database using the `ent-user` command.

   The user ID must contain 1 alpha character and up to 15 alphanumeric characters. The first character of a user ID must be an alpha character. Even though a period is not an alphanumeric character, one of the 15 alphanumeric characters can be a period.

   Note: If the LNP ELAP Configuration feature is enabled and turned on (shown in step 2), LNP Subscription commands cannot be performed from the EAGLE 5 ISS, and the 1npsub parameter

cannot be specified with the ent-user command. LNP Subsription commands are available on the LSMS.

The other parameters assign command class permissions to the user ID. If `yes` is entered for any of these parameters, the user will have access to that class of commands. If `no` is entered, the user will not have access to that class of commands. These parameters are optional and if not specified, the user is not assigned to that command class. The user is assigned to the Basic command class whether any of these other parameters are specified. Refer to the *Commands Manual* for a list of commands permitted with each command class. For this example, the user ID `frodo` is being added with access to these command classes: link maintenance, system maintenance, database administration, and debug.

The `frodo` user ID will use the values for the `page` and `uout` parameters configured with the `chg-secu-dflt` command. For this example, enter this command.

```
ent-user:uid = frodo:link=yes:sys=yes:db=yes:dbg=yes:cc1=db1-yes
```

This message should appear.

```
rlghncxa03w 06-10-01  09:12:36 GMT  EAGLE5 36.0.0
ENT-USER: MASP A - COMPLTD
```

7. You are prompted for a password for the user that is being added.

   Enter the new password. Make sure that the password meets the password requirements displayed in the output of the `rtrv-secu-dflt` command, executed in step 5.

8. At the prompt `verify password`, re-enter the password that was entered in step 7 again.
9. When the `command executed` message appears, the execution of the command has been completed, and the user ID and password has been added to the database.
10. Verify the changes using the `rtrv-secu-user` command with the user ID specified in step 6.

    For this example, enter this command.

    ```
    rtrv-secu-user:uid=frodo
    ```

    This is an example of the possible output.

```
rlghncxa03w 06-10-01 08:33:48 GMT EAGLE5 36.0.0

                                                                  LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
frodo                0   60 * 90 * NO  YES  NO  YES NO  YES YES NO

            DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO
```

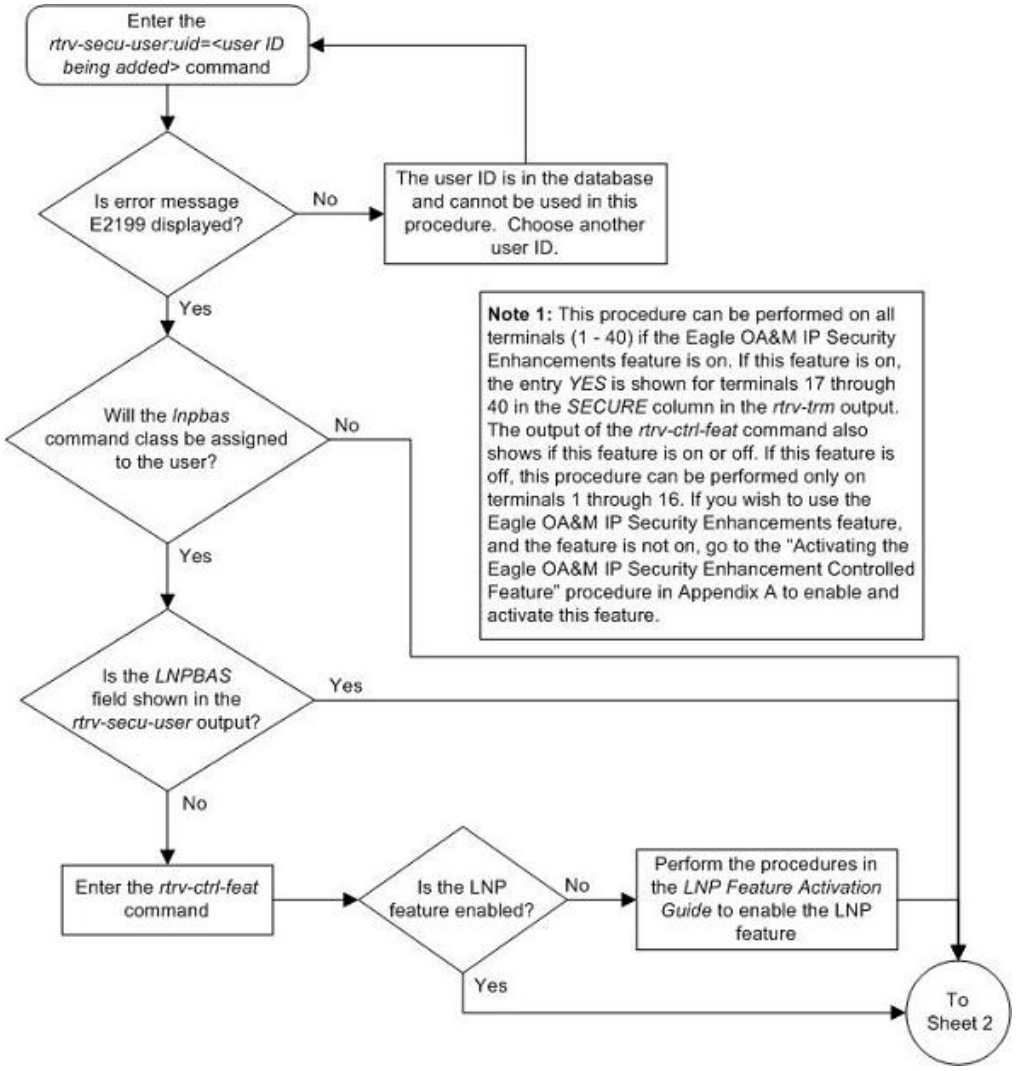
11. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

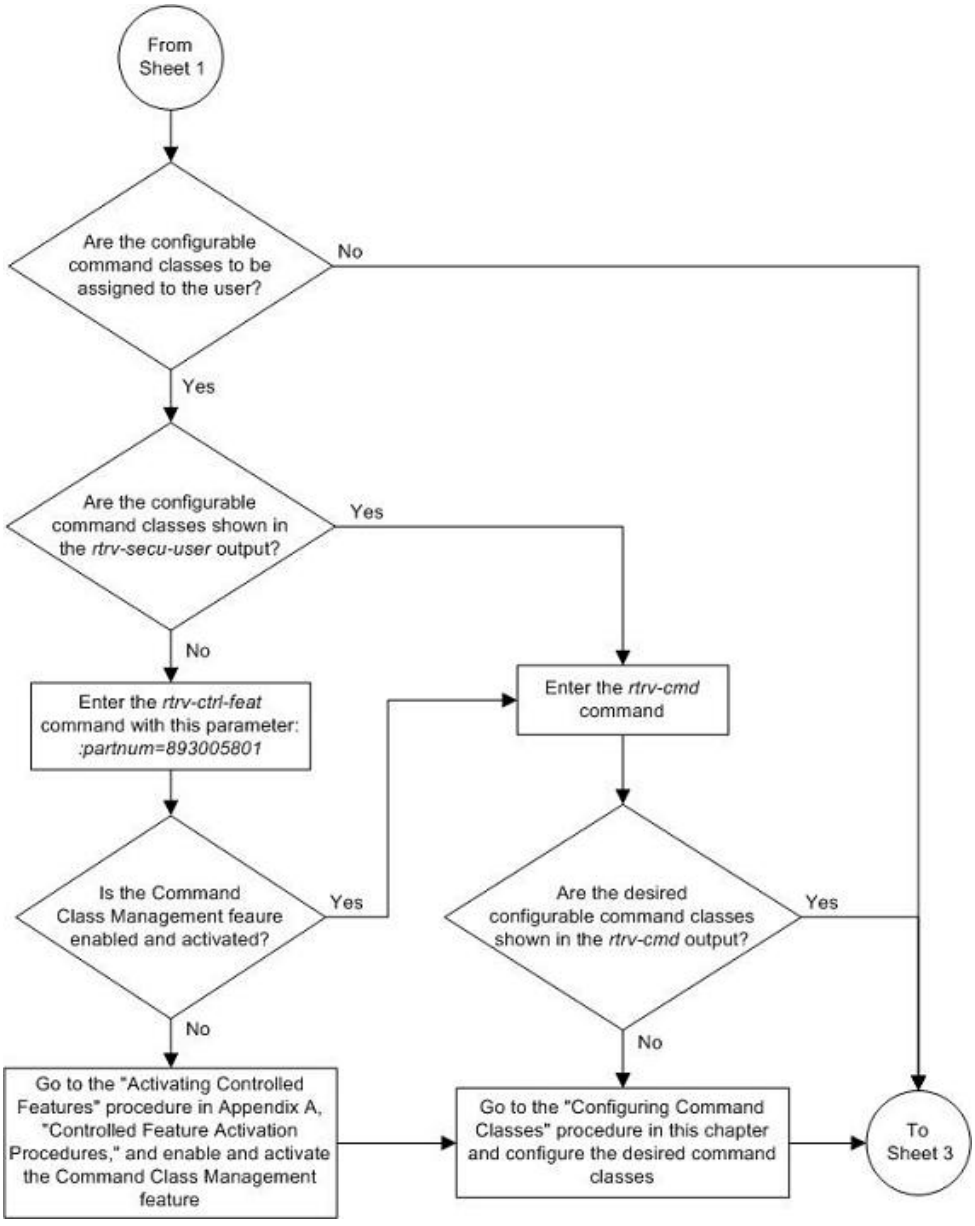
    These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

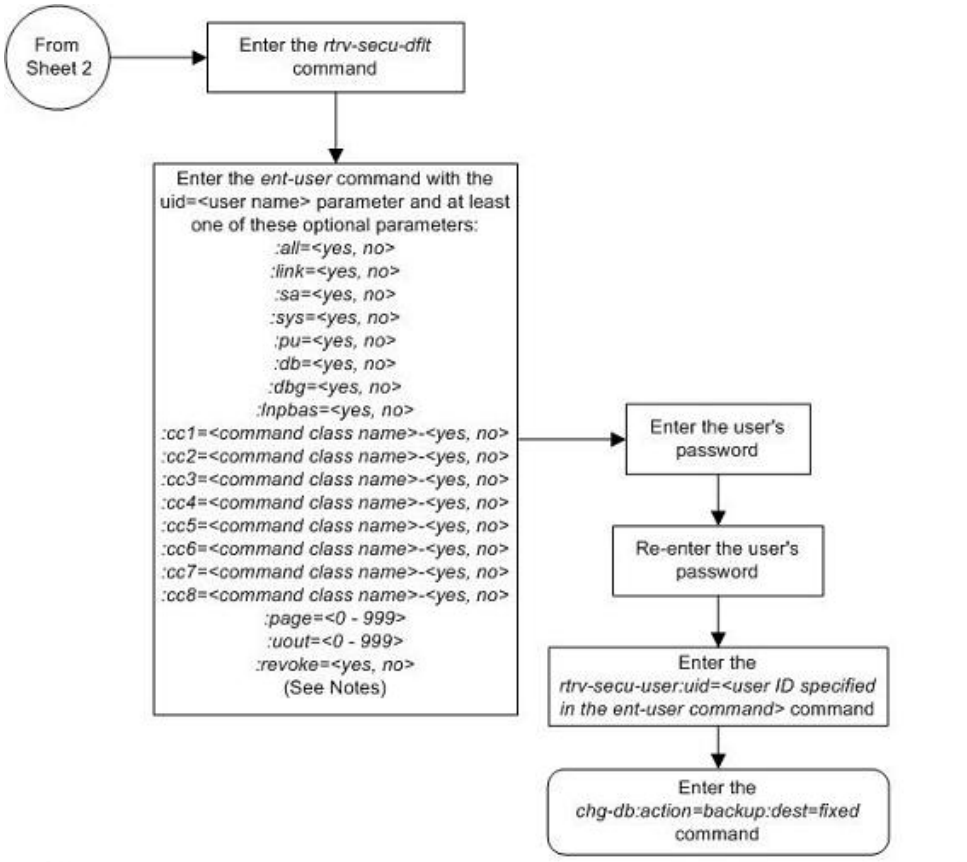
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
```

```
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 39: Adding a User to the System




From Sheet 1
Are the configurable command classes to be assigned to the user?
No
Yes
Are the configurable command classes shown in the rtrv-secu-user output?
Yes
No
Enter the rtrv-ctrl-feat command with this parameter: :partnum=893005801
Enter the rtrv-cmd command
Is the Command Class Management feaure enabled and activated?
Yes
Are the desired configurable command classes shown in the rtrv-cmd output?
Yes
No
No
Go to the "Activating Controlled Features" procedure in Appendix A, "Controlled Feature Activation Procedures," and enable and activate the Command Class Management feature
Go to the "Configuring Command Classes" procedure in this chapter and configure the desired command classes
To Sheet 3



Notes:

1. The *revoke=yes* parameter cannot be specified with the *sa* parameter value is *yes*.
2. To specify the *lnpbas* parameter, the LNP feature must be enabled.
3. To specify the *cc1* through *cc8* parameters, the Command Class Management feature must be enabled and activated.
4. The user can have a maximum of 32 configurable command classes assigned. The *ent-user* command can assign up to 8 configurable command classes. Go to the Changing User Information procedure to assign the other 24 configurable command classes to the user.
5. The *all* parameter specifies whether or not all non-configurable command classes (*link*, *sa*, *sys*, *pu*, *db*, *dbg*, *lnpbas*) can be used by the user.
6. If the *all* parameter and individual non-configurable command classes are specified with the *ent-user* command, the value of the specified individual non-configurable command classes overrides the value of the *all* parameter.

Removing a User from the System

This procedure is used to remove a user from the EAGLE 5 ISS using the `dlt-user` command. This procedure can only be performed if you have been assigned the command class "Security Administration." If the user ID does not exist in the database, the user's characteristics cannot be changed.

1. Display the user IDs in the database using the `rtrv-secu-user` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 08:33:48 GMT EAGLE5 36.0.0

                                                                LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
frodo                0   60 * 90 * NO  YES  NO  YES NO  YES YES NO

            DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO

                                                                LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
manny                36  60   60   NO  YES  YES YES YES YES YES YES

            U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            NO  NO  NO  NO  YES YES YES YES YES YES YES YES YES YES YES YES

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO  NO  YES

                                                                LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
fred                 750 0    0    NO  YES  YES YES YES YES YES YES

            DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES NO

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO

                                                                LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
travist              101 60 * 90 * NO  YES  NO  YES NO  NO  YES YES

            DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES NO  NO  NO  NO  YES YES YES YES YES NO
```

2. Remove the user ID from the database by using the `dlt-user` command.

   The `dlt-user` command has only one parameter, `uid`, which is the user ID that you wish to remove from the database. For this example, enter this command.

   ```
   dlt-user:uid=travist
   ```

   When this command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
   DLT-USER: MASP A - COMPLTD
   ```

3. Verify the changes using the `rtrv-secu-user` command and specifying the user ID used in step 2 with the `uid` parameter.

   For this example, enter this command.

   ```
   rtrv-secu-user:uid=travist
   ```

If the user ID was removed in step 2, error message E2199 is displayed.

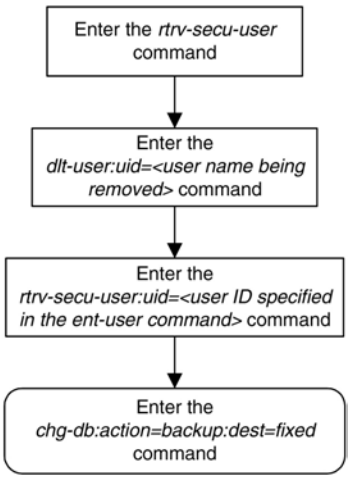
```
E2199 Cmd Rej: The specified user identification is not defined
```

4. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 40: Removing a User from the System



Changing User Information

This procedure is used to change the characteristics of a user on the EAGLE 5 ISS using the `chg-user` command. This procedure can only be performed if you have been assigned the command class "Security Administration." If the user ID does not exist in the database, the user's characteristics cannot be changed.

Note: The `pid` parameter can be specified for this procedure on all terminals (1 - 40) if the Eagle OA&M IP Security Enhancements feature is on. If this feature is on, the entry `YES` is shown for terminals 17 through 40 in the `SECURE` column in the `rtrv-trm` output. The output of the `rtrv-ctrl-feat` command also shows if this feature is on or off. If this feature is off, the `pid` parameter can be specified for this procedure only on terminals 1 through 16. If you wish to use the Eagle OA&M IP Security Enhancements feature, and the feature is not on, go to the *Activating the Eagle OA&M IP Security Enhancement Controlled Feature* on page 534 procedure to enable and activate this feature.

The `chg-user` command uses these parameters.

`:uid` – The ID of a user in the database

:nuid – New user ID – The new ID of the user specified by the uid parameter.

:pid – Password ID (only required if changing the password of a user) – The password of the user specified by the uid parameter.

:all – The user has access to all commands in all command classes.

:dbg – The user has access to all commands in the command class "Debug."

:link – The user has access to all commands in the command class "Link Maintenance."

:sys – The user has access to all commands in the command class "System Maintenance."

:sa – The user has access to all commands in the command class "Security Administration."

:pu – The user has access to all commands in the command class "Program Update."

:db – The user has access to all commands in the command class "Database Administration."

:lnpbas – The user has access to all commands in the command class "LNP Basic."

:cc1 - :cc8 – Eight configurable command classes. These parameters specified whether or not the user has access to the commands in the specified configurable command class. The value of these parameters consist of the configurable command class name (1 alphabetic character followed by 2 alphanumeric characters), and either yes or no. The command class name and the yes or no values are separated by a dash. For example, to assign a user the permission to use the commands in configurable command class db1, the cc1=db1-yes parameter would be specified.

To specify any configurable command classes, the Command Class Management feature must be enabled and activated. Enter the rtrv-ctrl-feat command to verify whether or not the Command Class Management feature is not enabled or activated, go to the *Activating Controlled Features* on page 526 procedure to enable and activate the Command Class Management feature. Up to 32 configurable command classes can be assigned to users. When the Command Class Management feature is enabled and activated, the configurable command class names are given the names u01 - u32. These command class names, the descriptions of these command classes, and the commands assigned to these command classes can be changed using the *Configuring Command Classes* on page 377 procedure.

The chg-user command can assign a maximum of eight configurable command classes to the user each time the chg-user command is performed.

:page – The amount of time, in days, that the specified user's password can be used before the user must change their password.

If the page parameter is not specified with the ent-user command, the EAGLE 5 ISS uses the value configured for the page parameter specified by the chg-secu-dflt command to determine the age of the user's password.

:uout – The number of consecutive days that a user ID can remain active on the EAGLE 5 ISS and not be used. When the user ID has not been used for the number of days specified by the uout parameter, that user ID is no longer valid and the EAGLE 5 ISS rejects any attempt to log into the EAGLE 5 ISS with that user ID.

If the uout parameter is not specified with the ent-user command, the EAGLE 5 ISS uses the value configured for the uout parameter specified by the chg-secu-dflt command to determine the number of consecutive days that a user ID can remain active on the EAGLE 5 ISS and not be used

:revoke – Is the specified user ID in service? Any login attempts using a revoked user ID are rejected by the EAGLE 5 ISS. The revoke=yes parameter cannot be specified for a user ID assigned to the security administration command class.

:rstlsl – resets the last successful login date for a user ID to the current date. If the user ID is out of service because the user ID has been idle longer that the value of the uout parameter defined by either the ent-user or chg-secu-dflt commands, this parameter brings that user ID back into service.

To assign a user to the LNP Basic command class, the LNP feature must be enabled. This can be verified with the rtrv-ctrl-feat command. If the LNP feature is not enabled, perform the procedures in the LNP *Feature Activation Guide* to enable the LNP feature.

This example shows an rtrv-secu-user command output when the LNP feature is turned on and the Command Class Management feature is enabled and activated. If the LNP feature is not enabled, the field LNPBAS is not shown in the rtrv-secu-user command output. If the Command Class Management feature is not enabled and activated, the 32 configurable command classes, shown in the following example as fields U01 - U32, are not shown in the rtrv-secu-user command output.

An asterisk (*) displayed after the value in the PAGE or UOUT fields indicates that the system-wide default page or uout parameter values, as configured on the chg-secu-dflt command, is in effect for the user ID.

```
rlghncxa03w 06-10-01 08:33:48 GMT EAGLE5 36.0.0

                                                          LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
frodo                750 0    0    NO  YES  YES YES YES YES YES YES

            U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES NO

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO  NO  YES

                                                          LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
manny                36  60   60   NO  YES  YES YES YES YES YES YES

            U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            NO  NO  NO  NO  YES YES YES YES YES YES YES YES YES YES YES YES

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO  NO  YES

                                                          LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
moe                  100 30   60   YES YES  YES YES YES YES YES YES

            U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
            YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES NO

            U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
            YES YES YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO

                                                          LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
jack                 10  30 * 30 * NO  YES  YES YES YES YES YES YES

            U01 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
```

```
           YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES

           U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
           YES YES YES YES YES YES NO  NO  NO  NO  YES YES YES YES YES NO
```

1. Display the user IDs in the database using the `rtrv-secu-user` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 08:33:48 GMT EAGLE5 36.0.0

                                                                  LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
frodo                0   60 * 90 * NO  YES  NO  YES NO  YES YES NO

           DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
           YES NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO

           U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
           NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO  NO

                                                                  LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
manny                36  60   60   NO  YES  YES YES YES YES YES YES

           DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
           NO  NO  NO  NO  YES YES YES YES YES YES YES YES YES YES YES YES

           U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
           YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO  NO  YES

                                                                  LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
fred                 750 0    0    NO  YES  YES YES YES YES YES YES

           DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
           NO  YES YES YES YES YES YES YES YES YES YES YES YES YES YES NO

           U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
           YES YES YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO

                                                                  LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
travist              101 60 * 90 * NO  YES  NO  YES NO  NO  YES YES

           DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
           YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES YES

           U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
           YES YES YES YES YES YES NO  NO  NO  NO  YES YES YES YES YES NO
```

   Note: If the `lnpbas` parameters arenot being specified in this procedure, or the `LNPBAS`field is shown in the `rtrv-secu-user` output, skip this step, and go to step 3.

2. Verify that the LNP feature is enabled by entering the `rtrv-ctrl-feat` command.

   If the LNP feature is enabled, the LNP telephone number quantity is shown in the `LNP TNs` field of the `rtrv-ctrl-feat` output.

   Note: The `rtrv-ctrl-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-ctrl-feat` command, see the `rtrv-ctrl-feat` command description in the *Commands Manual*.

If the LNP feature is enabled, go to step 3.

If the LNP feature is not enabled, perform the procedures in the LNP *Feature Activation Guide* to enable the LNP feature.

Note: If the `Inpbas` parameters arenot being specified in this procedure, or the `LNPBAS` field is shown in the `rtrv-secu-user` output, skip this step, and go to step 3.

3. Verify that the Command Class Management feature is enabled and activated, by entering the `rtrv-ctrl-feat` command with the partnum=89005801 parameter.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  off     ----
```

   Note:

   The `rtrv-ctrl-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-ctrl-feat` command, see the `rtrv-ctrl-feat` command description in the *Commands Manual*.

   If the Command Class Management feature is enabled and turned on (status = on), go to step 4.

   If the Command Class Management feature is not enabled or turned on, go to the *Activating Controlled Features* on page 526 procedure and enable and turn on the Command Class Management feature.

   CAUTION: If the Command Class Management feature is temporarily enabled, the configurable command classes can be assigned and used only for the amount of time shown in the `Trial Period Left` column in the `rtrv-ctrl-feat` output.

4. Display the descriptions of the configurable command classes in the database by entering the `rtrv-cmd` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CMD                 CLASS
alw-slk             link, u11
ent-user            sa
unhb-slk            link
rtrv-attr-seculog   sa, u31
inh-slk             link, abc
rtrv-meas-sched     link, abc, def
act-lbp             link
act-dlk             link
act-slk             link
rtrv-seculog        sa, abc, def, ghi
act-lpo             link
blk-slk             link, abc, u23, u31
dact-lbp            link
canc-dlk            link
inh-card            sys
canc-lpo            link, u01, u02, u03, u04, u05, u06, u07, u08, u09, u10,
                    u11, u12, u13
```

```
canc-slk            link
ublk-slk            link, u01, u02, u03, u04, u05, u06, u07, u08, u09, u10,
                    u11, u12, u13, u14, u15, u16, u17, u18, u19, u20, u21,
                    u22, u23, u24, u25, u26, u27, u28, u29, u30, u31, u32
rept-x25-meas       link
inh-trm             sys, krb
rept-meas           link
.
.
.
chg-meas            link
tst-dlk             link, krb
tst-slk             link
```

If the desired configurable command class descriptions are not in the database, go to the *Configuring Command Classes* on page 377 procedure and configure the desired command classes.

Note: A user ID cannot be changed while the user is logged on, except when the revoke=yes parameter is specified with the `chg-user` command. It is assumed that if the user is being revoked, the intent is to immediately deny the user access to the EAGLE 5 ISS. In this case, the user will be logged off when the database is updated.

5. Verify that the user is not logged on the EAGLE 5 ISS using the `rept-stat-user` command.

   If the user is logged on to the EAGLE 5 ISS, the `chg-user` command will log the user off the EAGLE 5 ISS when the command is executed. Notify the user to log off the EAGLE 5 ISS. This is an example of the possible output

   .

```
rlghncxa03w 06-10-01 09:12:15 GMT  EAGLE5 36.0.0
REPT-STAT-USER COMPLTD
USER ID    TERM# IDLE SINCE         COMMAND         STATE
fred         3   04-06-01 05:06:43  rept-stat-user  PROCESSING
frodo       13   04-06-01 08:12:23  chg-db          IDLE
manny        1   04-06-01 04:37:56  ent-dlk         IDLE
travist      7   04-06-01 10:06:22  rtrv-meas       IDLE
```

6. Change the user's characteristics using the `chg-user` command.

   The `nuid` parameter changes the user ID of a user. This parameter is optional and if not specified, the user ID is not changed. The user ID must contain 1 alpha character and up to 15 alphanumeric characters. The first character of a user ID must be an alpha character. Even though a period is not an alphanumeric character, one of the 15 alphanumeric characters can be a period.

   The `pid` parameter specifies whether the password is to be changed. If `no` is selected, the password is not changed. If `yes` is entered, you will be prompted for a new password for the user. Enter the new password for the user. You do not need to know the old password with this command. The password must meet the requirements defined by the `chg-secu-dflt` command. Display the password requirements by entering the `rtrv-secu-dflt` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
SECURITY DEFAULTS
-----------------
PAGE           60
UOUT           90
MULTLOG        NO
MINLEN          8
```

```
ALPHA           1
NUM             1
PUNC            1
```

The password can contain from one to twelve characters. For this example, the password must contain at least eight characters, no more than twelve, with at least one alpha character (a-z), at least one numeric character (0-9), and at least one punctuation character (any printable character that is not an alphabetic character, a numeric character, the space bar). The password requirements are shown in these fields in the `rtrv-secu-dflt` command output.

- `MINLEN` – the minimum length of the password
- `ALPHA` – the minimum number of alpha characters
- `NUM` – the minimum number of numeric characters
- `PUNC` – the minimum number of punctuation characters

The password is not case sensitive. For security reasons, the password is never displayed on the terminal.

At the prompt `verify password`, enter the new password again. This `pid` parameter is optional and the default value is `no`.

The other parameters assign command class permissions to the user ID. If `yes` is selected for any of these parameters, the user will have access to that class of commands. If `no` is entered, the user will not have access to that class of commands. These parameters are optional and if not specified, the values are not changed.

For this example, the user ID `manny` is being changed to `bilbo`, and the PU, DB, DBG, and DB1 command class values are changed. Enter this command.

```
chg-user:uid=manny:nuid=bilbo:pu=no:db=no:dbg=no:db1=yes
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
CHG-USER: MASP A - COMPLTD
```

7. Verify the changes using the `rtrv-secu-user` command and specifying the user ID used in step 6 with the `uid` parameter.

   If the user ID was changed in step 6, specify the new user ID . For this example, enter this command.

   ```
   rtrv-secu-user:uid=bilbo
   ```

   This is an example of the possible output.

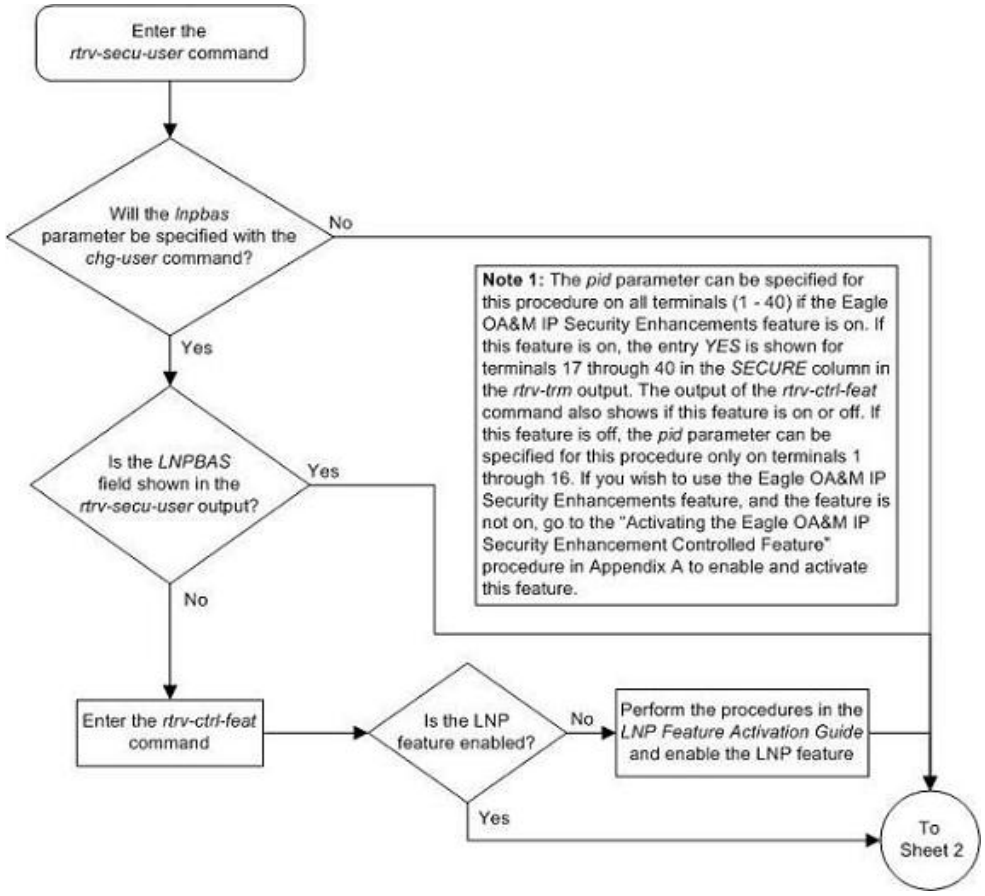
   ```
   rlghncxa03w 06-10-01 08:33:48 GMT EAGLE5 36.0.0

                                                                  LNP
   USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS
   bilbo                36  60   60   NO  YES  YES YES NO  NO  NO  YES

              DB1 U02 U03 U04 U05 U06 U07 U08 U09 U10 U11 U12 U13 U14 U15 U16
              YES NO  NO  NO  YES YES YES YES YES YES YES YES YES YES YES YES

              U17 U18 U19 U20 U21 U22 U23 U24 U25 U26 U27 U28 U29 U30 U31 U32
              YES YES YES YES YES YES YES YES YES YES YES NO  NO  NO  NO  YES
   ```

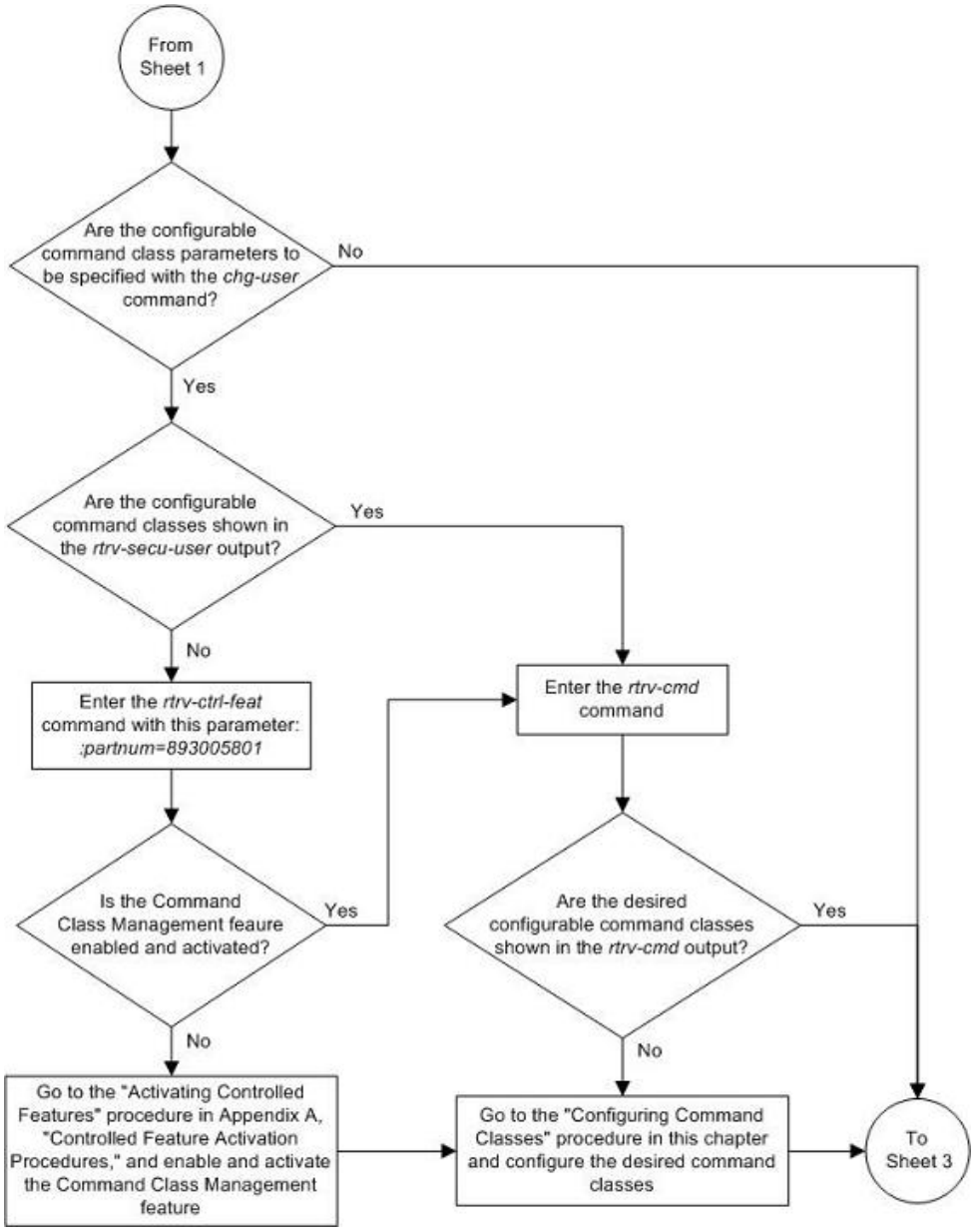
8. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

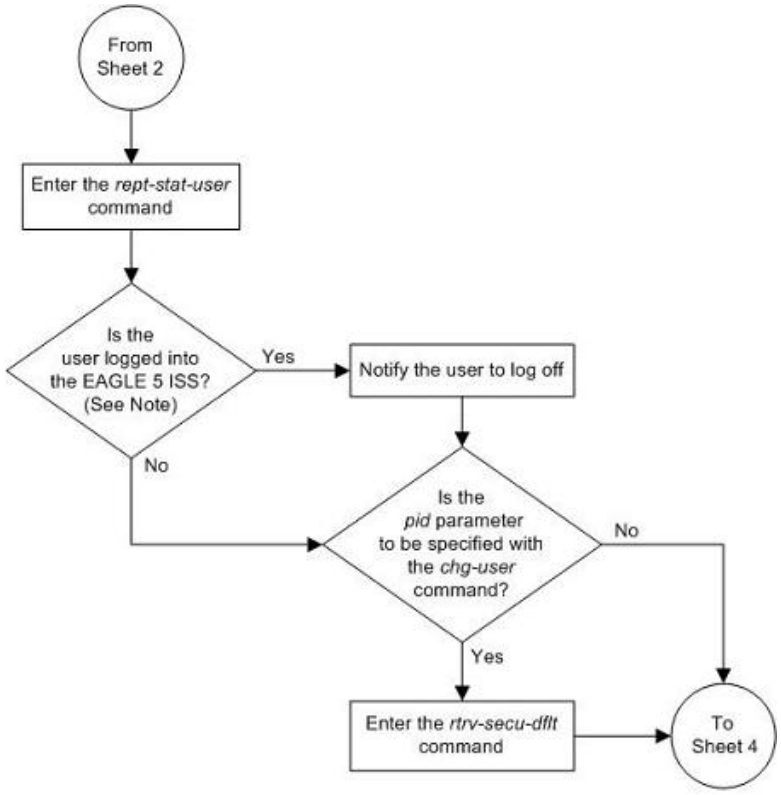
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

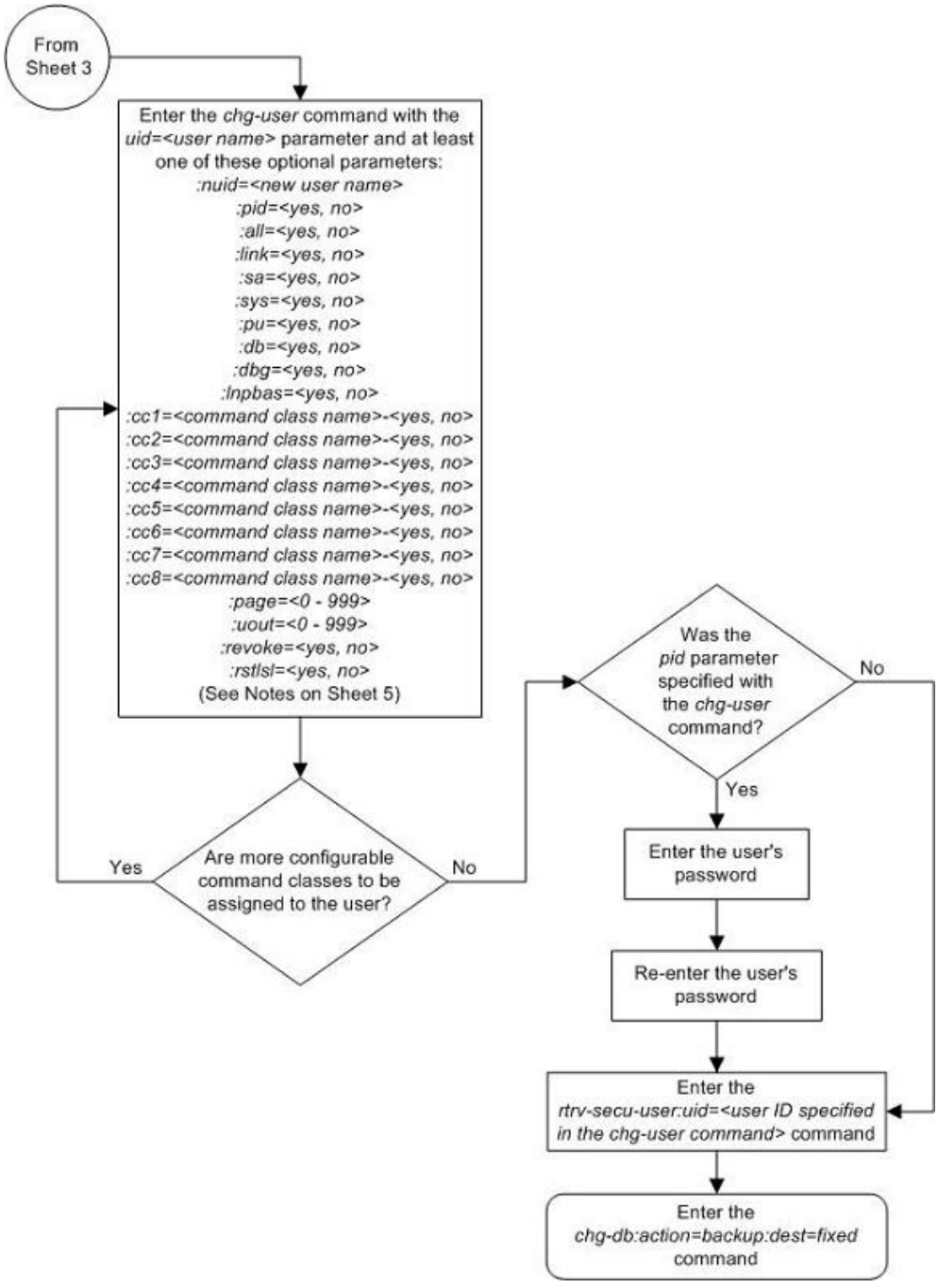
Figure 41: Changing User Information




From Sheet 1
Are the configurable command class parameters to be specified with the chg-user command?
No
Yes
Are the configurable command classes shown in the rtrv-secu-user output?
Yes
No
Enter the rtrv-ctrl-feat command with this parameter: :partnum=893005801
Enter the rtrv-cmd command
Is the Command Class Management feaure enabled and activated?
Yes
Are the desired configurable command classes shown in the rtrv-cmd output?
Yes
No
No
Go to the "Activating Controlled Features" procedure in Appendix A, "Controlled Feature Activation Procedures," and enable and activate the Command Class Management feature
Go to the "Configuring Command Classes" procedure in this chapter and configure the desired command classes
To Sheet 3



Note: A user ID cannot be changed while the user is logged on, except when the *revoke=yes* parameter is specified with the *chg-user* command. It is assumed that if the user ID is being revoked, the intent is to immediately deny the user access to the EAGLE 5 ISS. In this case, the user will be logged off when the database is updated.


From Sheet 3
Enter the chg-user command with the uid=<user name> parameter and at least one of these optional parameters:
:nuid=<new user name>
:pid=<yes, no>
:all=<yes, no>
:link=<yes, no>
:sa=<yes, no>
:sys=<yes, no>
:pu=<yes, no>
:db=<yes, no>
:dbg=<yes, no>
:lnpbas=<yes, no>
:cc1=<command class name>-<yes, no>
:cc2=<command class name>-<yes, no>
:cc3=<command class name>-<yes, no>
:cc4=<command class name>-<yes, no>
:cc5=<command class name>-<yes, no>
:cc6=<command class name>-<yes, no>
:cc7=<command class name>-<yes, no>
:cc8=<command class name>-<yes, no>
:page=<0 - 999>
:uout=<0 - 999>
:revoke=<yes, no>
:rstlsl=<yes, no>
(See Notes on Sheet 5)
Are more configurable command classes to be assigned to the user?
Yes
No
Was the pid parameter specified with the chg-user command?
No
Yes
Enter the user's password
Re-enter the user's password
Enter the rtrv-secu-user:uid=<user ID specified in the chg-user command> command
Enter the chg-db:action=backup:dest=fixed command

Notes:

1. The words SEAS and NONE are reserved by the EAGLE 5 ISS and cannot be specified as values for the *nuid* parameter.
2. The *revoke=yes* parameter cannot be specified when the *sa* parameter value is *yes*.
3. To specify the *lnpbas* parameter, the LNP feature must be enabled.
4. To specify the *cc1* through *cc8* parameters, the Command Class Management feature must be enabled and activated.
5. The user can have a maximum of 32 configurable command classes assigned.
6. The *all* parameter specifies whether or not all non-configurable command classes (*link*, *sa*, *sys*, *pu*, *db*, *dbg*, *lnpbas*) can be used by the user.
7. If the *all* parameter and individual non-configurable command classes are specified with the *ent-user* command, the value of the specified individual non-configurable command classes overrides the value of the *all* parameter.
8. The password must adhere to all password provisioning rules as shown in the *rtrv-secu-dflt* output. These rules are displayed on the screen when the password prompt is presented.

Changing a Password

There are two different procedures that can be used to change passwords. This procedure allows a specific user to change their own password using the `chg-pid` command. The other procedure is for the EAGLE 5 ISS administrator to change the password of any user (see the *Changing User Information* on page 336 procedure).

The rules for the format of the password are determined by the `chg-secu-dflt` command (see the *Changing the Security Defaults* on page 315 procedure for more information) and are displayed in the scroll area of the terminal before the password prompt is issued, or by entering the `rtrv-secu-dflt` command.

The password is not case sensitive. For security reasons, the password is never displayed on the terminal.

Note: This procedure can be performed on all terminals (1 - 40) if the Eagle OA&M IP Security Enhancements feature is on. If this feature is on, the entry `YES` is shown for terminals 17 through 40 in the `SECURE` column in the `rtrv-trm` output. The output of the `rtrv-ctrl-feat` command also shows if this feature is on or off. If this feature is off, this procedure can be performed only on terminals 1 through 16. If you wish to use the Eagle OA&M IP Security Enhancements feature, and the feature is not on, go to the *Activating the Eagle OA&M IP Security Enhancement Controlled Feature* on page 534 procedure to enable and activate this feature.

1. Log into the EAGLE 5 ISS using the `login` or `act-user` command.

   This is an example of the messages that appear when you have successfully logged onto the EAGLE 5 ISS.

   ```
   NOTICE: This is a private computer system.
   Unauthorized access or use may lead to prosecution.

   0 LOGIN failures since last successful LOGIN
   Last successful LOGIN was on port 4 on 04-06-01 @ 09:12:36
   ```

2. Enter the `chg-pid` command.

3. At the prompt `enter old password`, enter your current password.

   This is a security feature of this command. It prevents another user from changing the password of the user that is logged in to the EAGLE 5 ISS who may have stepped away from the terminal without logging off.

4. At the prompt `enter new password`, the minimum requirements for passwords are displayed as shown in the following example.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
New password must contain:
  - between 1 and 12 characters
  - at least 1 alphabetic character(s) ('a' - 'z')
  - at least 1 numeric character(s) ('0' - '9')
  - at least 1 punctuation character(s) (e.g. $%@#)
```

   Enter your new password making sure that the password meets the minimum requirements for passwords on your EAGLE 5 ISS.

   If the password is rejected, it did not meet the minimum requirements for passwords. Go back to step 2 and start the process of changing the password again making sure that the new password meets the minimum character requirements.

5. At the prompt `verify new password`, enter the password that was entered in step 4 again.

   If the password is rejected, either the new password entered in this step did not match the password entered in step 4, or the password entered in step 3 did not match the original password. Go back to step 2 and start the process of changing the password again making sure that the current password entered in step 3 is correct and that the new password meets the minimum character requirements shown at the `enter new password` prompt.

6. When the `command executed` message appears, the execution of the command has been completed, and the new password has been entered into the EAGLE 5 ISS database.

   This message should also appear.

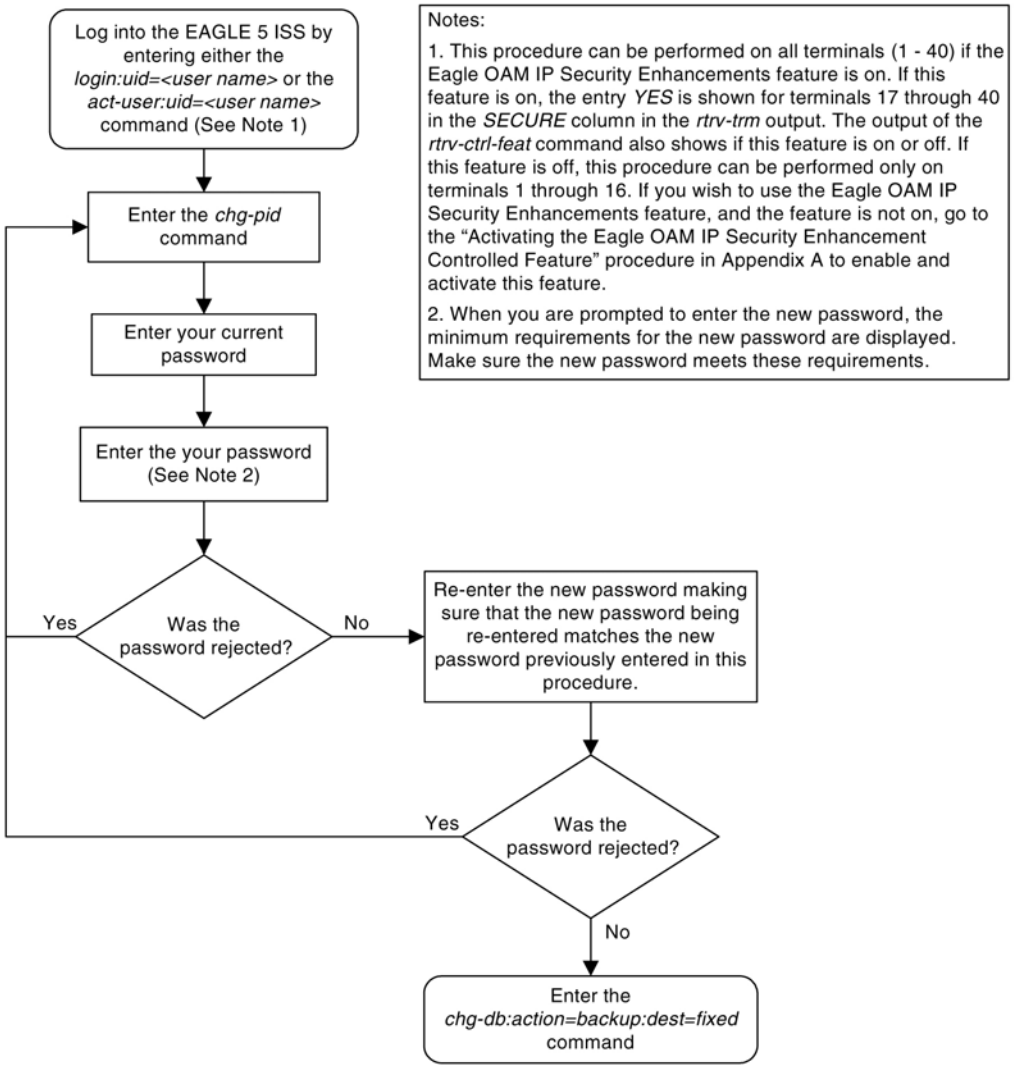
```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
CHG-PID: MASP A - COMPLTD
```

7. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 42: Changing a Password



Changing Terminal Characteristics

This procedure is used to change the characteristics of a terminal, except for the OAP terminal, the SEAS terminal and a measurements terminal for an EAGLE 5 ISS containing a maximum of 700 signaling links, using the `chg-trm` command.

To configure a measurements terminal for an EAGLE 5 ISS containing a maximum of 700 signaling links, go to the *Configuring the Measurements Terminal for an EAGLE 5 ISS Containing 700 Signaling Links* on page 412 procedure.

To configure a terminal as an OAP terminal, refer to the *System Manual* - EOAP .

To configure a SEAS terminal, refer to the *Configuring SEAS Terminals* on page 501 procedure.

The communication attributes can be changed on any terminal except on the terminal you are logged on to. The message output group assignments can be changed on any terminal, including the terminal you are logged on to. The `chg-trm` command uses these parameters.

`:trm` – terminal numbers (1 - 40, terminals 1-16 are serial terminals, terminals 17-40 are telnet terminals)

`:baud` – Serial port baud rate (2400, 4800, 9600, or 19200)

`:sb` – The number of stop bits used in communications with the device (1 or 2)

`:prty` – Parity used by the device (odd, even, none)

`:type` – The type of device being connected (See the "Terminal Types" section)

`:fc` – The type of flow control used between the EAGLE 5 ISS and the output devices. (sw - software, hw - hardware, both, none)

`:tmout` – The maximum amount of time, in minutes, that a login session on the specified port can remain idle (that is, no user input) on the port before being automatically logged off. (0 - 99, see the "Security Parameters" section)

:`mxinv` – The login failure threshold – The number of login attempt failures or attempts to unlock a terminal that can occur on the terminal before the terminal is disabled. (0 - 9, see the "Security Parameters" section)

`:dural` – The length of time that the terminal is disabled after the login failure threshold has been exceeded. (See the "Security Parameters" section)

`:all` – Specifies whether or not all unsolicited messages are displayed on the specified terminal (yes or no)

`:traf` – Specifies whether or not traffic related unsolicited messages are displayed on the specified terminal (yes or no)

`:link` – Specifies whether or not link maintenance related unsolicited messages are displayed on the specified terminal (yes or no)

`:sa` – Specifies whether or not security administration related unsolicited messages are displayed on the specified terminal (yes or no)

`:db` – Specifies whether or not database related unsolicited messages are displayed on the specified terminal (yes or no)

`:sys` – Specifies whether or not system maintenance related unsolicited messages are displayed on the specified terminal (yes or no)

`:pu` – Specifies whether or not program update related unsolicited messages are displayed on the specified terminal (yes or no)

`:uimrd` – Specifies whether or not UIM redirect related unsolicited messages are displayed on the specified terminal (yes or no)

`:appserv` – Specifies whether or not application server related unsolicited messages are displayed on the specified terminal. (yes or no)

`:appss` – Specifies whether or not application subsystem related unsolicited messages are displayed on the specified terminal (yes or no)

`:card` – Specifies whether or not card related unsolicited messages are displayed on the specified terminal (yes or no)

`:clk` – Specifies whether or not clock related unsolicited messages are displayed on the specified terminal (yes or no)

`:dbg` – Specifies whether or not debug related unsolicited messages are displayed on the specified terminal (yes or no)

`:gtt` – Specifies whether or not global title translation related unsolicited messages are displayed on the specified terminal (yes or no)

`:gws` – Specifies whether or not gateway screening related unsolicited messages are displayed on the specified terminal (yes or no)

`:meas` – Specifies whether or not measurements maintenance related unsolicited messages are displayed on the specified terminal (yes or no)

`:mon` – Specifies whether or not unsolicited messages related to the Sentinel monitoring functions are displayed on the specified terminal (yes or no)

`:mps` – Specifies whether or not MPS related unsolicited messages are displayed on the specified terminal (yes or no)

`:seas` – Specifies whether or not SEAS maintenance related unsolicited messages are displayed on the specified terminal (yes or no)

`:slan` – Specifies whether or not SLAN maintenance related unsolicited messages are displayed on the specified terminal (yes or no)

`:logintmr` – the login timer. This parameter specifies the maximum time for logging on to the telnet terminal after selecting the terminal. This timer makes sure the user logs in with in the configured time and terminal does not remain idle. The value for this timer can be from 3 seconds to 600 seconds. An additional value `none` indicates that the user has an indefinite amount of time to login on the telnet terminal. The system default value for this parameter is `none`. This parameter can be specified only for telnet terminals (`type=telnet`).

`:logouttmr` – the logout timer. This parameter specifies the maximum time the telnet session remains open after the user manually or automatically logs out. The value for this timer can be from 0 to 1200 seconds. An additional value `none` indicates that the telnet session is never closed when the user logs out. The system default value for this parameter is `none`. This parameter can be specified only for telnet terminals (`type=telnet`).

`:pngtimeint` – the ping timer interval. This parameter specifies the amount of time that must pass before the IPSM initiates a new ping cycle. The value for this timer can be from 100 to 1200000 milliseconds. An additional value `none` indicates that pinging does not occur. The system default value for this parameter is `none`. This parameter can be specified only for telnet terminals (`type=telnet`) and EMSALM terminals (`type=emsalm`).

`:pngfailcnt` – This parameter specifies the number of consecutive ping fails that must occur before the telnet connection is dropped. The value for this timer can be from 1 to 10. The system default value for this parameter is 1. This parameter can be specified only for telnet terminals (`type=telnet`) and EMSALM terminals (`type=emsalm`).

The messages assigned to the output message groups defined by the `traf`, `db`, `link`, `sa`, `sys`, `pu`, `uimrd`, `appserv`, `appss`, `card`, `clk`, `dbg`, `gtt`, `gws`, `meas`, `mon`, `mps`, `seas`, and `slan` parameters are listed in the *Unsolicited Alarm and Information Messages Manual* .

Certain UIMs (unsolicited information messages) can be assigned to the UIM Redirect output group or remain in their original output message group. The `uimrd` parameters of the `chg-trm`

and chg-stpopts commands determine which output groups these UIMs are assigned to and how the EAGLE 5 ISS handles them.

The uimrd=yes parameter of the chg-stpopts command tells the EAGLE 5 ISS to put these UIMs in the unsolicited UIM redirect output message group. If the uimrd=no parameter is specified with the chg-stpopts command, the messages remain in their original output message group. The uimrd=yes parameter of the chg-trm command allows the specified terminals to receive unsolicited UIM redirect output messages.

Table 12: UIMRD Parameter Combinations on page 352 shows the combination of the values of both uimrd parameters and how the EAGLE 5 ISS handles the messages. The unsolicited output group message assignments are listed in the *Unsolicited Alarm and Information Messages Manual* .

Table 12: UIMRD Parameter Combinations

Value of the uimrd parameter with chg-trm command	Value of the uimrd parameter with chg-stpopts command	Action
No	No	The UIMs remain in their original output message group and are output to terminals receiving messages from the original output message group.
No	Yes	The UIMs are in the UIM Redirect output group but are not output to any terminal.
Yes	No	The UIMs remain in their original output message group and are output to terminals receiving messages from the original output message group. Even though the uimrd parameter with the chg-trm command is set to yes, there are no messages in the UIM redirect output group because the uimrd parameter with the chg-stpopts command is set to no. No UIM redirect messages are output to any terminal.
Yes	Yes	The UIMs are in the UIM Redirect output group and are output to terminals receiving unsolicited UIM redirect messages.

If the type=vt320 or type=sccs parameters are specified, the value of the prty parameter cannot be none. The value of the prty parameter must be either odd or even.

The EAGLE 5 ISS requires at least two terminals assigned to the Security Administration command class. The terminal type of a terminal assigned to the Security Administration command class cannot be changed to these terminal types, printer (:type=printer), none (:type=none), or OAP (:type=oap), if the change would leave the EAGLE 5 ISS with only one terminal assigned to the Security Administration command class. The command class assignments of the terminal

are shown with the `rtrv-secu-trm` command. If the terminal type is being changed to either `oap`, `printer`, or `none`, go to the *Changing Terminal Command Class Assignments* on page 369 procedure and make sure that the command class assignment for the terminal being changed does not have the Security Administration command class assigned to it, or change the command class assignment of another terminal to include the Security Administration command class.

If the `all=yes` parameter and the `traf`, `db`, `link`, `sa`, `sys`, `pu`, , `appserv`, `appss`, `card`, `clk`, `dbg`, `gtt`, `gws`, `meas`, `mon`, `mps`, `seas`, or `slan` parameters are specified, for example, `chg-trm:trm=1:all=yes:pu=no`; all the message output groups are set to `yes` with the exception of the message output groups specified in the `chg-trm` command which are set to `no`. In this example, the value of all the message output groups is `yes` (`all=yes`) with the exception of the program update message output group which has the value `no` (`pu=no`).

If the `all=no` parameter is specified for a SEAS terminal (`type=seas`), all the output group values are changed to `NO` except for the `SEAS` output group. The `SEAS` output group value remains set to `YES` and this message is displayed.

```
SEAS Output Group is SET for SEAS terminal <terminal number>
```

The total value of the terminals' baud rate cannot be greater than 172,032. If the total baud rate of the terminals exceeds 172,032, change the baud rates of the terminals so that the total baud rate is not greater than 172,032.

Only four terminals should be configured to receive unsolicited system maintenance messages (`:sys=yes`).

If the communication attributes (`baud`, `sb`, `prty`, and `fc`) or the terminal type (`type`) for the terminal are being changed, the terminal must be placed out of service with the `rmv-trm` command before the changes can be made. If the terminal being changed is the last OAP terminal that is in service, the `force=yes` parameter must be used with the `rmv-trm` command.

If only the output message group or security (`tmout`, `mxinv`, `dural`) parameters are being changed, the terminal can remain in service when the `chg-trm` command is executed.

Terminal Types

There are 10 terminal types that can be used on the EAGLE 5 ISS.

The `VT320` type is the standard terminal used for entering commands, displaying command responses, displaying periodic system status information at screen specific locations, and scrolling unsolicited messages.

The `PRINTER` type is used with printers for recording UAMs, UIMs and echoed command responses.

The `KSR` type mimics older style teleprinters (that is, printers with a keyboard).

The `OAP` type is used to connect directly to the OAP, which provides support for the SEAS feature. The OAP terminal type is not used in this procedure. To configure a terminal as an OAP terminal, refer to the *System Manual* - EOAP.

The `SCCS` type is used for some network monitoring and surveillance applications. SCCS terminals are the same as KSR terminals, except a pre-defined "start-of-message" character is added to indicate the beginning of a new command response or unsolicited message.

The `NONE` type is typically used to indicate unused terminals.

The `MGMT` terminal type, or management terminal, provides a machine to machine messaging interface between the EAGLE 5 ISS and the customer's network to provide network surveillance.

The TELNET terminal type provides up to 24 IP based connections to the EAGLE 5 ISS's user interface using a telnet client, in addition to the 16 RS-232 terminals. The telnet terminals are numbered from 17 to 40. The telnet terminals are configured automatically when the IP User Interface (Telnet) feature is enabled and activated, and when the IPSMs are configured in the database. The EAGLE 5 ISS can have 3 IPSMs, with each IPSM supporting eight telnet terminals. The baud, prty, sb, and fc parameters cannot be specified with the chg-trm command for a telnet terminal, but all other terminal parameters can be specified and changed for a telnet terminal. For terminals 17 to 40, the values for the type parameter can be only telnet, none, or emsalm.

Note: If the chg-trm command is executed from a telnet terminal (terminals 17 to 40), only the output group parameters (all, traf, link, sa, db, sys, pu, uimrd, appserv, appss, card, clk, dbg, gtt, gws, meas, mon, mps, seas, slan) and the terminal type can be changed.

The EMSALM terminal type provides an alarm monitoring capability that displays only UAMs and system alive messages generated by the EAGLE 5 ISS. UIMs and autonomous reports are not displayed on the EMSALM terminals, even if the output group settings for these terminals would allow these messages to be displayed on these terminals.

CAUTION: EMSALM terminals can accept login requests and commands; however, these operations may interfere with the alarm monitoring functions of the EMSALM terminals and should be performed on another terminal.

The EMSALM terminal type can be assigned to any terminal, serial (terminals 1 to 16) or telnet (terminals 17 to 40). When the terminal type is changed to emsalm, all the output message group settings for that terminal are set to yes, even if any of the output message groups were set to no before the terminal type change. These output message group settings can be changed, if desired. The communications attributes (baud, prty, sb, fc) and security parameter values (tmout, mxinv, dural) are not changed.

CAUTION: It is recommended that all the output message group settings for an EMSALM terminal are set to yes. Changing any of the output message group settings to no could prevent alarm messages controlled by the output message group from being displayed on the EMSALM terminal.

CAUTION: If a terminal dedicated to measurements collection is configured (see the *Configuring the Measurements Terminal for an EAGLE 5 ISS Containing 700 Signaling Links* on page 412 procedure), it is recommended that this terminal is not changed to an EMSALM terminal.

When the terminal type is changed from emsalm to another terminal type, the output message group settings, communications attributes, and security parameter values are not changed.

When assigning the EMSALM terminal type to a serial terminal, the communication attribute (baud, prty, sb, fc), security (tmout, mxinv, dural), and output group (traf, db, link, sa, sys, pu, uimrd, appserv, appss, card, clk, dbg, gtt, gws, meas, mon, mps, seas, slan) parameters values can be changed.

When assigning the EMSALM terminal type to a telnet terminal, only the security (tmout, mxinv, dural), and output group (traf, db, link, sa, sys, pu, uimrd, appserv, appss, card, clk, dbg, gtt, gws, meas, mon, mps, seas, slan) parameters values can be changed.

The SEAS terminal type is used to provide a path between the EAGLE 5 ISS and the CCS MR to support the SEAS over IP feature. The SEAS terminal type is not used in this procedure. To

configure a terminal as a SEAS terminal, refer to the *Configuring SEAS Terminals* on page 501 procedure.

Security Parameters

The monitoring of a terminal's idle time (`tmout`) and the automatic logout function only applies to terminal types VT320 (`type=vt320`), KSR, (`type=ksr`), SCCS (`type=sccs`), and MGMT (`type=mgmt`). The `tmout` parameter can be specified with other terminal types, but it will have no effect. The system default value for the `tmout` parameter is 30 minutes. The `tmout=0` parameter value allows the terminal to remain idle indefinitely without being automatically logged off.

To impose a temporary lockout of a terminal after a particular number of login attempt failures or a particular number of attempts to unlock a terminal have occurred, the `mxinv` and `dural` values for that terminal must be greater than 0.

The `mxinv=0` parameter value prevents any temporary lockout of the terminal regardless of the number of successive failed login or unlock attempts that were made at the terminal. No messages are issued regarding the temporary lockout. This action applies even if the `dural` parameter value is greater than 0.

The `dural=0` parameter prevents the terminal from being temporarily locked out. If the `mxinv` parameter value is greater than 0 and the `dural` parameter value is 0, the EAGLE 5 ISS issues messages concerning login failure threshold, but the terminal will not be locked out.

The value of the `dural` parameter can be expressed in seconds (0 - 59), minutes and seconds (0 - 5959), or hours, minutes, and seconds (0 - 995959). The value `999999` for the `dural` parameter disables the terminal, when the login failure threshold has been exceeded, for an indefinite period of time. A terminal that is disabled for an indefinite period of time is identified by the entry `INDEF` in the `DURAL` field of the `rtrv-trm` command output. A terminal disabled indefinitely can only be restored to service by inhibiting the terminal with the `rmv-trm` command, then placing it into service with the `rst-trm` command.

When the EAGLE 5 ISS is delivered to the user, the `mxinv` and `dural` parameters will be set to these values:

`:mxinv = 5`

`:dural = 0100` (1 minute, 0 seconds)

The RTRV-TRM Output

The output of the `rtrv-trm` command is displayed in two parts. The first part displays the communication and security attributes of the terminal. The communication attributes of the terminal, `BAUD`, `PRTY` (parity), `SB` (stop bits), and `DBTS` (data bits), are displayed in the `COMM` field of the `rtrv-trm` output and are displayed in this format: BAUD–DBTS–PRTY–SB. The type of flow control used by the terminal is shown in the `FC` field. The security attributes of the terminal are shown in the `TMOUT`, `MXINV`, and `DURAL` fields. The second part of the `rtrv-trm` command output displays the types of unsolicited messages the terminal may receive. An example of the `rtrv-trm` command output is shown in this example.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 36.0.0
TRM  TYPE    COMM         FC    TMOUT MXINV DURAL
3    VT320    9600-7-E-1 SW    30    5     99:59:59

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
3    NO   YES  NO  YES NO  YES YES
     APP  APP
```

```
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
3    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
```

In this example, terminal 3 is running at 9600 baud with 7 data bits, even parity, and 1 stop bit.

For terminals 17 to 40, the COMM and FC fields are not displayed in the rtrv-trm output. The following items are displayed for these terminals in addition to the security attributes and the types of unsolicited messages the terminal may receive. An example rtrv-trm output example follows the list.

- The card location of the IPSM associated with the terminals.
- The security status of the terminal is displayed in the SECURE field. If the Eagle OA&M IP Security Enhancements feature is on, the terminal is secure. The entry yes is shown in the SECURE field. If the Eagle OA&M IP Security Enhancements feature is off, the terminal is not secure. The entry no is shown in the SECURE field. *Controlled Feature Activation Procedures* on page 525 contains the procedures to enable and turn on, or turn off the Eagle OA&M IP Security Enhancements feature.
- The login timer (LOGINTMR), logout timer (LOGOUTTMR), ping time out timer (PNGTIMEINT), and the ping fail count (PNGFAILCNT) values.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE    LOC          TMOUT MXINV DURAL     SECURE
30   TELNET  1204         60    0     00:00:00  no

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
30   none     none      none       1

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
30   YES  YES  YES YES YES YES YES

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
30   YES  YES YES  YES YES YES YES YES  YES YES NO   NO
```

Using Telnet Terminals in Place of Serial Terminals

For EAGLE 5 ISS releases 29.0 to 30.0, and releases 30.2 and greater with the Eagle OA&M IP Security feature disabled and off, serial terminals must be connected to the EAGLE 5 ISS and provisioned in the database because Security Administration commands cannot be executed from a telnet terminal.

For EAGLE 5 ISS releases 30.2 and greater, Security Administration commands, in addition to all other commands, can be executed from a telnet terminal only if the Eagle OA&M IP Security feature is enabled and on. The ability to execute commands from a particular terminal is dependent on the terminal command class assignments for that terminal. Even with the ability to execute most EAGLE 5 ISS commands from a telnet terminal, it is recommended that at least two serial terminals remain connected to the EAGLE 5 ISS. The act-echo, lock, and unlock commands cannot be executed from a telnet terminal. These terminals should be configured with at least Security Administration command class privileges.

By having serial terminals connected to the EAGLE 5 ISS, the user would still have access to the EAGLE 5 ISS in the event of a telnet terminal connection failure.

Upgrades of the EAGLE 5 ISS from a telnet terminal are not supported. When the EAGLE 5 ISS is upgraded, the MASPs are upgraded first, followed by the various cards in the EAGLE 5 ISS. The cards are upgraded by taking the cards out of service, then placing the cards back into service. When the IPSMs are taken out of service, the telnet sessions running on the IPSMs are disabled.

This can result in losing the telnet terminal connection to the EAGLE 5 ISS. The Expanded Terminal Output Groups feature, introduced in release 31.3, can create a situation where UIMs required for the upgrade would not be displayed on the same telnet terminal that initiated the upgrade. The upgrade would be difficult to complete if the UIMs generated during the upgrade are not displayed on the same telnet terminal that initiated the upgrade.

The EAGLE 5 ISS upgrade procedure recommends that some method to capture command input and output during the upgrade process is used. The telnet terminals do not support capturing the input and output, nor can the EAGLE 5 ISS's `act-echo` command be used on a telnet terminal. Because of this limitation, the upgrade procedure should not be executed from a telnet terminal.

For any EAGLE 5 ISS release, whether the Eagle OA&M IP Security feature is enabled or not, if applicable, Kermit file transfers, required for the Security Log feature, are not supported from telnet terminals. The Kermit file transfers can be performed only from a serial terminal.

1. Display the values of all terminals using the `rtrv-trm` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE     COMM         FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1   SW    30    5     99:59:59
2    KSR      9600-7-E-1   HW    30    5     INDEF
3    PRINTER  4800-7-E-1   HW    30    0     00:00:00
4    VT320    2400-7-E-1   BOTH  30    5     00:30:00
5    VT320    9600-7-O-1   NONE  30    5     00:00:30
6    VT320    9600-7-E-2   SW    30    9     INDEF
7    PRINTER  9600-7-N-2   HW    30    5     00:30:00
8    KSR     19200-7-E-2   BOTH  30    5     00:30:00
9    VT320    9600-7-E-1   SW    30    7     00:30:00
10   VT320    9600-7-E-1   HW    30    5     00:30:00
11   VT320    4800-7-E-1   HW    30    5     00:30:00
12   PRINTER  9600-7-E-1   HW    30    4     00:30:00
13   VT320    9600-7-O-1   NONE  30    5     00:30:00
14   VT320    9600-7-E-2   SW    30    8     00:30:00
15   VT320    9600-7-N-2   HW    30    5     00:30:00
16   VT320    9600-7-E-2   BOTH  30    3     00:30:00

TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
17   TELNET    1201             60    5     00:30:00   yes
18   TELNET    1201             60    5     00:30:00   yes
19   TELNET    1201             60    5     00:30:00   yes
20   TELNET    1201             60    5     00:30:00   yes
21   TELNET    1201             60    5     00:30:00   yes
22   TELNET    1201             60    5     00:30:00   yes
23   TELNET    1201             60    5     00:30:00   yes
24   TELNET    1201             60    5     00:30:00   yes

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
17   none     none      none       1
18   none     none      none       1
19   none     none      none       1
20   none     none      none       1
21   none     none      none       1
22   none     none      none       1
23   none     none      none       1
24   none     none      none       1

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
1    NO   YES  NO  YES NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
```

```
3     YES   YES   YES  NO   YES  YES  YES
4     YES   NO    NO   NO   NO   NO   NO
5     NO    YES   NO   NO   NO   NO   YES
6     NO    NO    YES  NO   NO   NO   NO
7     YES   YES   YES  YES  YES  YES  YES
8     NO    NO    NO   NO   YES  NO   YES
9     NO    YES   NO   NO   NO   YES  NO
10    NO    NO    NO   NO   NO   NO   YES
11    YES   YES   YES  YES  YES  YES  YES
12    YES   YES   YES  YES  YES  YES  YES
13    NO    YES   NO   NO   NO   NO   YES
14    NO    NO    YES  NO   NO   NO   NO
15    YES   YES   YES  NO   YES  YES  YES
16    NO    NO    NO   NO   YES  NO   YES
17    NO    NO    NO   NO   NO   NO   NO
18    NO    NO    NO   NO   NO   NO   NO
19    NO    NO    NO   NO   NO   NO   NO
20    NO    NO    NO   NO   NO   NO   NO
21    NO    NO    NO   NO   NO   NO   NO
22    NO    NO    NO   NO   NO   NO   NO
23    NO    NO    NO   NO   NO   NO   NO
24    NO    NO    NO   NO   NO   NO   NO

     APP   APP
TRM  SERV  SS   CARD CLK  DBG  GTT  GWS  MEAS  MON  MPS  SEAS  SLAN
1     YES   YES  YES   YES  YES  YES  YES  YES   YES  YES  NO    NO
2     YES   YES  YES   YES  YES  YES  YES  YES   YES  YES  NO    NO
3     YES   YES  YES   YES  YES  YES  YES  YES   YES  YES  NO    NO
4     YES   YES  YES   YES  YES  NO   YES  YES   YES  YES  NO    NO
5     YES   YES  YES   YES  YES  YES  YES  YES   YES  YES  NO    NO
6     YES   YES  YES   YES  YES  YES  YES  YES   YES  YES  NO    NO
7     NO    YES  YES   YES  YES  YES  YES  YES   YES  YES  NO    NO
8     YES   YES  YES   YES  YES  YES  YES  YES   YES  YES  YES   YES
9     YES   YES  YES   YES  YES  YES  YES  YES   YES  YES  YES   YES
10    NO    NO   NO    NO   NO   NO   NO   NO    NO   NO   NO    NO
11    NO    NO   NO    NO   NO   NO   NO   NO    NO   NO   NO    NO
12    NO    NO   NO    NO   NO   NO   NO   NO    NO   NO   NO    NO
13    NO    NO   NO    NO   NO   NO   NO   NO    NO   NO   NO    NO
14    NO    NO   NO    NO   NO   NO   NO   NO    NO   NO   NO    NO
15    NO    NO   NO    NO   NO   NO   NO   NO    NO   NO   NO    NO
16    NO    NO   NO    NO   NO   NO   NO   NO    NO   NO   NO    NO
17    NO    NO   NO    NO   NO   NO   NO   NO    NO   NO   NO    NO
18    NO    NO   NO    NO   NO   NO   NO   NO    NO   NO   NO    NO
19    NO    NO   NO    NO   NO   NO   NO   NO    NO   NO   NO    NO
20    NO    NO   NO    NO   NO   NO   NO   NO    NO   NO   NO    NO
21    NO    NO   NO    NO   NO   NO   NO   NO    NO   NO   NO    NO
22    NO    NO   NO    NO   NO   NO   NO   NO    NO   NO   NO    NO
23    NO    NO   NO    NO   NO   NO   NO   NO    NO   NO   NO    NO
24    NO    NO   NO    NO   NO   NO   NO   NO    NO   NO   NO    NO
```

Note: If telnet terminals are not being added in this procedure, continue the procedure with *Step 3* on page 359.

2. If the `rtrv-trm` output in *Step 1* on page 357 shows terminals 1 to 16 and you wish to add telnet terminals (`type=telnet`, terminals 17 through 40), go to the *Adding an IPSM* on page 445 procedure.

   Adding an IPSM adds eight telnet terminals to the EAGLE 5 ISS.

   When an IPSM is added to the database, the eight telnet terminals associated with the IPSM are added to the database with the telnet terminal type and the default values for these parameters.

- The security (tmout, mxinv, dural) parameters.
- The output message group (traf, db, link, sa, sys, pu, uimrd, appserv, appss, card, clk, dbg, gtt, gws, meas, mon, mps, seas, slan) parameters
- The logintmr, logouttmr, pngtimeint, pngfailcnt parameters.

The only actions that can be performed on terminals 17 through 40 is changing the terminal type to either none, telnet, or emsalm, and changing the security (tmout, mxinv, dural), changing the output message group (traf, db, link, sa, sys, pu, uimrd, appserv, appss, card, clk, dbg, gtt, gws, meas, mon, mps, seas, slan) parameters, or changing the logintmr, logouttmr, pngtimeint, pngfailcnt parameters.

If no changes are being to the telnet terminals, either to the existing telnet terminals, or to the telnet terminals that were added in this step with "*Adding an IPSM* on page 445" procedure, this procedure is finished.

If changes are being made to the telnet terminals, continue the procedure by performing one of these steps.

- If only the output message group or security parameters are being changed, continue the procedure with *Step 6* on page 361.
- If the terminal type or the logintmr, logouttmr, pngtimeint, pngfailcnt parameters are being changed, continue the procedure with *Step 3* on page 359.

3. Display the status of the terminals by entering the rept-stat-trm command.

   This is an example of the possible output (another IPSM added from *Step 2* on page 358).

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
```

```
32    IS-NR         Active        -----

Command Completed.
```

4. If the communication attributes (`baud`, `sb`, `prty`, and `fc`), the terminal type (`type`) , or the `logintmr`, `logouttmr`, `pngtimeint`, `pngfailcnt` parameters for the terminal are being changed, inhibit the terminal you wish to change using the `rmv-trm` command and specify the port you wish to inhibit.

   If the terminal being changed is the last OAP terminal that is in service, the `force=yes` parameter must be used with the `rmv-trm` command. The OAP terminals are shown by the entry `OAP` in the `TYPE` field in the `rtrv-trm` command output in *Step 1* on page 357 . For this example, enter these commands.

   `rmv-trm:trm=4`

   `rmv-trm:trm=8`

   `rmv-trm:trm=19`

   `rmv-trm:trm=23`

   `rmv-trm:trm=21`

   When these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Inhibit message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Command Completed.
```

5. Verify that the terminal that was inhibited in *Step 4* on page 360 is in the OOS-MT-DSBLD state by entering the `rept-stat-trm` command.

   For this command, enter these commands.

   `rept-stat-trm:trm=4`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST            SST           AST
4     OOS-MT-DSBLD   MANUAL        -----
Command Completed.
```

   `rept-stat-trm:trm=8`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST            SST           AST
8     OOS-MT-DSBLD   MANUAL        -----
Command Completed.
```

   `rept-stat-trm:trm=19`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST            SST           AST
```

```
19    OOS-MT-DSBLD   MANUAL         -----
Command Completed.
```

`rept-stat-trm:trm=23`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST            SST           AST
23    OOS-MT-DSBLD   MANUAL        -----
Command Completed.
```

`rept-stat-trm:trm=21`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 39.0.0
TRM   PST            SST           AST
21    OOS-MT-DSBLD   MANUAL        -----
Command Completed.
```

Note: If the terminal type is not being `changed` to either printer or `none`, continue the procedure with *Step 6* on page 361.

6. Display the command class values of all terminals using the `rtrv-secu-trm` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 12:31:04 GMT EAGLE5 36.0.0

TRM    LINK SA  SYS  PU   DB   DBG
1      NO   NO  YES  NO   YES  NO
2      NO   NO  NO   NO   YES  NO
3      YES  *** YES  YES  YES  YES
4      NO   YES NO   NO   NO   NO
5      YES  NO  NO   NO   YES  YES
6      NO   YES NO   NO   NO   NO
7      NO   *** YES  NO   YES  NO
8      NO   NO  NO   NO   NO   NO
9      YES  YES YES  YES  YES  YES
10     NO   NO  NO   NO   NO   NO
11     YES  NO  YES  NO   YES  YES
12     NO   *** NO   NO   NO   NO
13     NO   NO  NO   NO   YES  YES
14     NO   YES NO   NO   YES  YES
15     NO   NO  NO   NO   YES  YES
16     NO   NO  NO   NO   YES  YES
17     NO   NO  YES  NO   YES  NO
18     NO   NO  NO   NO   YES  NO
19     YES  NO  YES  YES  YES  YES
20     NO   YES NO   NO   NO   NO
21     YES  NO  NO   NO   YES  YES
22     NO   YES NO   NO   NO   NO
23     NO   NO  YES  NO   YES  NO
24     NO   NO  NO   NO   NO   NO
25     YES  YES YES  YES  YES  YES
26     NO   NO  NO   NO   NO   NO
27     YES  NO  YES  NO   YES  YES
28     NO   NO  NO   NO   NO   NO
29     NO   NO  NO   NO   YES  YES
30     NO   YES NO   NO   YES  YES
```

```
31      NO    NO   NO    NO    YES   YES
32      NO    NO   NO    NO    YES   YES
```

Note: If the terminal type is being changed to either `printer` or `none`, make sure the EAGLE 5 ISS has at least two terminals assigned to the Security Administration command class (shown in the `SA` column in the `rtrv-secu-trm` output). If the terminal being changed in this procedure is being removed from the Security Administration command class, and if this change would leave the EAGLE 5 ISS with only one terminal assigned to the Security Administration command class, go to the *Changing Terminal Command Class Assignments* on page 369 procedure and change the command class assignment of another terminal to include the Security Administration command class.

7. Change the terminal characteristics using the `chg-trm` command.

   For this example enter these commands.

   ```
   chg-trm:trm=4:baud=9600:traf=no:link=yes:sa=yes:db=yes
   ```

   ```
   chg-trm:trm=19:type=none
   ```

   ```
   chg-trm:trm=21:sys=yes:link=yes:sa=yes:db=yes:tmout=30:logintmr=30:logouttmr=60:pngtimeint=1000:pngfailcnt=3
   ```

   ```
   chg-trm:trm=8:type=emsalm
   ```

   ```
   chg-trm:trm=23:type=emsalm
   ```

   Note: If *Step 4* on page 360 was not performed in this procedure (placing the terminal out of service), do not specify these parameters with the `chg-trm` command:

   - `baud`, `sb`, `prty`, `fc` (the communications attributes of the terminal).

     These parameters cannot be specified for terminals 17 to 40.
   - the terminal type (`type`).
   - the `logintmr`, `logouttmr`, `pngtimeint`, `pngfailcnt` parameters

   CAUTION: If the terminal type is being changed to `emsalm`, it is recommended that all the output message group settings for an EMSALM terminal are set to `yes`. Changing any of the output message group settings to `no` could prevent alarm messages controlled by the output message group from being displayed on the EMSALM terminal.

   CAUTION: If a terminal dedicated to measurements collection is configured (see the *Configuring the Measurements Terminal for an EAGLE 5 ISS Containing 700 Signaling Links* on page 412 procedure), it is recommended that this terminal is not changed to an EMSALM terminal.

   When these commands have successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   CHG-TRM: MASP A - COMPLTD
   ```

8. Verify the changes made in *Step 7* on page 362 by using the `rtrv-trm` command with the terminal number specified in *Step 7* on page 362 .

   For this example, enter these commands.

   ```
   rtrv-trm:trm=4
   ```

This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 36.0.0
TRM  TYPE    COMM         FC    TMOUT MXINV DURAL
4    VT320    9600-7-E-1 BOTH  30    5     00:30:00

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
4    NO   YES  YES NO  NO  YES NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
4    YES  YES YES  YES YES NO  YES YES  YES YES NO   NO
```

`rtrv-trm:trm=19`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
19   NONE      1201             60    5     00:30:00   yes

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
19   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
19   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

`rtrv-trm:trm=21`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
21   TELNET    1201             30    5     00:30:00   yes

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
21   30        60       1000       3

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
21   NO   YES  YES YES NO  YES NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
21   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

`rtrv-trm:trm=8`

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 36.0.0
TRM  TYPE     COMM         FC    TMOUT MXINV DURAL
8    EMSALM  19200-7-E-2  BOTH  30    5     00:30:00

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
8    YES  YES  YES YES YES YES YES
     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
8    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
```

`rtrv-trm:trm=23`

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
23   EMSALM    1201             60    5     00:30:00   yes
```

```
TRM  PNGTIMEINT PNGFAILCNT
     (msec)
23   none       1

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
23   YES  YES  YES YES YES YES YES YES YES
     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
23   YES  YES YES  YES YES YES YES YES  YES YES YES  YES
```

Note: If there terminal was not inhibited in *Step 4* on page 360, continue the procedure with *Step 9* on page 364.

9. When the changes are complete, and if the terminal was inhibited in *Step 4* on page 360 , activate the terminal using the `rst-trm` command.

   For this example, enter these commands.

   ```
   rst-trm:trm=4

   rst-trm:trm=8

   rst-trm:trm=19

   rst-trm:trm=23

   rst-trm:trm=21
   ```

   When these commands have successfully completed, this message should appear.

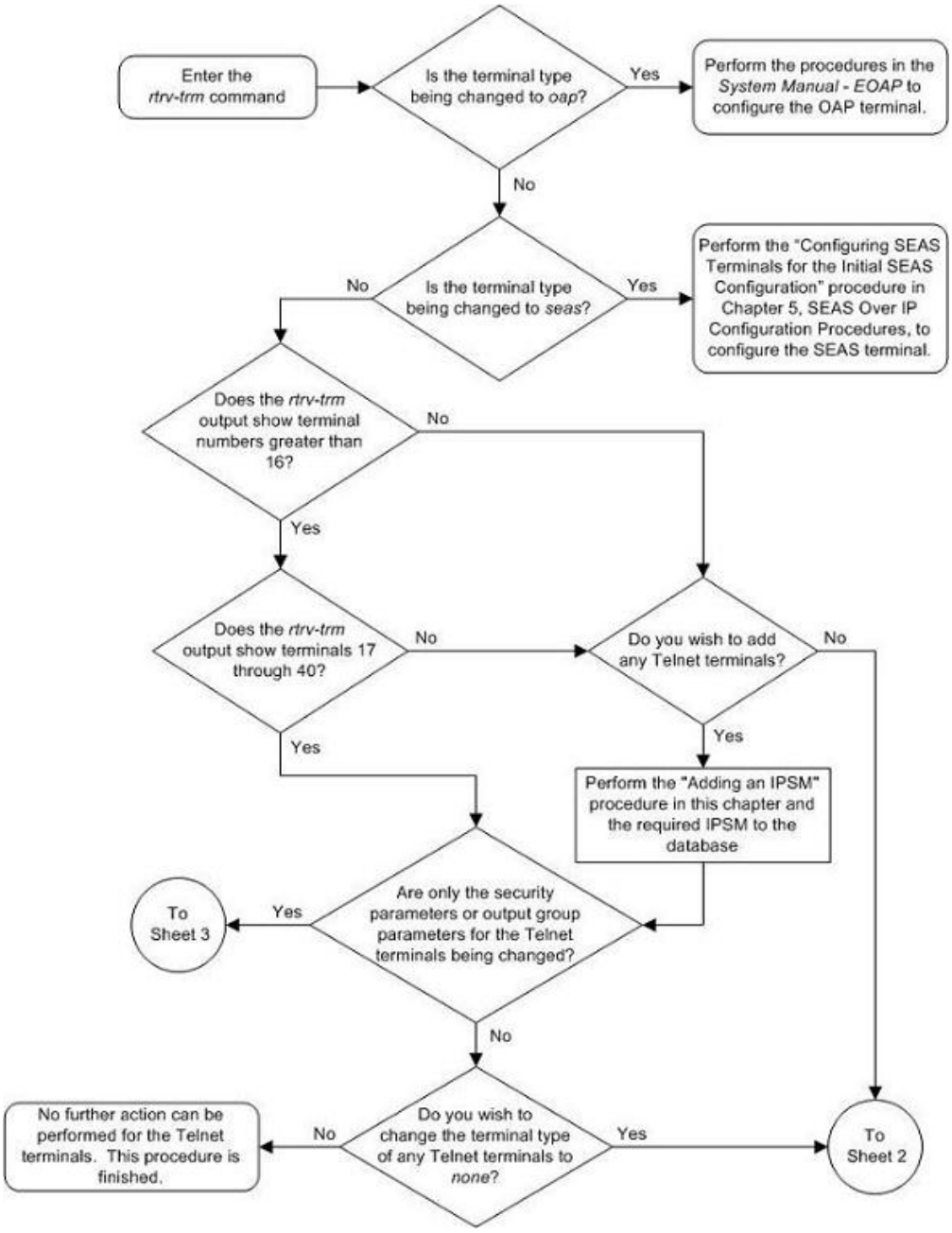
   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   Allow message sent to terminal
   ```

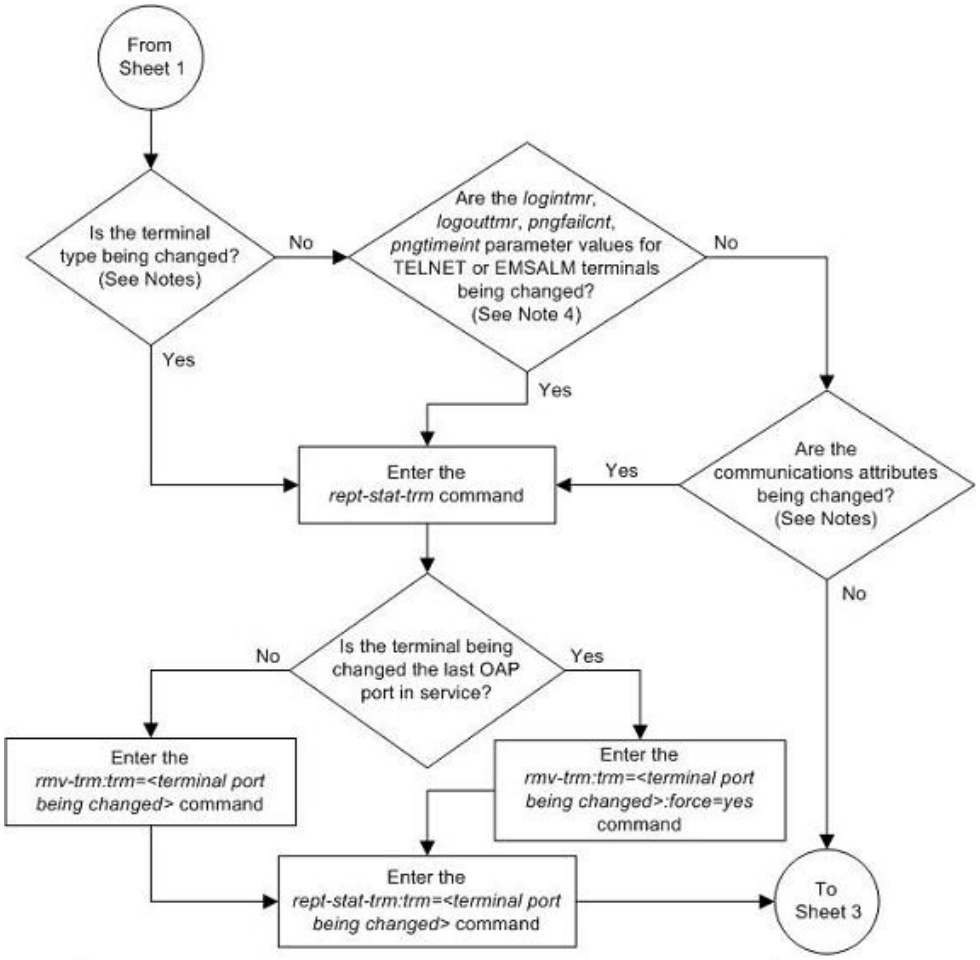
10. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

    These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

    ```
    BACKUP (FIXED) : MASP A - Backup starts on active MASP.
    BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
    BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
    BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
    ```

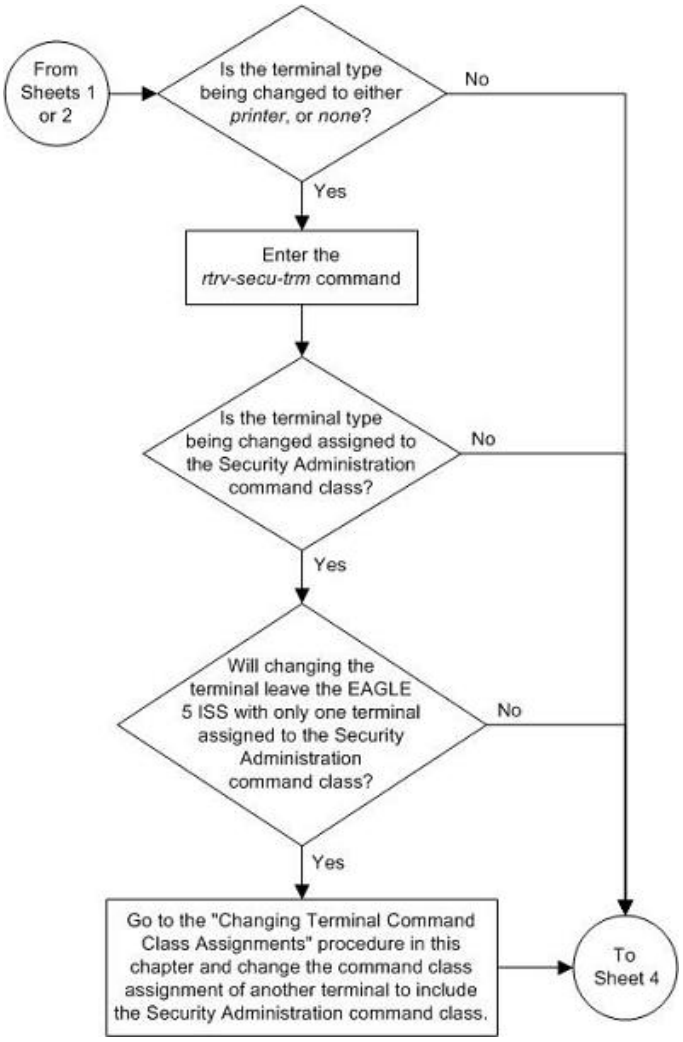
Figure 43: Changing Terminal Characteristics

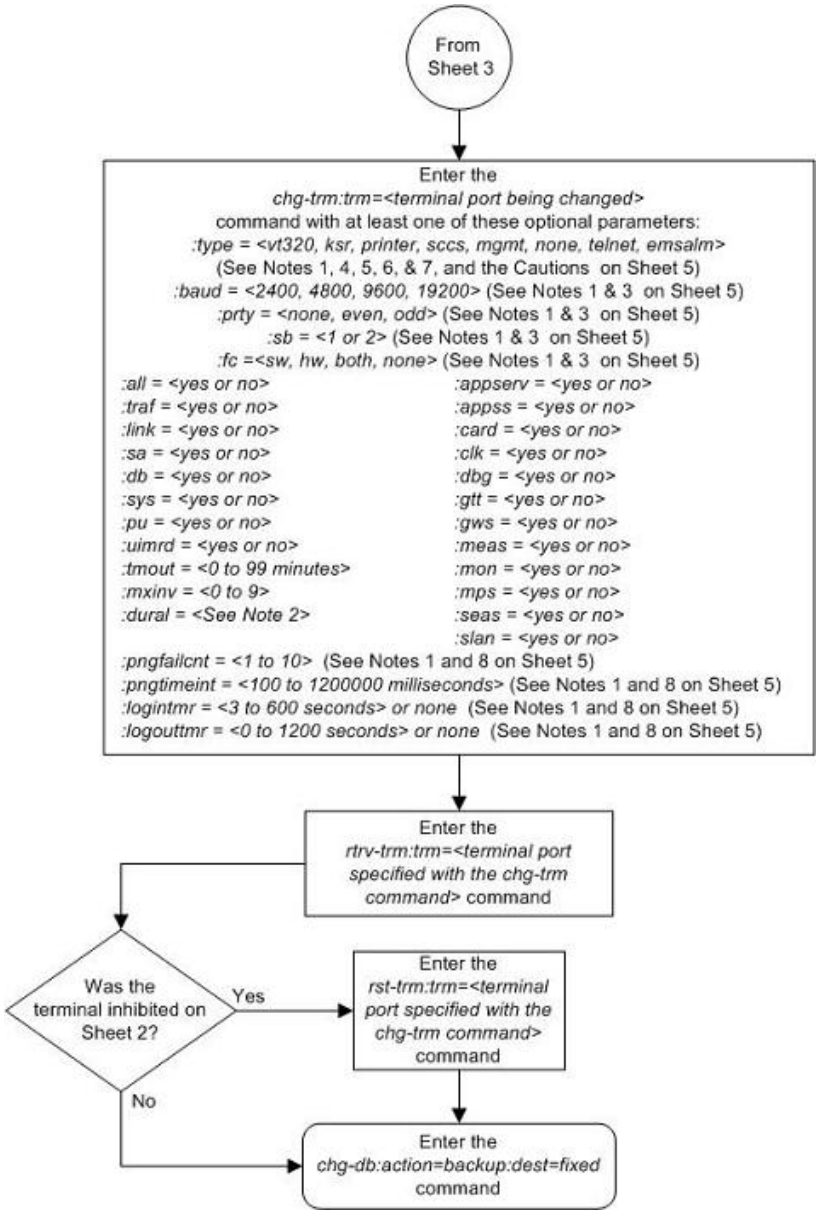

Enter the rtrv-trm command
Is the terminal type being changed to oap?
Yes
Perform the procedures in the System Manual - EOAP to configure the OAP terminal.
No
Is the terminal type being changed to seas?
No
Yes
Perform the "Configuring SEAS Terminals for the Initial SEAS Configuration" procedure in Chapter 5, SEAS Over IP Configuration Procedures, to configure the SEAS terminal.
Does the rtrv-trm output show terminal numbers greater than 16?
No
Yes
Does the rtrv-trm output show terminals 17 through 40?
No
Do you wish to add any Telnet terminals?
No
Yes
Yes
Perform the "Adding an IPSM" procedure in this chapter and the required IPSM to the database
Are only the security parameters or output group parameters for the Telnet terminals being changed?
Yes
To Sheet 3
No
Do you wish to change the terminal type of any Telnet terminals to none?
No
No further action can be performed for the Telnet terminals. This procedure is finished.
Yes
To Sheet 2



Notes:

1. If the terminal numbers are from 17 to 40, the values for the *type* parameter can be only *telnet*, *none*, or *emsalm*. The communication attributes for these terminals cannot be specified.
2. If the terminal numbers are from 1 to 16, the values for the *type* parameter can be *vt320*, *ksr*, *printer*, *sccs*, *mgmt*, *none*, or *emsalm*. The communication attributes for these terminals can be specified and changed.
3. The communications attributes are defined by these parameters: *baud* (baud rate), *prty* (parity), *sb* (stop bits), and *fc* (flow control).
4. The *logintmr* and *logouttmr* parameters can be specified only for TELNET terminals. The *pngfailcnt* and *pngtimeint* parameters can be specified only for TELNET and EMSALM terminals.


From Sheets 1 or 2
Is the terminal type being changed to either printer, or none?
No
Yes
Enter the rtrv-secu-trm command
Is the terminal type being changed assigned to the Security Administration command class?
No
Yes
Will changing the terminal leave the EAGLE 5 ISS with only one terminal assigned to the Security Administration command class?
No
Yes
Go to the "Changing Terminal Command Class Assignments" procedure in this chapter and change the command class assignment of another terminal to include the Security Administration command class.
To Sheet 4


From Sheet 3
Enter the
chg-trm:trm=<terminal port being changed>
command with at least one of these optional parameters:
:type = <vt320, ksr, printer, sccs, mgmt, none, telnet, emsalm>
(See Notes 1, 4, 5, 6, & 7, and the Cautions on Sheet 5)
:baud = <2400, 4800, 9600, 19200> (See Notes 1 & 3 on Sheet 5)
:prty = <none, even, odd> (See Notes 1 & 3 on Sheet 5)
:sb = <1 or 2> (See Notes 1 & 3 on Sheet 5)
:fc =<sw, hw, both, none> (See Notes 1 & 3 on Sheet 5)
:all = <yes or no>
:traf = <yes or no>
:link = <yes or no>
:sa = <yes or no>
:db = <yes or no>
:sys = <yes or no>
:pu = <yes or no>
:uimrd = <yes or no>
:tmout = <0 to 99 minutes>
:mxinv = <0 to 9>
:dural = <See Note 2>
:appserv = <yes or no>
:appss = <yes or no>
:card = <yes or no>
:clk = <yes or no>
:dbg = <yes or no>
:gtt = <yes or no>
:gws = <yes or no>
:meas = <yes or no>
:mon = <yes or no>
:mps = <yes or no>
:seas = <yes or no>
:slan = <yes or no>
:pngfailcnt = <1 to 10> (See Notes 1 and 8 on Sheet 5)
:pngtimeint = <100 to 1200000 milliseconds> (See Notes 1 and 8 on Sheet 5)
:logintmr = <3 to 600 seconds> or none (See Notes 1 and 8 on Sheet 5)
:logouttmr = <0 to 1200 seconds> or none (See Notes 1 and 8 on Sheet 5)
Enter the
rtrv-trm:trm=<terminal port specified with the chg-trm command> command
Was the terminal inhibited on Sheet 2?
Yes
No
Enter the
rst-trm:trm=<terminal port specified with the chg-trm command>
command
Enter the
chg-db:action=backup:dest=fixed
command

Notes:

1. If the terminal was not placed out of service on Sheet 2, this parameter cannot be specified with the *chg-trm* command.

2. The value of the *dural* parameter can be expressed in seconds (0 - 59), minutes and seconds (0 - 5959), or hours, minutes, and seconds (0 - 995959). The value 999999 for the *dural* parameter disables the terminal, when the login failure threshold has been exceeded, for an indefinite period of time.

3. This parameter cannot be specified for terminals 17 through 40.

4. The *type=telnet* parameter cannot be specified for terminals 1 through 16. Valid terminal types for terminals 1 through 16 are *vt320*, *ksr*, *printer*, *sccs*, *mgmt*, *none*, or *emsalm*.

5. For terminals 17 through 40, the value of the *type* parameter can be only *telnet*, *none*, or *emsalm*.

6. The output group settings are set to *yes* when the terminal type is changed to *emsalm*. The output group settings for an EMSALM terminal can be changed.

Caution: It is recommended that all the output message group settings for an EMSALM terminal are set to *yes*. Changing any of the output message group settings to *no* could prevent alarm messages controlled by the output message group from being displayed on the EMSALM terminal.

Caution: If a terminal dedicated to measurements collection is configured (see the "Configuring the Measurements Terminal for a 700 Signaling Link System" procedure in this chapter), it is recommended that this terminal is not changed to an EMSALM terminal.

7. The output group settings are not changed when the terminal type is changed from *emsalm* to another terminal type.

8. The *logintmr* and *logouttmr* parameters can be specified only for TELNET terminals. The *pngfailcnt* and *pngtimeint* parameters can be specified only for TELNET and EMSALM terminals.

Changing Terminal Command Class Assignments

This procedure is used to change the assignment of command classes to a terminal using the `chg-secu-trm` command. This procedure can only be performed if you have been assigned the command class "Security Administration." This can be useful to restrict the types of commands that can be entered on an EAGLE 5 ISS terminal. This procedure can only be performed if you and the terminal have been assigned the command class "Security Administration." The EAGLE 5 ISS commands are grouped into these command classes.

- Basic
- Database Administration
- Debug
- Link Maintenance
- Program Update
- Security Administration
- System Maintenance
- 32 Configurable Command Classes
- LNP Basic

With the `chg-secu-trm` command, only six of these command classes can be assigned to a terminal. The Basic command class is automatically assigned to every terminal and to every user and is not configurable. Refer to the *Commands Manual* for a list of command classes and the commands assigned to them.

The `chg-secu-trm` command uses these parameters.

`:trm` – The terminal number 1-16.

`:all` – The commands in all non-configurable command classes (`dbg`, `link`, `sys`, `sa`, `pu`, `db`, and if the LNP feature is enabled, `lnpbas` can be entered on the specified terminal.

:db – Database Administration commands can be entered on the specified terminal.

:dbg – Debug commands can be entered on the specified terminal.

:link – Link Maintenance commands can be entered on the specified terminal.

:pu – Program Update commands can be entered on the specified terminal.

:sa – Security Administration commands can be entered on the specified terminal.

:sys – System Maintenance commands can be entered on the specified terminal.

:lnpbas - LNP Basic commands can be entered on the specified terminal.

:cc1 - :cc8 – Eight configurable command classes. These parameters specify whether or not the commands in the specified configurable command class can be entered on the specified terminal. The value of these parameters consist of the configurable command class name (1 alphabetic character followed by 2 alphanumeric characters), and either yes or no. The command class name and the yes or no values are separated by a dash. For example, to allow commands in the configurable command class db1 from terminal 5, the cc1=db1-yes parameter would be specified in the chg-secu-trm command for terminal5.

To specify any configurable command classes, the Command Class Management feature must be enabled and activated. Enter the rtrv-ctrl-feat command to verify whether or not the Command Class Management feature is enabled. If the Command Class Management feature is not enabled or activated, go to the *Activating Controlled Features* on page 526 procedure to enable and activate the Command Class Management feature. Up to 32 configurable command classes can be assigned to terminals. When the Command Class Management feature is enabled and activated, the configurable command class names are given the names u01 - u32. These command class names, the descriptions of these command classes, and the commands assigned to these command classes can be changed using the *Configuring Command Classes* on page 377 procedure.

The chg-secu-trm command allows up to eight configurable command classes to be assigned to a terminal each time the chg-secu-trm command is performed.

If the all=yes parameter and the db, dbg, link, pu, sa, sys, lnpbas parameter values are specified as no, for example, chg-secu-trm:trm=1:all=yes:pu=no; all commands can be entered on the specified terminal except those commands in the command class specified with the chg-secu-trm command. In this example, all commands can be entered on terminal 1 except for program update commands.

To assign the LNP Basic command class to a terminal, the LNP feature must be enabled. Enter the rtrv-ctrl-feat command to verify the quantity the LNP feature is enabled for. The quantity of LNP telephone numbers is shown in the LNP TNs field of the rtrv-ctrl-feat command output. To enable the LNP feature, perform the procedures in the *LNP Feature Activation Guide* to enable the LNP feature.

The values of the lnpbas parameter is shown in the LNPBAS field of the rtrv-secu-trm command output. This field can only be displayed if the LNP feature is enabled.

The terminal command class assignments cannot be changed for the specified terminal if a user is currently logged onto that terminal. This can be verified with the rept-stat-user command.

At least two terminals in the EAGLE 5 ISS must always be assigned to the security administration command class to prevent the EAGLE 5 ISS from becoming unadministerable.

It is possible that a terminal with the terminal type of printer, oap, or none can be assigned to the Security Administration command class. Terminals with these terminal types are not counted

as having Security Administration authority since commands cannot be administered from these terminal types and is shown in the `rtrv-secu-trm` output report as "`***`"instead of `yes`.

When the EAGLE 5 ISS is delivered to the user, the terminal command class assignments will be set to the system default values for these parameters.

```
all = no
db = no
dbg = no
link = no
pu = no
sa = yes
sys = no
```

The examples in this procedure are used to change the command class assignments to the terminal assigned to port 4 to these values: Link Maintenance = yes, Security Administration = no, Program Update = yes, Database Administration = yes.

1. Display the command class values of all terminals using the `rtrv-secu-trm` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 12:31:04 GMT EAGLE5 36.0.0

TRM    LINK SA  SYS  PU   DB   DBG
1      NO   NO  YES  NO   YES  NO
2      NO   NO  NO   NO   YES  NO
3      YES  *** YES  YES  YES  YES
4      NO   YES NO   NO   NO   NO
5      YES  NO  YES  NO   YES  YES
6      NO   NO  NO   NO   NO   NO
7      NO   NO  YES  NO   YES  NO
8      NO   NO  NO   NO   NO   NO
9      YES  YES YES  YES  YES  YES
10     NO   NO  NO   NO   NO   NO
11     YES  NO  YES  NO   YES  YES
12     NO   NO  NO   NO   NO   NO
13     NO   NO  NO   NO   YES  YES
14     NO   NO  NO   NO   YES  YES
15     NO   NO  NO   NO   YES  YES
16     NO   NO  NO   NO   YES  YES
```

   Note: If the `lnpbas` parameter is not being specified in this procedure, or the `LNPBAS` field is shown in the `rtrv-trm` output, skip this step, and go to step 3.

2. Verify that the LNP feature is enabled, by entering the `rtrv-ctrl-feat` command. If the LNP feature is enabled, a quantity shown in the `LNP TNs` field.

   Note: The `rtrv-ctrl-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-ctrl-feat` command, see the `rtrv-ctrl-feat` command description in the *Commands Manual*.

   If the LNP feature is enabled, go to step 3.

   If the LNP feature is not enabled, perform the procedures in the *LNP Feature Activation Guide* to enable the LNP feature.

3. Verify that the Command Class Management feature is enabled and activated, by entering the `rtrv-ctrl-feat` command with the partnum=89005801 parameter.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
Feature Name             Partnum    Status  Quantity
Command Class Management  893005801  off     ----
```

   Note:

   The `rtrv-ctrl-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-ctrl-feat` command, see the `rtrv-ctrl-feat` command description in the *Commands Manual*.

   If the Command Class Management feature is enabled and activated (status = on), go to step 3. If the Command Class Management feature is not enabled or activated, go to the *Activating Controlled Features* on page 526 procedure and enable and activate the Command Class Management feature.

   CAUTION:

   If the Command Class Management feature is temporarily enabled, the configurable command classes can be assigned and used only for the amount of time shown in the `Trial Period Left` column in the `rtrv-ctrl-feat` output.

4. Display the descriptions of the configurable command classes in the database by entering the `rtrv-cmd` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CMD                 CLASS
alw-slk             link, u11
ent-user            sa
unhb-slk            link
rtrv-attr-seculog   sa, u31
inh-slk             link, abc
rtrv-meas-sched     link, abc, def
act-lbp             link
act-dlk             link
act-slk             link
rtrv-seculog        sa, abc, def, ghi
act-lpo             link
blk-slk             link, abc, u23, u31
dact-lbp            link
canc-dlk            link
inh-card            sys
canc-lpo            link, u01, u02, u03, u04, u05, u06, u07, u08, u09, u10,
                    u11, u12, u13
canc-slk            link
ublk-slk            link, u01, u02, u03, u04, u05, u06, u07, u08, u09, u10,
                    u11, u12, u13, u14, u15, u16, u17, u18, u19, u20, u21,
                    u22, u23, u24, u25, u26, u27, u28, u29, u30, u31, u32
rept-x25-meas       link
inh-trm             sys, krb
rept-meas           link
.
.
.
```

```
chg-meas            link
tst-dlk             link, krb
tst-slk             link
```

If the desired configurable command class descriptions are not in the database, go to the *Configuring Command Classes* on page 377 procedure and configure the desired command classes.

5. Verify that no users are logged onto the terminal whose command class assignments you wish to change using the `rept-stat-user` command.

   If the user is logged onto the terminal, notify the user to log off the terminal. This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:15 GMT  EAGLE5 36.0.0
REPT-STAT-USER COMPLTD
USER ID    TERM# IDLE SINCE         COMMAND         STATE
fred         3   04-06-01 05:06:43  rept-stat-user  PROCESSING
frodo       13   04-06-01 08:12:23  chg-db          IDLE
manny        1   04-06-01 04:37:56  ent-dlk         IDLE
travist      7   04-06-01 10:06:22  rtrv-meas       IDLE
```

6. If you wish to change the Security Administration command class assignment of the specified terminal to `no` (`:sa=no`), make sure the EAGLE 5 ISS has at least two terminals assigned to the Security Administration command class.

   This is shown in the output of step 1, the `rtrv-secu-trm` command output, with the entry `YES` in the `SA` field. If this procedure would leave the EAGLE 5 ISS with only one terminal assigned to the Security Administration command class, use the `chg-secu-trm` command and change another terminal's assignment to the Security Administration command class from `NO` to `YES`. For this example, enter the `chg-secu-trm:trm=1:sa=yes` command

   .

7. Change the command class assignments of the terminal using the `chg-secu-trm` command.

   For this example enter this command.

   `chg-secu-trm:trm=4:link=yes:sa=no:pu=yes:db=yes`

   When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 12:31:04 GMT EAGLE5 36.0.0
CHG-SECU-TRM: MASP A - COMPLTD
```

8. Verify the changes made in step 7 by using the `rtrv-secu-trm` command with the port number specified in step 7.

   For this example, enter this command.

   `rtrv-secu-trm:trm=4`

   This is an example of the possible output.

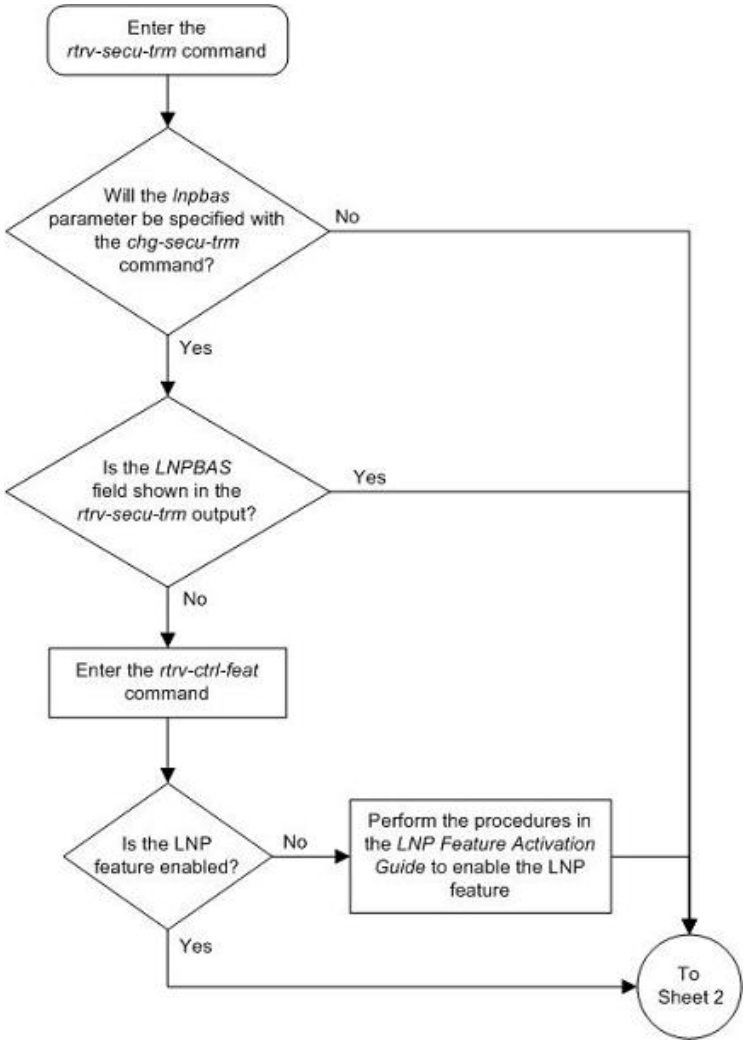
```
rlghncxa03w 06-10-01 12:31:04 GMT EAGLE5 36.0.0

TRM    LINK SA  SYS  PU   DB   DBG
4      YES  NO  NO   YES  YES  NO
```

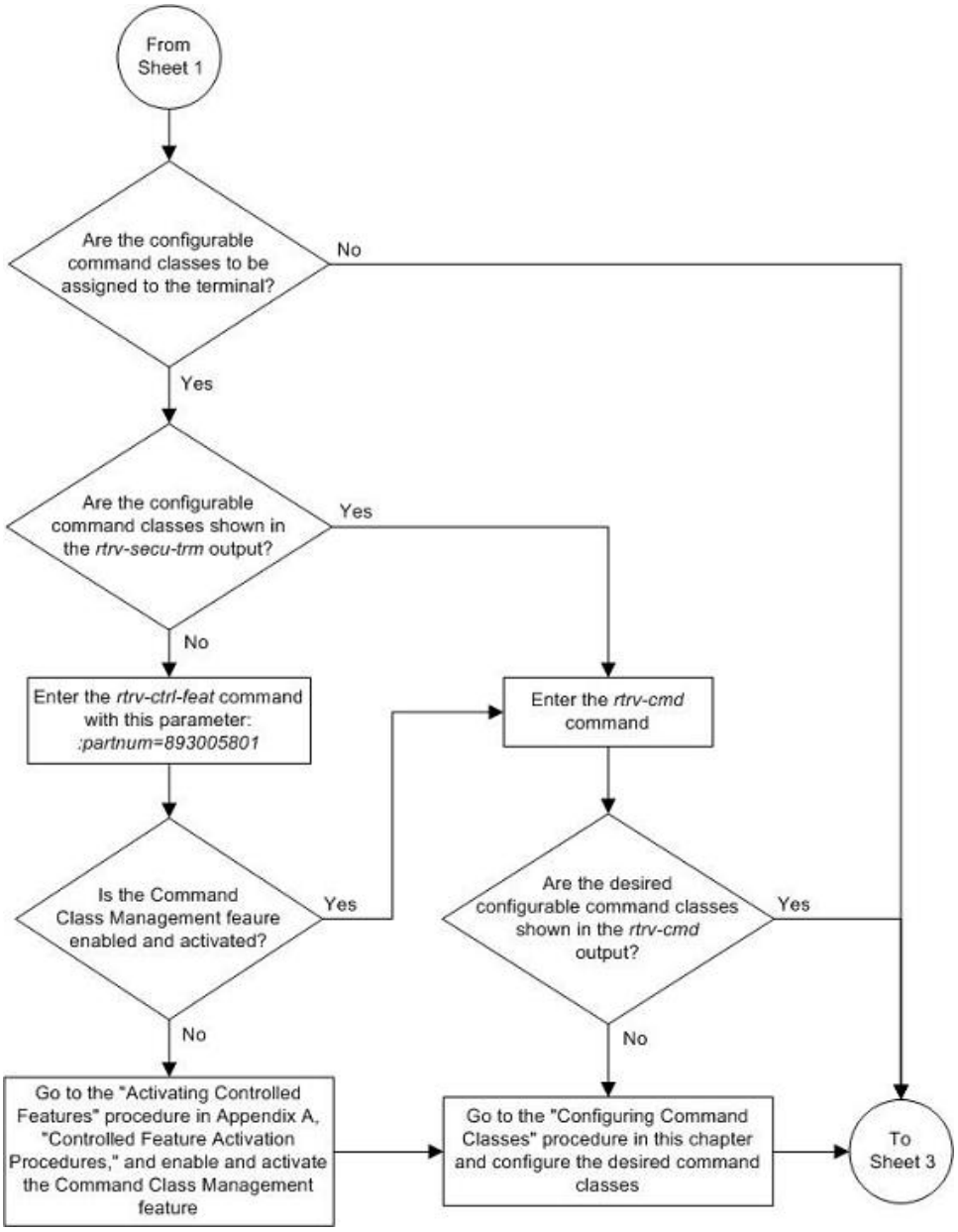
9. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

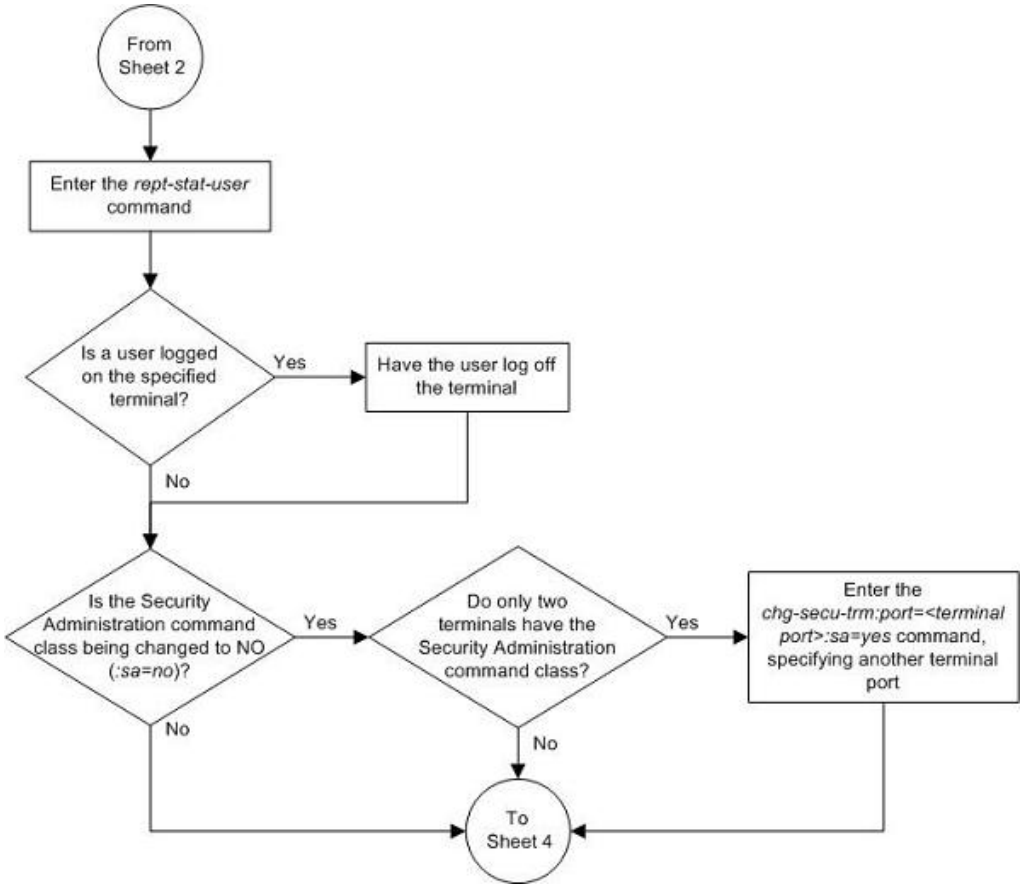
These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

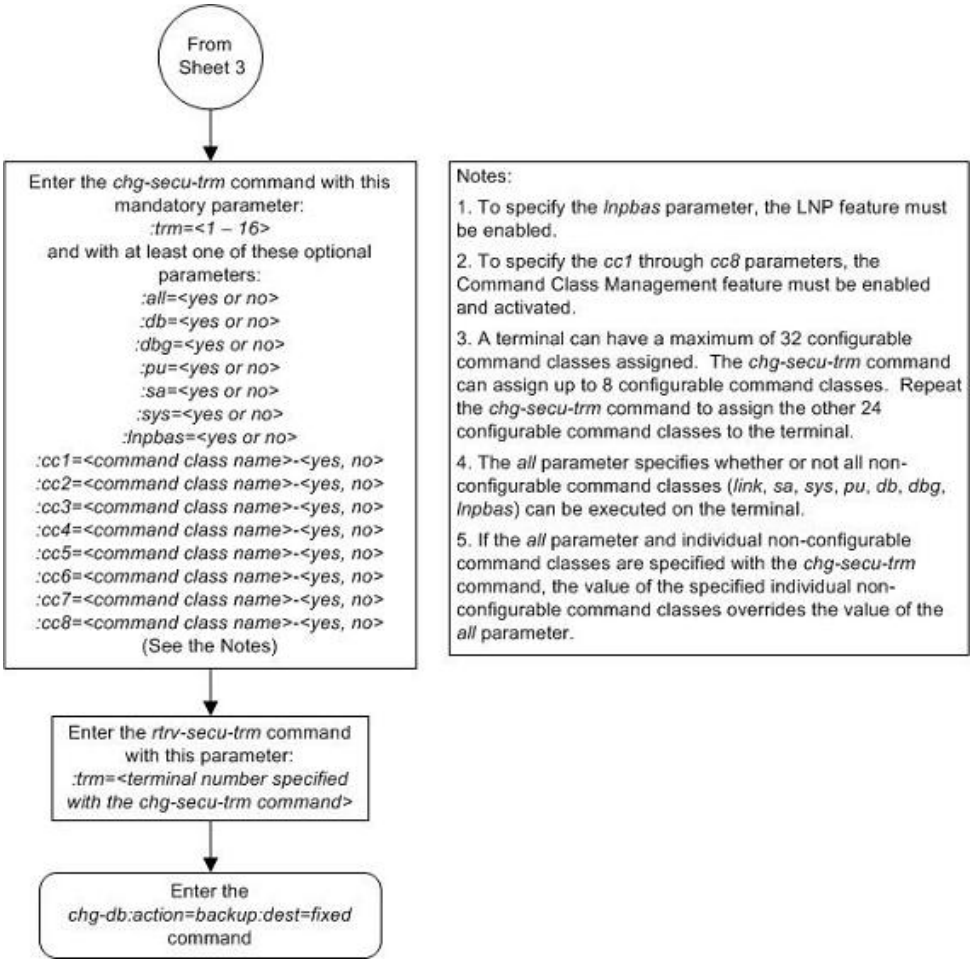
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 44: Changing Terminal Command Class Assignments




From Sheet 1
Are the configurable command classes to be assigned to the terminal?
No
Yes
Are the configurable command classes shown in the rtrv-secu-trm output?
Yes
No
Enter the rtrv-ctrl-feat command with this parameter: :partnum=893005801
Enter the rtrv-cmd command
Is the Command Class Management feaure enabled and activated?
Yes
Are the desired configurable command classes shown in the rtrv-cmd output?
Yes
No
No
Go to the "Activating Controlled Features" procedure in Appendix A, "Controlled Feature Activation Procedures," and enable and activate the Command Class Management feature
Go to the "Configuring Command Classes" procedure in this chapter and configure the desired command classes
To Sheet 3


From Sheet 2
Enter the *rept-stat-user* command
Is a user logged on the specified terminal?
Yes
Have the user log off the terminal
No
Is the Security Administration command class being changed to NO (*:sa=no*)?
Yes
Do only two terminals have the Security Administration command class?
Yes
Enter the *chg-secu-trm:port=<terminal port>:sa=yes* command, specifying another terminal port
No
No
To Sheet 4



Configuring Command Classes

This procedure is used to assign different names to the 32 configurable command classes, and to assign commands to these configurable command classes.

The EAGLE 5 ISS still has the non-configurable eight command classes: Basic, Database Administration, Debug, Link Maintenance, Program Update, Security Administration, System Maintenance, LNP Basic.

The Command Class Management feature allows commands from any of these non-configurable command classes to placed into another command class, which can be assigned to a user or terminal. This gives greater control over the commands that users can use, and to the commands that can be executed from a given terminal. For example, a user needs to use only these commands: `rtrv-card`, `rtrv-ls`, `rtrv-slk`, `rtrv-dstn`, `rtrv-rte`, `rtrv-user`, `rtrv-secu-user`, `rept-stat-db`, `rept-stat-card`, `rept-stat-slk`, `rept-stat-ls`, `rtrv-gpl`, `rept-stat-gpl`, `rept-stat-rte`, `rept-meas`.

To give this user access to these commands without the Command Class Management feature would require the user to be assigned to these command classes: Database, Security Administration,

System Maintenance, Program Update, and Link Maintenance. In addition to giving access to the commands this user needs, this user has access to all the commands in these command classes. This would also allow the user to add, change, or remove database entities (cards, signaling links, routes, etc.), to inhibit signaling links, enable features with either the `chg-feat` or `enable-ctrl-feat` command that you may not want turned on.

The Command Class Management feature allows these commands to be placed in their own command class which can be assigned to the user. Once the new command class is configured with these commands, the commands will be in their original command classes as well as the new configured command class. The user can be restricted to executing the commands in the new configured command class.

Commands can also be removed from configurable command classes.

When the Command Class Management controlled feature is enabled and activated, these command classes are created with the names U01, U02, U03, ... U32. The names of these command classes, and the descriptions of these command classes can be changed with the `chg-cmdclass` command. The `chg-cmdclass` command uses these parameters.

`:class` – The current class name, shown in the `rtrv-cmdclass` command output.

`:nclass` – The new command class name consisting of 1 alphabetic character and 2 alpha-numeric characters.

`:descr` – The description of the new command class consisting of 1 alphabetic character and up to 31 alpha-numeric characters, enclosed in double quotes.

Commands can be assigned to these configurable command classes using the `chg-cmd` command. The `chg-cmd` command uses these parameters.

`:cmd` – The command being added or removed from the configurable command class.

`:class1-:class8` – The name of the configurable command class that command is being added to or removed from with either yes (to add the command) or no (to remove the command) separated by a dash. For example, to add a command to configurable class `db1`, the `class1=db1-yes` parameter would be specified.

Up to eight configurable command classes can be specified with the `chg-cmd` command. To assign the command to more than eight configurable command classes, the repeat `chg-cmd` command until the desired number of configurable command classes, up to 32, have been specified.

To configure command classes, the Command Class Management feature must be enabled and activated. Enter the `rtrv-ctrl-feat` command to verify whether or not the Command Class Management feature is enabled. If the Command Class Management feature is not enabled or activated, go to the *Activating Controlled Features* on page 526 procedure to enable and activate the Command Class Management feature.

To add commands from the LNP Basic command class, the LNP feature must be enabled. Enter the `rtrv-ctrl-feat` command to verify that the LNP feature is enabled. Perform the procedures in the LNP *Feature Activation Guide* to enable the LNP feature.

1. Verify that the Command Class Management feature is enabled and activated, by entering the `rtrv-ctrl-feat` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
```

```
Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  off     ----
```

Note: The `rtrv-ctrl-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-ctrl-feat` command, see the `rtrv-ctrl-feat` command description in the *Commands Manual*.

If the Command Class Management feature is enabled and activated (`status = on`), go to step 2.

If the Command Class Management feature is not enabled or activated, go to the *Activating Controlled Features* on page 526 procedure and enable and activate the Command Class Management feature.

CAUTION: If the Command Class Management feature is temporarily enabled, the configurable command classes can be assigned and used only for the amount of time shown in the `Trial Period Left` column in the `rtrv-ctrl-feat` output.

2. Display the descriptions of the configurable command classes in the database by entering the `rtrv-cmd` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CMD                 CLASS
alw-slk             link, u11
ent-user            sa
unhb-slk            link
rtrv-attr-seculog   sa, u31
inh-slk             link, abc
rtrv-meas-sched     link, abc, def
act-lbp             link
act-dlk             link
act-slk             link
rtrv-seculog        sa, abc, def, ghi
act-lpo             link
blk-slk             link, abc, u23, u31
dact-lbp            link
canc-dlk            link
inh-card            sys
canc-lpo            link, u01, u02, u03, u04, u05, u06, u07, u08, u09, u10,
                    u11, u12, u13
canc-slk            link
ublk-slk            link, u01, u02, u03, u04, u05, u06, u07, u08, u09, u10,
                    u11, u12, u13, u14, u15, u16, u17, u18, u19, u20, u21,
                    u22, u23, u24, u25, u26, u27, u28, u29, u30, u31, u32
rept-x25-meas       link
inh-trm             sys, krb
rept-meas           link
.
.
.
chg-meas            link
tst-dlk             link, krb
tst-slk             link
```

If the desired configurable command class descriptions are in the database, and the commands are in the desired command classes, no further action is necessary. This procedure is finished.

Note: If the name of a configurable command class is not being changed, skip steps 3 and 4, and go to step 5.

3. Display the configurable command class descriptions by entering the `rtrv-cmdclass` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CLASS               DESCR
link                link maintenance commands
sa                  security administration commands
sys                 system maintenance commands
db                  database administration commands
dbg                 debug commands
pu                  program update commands
lnpbas              lnp basic commands
u01                 configurable command class 1
krb                 my command class description
u03                 configurable command class 3
dab                 your command class description
u05                 configurable command class 5
.
.
.
u32                 configurable command class 32
```

4. Change the configurable command class name or description by entering the `chg-cmdclass` command.

   For this example, enter these commands.

   `chg-cmdclass:class=u01:nclass=db1:descr="retrieve database commands"`

   `chg-cmdclass:class=dab:nclass=s15`

   `chg-cmdclass:class=u03:descr="user commands 3"`

   Note:

   The command classes `link`, `sa`, `sys`, `db`, `dbg`, and `pu` cannot be changed.

   When these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CHG-CMDCLASS: MASP A - COMPLTD
```

5. Verify the changes by entering the `rtrv-cmdclass` command, specifying the command class name, or new command class name if the command class name was changed, used in step 4.

   For this example, enter these commands.

   `rtrv-cmdclass:class=db1`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CLASS               DESCR
db1                 retrieve database commands
```

   `rtrv-cmdclass:class=s15`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CLASS               DESCR
s15                 your command class description
```

`rtrv-cmdclass:class=u03`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CLASS               DESCR
u03                 user commands 3
```

Note: If commands from the LNPBAS command class are not being added to a configurable command class, or if the LNPBAS command class are shown in the `rtrv-cmdclass` output in step 3 or the `rtrv-cmd` output in step 2, skip this step, and go to step 7.

6. Verify that the LNP feature is enabled by entering the `rtrv-ctrl-feat` command.

   If the LNP feature is enabled, the LNP telephone number quantity is shown in the `LNP TNs` field of the `rtrv-ctrl-feat` output.

   Note:

   The `rtrv-ctrl-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-ctrl-feat` command, see the `rtrv-ctrl-feat` command description in the *Commands Manua*l.

   If the LNP feature is enabled, go to step 7.

   If the LNP feature is not enabled, perform the procedures in the LNP *Feature Activation Guide* to enable the LNP feature.

7. Add or remove a command from the desired command classes by entering the `chg-cmd` command.

   For this example, enter these commands.

   `chg-cmd:cmd=rtrv-card:class1=db1-yes`

   `chg-cmd:cmd=tst-dlk:class1=krb-no`

   When these commands have successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   CHG-CMD: MASP A - COMPLTD
   ```

   Up to eight configurable command classes can be specified with the `chg-cmd` command. If you wish to assign the command to more than eight configurable command classes, but no more than 32 configurable command classes, repeat this step until the desired configurable command class assignements have been made.

8. Verify the changes by entering the `rtrv-cmd` command specifying the `cmd` parameter value used in step 6.

   For this example, enter these commands.

   `rtrv-cmd:cmd=rtrv-card`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CMD                 CLASS
rtrv-card           db, db1
```

`rtrv-cmd:cmd=tst-dlk`

This is an example of the possible output.

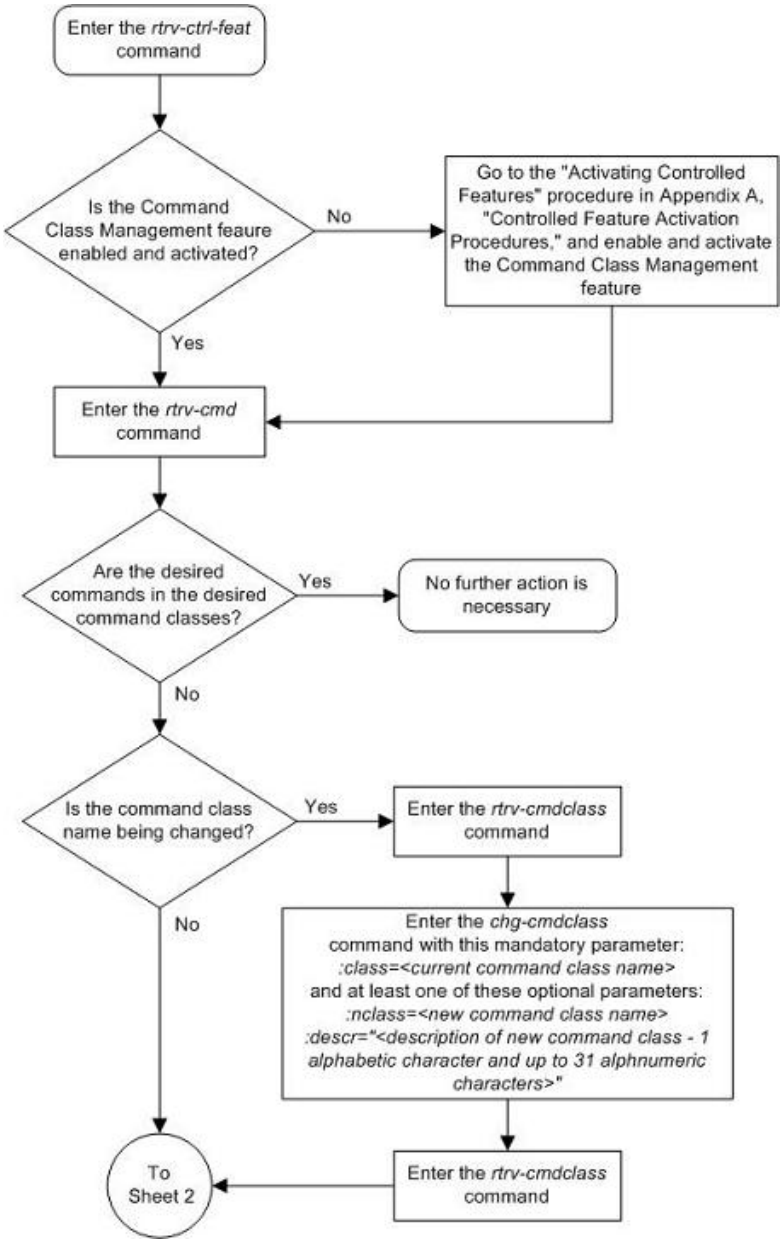
```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CMD                 CLASS
tst-dlk             link
```

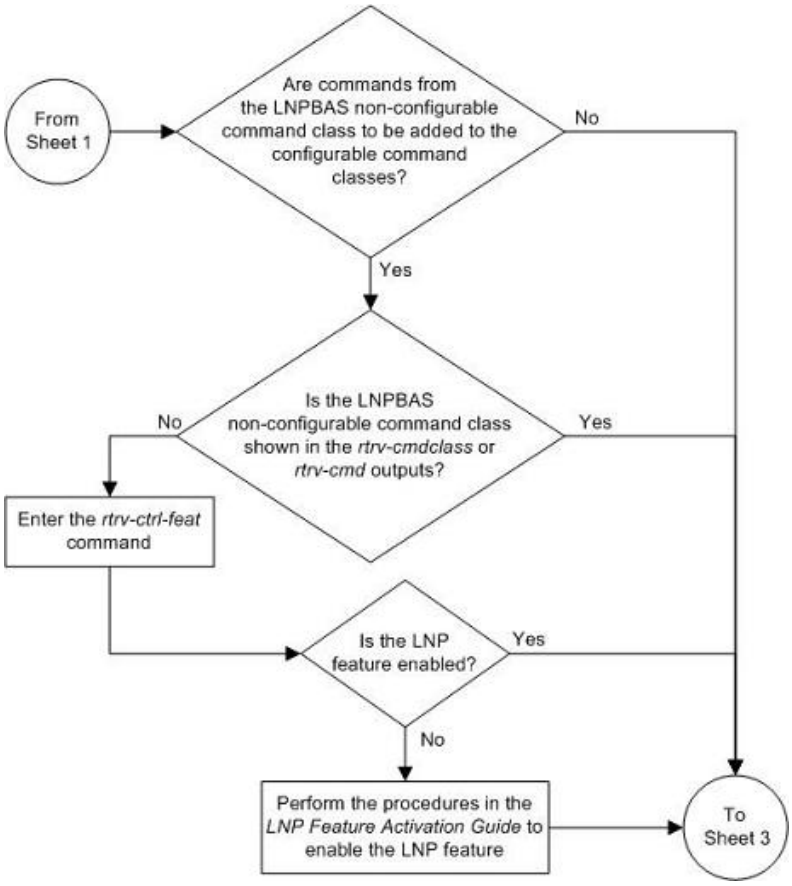
9. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

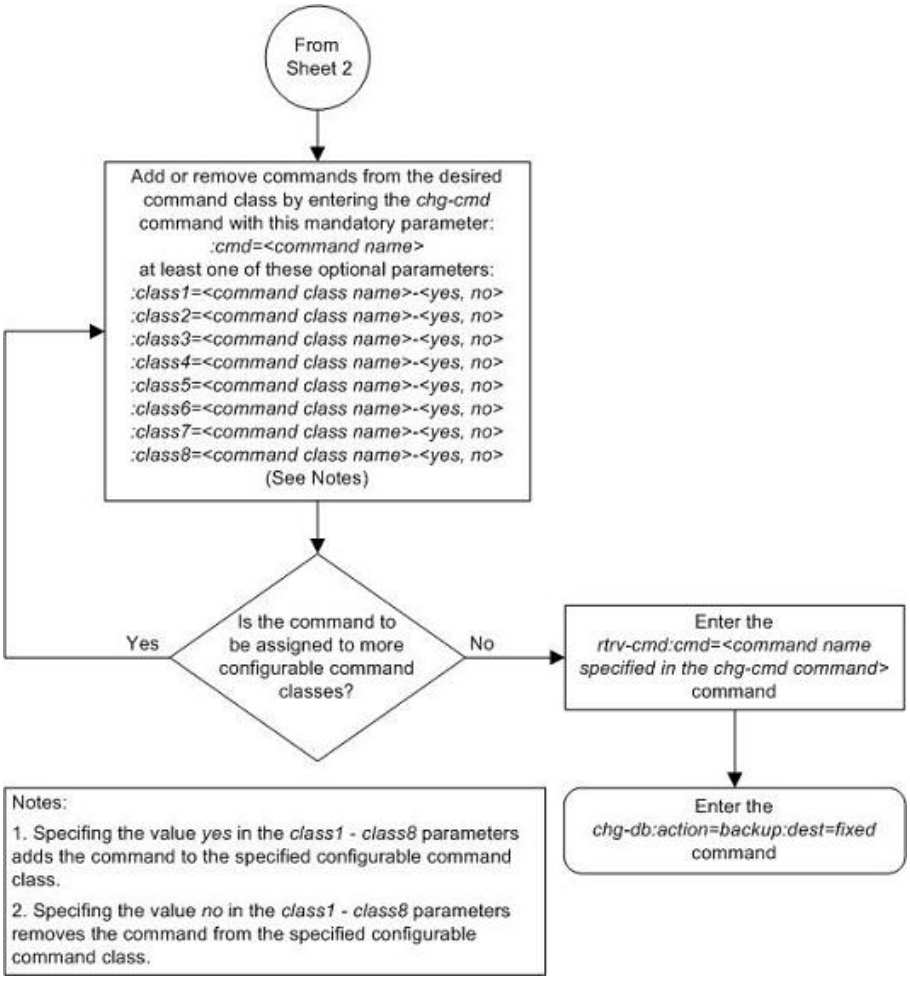
   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 45: Configuring Command Classes


Enter the *rtrv-ctrl-feat* command
Is the Command Class Management feaure enabled and activated?
No
Go to the "Activating Controlled Features" procedure in Appendix A, "Controlled Feature Activation Procedures," and enable and activate the Command Class Management feature
Yes
Enter the *rtrv-cmd* command
Are the desired commands in the desired command classes?
Yes
No further action is necessary
No
Is the command class name being changed?
Yes
Enter the *rtrv-cmdclass* command
No
Enter the *chg-cmdclass* command with this mandatory parameter: *:class=<current command class name>* and at least one of these optional parameters: *:nclass=<new command class name>* *:descr="<description of new command class - 1 alphabetic character and up to 31 alphnumeric characters>"*
Enter the *rtrv-cmdclass* command
To Sheet 2


From Sheet 1
Are commands from the LNPBAS non-configurable command class to be added to the configurable command classes?
No
Yes
Is the LNPBAS non-configurable command class shown in the rtrv-cmdclass or rtrv-cmd outputs?
No
Yes
Enter the rtrv-ctrl-feat command
Is the LNP feature enabled?
Yes
No
Perform the procedures in the LNP Feature Activation Guide to enable the LNP feature
To Sheet 3



Adding a Shelf

This procedure is used to add a shelf to the database using the `ent-shlf` command. The shelf may not already exists in the database. The control shelf (Shelf 1100) cannot be added to the database. The `ent-shlf` command uses these parameters.

`:type` – The shelf type. There is only one shelf type that can be added to the database, an extension shelf, shown by the value for this parameter as `ext`.

`:loc` – The shelf location

The examples in this procedure are used to add an extension shelf to frame 3 of the EAGLE 5 ISS.

1. Display the current shelf information using the `rtrv-shlf` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
SHELF DISPLAY
FRAME SHELF        TYPE
```

```
  1     1       CONTROL
  1     2       EXTENSION
  1     3       EXTENSION
  2     2       EXTENSION
```

2. Add the shelf using the `ent-shlf` command.

   For this example, the shelf to be added is the first shelf in frame 3. Enter this command.

   `ent-shlf:loc=3100:type=ext`

   When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
ENT-SHLF: MASP A - COMPLTD
```

3. Verify the changes using the `rtrv-shlf` command.

   This is an example of the possible output.

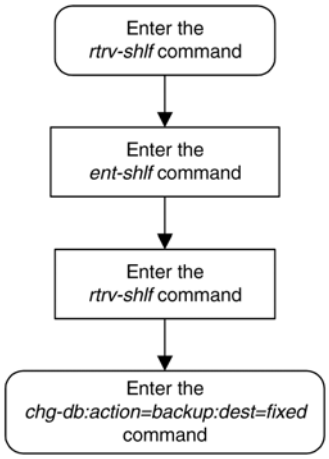
```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
SHELF DISPLAY
FRAME SHELF        TYPE
  1     1       CONTROL
  1     2       EXTENSION
  1     3       EXTENSION
  2     2       EXTENSION
  3     1       EXTENSION
```

4. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 46: Adding a Shelf



Removing a Shelf

This procedure is used to remove a shelf from the database using the `dlt-shlf` command. If the shelf to be removed does not exist in the database, it cannot be removed. The control shelf (Shelf 1100) cannot be removed from the database. The `dlt-shlf` command has only one parameter, `loc`, which is the location of the shelf.

Before a shelf can be removed from the database, all of the cards in that shelf must be removed from the database. The procedures for removing these cards are based on the application that is assigned to these cards. *Table 13: Card Removal Procedures* on page 387 shows the location of these procedures.

Table 13: Card Removal Procedures

Card Application	Procedure
SS7ANSI, ATMANSI, CCS7ITU, ATMITU	*Removing an SS7 LIM* on page 398 "Removing an E1 Card in Appendix A, "E1 Interface," in the Database *Administration Manual* - SS7 "Removing a T1 Card in Appendix B, "T1 Interface," in the Database *Administration Manual* - SS7
SS7GX25	"Removing an X.25 LIM in Chapter 2, "X.25 Gateway Configuration," in the Database *Administration Manual - Features*
SCCP	"Removing a Service Module in Chapter 2, "Global Title Translation (GTT) Overview," in the Database *Administration Manual* - Global Title Translation
VSCCP	
GLS	"Removing a GLS Card in Chapter 2, "Gateway Screening (GWS) Overview," in the Database *Administration Manual* - Gateway Screening
STPLAN	"Removing an STP LAN Card in Chapter 3, "STP LAN Configuration," in the Database *Administration Manual - Features*
IPLIM, IPLIMI, SS7IPGW, IPGWI	"Removing an IPLIMx Card" or "Removing an IPGWx Card" in the Database *Administration Manual* - IP Secure Gateway
IPSG	"Removing an IPSG Card" in the Database *Administration Manual* - IP Secure Gateway
EROUTE	“Removing an STC Card” in Chapter 6, Eagle 5 Integrated Monitoring Support Configuration," in the Database *Administration Manual - Features*

Card Application	Procedure
MCP	*Removing an MCPM* on page 421
IPS	*Removing an IPSM* on page 458

CAUTION: If any card in the shelf is the last card of that type in service, removing that card from the database will cause the traffic handled by that card to be lost or the feature requiring that card to be disabled. See *Table 14: Effect of Removing the Last In-Service Card Type from the Database* on page 388 for a description of the effect that removing the last card type that is in service has on the EAGLE 5 ISS.

Table 14: Effect of Removing the Last In-Service Card Type from the Database

Card type	Application assigned to card	Effect on the EAGLE 5 ISS
LIMDS0, LIMOCU, LIMV35, LIME1, LIMT1, LIMCH	SS7ANSI	SS7 traffic is lost.
LIMATM	ATMANSI	
LIMDS0, LIMOCU, LIMV35, LIME1, LIMT1, LIMCH	CCS7ITU	ITU traffic is lost.
LIME1ATM	ATMITU	
LIMDS0, LIMOCU, LIMV35	SS7GX25	X.25 traffic is lost.
TSM	SCCP	Global title translation traffic is lost. If any of the GTT-related features are enabled, the traffic for those features is also lost. Refer to the "Adding a Service Module" procedure in the *Database Administration Manual - Global Title Translation* for a list of the GTT-related features.
DSM	VSCCP	

Card type	Application assigned to card	Effect on the EAGLE 5 ISS
TSM	GLS	Gateway screening feature is disabled.
ACMENET, DCM	STPLAN	STPLAN feature is disabled.
DCM	IPLIM	Point-to-point connectivity for IP7 Secure Gateway functions in ANSI networks is disabled.
	IPLIMI	Point-to-point connectivity for IP7 Secure Gateway functions in ITU networks is disabled.
	SS7IPGW	Point-to-multipoint connectivity for IP7 Secure Gateway functions in ANSI networks is disabled.
	IPGWI	Point-to-multipoint connectivity for IP7 Secure Gateway functions in ITU networks is disabled.
ENET	IPSG	Traffic carried by the IPSG card is lost.
STC	EROUTE	Monitoring of the EAGLE 5 ISS by the STCEROUT Sentinel is disabled.
MCPM	MCP	The Measurements Platform feature is disabled.
IPSM	IPS	IP Telnet sessions and the IP User Interface (Telnet) feature are disabled.

The shelf being removed in this procedure cannot be removed if the shelf is the only provisioned shelf in the frame and the frame is in the Frame Power Alarm Threshold table. The Frame Power

Alarm Threshold table is shown in the `rtrv-frm-pwr` command output. If the frame is shown in the `rtrv-frm-pwr` output, and the shelf is the only shelf in the frame, perform the *Removing an Entry from the Frame Power Alarm Threshold Table* on page 476 procedure to remove the frame from the Frame Power Alarm Threshold table.

The examples in this procedure are used to remove shelf 2100 from the database.

1. Display the cards in the database using the `rtrv-card` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   TSM       SCCP
1102   TSM       GLS
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2           A    0   sp1           B    0
1202   LIMV35    SS7ANSI   sp4           A    0
1203   LIMDS0    SS7ANSI   sp3           A    0
1204   LIMDS0    SS7ANSI   sp3           A    1
1205   LIMDS0    CCS7ITU   nsp3          A    0   nsp4          B    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    1
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1211   TSM       SCCP
1212   TSM       GLS
1215   DCM       VXWSLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1305   DCM       VXWSLAN
1307   LIMDS0    SS7ANSI   sp2           A    1   nsp3          B    2
1308   LIMATM    ATMANSI   lsnatm1       A    1
1317   DCM       VXWSLAN
2101   LIMDS0    SS7ANSI   sp5           A    0   sp8           B    0
2102   LIMV35    SS7ANSI   sp7           A    0
2103   LIMDS0    SS7ANSI   sp6           A    0
2104   LIMDS0    SS7ANSI   sp6           A    1
2105   LIMDS0    CCS7ITU   nsp3          A    0   nsp5          B    0
2106   LIMDS0    SS7ANSI   nsp3          A    1   nsp5          B    1
2107   LIMV35    SS7GX25   nsp2          A    0
2108   LIMV35    SS7GX25   nsp2          A    1
```

   In this example, these cards must be removed from the database: 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2111, 2112, and 2115.

2. Based on the application assigned to the cards in the shelf to be removed, perform the appropriate procedures shown in *Table 13: Card Removal Procedures* on page 387 and remove all the cards from the shelf.

   The application assigned to the card is shown in the `APPL` field of the `rtrv-card` command output in step 1.

3. Display the shelves configured in the database by entering the `rtrv-shlf` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
SHELF DISPLAY
FRAME SHELF        TYPE
```

```
  1     1       CONTROL
  1     2       EXTENSION
  1     3       EXTENSION
  2     1       EXTENSION
```

If the `rtrv-shlf` output shows the shelf being removed in this procedure is not the only shelf in the frame, skip step 4 and go to step 5.

4. Display the frame power alarm thresholds by entering the `rtrv-frm-pwr` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0

Frame              Power Threshold (Amps)
-----              ----------------------
cf00                                 56
ef00                                 36
```

   If the frame containing the shelf being removed in this procedure is shown in the `rtrv-frm-pwr` output, the frame must be removed from the frame power alarm threshold table (shown in the `rtrv-frm-pwr` output) before the shelf can be removed. The following list shows the frames and the shelves contained in those frames.

   - Frame CF00 – Shelves 1200 and 1300
   - Frame EF00 – Shelves 2100, 2200, and 2300
   - Frame EF01 – Shelves 3100, 3200, and 3300
   - Frame EF02 – Shelves 4100, 4200, and 4300
   - Frame EF03 – Shelves 5100, 5200, and 5300
   - Frame EF04 – Shelf 6100

   Shelf 1100 is the Control Shelf and is in Frame CF00. Shelf 1100 cannot be removed.

   Perform the *Removing an Entry from the Frame Power Alarm Threshold Table* on page 476 procedure to remove the frame from the frame power alarm threshold table.

   If the frame containing the shelf being removed in this procedure is not shown in the `rtrv-frm-pwr` output, go to step 5.

5. Remove the shelf from the database using the `dlt-shlf` command.

   For this example, enter this command.

   `dlt-shlf:loc=2100`

   When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
DLT-SHLF: MASP A - COMPLTD
```

6. Verify the changes with the `rtrv-shlf` command and specify the location of the shelf.

   For this example, enter this command.

   `rtrv-shlf:loc=2100`

   When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
SHELF DISPLAY LOCATION=1200
FRAME SHELF        TYPE
```

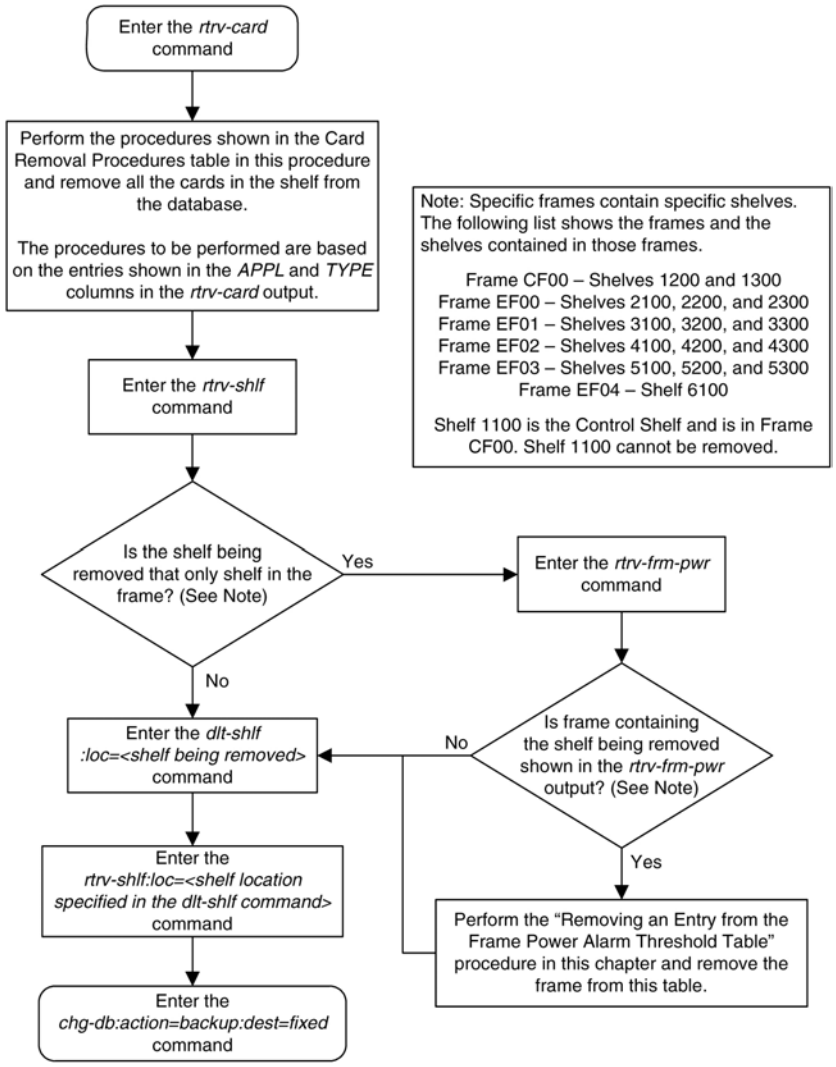
```
This shelf is UNEQUIPPED in the database.
```

7. Back up the new changes using the `chg-db:action=backup:dest=fixed`command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 47: Removing a Shelf



Adding an SS7 LIM

This procedure is used to add a low-speed SS7 LIM (link interface module) to the database using the `ent-card` command. The SS7 LIM cannot be added if it exists in the database.

The `ent-card` command uses these parameters.

`:loc` – The location of the card being added to the database.

`:type` – The type of card being added to the database.

`:appl` – The application software that is assigned to the card.

`:force` – If the global title translation feature is on, the `force=yes` parameter allows the LIM to be added to the database even if the current SCCP transactions-per-second threshold is unable to support the additional SCCP transaction-per-second capacity created by adding the LIM. This parameter is obsolete and is no longer used.

Table 15: SS7 LIM Card Types on page 393 shows the valid card type (`type`) and card application (`appl`) combinations for the SS7 LIMs being added to the database and the names and part numbers of the hardware. This can be used to verify that the SS7 LIM being added to the database matches the card physically installed in the EAGLE 5 ISS. A maximum of 63 Multiport LIMs can be configured in the database. See the "Determining the Number of High-Speed and Low-Speed Signaling Links" section of Appendix D, "Reference Information," in the Database *Administration Manual - SS7* for information on how to determine the quantities of the different types of signaling links the EAGLE 5 ISS can have.

Table 15: SS7 LIM Card Types

Card Name	Part Number	Card Type (:type)	Application Type (:appl)
LIM or LIM-AINF *	870-1014-XX 870-1488-XX	limds0, limocu, limv35	ss7ansi, ccs7itu
EILA *	870-2049-XX	limds0, limocu, limv35	ss7ansi, ccs7itu
LIM-DS0 *	870-1009-XX 870-1485-XX	limds0	ss7ansi, ccs7itu
LIM-OCU *	870-1010-XX 870-1486-XX	limocu	ss7ansi, ccs7itu
LIM-V.35 *	870-1012-XX 870-1487-XX	limv35	ss7ansi, ccs7itu
MPL	870-2061-XX	limds0	ss7ansi

Card Name	Part Number	Card Type (:type)	Application Type (:appl)
* These cards are not supported by the Origin-Based MTP Routing, Proxy Point Code, or Multiple Linksets to Single Adjacent PC features. The status of these features are shown in the `rtrv-ctrl-feat` output.			

The LIM, LIM-AINF, or EILA is a link interface module using the AINF interface and can be installed in place of the LIM-DS0, LIM-OCU, or LIM-V.35. It is configured in the database as either a LIM-DS0, LIM-OCU, or LIM-V.35 card.

The MPL is the Mutiport LIM. The MPL contains eight SS7 signaling links as opposed to the LIM-DS0, LIM-OCU, LIM-V.35, LIM, LIM-AINF, or EILA, which contains only two SS7 signaling links.

There are other cards that support signaling links that are provisioned with the `ent-card` command. These cards are provisioned in the following procedures.

- Cards for E1 signaling links are configured in the database using the procedures in Appendix A, "E1 Interface," in the Database *Administration Manual - SS7* .
- Cards for T1 signaling links are configured in the database using the procedures in Appendix B, "T1 Interface," in the Database *Administration Manual - SS7* .
- Cards for ATM high-speed signaling links are configured in the database using the procedures in Appendix C, "ATM Signaling Link Configuration," in the Database *Administration Manual - SS7* .
- IP cards (cards used for IP links) are configured in the database using the procedures in the Database *Administration Manual - IP Secure Gateway*.
- X.25 LIMs are configured in the database using the procedures in the Database *Administration Manual - Features* .

The shelf to which the card is to be added, must already be in the database. This can be verified with the `rtrv-shlf` command. If the shelf is not in the database, see the *Adding a Shelf* on page 385 procedure.

The examples in this procedure are used to add the cards shown in *Table 16: Example Card Configuration* on page 394 to the database.

Table 16: Example Card Configuration

Card Type	Application	Card Location
limds0	ss7ansi	1305
limocu	ccs7itu	1205
limv35	ss7ansi	1202
limds0 (MPL)	ss7ansi	1311

1. Display the cards in the database using the `rtrv-card` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   TSM       SCCP
1102   TSM       GLS
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2           A    0   sp1           B    0
1203   LIMDS0    SS7ANSI   sp3           A    0
1204   LIMDS0    SS7ANSI   sp3           A    1
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    1
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1216   ACMENET   STPLAN
1301   TSM       SCCP
1308   LIMDS0    SS7ANSI   sp6           A    1   sp7           B    0
1314   LIMDS0    SS7ANSI   sp7           A    1   sp5           B    1
1317   ACMENET   STPLAN
```

The cards should be distributed throughout the EAGLE 5 ISS for proper power distribution. Refer to the *Installation Manual* - EAGLE *5* ISS for the shelf power distribution.

- If cards with these part numbers: 870-1014-XX, 870-1009-XX, 870-1010-XX, 870-1012-XX, 870-1485-XX, 870-1486-XX, 870-1487-XX, 870-1488-XX, and 870-2049-XX will be provisioned in this procedure, go to step 2.
- If cards with this part number, 870-2061-XX, will be provisioned in this procedure, skip step 2 and go to step 3.

2. Display the status of the controlled features by entering the `rtrv-ctrl-feat` command. The following is an example of the possible output.

```
rlghncxa03w 07-05-01 21:15:37 GMT EAGLE5 37.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  off     ----
LNP Short Message Service 893006601  on      ----
Intermed GTT Load Sharing 893006901  off     ----
XGTT Table Expansion      893006101  off     ----
XMAP Table Expansion      893007710  on      3000
Large System # Links      893005910  on      2000
Routesets                 893006401  on      6000

The following features have been temporarily enabled:

Feature Name              Partnum    Status  Quantity     Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

The cards with these part numbers: 870-1014-XX, 870-1009-XX, 870-1010-XX, 870-1012-XX, 870-1485-XX, 870-1486-XX, 870-1487-XX, 870-1488-XX, and 870-2049-XX are not supported if the Origin-Based MTP Routing, Proxy Point Code, or Multiple Linksets to Single Adjacent PC features are enabled.

If the Origin-Based MTP Routing feature is enabled, the entry `Origin-Based MTP Routing` is shown in the `rtrv-ctrl-feat` output.

If the Proxy Point Code feature is enabled, the entry `Proxy Point Code` is shown in the `rtrv-ctrl-feat` output.

If the Multiple Linksets to Single Adjacent PC feature is enabled, the entry `Multiple Linkset to APC` is shown in the `rtrv-ctrl-feat` output.

If the Origin-Based MTP Routing, Proxy Point Code, or Multiple Linksets to Single Adjacent PC features are enabled, continue this procedure with step 3 by provisioning the MPL, part number 870-2061-XX.

3. Using *Table 15: SS7 LIM Card Types* on page 393 as a reference, verify that the card has been physically installed into the proper location.
4. Add the card using the `ent-card` command.

   For this example, enter these commands.

   ```
   ent-card:loc=1202:type=limv35:appl=ss7ansi
   ```

   ```
   ent-card:loc=1205:type=limocu:appl=ccs7itu
   ```

   ```
   ent-card:loc=1305:type=limds0:appl=ss7ansi
   ```

   ```
   ent-card:loc=1311:type=limds0:appl=ss7ansi
   ```

   When each of these commands have successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
   ENT-CARD: MASP A - COMPLTD
   ```

5. Verify the changes using the `rtrv-card` command with the card location specified. For this example, enter these commands.

   ```
   rtrv-card:loc=1202
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
   CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
   1202   LIMV35    SS7ANSI
   ```

   ```
   rtrv-card:loc=1205
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
   CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
   1205   LIMOCU    CCS7ITU
   ```

   ```
   rtrv-card:loc=1305
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
   CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
   1305   LIMDS0    SS7ANSI
   ```

   ```
   rtrv-card:loc=1311
   ```

This is an example of the possible output.

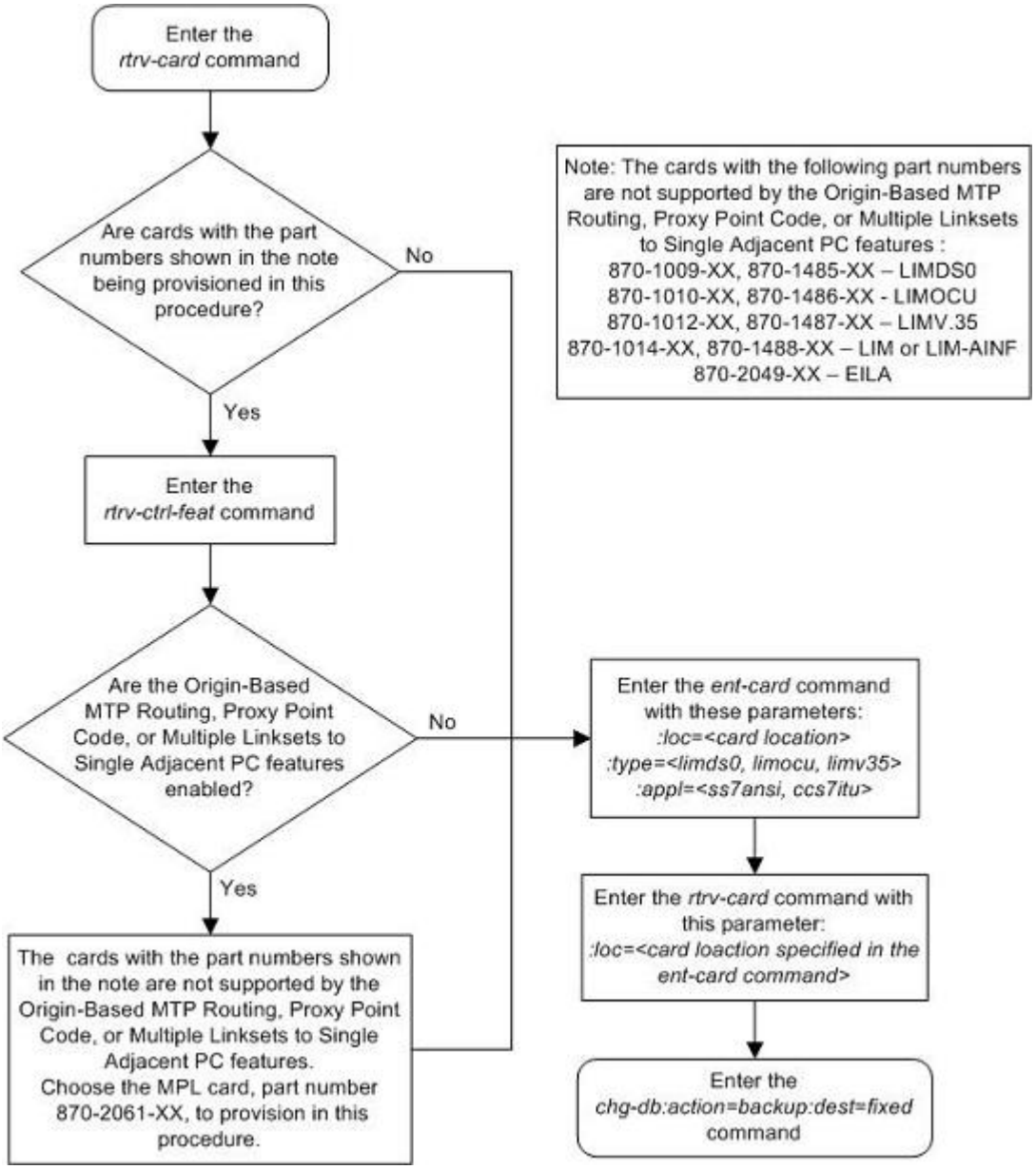
```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1311   LIMDS0    SS7ANSI
```

6. Back up the new changes using the `chg-db:action=backup:dest=fixed`command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 48: Adding an SS7 LIM



Removing an SS7 LIM

This procedure is used to remove an SS7 LIM (link interface module) from the database using the `dlt-card` command. The card cannot be removed if it does not exist in the database.

No SS7 signaling links can be assigned to the card you wish to remove from the database.

CAUTION:

If the SS7 LIM is the last SS7 LIM in service, removing this card from the database will cause SS7 traffic to be lost and isolate the EAGLE 5 ISS from the network.

Note:

1. LIM-E1 or LIMCH cards for E1 signaling links are removed from the database using the procedures in Appendix A, "E1 Interface" in the Database *Administration Manual - SS7* .

2. LIM-T1 or LIMCH cards for T1 signaling links are removed from the database using the procedures in Appendix B, "T1 Interface" in the Database *Administration Manual - SS7* .

3. IP cards (DCMs used for IP links) are removed from the database using the procedures in the Database *Administration Manual - IP Secure Gateway*.

4. X.25 LIMs are removed from the database using the procedures in Chapter 2, "X.25 Gateway Configuration," in the Database *Administration Manual - Features*.

The examples in this procedure are used to remove the SS7 LIMs in card location 1201, 1311, and 1318.

Canceling the `REPT-STAT-CARD` Command

Because the `rept-stat-card` command used in this procedure can output information for a long period of time, the `rept-stat-card` command can be canceled and the output to the terminal stopped. There are three ways that the `rept-stat-card` command can be canceled.

- Press the `F9` function key on the keyboard at the terminal where the `rept-stat-card` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rept-stat-card` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rept-stat-card` command was entered, from another terminal other that the terminal where the `rept-stat-card` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, go to the *Commands Manual*.

1. Display the cards in the database using the `rtrv-card` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   TSM       SCCP
1102   TSM       GLS
1103   DCM       VXWSLAN
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2           A    0   sp1           B    0
1202   LIMDS0    SS7ANSI   sp2           A    1   nsp3          B    0
```

```
1202   LIMV35    SS7GX25   lsngwy        A    0
1203   LIMDS0    SS7ANSI   sp3           A    0
1204   LIMDS0    SS7ANSI   sp3           A    1
1205   LIMOCU    CCS7ITU   itu1          A    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    0
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1212   TSM       SCCP
1214   TSM       GLS
1215   DCM       VXWSLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1305   DCM       VXWSLAN
1308   LIMDS0    SS7ANSI   sp6           A    0   sp7           B    0
1311   LIMDS0    SS7ANSI   sp2           A    2   sp1           B    1
                           sp7           A1   1   sp3           B1   2
1315   LIMDS0    SS7ANSI   sp7           A    2   sp5           B    0
1318   LIMATM    ATMANSI   lsnatm1       A    1
```

2. An SS7 LIM is identified by the entries `SS7ANSI`, `CCS7ITU`, or `ATMANSI` in the `APPL` field.

   Display the status of the SS7 signaling links on the card you wish to remove by entering the `rept-stat-slk` command, specifying the card location and signaling link. The card location is shown in the `CARD` field of the `rtrv-card` command output.

   For this example, enter these commands.

   `rept-stat-slk:loc=1201:link=a`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
SLK      LSN       CLLI        PST          SST       AST
1201,A   sp2       ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

   `rept-stat-slk:loc=1201:link=b`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
SLK      LSN       CLLI        PST          SST       AST
1201,B   sp1      ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

   `rept-stat-slk:loc=1318:link=a`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
SLK      LSN       CLLI        PST          SST       AST
1318,A   lsnatm1   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

   `rept-stat-slk:loc=1311:link=a`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
SLK      LSN       CLLI        PST          SST       AST
1311,A   sp2       ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

`rept-stat-slk:loc=1311:link=a1`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
SLK      LSN       CLLI        PST          SST       AST
1311,A1  sp7       ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

`rept-stat-slk:loc=1311:link=b`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
SLK      LSN       CLLI        PST          SST       AST
1311,B   sp1       ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

`rept-stat-slk:loc=1311:link=b1`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
SLK      LSN       CLLI        PST          SST       AST
1311,B1  sp3       ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
Command Completed.
```

3. Deactivate the links to the card that are not in an OOS-MT-DSBLD state using the `dact-slk` command.

   For this example, enter these commands.

   `dact-slk:loc=1201:link=a`

   `dact-slk:loc=1201:link=b`

   `dact-slk:loc=1318:link=a`

   `dact-slk:loc=1311:link=a`

   `dact-slk:loc=1311:link=a1`

   `dact-slk:loc=1311:link=b`

   `dact-slk:loc=1311:link=b1`

When these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
Deactivate Link message sent to card
```

4. Display the cards that are in service with the `rept-stat-card:stat=nr` command.

   `rept-stat-card:stat=nr`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:43:42 GMT  EAGLE5 36.0.0
CARD  VERSION      TYPE    GPL       PST           SST       AST
1101  113-003-000  TSM     SCCP      IS-NR         Active    ---
1102  113-003-000  TSM     GLS       IS-NR         Active    ---
1103  113-002-000  ACMENET STPLAN    IS-NR         Active    ---
1104  113-002-000  ACMENET STPLAN    IS-NR         Active    ---
1109  113-003-000  HMUX    BPHMUX    IS-NR         Active    ---
1110  113-003-000  HMUX    BPHMUX    IS-NR         Active    ---
1201  113-003-000  LIMDS0  SS7ANSI   IS-NR         Active    ---
1202  113-002-000  LIMV35  SS7GX25   IS-NR         Active    ---
1203  113-003-000  LIMDS0  SS7ANSI   IS-NR         Active    ---
1204  113-003-000  LIMDS0  SS7ANSI   IS-NR         Active    ---
1205  113-003-000  LIMOCU  CCS7ITU   IS-NR         Active    ---
1206  113-003-000  LIMDS0  SS7ANSI   IS-NR         Active    ---
1207  113-002-000  LIMV35  SS7GX25   IS-NR         Active    ---
1208  113-002-000  LIMV35  SS7GX25   IS-NR         Active    ---
1209  113-003-000  HMUX    BPHMUX    IS-NR         Active    ---
1210  113-003-000  HMUX    BPHMUX    IS-NR         Active    ---
1212  113-003-000  TSM     SCCP      IS-NR         Active    ---
1214  113-003-000  TSM     GLS       IS-NR         Active    ---
1216  113-002-000  ACMENET STPLAN    IS-NR         Active    ---
1301  113-003-000  LIMATM  ATMANSI   IS-NR         Active    ---
1304  113-002-000  ACMENET STPLAN    IS-NR         Active    ---
1305  113-003-000  LIMDS0  SS7ANSI   IS-NR         Active    ---
1308  113-003-000  LIMDS0  SS7ANSI   IS-NR         Active    ---
1309  113-003-000  HMUX    BPHMUX    IS-NR         Active    ---
1310  113-003-000  HMUX    BPHMUX    IS-NR         Active    ---
1311  113-003-000  LIMDS0  SS7ANSI   IS-NR         Active    ---
1314  113-003-000  LIMDS0  SS7ANSI   IS-NR         Active    ---
1317  113-002-000  ACMENET STPLAN    IS-NR         Active    ---
1318  113-003-000  LIMATM  ATMANSI   IS-NR         Active    ---
```

5. If the signaling links on the card to be removed from the database is the last signaling link in a linkset, the `force=yes` parameter must be used with the `dlt-slk` command.

   To verify this, enter the `rtrv-ls` command with the linkset name shown in step 1 (`LSETNAME` field) or in step 2 (`LSN` field). For this example, enter these commands.

   `rtrv-ls:lsn=sp1`

   This is an example of the possible output

```
rlghncxa03w 06-10-01 16:31:35 GMT EAGLE5 36.0.0

                                L3T SLT             GWS GWS GWS
LSN          APCA   (SS7)  SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
sp1          240-020-000   scr1  1   1   yes A   2    off off off yes   off

          CLLI         TFATCABMLQ MTPRSE ASL8
          -----------  2          yes    yes

          IPGWAPC MATELSN    IPTPS LSUSEALM SLKUSEALM GTTMODE
```

```
           no      ---------- ---   ---      ---       CdPA

                                L2T         L1                PCR  PCR
           LOC  LINK SLC TYPE    SET  BPS    MODE TSET  ECM    N1   N2
           1201 B    0   LIMDS0  1    56000  ---  ---   BASIC  ---  -----
           1311 B    0   LIMDS0  1    56000  ---  ---   BASIC  ---  -----

Link set table is ( 10 of 1024)  1% full
```

`rtrv-ls:lsn=sp2`

This is an example of the possible output

```
rlghncxa03w 06-10-01 16:31:35 GMT EAGLE5 36.0.0

                                L3T SLT             GWS GWS GWS
LSN          APCA   (SS7)  SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
sp2          240-030-000   scr1  1   1   yes A   3    off off off yes   off

           CLLI         TFATCABMLQ MTPRSE ASL8
           -----------  2          yes    yes

           IPGWAPC MATELSN    IPTPS LSUSEALM SLKUSEALM GTTMODE
           no      ---------- ---   ---      ---       CdPA

                                L2T          L1              PCR  PCR
           LOC  LINK SLC TYPE    SET  BPS    MODE TSET  ECM    N1   N2
           1201 A    0   LIMDS0  1    56000  ---  ---   BASIC  ---  -----
           1202 A    1   LIMDS0  1    56000  ---  ---   BASIC  ---  -----
           1311 A    2   LIMDS0  1    56000  ---  ---   BASIC  ---  -----

Link set table is ( 10 of 1024)  1% full
```

`rtrv-ls:lsn=lsnatm1`

This is an example of the possible output

```
rlghncxa03w 06-10-01 16:31:35 GMT EAGLE5 36.0.0

                                L3T SLT             GWS GWS GWS
LSN          APCA   (SS7)  SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
lsnatm1      240-040-000   scr1  1   1   yes A   2    off off off yes   off

           CLLI         TFATCABMLQ MTPRSE ASL8
           -----------  2          yes    yes

           IPGWAPC MATELSN    IPTPS LSUSEALM SLKUSEALM GTTMODE
           no      ---------- ---   ---      ---       CdPA

                                LP            ATM
           LOC  LINK SLC TYPE    SET  BPS      TSEL      VCI    VPI   LL
           1301  A   0   LIMATM  3    1544000  INTERNAL  35     15
           1318  A   1   LIMATM  5    1544000  LINE      5      0

Link set table is ( 10 of 1024)  1% full
```

`rtrv-ls:lsn=sp3`

This is an example of the possible output

```
rlghncxa03w 06-10-01 16:31:35 GMT EAGLE5 36.0.0
                              L3T  SLT
LSN       APCA (SS7)   SCRN  SET  SET BEI  LST LNKS GWSA GWSM GWSD SLSCI NIS
sp3       240-050-000  scr1  1    1   yes  A   3    off  off  off  yes   off
```

```
           CLLI         TFATCABMLQ MTPRSE ASL8
           -----------  2          yes    yes

           IPGWAPC MATELSN    IPTPS LSUSEALM SLKUSEALM GTTMODE
           no      ---------- ---   ---      ---       CdPA

                                 L2T          L1              PCR  PCR
           LOC  LINK SLC TYPE    SET  BPS    MODE TSET  ECM   N1   N2
           1203 A    0   LIMDS0  1    56000  ---  ---   BASIC ---  -----
           1204 A    1   LIMDS0  1    56000  ---  ---   BASIC ---  -----
           1311 B1   2   LIMDS0  1    56000  ---  ---   BASIC ---  -----

Link set table is ( 10 of 1024)  1% full
```

`rtrv-ls:lsn=sp7`

This is an example of the possible output

```
rlghncxa03w 06-10-01 16:31:35 GMT EAGLE5 36.0.0

                                L3T SLT              GWS GWS GWS
LSN          APCA   (SS7)  SCRN  SET SET BEI LST LNKS ACT MES DIS SLSCI NIS
sp7          240-060-000   scr1  1   1   yes A   3    off off off yes   off

           CLLI         TFATCABMLQ MTPRSE ASL8
           -----------  2          yes    yes

           IPGWAPC MATELSN    IPTPS LSUSEALM SLKUSEALM GTTMODE
           no      ---------- ---   ---      ---       CdPA

                                 L2T          L1              PCR  PCR
           LOC  LINK SLC TYPE    SET  BPS    MODE TSET  ECM   N1   N2
           1308 B    0   LIMDS0  1    56000  ---  ---   BASIC ---  -----
           1311 A1   1   LIMDS0  1    56000  ---  ---   BASIC ---  -----
           1315 A    2   LIMDS0  1    56000  ---  ---   BASIC ---  -----

Link set table is ( 10 of 1024)  1% full
```

6. Inhibit the card using the `rmv-card` command, specifying the card location.

   If the LIM to be inhibited contains the only signaling link in the linkset that in service, the `force=yes` parameter must also be specified. For this example, enter these commands.

   `rmv-card:loc=1201`

   `rmv-card:loc=1318`

   `rmv-card:loc=1311`

   When these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
Card has been inhibited.
```

7. Remove the signaling links on the specified card by using the `dlt-slk` command.

   If the output of step 5 shows that the signaling link being removed is the last signaling link in a linkset, the `force=yes` parameter must be used. For this example, enter these commands.

   `dlt-slk:loc=1201:link=a`

   `dlt-slk:loc=1201:link=b`

```
dlt-slk:loc=1318:link=a

dlt-slk:loc=1311:link=a

dlt-slk:loc=1311:link=a1

dlt-slk:loc=1311:link=b:force=yes

dlt-slk:loc=1311:link=b1
```

When these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
DLT-SLK: MASP A - COMPLTD
```

8. Remove the card using the `dlt-card` command.

   The `dlt-card` command has only one parameter, `loc`, which is the location of the card. For this example, enter these commands.

   ```
   dlt-card:loc=1201

   dlt-card:loc=1318

   dlt-card:loc=1311
   ```

   When these commands have successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
   DLT-CARD: MASP A - COMPLTD
   ```

9. Verify the changes using the `rtrv-card` command specifying the card that was removed in step 8.

   For this example, enter these commands.

   ```
   rtrv-card:loc=1201

   rtrv-card:loc=1318

   rtrv-card:loc=1311
   ```

   When these commands have successfully completed, this message should appear.

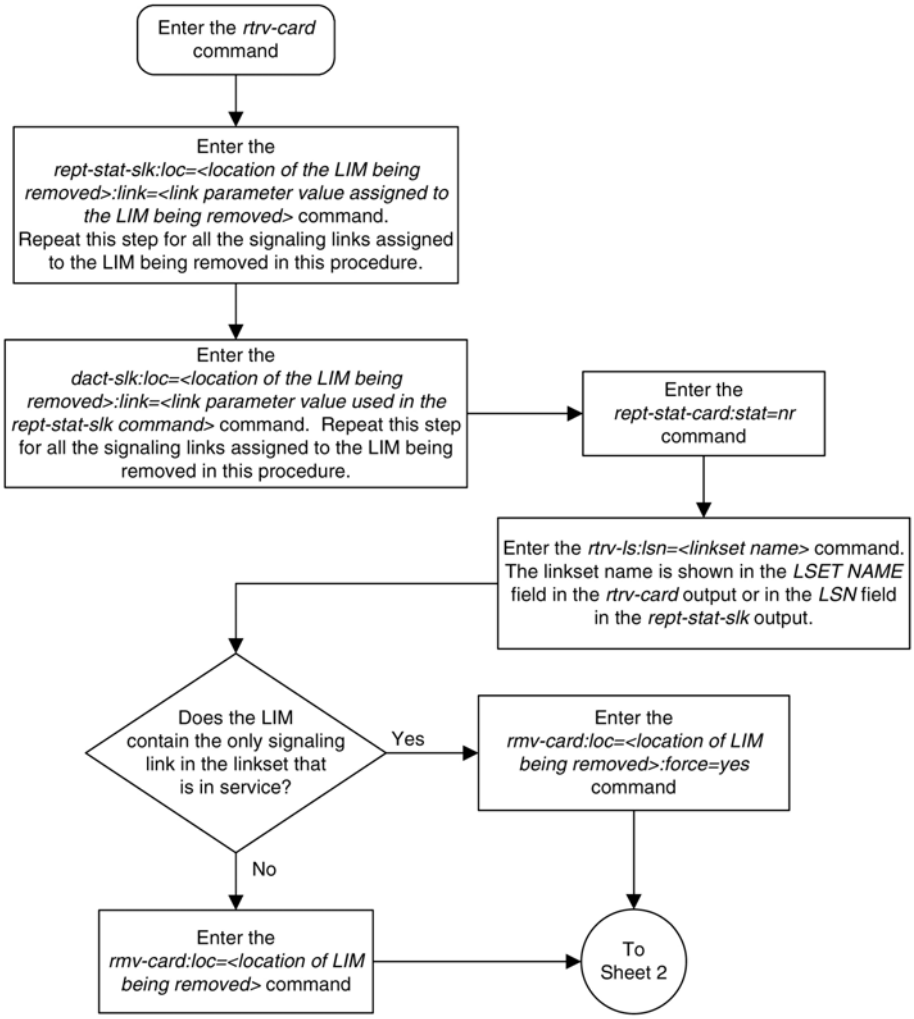
   ```
   E2144 Cmd Rej: Location invalid for hardware configuration
   ```

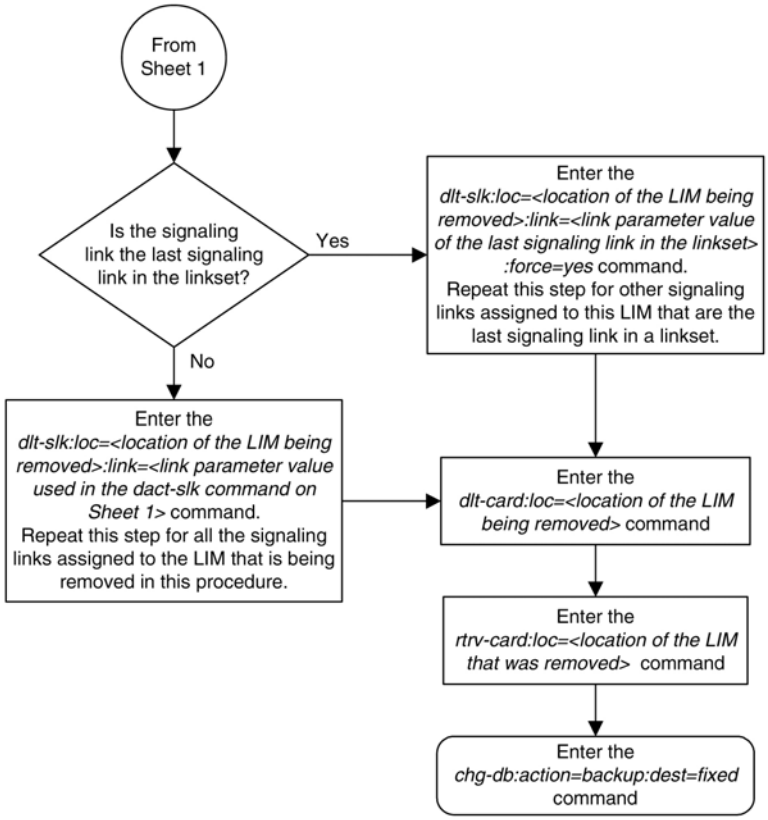
10. Back up the new changes using the `chg-db:action=backup:dest=fixed`command.

    These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

    ```
    BACKUP (FIXED) : MASP A - Backup starts on active MASP.
    BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
    BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
    BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
    ```

Figure 49: Removing an SS7 LIM


Enter the *rtrv-card* command
Enter the *rept-stat-slk:loc=<location of the LIM being removed>:link=<link parameter value assigned to the LIM being removed>* command. Repeat this step for all the signaling links assigned to the LIM being removed in this procedure.
Enter the *dact-slk:loc=<location of the LIM being removed>:link=<link parameter value used in the rept-stat-slk command>* command. Repeat this step for all the signaling links assigned to the LIM being removed in this procedure.
Enter the *rept-stat-card:stat=nr* command
Enter the *rtrv-ls:lsn=<linkset name>* command. The linkset name is shown in the *LSET NAME* field in the *rtrv-card* output or in the *LSN* field in the *rept-stat-slk* output.
Does the LIM contain the only signaling link in the linkset that is in service?
Yes
Enter the *rmv-card:loc=<location of LIM being removed>:force=yes* command
No
Enter the *rmv-card:loc=<location of LIM being removed>* command
To Sheet 2



Configuring the UIM Threshold

This procedure is used to configure the threshold (the number of times during a specified period of time) a specific UIM (unsolicited information message) is displayed at an EAGLE 5 ISS terminal using the `set-uim-acthresh` command.

The `set-uim-acthresh` command uses these parameters.

`:uimn` – The number of the UIM that the threshold is being created for, or the threshold being changed. The number of the UIM must exist in the EAGLE 5 ISS. See the *Unsolicited Alarm and Information Messages Manual* for a list of the UIMs that can be displayed.

`:limit` – The number of UIMs that can be displayed in the amount of time specified by the `intrvl` parameter.

`:intrvl` – The amount of time, in minutes, that the number of UIMs specified by the `limit` parameter can be displayed at the EAGLE 5 ISS terminal.

`:force` – The `force=yes` parameter allows the `limit` parameter to be set to 0 should the conditions at the EAGLE 5 ISS make this action necessary. Setting the `limit` parameter to 0 prevents the specified UIM, and the information contained in the UIM, from being displayed at the EAGLE 5 ISS terminal. It is highly recommended that the `limit` parameter value is not set to 0.

When the `limit=0` and the `force=yes` parameters are specified with the `set-uim-acthresh` command, this message appears in the scroll area of the terminal display.

```
Caution: Setting LIMIT=0 suppresses UIM permanently
```

When creating a new UIM threshold, both the `limit` and `intrvl` parameters must be specified with the `set-uim-acthresh` command.

If you are changing an existing UIM threshold, either the `limit` or `intrvl` parameters must be specified with the `set-uim-acthresh` command.

The examples used in this procedure change the time interval for the existing UIM threshold for UIM 1155 from 30 minutes to 20 minutes, the number of UIMs displayed for existing UIM threshold for UIM 1162 from 100 to 25, and to create a new UIM threshold to display UIM 1075 for 175 times in 30 minutes. These changes are shown in *Table 17: Example UIM Threshold Configuration* on page 408.

Table 17: Example UIM Threshold Configuration

UIM Number	Old Limit	Old Time Interval	New Limit	New Time Interval
1155	50	30	No Change	20
1162	100	5	25	No Change
1075	N/A	N/A	175	30

1. Display the UIM thresholds in the database using the `rtrv-uim-acthresh` command.

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 08:50:12 GMT EAGLE5 36.0.0
   UIMN    LIMIT    INTRVL
   1155     50       30
   1162     100      5
   1216     200      15

   The UIM Threshold Table is (3 of 499) 1% full.
   ```

2. Configure the UIM threshold using the `set-uim-acthresh` command.

   For this example, enter these commands.

   `set-uim-acthresh:uimn=1155:intrvl=20`

   `set-uim-acthresh:uimn=1162:limit=25`

   `set-uim-acthresh:uimn=1075:limit=175:intrvl=30`

   When each of these commands has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 08:50:12 GMT EAGLE5 36.0.0
   SET-UIM-ACTHRESH: MASP A - COMPLTD
   ```

3. Verify the changes using the `rtrv-uim-acthresh` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 08:50:12 GMT EAGLE5 36.0.0
UIMN    LIMIT    INTRVL
1075     175      30
1155     50       20
1162     25       5
1216     200      15

The UIM Threshold Table is (4 of 499) 1% full.
```

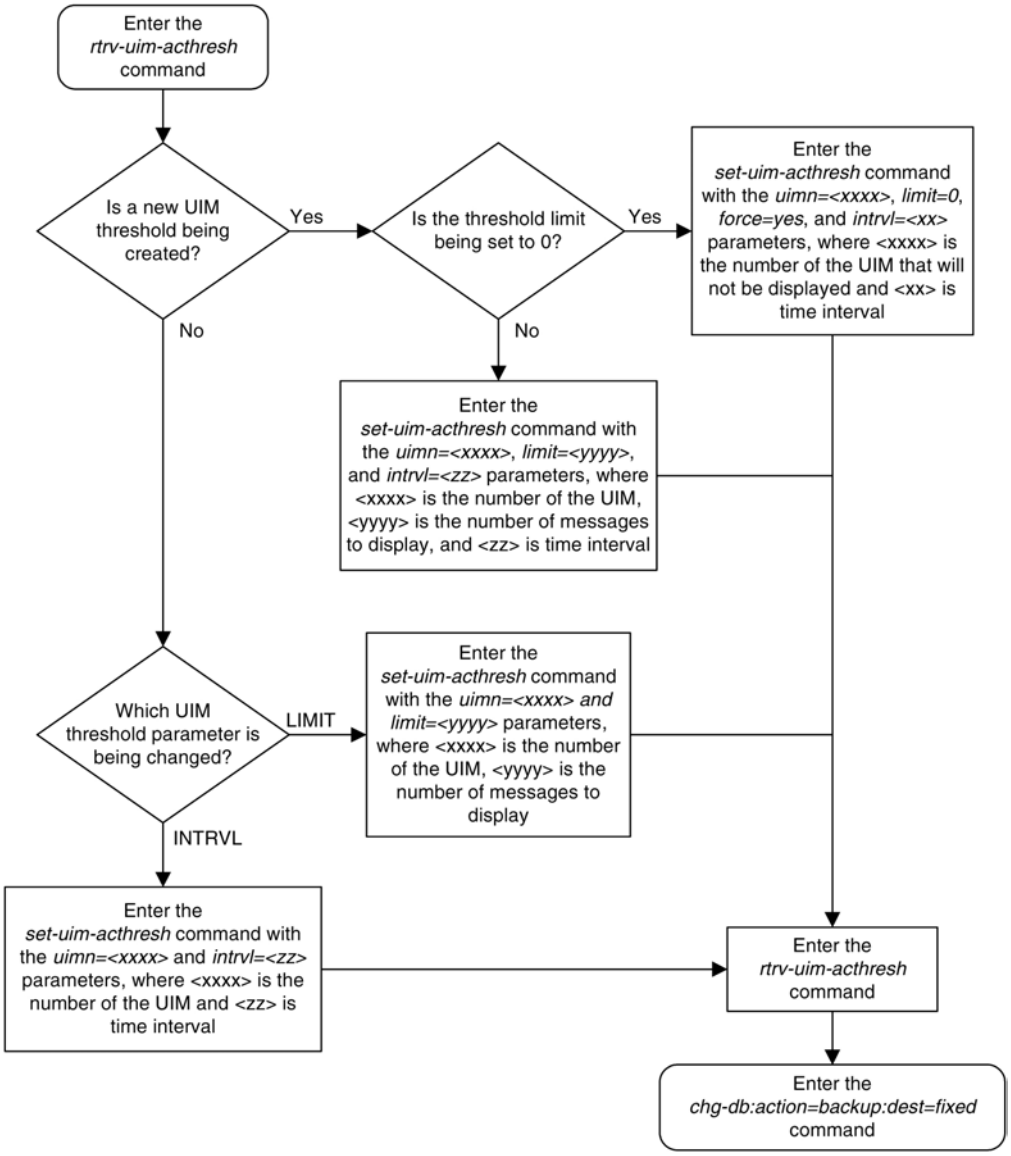
4. Back up the new changes using the `chg-db:action=backup:dest=fixed`command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first

   .

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 50: Configuring the UIM Threshold



Removing a UIM Threshold

This procedure is used to remove a UIM threshold from the database using the `dlt-uim-acthresh` command. The `dlt-uim-acthresh` command has only one parameter, `uimn`, which specifies the UIM number of the UIM threshold that is being removed from the database.

The UIM threshold must be in the database.

The example in this procedure removes the UIM threshold for UIM 1216 from the database.

1. Display the UIM thresholds in the database using the `rtrv-uim-acthresh` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 08:50:12 GMT EAGLE5 36.0.0
UIMN    LIMIT    INTRVL
1075     175      30
1155     50       20
1162     25       5
1216     200      15

The UIM Threshold Table is (4 of 499) 1% full.
```

2. Remove a UIM threshold from the database using the `dlt-uim-acthresh` command.

   For this example, enter this command.

   `dlt-uim-acthresh:uimn=1216`

   When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 08:50:12 GMT EAGLE5 36.0.0
DLT-UIM-ACTHRESH: MASP A - COMPLTD
```

3. Verify the changes using the `rtrv-uim-acthresh` command.

   This is an example of the possible output.

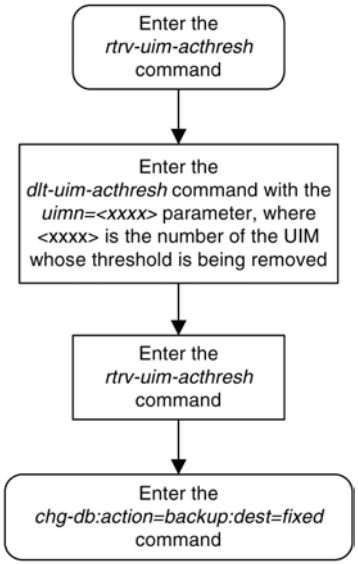
```
rlghncxa03w 06-10-01 08:50:12 GMT EAGLE5 36.0.0
UIMN    LIMIT    INTRVL
1075     175      30
1155     50       20
1162     25       5

The UIM Threshold Table is (3 of 499) 1% full.
```

4. Back up the new changes using the `chg-db:action=backup:dest=fixed`command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 51: Removing a UIM Threshold



Configuring the Measurements Terminal for an EAGLE 5 ISS Containing 700 Signaling Links

This procedure is used to configure a terminal to collect measurement reports on an EAGLE 5 ISS that contains from 501 to 700 signaling links. The `chg-trm` command is used to configure this terminal and uses these parameters to configure this terminal.

Note: The terminal being configured in this procedure must be terminals 1 through 16. Telnet terminals cannot be specified in this procedure.

Note: If the EAGLE 5 ISS contains more than 700 signaling links, do not perform this procedure. The Measurements Platform is required to collect measurement reports for systems containing more the 700 signaling links. See the *Measurements Manual* for more information on the Measurements Platform.

`:trm` – Serial port number

`:baud` – Serial port baud rate

`:sb` – The number of stop bits used in communications with the device

`:prty` – Parity used by the device

`:type` – The type of device being connected.

`:fc` – The type of flow control used between the EAGLE 5 ISS and the output devices (vt320 terminal, modem, printer, or KSR terminal, or OAP terminal).

`:tmout` – The maximum amount of time that a login session on the specified port can remain idle (that is, no user input) on the port before being automatically logged off.

:`mxinv` – The login failure threshold

:`dural` – The length of time that the terminal is disabled after the login failure threshold has been exceeded.

:`all` – All unsolicited messages are received by the specified port

`:traf` – Traffic measurement related unsolicited messages are received by the specified port

Note:

There are other parameters that can be used with the `chg-trm` command but these parameters cannot be used in this procedure. For more information on these parameters, go to *Changing Terminal Characteristics* on page 349 procedure, or to the `chg-trm` command description in the *Commands Manual*.

The measurement terminal must be configured with these parameter values:

- `trm`=<terminal being changed>
- `baud`=19200
- `type`=ksr
- `traf`=yes – all other output message groups must be set to no.

The other parameters listed in this procedure do not have to be specified with the `chg-trm` command. If these parameters are not specified with the `chg-trm` command, these default values will be assigned to the measurements terminal:

- `prty` – even
- `sb` – 1
- `fc` – sw (software)
- `tmout` – 30 minutes
- `mxinv` – 5
- `dural` – 100 (1 minute, 0 seconds)

The terminal must be placed out of service before it can be configured.

If the terminal being changed has output message groups other than `traf` set to `yes`, the `all=no` parameter must be specified with the `chg-trm` command. The `chg-trm` command can then specified with the `traf=yes` parameter.

The messages assigned to the output message groups defined by the `traf` parameters are listed in the *Unsolicited Alarm and Information Messages Manual* .

The `tmout`, `dural`, and `mxinv` parameters can be applied to this terminal. See the "Security Parameters" section in the *Changing Terminal Characteristics* on page 349 procedure for more information on these parameters.

The total value of the terminals' baud rate cannot be greater than 172,032. If the total baud rate of the terminals exceeds 172,032, change the baud rates of the terminals so that the total baud rate is not greater than 172,032.

The output of the `rtrv-trm` command is displayed in two parts. The first part displays the communication security attributes of the terminal. The communication attributes of the terminal, `BAUD`, `PRTY` (parity), `SB` (stop bits), and `DBTS` (data bits), are displayed in the `COMM` field of the `rtrv-trm` output and are displayed in this format: BAUD–DBTS–PRTY–SB. The second part of the `rtrv-trm` command output displays the types of unsolicited messages the terminal may receive. An example of the `rtrv-trm` command output is shown in this example.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 36.0.0
TRM  TYPE    COMM        FC    TMOUT MXINV DURAL
3    VT320    9600-7-E-1 SW    30    5     99:59:59
```

```
TRM  TRAF LINK SA  SYS PU  DB  UIMRD
3    NO   YES  NO  YES NO  YES YES

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
3    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
```

In this example, terminal 3 is running at 9600 baud with 7 data bits, even parity, and 1 stop bit.

The examples in this procedure are used to configure terminal 1 as the measurements terminal.

1. Display the values of all terminals using the `rtrv-trm` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 36.0.0
TRM  TYPE    COMM         FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1 SW    30    5     99:59:59
2    KSR      9600-7-E-1 HW    30    5     INDEF
3    PRINTER  4800-7-E-1 HW    30    0     00:00:00
4    VT320    2400-7-E-1 BOTH  30    5     00:30:00
5    VT320    9600-7-O-1 NONE  30    5     00:00:30
6    VT320    9600-7-E-2 SW    30    9     INDEF
7    PRINTER  9600-7-N-2 HW    30    5     00:30:00
8    KSR     19200-7-E-2 BOTH  30    5     00:30:00
9    VT320    9600-7-E-1 SW    30    7     00:30:00
10   VT320    9600-7-E-1 HW    30    5     00:30:00
11   VT320    4800-7-E-1 HW    30    5     00:30:00
12   PRINTER  9600-7-E-1 HW    30    4     00:30:00
13   VT320    9600-7-O-1 NONE  30    5     00:30:00
14   VT320    9600-7-E-2 SW    30    8     00:30:00
15   VT320    9600-7-N-2 HW    30    5     00:30:00
16   VT320    9600-7-E-2 BOTH  30    3     00:30:00

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
1    NO   YES  NO  NO  NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
3    YES  YES  YES NO  YES YES YES
4    YES  NO   NO  NO  NO  NO  NO
5    NO   YES  NO  NO  NO  NO  YES
6    NO   NO   YES NO  NO  NO  NO
7    YES  YES  YES YES YES YES YES
8    NO   NO   NO  NO  YES NO  YES
9    NO   YES  NO  NO  NO  YES NO
10   NO   NO   NO  NO  NO  NO  YES
11   YES  YES  YES YES YES YES YES
12   YES  YES  YES YES YES YES YES
13   NO   YES  NO  NO  NO  NO  YES
14   NO   NO   YES NO  NO  NO  NO
15   YES  YES  YES NO  YES YES YES
16   NO   NO   NO  NO  YES NO  YES

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
3    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
4    YES  YES YES  YES YES NO  YES YES  YES YES NO   NO
5    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
6    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
7    NO   YES YES  YES YES YES YES YES  YES YES NO   NO
8    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
9    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
10   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

```
11   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
12   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
13   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
14   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
15   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
16   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
```

2. Inhibit the terminal you wish to change using the `rmv-trm` command and specify the port you wish to inhibit.

   If the terminal being changed is the last OAP port that is in service, the `force=yes` parameter must be used with the `rmv-trm` command. The OAP ports are shown by the entry `OAP` in the `TYPE` field in the `rtrv-trm` command output in step 1. For this example, enter this command.

   ```
   rmv-trm:trm=1
   ```

   When this command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   Inhibit message sent to terminal

   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   Command Completed.
   ```

3. Verify that the terminal that was inhibited in step 4 is in the OOS-MT-DSBLD state by entering the `rept-stat-trm` command.

   For this command, enter this command.

   ```
   rept-stat-trm:trm=1
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   TRM   PST            SST           AST
   1     OOS-MT-DSBLD   MANUAL        -----
   Command Completed.
   ```

4. Configure the measurements terminal using the `chg-trm` command and making sure that only the `traf` output message group is set to `yes`.

   a) If the output of the `rtrv-trm` command output in step 1 shows that all the output message groups are set to no, then only the `traf=yes` parameter needs to be specified for the output message group assignments as show in this example.

      ```
      chg-trm:trm=1:type=ksr:baud=19200:traf=yes
      ```

   b) If however, the `rtrv-trm` command output shows that output message groups other than `traf` are set to `yes`, the `chg-trm` command must be entered with the `all=no` and the `traf=yes` parameter as shown in this example.

      ```
      chg-trm:trm=1:type=ksr:baud=19200:traf=yes:all=no
      ```

   For this example enter the command shown in substep b.

   When the `chg-trm` command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   CHG-TRM: MASP A - COMPLTD
   ```

5. Verify the changes made in step 4 by using the `rtrv-trm` command with the port number specified in step 4.

   For this example, enter this command.

   ```
   rtrv-trm:trm=1
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 36.0.0
   TRM  TYPE    COMM        FC    TMOUT MXINV DURAL
   1    KSR     19200-7-E-1 SW    30    5     00:01:00

   TRM  TRAF LINK SA  SYS PU  DB  UIMRD
   1    YES  NO   NO  NO  NO  NO  NO

        APP  APP
   TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
   1    NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
   ```

6. When the changes are complete, and if the terminal was inhibited in step 4, activate the terminal using the `rst-trm` command.

   For this example, enter this command.

   ```
   rst-trm:trm=1
   ```

   When this command has successfully completed, this message should appear.

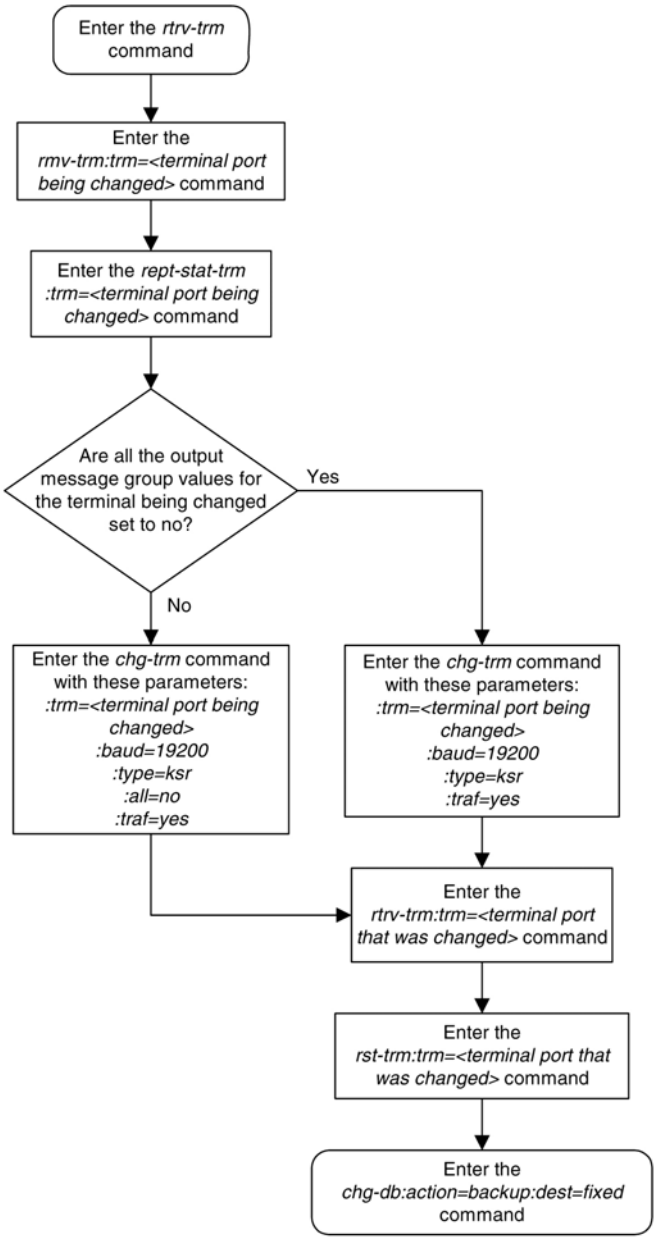
   ```
   rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
   Allow message sent to terminal
   ```

7. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

   ```
   BACKUP (FIXED) : MASP A - Backup starts on active MASP.
   BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
   BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
   BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
   ```

Figure 52: Configuring the Measurements Terminal for an EAGLE 5 ISS Containing 700 Signaling Links



Adding an MCPM

This procedure is used to add an Measurement Collection & Polling Module), used for the Measurements Platform feature, to the database using the `ent-card` command. The MCPM provides an interface between the EAGLE 5 ISS and the customer's network. The Measurements Platform provides a dedicated processor for collecting and transferring measurements data to a customer supplied FTP server. MCPM (

The `ent-card` command uses these parameters.

`:loc` – The location of the card being added to the database.

`:type` – The type of card being added to the database. For this procedure, the value of this parameter is `mcpm`.

`:appl` – The application software that is assigned to the card. For this procedure, the value of this parameter is `mcp`.

`:force` – Allow the LIM to be added to the database even if there are not enough service modules to support the number of LIMs in the EAGLE 5 ISS. This parameter does not apply to configuring MCPMs and should not be used.

The Measurements Platform feature requires a minimum of 2 MCPM cards (part number 870-2372-03 or later) with at least 2 GB of memory per card.

The Measurements Platform feature must be on in order to add an MCPM to the database. This can be verified with the `rtrv-feat` command. To enable the Measurements Platform feature, the `measplat=on` parameter must be specified with the `chg-feat` command.

Note: The Measurements Platform feature must be purchased before turning on the feature. If you are not sure whether you have purchased the Measurements Platform feature, contact your Tekelec Sales Representative or Account Representative.

The shelf to which the card is to be added, must already be in the database. This can be verified with the `rtrv-shlf` command. If the shelf is not in the database, see the *Adding a Shelf* on page 385 procedure.

After all required MCPMs have been configured in the database, go to the*Configuring the Measurements Platform Feature* on page 424 procedure and configure the IP links for these MCPMs and enable the Measurement Platform feature, if necessary.

The examples in this procedure are used to add an MCPM in card location 2107.

1. Verify that the MCPM (part number 870-2372-03 or later) being added to the database has been physically installed into the proper location.
2. Connect the Ethernet cables from the customer's network to Port A of the MCPM.
3. Display the cards in the database using the `rtrv-card` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   TSM       SCCP
1102   TSM       GLS
1103   DCM       VXWSLAN
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2           A    0   sp1           B    0
1202   LIMDS0    SS7ANSI   sp2           A    1   nsp3          B    0
1203   LIMDS0    SS7ANSI   sp3           A    0
1204   LIMDS0    SS7ANSI   sp3           A    1
1205   LIMOCU    CCS7ITU   itu1          A    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    0
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1212   TSM       SCCP
1214   TSM       GLS
```

```
1215   DCM       VXWSLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1303   STC       EROUTE
1305   DCM       VXWSLAN
1308   LIMDS0    SS7ANSI   sp6           A    0   sp7           B    0
1311   LIMDS0    SS7ANSI   sp2           A    2   sp1           B    1
                           sp7           A1   1   sp3           B1   2
1315   LIMDS0    SS7ANSI   sp7           A    2   sp5           B    0
1318   LIMATM    ATMANSI   lsnatm1       A    1
2101   STC       EROUTE
2103   STC       EROUTE
2105   STC       EROUTE
```

The cards should be distributed throughout the EAGLE 5 ISS for proper power distribution. Refer to the *Installation Manual - EAGLE 5 ISS* for the shelf power distribution.

Note: If the `rtrv-card` output from step 3 shows an MCPM card, shown by the entries `MCPM` in the `TYPE` column and `MCP` in the `APPL` column, skip steps 4 and 5, and go to step 6.

4. Verify that the Measurements Platform feature is enabled by entering the `rtrv-feat` command.

   If the Measurements Platform feature is on, the `MEASPLAT` field should be set to `on`. For this example, the Measurements Platform feature is off.

   Note: The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, see the `rtrv-feat` command description in the *Commands Manual*.

   Note: If the Measurements Platform feature is on, skip step 5, and go to step 6.

5. Turn the Measurements Platform feature on by entering this command.

   ```
   chg-feat:measplat=on
   ```

   Note: Once the Measurements Platform feature is turned on with the `chg-feat` command, it cannot be turned off.

   The Measurements Platform feature must be purchased before turning on the feature. If you are not sure whether you have purchased the Measurements Platform feature, contact your Tekelec Sales Representative or Account Representative.

   When the `chg-feat` has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 21:18:37 GMT EAGLE5 36.0.0
   CHG-FEAT: MASP A - COMPLTD
   ```

6. Add the MCPM using the `ent-card` command.

   For this example, enter this commands.

   ```
   ent-card:loc=2107:type=mcpm:appl=mcp
   ```

   When each of these commands have successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
   ENT-CARD: MASP A - COMPLTD
   ```

7. Verify the changes using the `rtrv-card` command with the card location specified in step 6.

   For this example, enter this command.

   ```
   rtrv-card:loc=2107
   ```

This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
2107   MCPM      MCP
```

8. Back up the new changes using the `chg-db:action=backup:dest=fixed`command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

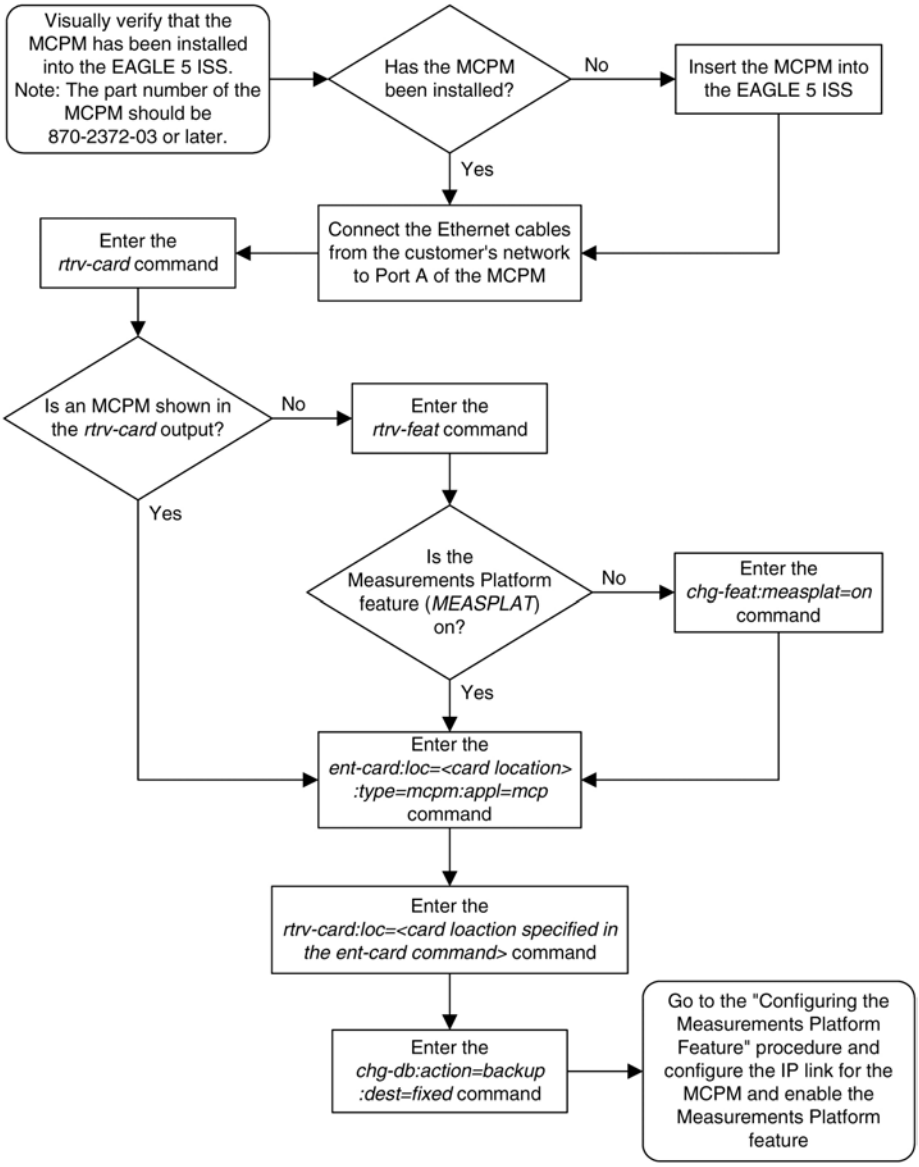
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

9. Go to the *Configuring the Measurements Platform Feature* on page 424 procedure and configure the IP links for these MCPMs and enable the Measurement Platform feature, if necessary.

Figure 53: Adding an MCPM

Note:

Before executing this procedure, make sure you have purchased the Measurements Platform feature. If you are not sure whether you have purchased the Measurements Platform feature, contact your Tekelec Sales Representative or Account Representative.



Removing an MCPM

This procedure is used to remove an MCPM (Measurement Collection & Polling Module) from the database using the `dlt-card` command.

CAUTION: If the MCPM is the last MCPM in service, removing this card from the database will disable the Measurements Platform feature.

The examples in this procedure are used to remove the MCPM in card location 2107.

Canceling the REPT-STAT-CARD Command

Because the `rept-stat-card` command used in this procedure can output information for a long period of time, the `rept-stat-card` command can be canceled and the output to the terminal stopped. There are three ways that the `rept-stat-card` command can be canceled.

- Press the `F9` function key on the keyboard at the terminal where the `rept-stat-card` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rept-stat-card` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rept-stat-card` command was entered, from another terminal other that the terminal where the `rept-stat-card` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, go to the *Commands Manual*.

1. Display the cards in the database using the `rtrv-card` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   TSM       SCCP
1102   TSM       GLS
1103   DCM       VXWSLAN
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2           A    0   sp1           B    0
1202   LIMDS0    SS7ANSI   sp2           A    1   nsp3          B    0
1203   LIMDS0    SS7ANSI   sp3           A    0
1204   LIMDS0    SS7ANSI   sp3           A    1
1205   LIMOCU    CCS7ITU   itu1          A    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    0
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1212   TSM       SCCP
1214   TSM       GLS
1215   DCM       VXWSLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1303   STC       EROUTE
1305   DCM       VXWSLAN
1308   LIMDS0    SS7ANSI   sp6           A    0   sp7           B    0
1311   LIMDS0    SS7ANSI   sp2           A    2   sp1           B    1
                           sp7           A1   1   sp3           B1   2
1315   LIMDS0    SS7ANSI   sp7           A    2   sp5           B    0
1318   LIMATM    ATMANSI   lsnatm1       A    1
2101   STC       EROUTE
2103   STC       EROUTE
2105   STC       EROUTE
2107   MCPM      MCP
```

```
2108   MCPM      MCP
2111   MCPM      MCP
```

An MCPM is identified by the entries `MCPM` in the `TYPE` field and `MCP` in the `APPL` field.

2. Display the status of the MCPMs in the database with the `rept-stat-meas` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:43:42 GMT  EAGLE5 36.0.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
        ALARM STATUS =   No Alarms
    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                    IS-NR         Active     Available
    2108   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                    IS-NR         Active     Available
    2111   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                    IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

3. Inhibit the MCPM using the `rmv-card` command, specifying the card location of the MCPM.

   If the MCPM to be inhibited is the last MCPM that is in service, the `force=yes` parameter must also be specified. For this example, enter this command.

   `rmv-card:loc=2107`

   When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
Card has been inhibited.
```

4. Remove the card using the `dlt-card` command.

   The `dlt-card` command has only one parameter, `loc`, which is the location of the card. For this example, enter these commands.

   `dlt-card:loc=2107`

   When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
DLT-CARD: MASP A - COMPLTD
```

5. Verify the changes using the `rtrv-card` command specifying the card that was removed in step 4.

   For this example, enter these commands.

   `rtrv-card:loc=2107`

   When this command has successfully completed, this message should appear.

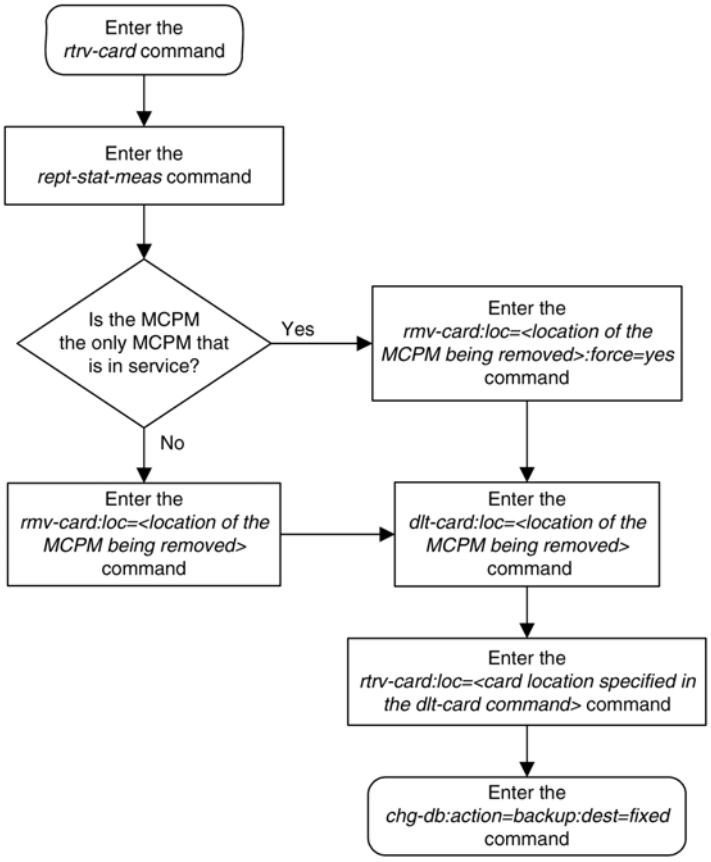
```
E2144 Cmd Rej: Location invalid for hardware configuration
```

6. Back up the new changes using the `chg-db:action=backup:dest=fixed`command.

These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 54: Removing an MCPM



Configuring the Measurements Platform Feature

This procedure is used to configure IP communications link between the EAGLE 5 ISS and the customer's network, and to enable the Measurements Platform on the EAGLE 5 ISS using these commands:

- `ent-ip-host` – Configuring the IP host of the MCPM
- `chg-ip-card` – Configuring the IP address of the MCPM
- `chg-ip-lnk` – Configuring the IP link assigned to the MCPM
- `chg-measopts` – Enabling the Measurements Platform option

These commands contain parameters that are not used in this procedure. The *Commands Manual* contains a full description of these commands.

The Measurements Platform also requires 2 FTP servers. The FTP servers are configured in the database with one of these procedures.

- *Adding an FTP Server* on page 433
- *Changing an FTP Server* on page 441

MCPMs must be configured in the database before this procedure can be performed. This can be verified with the `rtrv-card` command.

If a Class B IP address is specified for the `ipaddr` parameter of the `chg-ip-lnk` command, the subnet address that results from the `ipaddr` and `submask` parameter values cannot be the same as the subnet address that results from the `pvn` and `pvnmask` parameter values of the `chg-netopts` command. The `pvn` and `pvnmask` parameter values can be verified by entering the `rtrv-netopts` command. Choose `ipaddr` and `submask` parameter values for the IP link to the MCPM whose resulting subnet address is not be the same as the subnet address that resulting from the `pvn` and `pvnmask` parameter values of the `chg-netopts` command.

1. Display the cards in the database using the `rtrv-card` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   TSM       SCCP
1102   TSM       GLS
1103   DCM       VXWSLAN
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2           A    0   sp1           B    0
1202   LIMDS0    SS7ANSI   sp2           A    1   nsp3          B    0
1203   LIMDS0    SS7ANSI   sp3           A    0
1204   LIMDS0    SS7ANSI   sp3           A    1
1205   LIMOCU    CCS7ITU   itu1          A    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    0
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1212   TSM       SCCP
1214   TSM       GLS
1215   DCM       VXWSLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1303   STC       EROUTE
1305   DCM       VXWSLAN
1308   LIMDS0    SS7ANSI   sp6           A    0   sp7           B    0
1311   LIMDS0    SS7ANSI   sp2           A    2   sp1           B    1
                           sp7           A1   1   sp3           B1   2
1315   LIMDS0    SS7ANSI   sp7           A    2   sp5           B    0
1318   LIMATM    ATMANSI   lsnatm1       A    1
2101   STC       EROUTE
2103   STC       EROUTE
2105   STC       EROUTE
2107   MCPM      MCP
```

```
2108   MCPM      MCP
2111   MCPM      MCP
```

If no MCPMs are configured in the database, identified by the entries `MCPM` in the `TYPE` field and `MCP` in the `APPL` field, go to the *Adding an MCPM* on page 417 procedure and configure the required MCPMs.

2. Display the status of the MCPMs in the database with the `rept-stat-meas` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:43:42 GMT  EAGLE5 36.0.0

                      PST           SST       AST
MEAS SS               IS-NR         Active    -----
        ALARM STATUS =   No Alarms
    CARD   VERSION         TYPE    PST           SST        AST
    2107   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                    IS-NR         Active     Available
    2108 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                    IS-NR         Active     Available
    2111   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                    IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

   Note: If the status of the MCPM that the IP Link is being assigned to is OOS-MT DSBLD, skip step 3 and go to step 4.

3. Inhibit the MCPM using the `rmv-card` command, `specifying the card location of the MCPM`.

   If the MCPM to be inhibited is the last MCPM that is in service, the `force=yes` parameter must also be specified. For this example, enter this command.

   `rmv-card:loc=2107`

   When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
Card has been inhibited.
```

4. Display the current TCP/IP parameters associated with card in the database by entering the `rtrv-ip-card` command.

   The following is an example of the possible output.

```
rlghncxa03w 08-06-01 09:12:36 GMT  EAGLE5 39.0.0
   LOC 2107
     SRCHORDR  SRVR
     DNSA      ---------------
     DNSB      ---------------
     DEFROUTER ---------------
     DOMAIN    ---------------
     BPIPADDR  ---------------
     BPSUBMASK ---------------
   LOC 2108
     SRCHORDR  LOCAL
     DNSA      150.1.1.2
     DNSB      ---------------
```

```
    DEFROUTER 150.1.1.25
    DOMAIN    NC.TEKELEC.COM
    BPIPADDR  -- -------------
    BPSUBMASK ---------------
  LOC 2111
    SRCHORDR  LOCAL
    DNSA      150.1.1.3
    DNSB      ---------------
    DEFROUTER 150.1.1.28
    DOMAIN    NC.TEKELEC.COM
    BPIPADDR  ---------------
    BPSUBMASK ---------------
```

5. Assign a default router to the MCPM using the `chg-ip-card` command with these parameters: `loc`, `srchordr`, `domain`, and `defrouter`.

   For this example, enter this command.

   ```
   chg-ip-card:loc=2107:srchordr=local:domain=nc.tekelec.com
   :defrouter=150.1.1.50
   ```

   When this command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 21:20:37 GMT EAGLE5 36.0.0
   CHG-IP-CARD:   MASP A - COMPLTD
   ```

   Note: If a Class A or C IP address will be specified for the `ipaddr` parameter in step 8, skip step 6, and go to step 7.

6. The subnet address that results from the `ipaddr` and `submask` parameter values of the `chg-ip-lnk` command cannot be the same as the subnet address that results from the `pvn` and `pvnmask` parameter values of the `chg-netopts` command.

   Display the `pvn` and `pvnmask` parameter values of the `chg-netopts` command by entering the `rtrv-netopts`command.

   If error message `E3967 Cmd Rej: E5IS must be on` is displayed after the `rtrv-netopts` command is executed, the `pvn` and `pvnmask` parameters are not configured. Go to step 7.

   This is an example of the possible output if the E5IS feature is on.

   ```
   rlghncxa03w 06-10-28 21:17:37 GMT EAGLE5 36.0.0
   NETWORK OPTIONS
   ------------------
   PVN     = 128.20.30.40
   PVNMASK = 255.255.192.0
   ```

   Choose `ipaddr` and `submask` parameter values for the IP link to the MCPM whose resulting subnet address is not be the same as the subnet address that resulting from the `pvn` and `pvnmask` parameter values of the `chg-netopts` command. Go to step 7.

7. Display the IP link assignments using the `rtrv-ip-lnk` command.

   The following is an example of the possible output.

   ```
   rlghncxa03w 08-12-01 21:20:37 GMT EAGLE5 40.0.0
   LOC   PORT IPADDR           SUBMASK        DUPLEX SPEED MACTYPE AUTO MCAST
   2107  A    --------------- --------------- HALF   10    DIX     NO   NO
   2107  B    --------------- --------------- HALF   10    DIX     NO   NO
   2108  A    150.123.123.123  255.255.255.0  HALF   100   DIX     NO   YES
   2108  B    --------------- --------------- HALF   10    DIX     NO   NO
   2111  A    150.123.123.125  255.255.255.0  HALF   100   DIX     NO   YES
   ```

```
2111  B    --------------- --------------- HALF   10    DIX     NO   NO

IP-LNK   table is (6 of 2048) 1% full.
```

8. Assign an IP link to the MCPM using the `chg-ip-lnk` command with these parameters: `loc`, `port=a`, `ipaddr`, `submask`, `speed=100`, `mcast=yes`.

   For this example, enter this command.

   ```
   chg-ip-lnk:loc=2107:port=a:ipaddr=150.1.1.1
   :submask=255.255.255.0:speed=100:mcast=yes
   ```

   When this command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 21:20:37 GMT EAGLE5 36.0.0
   CHG-IP-LNK:   MASP A - COMPLTD
   ```

9. Display the current IP host information in the database by entering the `rtrv-ip-host` command.

   The following is an example of the possible output.

   ```
   rlghncxa03w 08-12-01 09:12:36 GMT EAGLE5 40.0.0
   LOCAL IPADDR    LOCAL HOST
   150.1.1.2       GW102.NC.TEKELEC.COM
   150.1.1.3       GW103.NC.TEKELEC.COM

   REMOTE IPADDR   REMOTE HOST
   150.1.1.5       NCDEPTECONOMIC_DEVELOPMENT.SOUTHEASTERN_COORIDOR_ASHVL.GOV

   IP Host table is  (3 of 2048) 1% full
   ```

10. Assign an IP host to the MCPM using the `ent-ip-host` command.

    For this example, enter this command.

    ```
    ent-ip-host:host=gw100.nc.tekelec.com:ipaddr=150.1.1.1
    ```

    When this command has successfully completed, the following message should appear.

    ```
    rlghncxa03w 06-10-01 21:18:37 GMT EAGLE5 36.0.0
    ENT-IP-HOST: MASP A - COMPLTD
    ```

11. Place the MCPM back into service using the `rst-card` specifying the location of the MCPM.

    For this example, enter this command.

    ```
    rst-card:loc=2107
    ```

    When this command has successfully completed, this message should appear.

    ```
    rlghncxa03w 06-10-01 21:20:37 GMT EAGLE5 36.0.0
    Card has been allowed.
    ```

12. Verify the status of the MCPM using the `rept-stat-meas` command, specifying the location of the MCPM.

    For this example, enter this command.

```
rept-stat-meas:loc=2107
```

```
rlghncxa03w 06-10-01 16:43:42 GMT  EAGLE5 36.0.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
       ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
```

13. Display the FTP Server configuration using the `rtrv-ftp-serv` command.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
FTP Client Security: OFF

APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
meas      1.255.0.100      ftpmeas3         3
   Path:  ~meas\local
meas      1.255.0.101      ftpmeas2         2
   Path:  mp\measurements\backup\dat

FTP SERV table is (2 of 10) 20% full
```

The EAGLE 5 ISS allows only two FTP servers for the Measurements Platform. If no FTP servers, or one FTP server is in the database, go to the *Adding an FTP Server* on page 433 procedure and add the required FTP server. If there are two FTP servers in the database, and you wish to change one or both of these FTP servers, go to the *Changing an FTP Server* on page 441 procedure.

14. Verify whether or nor the Measurements Platform option is enabled (`PLATFORMENABLE = on`) using the `rtrv-measopts` command.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
PLATFORMENABLE   = on
COLLECT15MIN     = off
CLLIBASEDNAME    = off
----------------------
SYSTOTSTP        = off
SYSTOTTT         = off
```

Note: The `rtrv-measopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-measopts` command, see the `rtrv-measopts` command description in the *Commands Manual*.

Note: If the Measurements Platform option in step 14 is enabled, skip this step and go to step 16.

15. Enable the Measurements Platform option using the `chg-measopts` command with the `platformenable` parameter.

    For this example, enter this command.

    ```
    chg-measopts:platformenable=on
    ```

When the `chg-measopts` command has successfully completed, this message should appear.

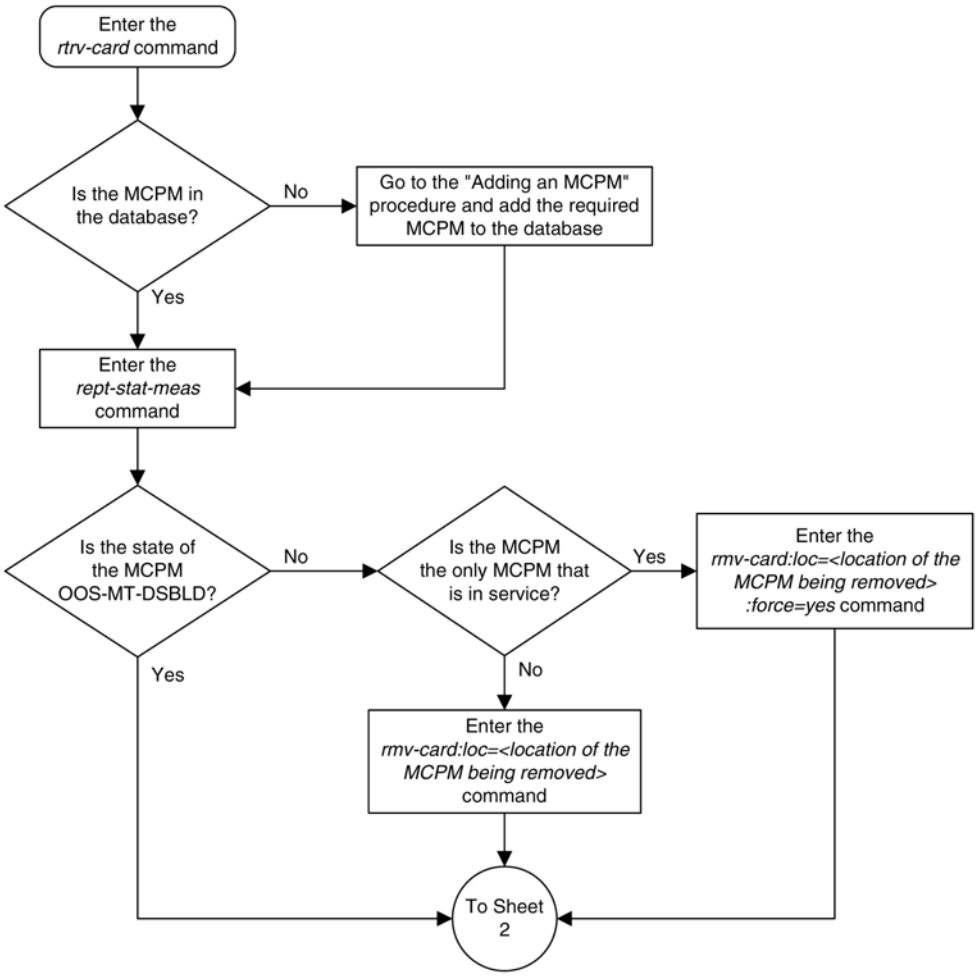
```
rlghncxa03w 06-10-01 00:22:57 GMT  EAGLE5 36.0.0
CHG-MEAS-OPTS: MASP A - COMPLTD
```

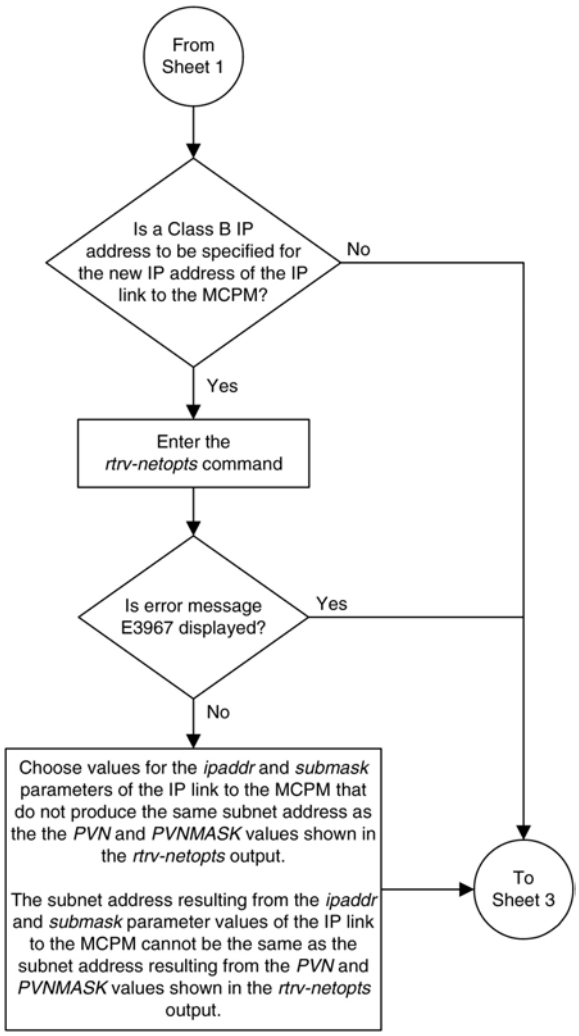
16. Back up the new changes using the `chg-db:action=backup:dest=fixed`command.

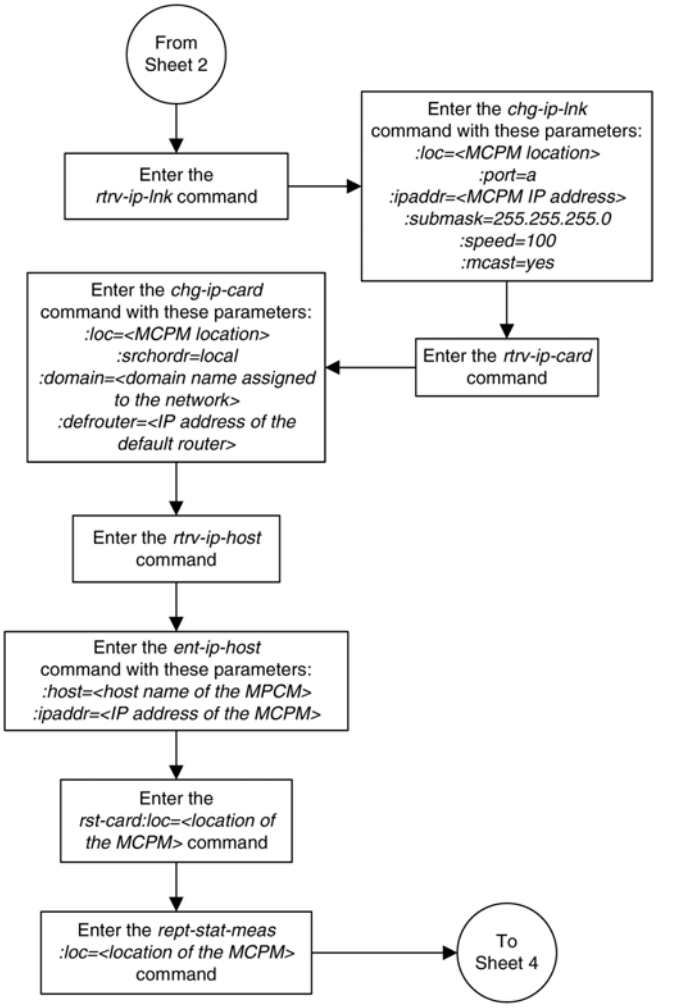
    These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

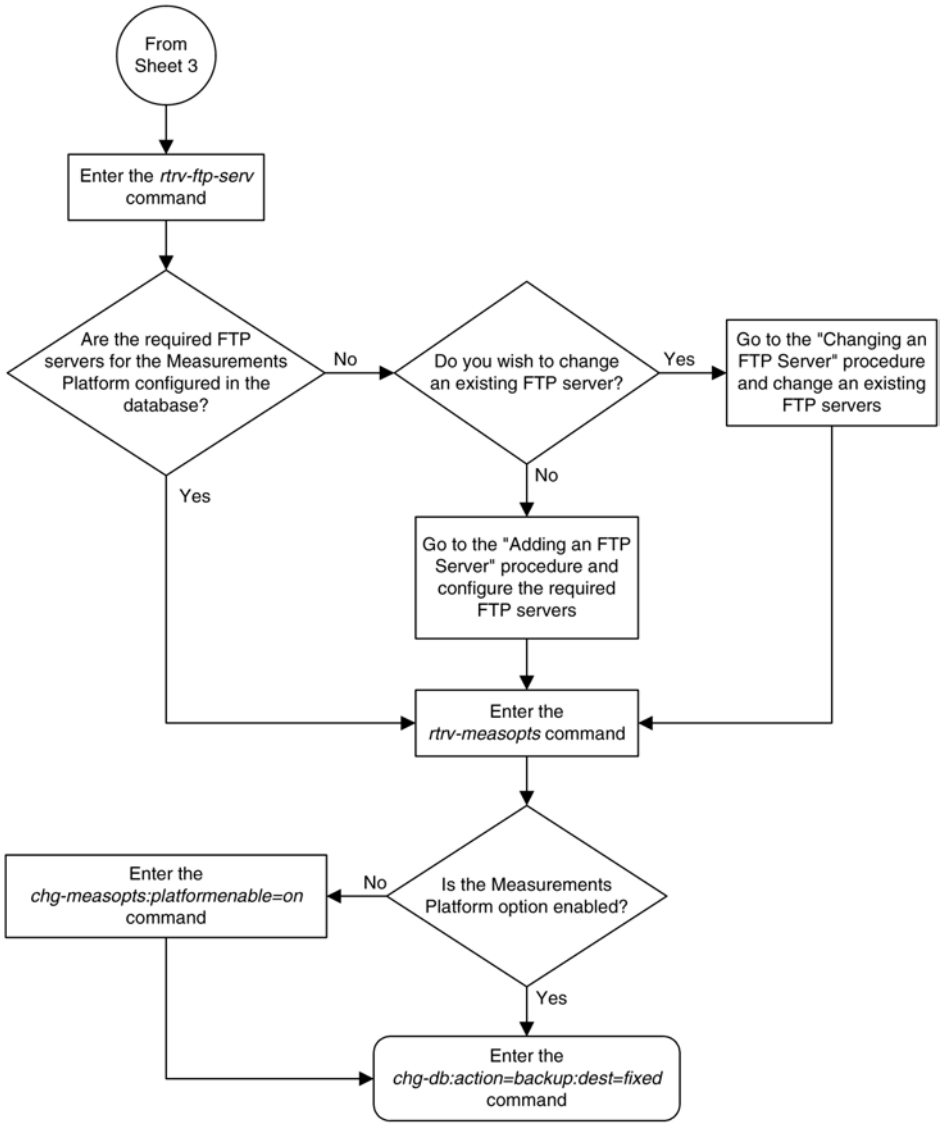
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 55: Configuring the Measurements Platform Feature




From Sheet 1
Is a Class B IP address to be specified for the new IP address of the IP link to the MCPM?
No
Yes
Enter the *rtrv-netopts* command
Is error message E3967 displayed?
Yes
No
Choose values for the *ipaddr* and *submask* parameters of the IP link to the MCPM that do not produce the same subnet address as the the *PVN* and *PVNMASK* values shown in the *rtrv-netopts* output.
The subnet address resulting from the *ipaddr* and *submask* parameter values of the IP link to the MCPM cannot be the same as the subnet address resulting from the *PVN* and *PVNMASK* values shown in the *rtrv-netopts* output.
To Sheet 3


From Sheet 2
Enter the rtrv-ip-lnk command
Enter the chg-ip-lnk command with these parameters:
:loc=<MCPM location>
:port=a
:ipaddr=<MCPM IP address>
:submask=255.255.255.0
:speed=100
:mcast=yes
Enter the rtrv-ip-card command
Enter the chg-ip-card command with these parameters:
:loc=<MCPM location>
:srchordr=local
:domain=<domain name assigned to the network>
:defrouter=<IP address of the default router>
Enter the rtrv-ip-host command
Enter the ent-ip-host command with these parameters:
:host=<host name of the MPCM>
:ipaddr=<IP address of the MCPM>
Enter the rst-card:loc=<location of the MCPM> command
Enter the rept-stat-meas :loc=<location of the MCPM> command
To Sheet 4



Adding an FTP Server

This procedure is used to add FTP servers using the `ent-ftp-serv` command.

The `ent-ftp-serv` command uses these parameters.

`:app` – The application of the FTP server. There are four values for the `app` parameter:

- `meas` – The FTP servers for the Measurements Platform. A maximum of three FTP servers can be configured for this application.
- `db` - The FTP server for the database backup/restore application. Only one FTP server can be configured for this application.

- `dist` - the FTP server for the EAGLE 5 ISS software release distribution application. Only one FTP server can be configured for this application.
- `user` – The FTP servers for the FTP Retrieve and Replace feature.A maximum of two FTP servers can be configured for this application.

CAUTION: While this procedure can be used to add a USER FTP server, any USER FTP servers entered by this procedure will be overwritten by the FTP server configuration information sent to the EAGLE 5 ISS by the FTP-Based Table Retrieve Application (FTRA).

`:ipaddr` – The IP address of the FTP server.

`:login` – The name of the FTP server client.

`:path` – The path to the file on the EAGLE 5 ISS that is to be sent to the FTP server.

`:prio` – The priority of the FTP server, from 1 to 10.

The `app/ipaddr` parameter combination must be unique in the database.

The `login` parameter value can contain from 1 to 15 alpha-numeric characters. The alphabetic characters can be both upper and lower case characters.

The `path` parameter value is a mixed-case quoted character string with a valid FTP path format that can contain up to 100 characters.

After the FTP server is added to the database with the `ent-ftp-serv` command, the user is prompted for a password for this FTP server. The password can contain from 1 to 15 alpha-numeric characters. The alphabetic characters must be both upper and lower case characters. The password is not shown on the terminal screen as it is being entered and is not shown in the `rtrv-ftp-serv` output.

If the Eagle OA&M IP Security Enhancement Controlled Feature is enabled and activated, the FTP servers configured in this procedure must be secure FTP servers. The FTP-Based Table Retrieve Application (FTRA) and the Measurements Platform must support secure shell connections to the EAGLE 5 ISS. Enter the `rtrv-ctrl-feat` command to verify whether or not the Eagle OA&M IP Security Enhancement Controlled Feature is enabled and activated.

Because CSV measurement data files do not have unique names across multiple STPs, include the CLLI of the STP in the FTP server path for `meas` FTP servers.

1. Display the FTP servers in the database using the `rtrv-ftp-serv` command by entering this command..

   ```
   rtrv-ftp-serv:mode=full
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 08-09-01 09:12:36 GMT EAGLE5 39.2.0
   FTP Client Security: ON

   APP       IPADDR           LOGIN            PRIO
   --------  ---------------  ---------------  ----
   meas      1.255.0.100      ftpmeas3         3
      Path:  ~meas\local

   FTP SERV table is (1  of 10)  10% full
   ```

2. Add the FTP server to the database using the `ent-ftp-serv` command.

For this example, enter these commands.

```
ent-ftp-serv:app=meas:ipaddr=1.255.0.101:login=ftpmeas2:prio=2
:path="\tmp\measurements\backup\dat"

ent-ftp-serv:app=user:ipaddr=1.255.0.100:login=ftpuser1:prio=3
:path="\tmp\user"

ent-ftp-serv:app=user:ipaddr=1.255.0.102:login=ftpuser5:prio=7
:path="\tmp\backup\user"

ent-ftp-serv:app=db:ipaddr=10.20.50.102:login=dbuser1:prio=1
:path="~/eagle"

ent-ftp-serv:app=dist:ipaddr=100.200.50.102:login=dbuser1:prio=1
:path="~/eagle"
```

CAUTION: While this procedure can be used to add a USER FTP server, any USER FTP servers entered by this procedure will be overwritten by the FTP server configuration information sent to the EAGLE 5 ISS by the FTP-Based Table Retrieve Application (FTRA).

When each of these commands has successfully completed, the following message should appear.

```
    rlghncxa03w 08-09-01 21:18:37 GMT EAGLE5 39.2.0
Enter Password :
    FTP SERV table is (4 of 10) 40% full
    ENT-FTP-SERV: MASP A - COMPLTD
```

```
rlghncxa03w 06-10-01 21:18:37 GMT EAGLE5 36.0.0
FTP SERV table is (4 of 10) 40% full
ENT-FTP-SERV: MASP A - COMPLTD
```

3. Enter a password for the FTP server added in *Step 2* on page 434 at the `PASSWORD:` prompt.

   The password is not shown on the terminal screen as it is entered. The password can contain from 1 to 15 alpha-numeric characters. The alphabetic characters must be both upper and lower case characters.

4. Display the changes by entering this command.

   ```
   rtrv-ftp-serv:mode=full
   ```

   The following is an example of the possible output.

```
rlghncxa03w 08-09-01 09:12:36 GMT EAGLE5 39.2.0
FTP Client Security: ON


APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
db        10.20.50.102     dbuser1          1
   Path:  ~/eagle
dist      100.200.50.102   dbuser1          1
   Path:  ~/eagle
meas      1.255.0.100      ftpmeas3         3
   Path:  ~meas\local
meas      1.255.0.101      ftpmeas2         2
   Path:  \tmp\measurements\backup\dat
```

```
user      1.255.0.100      ftpuser1         3
   Path:  \tmp\user
user      1.255.0.102      ftpuser5         7
   Path:  \tmp\backup\user

FTP SERV table is (6 of 10) 60% full
```

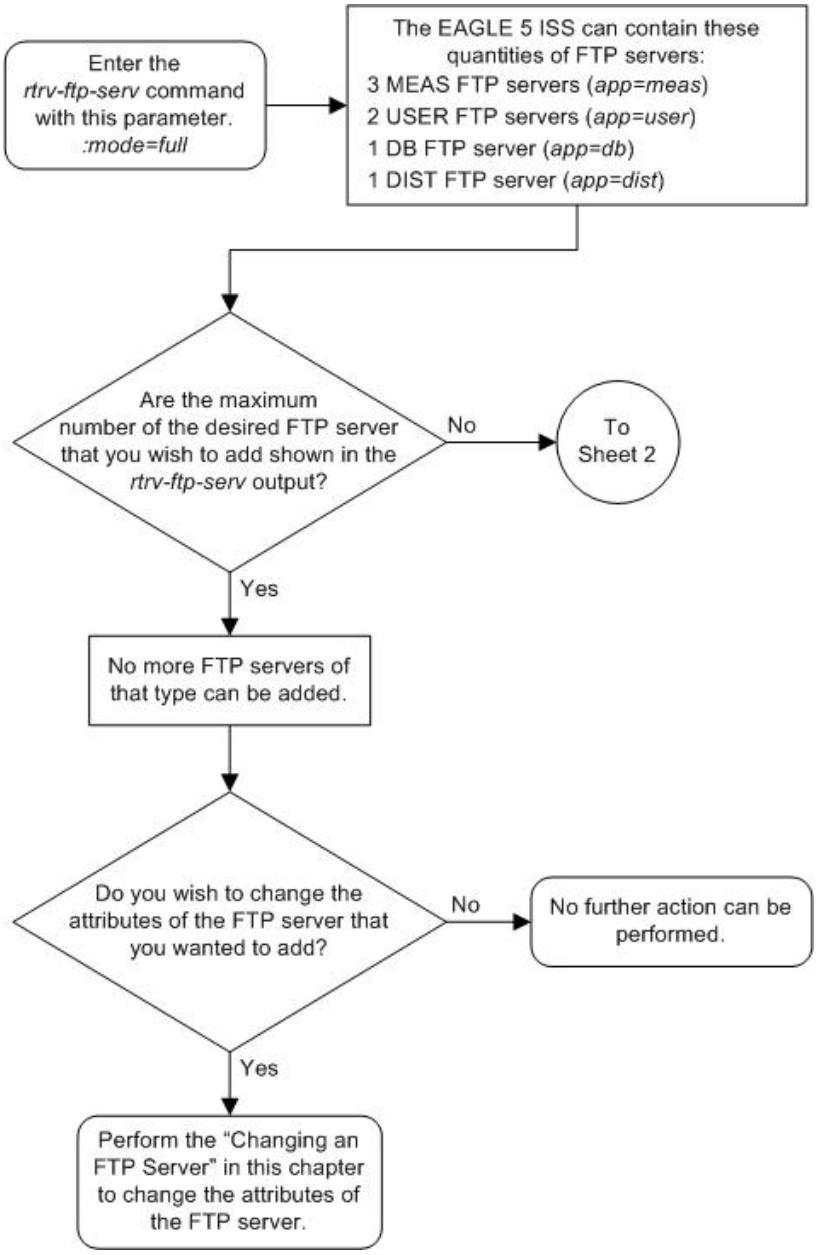
5. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

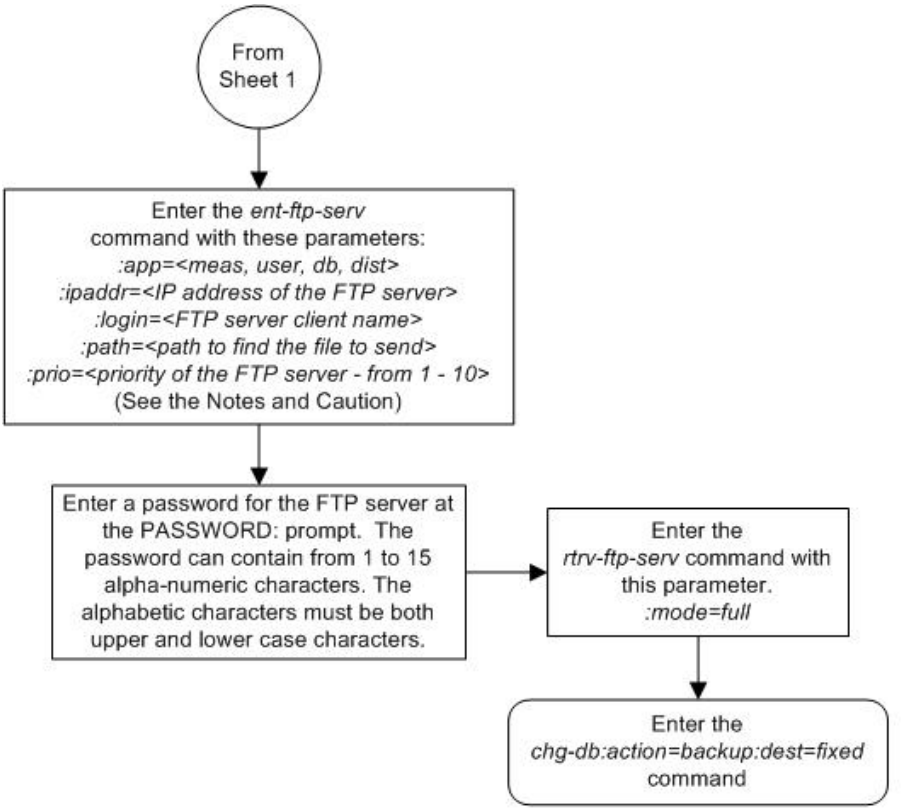
   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first

   .

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 56: Adding an FTP Server


Enter the *rtrv-ftp-serv* command with this parameter. *:mode=full*
The EAGLE 5 ISS can contain these quantities of FTP servers:
3 MEAS FTP servers (*app=meas*)
2 USER FTP servers (*app=user*)
1 DB FTP server (*app=db*)
1 DIST FTP server (*app=dist*)
Are the maximum number of the desired FTP server that you wish to add shown in the *rtrv-ftp-serv* output?
No
To Sheet 2
Yes
No more FTP servers of that type can be added.
Do you wish to change the attributes of the FTP server that you wanted to add?
No
No further action can be performed.
Yes
Perform the "Changing an FTP Server" in this chapter to change the attributes of the FTP server.



Notes:

1. The *login* parameter value can contain from 1 to 15 alpha-numeric characters. The alphabetic characters can be both upper and lower case characters.

2. The *path* parameter value is a mixed-case quoted character string with a valid FTP path format that can contain up to 100 characters.

3. If the Eagle OAM IP Security Enhancement Controlled Feature is enabled and activated, the FTP servers configured in this procedure must be secure FTP servers and secure shell clients must be available. The FTP-Based Table Retrieve Application (FTRA) and the Measurements Platform must support secure shell connections to the EAGLE 5 ISS. Enter the *rtrv-ctrl-feat* command to verify whether or not the Eagle OAM IP Security Enhancement Controlled Feature is enabled and activated.

4. Because CSV measurement data files do not have unique names across multiple STPs, include the CLLI of the STP in the FTP server path for meas FTP servers.

Caution: This procedure can be used to add a USER FTP server, but any USER FTP servers entered by this procedure will be overwritten by the FTP server configuration information sent to the EAGLE 5 ISS by the FTP-Based Table Retrieve Application (FTRA). It is recommended that USER FTP servers be added at the FTRA. For more information on adding USER FTP servers at the FTRA, see the *FTP-Based Table Retrieve Application (FTRA) User Guide*.

Removing an FTP Server

This procedure is used to remove an FTP server from the database using the `dlt-ftp-serv` command.

The `dlt-ftp-serv` command uses these parameters.

`:app` – The application of the FTP server. There are four values for the `app` parameter:

- `meas` – The FTP servers for the Measurements Platform
- `user` – The FTP servers for the FTP Retrieve and Replace feature.
- `db` - The FTP server for the database backup/restore application.
- `dist` - the FTP server for the EAGLE 5 ISS software release distribution application.

`:ipaddr` – The IP address of the FTP server.

CAUTION: Removing all FTP servers for an application will disable the feature supported by the FTP servers.

1. Display the FTP servers in the database by entering this command.

   `rtrv-ftp-serv:mode=full`

   This is an example of the possible output.

```
rlghncxa03w 08-09-01 09:12:36 GMT EAGLE5 39.2.0
FTP Client Security: ON


APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
db        10.20.50.102     dbuser1          1
   Path:  ~/eagle
dist      100.200.50.102   dbuser1          1
   Path:  ~/eagle
meas      1.255.0.100      ftpmeas3         3
   Path:  ~meas\local
meas      1.255.0.101      ftpmeas2         2
   Path:  \tmp\measurements\backup\dat
user      1.255.0.100      ftpuser1         3
   Path:  \tmp\user
user      1.255.0.102      ftpuser5         7
   Path:  \tmp\backup\user

FTP SERV table is (6 of 10) 60% full
```

2. Remove an FTP server from the database using the `dlt-ftp-serv` command.

   For this example, enter this command.

   `dlt-ftp-serv:app=meas:ipaddr=1.255.0.101`

   When this command has successfully completed, the following message should appear.

```
rlghncxa03w 08-09-01 21:18:37 GMT EAGLE5 39.2.0
FTP SERV table is (5 of 10) 50% full
DLT-FTP-SERV: MASP A - COMPLTD
```

3. Display the changes by entering this command.

   `rtrv-ftp-serv:mode=full`

   The following is an example of the possible output.

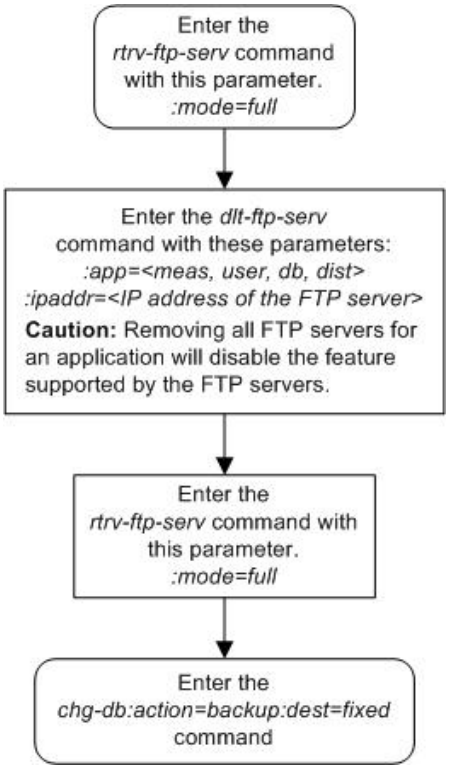
```
rlghncxa03w 08-09-01 09:12:36 GMT EAGLE5 39.2.0
FTP Client Security: ON


APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
db        10.20.50.102     dbuser1          1
   Path:  ~/eagle
dist      100.200.50.102   dbuser1          1
   Path:  ~/eagle
meas      1.255.0.100      ftpmeas3         3
   Path:  ~meas\local
user      1.255.0.100      ftpuser1         3
   Path:  \tmp\user
user      1.255.0.102      ftpuser5         7
   Path:  \tmp\backup\user

FTP SERV table is (5 of 10) 50% full
```

4. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 57: Removing an FTP Server



Changing an FTP Server

This procedure is used to change the values assigned to an FTP server using the `chg-ftp-serv` command.

The `chg-ftp-serv` command uses these parameters.

`:app` – The application of the FTP server. There are four values for the `app` parameter:

- `meas` – The FTP servers for the Measurements Platform
- `db` - The FTP server for the database backup/restore application.
- `dist` - the FTP server for the EAGLE 5 ISS software release distribution application.
- `user` – The FTP servers for the FTP Retrieve and Replace feature.

CAUTION

CAUTION: While this procedure can be used to change a USER FTP server configuration, any USER FTP server configurations changed by this procedure will be overwritten by the FTP server configuration information sent to the EAGLE 5 ISS by the FTP-Based Table Retrieve Application (FTRA).

`:ipaddr` – The IP address of the FTP server.

`:login` – The name of the FTP server client.

`:path` – The path to the file on the EAGLE 5 ISS that is to be sent to the FTP server.

`:prio` – The priority of the FTP server, from 1 to 10.

The app and ipaddr parameters must be specified with the chg-ftp-serv command. The IP address of the FTP server cannot be changed with the chg-ftp-serv command. If you wish to change the IP address of the FTP server, the FTP server must first be removed with the *Removing an FTP Server* on page 439 procedure, then re-entered with the new IP address using the *Adding an FTP Server* on page 433 procedure.

The login parameter value can contain from 1 to 15 alpha-numeric characters. The alphabetic characters can be both upper and lower case characters.

The path parameter value is a mixed-case quoted character string with a valid FTP path format that can contain up to 100 characters.

If the login parameter value is changed, the user is prompted for a password for this FTP server. The password can contain from 1 to 15 alpha-numeric characters. The alphabetic characters must be both upper and lower case characters. The password is not shown on the terminal screen as it is being entered and is not shown in the rtrv-ftp-serv output.

If the Eagle OA&M IP Security Enhancement Controlled Feature is enabled and activated, the FTP servers configured in this procedure must be secure FTP servers. The FTP-Based Table Retrieve Application (FTRA) and the Measurements Platform must support secure shell connections to the EAGLE 5 ISS. Enter the rtrv-ctrl-feat command to verify whether or not the Eagle OA&M IP Security Enhancement Controlled Feature is enabled and activated.

Because CSV measurement data files do not have unique names across multiple STPs, include the CLLI of the STP in the FTP server path for meas FTP servers.

1. Display the FTP servers in the database by entering this command.

   ```
   rtrv-ftp-serv:mode=full
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 08-09-01 09:12:36 GMT EAGLE5 39.2.0
   FTP Client Security: ON


   APP       IPADDR           LOGIN            PRIO
   --------  ---------------  ---------------  ----
   db        10.20.50.102     dbuser1          1
      Path:  ~/eagle
   dist      100.200.50.102   dbuser1          1
      Path:  ~/eagle
   meas      1.255.0.100      ftpmeas3         3
      Path:  ~meas\local
   meas      1.255.0.101      ftpmeas2         2
      Path:  \tmp\measurements\backup\dat
   user      1.255.0.100      ftpuser1         3
      Path:  \tmp\user
   user      1.255.0.102      ftpuser5         7
      Path:  \tmp\backup\user

   FTP SERV table is (6 of 10) 60% full
   ```

2. Change the FTP server to the database using the chg-ftp-serv command.

   For this example, enter this command.

   ```
   chg-ftp-serv:app=meas:ipaddr=1.255.0.101:login=meas25:prio=1
   ```

When this command has successfully completed, the following message should appear.

```
    rlghncxa03w 08-09-01 21:18:37 GMT EAGLE5 39.2.0
Enter Password :
    CHG-FTP-SERV: MASP A - COMPLTD
```

Note: If the `login` parameter was not specified in this step, continue the procedure with *Step 4* on page 443.

3. Enter a password for the FTP server changed in *Step 2* on page 442 at the `PASSWORD:` prompt.

   The password is not shown on the terminal screen as it is entered. The password can contain from 1 to 15 alpha-numeric characters. The alphabetic characters must be both upper and lower case characters.

4. Display the changes by entering this command.

   `rtrv-ftp-serv:mode=full`

   The following is an example of the possible output.

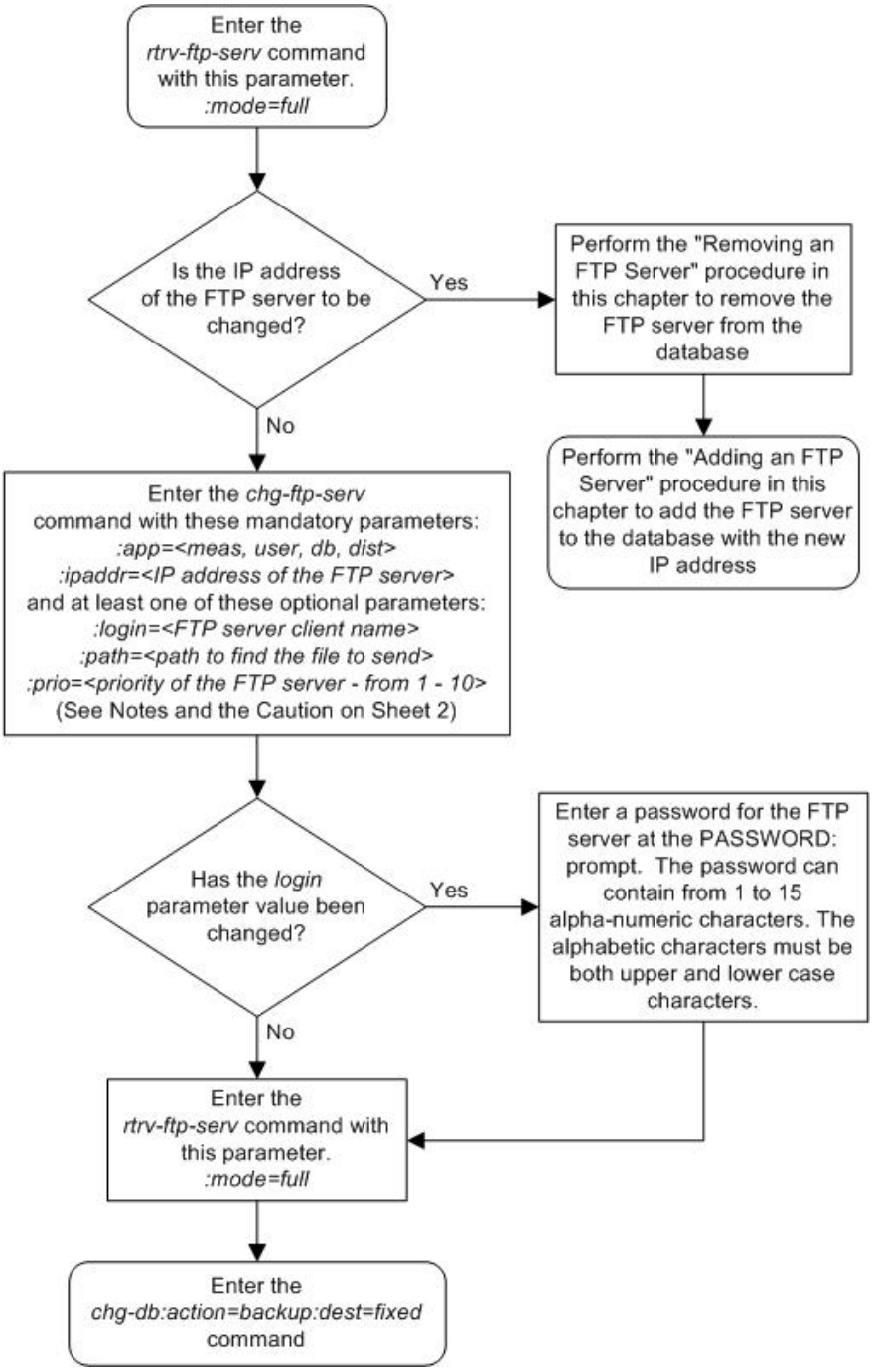
```
rlghncxa03w 08-09-01 09:12:36 GMT EAGLE5 39.2.0
FTP Client Security: ON


APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
db        10.20.50.102     dbuser1          1
   Path:  ~/eagle
dist      100.200.50.102   dbuser1          1
   Path:  ~/eagle
meas      1.255.0.100      ftpmeas3         3
   Path:  ~meas\local
meas      1.255.0.101      meas25           1
   Path:  \tmp\measurements\backup\dat
user      1.255.0.100      ftpuser1         3
   Path:  \tmp\user
user      1.255.0.102      ftpuser5         7
   Path:  \tmp\backup\user

FTP SERV table is (6 of 10) 60% full
```

5. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 58: Changing an FTP Server


Enter the rtrv-ftp-serv command with this parameter. :mode=full
Is the IP address of the FTP server to be changed?
Yes
Perform the "Removing an FTP Server" procedure in this chapter to remove the FTP server from the database
No
Perform the "Adding an FTP Server" procedure in this chapter to add the FTP server to the database with the new IP address
Enter the chg-ftp-serv command with these mandatory parameters: :app=<meas, user, db, dist> :ipaddr=<IP address of the FTP server> and at least one of these optional parameters: :login=<FTP server client name> :path=<path to find the file to send> :prio=<priority of the FTP server - from 1 - 10> (See Notes and the Caution on Sheet 2)
Has the login parameter value been changed?
Yes
Enter a password for the FTP server at the PASSWORD: prompt. The password can contain from 1 to 15 alpha-numeric characters. The alphabetic characters must be both upper and lower case characters.
No
Enter the rtrv-ftp-serv command with this parameter. :mode=full
Enter the chg-db:action=backup:dest=fixed command

Notes:

1. The *login* parameter value can contain from 1 to 15 alpha-numeric characters. The alphabetic characters can be both upper and lower case characters.

2. The *path* parameter value is a mixed-case quoted character string with a valid FTP path format that can contain up to 100 characters.

3. If the Eagle OAM IP Security Enhancement Controlled Feature is enabled and activated, the FTP servers configured in this procedure must be secure FTP servers and secure shell clients must be available. The FTP-Based Table Retrieve Application (FTRA) and the Measurements Platform must support secure shell connections to the EAGLE 5 ISS. Enter the *rtrv-ctrl-feat* command to verify whether or not the Eagle OAM IP Security Enhancement Controlled Feature is enabled and activated.

4. Because CSV measurement data files do not have unique names across multiple STPs, include the CLLI of the STP in the FTP server path for *meas* FTP servers.

Caution: Changes to the USER FTP server configurations in this procedure may interfere with the operation of the FTP-Based Table Retrieve Application (FTRA). It is recommended that any changes to the USER FTP server configurations be made at the FTRA. For more information on making these changes at the FTRA, see the *FTP-Based Table Retrieve Application (FTRA) User Guide*.

Adding an IPSM

This procedure is used to add an IPSM (IP Services Module), used for the IP User Interface feature, to the database using the `ent-card` command. The IPSM provides eight IP based connections to the EAGLE 5 ISS's user interface through a telnet client. The card being provisioned in this procedure can be one of the cards shown in *Table 18: IPSM Part Numbers* on page 445.

Table 18: IPSM Part Numbers

Card Type	Part Number
IPSM	870-2371-02, 870-2371-06, 870-2371-13
E5-IPSM	870-2877-01

The `ent-card` command uses these parameters.

`:loc` – The location of the card being added to the database.

`:type` – The type of card being added to the database. For this procedure, the value of this parameter is `ipsm`.

`:appl` – The application software that is assigned to the card. For this procedure, the value of this parameter is `ips`.

`:force` – Allow the LIM to be added to the database even if there are not enough service modules to support the number of LIMs in the EAGLE 5 ISS. This parameter does not apply to configuring IPSMs and should not be used.

The IP User Interface (Telnet) feature is not required to be enabled and activated in order to add an IPSM, but the IP User Interface (Telnet) feature must be enabled and activated so that the user can use a telnet client to establish a connection to the EAGLE 5 ISS. This can be verified with the

`rtrv-ctrl-feat` command. To enable and activate the IP User Interface (Telnet) feature, go to the *Activating Controlled Features* on page 526 procedure.

The shelf to which the card is to be added, must already be in the database. This can be verified with the `rtrv-shlf` command. If the shelf is not in the database, see the *Adding a Shelf* on page 385 procedure.

If an E5-IPSM is being provisioned in this procedure, HIPR cards must be installed into card locations 9 and 10 in the shelf that the E5-IPSM will occupy. If HIPR cards are not installed in the shelf that the E5-IPSM will occupy, the E5-IPSM will not function when the E5-IPSM is inserted into the shelf. Enter the `rept-stat-gpl:gpl=hipr` command to verify whether or not HIPR cards are installed in the same shelf as the E5-IPSM being provisioned in this procedure.

If the Eagle OA&M IP Security Enhancement feature is enabled and activated, shown in the `rtrv-ctrl-feat` output, when an IPSM is installed into the EAGLE 5 ISS, UIM 1493, SSH Host Keys Regenerated, is displayed. UIM 1493 contains the public host key fingerprint which is used to establish a secure connection with an SSH client. If the secure connection is to be made with the FTRA, the public host key fingerprint displayed in UIM 1493 must be added to the `hosts.xml` file in the FTRA. Record the public host key fingerprint information displayed in UIM 1493 if a secure connection to the FTRA will be made. For more information about editing the `hosts.xml` file on the FTRA, see the FTP-*Based Table Retrieve Application* (FTRA) *User Guide*.

An IP link must be assigned to the IPSM. The IP links can be verified using the `rtrv-ip-lnk` command. IP links are configured using the `chg-ip-lnk` command.

After an IPSM is configured in the database and placed into service, eight telnet terminals are configured in the database with default values for the security and output group parameters. If you wish to change the security and output group parameter values, go to the *Changing Terminal Characteristics* on page 349 procedure.

If a Class B IP address is specified for the `ipaddr` parameter of the `chg-ip-lnk` command, the subnet address that results from the `ipaddr` and `submask` parameter values cannot be the same as the subnet address that results from the `pvn` and `pvnmask` parameter values of the `chg-netopts` command. The `pvn` and `pvnmask` parameter values can be verified by entering the `rtrv-netopts` command. Choose `ipaddr` and `submask` parameter values for the IP link to the IPSM whose resulting subnet address is not be the same as the subnet address that resulting from the `pvn` and `pvnmask` parameter values of the `chg-netopts` command.

The examples in this procedure are used to add an IPSM in card location 2107.

1. Display the cards in the database using the `rtrv-card` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   TSM       SCCP
1102   TSM       GLS
1103   DCM       VXWSLAN
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2           A    0   sp1           B    0
1202   LIMDS0    SS7ANSI   sp2           A    1   nsp3          B    0
1203   LIMDS0    SS7ANSI   sp3           A    0
1204   LIMDS0    SS7ANSI   sp3           A    1
```

```
1205   LIMOCU    CCS7ITU   itu1          A    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    0
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1212   TSM       SCCP
1214   TSM       GLS
1215   DCM       VXWSLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1303   STC       EROUTE
1305   DCM       VXWSLAN
1308   LIMDS0    SS7ANSI   sp6           A    0   sp7           B    0
1311   LIMDS0    SS7ANSI   sp2           A    2   sp1           B    1
                           sp7           A1   1   sp3           B1   2
1315   LIMDS0    SS7ANSI   sp7           A    2   sp5           B    0
1318   LIMATM    ATMANSI   lsnatm1       A    1
2101   STC       EROUTE
2103   STC       EROUTE
2105   STC       EROUTE
```

The cards should be distributed throughout the EAGLE 5 ISS for proper power distribution. Refer to the *Installation Manual - EAGLE 5 ISS* for the shelf power distribution.

Note: The EAGLE 5 ISS can contain a maximum of 3 IPSMs. If the `rtrv-card` output shows that there are three IPSMs in the EAGLE 5 ISS, this procedure cannot be performed.

Note: If the card being added in this procedure is not an E5-IPSM card, skip step 2 and go to step 3.

2. Verify that HIPR cards are installed in card locations 9 and 10 in the shelf that will contain the E5-IPSM card being added in this procedure. Enter this command.

   ```
   rept-stat-gpl:gpl=hipr
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 07-05-01 11:40:26 GMT  EAGLE5 37.0.0
   GPL        CARD      RUNNING            APPROVED      TRIAL
   HIPR       1109      126-002-000        126-002-000   126-003-000
   HIPR       1110      126-002-000        126-002-000   126-003-000
   HIPR       1209      126-002-000        126-002-000   126-003-000
   HIPR       1210      126-002-000        126-002-000   126-003-000
   HIPR       1309      126-002-000        126-002-000   126-003-000
   HIPR       1310      126-002-000        126-002-000   126-003-000
   HIPR       2109      126-002-000        126-002-000   126-003-000
   HIPR       2110      126-002-000        126-002-000   126-003-000
   Command Completed
   ```

   If HIPR cards are installed in the shelf that will contain the E5-IPSM card, go to step 3.

   If HIPR cards are not installed on the shelf that will contain the E5-IPSM card, go to the *Installation Manual - EAGLE 5 ISS* and install the HIPR cards. Once the HIPR cards have been installed, go to step 3.

3. Install the IPSM into the proper card location.

   If the OA&M IP Security Enhancements feature is enabled and activated, UIM 1493, SSH Host Keys Regenerated, is displayed when the IPSM is installed into the card location. UIM 1493 contains the public host key fingerprint which is used to establish a secure connection with an SSH client. If the secure connection is to be made with the FTRA, the public host key fingerprint displayed in UIM 1493 must be added to the `hosts.xml` file in the FTRA. Record the public host key fingerprint information displayed in UIM 1493 if a secure connection to the FTRA will be made. For more information about editing the `hosts.xml` file on the FTRA, see the FTP-*Based Table Retrieve Application (*FTRA*) User Guide*.

4. Add the IPSM using the `ent-card` command.

   For this example, enter this commands.

   `ent-card:loc=2107:type=ipsm:appl=ips`

   When this command has successfully completed, these messages should appear.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
Telnet auto-provisioning activated, 8 terminals are being added:
Telnet terminal 17 Added at location 2107.
Telnet terminal 18 Added at location 2107.
Telnet terminal 19 Added at location 2107.
Telnet terminal 20 Added at location 2107.
Telnet terminal 21 Added at location 2107.
Telnet terminal 22 Added at location 2107.
Telnet terminal 23 Added at location 2107.
Telnet terminal 24 Added at location 2107.

ENT-CARD: MASP A - COMPLTD
```

5. Verify the changes using the `rtrv-card` command with the card location specified in step 4.

   For this example, enter this command.

   `rtrv-card:loc=2107`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
2107   IPSM      IPS
```

6. Verify that the terminals shown as added in step 4 have been added by entering the `rtrv-trm` command.

   The following is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE     COMM        FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1  SW    30    5     99:59:59
2    KSR      9600-7-E-1  HW    30    5     INDEF
3    PRINTER  4800-7-E-1  HW    30    0     00:00:00
4    VT320    2400-7-E-1  BOTH  30    5     00:30:00
5    VT320    9600-7-O-1  NONE  30    5     00:00:30
6    VT320    9600-7-E-2  SW    30    9     INDEF
7    PRINTER  9600-7-N-2  HW    30    5     00:30:00
8    KSR     19200-7-E-2  BOTH  30    5     00:30:00
9    VT320    9600-7-E-1  SW    30    7     00:30:00
10   VT320    9600-7-E-1  HW    30    5     00:30:00
11   VT320    4800-7-E-1  HW    30    5     00:30:00
12   PRINTER  9600-7-E-1  HW    30    4     00:30:00
13   VT320    9600-7-O-1  NONE  30    5     00:30:00
14   VT320    9600-7-E-2  SW    30    8     00:30:00
15   VT320    9600-7-N-2  HW    30    5     00:30:00
16   VT320    9600-7-E-2  BOTH  30    3     00:30:00

TRM  TYPE      LOC             TMOUT MXINV DURAL      SECURE
17   TELNET    2107            60    5     00:30:00
18   TELNET    2107            60    5     00:30:00
19   TELNET    2107            60    5     00:30:00
20   TELNET    2107            60    5     00:30:00
21   TELNET    2107            60    5     00:30:00
```

```
22   TELNET    2107              60    5     00:30:00
24   TELNET    2107              60    5     00:30:00

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
17   none     none      none       1
18   none     none      none       1
19   none     none      none       1
20   none     none      none       1
21   none     none      none       1
22   none     none      none       1
23   none     none      none       1
24   none     none      none       1

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
1    NO   YES  NO  YES NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
3    YES  YES  YES NO  YES YES YES
4    YES  NO   NO  NO  NO  NO  NO
5    NO   YES  NO  NO  NO  NO  YES
6    NO   NO   YES NO  NO  NO  NO
7    YES  YES  YES YES YES YES YES
8    NO   NO   NO  NO  YES NO  YES
9    NO   YES  NO  NO  NO  YES NO
10   NO   NO   NO  NO  NO  NO  YES
11   YES  YES  YES YES YES YES YES
12   YES  YES  YES YES YES YES YES
13   NO   YES  NO  NO  NO  NO  YES
14   NO   NO   YES NO  NO  NO  NO
15   YES  YES  YES NO  YES YES YES
16   NO   NO   NO  NO  YES NO  YES
17   NO   NO   NO  NO  NO  NO  NO
18   NO   NO   NO  NO  NO  NO  NO
19   NO   NO   NO  NO  NO  NO  NO
20   NO   NO   NO  NO  NO  NO  NO
21   NO   NO   NO  NO  NO  NO  NO
22   NO   NO   NO  NO  NO  NO  NO
23   NO   NO   NO  NO  NO  NO  NO
24   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
3    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
4    YES  YES YES  YES YES NO  YES YES  YES YES NO   NO
5    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
6    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
7    NO   YES YES  YES YES YES YES YES  YES YES NO   NO
8    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
9    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
10   YES  YES YES  YES YES YES YES YES  YES YES YES  YES
11   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
12   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
13   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
14   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
15   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
16   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
17   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
18   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
19   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
20   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
21   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
22   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

```
23   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
24   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

If you wish to change the output parameter values or the `logintmr`, `logouttmr`, `pngfailcnt`, or the `pngtimeint` parameter values for the telnet terminals added in this procedure, perform the *Changing Terminal Characteristics* on page 349 procedure.

Note: If a Class A or C IP address will be specified for the `ipaddr` parameter in step 9, skip step 7 and go to step 8.

7. The subnet address that results from the `ipaddr` and `submask` parameter values of the `chg-ip-lnk` command cannot be the same as the subnet address that results from the `pvn` and `pvnmask` parameter values of the `chg-netopts` command.

   Display the `pvn` and `pvnmask` parameter values of the `chg-netopts` command by entering the `rtrv-netopts` command.

   If error message `E3967 Cmd Rej: E5IS must be on` is displayed after the `rtrv-netopts` command is executed, the `pvn` and `pvnmask` parameters are not configured. Go to step 8.

   This is an example of the possible output if the E5IS feature is on.

```
rlghncxa03w 06-10-28 21:17:37 GMT EAGLE5 36.0.0
NETWORK OPTIONS
------------------
PVN     = 128.20.30.40
PVNMASK = 255.255.192.0
```

   Choose `ipaddr` and `submask` parameter values for the IP link to the IPSM whose resulting subnet address is not be the same as the subnet address that resulting from the `pvn` and `pvnmask` parameter values of the `chg-netopts` command. Go to step 8.

8. Display the IP link data assigned to the IPSM using the `rtrv-ip-lnk` command with the IPSM's location and the `port=a` parameter.

   For this example, enter this command.

   `rtrv-ip-lnk:loc=2107:port=a`

   The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:20:37 GMT EAGLE5 36.0.0
LOC   PORT IPADDR          SUBMASK         DUPLEX  SPEED MACTYPE AUTO MCAST
2107  A    --------------- --------------- HALF    10    DIX     NO   NO
```

9. Assign an IP link to the IPSM using the `chg-ip-lnk` command with these parameters: `loc`, `port=a`, `ipaddr`, `submask`, `speed=100`.

   For this example, enter this command.

   `chg-ip-lnk:loc=2107:port=a:ipaddr=150.1.1.1:submask=255.255.255.0:speed=100`

   Note: If either the `ipaddr` or `submask` parameters are specified, then both parameters must be specified, unless the `ipaddr=0.0.0.0` parameter is specified, then the submask parameter is not required. The `ipaddr=0.0.0.0` parameter disables the IP link.

   When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 21:20:37 GMT EAGLE5 36.0.0
CHG-IP-LNK:   MASP A - COMPLTD
```

10. Verify the changes made in step 9 using the `rtrv-ip-lnk` command and specifying the card location and port values used in step 9.

    For this example, enter this command.

    ```
    rtrv-ip-lnk:loc=2107:port=a
    ```

    The following is an example of the possible output.

    ```
    rlghncxa03w 06-10-01 21:20:37 GMT EAGLE5 36.0.0
    LOC   PORT IPADDR          SUBMASK        DUPLEX SPEED MACTYPE AUTO MCAST
    2107  A    150.1.1.1       255.255.255.0  HALF   100   DIX     NO   NO
    ```

11. Display the current IP host information in the database by entering the `rtrv-ip-host` command with the IP address of the IP link shown in step 10.

    For this example, enter this command.

    ```
    rtrv-ip-host:ipaddr=150.1.1.1
    ```

    No IP address and IP host entry is displayed, as shown in the following example.

    ```
    rlghncxa03w 08-12-01 09:12:36 GMT EAGLE5 40.0.0
    IPADDR          HOST

    IP Host table is  (2 of 2048) 1% full
    ```

12. Assign an IP host to the IPSM using the `ent-ip-host` command.

    For this example, enter this command.

    ```
    ent-ip-host:host=ip.nc.tekelec.com:ipaddr=150.1.1.1
    ```

    When this command has successfully completed, the following message should appear.

    ```
    rlghncxa03w 06-10-01 21:18:37 GMT EAGLE5 36.0.0
    ENT-IP-HOST: MASP A - COMPLTD
    ```

13. Display the IP card attributes of the IPSM using the `rtrv-ip-card` command specifying the IPSM's location.

    For this example, enter this command.

    ```
    rtrv-ip-card:loc=2107
    ```

    The following is an example of the possible output.

    ```
    rlghncxa03w 08-06-01 21:20:37 GMT EAGLE5 39.0.0
    LOC 2107
      SRCHORDR  SRVR
      DNSA      ---------------
      DNSB      ---------------
      DEFROUTER ---------------
      DOMAIN    ---------------
      SCTPCSUM  crc32c
      BPIPADDR  ---------------
      BPSUBMASK ---------------
    ```

14. Change the IP card attributes of the IPSM using the `chg-ip-card` command with these values: IPSM card location, local search order, domain, and the default router for the IPSM.

    For this example, enter this command.

```
chg-ip-card:loc=2107:srchordr=local:domain=ip.nc.tekelec.com:defrouter=150.1.1.250
```

The following is an example of the possible output.

Note: The network portion of the default router's IP address (`defrouter`) must be the same as the network portion of the IP address specified in the `chg-ip-lnk` (step 6) and `ent-ip-host` (step 10) commands. The value of the last octet of the default router's IP address must be from 1 to 254.

When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 21:20:37 GMT EAGLE5 36.0.0
CHG-IP-CARD:   MASP A - COMPLTD
```

15. Verify the changes made in step 14 using the `rtrv-ip-card` command specifying the IPSM's location.

    For this example, enter this command.

    ```
    rtrv-ip-card:loc=2107
    ```

    The following is an example of the possible output.

    ```
    rlghncxa03w 08-06-01 21:20:37 GMT EAGLE5 39.0.0
    LOC 2107
      SRCHORDR  LOCAL
      DNSA      ---------------
      DNSB      ---------------
      DEFROUTER 150.1.1.250
      DOMAIN    ip.nc.tekelec.com
      SCTPCSUM  crc32c
      BPIPADDR  ---------------
      BPSUBMASK ---------------
    ```

16. Verify that the IP User Interface (Telnet) feature is enabled and turned on, and if secure connections to the EAGLE 5 ISS are to be used, verify that the OA&M IP Security Enhancements feature is enabled and activated by entering the `rtrv-ctrl-feat` command.

    This is an example of the possible output.

    ```
    rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
    The following features have been permanently enabled:
    Feature Name             Partnum    Status  Quantity
    Telnet                   893005701  off     ----
    ```

    Note: The `rtrv-ctrl-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-ctrl-feat` command, see the `rtrv-ctrl-feat` command description in the *Commands Manual*.

    If the IP User Interface (Telnet) feature is enabled and turned on (`status = on`), go to step 17.

    If the IP User Interface (Telnet) feature is not enabled or turned on, perform the *Activating Controlled Features* on page 526 procedure to enable and turn on the IP User Interface (Telnet) feature.

    If UIM 1493 was displayed when the IPSM was installed in step 2, the OA&M IP Security Enhancements feature is enabled and turned on. If the OA&M IP Security Enhancements feature is enabled and turned on (shown by the entry `EAGLE OA&M IP Security` in the `rtrv-ctrl-feat` output with the `status = on`), go to step 17.

If the OA&M IP Security Enhancements feature is not enabled or turned on, and secure connections are to the EAGLE 5 ISS are to be used, perform the *Activating the Eagle OA&M IP Security Enhancement Controlled Feature* on page 534 procedure to enable and turn on the OA&M IP Security Enhancements feature.

17. Place the IPSM into service using the `rst-card` specifying the location of the IPSM.

    For this example, enter this command.

    ```
    rst-card:loc=2107
    ```

    When this command has successfully completed, this message should appear.

    ```
    rlghncxa03w 06-10-01 21:20:37 GMT EAGLE5 36.0.0
    Card has been allowed.
    ```

    If the OA&M IP Security Enhancements feature is enabled and activated, UIM 1494, SSH Host Keys Loaded, is displayed. UIM 1494 contains the public host key fingerprint which is used to establish a secure connection with an SSH client. If the secure connection is to be made with the FTRA, the public host key fingerprint displayed in UIM 1494 must be added to the `hosts.xml` file in the FTRA. If the public host key fingerprint was not recorded in step 3, record the public host key fingerprint information displayed in UIM 1494 if a secure connection to the FTRA will be made. For more information about editing the `hosts.xml` file on the FTRA, see the FTP-*Based Table Retrieve Application* (FTRA*) User Guide*.

18. Put the terminals that were created when the IPSM was added in step 4 into service with the `rst-trm` command. For this example, enter these commands.

    ```
    rst-trm:trm=17

    rst-trm:trm=18

    rst-trm:trm=19

    rst-trm:trm=20

    rst-trm:trm=21

    rst-trm:trm=22

    rst-trm:trm=23

    rst-trm:trm=24
    ```

    This message should appear when each of these commands have successfully completed.

    ```
    rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
    Allow message sent to terminal

    rlghncxa03w 07-05-01 15:08:45 GMT EAGLE5 37.0.0
    Command Completed.
    ```

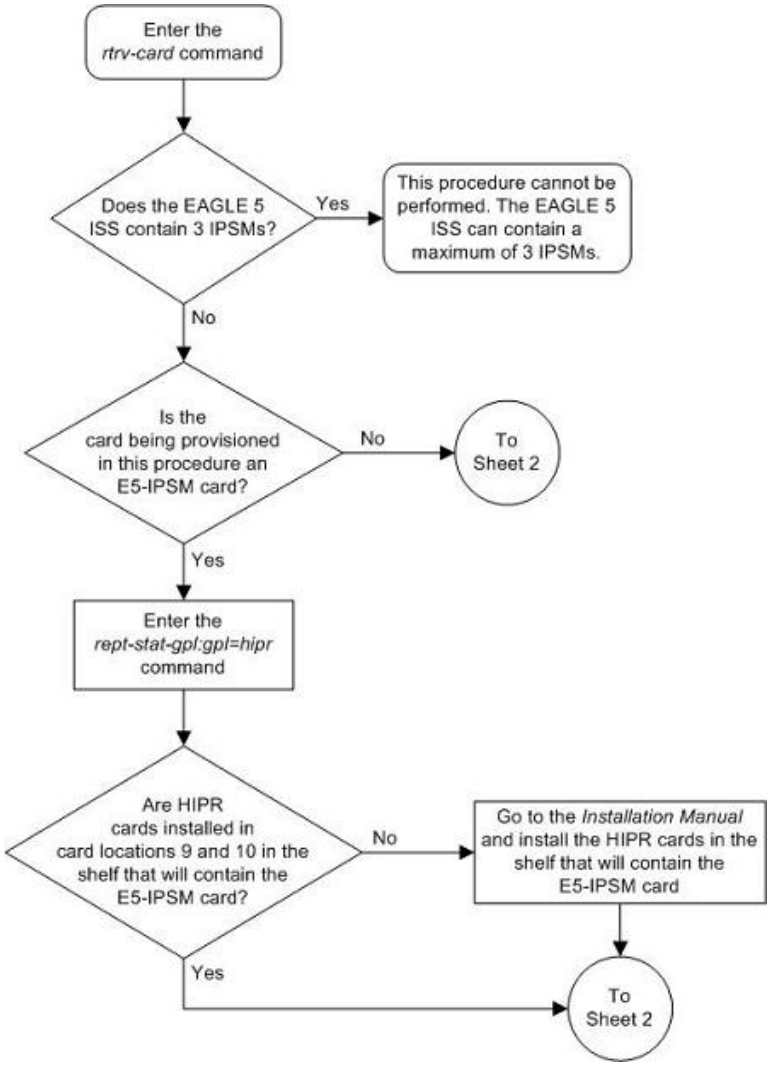
19. Back up the new changes using the `chg-db:action=backup:dest=fixed`command.

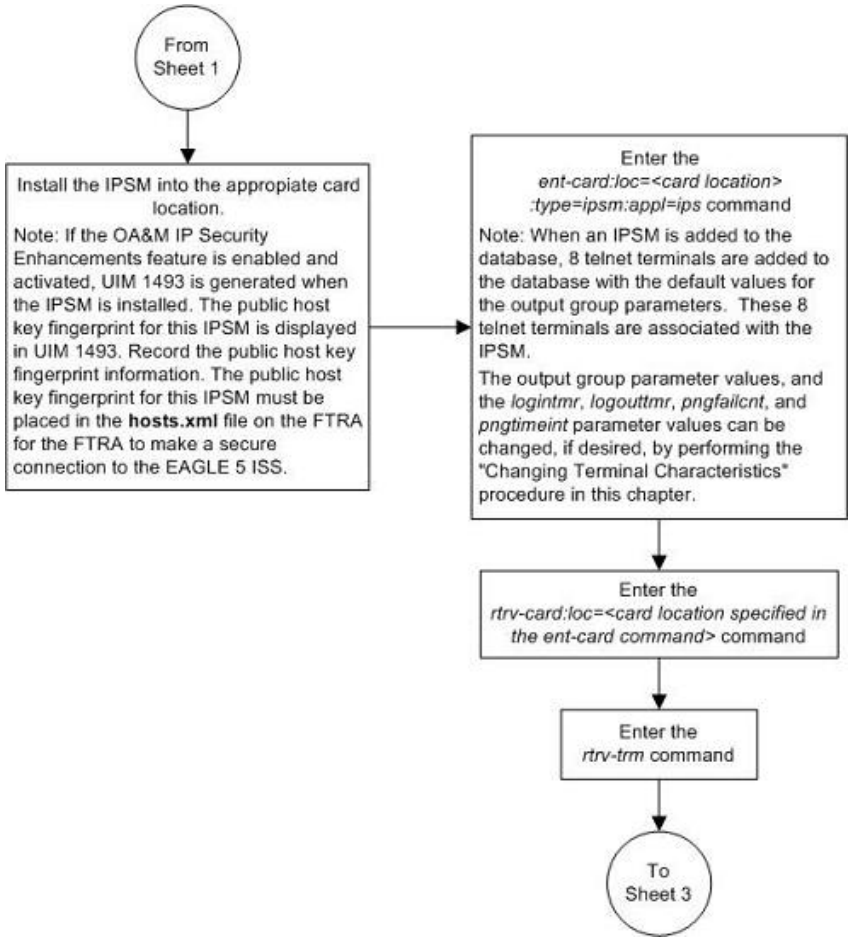
    These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

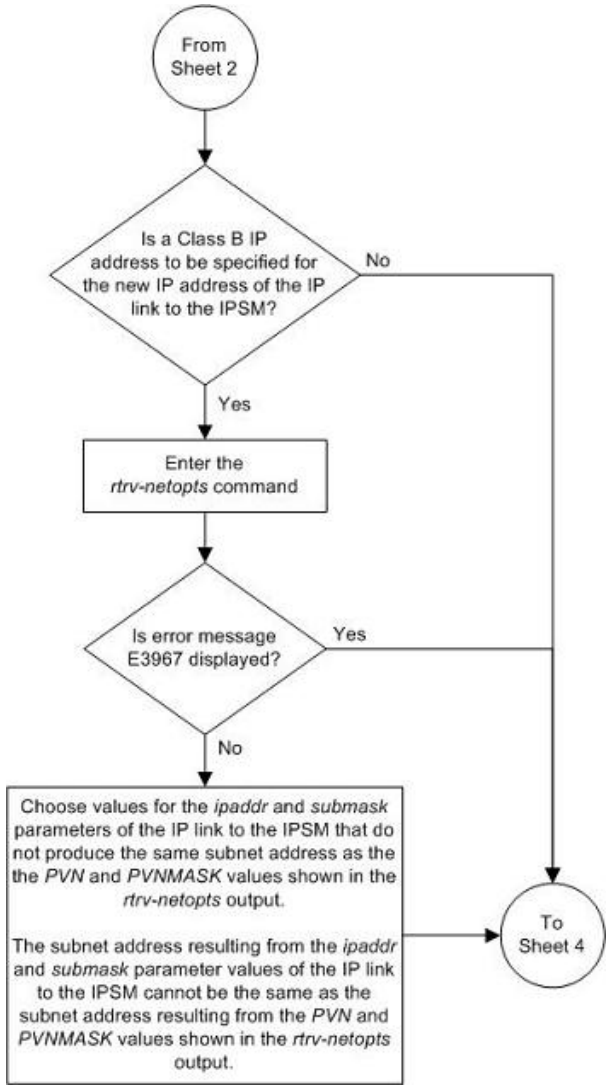
    ```
    BACKUP (FIXED) : MASP A - Backup starts on active MASP.
    BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
    ```

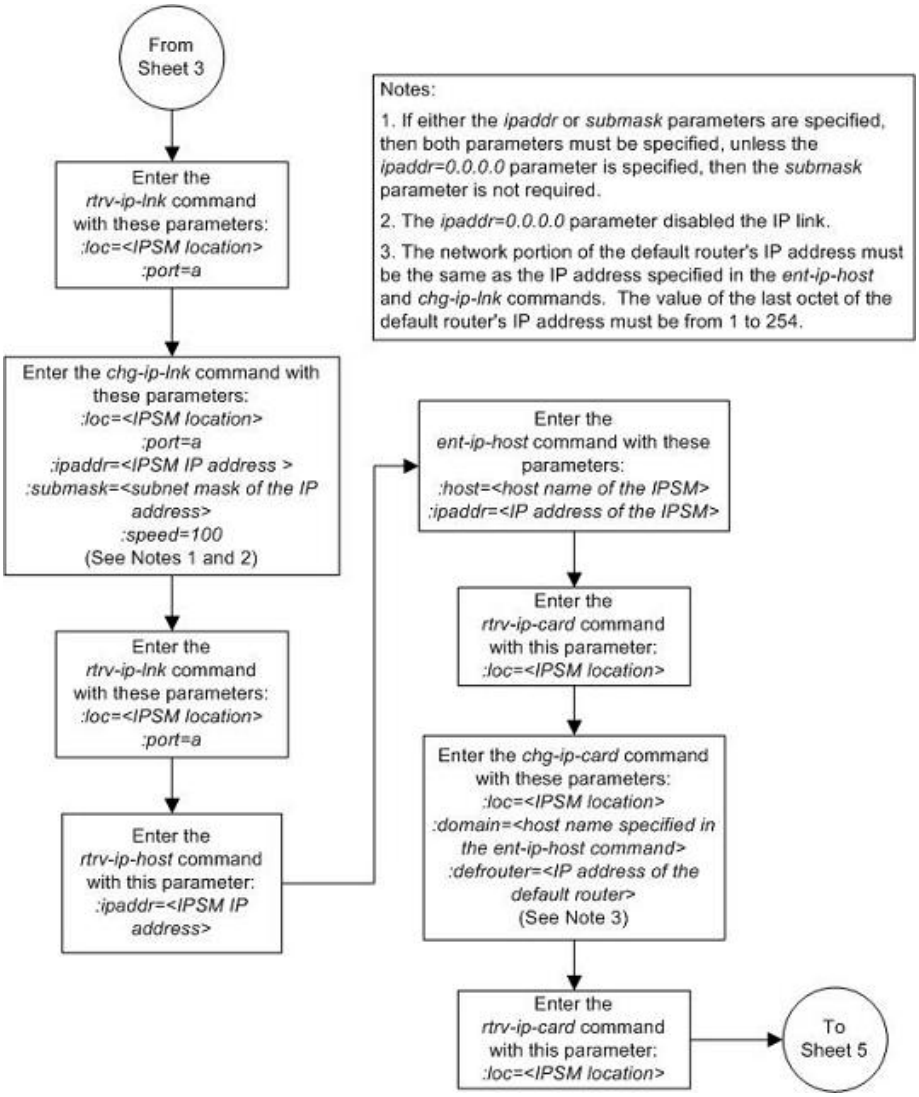
```
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

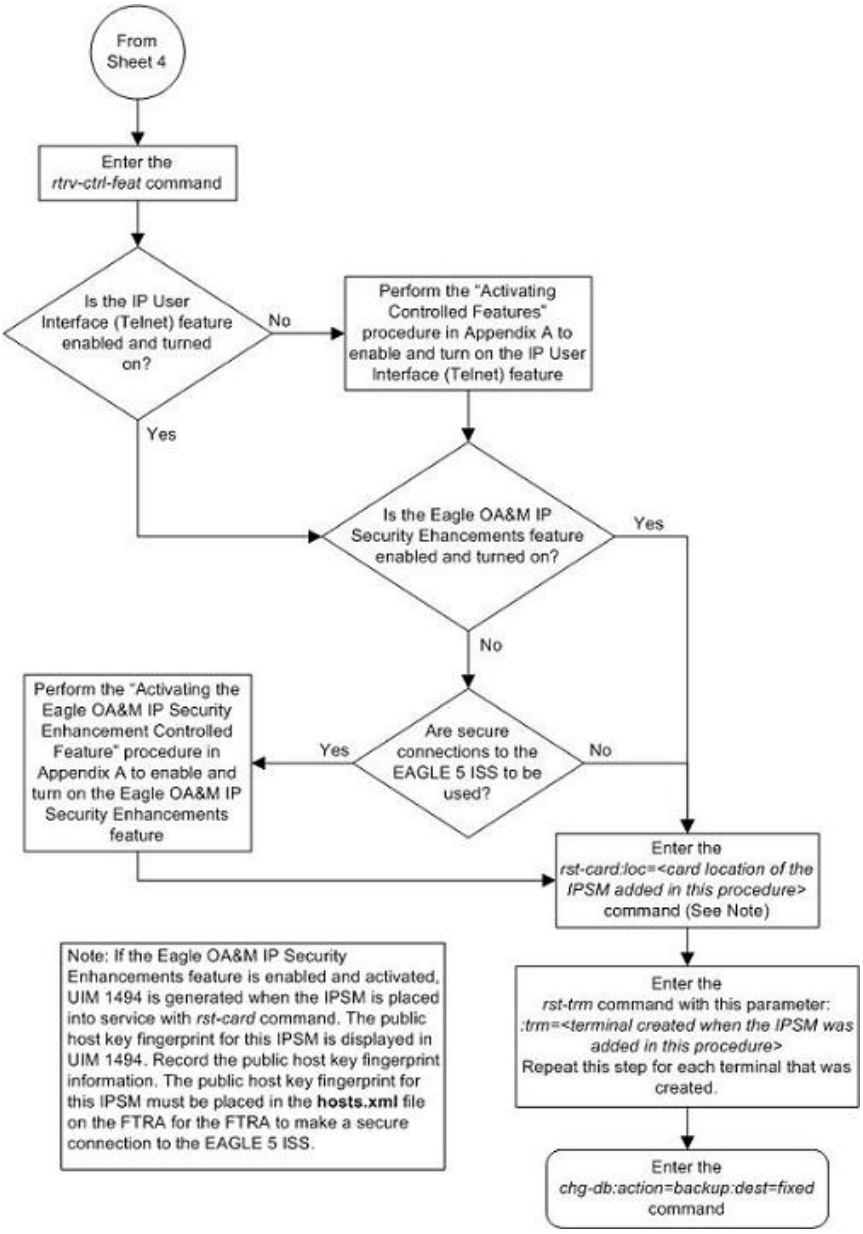
Figure 59: Adding an IPSM




From Sheet 1
Install the IPSM into the appropiate card location.
Note: If the OA&M IP Security Enhancements feature is enabled and activated, UIM 1493 is generated when the IPSM is installed. The public host key fingerprint for this IPSM is displayed in UIM 1493. Record the public host key fingerprint information. The public host key fingerprint for this IPSM must be placed in the **hosts.xml** file on the FTRA for the FTRA to make a secure connection to the EAGLE 5 ISS.
Enter the *ent-card:loc=<card location> :type=ipsm:appl=ips* command
Note: When an IPSM is added to the database, 8 telnet terminals are added to the database with the default values for the output group parameters. These 8 telnet terminals are associated with the IPSM.
The output group parameter values, and the *logintmr*, *logouttmr*, *pngfailcnt*, and *pngtimeint* parameter values can be changed, if desired, by performing the "Changing Terminal Characteristics" procedure in this chapter.
Enter the *rtrv-card:loc=<card location specified in the ent-card command>* command
Enter the *rtrv-trm* command
To Sheet 3


From Sheet 2
Is a Class B IP address to be specified for the new IP address of the IP link to the IPSM?
No
Yes
Enter the *rtrv-netopts* command
Is error message E3967 displayed?
Yes
No
Choose values for the *ipaddr* and *submask* parameters of the IP link to the IPSM that do not produce the same subnet address as the the *PVN* and *PVNMASK* values shown in the *rtrv-netopts* output.
The subnet address resulting from the *ipaddr* and *submask* parameter values of the IP link to the IPSM cannot be the same as the subnet address resulting from the *PVN* and *PVNMASK* values shown in the *rtrv-netopts* output.
To Sheet 4


From Sheet 3
Enter the rtrv-ip-lnk command with these parameters: :loc=<IPSM location> :port=a
Enter the chg-ip-lnk command with these parameters: :loc=<IPSM location> :port=a :ipaddr=<IPSM IP address > :submask=<subnet mask of the IP address> :speed=100 (See Notes 1 and 2)
Enter the rtrv-ip-lnk command with these parameters: :loc=<IPSM location> :port=a
Enter the rtrv-ip-host command with this parameter: :ipaddr=<IPSM IP address>
Enter the ent-ip-host command with these parameters: :host=<host name of the IPSM> :ipaddr=<IP address of the IPSM>
Enter the rtrv-ip-card command with this parameter: :loc=<IPSM location>
Enter the chg-ip-card command with these parameters: :loc=<IPSM location> :domain=<host name specified in the ent-ip-host command> :defrouter=<IP address of the default router> (See Note 3)
Enter the rtrv-ip-card command with this parameter: :loc=<IPSM location>
To Sheet 5
Notes:
1. If either the ipaddr or submask parameters are specified, then both parameters must be specified, unless the ipaddr=0.0.0.0 parameter is specified, then the submask parameter is not required.
2. The ipaddr=0.0.0.0 parameter disabled the IP link.
3. The network portion of the default router's IP address must be the same as the IP address specified in the ent-ip-host and chg-ip-lnk commands. The value of the last octet of the default router's IP address must be from 1 to 254.



Removing an IPSM

This procedure is used to remove an IPSM (IP Services Module - a card running the `ips` application) from the database using the `dlt-card` command.

CAUTION

CAUTION: If the IPSM is the last IPSM in service, removing this card from the database will disable the IP User Interface (Telnet) feature.

All terminals associated with the IPSM being removed must be out of service. The terminals are displayed using the `rtrv-trm` command. The state of the terminals is displayed using the `rept-stat-trm` command.

The examples in this procedure are used to remove the IPSM in card location 2107.

Canceling the `REPT-STAT-CARD` Command

Because the `rept-stat-card` command used in this procedure can output information for a long period of time, the `rept-stat-card` command can be canceled and the output to the terminal stopped. There are three ways that the `rept-stat-card` command can be canceled.

- Press the `F9` function key on the keyboard at the terminal where the `rept-stat-card` command was entered.
- Enter the `canc-cmd` without the `trm` parameter at the terminal where the `rept-stat-card` command was entered.
- Enter the `canc-cmd:trm=<xx>`, where `<xx>` is the terminal where the `rept-stat-card` command was entered, from another terminal other that the terminal where the `rept-stat-card` command was entered. To enter the `canc-cmd:trm=<xx>` command, the terminal must allow Security Administration commands to be entered from it and the user must be allowed to enter Security Administration commands. The terminal's permissions can be verified with the `rtrv-secu-trm` command. The user's permissions can be verified with the `rtrv-user` or `rtrv-secu-user` commands.

For more information about the `canc-cmd` command, go to the *Commands Manual*.

1. Display the cards in the database using the `rtrv-card` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   TYPE      APPL      LSET NAME     LINK SLC LSET NAME     LINK SLC
1101   TSM       SCCP
1102   TSM       GLS
1103   DCM       VXWSLAN
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1201   LIMDS0    SS7ANSI   sp2           A    0   sp1           B    0
1202   LIMDS0    SS7ANSI   sp2           A    1   nsp3          B    0
1203   LIMDS0    SS7ANSI   sp3           A    0
1204   LIMDS0    SS7ANSI   sp3           A    1
1205   LIMOCU    CCS7ITU   itu1          A    0
1206   LIMDS0    SS7ANSI   nsp3          A    1   nsp4          B    0
1207   LIMV35    SS7GX25   nsp1          A    0
1208   LIMV35    SS7GX25   nsp1          A    1
1212   TSM       SCCP
1214   TSM       GLS
1215   DCM       VXWSLAN
1301   LIMATM    ATMANSI   lsnatm1       A    0
1303   STC       EROUTE
1305   DCM       VXWSLAN
1308   LIMDS0    SS7ANSI   sp6           A    0   sp7           B    0
1311   LIMDS0    SS7ANSI   sp2           A    2   sp1           B    1
                           sp7           A1   1   sp3           B1   2
1315   LIMDS0    SS7ANSI   sp7           A    2   sp5           B    0
1318   LIMATM    ATMANSI   lsnatm1       A    1
```

```
2101   STC       EROUTE
2103   STC       EROUTE
2105   STC       EROUTE
2107   IPSM      IPS
2108   IPSM      IPS
2111   IPSM      IPS
```

An IPSM is identified by the entries `IPSM` in the `TYPE` field and `IPS` in the `APPL` field.

2. Display the status of the IPSM being removed from the database with the `rept-stat-card` command and specifying the card location of the IPSM.

   For this example, enter this command.

   ```
   rept-stat-card:loc=2107
   ```

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:43:42 GMT  EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
2107   114-001-000  IPSM      IPS        IS-NR          Active     -----

  ALARM STATUS       = No Alarms.
  BPDCM GPL          = 002-122-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
Command Completed.
```

   If the IPSM is out of service, shown by the entry `OOS-MT-DSBLD` in the `PST` column, skip steps 3 through 5, and go to step 6.

3. Display the terminals using the `rtrv-trm` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE     COMM        FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1  SW    30    5     99:59:59
2    KSR      9600-7-E-1  HW    30    5     INDEF
3    PRINTER  4800-7-E-1  HW    30    0     00:00:00
4    VT320    2400-7-E-1  BOTH  30    5     00:30:00
5    VT320    9600-7-O-1  NONE  30    5     00:00:30
6    VT320    9600-7-E-2  SW    30    9     INDEF
7    PRINTER  9600-7-N-2  HW    30    5     00:30:00
8    KSR     19200-7-E-2  BOTH  30    5     00:30:00
9    VT320    9600-7-E-1  SW    30    7     00:30:00
10   VT320    9600-7-E-1  HW    30    5     00:30:00
11   VT320    4800-7-E-1  HW    30    5     00:30:00
12   PRINTER  9600-7-E-1  HW    30    4     00:30:00
13   VT320    9600-7-O-1  NONE  30    5     00:30:00
14   VT320    9600-7-E-2  SW    30    8     00:30:00
15   VT320    9600-7-N-2  HW    30    5     00:30:00
16   VT320    9600-7-E-2  BOTH  30    3     00:30:00

TRM  TYPE      LOC             TMOUT MXINV DURAL      SECURE
17   TELNET    2107            60    5     00:30:00   yes
18   SEAS      2107            60    5     00:30:00   yes
19   TELNET    2107            60    5     00:30:00   yes
20   TELNET    2107            60    5     00:30:00   yes
21   TELNET    2107            60    5     00:30:00   yes
22   TELNET    2107            60    5     00:30:00   yes
23   TELNET    2107            60    5     00:30:00   yes
24   TELNET    2107            60    5     00:30:00   yes
25   TELNET    2108            60    5     00:30:00   yes
```

```
26   TELNET    2108              60    5     00:30:00   yes
27   SEAS      2108              60    5     00:30:00   yes
28   TELNET    2108              60    5     00:30:00   yes
29   TELNET    2108              60    5     00:30:00   yes
30   TELNET    2108              60    5     00:30:00   yes
31   TELNET    2108              60    5     00:30:00   yes
32   TELNET    2108              60    5     00:30:00   yes
33   TELNET    2111              60    5     00:30:00   yes
34   TELNET    2111              60    5     00:30:00   yes
35   TELNET    2111              60    5     00:30:00   yes
36   TELNET    2111              60    5     00:30:00   yes
37   TELNET    2111              60    5     00:30:00   yes
38   TELNET    2111              60    5     00:30:00   yes
39   TELNET    2111              60    5     00:30:00   yes
40   TELNET    2111              60    5     00:30:00   yes

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
17   none     none      none       1
19   none     none      none       1
20   none     none      none       1
21   none     none      none       1
22   none     none      none       1
23   none     none      none       1
24   none     none      none       1
25   none     none      none       1
26   none     none      none       1
28   none     none      none       1
29   none     none      none       1
30   none     none      none       1
31   none     none      none       1
32   none     none      none       1
33   none     none      none       1
34   none     none      none       1
35   none     none      none       1
36   none     none      none       1
37   none     none      none       1
38   none     none      none       1
39   none     none      none       1
40   none     none      none       1

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
1    NO   YES  NO  YES NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
.
.
.
39   NO   NO   NO  NO  NO  NO  NO
40   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
.
.
.
39   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
40   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

4. Display the status of the terminals by entering the `rept-stat-trm` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     IS-NR         Active        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

Note: If all the terminals associated with the IPSM being removed from the database are out of service, shown by the entry OOS-MT-DSBLD in the PST column, skip step 5, and go to step 6.

5. Place the terminals associated with the IPSM being removed out of service using the `rmv-trm` command.

   For this example, enter these commands.

   ```
   rmv-trm:trm=17
   ```

   ```
   rmv-trm:trm=18
   ```

   ```
   rmv-trm:trm=19
   ```

   ```
   rmv-trm:trm=20
   ```

```
rmv-trm:trm=21

rmv-trm:trm=22

rmv-trm:trm=23

rmv-trm:trm=24
```

Note: If the IPSM that will be removed in this procedure contains the last in-service SEAS terminal, the `force=yes` parameter must be specified with the `rmv-trm` command for that SEAS terminal.

CAUTION:

Placing these terminals out of service will disable any Telnet sessions running on these terminals.

If the status of any terminals associated with the IPSM being removed shown in the `PST` field in step 4 is OOS-MT-DSBLD (out-of-service maintenance disabled), the terminal is already out of service and the `rmv-trm` command does not need to be executed for that terminal.

When these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Inhibit message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Command Completed.
```

6. Place the IPSM out of service using the `rmv-card` command, specifying the card location of the IPSM.

   For this example, enter this command.

   ```
   rmv-card:loc=2107
   ```

   When this command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
   Card has been inhibited.
   ```

7. Remove the card using the `dlt-card` command.

   The `dlt-card` command has only one parameter, `loc`, which is the location of the card. For this example, enter these commands.

   ```
   dlt-card:loc=2107
   ```

   Note: If the IPSM that was removed in this step contains a SEAS terminal, the entry for that SEAS terminal is removed from the SEAS over IP configuration and is not shown in the `rtrv-seas-config` output. This message is displayed after the `dlt-card` command has been entered.

   ```
   Invalidating the Terminal data in SEASCFG Table
   ```

   When this command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
   DLT-CARD: MASP A - COMPLTD
   ```

8. Verify the changes using the `rtrv-card` command specifying the card that was removed in step 7.

   For this example, enter these commands.

   ```
   rtrv-card:loc=2107
   ```

   When this command has successfully completed, this message should appear.

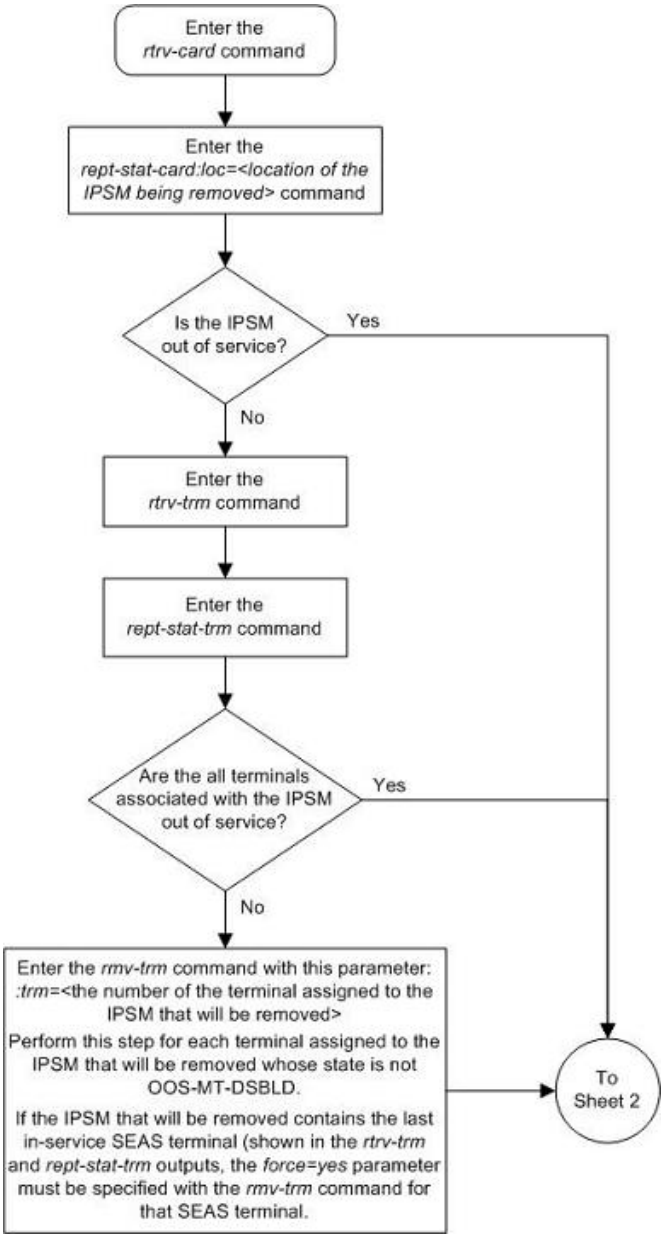
   ```
   E2144 Cmd Rej: Location invalid for hardware configuration
   ```

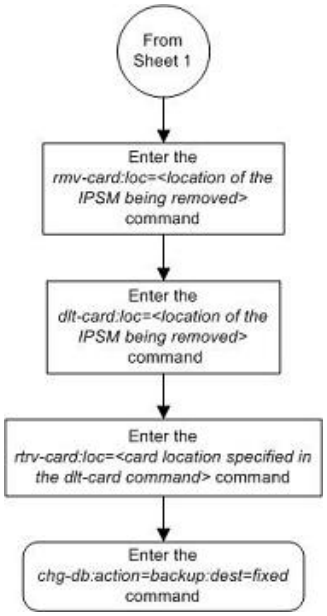
9. Back up the new changes using the `chg-db:action=backup:dest=fixed`command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

   ```
   BACKUP (FIXED) : MASP A - Backup starts on active MASP.
   BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
   BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
   BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
   ```

Figure 60: Removing an IPSM


Enter the rtrv-card command
Enter the rept-stat-card:loc=<location of the IPSM being removed> command
Is the IPSM out of service?
Yes
No
Enter the rtrv-trm command
Enter the rept-stat-trm command
Are the all terminals associated with the IPSM out of service?
Yes
No
Enter the rmv-trm command with this parameter: :trm=<the number of the terminal assigned to the IPSM that will be removed>
Perform this step for each terminal assigned to the IPSM that will be removed whose state is not OOS-MT-DSBLD.
If the IPSM that will be removed contains the last in-service SEAS terminal (shown in the rtrv-trm and rept-stat-trm outputs, the force=yes parameter must be specified with the rmv-trm command for that SEAS terminal.
To Sheet 2



Configuring the Options for the Network Security Enhancements Feature

This procedure is used to configure the EAGLE 5 ISS to enhance its network security by discarding messages that should not be received. Four options are set using the `chg-stpopts` command to support this feature.

- SECMTPSID – The EAGLE 5 ISS should not receive a message where the OPC is equal to the EAGLE 5 ISS's own true, secondary or capability point codes.
- SECMTPMATE – The EAGLE 5 ISS should not receive a message with the true, secondary, or capability point code of the mate STP other than across the C link.
- SECMTPSNM – the EAGLE 5 ISS should not receive an MTP network management message unless:
  - The OPC is an adjacent point code
  - The EAGLE 5 ISS has a route to the OPC of the MTP network management message on the linkset which the message was received.
  - The EAGLE 5 ISS has a route to the destination field in the message (if applicable to the concerned message) on the linkset which the message was received.
- SECMTPSCMG – the EAGLE 5 ISS should not receive an SCCP network management message unless:
  - The EAGLE 5 ISS has a route to the OPC of the SCMG message on the linkset, on which the message was received.
  - The EAGLE 5 ISS has a route to the affected point code in the message on the linkset on which the message was received.

This option will only apply to SSP and SOR messages. This feature will not affect the following messages: SSA, SST, SOG, SBR, SNR and SRT.

Each of these options have four values which determine how the EAGLE 5 ISS handles the messages controlled by the options.

- NOTIFY – The specified option is active and UIMs are generated.
- SILENT – The specified option is active, but no UIMs are generated.
- TEST – The specified option is not active, but UIMS are generated as if the option was active.
- OFF – The specified option is not active.

The system default value for each of these options is OFF.

To set these options, the Network Security Enhancements feature must be enabled and activated. This can be verified with the `rtrv-ctrl-feat` command. To enable and activate the Network Security Enhancements feature, go to the *Activating Controlled Features* on page 526 procedure.

If the Network Security Enhancements feature is not enabled and activated, the Network Security Enhancement options are not displayed in the `rtrv-stpopts` output.

When the Network Security Enhancements feature is enabled and activated for the first time, each option is displayed in the `rtrv-stpopts` output with the system default value (OFF). When the Network Security Enhancements feature is enabled and activated after the feature was disabled, each option is displayed in the `rtrv-stpopts` output with the value that the option was assigned when the feature was disabled.

1. Display the Network Security Enhancements options using the `rtrv-stpopts` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
STP OPTIONS
-----------------------
SECMTPSID         notify
SECMTPMATE        test
SECMTPSNM         silent
SECMTPSCMG        off
```

   Note: The `rtrv-stpopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-stpopts` command, see the `rtrv-stpopts` command description in the *Commands Manual*.

   Note: If the Network Security Enhancement options are shown in the rtrv-stpopts output in step 1, skip step 2, and go to step 3.

2. Verify that the Network Security Enhancements feature is enabled and activated, by entering the `rtrv-ctrl-feat` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
```

```
Feature Name              Partnum    Status  Quantity
Network Security Enhance  893009101  off     ----
```

Note: The `rtrv-ctrl-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-ctrl-feat` command, see the `rtrv-ctrl-feat` command description in the *Commands Manual*.

If the Network Security Enhancements feature is not enabled or activated, go to the *Activating Controlled Features* on page 526 procedure and enable and activate the Network Security Enhancements feature.

CAUTION: If the Network Security Enhancements feature is temporarily enabled, the Network Security Enhancement options can be set and used only for the amount of time shown in the `Trial Period Left` column in the `rtrv-ctrl-feat` output.

3. Change the Network Security Enhancement options.

   For this example, enter this command.

   ```
   chg-stpopts:secmtpsid=silent:secmtpmate=notify
   :secmtpsnm=notify:secmtpscmg=notify
   ```

   When this command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 00:22:57 GMT  EAGLE5 36.0.0
   CHG-STPOPTS: MASP A - COMPLTD
   ```

4. Verify the changes using the `rtrv-stpopts` command.

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
   STP OPTIONS
   -----------------------
   SECMTPSID          silent
   SECMTPMATE         notify
   SECMTPSNM          notify
   SECMTPSCMG         notify
   ```

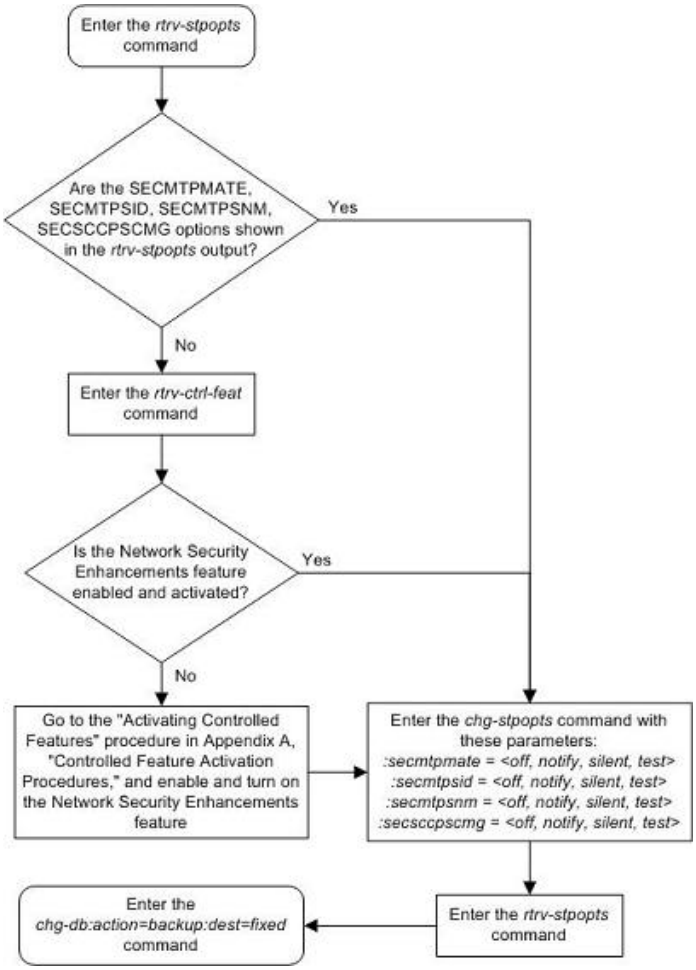
   Note: The `rtrv-stpopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-stpopts` command, see the `rtrv-stpopts` command description in the *Commands Manual*.

5. Back up the new changes using the `chg-db:action=backup:dest=fixed`command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

   ```
   BACKUP (FIXED) : MASP A - Backup starts on active MASP.
   BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
   BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
   BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
   ```

Figure 61: Configuring the Options for the Network Security Enhancements Feature



Configuring the Restore Device State Option

This procedure is used to configure the restore device state option using the `chg-stpopts` command and the `rstrdev` parameter. The `rstrdev` parameter has two values, `on` or `off`. The system default value is `off`.

If the value of the restore device state option is off (`rstrdev=off`), the EAGLE 5 ISS does not retain the manually initiated state (for example, OOS-MT-DSBLD) for the signaling links, TCP/IP data links, cards, or the terminals after either the `init-sys` command is executed, or when a MASP role change occurs (the active MASP becomes the standby MASP and the standby MASP becomes the active MASP). After the `init-sys` command executes, the EAGLE 5 ISS attempts to bring all provisioned links, cards, and terminals on line, including those that were previously out of service. You will need to manually put each device back into its previous state after the EAGLE 5 ISS is back on line. If the `init-sys` command is being executed, it is advisable to print or electronically capture the output of the EAGLE 5 ISS's `rept-stat-slk`, `rept-stat-dlk`, `rept-stat-card`, and `rept-stat-trm` commands for reference before issuing the `init-sys` command. During a MASP role change, current processing for the role change occurs and the state of the out-of-service devices may change. To restore a device to its previous state, issue the

appropriate inhibit/deactivate command listed in the *Commands Manual* in the Related Commands section for each of the above `rept-stat` commands.

If the value of the restore device state option is on (`rstrdev=on`), the state the signaling links, TCP/IP data links, cards, and terminals is not changed after the `init-sys` command is executed or a MASP role change occurs. No manual intervention is required to put the device back into its previous state after the EAGLE 5 ISS is back on line.

If the restore device state option is on (`rstrdev=on`) and the database is being restored with the `chg-db:action=restore` command, the state of the cards, SS7 signaling links, TCP/IP data links, and terminals before the `chg-db:action=restore` and `init-sys` commands are performed will not be maintained after these commands are performed. The persistent device state table becomes obsolete and is disabled. UIM 1257 is generated.

```
rlghncxa03w 06-10-01 16:07:48 GMT  EAGLE5 36.0.0
1234.1257    SYSTEM       INFO  DB Restore has cleared and disabled PDS
```

1. Display the existing values for the restore device state parameter by entering the `rtrv-stpopts` command.

   The value for the restore device state parameter is shown in the `RSTRDEV` field. This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
   STP OPTIONS
   -----------------------
   RSTRDEV            off
   ```

   Note:

   The `rtrv-stpopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-stpopts` command, see the `rtrv-stpopts` command description in the *Commands Manual*.

2. Change the restore device state parameter.

   For this example, enter this command.

   `chg-stpopts:rstrdev=on`

   When this command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 00:22:57 GMT  EAGLE5 36.0.0
   CHG-STPOPTS: MASP A - COMPLTD
   ```

3. Verify the changes using the `rtrv-stpopts` command.

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
   STP OPTIONS
   -----------------------
   RSTRDEV             on
   ```

   Note:

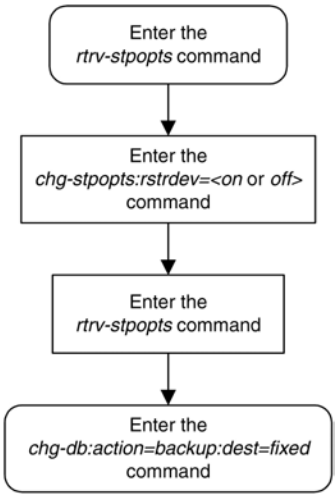
   The `rtrv-stpopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-stpopts` command, see the `rtrv-stpopts` command description in the *Commands Manual*.

4. Backup the new changes using the `chg-db:action=backup:dest=fixed`command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 62: Configuring the Restore Device State Option



Adding an Entry to the Frame Power Alarm Threshold Table

This procedure is used to add an entry to the frame power alarm threshold table. The frame power alarm threshold table defines the power level threshold, in amps, for each frame in the EAGLE 5 ISS. The power level threshold determines when alarms regarding the amount of power used by the frame are generated. Three alarms can be generated for the power levels.

- UAM 0522 - a minor alarm indicating that the power level for the frame has reached 90% of the threshold value.
- UAM 0521 - a major alarm indicating that the power level for the frame has reached 95% of the threshold value.
- UAM 0520 - a critical alarm indicating that the power level for the frame has reached 98% of the threshold value.

More information on these alarms is shown in the *Unsolicited Alarm and Information Messages Manual* .

The power alarm threshold table for each frame is configured using the `ent-frm-pwr` command with these parameters:

`:frm` – The name of the frame being added to the power alarm threshold table, cf00, ef00, ef01, ef02, ef03, or ef04.

`:thrshld` – The power threshold value, from 30 to 65 amps.

The frame being added in this procedure must be configured in the database. This can be verified by displaying the shelves in the EAGLE 5 ISS with the `rtrv-shlf` command. The number assigned to each configured frame is shown in the `SHELF FRAME` column of the `rtrv-shlf` output. *Table 19: Frame Power Alarm Threshold Table Frame Designations* on page 472 shows the name of each frame used in the Frame Power Alarm Threshold table and the corresponding frame number shown in the `SHELF FRAME` column of the `rtrv-shlf` output.

Table 19: Frame Power Alarm Threshold Table Frame Designations

Name of the Frame in the Frame Power Alarm Threshold Table	Frame Numbers shown in the Shelf Frame Column of the RTRV-SHLF Output
CF00	1
EF00	2
EF01	3
EF02	4
EF03	5
EF04	6

The `thrshld` parameter is optional. If the `thrshld` parameter value is not specified, the `thrshld` value is set to 30.

1. Display the frame power alarm thresholds by entering the `rtrv-frm-pwr` command.

   This is an example of the possible output

   .

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0

Frame              Power Threshold (Amps)
-----              ----------------------
cf00                                 56
ef00                                 36

FRAME POWER THRESHOLD table is (2 of 10) 20% full;
RTRV-FRM-PWR: MASP A - COMPLTD
```

2. Display the shelves configured in the database by entering the `rtrv-shlf` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
SHELF DISPLAY
FRAME SHELF        TYPE
  1     1       CONTROL
  1     2       EXTENSION
  1     3       EXTENSION
  2     1       EXTENSION
```

```
  2     2       EXTENSION
  2     3       EXTENSION
  3     1       EXTENSION
```

To add an entry to the Frame Power Alarm Threshold table, the frame must be shown in the `rtrv-shlf` output. *Table 19: Frame Power Alarm Threshold Table Frame Designations* on page 472 shows the name of the frames used in the Frame Power Alarm Threshold table and the corresponding frame numbers shown in the `SHELF FRAME` column of the `rtrv-shlf` output.

If the frame you wish to add to the Frame Power Alarm Threshold table is shown in the `rtrv-shlf` output, go to step 3.

If all the frames shown in the `rtrv-shlf` output are shown in the `rtrv-frm-pwr` output, the only actions that can be taken is to either remove an entry from the Frame Power Alarm Threshold table, or to change an entry in the Frame Power Alarm Threshold table. To remove an entry from the Frame Power Alarm Threshold table, perform the *Removing an Entry from the Frame Power Alarm Threshold Table* on page 476 procedure. To change an entry in the Frame Power Alarm Threshold table, perform the *Changing an Entry in the Frame Power Alarm Threshold Table* on page 480 procedure. If you do not wish to perform either of these actions, this procedure is finished.

3. Display the power consumption of the frame that will be added to the Frame Power Alarm Threshold table by entering the `rtrv-stp` command with these parameters:

   `display=power`

   `frm =<frame to be added>`

   For this example, enter this command.

   `rtrv-stp:display=power:frm=ef01`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0

              Power Threshold          Power Consumption
Frame         (Amps)    (Watts)         (Amps)    (Watts)
-----         ------------------        ------------------
EF01            +30       +1440          14.06        675

                                                Power Consumption
Card       Part Number       Revision        (MilliAmps)        (Watts)
----       -----------       --------       -----------------------------
3101       870-1293-13          D               313                15
3102       870-1293-13          D               313                15
3103       870-2671-03          M              1563                75
3104       870-1293-13          D               313                15
3105       870-2061-01          K               542                26
3106       870-1984-13          M               646                31
3107       870-1984-13          M               646                31
3108       870-2372-14          J               521                25
3109       MUX                                  313                15
3110       MUX                                  313                15
3111       870-2061-01          A               542                26
3112       870-2061-01          A               542                26
3113       850-0549-01          A             +  313              +   15
3114    +  870-2198-07          M             + 1563              +   75
3115       850-0549-01          A               313                15
3116    +  870-2198-07          M              1563                75
3117       870-2371-13          E               625                30
3118       870-1293-13          B               521                25
```

```
FAN ASSYs Power Consumption                    2604             125
Command Completed.
```

4. Add the entry to the Frame Power Alarm Threshold table by entering the `ent-frm-pwr` command with these parameters.

   `frm =<frame to be added>`

   `thrshld=<frame power threshold level>`

   A minor alarm (UAM 0522) is generated when the power level for the frame reaches 90% of the threshold value. A major alarm (UAM 0521) is generated when the power level for the frame reaches 95% of the threshold value. A critical alarm (UAM 0520) is generated when the power level for the frame reaches 98% of the threshold value.

   The `thrshld` parameter is optional. If the `thrshld` parameter value is not specified, the `thrshld` value is set to 30.

   For this example, enter this command.

   `ent-frm-pwr:frm=ef01:thrshld=35`

   When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 00:22:57 GMT  EAGLE5 36.0.0
FRAME POWER THRESHOLD table is (3 of 10) 30% full
ENT-FRM-PWR: MASP A - COMPLTD
```

5. Verify the changes by entering the `rtrv-frm-pwr` command with frame entry specified in step 4.

   For this example, enter this command.

   `rtrv-frm-pwr:frm=ef01`

   This is an example of the possible output.

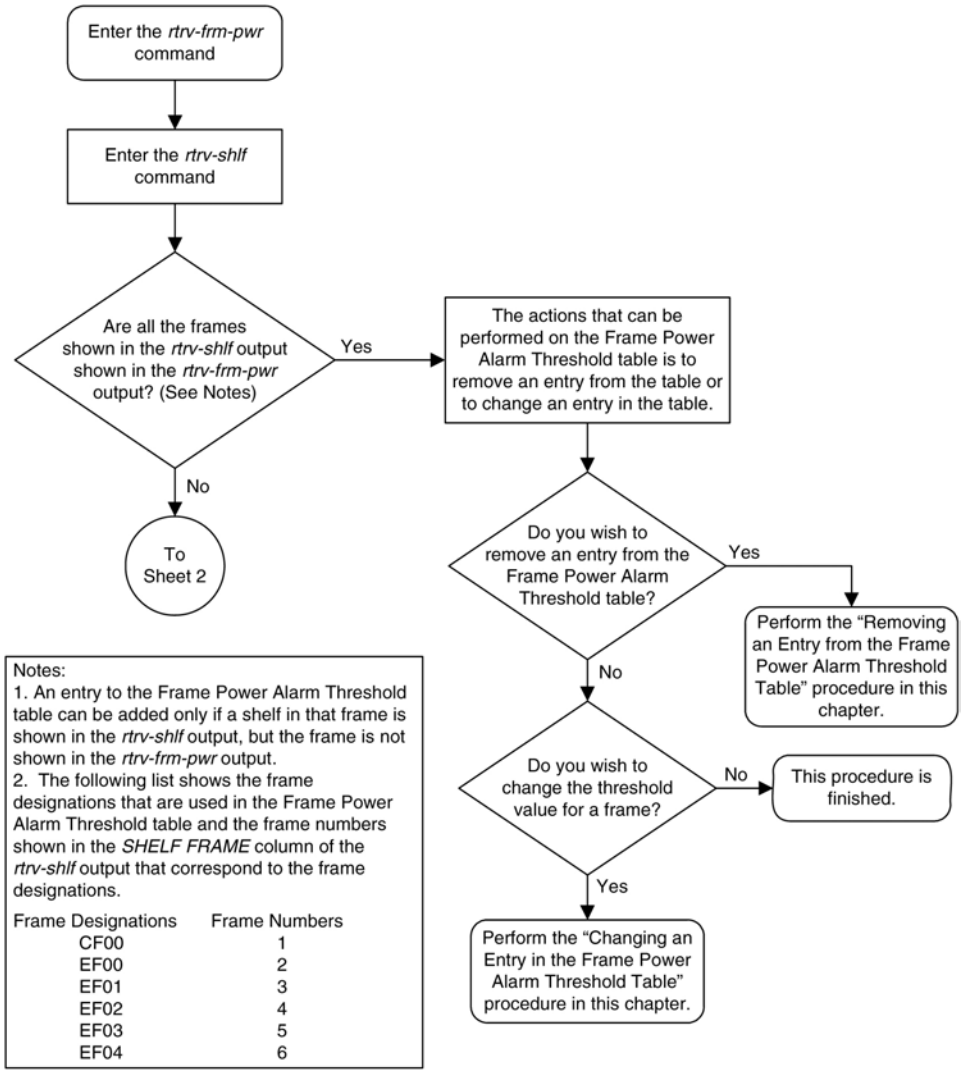
```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0

Frame              Power Threshold (Amps)
-----              ----------------------
ef01                                 35

FRAME POWER THRESHOLD table is (3 of 10) 30% full;
RTRV-FRM-PWR: MASP A - COMPLTD
```

6. Backup the new changes using the `chg-db:action=backup:dest=fixed`command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

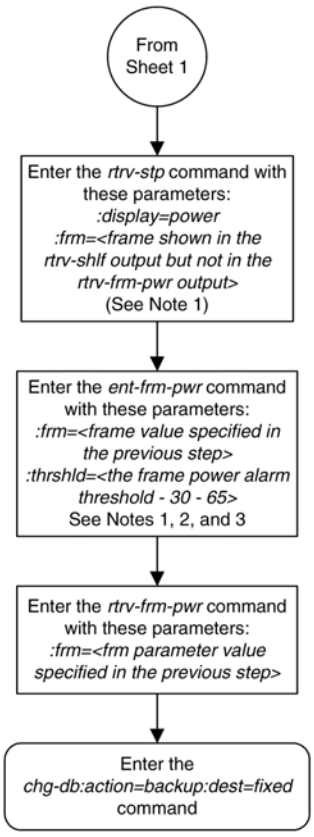
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 63: Adding an Entry to the Frame Power Alarm Threshold Table



Notes:
1. An entry to the Frame Power Alarm Threshold table can be added only if a shelf in that frame is shown in the *rtrv-shlf* output, but the frame is not shown in the *rtrv-frm-pwr* output.
2. The following list shows the frame designations that are used in the Frame Power Alarm Threshold table and the frame numbers shown in the *SHELF FRAME* column of the *rtrv-shlf* output that correspond to the frame designations.

Frame Designations	Frame Numbers
CF00	1
EF00	2
EF01	3
EF02	4
EF03	5
EF04	6



Notes:
1. The following list shows the frame designations that are used in the Frame Power Alarm Threshold table and the frame numbers shown in the *SHELF FRAME* column of the *rtrv-shlf* output that correspond to the frame designations.

Frame Designations	Frame Numbers
CF00	1
EF00	2
EF01	3
EF02	4
EF03	5
EF04	6

The frame designation shown in this list is the value for the *frm* parameter of the *rtrv-stp*, *ent-frm-pwr*, and *rtrv-frm-pwr* commands.

2. A minor alarm is generated when the power level for the frame reaches 90% of the threshold value.
A major alarm is generated when the power level for the frame reaches 95% of the threshold value.
A critical alarm is generated when the power level for the frame reaches 98% of the threshold value.

3. The *thrshld* parameter is optional. If the *thrshld* parameter value is not specified, the *thrshld* value is set to 30.

Removing an Entry from the Frame Power Alarm Threshold Table

This procedure is used to remove an existing entry from the frame power alarm threshold table. The entry in the power alarm threshold table is removed using the `dlt-frm-pwr` command with this parameter:

`:frm` – The name of the frame being removed from the power alarm threshold table, cf00, ef00, ef01, ef02, ef03, or ef04.

The frame being removed from the frame power alarm threshold table must be configured in the frame power alarm threshold table.

When a frame entry is removed, a default threshold setting of 30 amps is assigned to the frame. If the amount of power currently used by the frame is 27 amps or more, an alarm will be generated when this frame entry is removed. The alarm that will be generated will depend of the amount of power the frame is using.

- A minor alarm (UAM 0522) is generated when the power level for the frame reaches 90% of the threshold value.
- A major alarm (UAM 0521) is generated when the power level for the frame reaches 95% of the threshold value.
- A critical alarm (UAM 0520) is generated when the power level for the frame reaches 98% of the threshold value.

More information on these alarms is shown in the *Unsolicited Alarm and Information Messages Manual* .

For example, if the frame is using 27 amps, and the frame is removed resulting in the default 30 amp threshold, minor alarm 0522 is generated because 27 amps is the threshold at which minor alarm 0522 is generated (90% of 30 amps is 27 amps).

If the frame is using 30 amps or more, and the frame is removed resulting in the default 30 amp threshold, critical alarm 0520 is generated because that amount of power used by the frame is 100% or more of the threshold value, and a critical alarm is generated at 98% of the threshold value.

The power being used by the frame is displayed in the `Power Consumption (Amps)` column in the `rtrv-stp` output.

1. Display the frame power alarm thresholds by entering the `rtrv-frm-pwr` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0

Frame              Power Threshold (Amps)
-----              ----------------------
cf00                                 56
ef00                                 36
ef01                                 35

FRAME POWER THRESHOLD table is (3 of 10) 30% full;
RTRV-FRM-PWR: MASP A - COMPLTD
```

2. Display the power consumption of the frame that will be removed from the Frame Power Alarm Threshold table by entering the `rtrv-stp` command with these parameters:

   `display=power`

   `frm =<frame to be removed from step 1>`

   For this example, enter this command.

   `rtrv-stp:display=power:frm=ef01`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0

               Power Threshold          Power Consumption
Frame         (Amps)    (Watts)         (Amps)    (Watts)
-----         ----------------          ----------------
EF01             35        1440          14.06        675

                                              Power Consumption
Card       Part Number       Revision        (MilliAmps)        (Watts)
----       -----------       --------       -----------------------------
3101       870-1293-13          D              313                15
3102       870-1293-13          D              313                15
3103       870-2671-03          M             1563                75
3104       870-1293-13          D              313                15
3105       870-2061-01          K              542                26
3106       870-1984-13          M              646                31
3107       870-1984-13          M              646                31
3108       870-2372-14          J              521                25
3109       MUX                                 313                15
```

```
3110       MUX                                313               15
3111       870-2061-01          A             542               26
3112       870-2061-01          A             542               26
3113       850-0549-01          A           +  313             +   15
3114    +  870-2198-07          M           + 1563             +   75
3115       850-0549-01          A             313               15
3116    +  870-2198-07          M            1563               75
3117       870-2371-13          E             625               30
3118       870-1293-13          B             521               25

FAN ASSYs Power Consumption                  2604              125
Command Completed.
```

When a frame entry is removed, a default threshold setting of 30 amps is assigned to the frame. If the amount of power currently used by the frame is 27 amps or more, shown in the `Power Consumption (Amps)` column in the `rtrv-stp` output, an alarm will be generated when this frame entry is removed. The alarm that will be generated will depend of the amount of power the frame is using. See the introduction to this procedure for the alarm information.

If you still wish to remove this frame entry even if an alarm will be generated, go to step 3. If you do not wish to remove this frame entry, repeat this step with another frame entry from step 1.

If you do not wish to repeat this step with another frame entry from step 1, this procedure is finished.

3. Remove the frame entry from the Frame Power Alarm Threshold table by entering the `dlt-frm-pwr` command with this parameter.

   `frm =<frame to be removed>`

   For this example, enter this command.

   `dlt-frm-pwr:frm=ef01`

   When this command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 00:22:57 GMT  EAGLE5 36.0.0
   FRAME POWER THRESHOLD table is (2 of 10) 20% full
   DLT-FRM-PWR: MASP A - COMPLTD
   ```

4. Verify the changes by entering the `rtrv-frm-pwr` command with frame entry specified in step 3.

   For this example, enter this command.

   `rtrv-frm-pwr:frm=ef01`

   This is an example of the possible output.

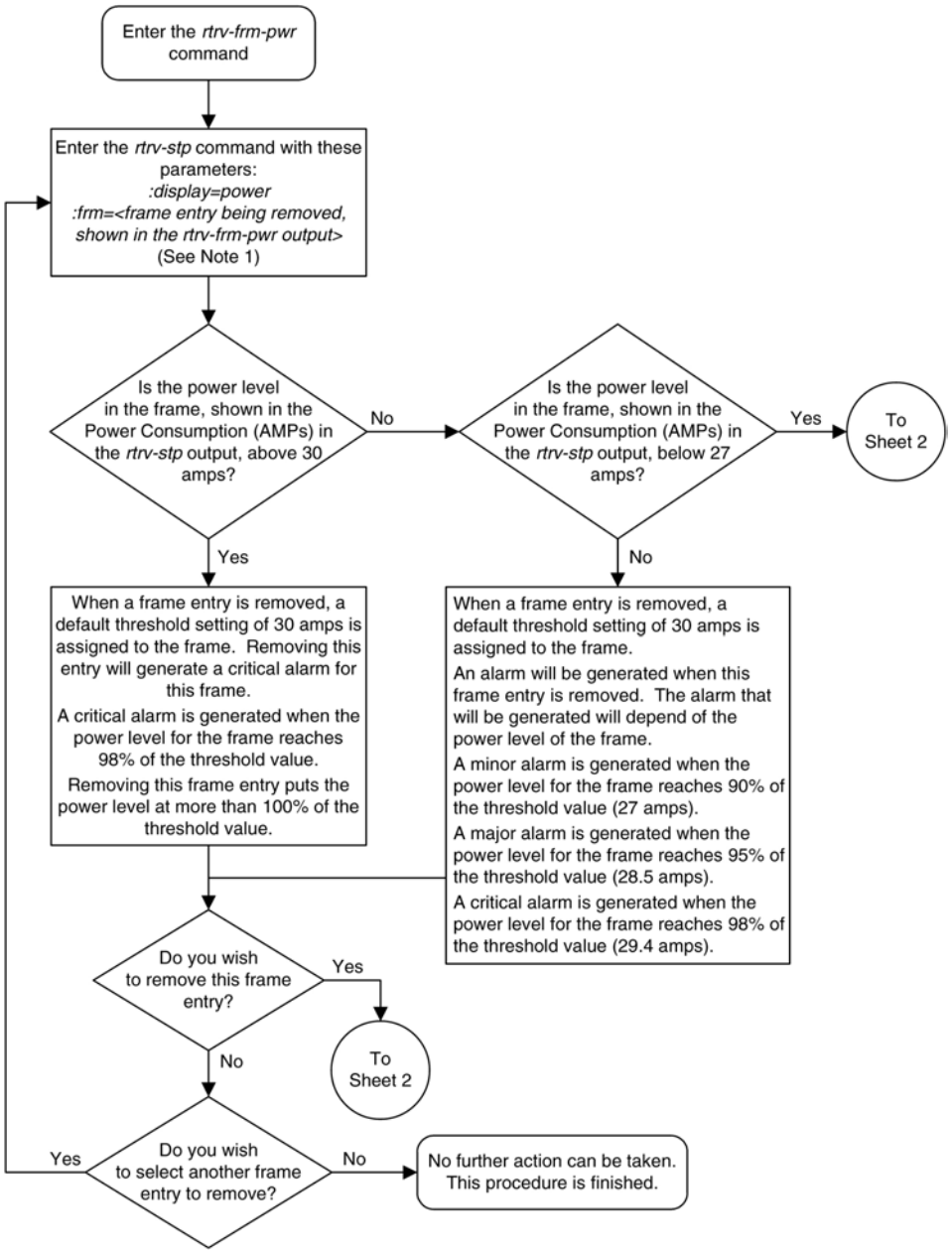
   ```
   rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0

   Frame              Power Threshold (Amps)
   -----              ----------------------
   ef01                                35

   FRAME POWER THRESHOLD table is (2 of 10) 20% full;
   RTRV-FRM-PWR: MASP A - COMPLTD
   ```

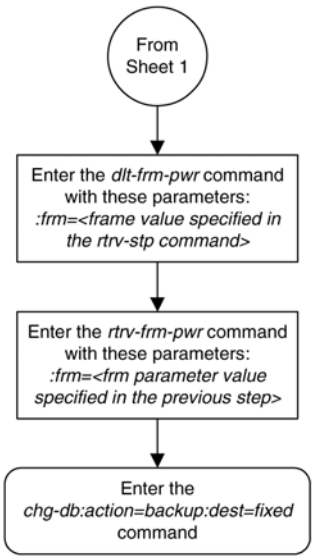
5. Backup the new changes using the `chg-db:action=backup:dest=fixed`command.

These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 64: Removing an Entry from the Frame Power Alarm Threshold Table





Changing an Entry in the Frame Power Alarm Threshold Table

This procedure is used to change an existing entry in the frame power alarm threshold table. The frame entry in the power alarm threshold table is changed using the `chg-frm-pwr` command with these parameters:

`:frm` – The name of the frame being added to the power alarm threshold table, cf00, ef00, ef01, ef02, ef03, or ef04.

`:thrshld` – The power threshold value, from 30 to 65 amps.

The frame power alarm threshold table defines the power level threshold, in amps, for each frame in the EAGLE 5 ISS. The power level threshold determines when alarms regarding the amount power used by the frame are generated. Three alarms can be generated for the power levels.

- UAM 0522 - a minor alarm indicating that the power level for the frame has reached 90% of the threshold value.
- UAM 0521 - a major alarm indicating that the power level for the frame has reached 95% of the threshold value.
- UAM 0520 - a critical alarm indicating that the power level for the frame has reached 98% of the threshold value.

More information on these alarms is shown in the *Unsolicited Alarm and Information Messages Manual* .

When setting the threshold value (the `thrshld` parameter value), the threshold value should be greater than the amount of power being used by the frame. The power being used by the frame is displayed in the `Power Consumption (Amps)` column in the `rtrv-stp` output. The threshold value should also be high enough to avoid generating any alarms.

Table 20: Power Level to Generate a Minor Alarm on page 481 shows selected threshold values and the power levels for a frame that would generate a minor alarm for that threshold value.

Table 20: Power Level to Generate a Minor Alarm

Threshold Value	Power Level to Generate a Minor Alarm
30	27
35	31.5
40	36
45	40.5
50	45
55	49.5
60	54
65	58.5

1. Display the frame power alarm thresholds by entering the `rtrv-frm-pwr` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0

Frame              Power Threshold (Amps)
-----              ----------------------
cf00                                 56
ef00                                 36
ef01                                 35

FRAME POWER THRESHOLD table is (3 of 10) 30% full;
RTRV-FRM-PWR: MASP A - COMPLTD
```

2. Display the power consumption of the frame that will be changed in the Frame Power Alarm Threshold table by entering the `rtrv-stp` command with these parameters:

   `display=power`

   `frm =<frame being changed>`

   For this example, enter this command.

   `rtrv-stp:display=power:frm=ef01`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0

               Power Threshold          Power Consumption
Frame         (Amps)    (Watts)         (Amps)    (Watts)
-----         ----------------          ----------------
EF01             30        1440          14.06        675
```

```
                                                Power Consumption
Card       Part Number       Revision        (MilliAmps)        (Watts)
----       -----------       --------       -----------------------------
3101       870-1293-13          D               313                15
3102       870-1293-13          D               313                15
3103       870-2671-03          M              1563                75
3104       870-1293-13          D               313                15
3105       870-2061-01          K               542                26
3106       870-1984-13          M               646                31
3107       870-1984-13          M               646                31
3108       870-2372-14          J               521                25
3109       MUX                                  313                15
3110       MUX                                  313                15
3111       870-2061-01          A               542                26
3112       870-2061-01          A               542                26
3113       850-0549-01          A             +  313             +   15
3114    +  870-2198-07          M             + 1563             +   75
3115       850-0549-01          A               313                15
3116    +  870-2198-07          M              1563                75
3117       870-2371-13          E               625                30
3118       870-1293-13          B               521                25

FAN ASSYs Power Consumption                    2604               125
Command Completed.
```

3. Changed the entry in the Frame Power Alarm Threshold table by entering the `chg-frm-pwr` command with these parameters.

   `frm =<frame being changed>`

   `thrshld=<frame power threshold level>`

   A minor alarm (UAM 0522) is generated when the power level for the frame reaches 90% of the threshold value. A major alarm (UAM 0521) is generated when the power level for the frame reaches 95% of the threshold value. A critical alarm (UAM 0520) is generated when the power level for the frame reaches 98% of the threshold value. When setting the threshold value, the threshold value should be greater that the `Power Consumption (Amps)` value shown in the `rtrv-stp` output in step 2, and high enough to avoid generating any alarms. See *Table 20: Power Level to Generate a Minor Alarm* on page 481 for some examples of threshold values and the power levels for a frame to generate a minor alarm for these threshold values.

   For this example, enter this command.

   `ent-frm-pwr:frm=ef01:thrshld=45`

   When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 00:22:57 GMT  EAGLE5 36.0.0
FRAME POWER THRESHOLD table is (3 of 10) 30% full
ENT-FRM-PWR: MASP A - COMPLTD
```

4. Verify the changes by entering the `rtrv-frm-pwr` command with frame entry specified in step 3.

   For this example, enter this command.

   `rtrv-frm-pwr:frm=ef01`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
```

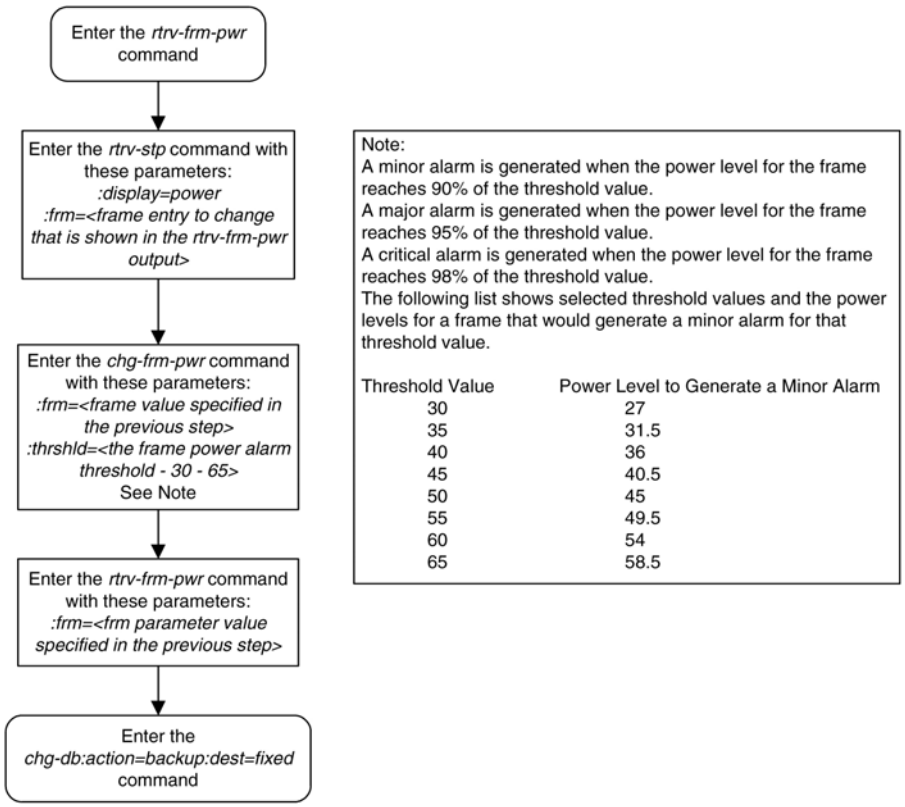
```
Frame              Power Threshold (Amps)
-----              ----------------------
ef01                                 45

FRAME POWER THRESHOLD table is (3 of 10) 30% full;
RTRV-FRM-PWR: MASP A - COMPLTD
```

5. Backup the new changes using the `chg-db:action=backup:dest=fixed`command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 65: Changing an Entry in the Frame Power Alarm Threshold Table



Chapter 5

SEAS Over IP Configuration Procedures

Topics:

Chapter 5, SEAS Over IP Configuration Procedures, describes the procedures used to configure the SEAS over IP feature.

Introduction

The SEAS over IP feature is a TCP/IP-based interface for SEAS that creates a path between the EAGLE 5 ISS and the CCS MR (Common Channel Signaling Message Router). The CCS MR is a stand-alone, self-contained system developed by Telcordia that provides a centralized mechanism for routing CCS network operations traffic between STPs/SCPs and existing and new OSs.

This feature replaces the EOAPs for SEAS and uses E5-IPSMs to provide the path for each SEAS TCP/IP link. One of the eight telnet terminals on the E5-IPSM is used to provide the connection from the EAGLE 5 ISS and the CCS MR. This terminal is referred to as a SEAS terminal.

The EAGLE 5 ISS can contain a maximum of two SEAS terminals. Only one SEAS terminal can be assigned to an E5-IPSM. The remaining seven telnet terminals on the E5-IPSM continue to provide generic IP-based services such as Telnet and FTP.

The EOAP-based SEAS functionality and the SEAS over IP feature can be present on an EAGLE 5 ISS, but the EOAP-based SEAS functionality and the SEAS over IP feature cannot operate at the same time. If the SEAS over IP feature is turned on, and the EOAP-based SEAS functionality is provisioned, the EOAP-based SEAS traffic stops, and SEAS traffic is handled by the SEAS over IP feature. If the SEAS over IP feature is turned off, and the EOAP-based SEAS functionality is provisioned correctly, the SEAS over IP traffic stops and the SEAS traffic is handled by the EOAP-based SEAS functionality. If the EOAP-based SEAS functionality is not provisioned or not provisioned correctly when the SEAS over IP feature is turned off, SEAS traffic stops and the SEAS feature is disabled. The EOAP-based SEAS functionality is discussed in more detail in the *System Manual - EOAP*.

SEAS over IP Feature Configurations

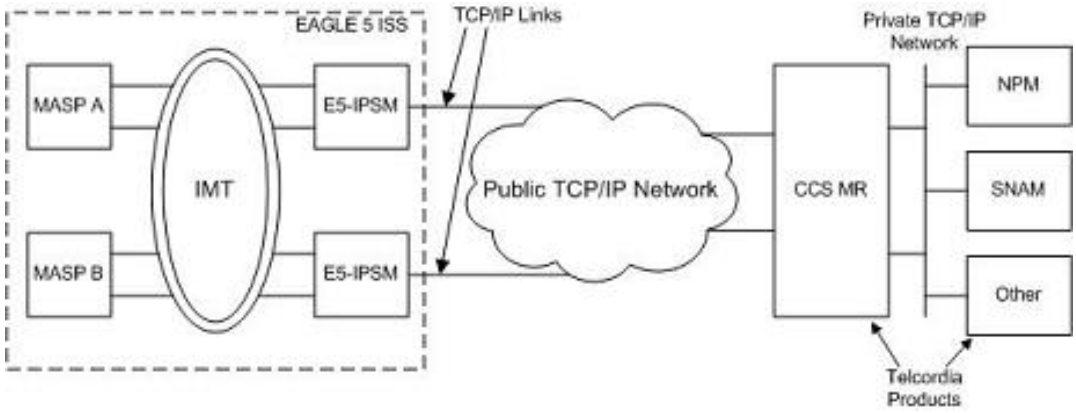
The SEAS over IP feature supports three configurations"

- Dual SEAS terminals with a single CCS MR
- Dual SEAS terminals with dual CCS MRs
- One SEAS terminal with one CCS MR.

Dual SEAS Terminals with a Single CCS MR SEAS Configuration

The two SEAS terminals are connected to a single CCS MR as shown in *Figure 66: Dual SEAS Terminals with Single CCS MR SEAS Configuration* on page 486. The two SEAS terminals operate in a redundant fashion allowing a maximum of two active connections to the CCS MR. While the connection to the CCS MR is dedicated to SEAS, the other terminals on the E5-IPSM may still be used for other IP-based operations, such as Telnet and FTP, or their secure counterparts, SSH and SFTP. Different SEAS information can be transmitted and received separately over each connection to the CCS MR.

Figure 66: Dual SEAS Terminals with Single CCS MR SEAS Configuration

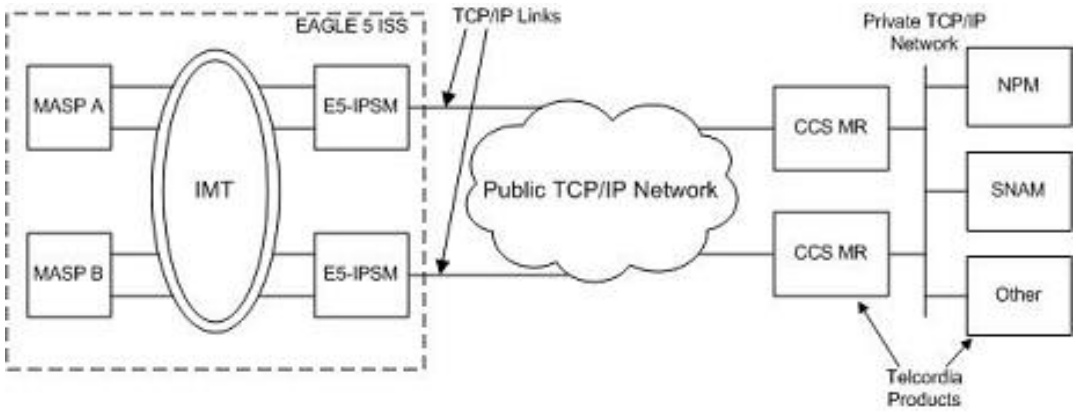


Dual SEAS Terminals with Dual CCS MRs SEAS Configuration

When the two SEAS terminals are connected to two CCS MRs, as shown in *Figure 67: Dual SEAS Terminals with Dual CCS MRs SEAS Configuration* on page 487, the operation of the SEAS connections is similar to the "Dual SEAS Terminals with a Single CCS MR SEAS Configuration" section with the following exceptions:

- Each SEAS terminal is configured with a connection to one of the CCS MRs.
- The pair of CCS MRs operate in a round robin manner if they each have an active connection to a SEAS terminal. When the EAGLE 5 ISS receives a command request from a CCS MR, the response to the command request is sent to the CCS MR on the same TCP connection that the CCS MR used to send the command request.

Figure 67: Dual SEAS Terminals with Dual CCS MRs SEAS Configuration



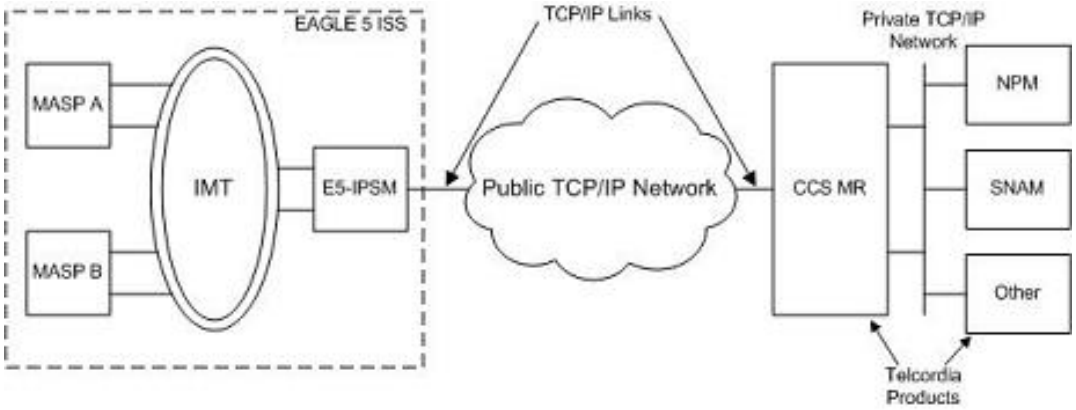
Simplex SEAS Terminal Operation

With the simplex SEAS terminal operation, there is only one SEAS terminal connected to one CCS MR. There are no redundant connections to the CCS MR and this configuration is intended to serve as a restricted mode of operation until another SEAS terminal is returned to service. The simplex mode of operation is not recommended as a standard mode of operation for the SEAS over IP feature.

- All SEAS information is transmitted over this single IP connection to the CCS MR.

- The SEAS system will be in an IS-ANR/Restricted state while the system is in the simplex SEAS terminals operation and a major alarm, UAM 0348, is generated for the SEAS system. Refer to the *Unsolicited Alarm and Information Messages Manual* for more information on UAM 0348.

Figure 68: Simplex SEAS Terminal Configuration



Provisioning the SEAS over IP Feature

To provision the SEAS over IP feature, perform these steps.

1. Add the E5-IPSMs to the database using the `ent-card` command. Perform the *Adding an IPSM* on page 445 procedure.
2. Enable the SEAS over IP feature using the `enable-ctrl-feat` command. Perform the *Activating the SEAS over IP Feature* on page 488 procedure.
3. Configure the SEAS connections using the `chg-seas-config` command. Perform the *Performing the Initial SEAS Configuration* on page 495 procedure.
4. Configure the SEAS terminals using the `chg-trm` command. Perform the *Configuring SEAS Terminals* on page 501 procedure.
5. Turn the SEAS over IP feature on using the `chg-ctrl-feat` command. Perform the *Activating the SEAS over IP Feature* on page 488 procedure.

Activating the SEAS over IP Feature

This procedure is used to enable and turn on the SEAS over IP feature using the feature's part number and a feature access key.

The feature access key is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The `enable-ctrl-feat` command enables the feature by inputting the feature's access key and the feature's part number with these parameters:

`:fak` – The feature access key provided by Tekelec.

`:partnum` – The Tekelec-issued part number of the SEAS over IP feature, 893018801.

Once this feature is enabled, it is permanently enabled. This feature cannot be enabled with a temporary feature access key.

The Telnet feature (IP User Interface), part number 893005701, must be enabled and turned on before the SEAS over IP feature can be enabled. Perform the *Activating Controlled Features* on page 526 procedure to enable and turn on the Telnet feature.

Once the SEAS over IP feature has been enabled, the SEAS over IP feature must be turned on with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command uses these parameters:

`:partnum` – The Tekelec-issued part number of the SEAS over IP feature, 893018801.

`:status=on` – used to turn the SEAS over IP feature on.

Note: To turn the SEAS over IP feature on in step 5, these items must be provisioned in the database.

- The `seasclli` value must be provisioned.
- The IP address and port for at least one connection must be provisioned.
- At least one SEAS terminal must be provisioned.
- If the Eagle OAM IP Security Enhancement feature is enabled and turned on, the `login` and `hname` values for at least one connection must be provisioned.

If you wish to provision the EAGLE 5 ISS for the SEAS over IP feature at this time, perform these procedures.

- *Performing the Initial SEAS Configuration* on page 495
- *Configuring SEAS Terminals* on page 501

Once the SEAS over IP feature has been turned on, it be can be turned off. For more information on turning the SEAS over IP feature off, go to the *Turning the SEAS Over IP Feature Off* on page 521 procedure.

The status of the SEAS over IP and Telnet features is shown with the `rtrv-ctrl-feat` command.

CAUTION: When the SEAS over IP feature feature is turned on, and the SEAS terminals and SEAS configuration is provisioned, SEAS traffic is sent to the CCS MR using the SEAS terminals. If the OAP-based SEAS configuration has been provisioned, the OAP-based SEAS traffic stops.

1. Display the status of the controlled features by entering the `rtrv-ctrl-feat` command.

   The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
HC-MIM SLK Capacity       893012707  on      64
Command Class Management  893005801  off     ----
LNP Short Message Service 893006601  on      ----
Intermed GTT Load Sharing 893006901  off     ----
XGTT Table Expansion      893006101  off     ----
XMAP Table Expansion      893007710  on      3000
Large System # Links      893005910  on      2000
Routesets                 893006401  on      6000

The following features have been temporarily enabled:
```

```
Feature Name              Partnum    Status  Quantity     Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

If the SEAS over IP feature is enabled and turned on, no further action is necessary. This procedure does not need to be performed.

If the SEAS over IP feature is enabled and but not turned on, skip steps 2 and 3 and go to step 4.

If the SEAS over IP feature is not enabled, go to step 2.

2. To enable the SEAS over IP feature, the Telnet feature must be enabled and turned on. The Eagle OA&M IP Security Enhancement feature can also be used with the SEAS over IP feature. If the `rtrv-ctrl-feat` output in step 1 shows that the Telnet and Eagle OA&M IP Security Enhancement features are enabled and turned on, skip this step and go to step 3.

   If the `rtrv-ctrl-feat` output in step 1 shows that the Telnet is not enabled or turned on, perform the *Activating Controlled Features* on page 526 procedure to enable and turn on the Telnet feature.

   The Eagle OA&M IP Security Enhancement feature can be enabled and turned on if the Telnet feature is not enabled and turned on. After the Telnet feature is enabled, and the `rtrv-ctrl-feat` output shows that the Eagle OA&M IP Security Enhancement feature is enabled and turned on, go to step 3.

   If the Eagle OA&M IP Security Enhancement feature is not enabled and turned on, and you do not wish to use the If the Eagle OA&M IP Security Enhancement feature with the SEAS over IP feature, go to step 3.

   If the Eagle OA&M IP Security Enhancement feature is not enabled and turned on, and you wish to use the If the Eagle OA&M IP Security Enhancement feature with the SEAS over IP feature, perform the *Activating the Eagle OA&M IP Security Enhancement Controlled Feature* on page 534 procedure to enable and turn on the Activating the Eagle OA&M IP Security Enhancement Controlled Feature. When the Activating the Eagle OA&M IP Security Enhancement Controlled Feature is enabled and turned on, go to step 3.

3. Enable the SEAS over IP feature with the `enable-ctrl-feat` command specifying the part number for the SEAS over IP feature and the feature access key. Enter this command.

   `enable-ctrl-feat:partnum=893018801:fak=<SEAS over IP feature access key>`

   Note: The SEAS over IP feature cannot be enabled with a temporary feature access key.

   Note: The values for the feature access key (the `fak` parameter) are provided by Tekelec. If you do not have the feature access key for the SEAS over IP feature, contact your Tekelec Sales Representative or Account Representative.

When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

Note: To turn the SEAS over IP feature on in step 5, these items must be provisioned in the database.

- The `seasclli` value must be provisioned.
- The IP address and port for at least one connection must be provisioned.
- At least one SEAS terminal must be provisioned.
- If the Eagle OAM IP Security Enhancement feature is enabled and turned on, the `login` and `hname` values for at least one connection must be provisioned.

If you wish to provision the EAGLE 5 ISS for the SEAS over IP feature at this time, perform these procedures.

- *Performing the Initial SEAS Configuration* on page 495
- *Configuring SEAS Terminals* on page 501

After the SEAS over IP feature provisioning has been completed, skip step 4 and go to step 5.

If you do not wish to provision the EAGLE 5 ISS for the SEAS over IP feature at this time, skip steps 4 and 5, and go to step 6.

Note: If the SEAS over IP feature was enabled in this step, skip step 4 and go to step 5.

4. Before the SEAS over IP feature can be turned on, the SEAS over IP feature configuration must be correct (see the third note in step 3). Display the SEAS over IP configuration by entering the `rtrv-seas-config` command.

   The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is not enabled and turned on.

```
rlghncxa03w 07-01-23 18:46:01 EST  EAGLE 37.5.0
SEASCLLI     CONNECTION  IPADDRESS        PORT   TERMINAL
--------     ----------  ---------        ----   --------
TEAGLESTP001 IPMR1       192.168.25.10    2500   18
             IPMR2       192.168.25.20    2600   27
```

   The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is enabled and turned on.

```
tekelecstp 07-01-23 18:46:01 EST EAGLE 37.5.0
SEASCLLI            AUTHMODE
----------------------------
TEAGLESTP001        Password

TERMINAL      CONNECTION    IPADDR          PORT   LOGIN      HNAME

------------------------------------------------------------------------
18            IPMR1         198.168.25.10   2500    root      abaco-a
27            IPMR2         198.168.25.20   2600    root      abaco-b
```

   To turn this feature on in step 5, the items shown in the third note in step 3 must be provisioned. If the SEAS configuration is not correct, perform the *Changing the Existing SEAS Configuration* on page 513 procedure to make the necessary corrections to the SEAS over IP configuration. If no SEAS terminals are shown in this step, perform the *Configuring SEAS Terminals* on page 501 procedure to configure the SEAS terminals.

5. Turn the SEAS over IP feature on with the `chg-ctrl-feat` command specifying the part number for the SEAS over IP feature and the `status=on` parameter. Enter this command.

   ```
   chg-ctrl-feat:partnum=893018801:status=on
   ```

   CAUTION: When the SEAS over IP feature feature is turned on, SEAS traffic is sent to the CCS MR using the SEAS terminals. If the OAP-based SEAS configuration has been provisioned, the OAP-based SEAS traffic stops.

   When the `chg-ctrl-feat` command has successfully completed, the following message should appear.

   ```
   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   CHG-CTRL-FEAT: MASP B - COMPLTD
   ```

6. Verify the changes by entering the `rtrv-ctrl-feat` command with the SEAS over IP feature part number. Enter this command.

   ```
   rtrv-ctrl-feat:partnum=893018801
   ```

   The following is an example of the possible output.

   ```
   rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
   The following features have been permanently enabled:

   Feature Name              Partnum    Status  Quantity
   SEAS over IP              893018801  on      ----

   The following features have been temporarily enabled:

   Feature Name              Partnum    Status  Quantity     Trial Period Left
   Zero entries found.

   The following features have expired temporary keys:

   Feature Name              Partnum
   Zero entries found.
   ```

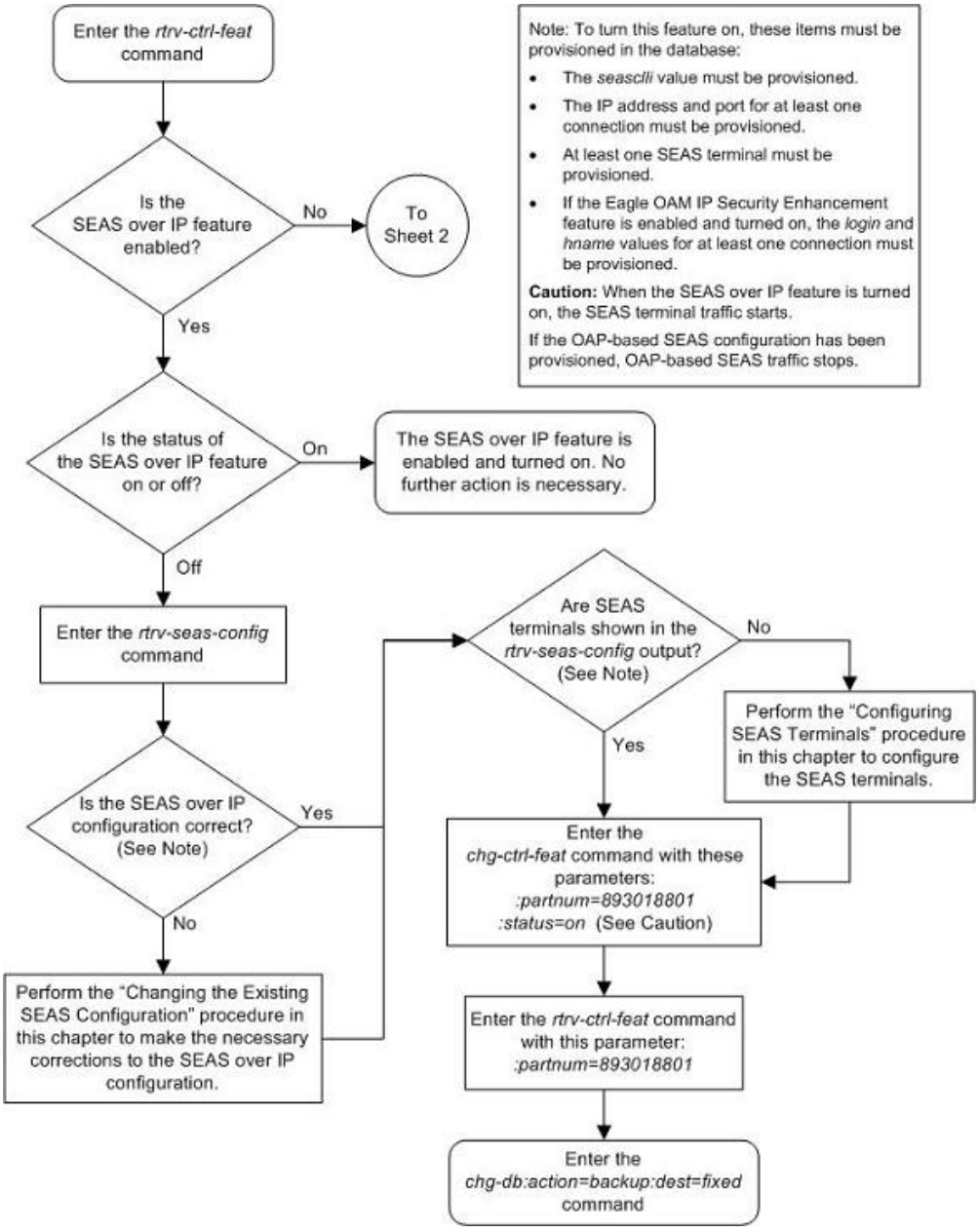
7. Backup the new changes using the `chg-db:action=backup:dest=fixed`command.

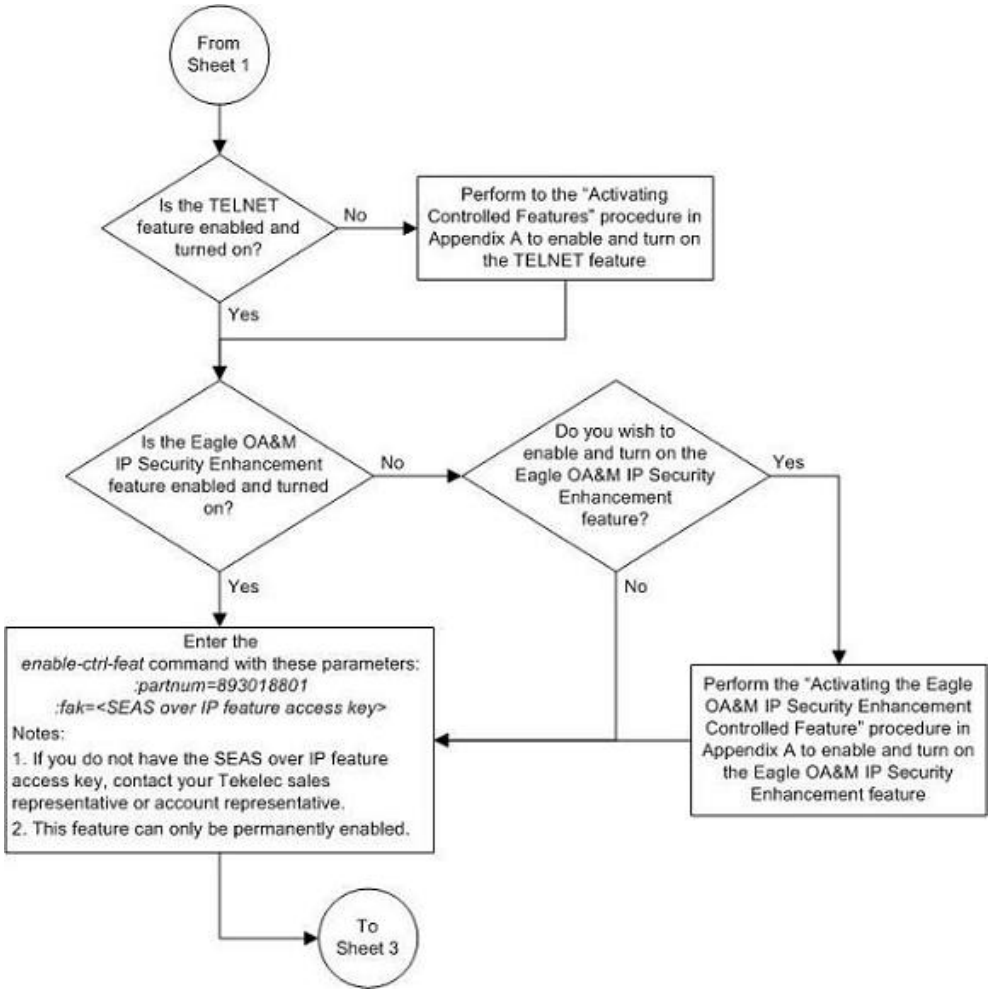
   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first

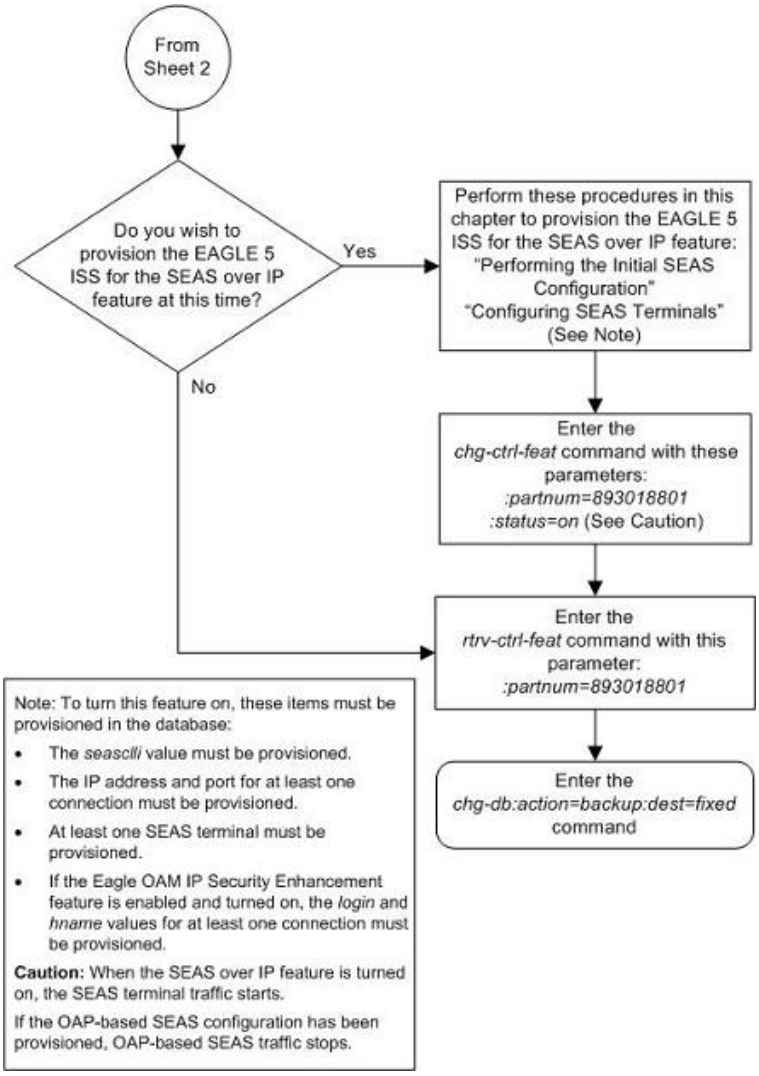
   .

   ```
   BACKUP (FIXED) : MASP A - Backup starts on active MASP.
   BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
   BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
   BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
   ```

Figure 69: Activating the SEAS over IP Feature


Enter the *rtrv-ctrl-feat* command
Is the SEAS over IP feature enabled?
No
To Sheet 2
Yes
Is the status of the SEAS over IP feature on or off?
On
The SEAS over IP feature is enabled and turned on. No further action is necessary.
Off
Enter the *rtrv-seas-config* command
Is the SEAS over IP configuration correct? (See Note)
Yes
No
Perform the "Changing the Existing SEAS Configuration" procedure in this chapter to make the necessary corrections to the SEAS over IP configuration.
Are SEAS terminals shown in the *rtrv-seas-config* output? (See Note)
No
Perform the "Configuring SEAS Terminals" procedure in this chapter to configure the SEAS terminals.
Yes
Enter the *chg-ctrl-feat* command with these parameters: *:partnum=893018801 :status=on* (See Caution)
Enter the *rtrv-ctrl-feat* command with this parameter: *:partnum=893018801*
Enter the *chg-db:action=backup:dest=fixed* command
Note: To turn this feature on, these items must be provisioned in the database:
• The *seasclli* value must be provisioned.
• The IP address and port for at least one connection must be provisioned.
• At least one SEAS terminal must be provisioned.
• If the Eagle OAM IP Security Enhancement feature is enabled and turned on, the *login* and *hname* values for at least one connection must be provisioned.
Caution: When the SEAS over IP feature is turned on, the SEAS terminal traffic starts.
If the OAP-based SEAS configuration has been provisioned, OAP-based SEAS traffic stops.


From Sheet 1
Is the TELNET feature enabled and turned on?
No
Perform to the "Activating Controlled Features" procedure in Appendix A to enable and turn on the TELNET feature
Yes
Is the Eagle OA&M IP Security Enhancement feature enabled and turned on?
No
Do you wish to enable and turn on the Eagle OA&M IP Security Enhancement feature?
Yes
Yes
No
Enter the enable-ctrl-feat command with these parameters:
:partnum=893018801
:fak=<SEAS over IP feature access key>
Notes:
1. If you do not have the SEAS over IP feature access key, contact your Tekelec sales representative or account representative.
2. This feature can only be permanently enabled.
Perform the "Activating the Eagle OA&M IP Security Enhancement Controlled Feature" procedure in Appendix A to enable and turn on the Eagle OA&M IP Security Enhancement feature
To Sheet 3



Performing the Initial SEAS Configuration

This procedure is used to configure the connections to the CCS MR using the `chg-seas-config` command. This procedure is performed only when configuring the connections to the CCS MR for the first time.

The `chg-seas-config` command can be used to change the SEAS configuration after the connections have been configured for the first time. Perform the *Changing the Existing SEAS Configuration* on page 513 procedure to make this type of change.

The `chg-seas-config` command uses these parameters.

`:conn` – The name of the SEAS connection, either IPMR1 or IPMR2

`:seasclli` – The CLLI part of node name of the EAGLE 5 ISS consisting of one alphabetic character and up to 15 alphanumeric characters. The `seasclli` value is different from the EAGLE

5 ISS `clli` value that is entered with the `chg-sid` command. The `seasclli` value must also be configured on the Telcordia Message Router (CCS MR). Refer to Telecordia Configuration Specification "Telcordia Technologies System Documentation", *BD-SNAM-ADMIN-4 Issue 14, November 2006*.

`:ipaddr` – The IP address of the CCS MR.

`:port` – The port number of the CCS MR that the EAGLE 5 ISS connects to, from 1024 to 5000.

`:hname` – The name of the remote host of the CCS MR, 1 to 15 alphanumeric characters.

`:login` – The login name of the CCS MR, 1 to 15 alphanumeric characters.

`:authmode` – The method of authentication used for the connection. Currently, only password authentication is used for SEAS connections, so this parameter has only one value, `password`. This parameter is optional and does not need to be specified.

The `hname`, `login`, and `authmode` parameters are used only when the Eagle OA&M IP Security feature is enabled and turned on. The values for these parameters are displayed in the `rtrv-seas-config` output only when the Eagle OA&M IP Security feature is enabled and turned on. The status of the Eagle OA&M IP Security feature is shown in the `rtrv-ctrl-feat` output.

CAUTION: The IP address and `port` value combination for each SEAS connection must be unique or the `chg-seas-config` command will be rejected.

1. Verify whether or not the SEAS over IP feature is enabled by entering this command.

   ```
   rtrv-ctrl-feat:partnum=893018801
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
   The following features have been permanently enabled:

   Feature Name              Partnum    Status  Quantity
   SEAS over IP              893018801  off      ----

   The following features have been temporarily enabled:

   Feature Name              Partnum    Status  Quantity     Trial Period Left
   Zero entries found.

   The following features have expired temporary keys:

   Feature Name              Partnum
   Zero entries found.
   ```

   If the SEAS over IP feature is enabled, go to step 2.

   If the SEAS over IP feature is not enabled, perform the *Activating the SEAS over IP Feature* on page 488 procedure in this chapter to enable SEAS over IP feature. After the SEAS over IP feature has been enabled, go to step 2.

2. Display the current SEAS configuration using the `rtrv-seas-config` command.

   The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is not enabled and turned on.

   ```
   rlghncxa03w 07-01-23 18:46:01 EST  EAGLE 37.5.0
   SEASCLLI     CONNECTION  IPADDRESS        PORT   TERMINAL
   ```

```
--------     ----------  ---------        ----   --------
------------ IPMR1       -------------    ----   --
             IPMR2       -------------    ----   --
```

The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is enabled and turned on.

```
tekelecstp 07-01-23 18:46:01 EST EAGLE 37.5.0
SEASCLLI            AUTHMODE
----------------------------
------------        --------

TERMINAL      CONNECTION    IPADDR          PORT   LOGIN      HNAME

------------------------------------------------------------------------
--            IPMR1         -------------   ----    ----      --------
--            IPMR2         -------------   ----    ----      --------
```

3. Enter the SEASCLLI value by entering the `chg-seas-config` command with the `seasclli` parameter. For this example, enter this command.

   `chg-seas-config:seasclli=TEAGLESTP001`

   Note: The SEASCLLI value is different from the CLLI value specified with the `chg-sid` command.

4. Verify whether or not the Eagle OA&M IP Security Enhancement feature is enabled and turned on by entering this command.

   `rtrv-ctrl-feat:partnum=893400001`

   This is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
EAGLE OA&M IP Security    893400001  on      ----

The following features have been temporarily enabled:

Feature Name              Partnum    Status  Quantity     Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

5. Provision the first connection to the CCS MR. Enter the `chg-seas-config` command with these parameters:

   - :conn=ipmr1
   - :ipaddr=the IP address of the CCS MR
   - :port = the port number of the CCS MR

CAUTION: The IP address and `port` value combination for each SEAS connection must be unique or the `chg-seas-config` command will be rejected.

If the Eagle OA&M IP Security Enhancement feature is enabled and turned on, these parameters must also be specified.

- :hname = The name of the remote host of the CCS MR.
- :login = The login name of the CCS MR.

If the Eagle OA&M IP Security Enhancement feature is not enabled and turned on, for this example, enter this command.

```
chg-seas-config:conn=ipmr1:ipaddr=198.168.25.10:port=2500
```

If the Eagle OA&M IP Security Enhancement feature is enabled and turned on, for this example, enter this command.

```
chg-seas-config:conn=ipmr1:ipaddr=198.168.25.10:port=2500:hname=abaco-a:login=root
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
CHG-SEAS-CONFIG: MASP A - COMPLTD
```

If the `login` parameter is specified with the `chg-seas-config` command, the `Enter Password:` prompt appears. When the `Enter Password:` prompt appears, enter the password for the login name. The length of the password is from 1 to 15 alphanumeric characters. The password is not echoed on the screen.

6. Provision the second connection to the CCS MR. Enter the `chg-seas-config` command with these parameters:

- :conn=ipmr2
- :ipaddr=the IP address of the CCS MR
- :port = the port number of the CCS MR

CAUTION: The IP address and `port` value combination for each SEAS connection must be unique or the `chg-seas-config` command will be rejected.

If the Eagle OA&M IP Security Enhancement feature is enabled and turned on, these parameters must also be specified.

- :hname = The name of the remote host of the CCS MR.
- :login = The login name of the CCS MR.

If the Eagle OA&M IP Security Enhancement feature is not enabled and turned on, for this example, enter this command.

```
chg-seas-config:conn=ipmr2:ipaddr=198.168.25.20:port=2600
```

If the Eagle OA&M IP Security Enhancement feature is enabled and turned on, for this example, enter this command.

```
chg-seas-config:conn=ipmr2:ipaddr=198.168.25.20:port=2600:hname=abaco-b:login=root
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
CHG-SEAS-CONFIG: MASP A - COMPLTD
```

If the `login` parameter is specified with the `chg-seas-config` command, the `Enter Password:` prompt appears. When the `Enter Password:` prompt appears, enter the password for the login name. The length of the password is from 1 to 15 alphanumeric characters. The password is not echoed on the screen.

7. Verify the SEAS configuration using the `rtrv-seas-config` command.

   The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is not enabled and turned on.

```
rlghncxa03w 07-01-23 18:46:01 EST  EAGLE 37.5.0
SEASCLLI     CONNECTION  IPADDRESS        PORT   TERMINAL
--------     ----------  ---------        ----   --------
TEAGLESTP001 IPMR1       192.168.25.10    2500   18
             IPMR2       192.168.25.20    2600   27
```

   The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is enabled and turned on.

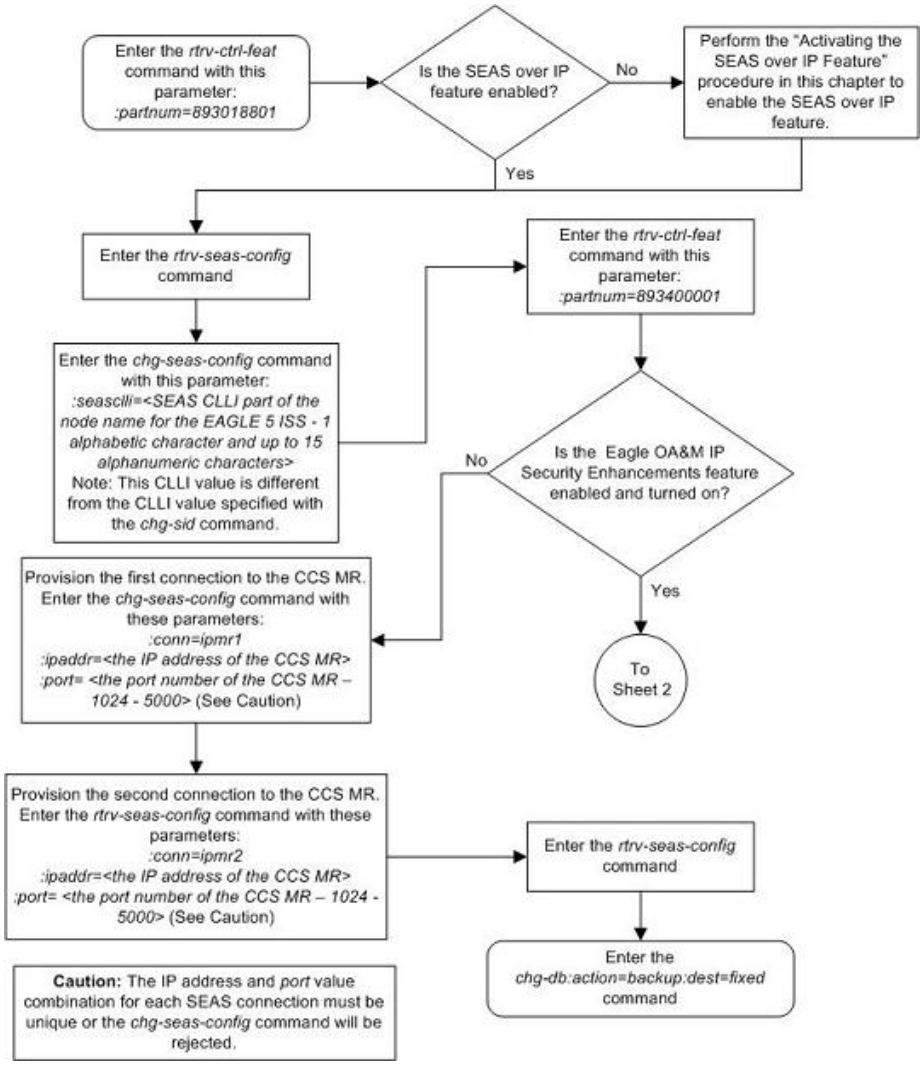
```
tekelecstp 07-01-23 18:46:01 EST EAGLE 37.5.0
SEASCLLI            AUTHMODE
----------------------------
TEAGLESTP001        Password

TERMINAL      CONNECTION    IPADDR          PORT   LOGIN      HNAME

------------------------------------------------------------------------
18            IPMR1         198.168.25.10   2500    root      abaco-a
27            IPMR2         198.168.25.20   2600    root      abaco-b
```

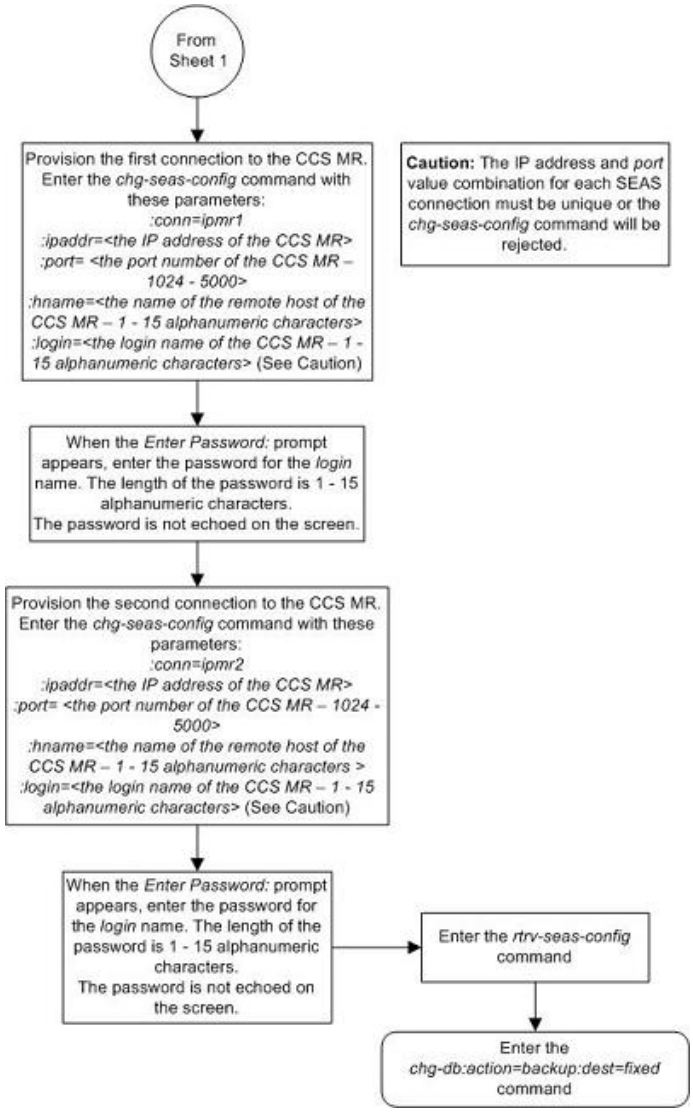
8. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 70: Performing the Initial SEAS Configuration


Enter the rtrv-ctrl-feat command with this parameter: :partnum=893018801
Is the SEAS over IP feature enabled?
No
Perform the "Activating the SEAS over IP Feature" procedure in this chapter to enable the SEAS over IP feature.
Yes
Enter the rtrv-seas-config command
Enter the rtrv-ctrl-feat command with this parameter: :partnum=893400001
Enter the chg-seas-config command with this parameter: :seasclli=<SEAS CLLI part of the node name for the EAGLE 5 ISS - 1 alphabetic character and up to 15 alphanumeric characters> Note: This CLLI value is different from the CLLI value specified with the chg-sid command.
Is the Eagle OA&M IP Security Enhancements feature enabled and turned on?
No
Yes
Provision the first connection to the CCS MR. Enter the chg-seas-config command with these parameters: :conn=ipmr1 :ipaddr=<the IP address of the CCS MR> :port= <the port number of the CCS MR – 1024 - 5000> (See Caution)
To Sheet 2
Provision the second connection to the CCS MR. Enter the rtrv-seas-config command with these parameters: :conn=ipmr2 :ipaddr=<the IP address of the CCS MR> :port= <the port number of the CCS MR – 1024 - 5000> (See Caution)
Enter the rtrv-seas-config command
Enter the chg-db:action=backup:dest=fixed command
Caution: The IP address and port value combination for each SEAS connection must be unique or the chg-seas-config command will be rejected.



Configuring SEAS Terminals

This procedure is used to configure SEAS terminals for the SEAS over IP feature. The SEAS terminal can be configured only on E5-IPSMs. The EAGLE 5 ISS can contain a maximum of two SEAS terminals, but only one SEAS terminal can be configured on an E5-IPSM. When an E5-IPSM is configured in the database, eight telnet terminals are created. To configure the SEAS terminal, one of these telnet terminals is changed to a SEAS terminal using the `chg-trm` command with these parameters.

`:trm` – The number of the telnet terminal being changed, 17 through 40

`:type=seas` – The SEAS terminal type.

The chg-trm command contains other parameters, but these parameters cannot be used in this procedure. For more information on these parameters, see the *Changing Terminal Characteristics* on page 349 procedure in this manual, or the chg-trm command description in the *Commands Manual*.

SEAS terminals can be configured only if the SEAS over IP feature is enabled. The status of the SEAS over IP feature is shown in the rtrv-ctrl-feat output. If the SEAS over IP feature is not enabled, perform the *Activating the SEAS over IP Feature* on page 488 procedure in this chapter to enable the SEAS over IP feature.

When the SEAS terminal is configured, the value for the SEAS output group parameter is set to YES. The values for the other output group parameters and the tmout, dural, and mxinv parameters are not changed.

The other output group parameters can be changed with the specific output group parameter or the all parameter. If the all=no parameter is specified for a SEAS terminal (type=seas), all the output group values are changed to NO except for the SEAS output group. The SEAS output group value remains set to YES and this message is displayed.

```
SEAS Output Group is SET for SEAS terminal <terminal number>
```

1. Verify whether or not the SEAS over IP feature is enabled by entering this command.

   ```
   rtrv-ctrl-feat:partnum=893018801
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
   The following features have been permanently enabled:

   Feature Name              Partnum    Status  Quantity
   SEAS over IP              893018801  off      ----

   The following features have been temporarily enabled:

   Feature Name              Partnum    Status  Quantity     Trial Period Left
   Zero entries found.

   The following features have expired temporary keys:

   Feature Name              Partnum
   Zero entries found.
   ```

   If the SEAS over IP feature is enabled, go to step 2.

   If the SEAS over IP feature is not enabled, perform the *Activating the SEAS over IP Feature* on page 488 procedure in this chapter to enable SEAS over IP feature. After the SEAS over IP feature has been enabled, perform the *Performing the Initial SEAS Configuration* on page 495 procedure in this chapter. After the *Performing the Initial SEAS Configuration* on page 495 procedure has been performed, go to step 2.

2. Display the terminals in the EAGLE 5 ISS using the rtrv-trm command.

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
   TRM  TYPE     COMM         FC    TMOUT MXINV DURAL
   1    VT320    9600-7-E-1   SW    30    5     99:59:59
   2    KSR      9600-7-E-1   HW    30    5     INDEF
   3    PRINTER  4800-7-E-1   HW    30    0     00:00:00
   4    VT320    2400-7-E-1   BOTH  30    5     00:30:00
   ```

```
5    VT320    9600-7-O-1  NONE  30    5     00:00:30
6    VT320    9600-7-E-2  SW    30    9     INDEF
7    PRINTER  9600-7-N-2  HW    30    5     00:30:00
8    KSR     19200-7-E-2  BOTH  30    5     00:30:00
9    VT320    9600-7-E-1  SW    30    7     00:30:00
10   VT320    9600-7-E-1  HW    30    5     00:30:00
11   VT320    4800-7-E-1  HW    30    5     00:30:00
12   PRINTER  9600-7-E-1  HW    30    4     00:30:00
13   VT320    9600-7-O-1  NONE  30    5     00:30:00
14   VT320    9600-7-E-2  SW    30    8     00:30:00
15   VT320    9600-7-N-2  HW    30    5     00:30:00
16   VT320    9600-7-E-2  BOTH  30    3     00:30:00

TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
17   TELNET    1201             60    5     00:30:00   yes
18   TELNET    1201             60    5     00:30:00   yes
19   TELNET    1201             60    5     00:30:00   yes
20   TELNET    1201             60    5     00:30:00   yes
21   TELNET    1201             60    5     00:30:00   yes
22   TELNET    1201             60    5     00:30:00   yes
23   TELNET    1201             60    5     00:30:00   yes
24   TELNET    1201             60    5     00:30:00   yes
25   TELNET    1203             60    5     00:30:00   yes
26   TELNET    1203             60    5     00:30:00   yes
27   TELNET    1203             60    5     00:30:00   yes
28   TELNET    1203             60    5     00:30:00   yes
29   TELNET    1203             60    5     00:30:00   yes
30   TELNET    1203             60    5     00:30:00   yes
31   TELNET    1203             60    5     00:30:00   yes
32   TELNET    1203             60    5     00:30:00   yes
33   TELNET    1205             60    5     00:30:00   yes
34   TELNET    1205             60    5     00:30:00   yes
35   TELNET    1205             60    5     00:30:00   yes
36   TELNET    1205             60    5     00:30:00   yes
37   TELNET    1205             60    5     00:30:00   yes
38   TELNET    1205             60    5     00:30:00   yes
39   TELNET    1205             60    5     00:30:00   yes
40   TELNET    1205             60    5     00:30:00   yes

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
17   none     none      none       1
18   none     none      none       1
19   none     none      none       1
20   none     none      none       1
21   none     none      none       1
22   none     none      none       1
23   none     none      none       1
24   none     none      none       1
25   none     none      none       1
26   none     none      none       1
27   none     none      none       1
28   none     none      none       1
28   none     none      none       1
30   none     none      none       1
31   none     none      none       1
32   none     none      none       1
33   none     none      none       1
34   none     none      none       1
35   none     none      none       1
36   none     none      none       1
37   none     none      none       1
38   none     none      none       1
39   none     none      none       1
40   none     none      none       1
```

```
TRM  TRAF LINK SA  SYS PU  DB  UIMRD
1    NO   YES  NO  YES NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
3    YES  YES  YES NO  YES YES YES
4    YES  NO   NO  NO  NO  NO  NO
5    NO   YES  NO  NO  NO  NO  YES
6    NO   NO   YES NO  NO  NO  NO
7    YES  YES  YES YES YES YES YES
8    NO   NO   NO  NO  YES NO  YES
9    NO   YES  NO  NO  NO  YES NO
10   NO   NO   NO  NO  NO  NO  YES
11   YES  YES  YES YES YES YES YES
12   YES  YES  YES YES YES YES YES
13   NO   YES  NO  NO  NO  NO  YES
14   NO   NO   YES NO  NO  NO  NO
15   YES  YES  YES NO  YES YES YES
16   NO   NO   NO  NO  YES NO  YES
17   NO   NO   NO  NO  NO  NO  NO
18   NO   NO   NO  NO  NO  NO  NO
19   NO   NO   NO  NO  NO  NO  NO
20   NO   NO   NO  NO  NO  NO  NO
21   NO   NO   NO  NO  NO  NO  NO
22   NO   NO   NO  NO  NO  NO  NO
23   NO   NO   NO  NO  NO  NO  NO
24   NO   NO   NO  NO  NO  NO  NO
25   NO   NO   NO  NO  YES NO  YES
26   NO   NO   NO  NO  NO  NO  NO
27   NO   NO   NO  NO  NO  NO  NO
28   NO   NO   NO  NO  NO  NO  NO
29   NO   NO   NO  NO  NO  NO  NO
30   NO   NO   NO  NO  NO  NO  NO
31   NO   NO   NO  NO  NO  NO  NO
32   NO   NO   NO  NO  NO  NO  NO
33   NO   NO   NO  NO  NO  NO  NO
34   NO   NO   NO  NO  YES NO  YES
35   NO   NO   NO  NO  NO  NO  NO
36   NO   NO   NO  NO  NO  NO  NO
37   NO   NO   NO  NO  NO  NO  NO
38   NO   NO   NO  NO  NO  NO  NO
39   NO   NO   NO  NO  NO  NO  NO
40   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
3    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
4    YES  YES YES  YES YES NO  YES YES  YES YES NO   NO
5    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
6    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
7    NO   YES YES  YES YES YES YES YES  YES YES NO   NO
8    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
9    YES  YES YES  YES YES YES YES YES  YES YES YES  YES
10   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
11   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
12   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
13   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
14   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
15   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
16   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
17   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
18   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
19   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
20   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

```
21   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
22   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
23   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
24   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
25   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
26   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
27   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
28   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
29   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
30   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
31   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
32   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
33   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
34   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
35   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
36   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
37   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
38   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
39   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
40   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO   NO
```

If no telnet terminals are shown in the `rtrv-trm` output, or only one telnet terminal is shown in the `rtrv-trm` output, perform the *Adding an IPSM* on page 445 procedure and add E5-IPSM cards to the database. A minimum of two E5-IPSMs are required. After the E5-IPSMs have been added to the database, skip step 3 and go to step 4.

If two or three telnet terminals are shown in the `rtrv-trm` output, go to step 3.

3. Verify that the cards containing the telnet terminals shown in the `rtrv-trm` output in step 2 are E5-IPSMs. Enter the `rept-stat-card` command specifying the card location shown in the `rtrv-trm` output in step 2. For this example, enter these commands.

   `rept-stat-card:loc=1201`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1201   126-003-000  IPSM      IPSHC      IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  Command Completed.
```

   `rept-stat-card:loc=1203`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1203   126-003-000  IPSM      IPS        IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
```

```
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  Command Completed.
```

```
rept-stat-card:loc=1205
```

This is an example of the possible output.

```
rlghncxa03w 06-10-01 09:12:36 GMT EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1205   126-003-000  IPSM      IPS        IS-NR          Active     -----
  ALARM STATUS       =  No Alarms.
  IMTPCI  GPL version = 126-002-000
  BLVXW6  GPL version = 126-002-000
  BLDIAG6 GPL version = 126-002-000
  BLBEPM  GPL version = 126-002-000
  BLCPLD  GPL version = 126-002-000
  IMT BUS A           = Conn
  IMT BUS B           = Conn
  CURRENT TEMPERATURE   =  32C ( 90F)
  PEAK TEMPERATURE:     =  39C (103F)     [06-05-02 13:40]
  Command Completed.
```

If the `GPL` value shown in the `rept-stat-card` output is `IPSHC`, the card is an E5-IPSM. If the `GPL` value shown in the `rept-stat-card` output is `IPS`, the card is an IPSM.

If there are a minimum of two E5-IPSMs shown in the `rept-stat-card` outputs, go to step 4.

If there is only one E5-IPSM or no E5-IPSMs shown in the `rept-stat-card` outputs, E5-IPSMs must be added to the database so that there are a minimum of two E5-IPSMs in the database. Remove enough IPSMs from the database so that when the E5-IPSMs are added, the EAGLE 5 ISS will contain a minimum of two E5-IPSMs. Perform the *Removing an IPSM* on page 458 procedure to remove the IPSMs. After the IPSMs have been removed from the database, remove the IPSM from the shelf.

When the IPSMs have been removed, perform the "Adding an IPSM" procedure in Chapter 4 of this manual to add the E5-IPSMs.

4. Select two telnet terminals. Each telnet terminal must be assigned to different E5-IPSMs. Display the status of this terminal by entering the `rept-stat-trm` command with the number of the selected telnet terminal. For this example, enter these commands.

```
rept-stat-trm:trm=18
```

This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM    PST           SST           AST
18     IS-NR         Active        -----

Command Completed.
```

```
rept-stat-trm:trm=27
```

This is an example of the possible output

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM    PST           SST           AST
27     IS-NR         Active        -----
```

```
Command Completed.
```

- If the state of both telnet terminals displayed in step 4 is OOS-MT-DSBLD, skip step 5 and go to step 6.
- If the state of both telnet terminals displayed in step 4 is not OOS-MT-DSBLD, go to step 5.

5. To change the terminal type to a SEAS terminal type, the telnet terminal must be placed out of service using the `rmv-trm` command. Enter the `rmv-trm` command with the number of the terminal whose state is not OOS-MT_DSBLD. Perform this step only for the terminals shown in step 4 whose state is not OOS-MT_DSBLD.

`rmv-trm:trm=18`

`rmv-trm:trm=27`

When these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Inhibit message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Command Completed.
```

6. Verify that the terminal that was inhibited in step 5 is in the OOS-MT-DSBLD state by entering the `rept-stat-trm` command with the number of the terminal specified in step 5.

For this command, enter these commands.

`rept-stat-trm:trm=18`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST            SST           AST
18    OOS-MT-DSBLD   MANUAL        -----
Command Completed.
```

`rept-stat-trm:trm=27`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST            SST           AST
27    OOS-MT-DSBLD   MANUAL        -----
Command Completed.
```

7. Change the terminal type of the terminals shown in step 6 to the SEAS terminal type using the `chg-trm` command with the number of the terminals shown in step 6 .

For this example enter these commands.

`chg-trm:trm=18:type=seas`

`chg-trm:trm=27:type=seas`

When these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
CHG-TRM: MASP A - COMPLTD
```

8. Verify the changes made in step 7 by using the `rtrv-trm` command with the terminal number specified in step 7.

   For this example, enter these commands.

   `rtrv-trm:trm=18`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
18   SEAS      1201             30    5     00:01:00   yes

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
18   none     none      none       1

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
18   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
18   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  YES  NO
```

   `rtrv-trm:trm=27`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
27   SEAS      1203             30    5     00:01:00   yes

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
27   none     none      none       1

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
27   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
27   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  YES  NO
```

9. Display the SEAS configuration using the `rtrv-seas-config` command.

   The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is not enabled and turned on.

```
rlghncxa03w 07-01-23 18:46:01 EST  EAGLE 37.5.0
SEASCLLI     CONNECTION  IPADDRESS        PORT   TERMINAL
--------     ----------  ---------        ----   --------
TEAGLESTP001 IPMR1       192.168.25.10    2500   --
             IPMR2       192.168.25.20    2600   --
```

   The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is enabled and turned on.

```
rlghncxa03w 07-01-23 18:46:01 EST  EAGLE 37.5.0
SEASCLLI           AUTHMODE
---------------------------
TEAGLESTP001       Password

TERMINAL      CONNECTION    IPADDR          PORT   LOGIN      HNAME
-----------------------------------------------------------------------
```

```
--            IPMR1         198.168.25.10   2500    root      abaco-a
--            IPMR2         198.168.25.20   2600    root      abaco-b
```

10. Verify the connection to the CCS MR by entering the `pass:cmd="ping"` command specifying the card location of the SEAS terminal (shown in step 8) and the IP address assigned to the connection (shown in step 9). Perform this step for both connection to the CCS MR. For this example, enter these commands

    `pass:loc=1201:cmd="ping 198.168.25.10"`

    The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
PASS: Command sent to card

rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
PING command in progress

rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
PING 198.168.25.10: 56 data bytes
64 bytes from tekral.nc.tekelec.com (198.168.25.10): icmp_seq=0. time=5. ms
64 bytes from tekral.nc.tekelec.com (198.168.25.10): icmp_seq=1. time=9. ms
64 bytes from tekral.nc.tekelec.com (198.168.25.10): icmp_seq=2. time=14. ms
----tekral PING Statistics----
3 packets transmitted, 3 packets received, 0% packet loss
round-trip (ms)  min/avg/max = 5/9/14

PING command complete
```

    `pass:loc=1203:cmd="ping 198.168.25.20"`

    The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
PASS: Command sent to card

rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
PING command in progress

rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
PING 198.168.25.20: 56 data bytes
64 bytes from tekral.nc.tekelec.com (198.168.25.20): icmp_seq=0. time=5. ms
64 bytes from tekral.nc.tekelec.com (198.168.25.20): icmp_seq=1. time=9. ms
64 bytes from tekral.nc.tekelec.com (198.168.25.20): icmp_seq=2. time=14. ms
----tekral PING Statistics----
3 packets transmitted, 3 packets received, 0% packet loss
round-trip (ms)  min/avg/max = 5/9/14

PING command complete
```

11. Put the SEAS terminals into service using the `alw-trm` command with the number of the SEAS terminals shown in step 8.

    `alw-trm:trm=18`

    When this command has successfully completed, this message should appear.

```
rlghncxa03w 04-01-07 11:11:28 EST  EAGLE 31.3.0
Allow message sent to terminal
```

```
rlghncxa03w 04-01-07 11:11:28 EST  EAGLE 31.3.0
1062.0046      TERMINAL     18          Terminal Enabled
```

`alw-trm:trm=27`

When this command has successfully completed, this message should appear.

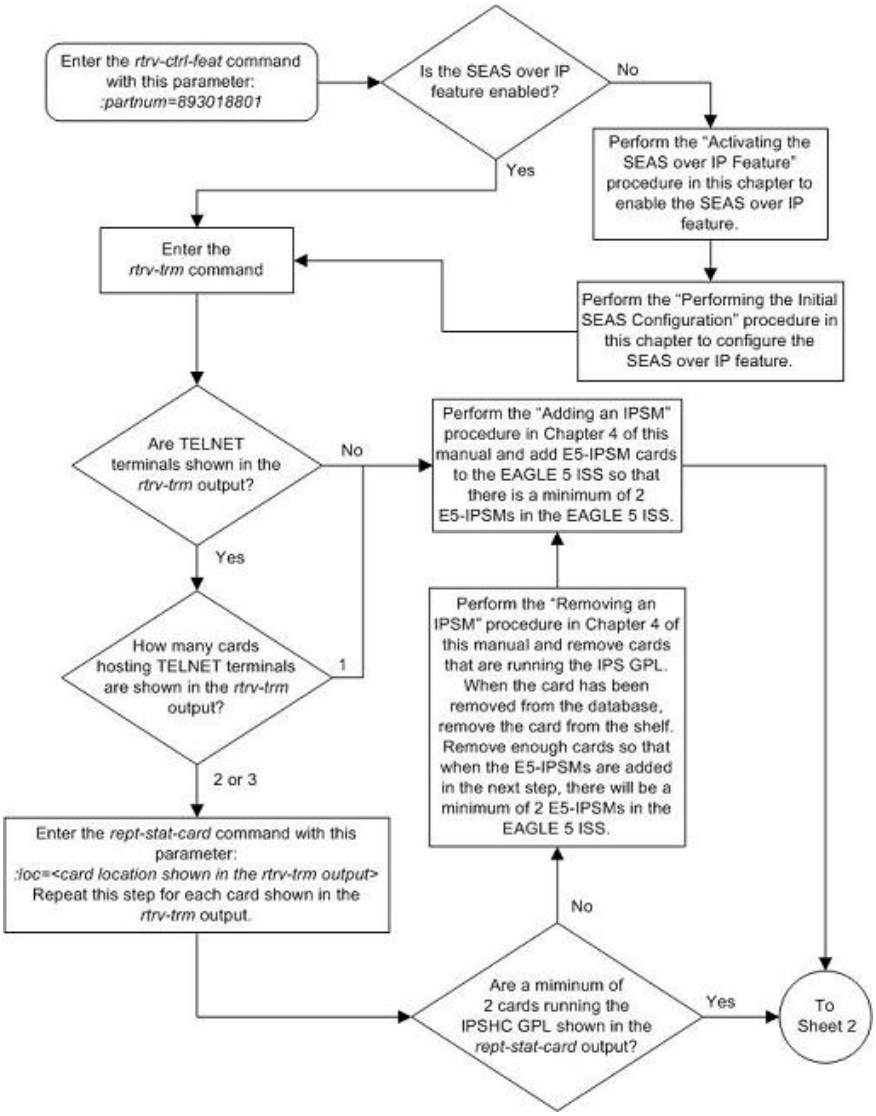
```
rlghncxa03w 04-01-07 11:11:28 EST  EAGLE 31.3.0
Allow message sent to terminal

rlghncxa03w 04-01-07 11:11:28 EST  EAGLE 31.3.0
1062.0046      TERMINAL     27          Terminal Enabled
```

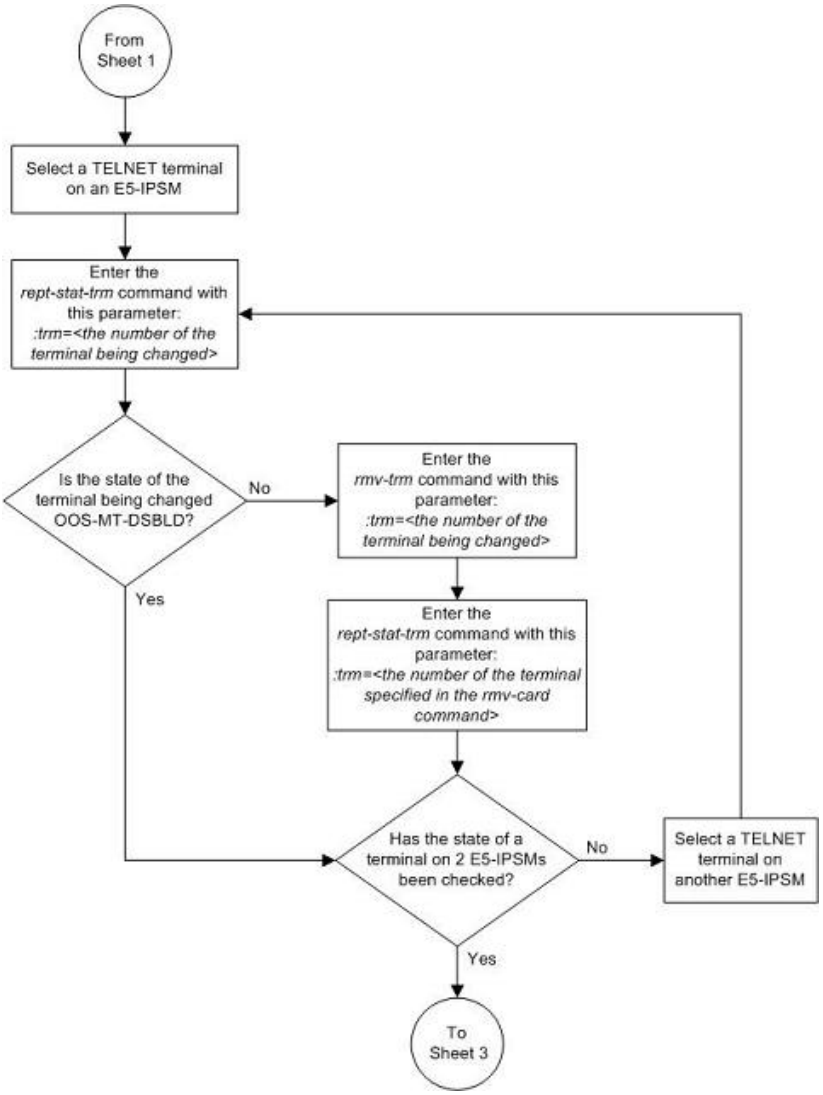
12. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

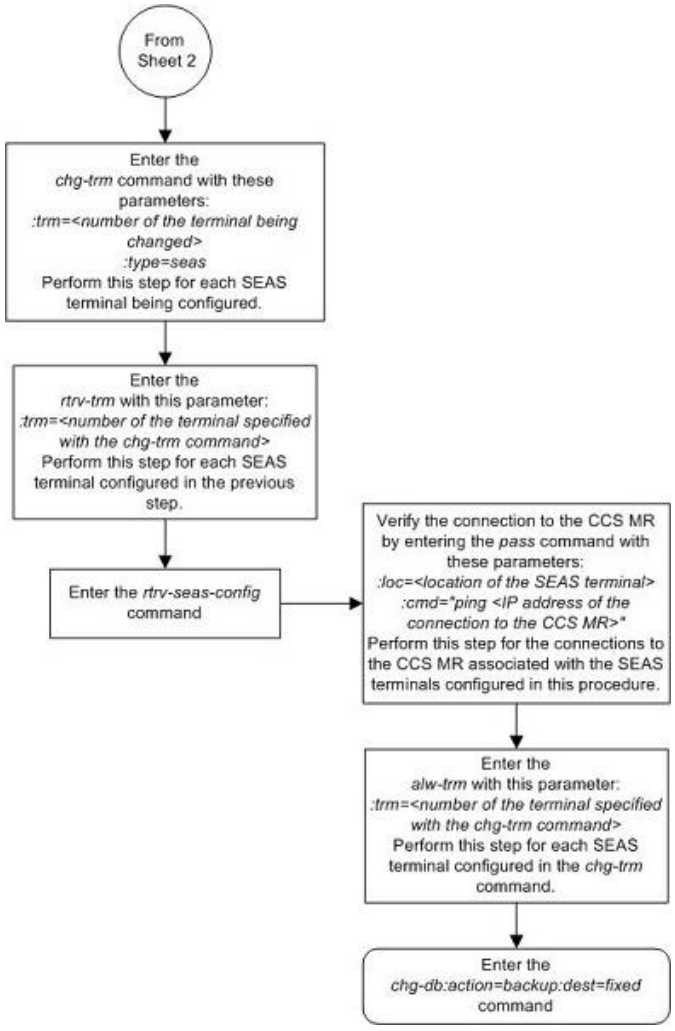
    These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 71: Configuring SEAS Terminals


Enter the *rtrv-ctrl-feat* command with this parameter: *:partnum=893018801*
Is the SEAS over IP feature enabled?
No
Yes
Perform the "Activating the SEAS over IP Feature" procedure in this chapter to enable the SEAS over IP feature.
Enter the *rtrv-trm* command
Perform the "Performing the Initial SEAS Configuration" procedure in this chapter to configure the SEAS over IP feature.
Are TELNET terminals shown in the *rtrv-trm* output?
No
Perform the "Adding an IPSM" procedure in Chapter 4 of this manual and add E5-IPSM cards to the EAGLE 5 ISS so that there is a minimum of 2 E5-IPSMs in the EAGLE 5 ISS.
Yes
How many cards hosting TELNET terminals are shown in the *rtrv-trm* output?
1
Perform the "Removing an IPSM" procedure in Chapter 4 of this manual and remove cards that are running the IPS GPL. When the card has been removed from the database, remove the card from the shelf. Remove enough cards so that when the E5-IPSMs are added in the next step, there will be a minimum of 2 E5-IPSMs in the EAGLE 5 ISS.
2 or 3
Enter the *rept-stat-card* command with this parameter: *:loc=<card location shown in the rtrv-trm output>* Repeat this step for each card shown in the *rtrv-trm* output.
No
Are a miminum of 2 cards running the IPSHC GPL shown in the *rept-stat-card* output?
Yes
To Sheet 2


From Sheet 1
Select a TELNET terminal on an E5-IPSM
Enter the rept-stat-trm command with this parameter: :trm=<the number of the terminal being changed>
Is the state of the terminal being changed OOS-MT-DSBLD?
No
Yes
Enter the rmv-trm command with this parameter: :trm=<the number of the terminal being changed>
Enter the rept-stat-trm command with this parameter: :trm=<the number of the terminal specified in the rmv-card command>
Has the state of a terminal on 2 E5-IPSMs been checked?
No
Select a TELNET terminal on another E5-IPSM
Yes
To Sheet 3



Changing the Existing SEAS Configuration

This procedure is used to change the existing SEAS configuration using the `chg-seas-config` command.

The `chg-seas-config` command uses these parameters.

`:conn` – The name of the SEAS connection, either IPMR1 or IPMR2

`:seasclli` – The CLLI part of node name of the EAGLE 5 ISS consisting of one alphabetic character and up to 15 alphanumeric characters. The `seasclli` value is different from the EAGLE 5 ISS `clli` value that is entered with the `chg-sid` command. The `seasclli` value must also be configured on the Telcordia Message Router (CCS MR). Refer to Telecordia Configuration Specification "Telcordia Technologies System Documentation", *BD-SNAM-ADMIN-4 Issue 14, November 2006*.

`:ipaddr` – The IP address of the CCS MR.

`:port` – The port number of the CCS MR that the EAGLE 5 ISS connects to, from 1024 to 5000.

`:hname` – The name of the remote host of the CCS MR, 1 to 15 alphanumeric characters.

`:login` – The login name of the CCS MR, 1 to 15 alphanumeric characters.

`:authmode` – The method of authentication used for the connection. Currently, only password authentication is used for SEAS connections, so this parameter has only one value, `password`. This parameter is optional and does not need to be specified.

The `hname`, `login`, and `authmode` parameters are used only when the Eagle OA&M IP Security feature is enabled and turned on. The values for these parameters are displayed in the `rtrv-seas-config` output only when the Eagle OA&M IP Security feature is enabled and turned on. The status of the Eagle OA&M IP Security feature is shown in the `rtrv-ctrl-feat` output.

If the `seasclli` value is being changed, all the SEAS terminals must be taken out of service. If the connection information for one connection is being changed, only the terminal assoicated with this connection must be taken out of service.

CAUTION: The IP address and `port` value combination for each SEAS connection must be unique or the `chg-seas-config` command will be rejected.

1. Display the current SEAS configuration using the `rtrv-seas-config` command.

   The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is not enabled and turned on.

```
rlghncxa03w 07-01-23 18:46:01 EST  EAGLE 37.5.0
SEASCLLI     CONNECTION  IPADDRESS        PORT   TERMINAL
--------     ----------  ---------        ----   --------
TEAGLESTP001 IPMR1       192.168.25.10    2500   18
             IPMR2       192.168.25.20    2600   27
```

   The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is enabled and turned on.

```
tekelecstp 07-01-23 18:46:01 EST EAGLE 37.5.0
SEASCLLI           AUTHMODE
---------------------------
TEAGLESTP001       Password

TERMINAL      CONNECTION    IPADDR          PORT   LOGIN      HNAME

-----------------------------------------------------------------------
18            IPMR1         198.168.25.10   2500    root      abaco-a
27            IPMR2         198.168.25.20   2600    root      abaco-b
```

2. Display the status of the SEAS terminal associated with the connection that is being changed. Enter the `rept-stat-trm` command with the terminal number shown in step1.

   If the `seasclli` value is being changed, both SEAS terminals must be taken out of service. Perform this step for both SEAS terminals.

   For this example, enter these commands.

```
rept-stat-trm:trm=18
```

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
```

```
18    IS-NR         Active        -----

Command Completed.
```

`rept-stat-trm:trm=27`

This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST           SST           AST
27    IS-NR         Active        -----

Command Completed.
```

3. Place the SEAS terminals displayed in step 2 out of service using the `rmv-trm` command. Enter the `rmv-trm` command with the number of the terminal whose state is not OOS-MT_DSBLD. Perform this step only for the terminals shown in step 2 whose state is not OOS-MT_DSBLD.

   Note: If the SEAS terminal specified in this step is the last SEAS terminal that is in service, the `force=yes` parameter must be specified with the `rmv-trm` command.

   `rmv-trm:trm=18`

   `rmv-trm:trm=27:force=yes`

   When these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Inhibit message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Command Completed.
```

   Note: If the SEASCLLI value is not being changed, skip step 4 and go to step 5.

4. Change the SEASCLLI value by entering the `chg-seas-config` command with the `seasclli` parameter. For this example, enter this command.

   `chg-seas-config:seasclli=TEAGLESTP002`

   Note: The SEASCLLI value is different from the CLLI value specified with the `chg-sid` command.

   Note: If only the SEASCLLI value is being changed in this procedure, skip step 5 and go to step 6.

5. Change the connection information for a connection to the CCS MR. Enter the `chg-seas-config` command with these parameters:

   - :conn=<the name of the connection being changed, ipmr1 or ipmr2>
   - :ipaddr=the IP address of the CCS MR
   - :port = the port number of the CCS MR

   CAUTION: The IP address and `port` value combination for each SEAS connection must be unique or the `chg-seas-config` command will be rejected.

   If the Eagle OA&M IP Security Enhancement feature is enabled and turned on, these parameters can also be specified.

   - :hname = The name of the remote host of the CCS MR.

- :login = The login name of the CCS MR.

If the `LOGIN` column is shown in the `rtrv-seas-config` output in step 1, the Eagle OA&M IP Security Enhancement feature is enabled and turned on.

Note: If youwish to specify the `login` and `hname` parameters for the connection being changed, and the Eagle OA&M IP Security Enhancement feature is not enabled and turned on, perform the *Activating the Eagle OA&M IP Security Enhancement Controlled Feature* on page 534 procedure to enable and turn on the Eagle OA&M IP Security Enhancement feature. Enable and turn on the Eagle OA&M IP Security Enhancement feature before performing the `chg-seas-config` command.

If the Eagle OA&M IP Security Enhancement feature is not enabled and turned on, for this example, enter this command.

```
chg-seas-config:conn=ipmr1:ipaddr=198.168.25.30:port=3000
```

If the Eagle OA&M IP Security Enhancement feature is enabled and turned on, for this example, enter this command.

```
chg-seas-config:conn=ipmr1:ipaddr=198.168.25.30:port=3000:hname=remote2:login=root
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
CHG-SEAS-CONFIG: MASP A - COMPLTD
```

If the `login` parameter was specified with the `chg-seas-config` command, the `Enter Password:` prompt appears. When the `Enter Password:` prompt appears, enter the password for the login name. The length of the password is from 1 to 15 characters. The password is not echoed on the screen.

6. Verify the SEAS configuration using the `rtrv-seas-config` command.

The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is not enabled and turned on.

```
rlghncxa03w 07-01-23 18:46:01 EST  EAGLE 37.5.0
SEASCLLI     CONNECTION  IPADDRESS        PORT   TERMINAL
--------     ----------  ---------        ----   --------
TEAGLESTP002 IPMR1       192.168.25.30    3000   18
             IPMR2       192.168.25.20    2600   27
```

The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is enabled and turned on.

```
tekelecstp 07-01-23 18:46:01 EST EAGLE 37.5.0
SEASCLLI            AUTHMODE
--------------------------
TEAGLESTP002        Password

TERMINAL      CONNECTION    IPADDR          PORT   LOGIN      HNAME

------------------------------------------------------------------------
18            IPMR1         198.168.25.30   3000    root      abaco-a
27            IPMR2         198.168.25.20   2600    root      abaco-b
```

Note: If only the SEASCLLI value was changed, skip steps 7 and 8, and go to step 9.

7. Display the SEAS terminal associated with the connection that was changed in step 6 using the `rtrv-trm` with the number of the SEAS terminal associated with the connection that was changed.

   For this example, enter this command.

   ```
   rtrv-trm:trm=18
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 36.0.0
   TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
   18   SEAS      1201             30    5     00:01:00   yes

   TRM  TRAF LINK SA  SYS PU  DB  UIMRD
   18   NO   NO   NO  NO  NO  NO  NO

        APP  APP
   TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
   18   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  YES  NO
   ```

8. Verify the connection to the CCS MR by entering the `pass:cmd="ping"` command specifying the card location of the SEAS terminal (shown in step 7) and the IP address assigned to the connection (shown in step 6).

   ```
   pass:loc=1201:cmd="ping 198.168.25.30"
   ```

   The following is an example of the possible output.

   ```
   rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
   PASS: Command sent to card

   rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
   PING command in progress

   rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
   PING 198.168.25.30: 56 data bytes
   64 bytes from tekral.nc.tekelec.com (198.168.25.30): icmp_seq=0. time=5. ms
   64 bytes from tekral.nc.tekelec.com (198.168.25.30): icmp_seq=1. time=9. ms
   64 bytes from tekral.nc.tekelec.com (198.168.25.30): icmp_seq=2. time=14. ms
   ----tekral PING Statistics----
   3 packets transmitted, 3 packets received, 0% packet loss
   round-trip (ms)  min/avg/max = 5/9/14

   PING command complete
   ```

   If you wish to change the other connection, repeat this procedure from step 2.

   If all the changes to the SEAS configuration have been made, go to step 9.

9. Put the SEAS terminals into service using the `alw-trm` command with the number of the SEAS terminals shown in step 6. This step should be performed for all the SEAS terminals that were taken out of service in step 3.

   ```
   alw-trm:trm=18
   ```

   When this command has successfully completed, this message should appear.

   ```
   rlghncxa03w 04-01-07 11:11:28 EST  EAGLE 31.3.0
   Allow message sent to terminal
   ```

```
rlghncxa03w 04-01-07 11:11:28 EST  EAGLE 31.3.0
1062.0046      TERMINAL     18          Terminal Enabled
```

`alw-trm:trm=27`

When this command has successfully completed, this message should appear.

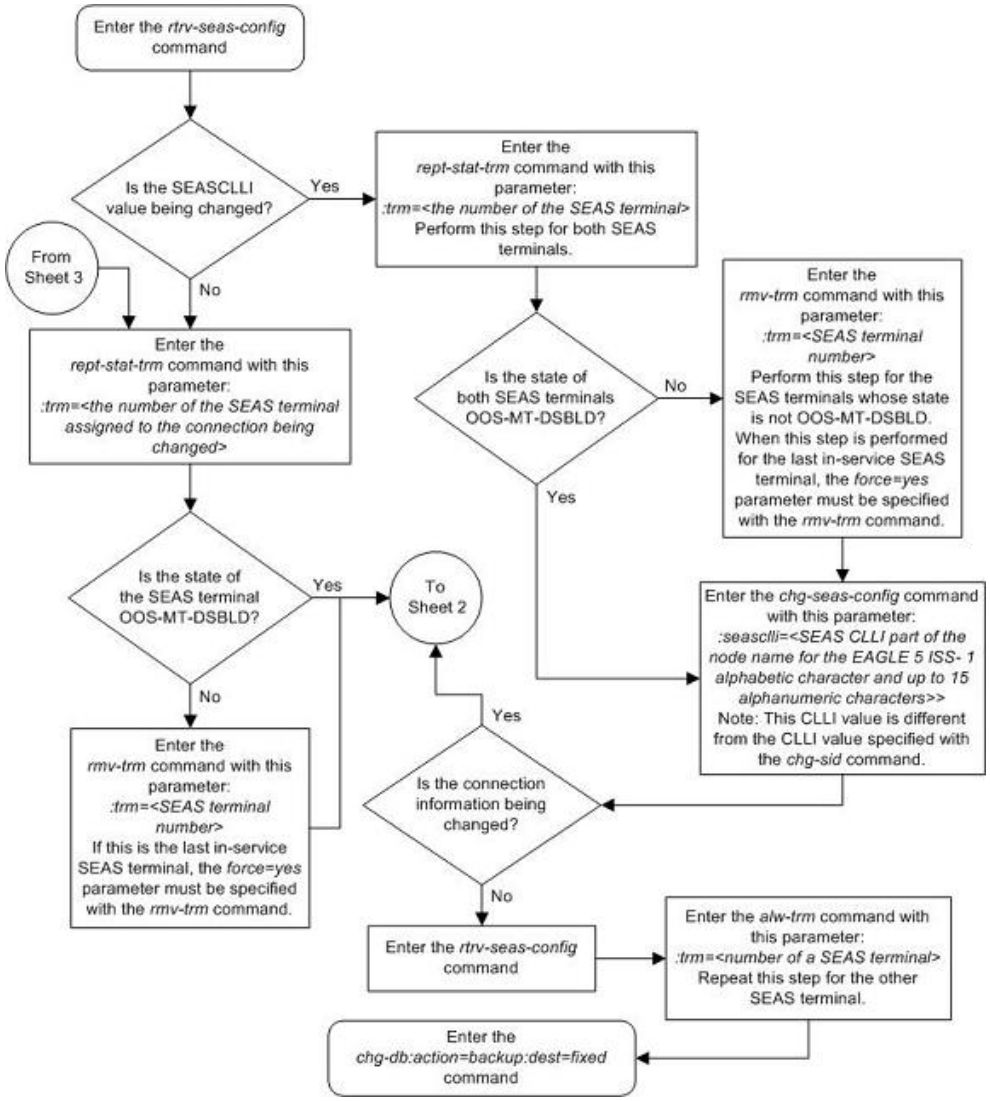
```
rlghncxa03w 04-01-07 11:11:28 EST  EAGLE 31.3.0
Allow message sent to terminal

rlghncxa03w 04-01-07 11:11:28 EST  EAGLE 31.3.0
1062.0046      TERMINAL     27          Terminal Enabled
```

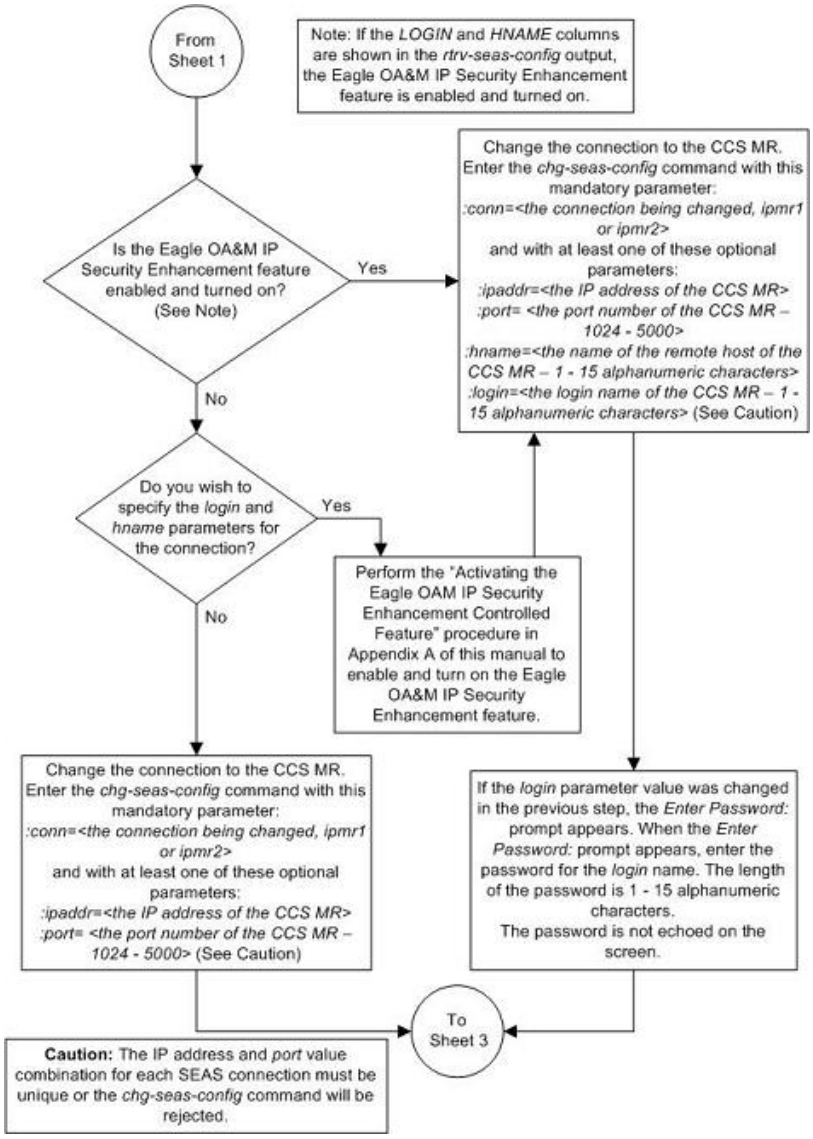
10. Back up the new changes using the `chg-db:action=backup:dest=fixed` command.

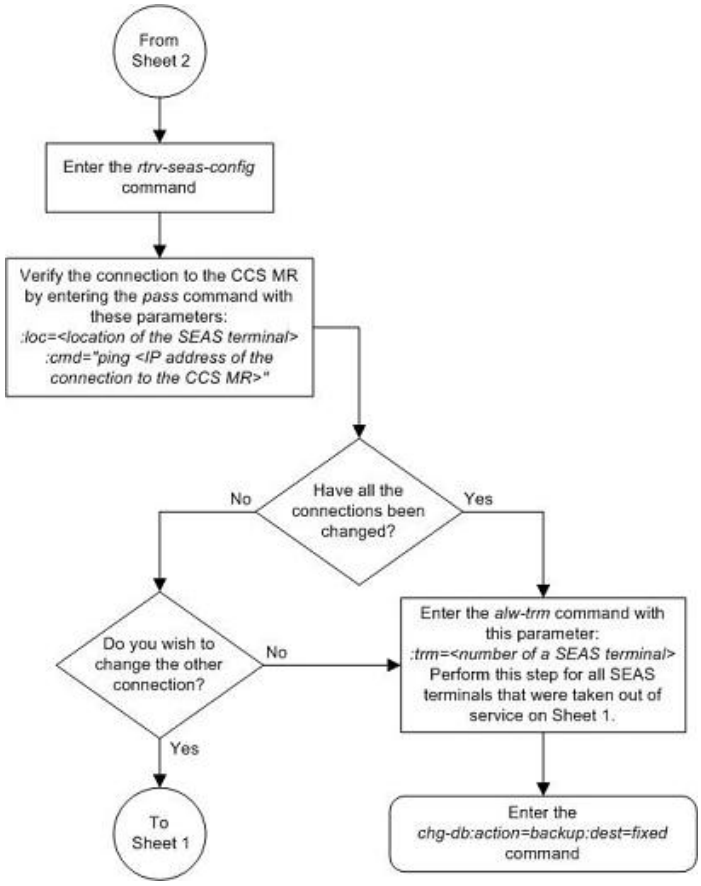
    These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 72: Changing the Existing SEAS Configuration


Enter the rtrv-seas-config command
Is the SEASCLLI value being changed?
Yes
No
Enter the rept-stat-trm command with this parameter: :trm=<the number of the SEAS terminal> Perform this step for both SEAS terminals.
From Sheet 3
Enter the rept-stat-trm command with this parameter: :trm=<the number of the SEAS terminal assigned to the connection being changed>
Is the state of both SEAS terminals OOS-MT-DSBLD?
No
Yes
Enter the rmv-trm command with this parameter: :trm=<SEAS terminal number> Perform this step for the SEAS terminals whose state is not OOS-MT-DSBLD. When this step is performed for the last in-service SEAS terminal, the force=yes parameter must be specified with the rmv-trm command.
Is the state of the SEAS terminal OOS-MT-DSBLD?
Yes
To Sheet 2
No
Enter the rmv-trm command with this parameter: :trm=<SEAS terminal number> If this is the last in-service SEAS terminal, the force=yes parameter must be specified with the rmv-trm command.
Enter the chg-seas-config command with this parameter: :seasclli=<SEAS CLLI part of the node name for the EAGLE 5 ISS- 1 alphabetic character and up to 15 alphanumeric characters>> Note: This CLLI value is different from the CLLI value specified with the chg-sid command.
Yes
Is the connection information being changed?
No
Enter the rtrv-seas-config command
Enter the alw-trm command with this parameter: :trm=<number of a SEAS terminal> Repeat this step for the other SEAS terminal.
Enter the chg-db:action=backup:dest=fixed command


From Sheet 1
Note: If the LOGIN and HNAME columns are shown in the rtrv-seas-config output, the Eagle OA&M IP Security Enhancement feature is enabled and turned on.
Is the Eagle OA&M IP Security Enhancement feature enabled and turned on? (See Note)
Yes
No
Change the connection to the CCS MR. Enter the chg-seas-config command with this mandatory parameter:
:conn=<the connection being changed, ipmr1 or ipmr2>
and with at least one of these optional parameters:
:ipaddr=<the IP address of the CCS MR>
:port= <the port number of the CCS MR – 1024 - 5000>
:hname=<the name of the remote host of the CCS MR – 1 - 15 alphanumeric characters>
:login=<the login name of the CCS MR – 1 - 15 alphanumeric characters> (See Caution)
Do you wish to specify the login and hname parameters for the connection?
Yes
No
Perform the "Activating the Eagle OAM IP Security Enhancement Controlled Feature" procedure in Appendix A of this manual to enable and turn on the Eagle OA&M IP Security Enhancement feature.
Change the connection to the CCS MR. Enter the chg-seas-config command with this mandatory parameter:
:conn=<the connection being changed, ipmr1 or ipmr2>
and with at least one of these optional parameters:
:ipaddr=<the IP address of the CCS MR>
:port= <the port number of the CCS MR – 1024 - 5000> (See Caution)
If the login parameter value was changed in the previous step, the Enter Password: prompt appears. When the Enter Password: prompt appears, enter the password for the login name. The length of the password is 1 - 15 alphanumeric characters.
The password is not echoed on the screen.
To Sheet 3
Caution: The IP address and port value combination for each SEAS connection must be unique or the chg-seas-config command will be rejected.



Turning the SEAS Over IP Feature Off

This procedure is used to turn off the SEAS over IP feature using the `chg-ctrl-feat` command.

The `chg-ctrl-feat` command uses the following parameters:

`:partnum` - The part number of the SEAS over IP feature, 893018801.

`:status=off` – used to turn off the SEAS over IP feature.

The status of the SEAS over IP feature must be `on` and is shown with the `rtrv-ctrl-feat` command.

CAUTION

CAUTION: If the SEAS over IP feature is turned off, and the OAP-based SEAS configuration has been provisioned correctly, the SEAS terminal traffic stops and OAP-based SEAS traffic starts. If the SEAS over IP feature is turned off, and the OAP-based SEAS configuration has not been provisioned, or has not been provisioned correctly, all SEAS traffic stops.

1. Display the status of the SEAS over IP feature by entering the rtrv-ctrl-feat:partnum=893018801 command. The following is an example of the possible output.

The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
SEAS over IP              893018801  on      ----

The following features have been temporarily enabled:
Feature Name              Partnum    Status  Quantity     Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

If the status of the SEAS over IP feature is off, or if the SEAS over IP feature is not enabled, this procedure cannot be performed.

2. Turn off the SEAS over IP feature by entering the `chg-ctrl-feat` command with the `status=off` parameter. Enter this command.

   `chg-ctrl-feat:partnum=893018801:status=off`

   When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
CHG-CTRL-FEAT: MASP A - COMPLTD
```

3. Verify that the SEAS over IP feature has been turned off by using the `rtrv-ctrl-feat:partnum=893018801` command. The following is an example of the possible output.

```
rlghncxa03w 07-05-28 21:15:37 GMT EAGLE5 37.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
SEAS over IP              893018801  off     ----

The following features have been temporarily enabled:

Feature Name              Partnum    Status  Quantity     Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

Note: Once the SEAS over IP feature is turned off, the SEAS terminals can be changed to TELNET terminals. If you do not wish to change the SEAS terminals to TELNET terminals, skip steps 4 through 6, and go to step 7.

4. Display the SEAS configuration by entering the `rtrv-seas-config` command.

   The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is not enabled and turned on.

```
rlghncxa03w 07-01-23 18:46:01 EST  EAGLE 37.5.0
SEASCLLI     CONNECTION  IPADDRESS        PORT   TERMINAL
--------     ----------  ---------        ----   --------
```

```
TEAGLESTP001 IPMR1       192.168.25.10    2500   18
             IPMR2       192.168.25.20    2600   27
```

The following is an example of the possible output if the Eagle OA&M IP Security Enhancement feature is enabled and turned on.

```
tekelecstp 07-01-23 18:46:01 EST EAGLE 37.5.0
SEASCLLI            AUTHMODE
----------------------------
TEAGLESTP001        Password

TERMINAL      CONNECTION    IPADDR          PORT   LOGIN      HNAME

------------------------------------------------------------------------
18            IPMR1         198.168.25.10   2500    root      abaco-a
27            IPMR2         198.168.25.20   2600    root      abaco-b
```

5. Change the terminal type of the terminals shown in step 4 to the TELNET terminal type using the `chg-trm` command with the number of the terminals shown in step 4 .

   For this example enter these commands.

   `chg-trm:trm=18:type=telnet`

   `chg-trm:trm=27:type=telnet`

   When these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
CHG-TRM: MASP A - COMPLTD
```

   A warning message, “Invalidating the Terminal data in SEASCFG table”, is also displayed.

6. Verify the changes made in step 5 by using the `rtrv-trm` command with the terminal number specified in step 5.

   For this example, enter these commands.

   `rtrv-trm:trm=18`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 36.0.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
18   TELNET    1201             30    5     00:01:00   yes

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
18   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
18   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  YES  NO
```

   `rtrv-trm:trm=27`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 36.0.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
27   TELNET    1203             30    5     00:01:00   yes

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
27   NO   NO   NO  NO  NO  NO  NO
```

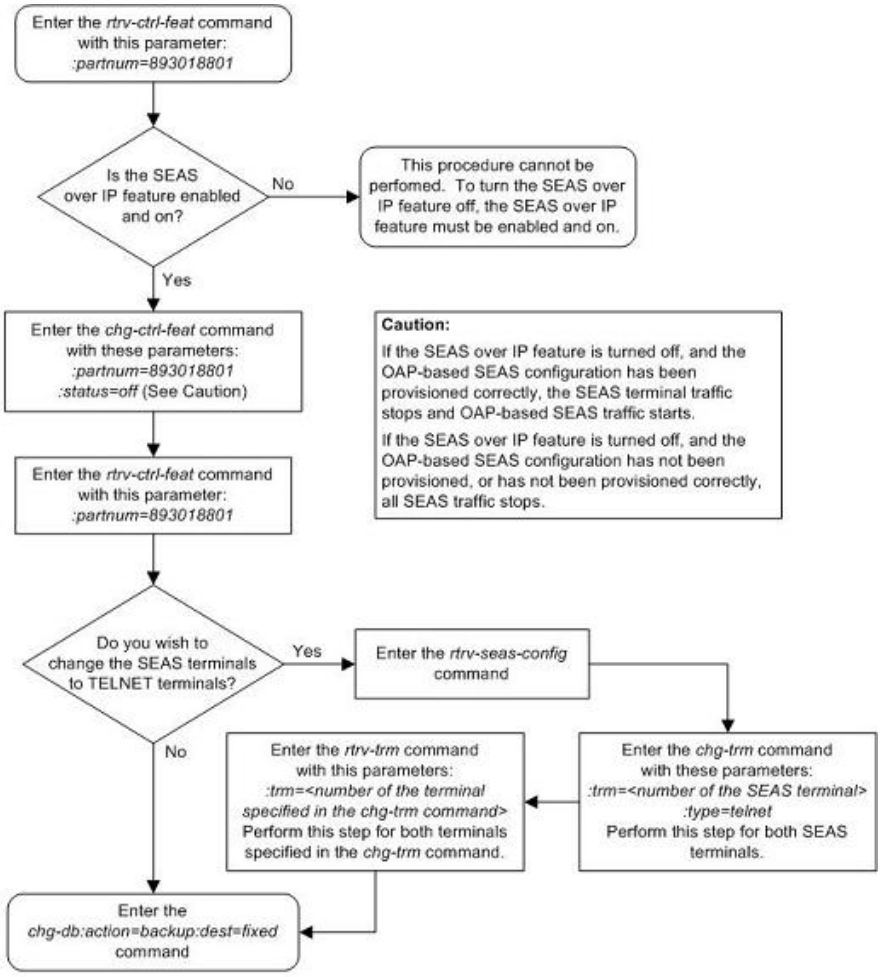
```
     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
27   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  YES  NO
```

7. Backup the new changes using the `chg-db:action=backup:dest=fixed`command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 73: Turning the SEAS Over IP Feature Off



Appendix A

Controlled Feature Activation Procedures

Topics:

Appendix A, Controlled Feature Activation Procedures, describes the procedures necessary to activate and deactivate features (features that require a feature access key to be activated) contained in this manual.

Introduction

Controlled features are features that are activated using a feature access key. These features can either be on or off, or features that operate at a particular performance level. Only the controlled features that are used in this manual are covered in this appendix.

The feature access key allows the user to enable and activate a controlled feature in the EAGLE 5 ISS by entering either a permanent feature access key or a temporary feature access key. By requiring a feature access key to enable and activate a controlled feature, unauthorized enabling and activation of a controlled feature can be prevented. The feature access key is supplied by Tekelec.

Features enabled with a permanent feature access key remain enabled for as long as the EAGLE 5 ISS remains in service. Once features are permanently enabled, they cannot be disabled.

Features enabled with a temporary feature access key are enabled for only 30 days. On the twenty-third day, seven days before the temporary key expires, a major alarm (UAM 0367) is generated to inform the user that the one or more temporary feature access keys will expire soon.

```
0367.0181  ** SYSTEM      Temp Key(s) expiring soon.
```

If a temporary feature access key expires, the controlled feature is disabled and a critical alarm (UAM 0368) is generated.

```
0368.0181  *C SYSTEM      Temp Key(s) have expired.
```

Any attempts to enable the controlled feature with the temporary feature access key are rejected. The controlled feature can be enabled only by entering the permanent feature access key for the controlled feature.

To clear the critical alarm (UAM 0368), the user can either enter the `chg-ctrl-feat` command with the `alarm=clear`parameter, or permanently enable the controlled feature by entering the permanent feature access key for the controlled feature.

If the critical alarm is cleared with the `chg-ctrl-feat` command, the controlled feature is disabled and cannot be enabled with the temporary feature access key. The feature can be enabled only by entering the permanent feature access key for the controlled feature.

Activating Controlled Features

This procedure is used to enable and activate these controlled features, Command Class Management, IP User Interface, and Network Security Enhancements, using the feature's part number and a feature access key for each feature.

The feature access key is based on the feature's part number and the serial number of the EAGLE 5 ISS, making the feature access key site-specific.

The `enable-ctrl-feat` command enables the controlled feature by inputting the controlled feature's access key and the controlled feature's part number with these parameters:

`:fak` – The feature access key generated by the feature access key generator. The feature access key contains 13 alphanumeric characters and is not case sensitive.

`:partnum` – The Tekelec-issued part number associated with the controlled feature. The part number is a 9-digit number, not including dashes. The first three digits must be 893 (that is, 893xxxxxx, where x is a numeric value).

If the controlled feature is being enabled with a temporary feature access key, the feature must not be in the *in-use*, *expired*, or *unavailable* state.

The `enable-ctrl-feat` command requires that the database contain a valid serial number for the EAGLE 5 ISS, and that this serial number is locked. This can be verified with the `rtrv-serial-num` command. The EAGLE 5 ISS is shipped with a serial number in the database, but the serial number is not locked. The serial number can be changed, if necessary, and locked once the EAGLE 5 ISS is on-site, with the `ent-serial-num` command. The `ent-serial-num` command uses these parameters.

`:serial` – The serial number assigned to the EAGLE 5 ISS. The serial number is not case sensitive.

`:lock` – Specifies whether or not the serial number is locked. This parameter has only one value, `yes`, which locks the serial number. Once the serial number is locked, it cannot be changed.

Note: To enter and lock the EAGLE 5 ISS's serial number, the `ent-serial-num` command must be entered twice, once to add the correct serial number to the database with the `serial` parameter, then again with the `serial` and the `lock=yes` parameters to lock the serial number. You should verify that the serial number in the database is correct before locking the serial number. The serial number can be found on a label affixed to the control shelf (shelf 1100).

Once the controlled feature has been enabled, the controlled feature must be activated with the `chg-ctrl-feat` command. The `chg-ctrl-feat` command uses these parameters:

`:partnum` – The Tekelec-issued part number associated with the controlled feature. The part number is a 9-digit number, not including dashes. The first three digits must be 893 (that is, 893xxxxxx, where x is a numeric value).

`:status=on` – used to activate the controlled features that customer has purchased and enabled.

The status of the controlled features in the EAGLE 5 ISS is shown with the `rtrv-ctrl-feat` command.

The part numbers for the Command Class Management, IP User Interface, and Network Security Enhancements features are:

- Command Class Management – 893005801
- Telnet (IP User Interface) – 893005701
- Network Security Enhancements – 893009101

1. Display the status of the controlled features by entering the `rtrv-ctrl-feat` command.

   The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  off     ----
LNP Short Message Service 893006601  on      ----
```

```
Intermed GTT Load Sharing 893006901  off     ----
XGTT Table Expansion      893006101  off     ----
XMAP Table Expansion      893007710  on      3000
Large System # Links      893005910  on      2000
Routesets                 893006401  on      6000

The following features have been temporarily enabled:

Feature Name              Partnum    Status  Quantity     Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

If the `rtrv-ctrl-feat` output shows that the controlled feature is permanently enabled, and its status is `on`, no further action is necessary.

If the controlled feature is permanently enabled, and its status is `off`, skip steps 2 through 4, and go to step 5.

If the controlled feature is temporarily enabled, and you wish to permanently enable this feature, or the temporary feature access key for that feature has expired, skip steps 2 and 3, and go to step 4.

If the controlled feature is to remain temporarily enabled, and its status is `off`, skip steps 2 through 4, and go to step 5. If the feature's status is on, no further action is necessary.

If the controlled feature is to remain temporarily enabled, and its status is `on`, no further action is necessary.

Note: If the `rtrv-ctrl-feat` output in step 1 shows any controlled features, skip steps 2 and 3, and go to step 4. If the `rtrv-ctrl-feat` output shows only the HC-MIMSLK Capacity feature with a quantity of 64, steps 2 and 3 must be performed.

2. Display the serial number in the database with the `rtrv-serial-num` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
System serial number = ntxxxxxxxxxxxx

System serial number is not locked.

rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

   Note: If the serial number is correct and locked, skip steps 3, 4, and 5, and go to step 6. If the serial number is correct but not locked, skip steps 3 and 4, and go to step 5. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to *Customer Care Center* on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

3. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

   For this example, enter this command.

   `ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>`

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM:  MASP A - COMPLTD
```

4. Verify that the serial number entered into step 3 was entered correctly using the `rtrv-serial-num` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

   If the serial number was not entered correctly, repeat steps 3 and 4 and re-enter the correct serial number.

5. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in step 2, if the serial number shown in step 2 is correct, or with the serial number shown in step 4, if the serial number was changed in step 3, and with the `lock=yes` parameter.

   For this example, enter this command.

   `ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes`

   When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM:  MASP A - COMPLTD
```

6. Enable the controlled feature with either a permanent key or temporary key by entering the `enable-ctrl-feat` command.

   For this example, enter these commands.

   `enable-ctrl-feat:partnum=893005801:fak=xxxxxxxxxxxx`

   `enable-ctrl-feat:partnum=893005701:fak=xxxxxxxxxxxx`

   `enable-ctrl-feat:partnum=893009101:fak=xxxxxxxxxxxx`

   Note:

   The values for the feature access key (the `fak` parameter) are provided by Tekelec. The feature access key determines if the controlled feature is permanently or temporarily enabled. If you do not have the controlled feature part number or the feature access key for the feature you wish to enable, contact your Tekelec Sales Representative or Account Representative.

   When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

   Note: If a temporarily enabled feature was permanently enabled in step 4, and the status of the temporarily enabled feature was on, skip step 5 and go to step 6.

7. The controlled features enabled in step 4 must be activated using the `chg-ctrl-feat` command, specifying the controlled feature part number used in step 4 and the `status=on` parameter.

   For this example, enter these commands.

   ```
   chg-ctrl-feat:partnum=893005801:status=on
   ```

   ```
   chg-ctrl-feat:partnum=893005701:status=on
   ```

   ```
   chg-ctrl-feat:partnum=893009101:status=on
   ```

   When the **chg-ctrl-feat** command has successfully completed, the following message should appear.

   ```
   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   CHG-CTRL-FEAT: MASP B - COMPLTD
   ```

8. Verify the changes by entering the `rtrv-ctrl-feat`command with the part number specified in step 5.

   ```
   rtrv-ctrl-feat:partnum=893005801
   ```

   The following is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
   The following features have been permanently enabled:
   Feature Name              Partnum    Status  Quantity
   Command Class Management  893005801  on      ----
   ```

   ```
   rtrv-ctrl-feat:partnum=893005701
   ```

   The following is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
   The following features have been permanently enabled:
   Feature Name              Partnum    Status  Quantity
   Telnet                    893005701  on      ----
   ```

   ```
   rtrv-ctrl-feat:partnum=893009101
   ```

   The following is an example of the possible output.

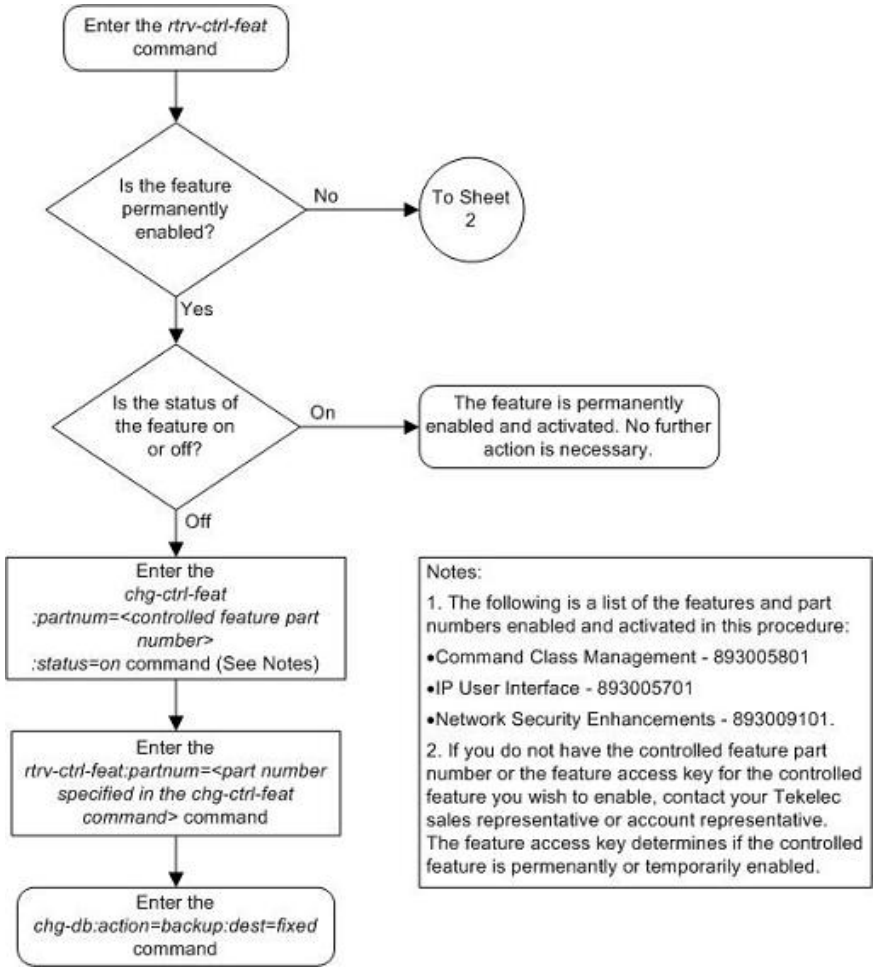
   ```
   rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
   The following features have been permanently enabled:
   Feature Name              Partnum    Status  Quantity
   Network Security Enhance  893009101  on      ----
   ```

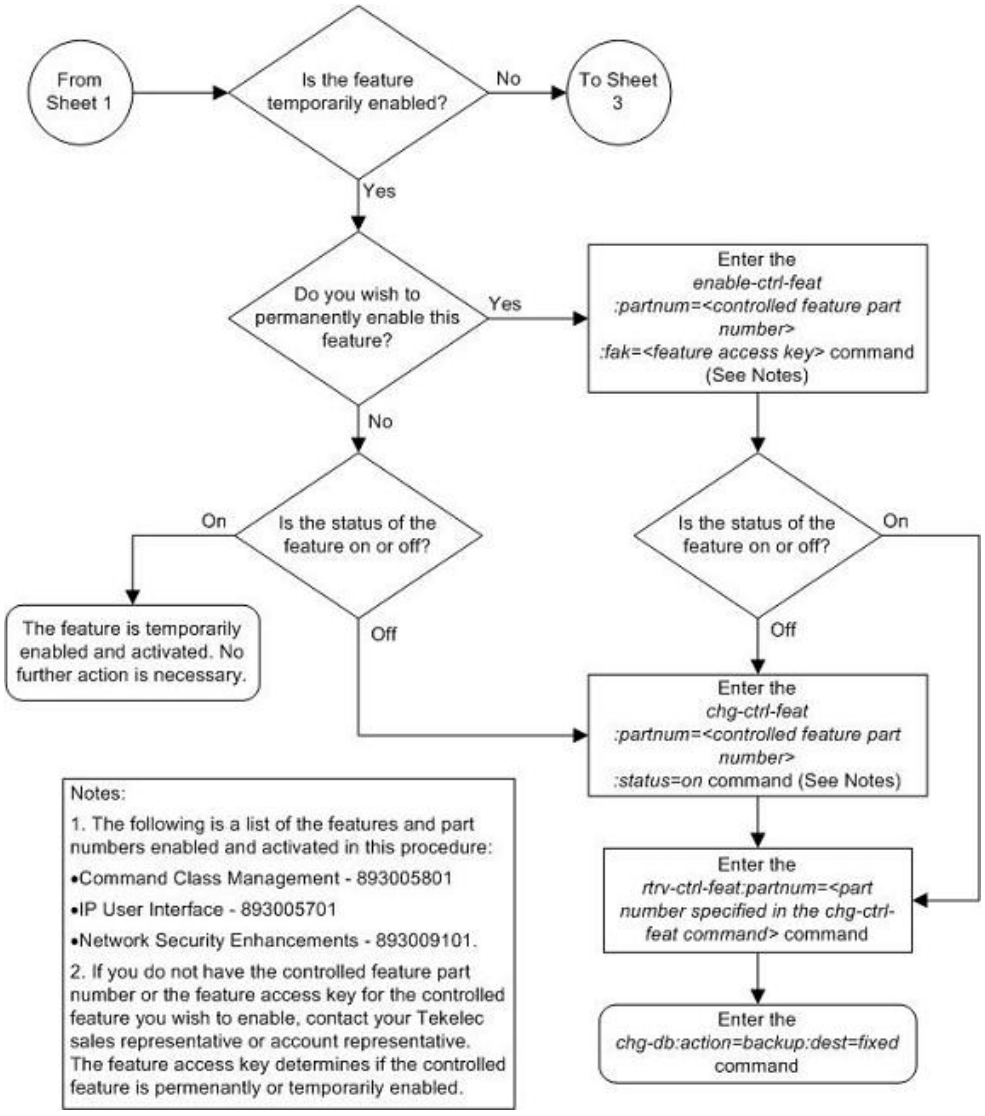
9. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

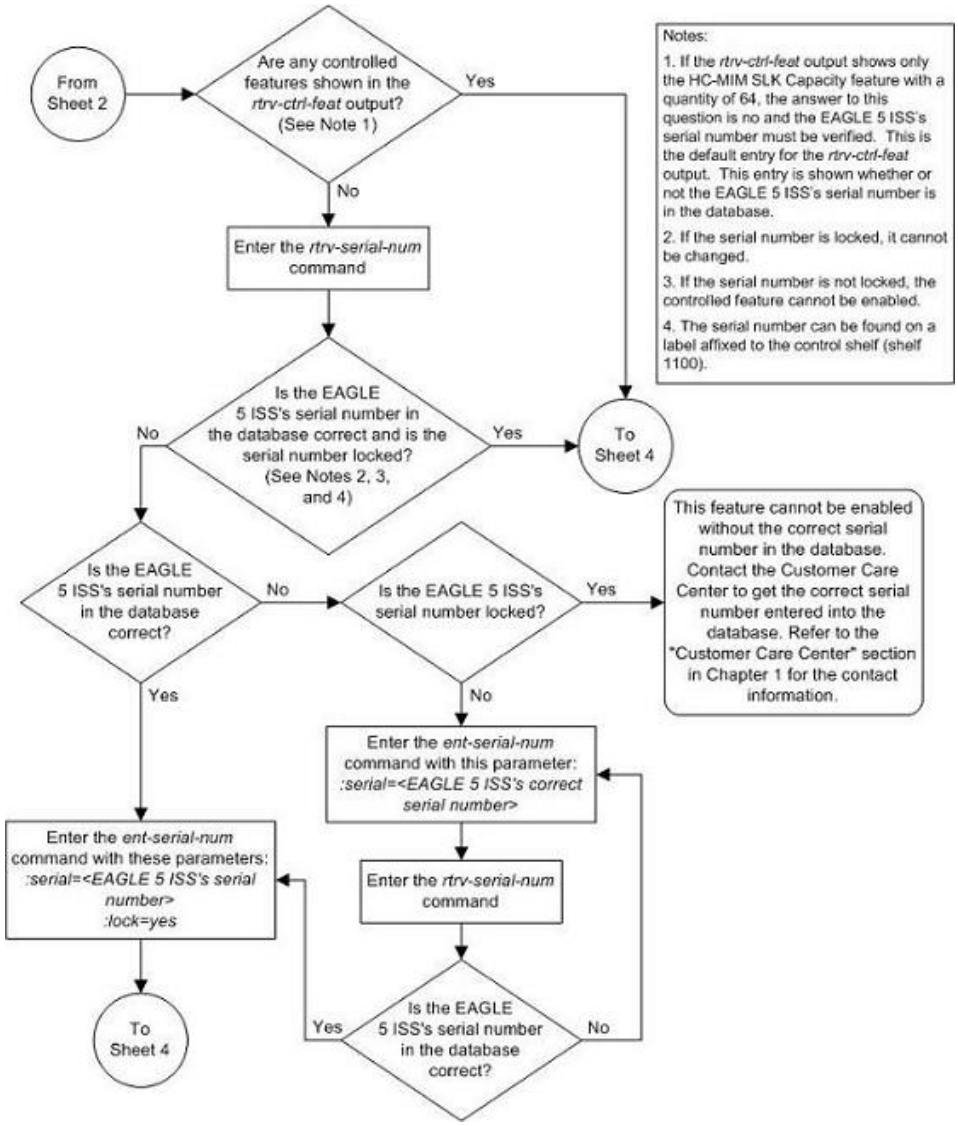
   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

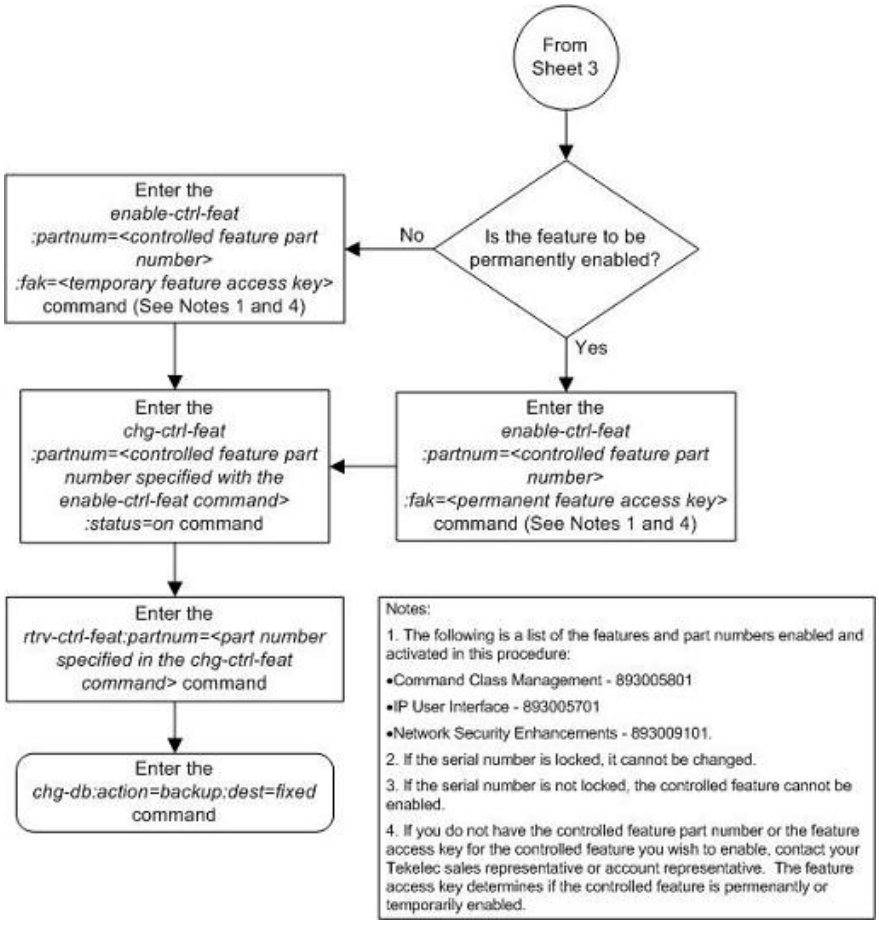
   ```
   BACKUP (FIXED) : MASP A - Backup starts on active MASP.
   BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
   BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
   BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
   ```

Figure 74: Activating Controlled Features


Enter the rtrv-ctrl-feat command
Is the feature permanently enabled?
No
To Sheet 2
Yes
Is the status of the feature on or off?
On
The feature is permanently enabled and activated. No further action is necessary.
Off
Enter the chg-ctrl-feat :partnum=<controlled feature part number> :status=on command (See Notes)
Enter the rtrv-ctrl-feat:partnum=<part number specified in the chg-ctrl-feat command> command
Enter the chg-db:action=backup:dest=fixed command
Notes:
1. The following is a list of the features and part numbers enabled and activated in this procedure:
•Command Class Management - 893005801
•IP User Interface - 893005701
•Network Security Enhancements - 893009101.
2. If you do not have the controlled feature part number or the feature access key for the controlled feature you wish to enable, contact your Tekelec sales representative or account representative. The feature access key determines if the controlled feature is permenantly or temporarily enabled.


From Sheet 1
Is the feature temporarily enabled?
No
To Sheet 3
Yes
Do you wish to permanently enable this feature?
Yes
Enter the enable-ctrl-feat :partnum=<controlled feature part number> :fak=<feature access key> command (See Notes)
No
Is the status of the feature on or off?
On
The feature is temporarily enabled and activated. No further action is necessary.
Off
Is the status of the feature on or off?
On
Off
Enter the chg-ctrl-feat :partnum=<controlled feature part number> :status=on command (See Notes)
Enter the rtrv-ctrl-feat:partnum=<part number specified in the chg-ctrl-feat command> command
Enter the chg-db:action=backup:dest=fixed command
Notes:
1. The following is a list of the features and part numbers enabled and activated in this procedure:
•Command Class Management - 893005801
•IP User Interface - 893005701
•Network Security Enhancements - 893009101.
2. If you do not have the controlled feature part number or the feature access key for the controlled feature you wish to enable, contact your Tekelec sales representative or account representative. The feature access key determines if the controlled feature is permenantly or temporarily enabled.


From Sheet 2
Are any controlled features shown in the rtrv-ctrl-feat output? (See Note 1)
Yes
No
Notes:
1. If the rtrv-ctrl-feat output shows only the HC-MIM SLK Capacity feature with a quantity of 64, the answer to this question is no and the EAGLE 5 ISS's serial number must be verified. This is the default entry for the rtrv-ctrl-feat output. This entry is shown whether or not the EAGLE 5 ISS's serial number is in the database.
2. If the serial number is locked, it cannot be changed.
3. If the serial number is not locked, the controlled feature cannot be enabled.
4. The serial number can be found on a label affixed to the control shelf (shelf 1100).
Enter the rtrv-serial-num command
Is the EAGLE 5 ISS's serial number in the database correct and is the serial number locked? (See Notes 2, 3, and 4)
No
Yes
To Sheet 4
Is the EAGLE 5 ISS's serial number in the database correct?
No
Is the EAGLE 5 ISS's serial number locked?
Yes
This feature cannot be enabled without the correct serial number in the database. Contact the Customer Care Center to get the correct serial number entered into the database. Refer to the "Customer Care Center" section in Chapter 1 for the contact information.
Yes
No
Enter the ent-serial-num command with this parameter: :serial=<EAGLE 5 ISS's correct serial number>
Enter the ent-serial-num command with these parameters: :serial=<EAGLE 5 ISS's serial number> :lock=yes
Enter the rtrv-serial-num command
To Sheet 4
Is the EAGLE 5 ISS's serial number in the database correct?
Yes
No



Activating the Eagle OA&M IP Security Enhancement Controlled Feature

This procedure is used to enable and activate the Eagle OAM IP Security Enhancement Controlled Feature, using the feature's part number and a feature access key. This feature provides secure IP connections used by the IP User Interface (Telnet) or FTP Retrieve and Replace features.

With the IP User Interface feature, a secure shell connection is established between the EAGLE 5 ISS and the telnet terminals allowing passwords to be sent over the connection. This allows the EAGLE 5 ISS administrator to add new users to the EAGLE 5 ISS (with the `ent-user` command) and to change the passwords of existing users (with the `pid` parameter of the `chg-user` command) from a telnet terminal.

If the Eagle OA&M IP Security Enhancements is enabled and activated, the FTRA must be configured to support secure connections to the EAGLE 5 ISS. Go to the FTP-*Based Table Retrieve Application* (FTRA) *User Guide*, for more information on using secure connections with the FTRA.

The Measurements Platform must support secure FTP servers. Go to the *Adding an FTP Server* on page 433 procedure for more information on configuring secure FTP servers for the Measurements Platform.

CAUTION:

If Eagle OA&M IP Security Enhancements feature is activated with a temporary feature access key and that key expires, secure shell connections will become non-secure. Passwords can be transmitted on a non-secure connection, but cannot be assigned or changed. The `ent-user` command and `pid` parameter of the `chg-user` command cannot be used. File transfers using secure FTP cannot be performed unless non-secure FTP servers are available. It is recommended that the FTRA and the Measurements Platform is configured with secure and non-secure FTP servers.

To enable and activate this feature, the `enable-ctrl-feat`, `ent-serial-num`, and `chg-ctrl-feat` commands are used. For more information on these commands, go to the *Activating Controlled Features* on page 526 procedure, or the *Commands Manual*.

1. Display the status of the controlled features by entering the `rtrv-ctrl-feat` command.

   The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  off     ----
LNP Short Message Service 893006601  on      ----
Intermed GTT Load Sharing 893006901  off     ----
XGTT Table Expansion      893006101  off     ----
XMAP Table Expansion      893007710  on      3000
Large System # Links      893005910  on      2000
Routesets                 893006401  on      6000

The following features have been temporarily enabled:

Feature Name              Partnum    Status  Quantity     Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

   If the `rtrv-ctrl-feat` output shows that the controlled feature is permanently enabled, and its status is `on`, no further action is necessary.

   If the controlled feature is permanently enabled, and its status is `off`, skip steps 2 through 6, and go to step 7.

   If the controlled feature is temporarily enabled, and you wish to permanently enable this feature, or the temporary feature access key for that feature has expired, skip steps 2 through 5, and go to step 6.

   If the controlled feature is to remain temporarily enabled, and its status is `off`, skip steps 2 through 6, and go to step 7. If the feature's status is on, no further action is necessary. If the controlled feature is to remain temporarily enabled, and its status is `on`, no further action is necessary.

   Note: If the `rtrv-ctrl-feat` output in step 1 shows any controlled features, skip steps 2 through 5, and go to step 6. If the `rtrv-ctrl-feat` output shows only the HC-MIMSLK Capacity feature with a quantity of 64, steps 2 through 5 must be performed.

2. Display the serial number in the database with the `rtrv-serial-num` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
System serial number = ntxxxxxxxxxxxx

System serial number is not locked.

rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

   Note:

   If the serial number is correct and locked, skip steps 3, 4, and 5, and go to step 6. If the serial number is correct but not locked, skip steps 3 and 4, and go to step 5. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to *Customer Care Center* on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

3. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

   For this example, enter this command.

   `ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>`

   When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM:  MASP A - COMPLTD
```

4. Verify that the serial number entered into step 3 was entered correctly using the `rtrv-serial-num` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

   If the serial number was not entered correctly, repeat steps 3 and 4 and re-enter the correct serial number.

5. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in step 2, if the serial number shown in step 2 is correct, or with the serial number shown in step 4, if the serial number was changed in step 3, and with the `lock=yes` parameter.

   For this example, enter this command.

   `ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes`

When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
ENT-SERIAL-NUM:  MASP A - COMPLTD
```

6. Enable the controlled feature with either a permanent key or temporary key by entering the `enable-ctrl-feat` command.

   For this example, enter this command.

   `enable-ctrl-feat:partnum=893400001:fak=<feature access key>`

   Note: The values for the feature access key (the `fak` parameter) are provided by Tekelec. If you do not have the feature access key for the SEAS over IP feature, contact your Tekelec Sales Representative or Account Representative.

   When the `enable-ctrl-feat` command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
ENABLE-CTRL-FEAT: MASP B - COMPLTD
```

   Note: If the feature was temporarily enabled before being permanently enabled in step 6, and the status of the temporarily enabled feature was `on`, skip steps 7 through 12, and go to step 13.

7. Before the status of the Eagle OAM IP Security Enhancements controlled feature can be changed to `on`, all ISPMs, if present, must be taken out of service.

   Before the ISPMs can be taken out of service, all telnet terminals associated with the IPSMs must be taken out of service. Enter the `rtrv-trm` command to display the terminals in the database. The following is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:08 GMT EAGLE5 39.0.0
TRM  TYPE     COMM        FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1  SW    30    5     99:59:59
2    KSR      9600-7-E-1  HW    30    5     INDEF
3    PRINTER  4800-7-E-1  HW    30    0     00:00:00
4    VT320    2400-7-E-1  BOTH  30    5     00:30:00
5    VT320    9600-7-O-1  NONE  30    5     00:00:30
6    VT320    9600-7-E-2  SW    30    9     INDEF
7    PRINTER  9600-7-N-2  HW    30    5     00:30:00
8    KSR     19200-7-E-2  BOTH  30    5     00:30:00
9    VT320    9600-7-E-1  SW    30    7     00:30:00
10   VT320    9600-7-E-1  HW    30    5     00:30:00
11   VT320    4800-7-E-1  HW    30    5     00:30:00
12   PRINTER  9600-7-E-1  HW    30    4     00:30:00
13   VT320    9600-7-O-1  NONE  30    5     00:30:00
14   VT320    9600-7-E-2  SW    30    8     00:30:00
15   VT320    9600-7-N-2  HW    30    5     00:30:00
16   VT320    9600-7-E-2  BOTH  30    3     00:30:00

TRM  TYPE      LOC             TMOUT MXINV DURAL      SECURE
17   TELNET    2107            60    5     00:30:00
18   TELNET    2107            60    5     00:30:00
19   TELNET    2107            60    5     00:30:00
20   TELNET    2107            60    5     00:30:00
21   TELNET    2107            60    5     00:30:00
22   TELNET    2107            60    5     00:30:00
23   TELNET    2107            60    5     00:30:00
24   TELNET    2107            60    5     00:30:00
```

```
25   TELNET    2108             60    5     00:30:00
26   TELNET    2108             60    5     00:30:00
27   TELNET    2108             60    5     00:30:00
28   TELNET    2108             60    5     00:30:00
29   TELNET    2108             60    5     00:30:00
30   TELNET    2108             60    5     00:30:00
31   TELNET    2108             60    5     00:30:00
32   TELNET    2108             60    5     00:30:00
33   TELNET    2111             60    5     00:30:00
34   TELNET    2111             60    5     00:30:00
35   TELNET    2111             60    5     00:30:00
36   TELNET    2111             60    5     00:30:00
37   TELNET    2111             60    5     00:30:00
38   TELNET    2111             60    5     00:30:00
39   TELNET    2111             60    5     00:30:00
40   TELNET    2111             60    5     00:30:00

TRM  LOGINTMR LOGOUTTMR PNGTIMEINT PNGFAILCNT
     (sec)    (sec)     (msec)
17   none     none      none       1
18   none     none      none       1
19   none     none      none       1
20   none     none      none       1
21   none     none      none       1
22   none     none      none       1
23   none     none      none       1
24   none     none      none       1
25   none     none      none       1
26   none     none      none       1
27   none     none      none       1
28   none     none      none       1
28   none     none      none       1
30   none     none      none       1
31   none     none      none       1
32   none     none      none       1
33   none     none      none       1
34   none     none      none       1
35   none     none      none       1
36   none     none      none       1
37   none     none      none       1
38   none     none      none       1
39   none     none      none       1
40   none     none      none       1

TRM  TRAF LINK SA  SYS PU  DB  UIMRD
1    NO   YES  NO  YES NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
.
.
.
39   NO   NO   NO  NO  NO  NO  NO
40   NO   NO   NO  NO  NO  NO  NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
1    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
2    YES  YES YES  YES YES YES YES YES  YES YES NO   NO
.
.
.
39   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
40   NO   NO  NO   NO  NO  NO  NO  NO   NO  NO  NO   NO
```

Note: If the `rtrv-trm` output in step 7 shows no telnet terminals, skip steps 8 through 11, and go to step 12.

8. Display the status of the IPSMs by entering the `rept-stat-card` command with the card location of each IPSM shown in the output of step 7.

   `rept-stat-card:loc=2107`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:43:42 GMT  EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
2107   114-001-000  IPSM      IPS        IS-NR          Active     -----

  ALARM STATUS       = No Alarms.
  BPDCM GPL          = 002-122-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
Command Completed.
```

   `rept-stat-card:loc=2108`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:43:42 GMT  EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
2108   114-001-000  IPSM      IPS        IS-NR          Active     -----

  ALARM STATUS       = No Alarms.
  BPDCM GPL          = 002-122-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
Command Completed.
```

   `rept-stat-card:loc=2111`

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:43:42 GMT  EAGLE5 36.0.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
2111   114-001-000  IPSM      IPS        IS-NR          Active     -----

  ALARM STATUS       = No Alarms.
  BPDCM GPL          = 002-122-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
Command Completed.
```

   If all the IPSMs are out of service, shown by the entry `OOS-MT-DSBLD` in the `PST` column, skip steps 9 and 10, and go to step 11.

9. Display the status of the terminals by entering the `rept-stat-trm` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
TRM   PST          SST          AST
1     IS-NR        Active       -----
2     IS-NR        Active       -----
3     IS-NR        Active       -----
4     IS-NR        Active       -----
5     IS-NR        Active       -----
6     IS-NR        Active       -----
7     IS-NR        Active       -----
8     IS-NR        Active       -----
9     IS-NR        Active       -----
```

```
10    IS-NR         Active        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
17    IS-NR         Active        -----
18    IS-NR         Active        -----
19    IS-NR         Active        -----
20    IS-NR         Active        -----
21    IS-NR         Active        -----
22    IS-NR         Active        -----
23    IS-NR         Active        -----
24    IS-NR         Active        -----
25    IS-NR         Active        -----
26    IS-NR         Active        -----
27    IS-NR         Active        -----
28    IS-NR         Active        -----
29    IS-NR         Active        -----
30    IS-NR         Active        -----
31    IS-NR         Active        -----
32    IS-NR         Active        -----
33    IS-NR         Active        -----
34    IS-NR         Active        -----
35    IS-NR         Active        -----
36    IS-NR         Active        -----
37    IS-NR         Active        -----
38    IS-NR         Active        -----
39    IS-NR         Active        -----
40    IS-NR         Active        -----

Command Completed.
```

Note:

If all the terminals associated with the IPSMs being taken out of service are out of service, shown by the entry `OOS-MT-DSBLD` in the `PST` column, skip step 10 and go to step 11.

10. Place the terminals associated with the IPSMs being taken out of service using the `rmv-trm` command with the terminal number shown in step 7.

    For this example, enter these commands.

    ```
    rmv-trm:trm=17

    rmv-trm:trm=18

    rmv-trm:trm=19

    rmv-trm:trm=20

    rmv-trm:trm=21

    rmv-trm:trm=22

    rmv-trm:trm=23

    rmv-trm:trm=24

    rmv-trm:trm=25

    rmv-trm:trm=26

    rmv-trm:trm=27
    ```

```
rmv-trm:trm=28
rmv-trm:trm=29
rmv-trm:trm=30
rmv-trm:trm=31
rmv-trm:trm=32
rmv-trm:trm=33
rmv-trm:trm=34
rmv-trm:trm=35
rmv-trm:trm=36
rmv-trm:trm=37
rmv-trm:trm=38
rmv-trm:trm=39
rmv-trm:trm=40
```

CAUTION:

Placing these terminals out of service will disable any Telnet sessions running on these terminals.

If the status of any terminals associated with the IPSM being removed shown in the PST field in step 9 is OOS-MT-DSBLD (out-of-service maintenance disabled), the terminal is already out of service and the rmv-trm command does not need to be executed for that terminal.

When these commands have successfully completed, this message should appear.

```
rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Inhibit message sent to terminal

rlghncxa03w 06-10-01 15:08:45 GMT EAGLE5 36.0.0
Command Completed.
```

11. Place the IPSMs out of service using the rmv-card command, specifying the card location of the IPSM.

    For this example, enter this command.

    ```
    rmv-card:loc=2107
    rmv-card:loc=2108
    rmv-card:loc=2111
    ```

    When this command has successfully completed, this message should appear.

    ```
    rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
    Card has been inhibited.
    ```

12. The controlled feature enabled in step 6 must be activated using the chg-ctrl-feat command, specifying the controlled feature part number used in step 6 and the status=on parameter.

    For this example, enter this command.

```
chg-ctrl-feat:partnum=893400001:status=on
```

When the `chg-ctrl-feat` command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

13. Verify the changes by entering the `rtrv-ctrl-feat` command with the part number specified in step 12.

```
rtrv-ctrl-feat:partnum=893400001
```

The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
EAGLE OAM IP Security     893400001  on      ----
```

Note:

If steps 7 through 11 were not performed, skip steps 14 and 15, and go to step 16.

14. Place the terminals that were taken out of service in step 10 back into service by entering the `rst-trm` command with the terminal numbers specified in step 10.

For this example, enter these commands.

```
rst-trm:trm=17

rst-trm:trm=18

rst-trm:trm=19

rst-trm:trm=20

rst-trm:trm=21

rst-trm:trm=22

rst-trm:trm=23

rst-trm:trm=24

rst-trm:trm=25

rst-trm:trm=26

rst-trm:trm=27

rst-trm:trm=28

rst-trm:trm=29

rst-trm:trm=30

rst-trm:trm=31

rst-trm:trm=32

rst-trm:trm=33

rst-trm:trm=34
```

```
rst-trm:trm=35

rst-trm:trm=36

rst-trm:trm=37

rst-trm:trm=38

rst-trm:trm=39

rst-trm:trm=40
```

15. Place the ISPMs back into service by entering the `rst-card` command with the card locations specified in step 11.

    For this example, enter this command.

    ```
    rst-card:loc=2107

    rst-card:loc=2108

    rst-card:loc=2111
    ```

    When this command has successfully completed, this message should appear.

    ```
    rlghncxa03w 06-10-01 09:12:36 GMT  EAGLE5 36.0.0
    Card has been allowed.
    ```

    When the IPSMs are placed into service with the `rst-card` command, UIM 1494, SSH Host Keys Loaded, is displayed. UIM 1494 contains the public host key fingerprint which is used to establish a secure connection with an SSH client. If the secure connection is to be made with the FTRA, the public host key fingerprint displayed in UIM 1494 must be added to the `hosts.xml` file in the FTRA. Record the public host key fingerprint information displayed in UIM 1494 if a secure connection to the FTRA will be made. For more information about editing the `hosts.xml` file on the FTRA, see the FTP-*Based Table Retrieve Application (*FTRA*) User Guide*

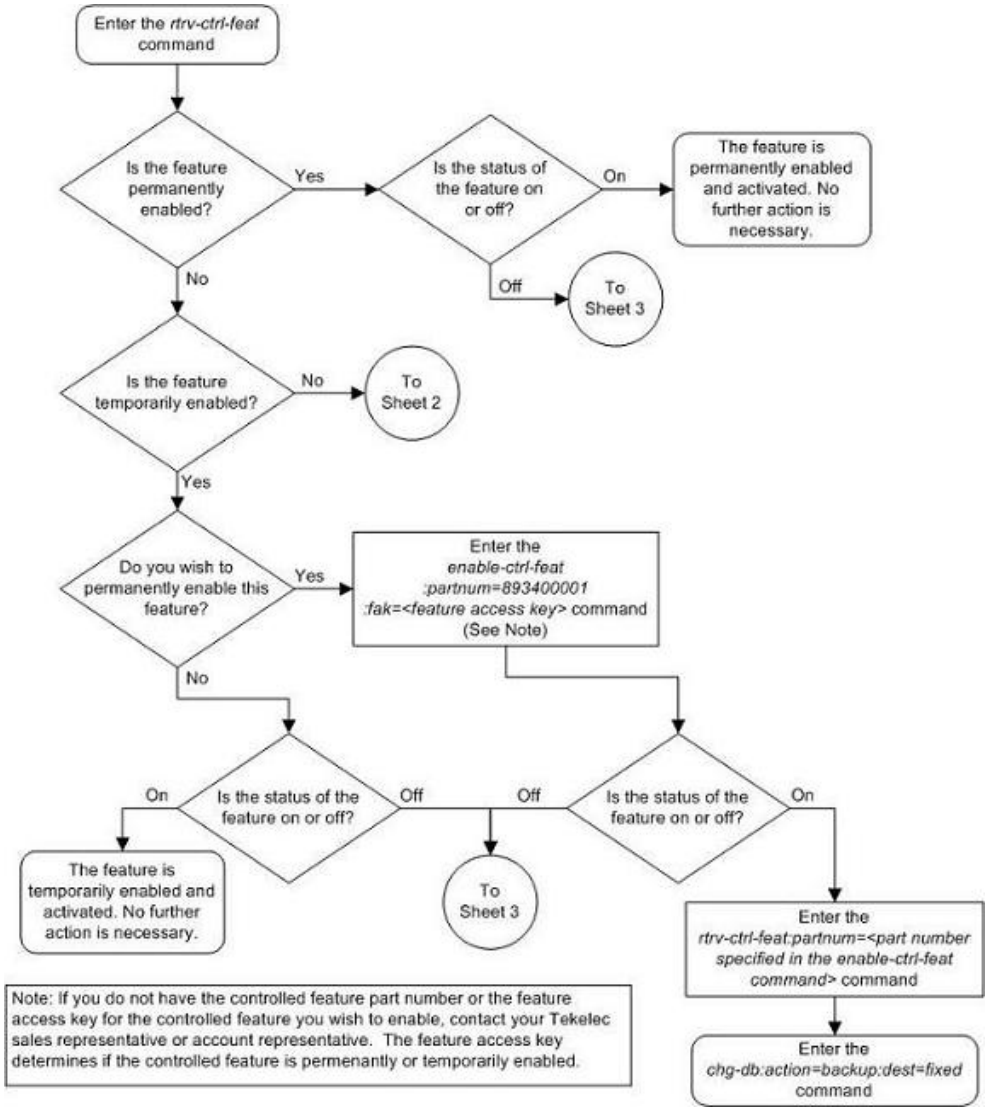
16. Backup the new changes using the `chg-db:action=backup:dest=fixed`command.

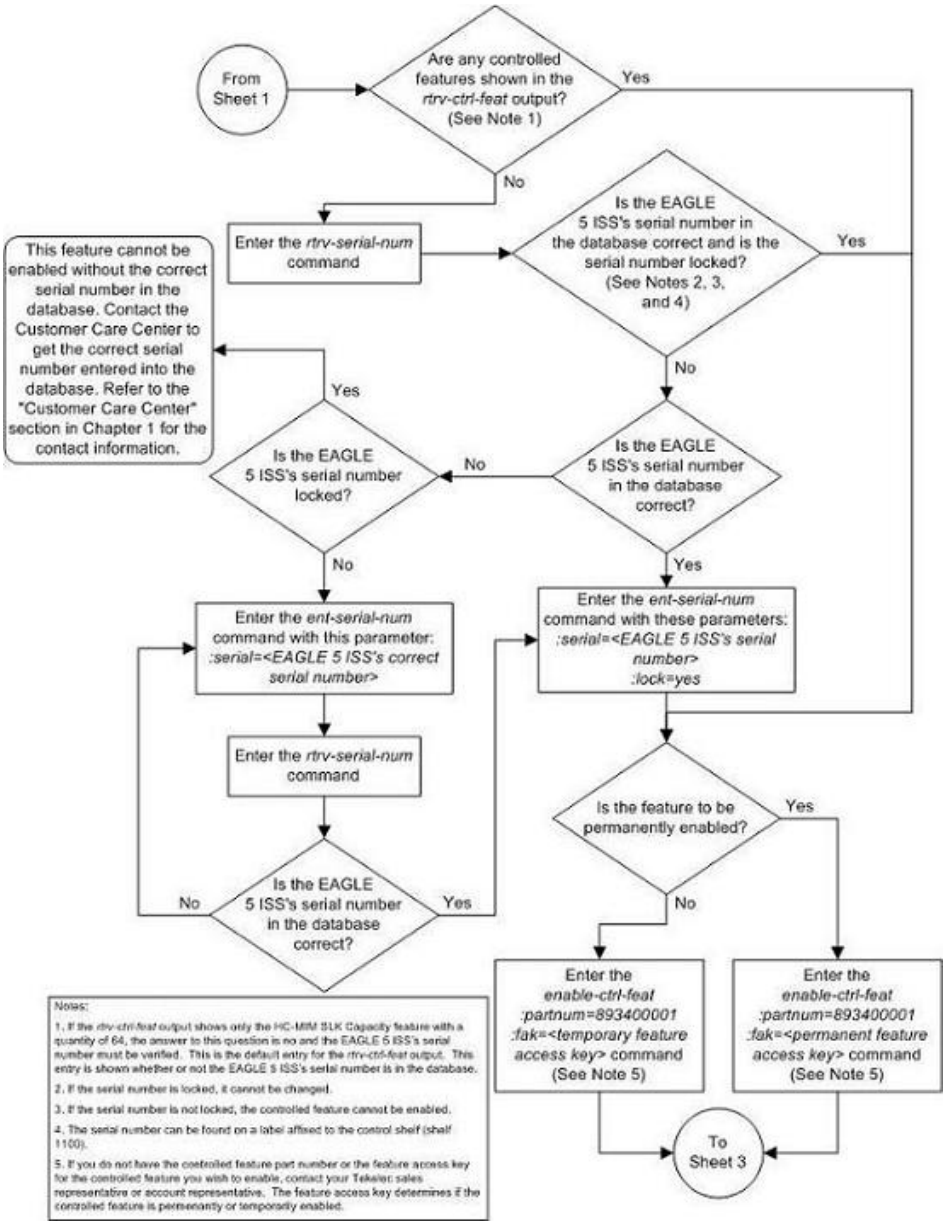
    These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first

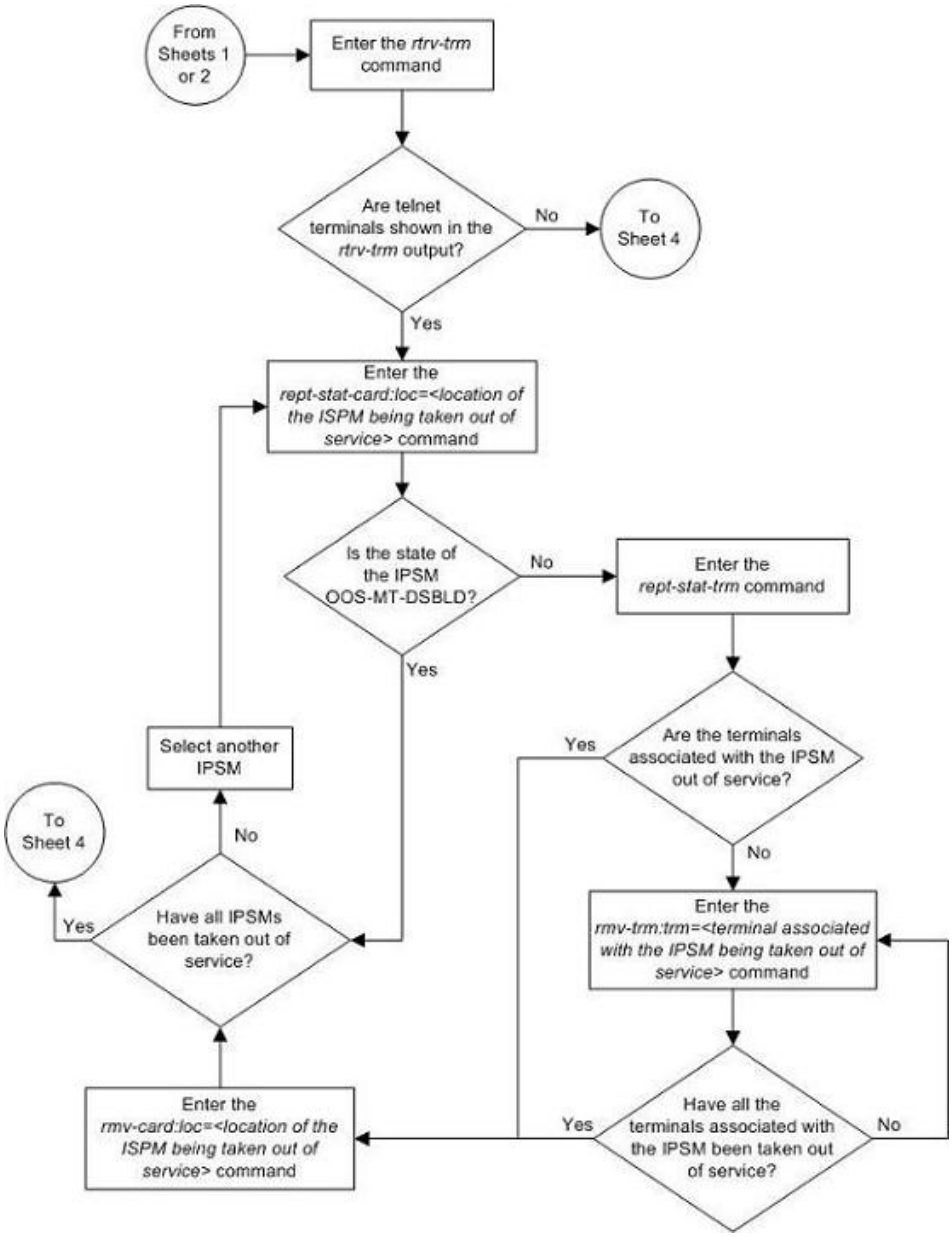
    .

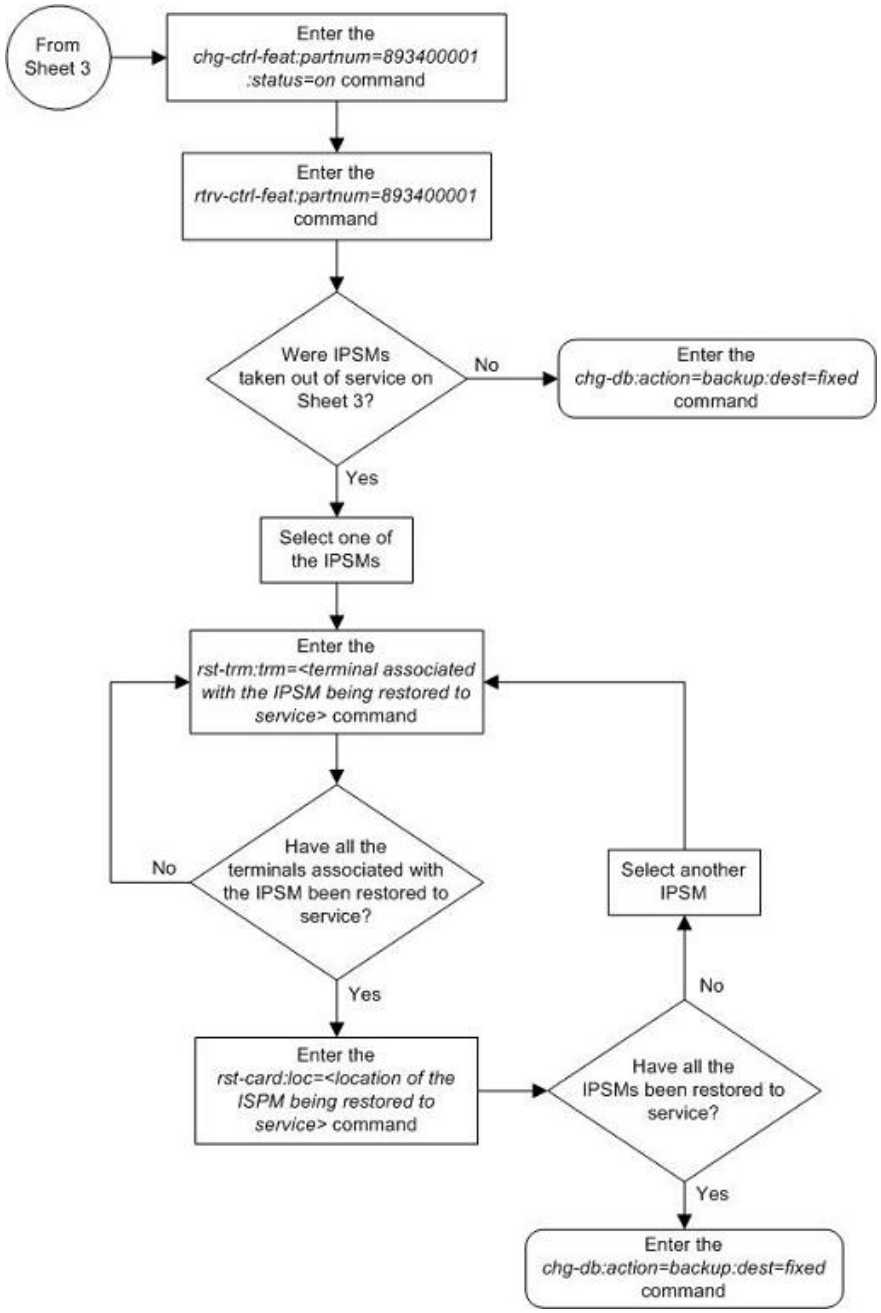
    ```
    BACKUP (FIXED) : MASP A - Backup starts on active MASP.
    BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
    BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
    BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
    ```

Figure 75: Activating the Eagle OAM IP Security Enhancement Controlled Feature


Enter the rtrv-ctrl-feat command
Is the feature permanently enabled?
Yes
Is the status of the feature on or off?
On
The feature is permanently enabled and activated. No further action is necessary.
Off
To Sheet 3
No
Is the feature temporarily enabled?
No
To Sheet 2
Yes
Do you wish to permanently enable this feature?
Yes
Enter the enable-ctrl-feat :partnum=893400001 :fak=<feature access key> command (See Note)
No
On
Is the status of the feature on or off?
Off
Off
Is the status of the feature on or off?
On
The feature is temporarily enabled and activated. No further action is necessary.
To Sheet 3
Enter the rtrv-ctrl-feat:partnum=<part number specified in the enable-ctrl-feat command> command
Enter the chg-db:action=backup:dest=fixed command
Note: If you do not have the controlled feature part number or the feature access key for the controlled feature you wish to enable, contact your Tekelec sales representative or account representative. The feature access key determines if the controlled feature is permenantly or temporarily enabled.


From Sheet 1
Are any controlled features shown in the rtrv-ctrl-feat output? (See Note 1)
Yes
No
Enter the rtrv-serial-num command
Is the EAGLE 5 ISS's serial number in the database correct and is the serial number locked? (See Notes 2, 3, and 4)
Yes
No
This feature cannot be enabled without the correct serial number in the database. Contact the Customer Care Center to get the correct serial number entered into the database. Refer to the "Customer Care Center" section in Chapter 1 for the contact information.
Yes
Is the EAGLE 5 ISS's serial number locked?
No
Is the EAGLE 5 ISS's serial number in the database correct?
No
Yes
Enter the ent-serial-num command with this parameter: :serial=<EAGLE 5 ISS's correct serial number>
Enter the ent-serial-num command with these parameters: :serial=<EAGLE 5 ISS's serial number> :lock=yes
Enter the rtrv-serial-num command
Is the feature to be permanently enabled?
Yes
No
Is the EAGLE 5 ISS's serial number in the database correct?
No
Yes
Enter the enable-ctrl-feat :partnum=893400001 :fak=<temporary feature access key> command (See Note 5)
Enter the enable-ctrl-feat :partnum=893400001 :fak=<permanent feature access key> command (See Note 5)
To Sheet 3
Notes:
1. If the rtrv-ctrl-feat output shows only the HC-MIM SLK Capacity feature with a quantity of 64, the answer to this question is no and the EAGLE 5 ISS's serial number must be verified. This is the default entry for the rtrv-ctrl-feat output. This entry is shown whether or not the EAGLE 5 ISS's serial number is in the database.
2. If the serial number is locked, it cannot be changed.
3. If the serial number is not locked, the controlled feature cannot be enabled.
4. The serial number can be found on a label affixed to the control shelf (shelf 1100).
5. If you do not have the controlled feature part number or the feature access key for the controlled feature you wish to enable, contact your Tekelec sales representative or account representative. The feature access key determines if the controlled feature is permanently or temporarily enabled.


From Sheets 1 or 2
Enter the rtrv-trm command
Are telnet terminals shown in the rtrv-trm output?
No
To Sheet 4
Yes
Enter the rept-stat-card:loc=<location of the ISPM being taken out of service> command
Is the state of the IPSM OOS-MT-DSBLD?
No
Enter the rept-stat-trm command
Yes
Are the terminals associated with the IPSM out of service?
Yes
Select another IPSM
To Sheet 4
No
No
Enter the rmv-trm:trm=<terminal associated with the IPSM being taken out of service> command
Yes
Have all IPSMs been taken out of service?
Enter the rmv-card:loc=<location of the ISPM being taken out of service> command
Yes
Have all the terminals associated with the IPSM been taken out of service?
No



Activating the 15 Minute Measurements Controlled Feature

This procedure is used to enable and activate the 15 Minute Measurements controlled feature, using the feature's part number and a feature access key. This feature allows EAGLE 5 ISS measurements to be collected every 15 minutes.

To enable and activate the 15 Minute Measurements controlled feature, the following requirements must be met:

- The Measurements Platform feature must be on.
- The EAGLE 5 ISS must be configured to use the Measurements Platform.
- MCPMs must be provisioned in the database, and the state of all these MCPMs must be IS-NR.

After the 15 Minute Measurements controlled feature is enabled and activated, the 15 minute measurement collection option in the measurement options table must be turned on.

To enable and activate this feature, the `enable-ctrl-feat`, `ent-serial-num`, and `chg-ctrl-feat` commands are used. For more information on these commands, go to the *Activating Controlled Features* on page 526 procedure, or the *Commands Manual*.

Note:

This feature can only be permanently enabled with the `enable-ctrl-feat` command. Once this feature is activated with the `chg-ctrl-feat` command, it cannot be deactivated with the `chg-ctrl-feat:status=off` command.

1. Display the status of the 15 Minute Measurements controlled features by entering the `rtrv-ctrl-feat` command.

   The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  off     ----
LNP Short Message Service 893006601  on      ----
Intermed GTT Load Sharing 893006901  off     ----
XGTT Table Expansion      893006101  off     ----
XMAP Table Expansion      893007710  on      3000
Large System # Links      893005910  on      2000
Routesets                 893006401  on      6000
15 Minute Measurements    893012101  off     ----

The following features have been temporarily enabled:

Feature Name              Partnum    Status  Quantity     Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

   If the `rtrv-ctrl-feat` output shows that the 15 Minute Measurements controlled feature is permanently enabled, and its status is `on`, no further action is necessary.

   If the 15 Minute Measurements controlled feature is permanently enabled, and its status is `off`, skip steps 2 through 6, and go to step 7.

   Note: If the `rtrv-ctrl-feat` output in step 1 shows any controlled features, skip steps 2 through 5, and go to step 6. If the `rtrv-ctrl-feat` output shows only the HC-MIMSLK Capacity feature with a quantity of 64, steps 2 through 5 must be performed.

2. Display the serial number in the database with the `rtrv-serial-num` command.

This is an example of the possible output.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
System serial number = ntxxxxxxxxxxxx

System serial number is not locked.

rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
Command Completed
```

Note: If the serial number is correct and locked, skip steps 3, 4, and 5, and go to step 6. If the serial number is correct but not locked, skip steps 3 and 4, and go to step 5. If the serial number is not correct, but is locked, this feature cannot be enabled and the remainder of this procedure cannot be performed. Contact the Customer Care Center to get an incorrect and locked serial number changed. Refer to *Customer Care Center* on page 4 for the contact information. The serial number can be found on a label affixed to the control shelf (shelf 1100).

3. Enter the correct serial number into the database using the `ent-serial-num` command with the `serial` parameter.

   For this example, enter this command.

   `ent-serial-num:serial=<EAGLE 5 ISS's correct serial number>`

   When this command has successfully completed, the following message should appear.

   ```
   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   ENT-SERIAL-NUM:  MASP A - COMPLTD
   ```

4. Verify that the serial number entered into step 3 was entered correctly using the `rtrv-serial-num` command.

   This is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   System serial number = nt00001231

   System serial number is not locked.

   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   Command Completed
   ```

   If the serial number was not entered correctly, repeat steps 3 and 4 and re-enter the correct serial number.

5. Lock the serial number in the database by entering the `ent-serial-num` command with the serial number shown in step 2, if the serial number shown in step 2 is correct, or with the serial number shown in step 4, if the serial number was changed in step 3, and with the `lock=yes` parameter.

   For this example, enter this command.

   `ent-serial-num:serial=<EAGLE 5 ISS's serial number>:lock=yes`

   When this command has successfully completed, the following message should appear.

   ```
   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   ENT-SERIAL-NUM:  MASP A - COMPLTD
   ```

6. Enable the 15 Minute Measurements controlled feature by entering the `enable-ctrl-feat` command.

   For this example, enter this command.

   ```
   enable-ctrl-feat:partnum=893012101:fak=<feature access key>
   ```

   Note:

   The values for the feature access key (the `fak` parameter) are provided by Tekelec. If you do not have the controlled feature part number or the feature access key for the feature you wish to enable, contact your Tekelec Sales Representative or Account Representative.

   When the `enable-ctrl-feat` command has successfully completed, this message should appear.

   ```
   rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
   ENABLE-CTRL-FEAT: MASP B - COMPLTD
   ```

7. Verify whether or not the Measurements Platform feature is on by entering the `rtrv-feat` command.

   If the Measurements Platform feature is on, the entry `MEASPLAT = on` is shown in the `rtrv-feat` command output:

   Note:

   The `rtrv-feat` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-feat` command, see the `rtrv-feat` command description in the *Commands Manual*.

   If the Measurements Platform feature is not on, perform the *Adding an MCPM* on page 417 procedure to add the required MCPMs and to turn the Measurements Platform feature on. After the Measurements Platform is turned on, perform the *Configuring the Measurements Platform Feature* on page 424 procedure to configure the Measurements Platform feature. Skip steps 8 and 9, and go to step 10.

   If the Measurements Platform is on, go to step 8.

8. Verify whether or nor the Measurements Platform option is enabled (`PLATFORMENABLE = on`) using the `rtrv-measopts` command.

   The following is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
   EAGLE MEASUREMENT OPTIONS LIST

   PLATFORMENABLE = on
   COLLECT15MIN   = off
   CLLIBASEDNAME  = on
   -------------------------------------
   SYSTOTSTP     =on
   ```

   Note:

   The `rtrv-measopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-measopts` command, see the `rtrv-measopts` command description in the *Commands Manual*.

   If the Measurements Platform option is not enabled, perform the *Configuring the Measurements Platform Feature* on page 424 procedure to verify, and correct if necessary, the configuration of

the Measurements Platform feature and to enable the Measurements Platform option. Skip step 9 and go to step 10.

If the Measurements Platform option is enabled, go to step 9.

9. Display the status of the MCPMs in the database with the `rept-stat-meas` command.

   This is an example of the possible output.

```
rlghncxa03w 06-10-01 16:43:42 GMT  EAGLE5 36.0.0

                     PST            SST       AST
MEAS SS              IS-NR          Active    -----
       ALARM STATUS =   No Alarms

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2108   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   101-9-000       MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available

    CARD 2107 ALARM STATUS = No Alarms
    CARD 2108 ALARM STATUS = No Alarms
    CARD 2111 ALARM STATUS = No Alarms
```

   If the state of all the MCPMs is IS-NR, shown in the PST column, go to step 10.

   If the state of any of the MCPMs is not IS-NR, perform the *Configuring the Measurements Platform Feature* on page 424 procedure to verify, and correct if necessary, the configuration of the Measurements Platform feature and to bring the MCPMs back into service. Go to step 10.

10. Activate the 15 Minute Measurements controlled feature using the `chg-ctrl-feat` command, specifying the 15 Minute Measurements controlled feature part number and the `status=on` parameter.

    For this example, enter this command.

    `chg-ctrl-feat:partnum=893012101:status=on`

    Note:

    Once the 15 Minute Measurements feature is activated in this step, it cannot be deactivated with the `chg-ctrl-feat:status=off` command.

    When the **chg-ctrl-feat** command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-01 21:15:37 GMT EAGLE5 36.0.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

11. Verify the changes by entering the `rtrv-ctrl-feat` command with the part number specified in step 10.

    `rtrv-ctrl-feat:partnum=893012101`

    The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:
```

```
Feature Name              Partnum    Status  Quantity
15 Minute Measurements    893012101  on      ----
```

12. Turn the 15 Minute Measurement collection option on by entering this command.

    `chg-measopts:collect15min=on`

    When the `chg-measopts` command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
CHG-MEAS-OPTS: MASP A - COMPLTD
```

13. Verify that the 15 Minute Measurement collection option is on by entering the `rtrv-measopts` command.

    The following is an example of the possible output.

```
rlghncxa03w 06-10-01 16:02:05 GMT  EAGLE5 36.0.0
EAGLE MEASUREMENT OPTIONS LIST

PLATFORMENABLE = on
COLLECT15MIN   = on
CLLIBASEDNAME  = on
-------------------------------------
SYSTOTSTP     =on
```

    Note:

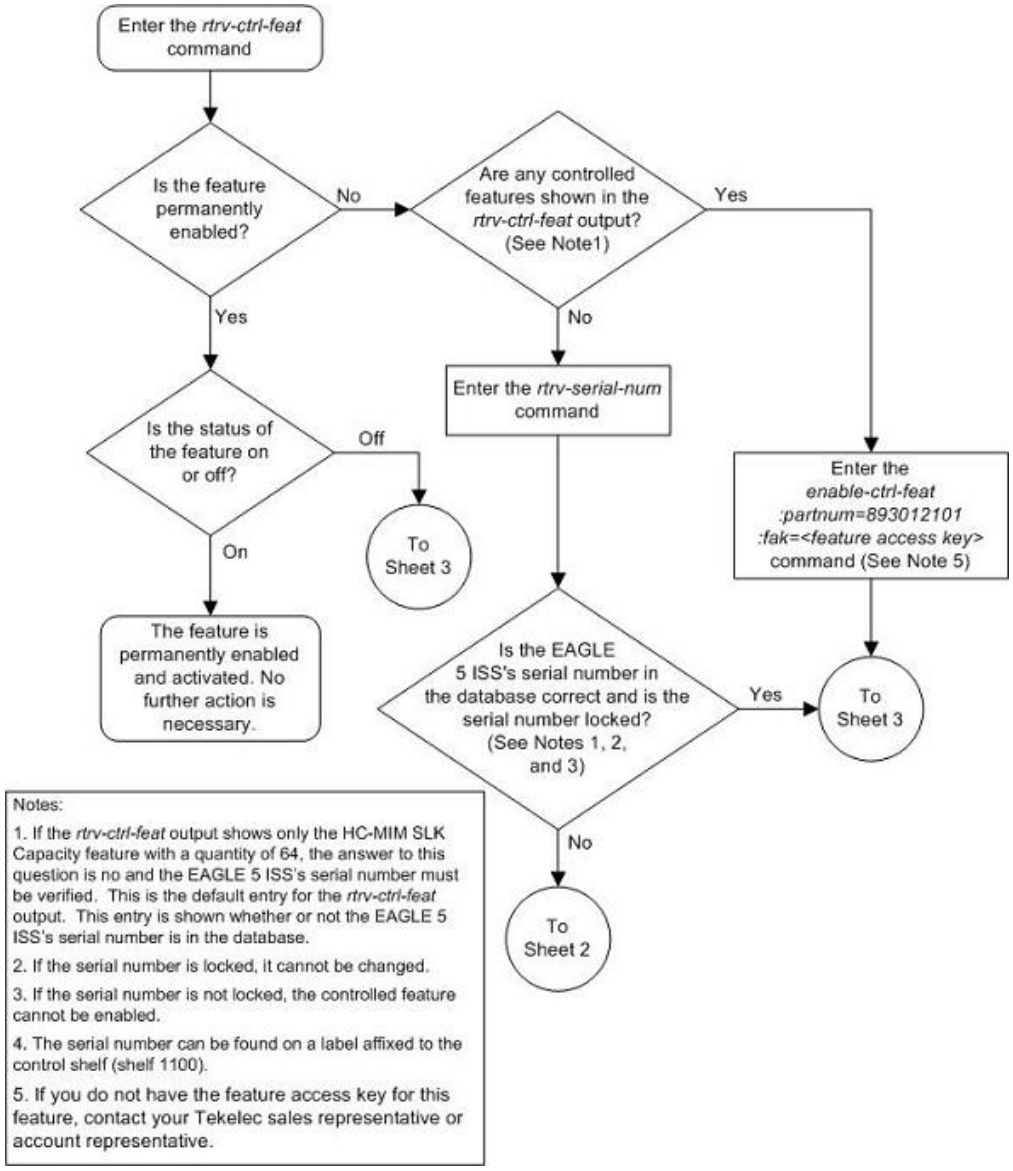
    The `rtrv-measopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-measopts` command, see the `rtrv-measopts` command description in the *Commands Manual*.

14. Backup the new changes using the `chg-db:action=backup:dest=fixed` command.

    These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

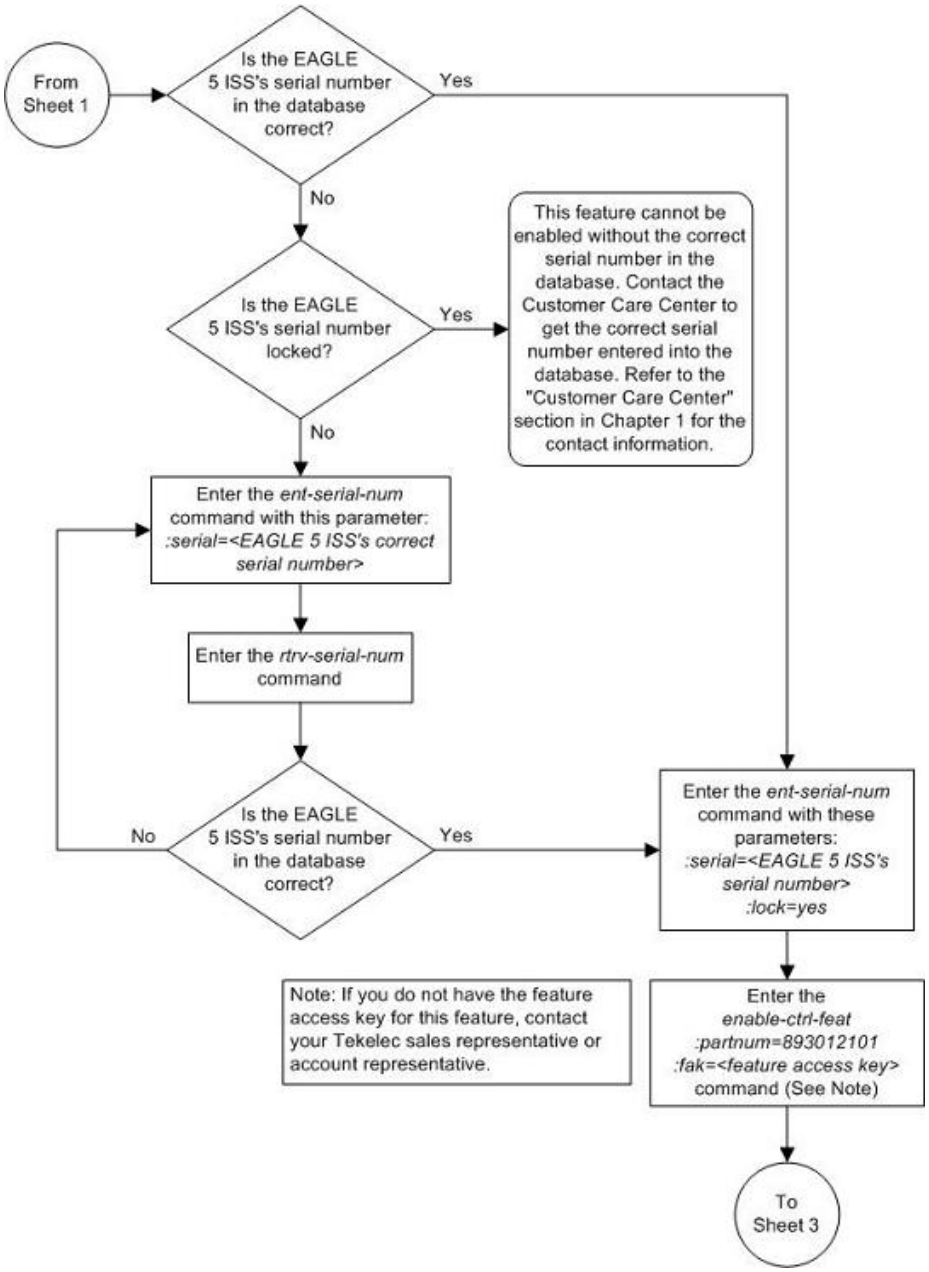
```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

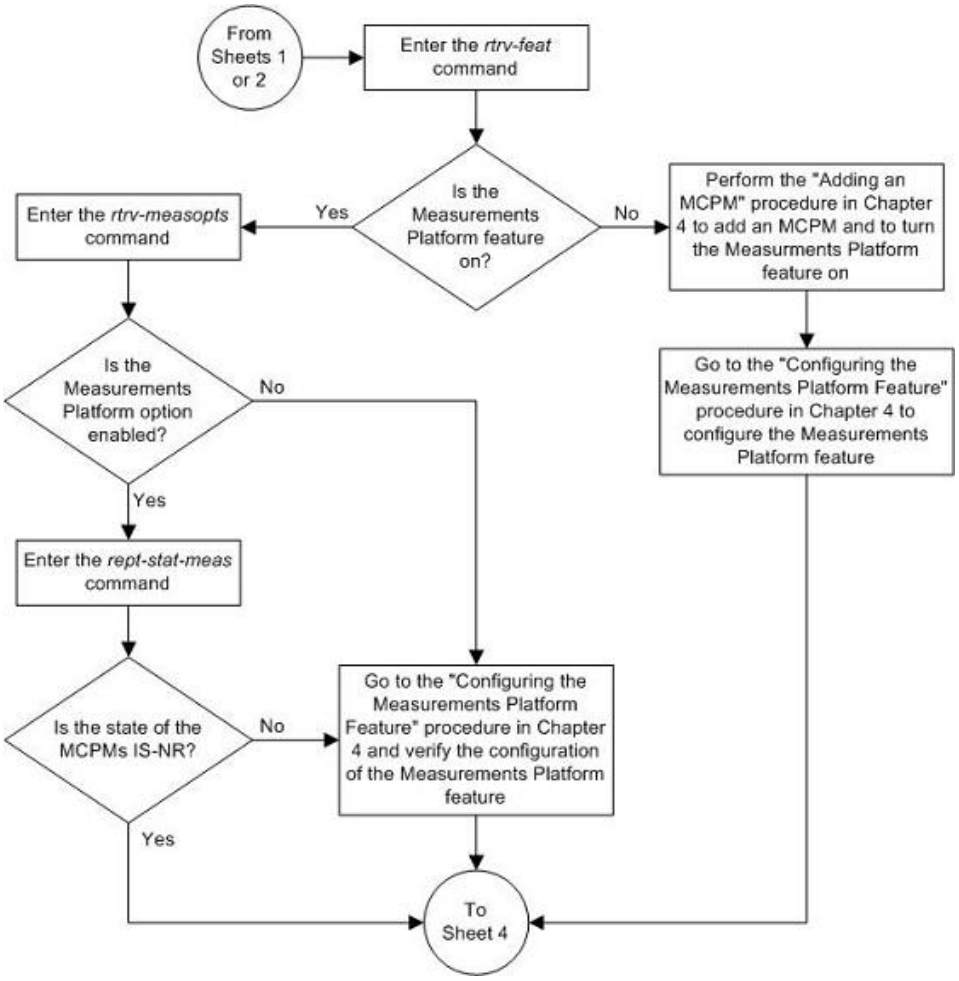
Figure 76: Activating the 15 Minute Measurements Controlled Feature

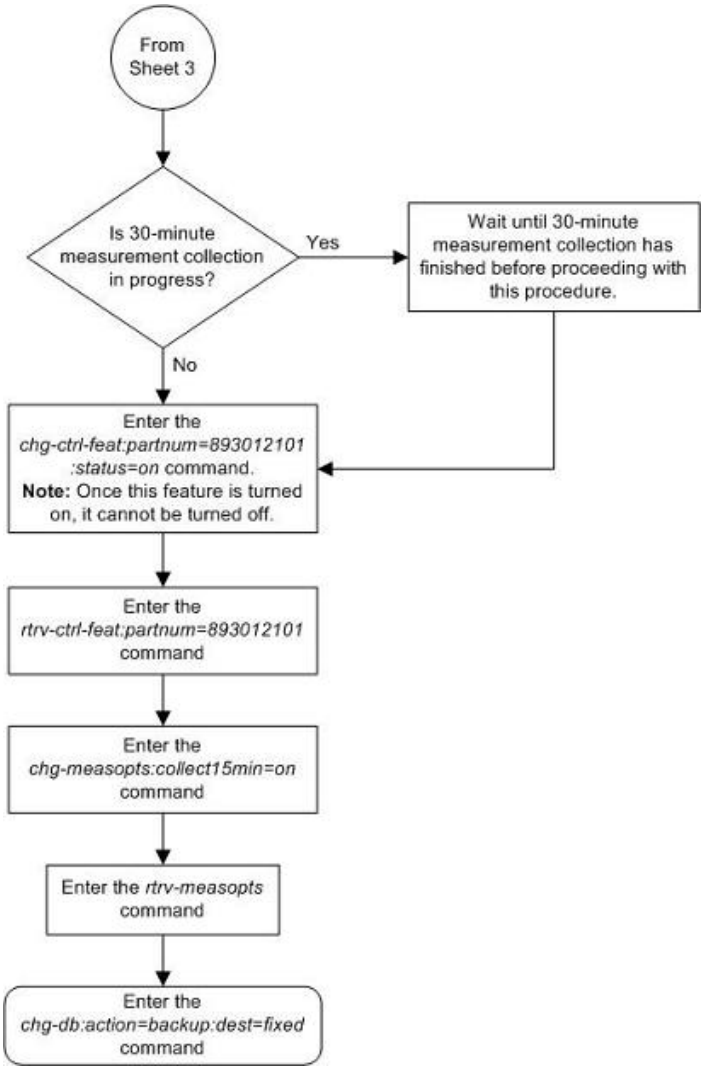


Notes:

1. If the *rtrv-ctrl-feat* output shows only the HC-MIM SLK Capacity feature with a quantity of 64, the answer to this question is no and the EAGLE 5 ISS's serial number must be verified. This is the default entry for the *rtrv-ctrl-feat* output. This entry is shown whether or not the EAGLE 5 ISS's serial number is in the database.
2. If the serial number is locked, it cannot be changed.
3. If the serial number is not locked, the controlled feature cannot be enabled.
4. The serial number can be found on a label affixed to the control shelf (shelf 1100).
5. If you do not have the feature access key for this feature, contact your Tekelec sales representative or account representative.


From Sheet 1
Is the EAGLE 5 ISS's serial number in the database correct?
Yes
No
This feature cannot be enabled without the correct serial number in the database. Contact the Customer Care Center to get the correct serial number entered into the database. Refer to the "Customer Care Center" section in Chapter 1 for the contact information.
Is the EAGLE 5 ISS's serial number locked?
Yes
No
Enter the ent-serial-num command with this parameter: :serial=<EAGLE 5 ISS's correct serial number>
Enter the rtrv-serial-num command
Is the EAGLE 5 ISS's serial number in the database correct?
No
Yes
Enter the ent-serial-num command with these parameters: :serial=<EAGLE 5 ISS's serial number> :lock=yes
Note: If you do not have the feature access key for this feature, contact your Tekelec sales representative or account representative.
Enter the enable-ctrl-feat :partnum=893012101 :fak=<feature access key> command (See Note)
To Sheet 3


From Sheets 1 or 2
Enter the *rtrv-feat* command
Is the Measurements Platform feature on?
Yes
No
Enter the *rtrv-measopts* command
Perform the "Adding an MCPM" procedure in Chapter 4 to add an MCPM and to turn the Measurments Platform feature on
Is the Measurements Platform option enabled?
No
Go to the "Configuring the Measurements Platform Feature" procedure in Chapter 4 to configure the Measurements Platform feature
Yes
Enter the *rept-stat-meas* command
Is the state of the MCPMs IS-NR?
No
Go to the "Configuring the Measurements Platform Feature" procedure in Chapter 4 and verify the configuration of the Measurements Platform feature
Yes
To Sheet 4



Clearing a Temporary FAK Alarm

This procedure is used to clear the critical alarm, UAM 0368, generated when a a temporary feature access key has expired, using the `chg-ctrl-feat` command.

The `chg-ctrl-feat` command uses the following parameters:

`:partnum` - The part number of the controlled feature that was temporarily enabled and is causing the alarm.

`:alarm=clear` - Clears UAM 0368, Temp Key(s) have expired.

The controlled feature must have been temporarily enabled and is now in danger of expiration or in an *expired* state.

1. Display the controlled feature that has the expired feature access key by entering the `rtrv-ctrl-feat:expired=yes` command.

   The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:17:37 GMT EAGLE5 36.0.0
The following features have expired temporary keys:
Feature Name              Part Num
Command Class Management  893005801
```

2. Clear the EAGLE 5 ISS alarm in the database by entering the `chg-ctrl-feat` command.

   For example, enter this command.

   `chg-ctrl-feat:partnum=893005801:alarm=clear`

   When this command has successfully completed, the following message should appear.

```
rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
CHG-CTRL-FEAT: MASP A - COMPLTD
```

3. Verify that the alarm has cleared in the database by using the `rtrv-ctrl-feat:expired=yes` command.

   The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
0367.0181  *  SYSTEM      Temp Key(s) expiration alarm cleared.
```

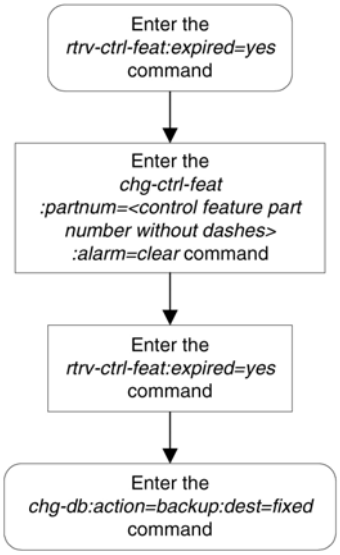
4. Backup the new changes using the `chg-db:action=backup:dest=fixed`command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first

   .

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 77: Clearing a Temporary FAK Alarm



Deactivating Controlled Features

This procedure is used to deactivate these controlled features, Command Class Management, IP User Interface, and Network Security Enhancements using the `chg-ctrl-feat` command.

The `chg-ctrl-feat` command uses the following parameters:

`:partnum` - The part number of the controlled feature being deactivated.

- Command Class Management – 893005801
- Telnet (IP User Interface) – 893005701
- Network Security Enhancements – 893009101

`:status=off` – used to deactivate the controlled feature.

The status of the controlled feature being deactivated must be `on` and is shown with the `rtrv-ctrl-feat` command.

CAUTION

CAUTION: If the SEAS over IP feature is turned off, and the OAP-based SEAS configuration has been provisioned correctly, the SEAS terminal traffic stops and OAP-based SEAS traffic starts. If the SEAS over IP feature is turned off, and the OAP-based SEAS configuration has not been provisioned, or has not been provisioned correctly, all SEAS traffic stops.

CAUTION

CAUTION: If the IP User Interface (TELNET) controlled feature is deactivated, all Telnet sessions supported by this feature will be disabled. No changes can be made to the configuration of the Telnet terminals (terminals 17 through 40). Deactivating this feature will also deactivate FTP Retrieve and Replace feature. If the SEAS over IP feature is turned on, the TELNET feature cannot be turned off.

1. Display the controlled features whose status is `on` by entering the `rtrv-ctrl-feat:status=on` command.

The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:17:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  on      ----
LNP Short Message Service 893006601  on      ----
Intermed GTT Load Sharing 893006901  on      ----
XMAP Table Expansion      893007710  on      3000
Large System # Links      893005910  on      2000
Routesets                 893006401  on      6000
Telnet                    893005701  on      ----
Network Security Enhance  893009101  on      ----

The following features have been temporarily enabled:

Feature Name              Partnum   Status Quantity   Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

The TELNET feature cannot be turned off if the SEAS over IP feature is turned on. If the TELNET (IP User Interface) is not being turned off, go to step 2.

If the TELNET feature is being turned off, and the SEAS over IP feature is not turned on (shown in the `rtrv-ctrl-feat` output in this step by the entry `SEAS over IP`), go to step 2.

If the TELNET feature is being turned off, and the SEAS over IP feature is turned on, perform the *Turning the SEAS Over IP Feature Off* on page 521 procedure to turn the SEAS over IP feature off. After the SEAS over IP feature has been turned off, go to step 2.

2. Deactivate the controlled feature by entering the `chg-ctrl-feat` command with the `status=off` parameter.

   For example, enter this command.

   ```
   chg-ctrl-feat:partnum=893005801:status=off
   ```

   ```
   chg-ctrl-feat:partnum=893005701:status=off
   ```

   ```
   chg-ctrl-feat:partnum=893009101:status=off
   ```

   When each of these commands has successfully completed, the following message should appear.

   ```
   rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
   CHG-CTRL-FEAT: MASP A - COMPLTD
   ```

3. Verify that the controlled feature has been deactivated by using the `rtrv-ctrl-feat:partnum=<controlled feature part number>` command.

   For this example, enter these commands.

   ```
   rtrv-ctrl-feat:partnum=893005801
   ```

   The following is an example of the possible output.

   ```
   rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
   ```

```
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  off     ----

The following features have been temporarily enabled:

Feature Name              Partnum   Status Quantity   Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

`rtrv-ctrl-feat:partnum=893005701`

The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
Telnet                    893005701  off     ----

The following features have been temporarily enabled:

Feature Name              Partnum   Status Quantity   Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

`rtrv-ctrl-feat:partnum=893009101`

The following is an example of the possible output.

```
rlghncxa03w 06-10-01 21:16:37 GMT EAGLE5 36.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
Network Security Enhance  893009101  off     ----

The following features have been temporarily enabled:

Feature Name              Partnum   Status Quantity   Trial Period Left
Zero entries found.

The following features have expired temporary keys:

Feature Name              Partnum
Zero entries found.
```

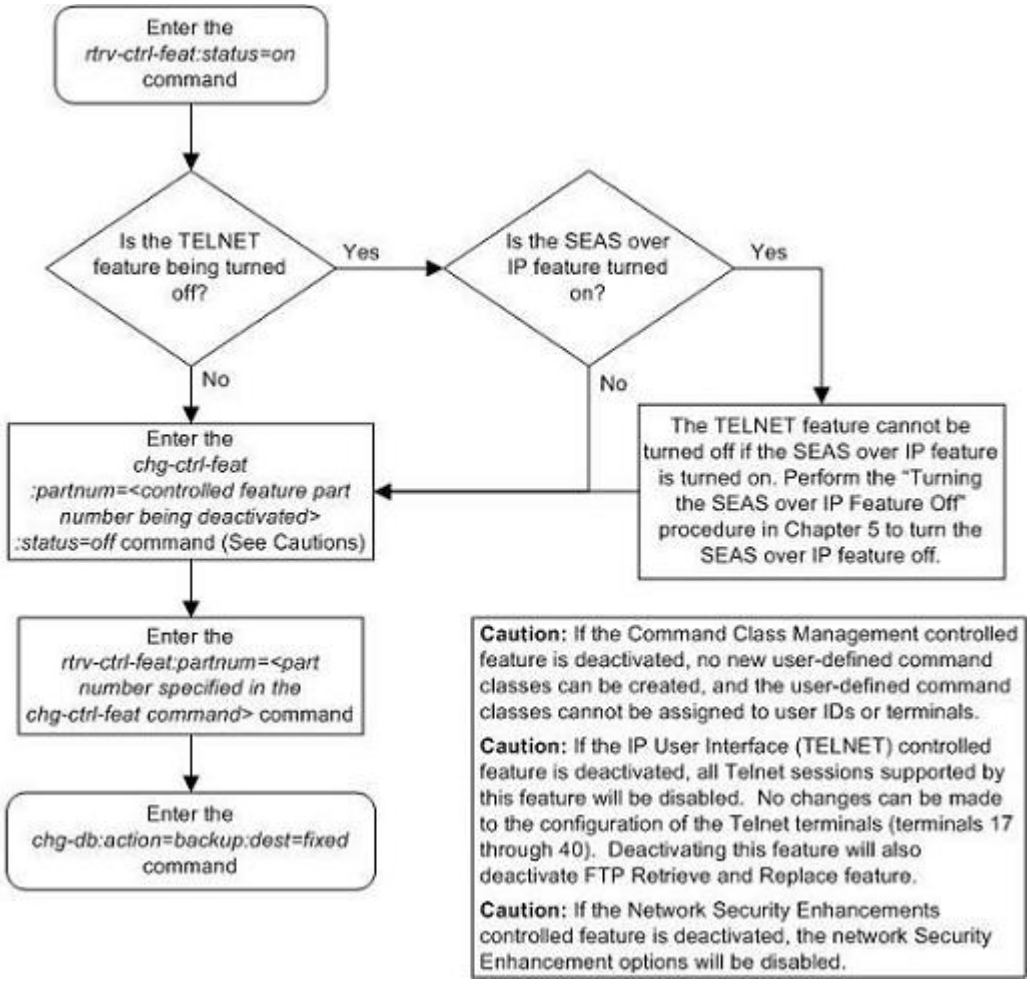
4. Backup the new changes using the `chg-db:action=backup:dest=fixed`command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
```

```
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 78: Deactivating Controlled Features



Appendix B

Setting Up a Secure Telnet Connection to the EAGLE 5 ISS using PuTTY

Topics:

Appendix B, Setting Up a Secure Telnet Connection to the EAGLE 5 ISS using PuTTY contains the procedure for setting a secure telnet connection to the EAGLE 5 ISS using PuTTY.

Setting Up a Secure Telnet Connection to the EAGLE 5 ISS using PuTTY

This appendix describes the steps to set up a secure telnet connection to to the EAGLE 5 ISS using the PuTTY client program.

The PuTTY client program must be installed on the machine that will be connecting to the EAGLE 5 ISS before this procedure can be performed. The PuTTY client program can be obtained at this website.

http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html

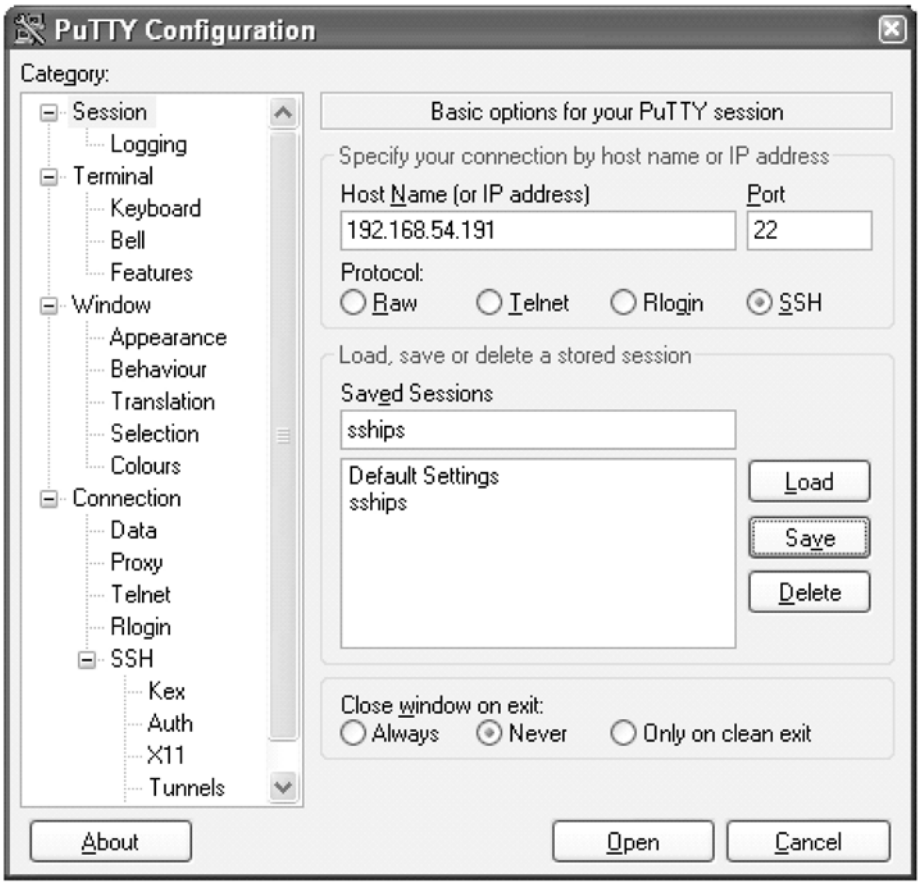
Note:

The examples shown in this procedure are based on version 0.58 of the PuTTY client program.

1. Start the PuTTY client program by double clicking the PuTTY icon on the desktop.

   The **PuTTY Configuration Window** is displayed. See *Figure 79: PuTTY Configuration Window - Initial Session Setup* on page 564.

   Figure 79: PuTTY Configuration Window - Initial Session Setup



2. Select **Session** in the **Category** list window in the **PuTTY Configuration** window.

3. Enter the IP address of the IPSM in the EAGLE 5 ISS that is provisioned as a secure SSHD server in the **Host Name (or IP Address)** box.

   Enter `22` in the **Port** box.

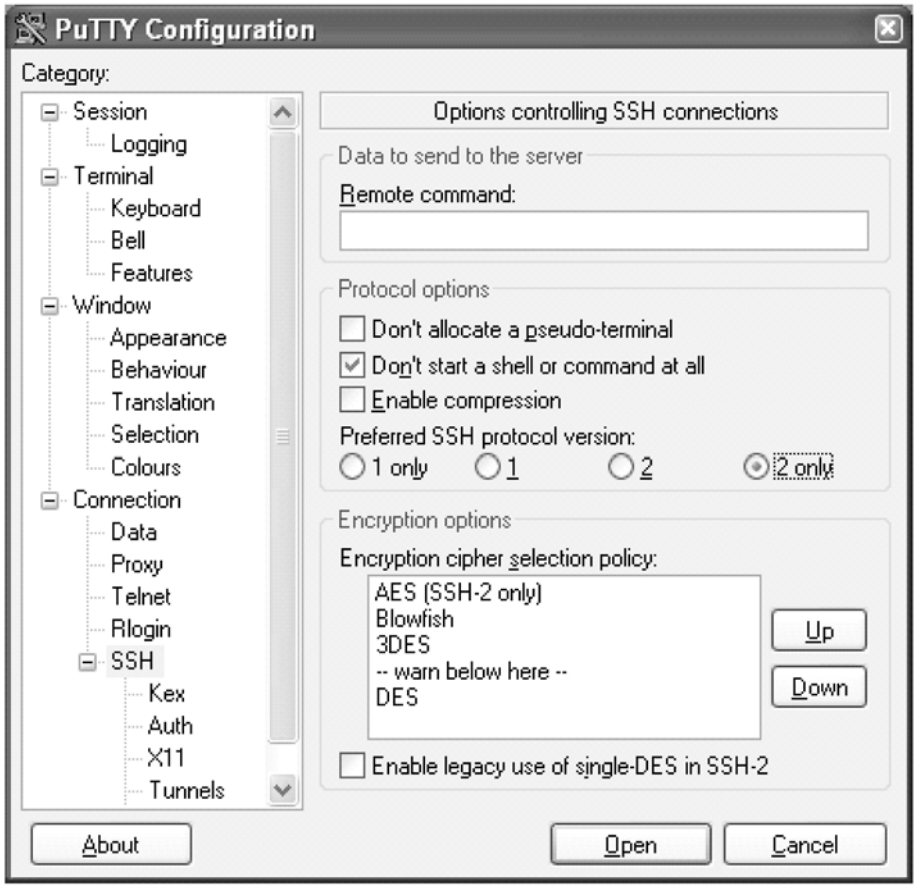
4. Click the **SSH** radio button for the **Protocol** selection.
5. Enter a name for this session in the **Saved Sessions** box, for example, `sships`.
6. Click the **Never** radio button for the **Close window on exit** option.
7. Click the **Save** button to save this session.

   For this example, clicking the **Save** button saves the **sships** session.

8. Select **Connection > SSH** in the **Category** list window in the **PuTTY Configuration** window.

   See *Figure 80: PuTTY Configuration Window - SSH Connection Setup* on page 565.

Figure 80: PuTTY Configuration Window - SSH Connection Setup



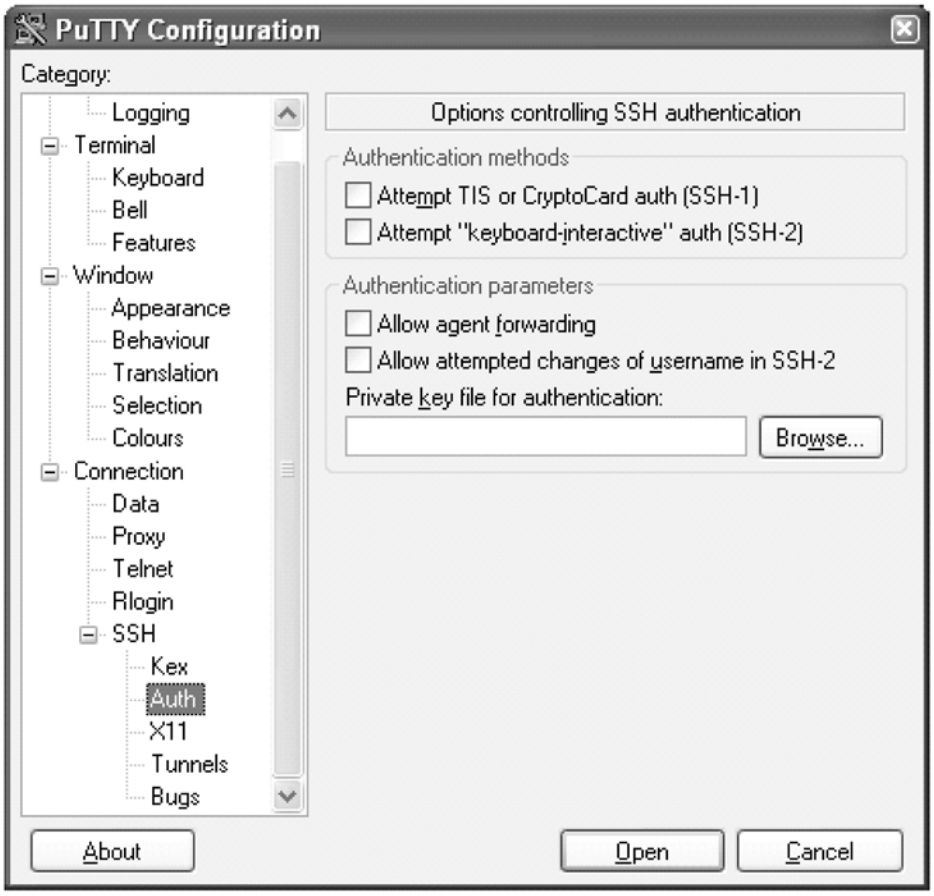
9. Click the **2 only** radio button in the **Preferred SSH protocol version:** section of the **PuTYY Configuration** window.

   Click the **Don't start a shell or command at all** checkbox in the Protocol options section of the **PuTTY Configuration** window. See *Figure 80: PuTTY Configuration Window - SSH Connection Setup* on page 565.

10. Select **Connection > SSH > Auth**.

Verify that the checkboxes are not checked. Verify that the **Private key file for authentication** text box is empty. See *Figure 81: PuTTY Configuration Window - SSH Auth Setup* on page 566.

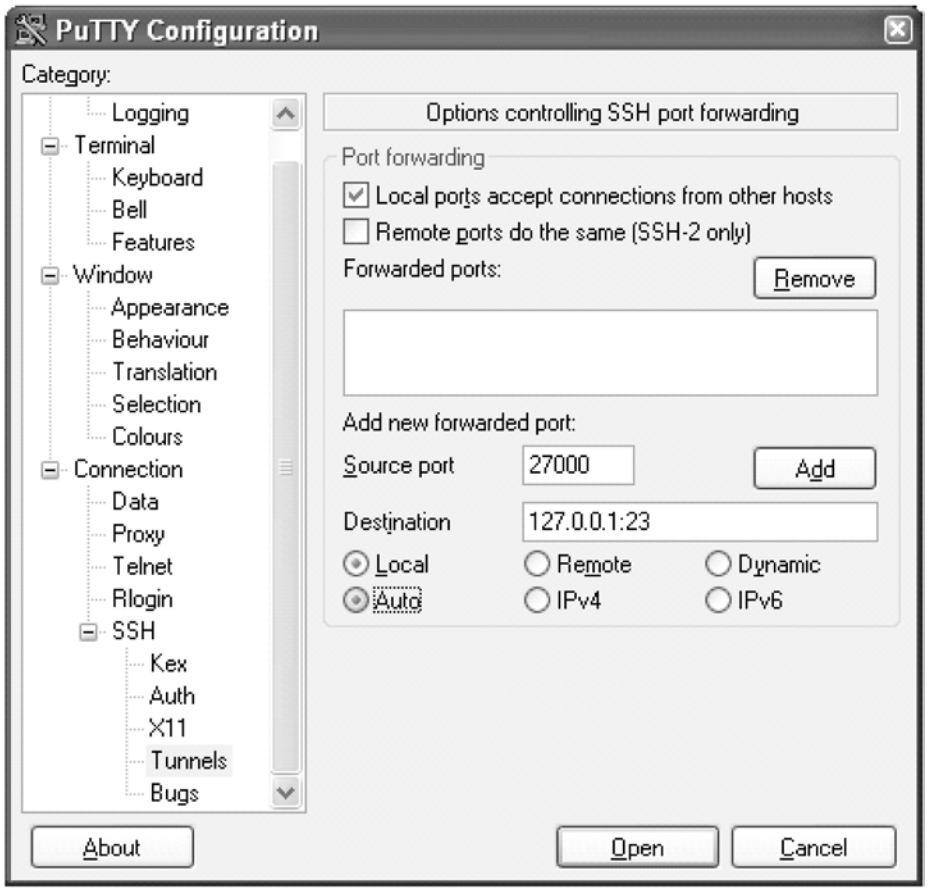
Figure 81: PuTTY Configuration Window - SSH Auth Setup



11. Select **Connection > SSH > Tunnels**.

Click the **Local ports accept connections from other hosts** check box in the **Port Forwarding** section of the **PuTTY Configuration** window (*Figure 82: PuTTY Configuration Window - SSH Tunnel/Port Forwarding Setup* on page 566), to accept connections from other hosts.

Figure 82: PuTTY Configuration Window - SSH Tunnel/Port Forwarding Setup



12. In the **Add new forwarded port** section of the **PuTTY Configuration** window (*Figure 82: PuTTY Configuration Window - SSH Tunnel/Port Forwarding Setup* on page 566), click the **Local** radio button.

    Enter the forwarding port on the local machine in the **Source port** box. The **Source port** value must be greater than 1024 and must be available.

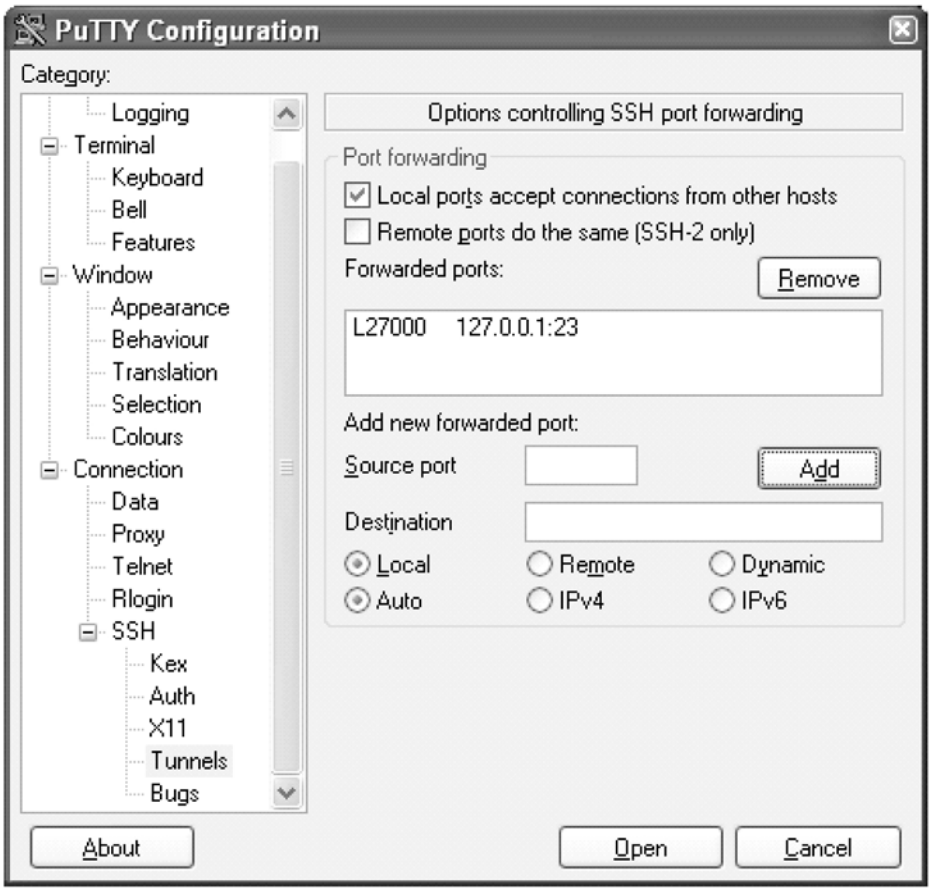
13. The **Destination** box in the **Add new forwarded port** section of the **PuTTY Configuration** window (*Figure 82: PuTTY Configuration Window - SSH Tunnel/Port Forwarding Setup* on page 566) contains the IP address and port of the remote machine.

    The forwarding port on the local machine communicates with the IP address and port shown in the **Destination** box. Enter the IP address and port of the remote machine in the **Destination** box.

14. Click the **Add** button in the **Add new forwarded port** section of the **PuTTY Configuration** window to complete adding the forwarded port information.

    The forwarding port (**Source port** value) and the IP address and port of the remote machine (the **Destination** value) appear in the **Forwarded ports:** box and the **Source port** and **Destination** boxes are empty. See *Figure 83: PuTTY Configuration Window - SSH Tunnel/Port Forwarding Completion* on page 567.

Figure 83: PuTTY Configuration Window - SSH Tunnel/Port Forwarding Completion



15. Select **Session** in the **Category** list window in the **PuTTY Configuration** window.

    See *Figure 79: PuTTY Configuration Window - Initial Session Setup* on page 564. Click the **Save** button.

16. Click the **Open** button in the **PuTTY Configuration** window.

    The dialog box shown in *Figure 84: Key Acceptance Dialog Box* on page 568 appears. Click the **Yes** button.

Figure 84: Key Acceptance Dialog Box

The **Login** window is displayed. See *Figure 85: PuTTY Login Window* on page 569.

Figure 85: PuTTY Login Window

17. Press the **Enter** key.

    Verify that the screen is displayed as shown in *Figure 86: Logged in Window for SSH Session* on page 569.

    Figure 86: Logged in Window for SSH Session

    Press the **Enter** key at the prompt to allow an empty login. Minimize this window.

    Note:

    This window must not be closed until all the testing is complete and you decide to shutdown the secure shell connection to the EAGLE 5 ISS.

18. Initiate a telnet connection to the local host at the forwarded port configured in step 14 (see *Figure 83: PuTTY Configuration Window - SSH Tunnel/Port Forwarding Completion* on page 567).

At the prompt, enter the `telnet` command with the IP address and Source port value shown in *Figure 83: PuTTY Configuration Window - SSH Tunnel/Port Forwarding Completion* on page 567. For this example, enter the `telnet` command with the IP address 127.0.0.1 and the source port value 27000, as shown in *Figure 87: Telnet Connection to Local Host Forwarded Port* on page 570. Press the **Enter** key.

Figure 87: Telnet Connection to Local Host Forwarded Port

19. The connection to the EAGLE 5 ISS is established and functions as any other telnet terminal connected to the EAGLE 5 ISS.
20. Verify that all the eight telnet connections assigned to this IPSM can be opened and all EAGLE 5 ISS commands that are allowed to be executed from a telnet terminal can be executed from the telnet terminals assigned to the IPSM.

This procedure is finished.

Appendix C

Setting Up a Secure Telnet Connection to the EAGLE 5 ISS using OpenSSH

Topics:

Appendix C, Setting Up a Secure Telnet Connection to the EAGLE 5 ISS using OpenSSH describes the procedures for setting a secure telnet connection to the EAGLE 5 ISS using OpenSSH.

Introduction

This appendix contains the procedures for establishing a secure telnet connection to the EAGLE 5 ISS using OpenSSH. Perform these procedures.

- If a Windows machine will be used to make the connection, perform these procedures.
  - *Install the Windows OpenSSH Software* on page 572 to install the software.
  - *Establishing a Secure Telnet Connection to the EAGLE 5 ISS using Windows OpenSSH* on page 573 to establish the connection.
- If a UNIX/Solaris machine will be used to make the connection, perform these procedures.
  - *Install the UNIX/Solaris OpenSSH Software* on page 574 to install the software.
  - *Establishing a Secure Telnet Connection to the EAGLE 5 ISS using UNIX/Solaris OpenSSH* on page 574 to establish the connection.

Before establishing the secure connection to the EAGLE 5 ISS, the EAGLE 5 ISS needs to be configured with these items.

- IPSMs that are in service and containing IP addresses for each IPSM. The IP router on the IPSM must be configured if the client is using a different subnet.
- The Eagle OA&M Security Enhancement feature must be enabled and turned on.

Enter these commands on the EAGLE 5 ISS to verify the IPSM and feature configuration.

- `rtrv-ip-lnk` - shows the IP addresses assigned to the IPSM, in the `IPADDR` column
- `rtrv-ip-card` - shows the IP router, in the `DEFROUTER` field.
- `rept-stat-card` - shows the state of the IPSM, in the `PST` column
- `pass:loc=<IPSM card Location>:cmd="netstat -a"` - shows the state of the ports 22 and 23 on the IPSM, in the `(state)` column. If the IPSM is configured correctly, the state of these ports will be `LISTEN`.
- `rtrv-ctrl-feat` - shows whether or not the Eagle OA&M Security Enhancement feature is enabled and turned on.

Perform the *Adding an IPSM* on page 445 procedure to configure the IP addresses of the IPSM, the IP router, and to put the IPSM in service. Perform the *Activating the Eagle OA&M IP Security Enhancement Controlled Feature* on page 534 to enable and turn on the Eagle OA&M Security Enhancement feature.

Install the Windows OpenSSH Software

To install the software on a Windows machine, perform these steps.

1. Go to this site: *http://sourceforge.net/project/showfiles.php?group_id103886&package_id=111688*.
2. Select the `setupssh381-20040709.zip` file and download the file.
3. After the file has been downloaded, run the installer and install all the components.

   The recommended folder for installing the components is `C:\OpenSSH`.

After installing the software, this warning may be displayed.

Figure 88: OpenSSH Warning Window

Click the `OK` button and perform the *Establishing a Secure Telnet Connection to the EAGLE 5 ISS using Windows OpenSSH* on page 573 procedure.

Establishing a Secure Telnet Connection to the EAGLE 5 ISS using Windows OpenSSH

To establish a secure telnet connection to the EAGLE 5 ISS using OpenSSH, perform these steps.

1. Open two DOS windows.
2. In DOS window 1, go to the `bin` folder in the folder where the OpenSSH software was installed.

   For this example, enter this command

   ```
   cd C:\OpenSSH\bin
   ```

3. In DOS window 1, enter the `ssh` command with these options and values.

   - `-N` - once the authentication is complete, the `ssh` program executes in the background, meaning the prompt should be returned so that the `telnet` command can be entered.
   - `-f`
   - `-L`
   - the local/forwarding port number, for this example, 23000
   - the local loopback address, 127.0.0.1:23. Port 23 is reserved for `ssh`.
   - The IP address of the EAGLE 5 ISS IPSM. For this example, 10:253.104.36.

   For this example, enter this command.

   ```
   ssh -N -f -L 23000:127.0.0.1:23 10:253.104.36
   ```

   Note:

   1. When issuing the `ssh` command, if the IPSM on the EAGLE 5 ISS has undergone a hard reset, the `ssh` key stored in the `local_host` file must be purged.
   2. If you are making the connection to the EAGLE 5 ISS for the first time, and you are prompted to accept the `ssh` key, accept the `ssh` key and proceed to *Step 4* on page 573

4. In DOS window 2, enter the `telnet` command with the the local loopback address, without the port number, the local/forwarding port number specified in *Step 3* on page 573. for this example, enter this command.

   ```
   telnet 127.0.0.1 23000
   ```

5. When the Eagle prompt is received in DOS window 2, choose an EAGLE 5 ISS terminal and login with your EAGLE 5 ISS username and password.
6. If you wish to establish another secure telnet connection to the EAGLE 5 ISS, perform *Step 3* on page 573 with a different local/forwarding port number, then perform *Step 4* on page 573 using the local/forwarding port number specified in *Step 3* on page 573.
7. To logout of the EAGLE 5 ISS and close the secure telnet connection, perform these actions.
   - At the EAGLE 5 ISS, enter the `logout` command.
   - Press the `Ctrl+]` keys to receive the telnet prompt.
   - Enter `quit`.
   - The prompt in DOS window 2 goes to `C:\`.
   - The `ssh` command in DOS window 1 goes away and the prompt returns to `\C:`.

Install the UNIX/Solaris OpenSSH Software

To install the software on a UNIX/Solaris machine, perform these steps.

1. Go to this site: *http://mirror.mcs.anl.gov/openssh/portable/*.

   The software can also be found at other mirror sites. These sites can be found at this address.

   http://www.openssh.org/portable.html#http

   If you wish to use one of the other mirror sites, select the closest mirror site.
2. Download this file, `openssh-3.7.1p1.tar.gz`, from the site selected in *Step 1* on page 574.
3. After the file has been downloaded, run the installer and install all the components.

   After the software has been installed, perform the *Establishing a Secure Telnet Connection to the EAGLE 5 ISS using UNIX/Solaris OpenSSH* on page 574 procedure.

Establishing a Secure Telnet Connection to the EAGLE 5 ISS using UNIX/Solaris OpenSSH

To establish a secure telnet connection to the EAGLE 5 ISS using OpenSSH from a UNIX/Solaris machine, perform these steps.

1. Open an `Xterm` window.
2. In the `Xterm` window, go to the `bin` folder in the folder where the OpenSSH software was installed.

   For this example, enter this command

   ```
   cd <install path>/OpenSSH/bin
   ```
3. In the `Xterm` window, enter the `ssh` command with these options and values.

- `-N` - once the authentication is complete, the `ssh` program executes in the background, meaning the prompt should be returned so that a second command can be entered following the semicolon.
- `-f`
- `-L`
- the local/forwarding port number, for this example, 23000
- the local loopback address, 127.0.0.1:23. Port 23 is reserved for `ssh`.
- The IP address of the EAGLE 5 ISS IPSM. For this example, 10:253.104.36.
- The `telnet` command with the local loopback address, without the port number, and the local/forwarding port number.

For this example, enter this command.

```
ssh -N -f -L 23000:127.0.0.1:23 10:253.104.36; telnet 127.0.0.1 23000
```

Note:

1. On Solaris 9 and later, SunSSH is installed. SunSSH is not compatible with the EAGLE 5 ISS secure Telnet terminals. If you have any questions about which version of `ssh` in being invoked, enter the Unix command `which ssh` to ensure that OpenSSH is being used instead of the Sun version.
2. When issuing the `ssh` command, if the IPSM on the EAGLE 5 ISS has undergone a hard reset, the `ssh` key stored in the `local_host` file must be purged.
3. If you are making the connection to the EAGLE 5 ISS for the first time, and you are prompted to accept the `ssh` key, accept the `ssh` key and proceed to *Step 4* on page 575.

4. When the Eagle prompt is received in the `Xterm` window, choose an EAGLE 5 ISS terminal and login with your EAGLE 5 ISS username and password.
5. To logout of the EAGLE 5 ISS and close the secure telnet connection, perform these actions.
   - At the EAGLE 5 ISS, enter the `logout` command.
   - Press the `Ctrl+]` keys to receive the telnet prompt.
   - Enter `quit`.

Appendix D

Remote Database Backup and Restore Procedures

Topics:

Appendix D, Remote Database Backup and Restore Procedures, describes how to perform a backup of the database to the FTP server, and how to restore the database from the FTP server.

Introduction

This appendix contains the procedures for performing a backup of the database to the FTP server and to restore a database from the FTP server using the `chg-db` command.

To backup the database, the `chg-db` command uses these parameters.

- `action=backup` - perform a backup of the database.
- `dest=server` - the destination of the backup operation, the FTP server.

To restore the database, the `chg-db` command uses these parameters.

- `action=restore` - restore a previously backed up database.
- `src=server` - the source of the database that is being restored, the FTP server.
- `file` - the name of the TAR file on the DB FTP server that contains database that is being restored.

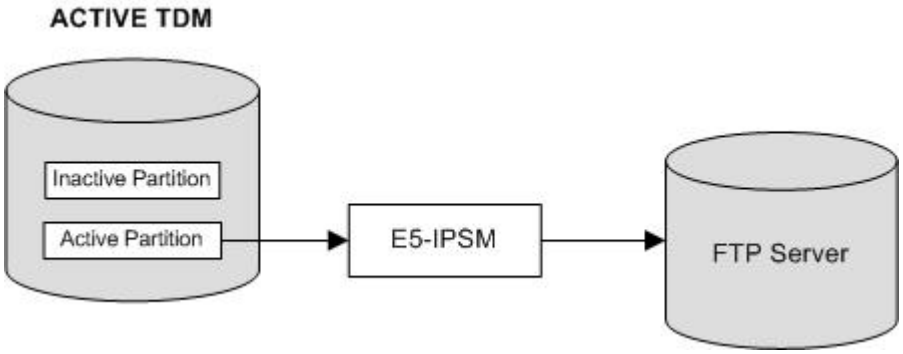
A removable cartridge is not required and cannot be used to backup the database to the FTP server or to restore a database from the FTP server.

To perform a backup of the database to the FTP server or to restore the database from the FTP server, these items must be provisioned in the database.

- An E5-IPSM - perform the procedure *Adding an IPSM* on page 445.
- An FTP server for the DB application - perform the procedure *Adding an FTP Server* on page 433.

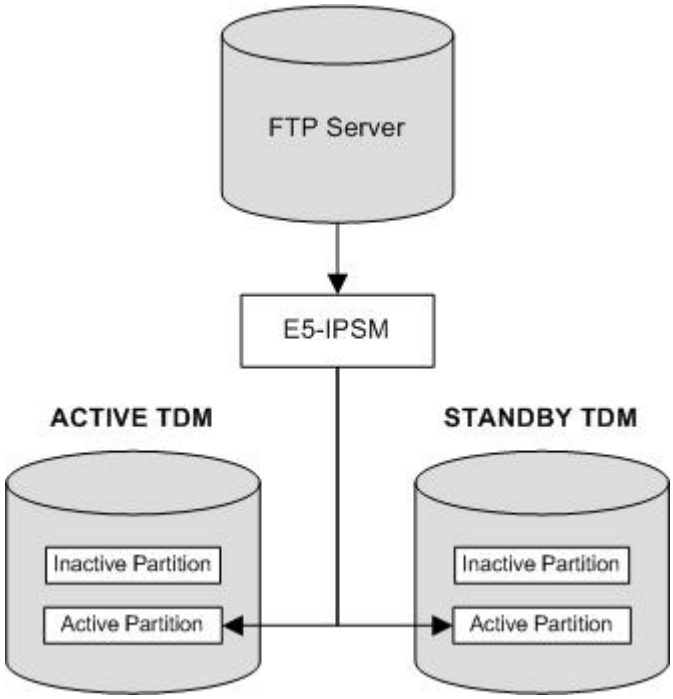
When the database is backed up to the FTP server, the database on the active partition of the active TDM is packed and compressed into a TAR file andsends the file to the FTP server through an E5-IPSM. *Figure 89: Backup of the Database to the FTP Server* on page 578 illustrates this action.

Figure 89: Backup of the Database to the FTP Server



When the database is restored from the FTP server, the TAR that contains the database that is being restored is retrieved by EAGLE 5 ISS through an E5-IPSM. The TAR file is unpacked and uncompressed and the database files are placed on the active partition of both TDMs. *Figure 90: Restoring the Database from the FTP Server* on page 578 illustrates this action. The EAGLE 5 ISS must be reinitialized to load the restored database to all the cards.

Figure 90: Restoring the Database from the FTP Server



To perform a backup of the database to the FTP server, perform the procedure *Making a Backup of the Database to the FTP Server* on page 579.

To restore the database from the FTP server, perform the procedure *Restoring the Database from the FTP Server* on page 583.

Making a Backup of the Database to the FTP Server

This procedure is used to make a backup of the database to FTP server using the `chg-db` command with these parameters.

- `:action=backup`
- `:dest=server`

The database in the active partition of the active MASP (FD CRNT) must be coherent. The status of the database is shown in the `rept-stat-db` command. For more information on verifying the database, read the section *Verifying the Database* on page 18.

The EAGLE 5 ISS must contain at least one E5-IPSM and an FTP server for the DB application. The `rept-stat-gpl` command with the `appl=ips` parameter displays the E5-IPSMs and IPSMs that are in the database. E5-IPSMs are shown by the entry `IPSHC` in the `GPL` column of the `rept-stat-gpl` output. IPSMs are shown by the entry `IPS` in the `GPL` column of the `rept-stat-gpl` output. The `rtrv-ftp-serv` command shows the FTP servers that are configured. E5-IPSMs can be added by performing the procedure *Adding an IPSM* on page 445. FTP servers can be added by performing the procedure *Adding an FTP Server* on page 433.

When a backup of the database to the FTP server is performed, A file containing the database is created with the following naming convention is created:

“CLLI string”-“Release number string”-“yymmddhh”.tar.gz

The CLLI string is the CLLI value shown in the output header. The release number string is the release number shown in the output header. If the archbldid option, shown in the rtrv-stpopts output, is set to yes, the release number string contains the build number instead of the release number. If you wish to change the archbldid option, perform the procedure *Configuring the Archive Build ID Option* on page 588. The string yymmddhh is the year (yy - 2 digits), the month (mm), the day (dd), and the hour (hh) that the backup was performed. For example, the file name for a backup performed on September 26, 2008 at 12 noon would be: rlghncxa03w-39.2.0-08092612.tar.gz. This file name will be needed to restore the database from the FTP server.

1. Verify that the database in the active partition of the active MASP (FD CRNT) is coherent using the rept-stat-db command.

   This is an example of the possible output.

```
rlghncxa03w 08-09-01 16:07:48 GMT  EAGLE5 39.2.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 04-06-01 10:19:18 GMT  Y       35 04-06-01 10:19:18 GMT
FD CRNT  Y      106                        Y      106
         MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

   If the database is coherent, continue the procedure with *Step 2* on page 580.

   If the database is not coherent, refer to the section *Verifying the Database* on page 18 and resolve the database problems. After the database problems have been resolved, continue the procedure with *Step 2* on page 580.

2. Display the E5-IPSMs that are in the database by entering this command.

   rept-stat-card:appl=ips

   This is an example of the possible output.

```
rlghncxa03w 08-09-01 16:07:48 GMT  EAGLE5 39.2.0
CARD   VERSION      TYPE      GPL        PST            SST        AST
1111   131-010-000  IPSM      IPSHC      IS-NR          Active     -----

1317   -----------  IPSM      IPS        OOS-MT         Isolated   -----

2217   131-010-000  IPSM      IPS        IS-NR          Active     -----


Command Completed.
```

   E5-IPSMs are shown by the entry IPSHC in the GPL column of the rept-stat-gpl output. IPSMs are shown by the entry IPS in the GPL column of the rept-stat-gpl output. Continue the procedure by performing one of these actions.

   - If no entries are shown in the rept-stat-card output, add an E5-IPSM by performing the procedure *Adding an IPSM* on page 445. After the E5-IPSM has been added, continue the procedure with *Step 3* on page 581.
   - If E5-IPSMs are shown in the rept-stat-card output, continue the procedure with *Step 3* on page 581.

- If only IPSMs are shown in the `rept-stat-card` output, continue the procedure by performing one of these actions.
  - If two or less entries are shown in this step, add the E5-IPSM by performing the procedure *Adding an IPSM* on page 445 After the E5-IPSM has been added, continue the procedure with *Step 3* on page 581.
  - If three entries are shown in this step, no more IPSMs or E5-IPSMs can be added. A IPSM must be removed so the E5-IPSM can be added. perform the procedure *Removing an IPSM* on page 458 to remove the IPSM. Add the E5-IPSM by performing the procedure *Adding an IPSM* on page 445 After the E5-IPSM has been added, continue the procedure with *Step 3* on page 581.

3. Display the FTP servers that are provisioned in the database by entering the `rtrv-ftp-serv` command. This is an example of the possible output.

```
rlghncxa03w 08-09-01 16:07:48 GMT  EAGLE5 39.2.0

APP       IPADDR           LOGIN            PRIO  PATH
--------  ---------------  ---------------  ----  ----
db        10.20.50.102     dbuser1          1     ~/eagle
dist      100.200.50.102   dbuser1          1     ~/eagle
meas      1.255.0.100      ftpmeas3         3     ~meas\local
```

   If the entry `db` is shown in the `APP` column, continue the procedure with *Step 4* on page 581.

   If the entry `db` is not shown in the `APP` column, perform the procedure *Adding an FTP Server* on page 433 to add the FTP server. After the FTP server has been added, continue the procedure with *Step 4* on page 581.

4. Enter the `chg-db:action=backup:dest=server` command.

   During command execution, these messages should appear.

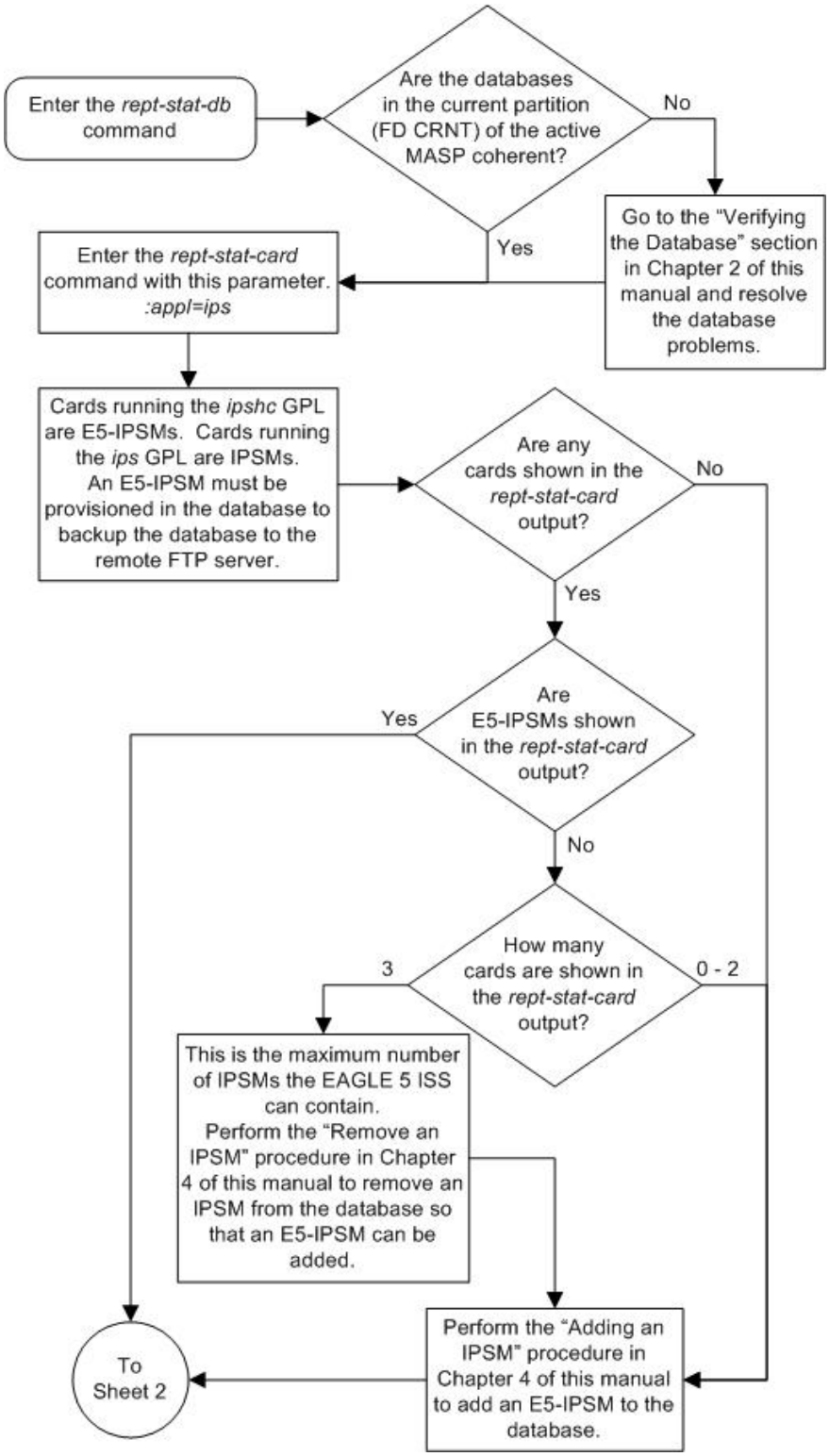
```
BACKUP (SERVER): MASP A - Backup starts on active MASP.
BACKUP (SERVER) : Copy Database to card memory for processing.
BACKUP (SERVER) : Compress Database before archiving.
BACKUP (SERVER) : Send database archive to server.
BACKUP (SERVER): MASP A - Backup to remote server complete.
```

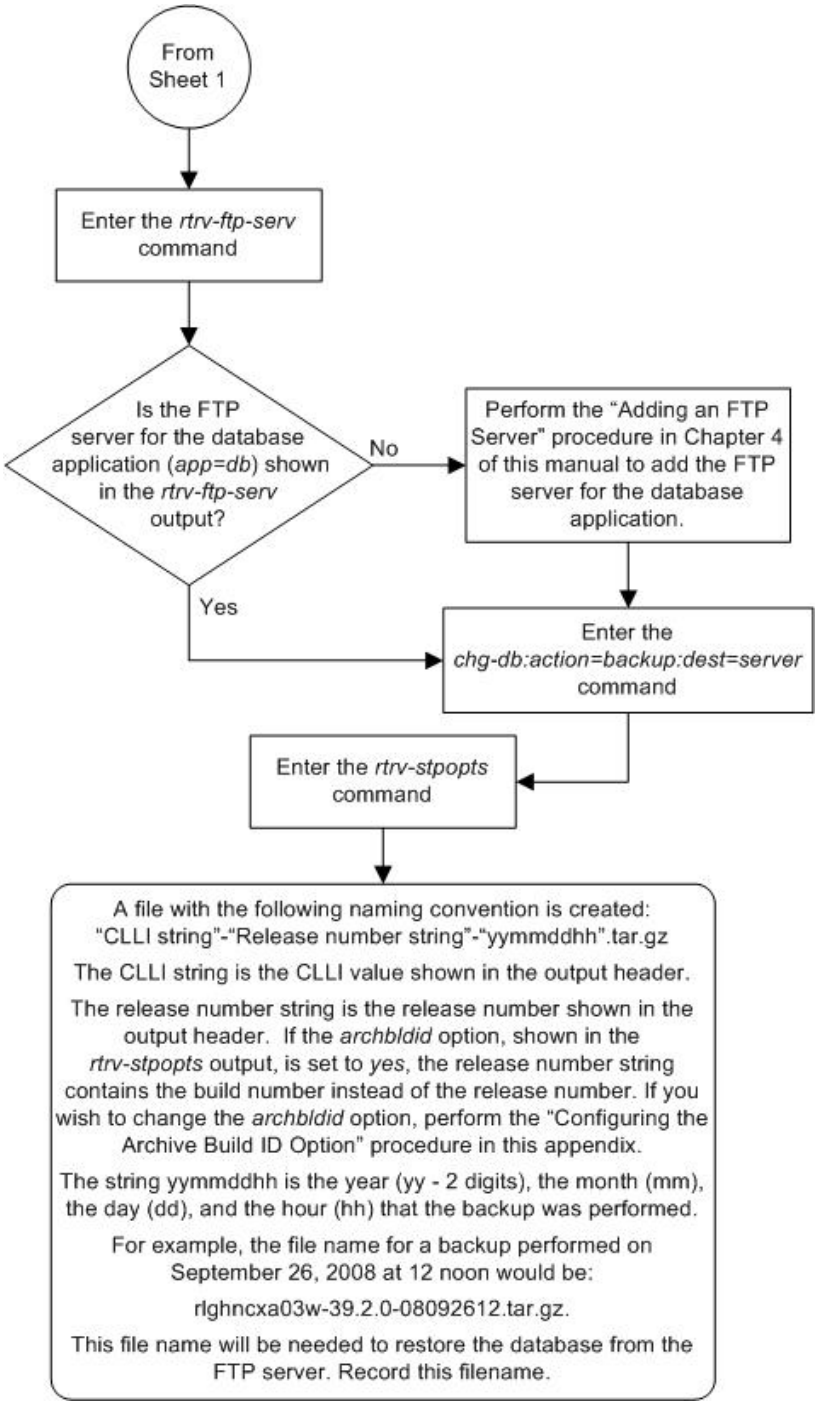
   A file with the following naming convention is created.

   `"CLLI string"-"Release number string"-"yymmddhh".tar.gz`

   The CLLI string is the CLLI value shown in the output header. The release number string is the release number shown in the output header. If the `archbldid` option, shown in the `rtrv-stpopts` output, is set to `yes`, the release number string contains the build number instead of the release number. If you wish to change the `archbldid` option, perform the procedure *Configuring the Archive Build ID Option* on page 588. The string `yymmddhh` is the year (yy - 2 digits), the month (mm), the day (dd), and the hour (hh) that the backup was performed. For example, the file name for a backup performed on September 26, 2008 at 12 noon would be: `rlghncxa03w-39.2.0-08092612.tar.gz`. This file name will be needed to restore the database from the FTP server. Record this filename.

Figure 91: Making a Backup of the Database to the FTP Server


Enter the *rept-stat-db* command
Are the databases in the current partition (FD CRNT) of the active MASP coherent?
No
Yes
Go to the "Verifying the Database" section in Chapter 2 of this manual and resolve the database problems.
Enter the *rept-stat-card* command with this parameter. *:appl=ips*
Cards running the *ipshc* GPL are E5-IPSMs. Cards running the *ips* GPL are IPSMs. An E5-IPSM must be provisioned in the database to backup the database to the remote FTP server.
Are any cards shown in the *rept-stat-card* output?
No
Yes
Are E5-IPSMs shown in the *rept-stat-card* output?
Yes
No
How many cards are shown in the *rept-stat-card* output?
3
0 - 2
This is the maximum number of IPSMs the EAGLE 5 ISS can contain. Perform the "Remove an IPSM" procedure in Chapter 4 of this manual to remove an IPSM from the database so that an E5-IPSM can be added.
Perform the "Adding an IPSM" procedure in Chapter 4 of this manual to add an E5-IPSM to the database.
To Sheet 2



Restoring the Database from the FTP Server

This procedure is used to restore the database from the FTP server using the `chg-db` command with these parameters.

- `action=restore`
- `src=server`
- `file` - the name of the TAR file on the FTP server that contains database that is being restored.

The EAGLE 5 ISS must contain at least one E5-IPSM and an FTP server for the DB application. The `rept-stat-gpl` command with the `appl=ips` parameter displays the E5-IPSMs and IPSMs that are in the database. E5-IPSMs are shown by the entry `IPSHC` in the `GPL` column of the `rept-stat-gpl` output. IPSMs are shown by the entry `IPS` in the `GPL` column of the `rept-stat-gpl` output. The `rtrv-ftp-serv` command shows the FTP servers that are configured. E5-IPSMs can be added by performing the procedure *Adding an IPSM* on page 445. FTP servers can be added by performing the procedure *Adding an FTP Server* on page 433.

The EAGLE 5 ISS must contain at least one E5-IPSM and an FTP server for the DB application. The `rtrv-stp` command with the `gpl=ipshc` parameter displays the E5-IPSMs. The `rtrv-ftp-serv` command shows the FTP servers that are configured. E5-IPSMs can be added by performing the procedure *Adding an IPSM* on page 445. FTP servers can be added by performing the procedure *Adding an FTP Server* on page 433.

CAUTION: Using the `action=restore` parameter with the `chg-db` command is an emergency recovery procedure, and requires the `init-sys` command to download the restored database to all the cards in the EAGLE 5 ISS.

1. Display the E5-IPSMs that are in the database by entering this command.

   ```
   rept-stat-card:appl=ips
   ```

   This is an example of the possible output.

   ```
   rlghncxa03w 08-09-01 16:07:48 GMT  EAGLE5 39.2.0
   CARD   VERSION      TYPE      GPL         PST            SST        AST
   1111   131-010-000  IPSM      IPSHC       IS-NR          Active     -----

   1317   -----------  IPSM      IPS         OOS-MT         Isolated   -----

   2217   131-010-000  IPSM      IPS         IS-NR          Active     -----


   Command Completed.
   ```

   E5-IPSMs are shown by the entry `IPSHC` in the `GPL` column of the `rept-stat-gpl` output. IPSMs are shown by the entry `IPS` in the `GPL` column of the `rept-stat-gpl` output. Continue the procedure by performing one of these actions.

   - If no entries are shown in the `rept-stat-card` output, add an E5-IPSM by performing the procedure *Adding an IPSM* on page 445. After the E5-IPSM has been added, continue the procedure with *Step 2* on page 585.
   - If E5-IPSMs are shown in the `rept-stat-card` output, continue the procedure with *Step 2* on page 585.
   - If only IPSMs are shown in the `rept-stat-card` output, continue the procedure by performing one of these actions.
     - If two or less entries are shown in this step, add the E5-IPSM by performing the procedure *Adding an IPSM* on page 445 After the E5-IPSM has been added, continue the procedure with *Step 2* on page 585.
     - If three entries are shown in this step, no more IPSMs or E5-IPSMs can be added. A IPSM must be removed so the E5-IPSM can be added. perform the procedure *Removing an*

IPSM on page 458 to remove the IPSM. Add the E5-IPSM by performing the procedure *Adding an IPSM* on page 445 After the E5-IPSM has been added, continue the procedure with *Step 2* on page 585.

2. Display the FTP servers that are provisioned in the database by entering the `rtrv-ftp-serv` command. This is an example of the possible output.

```
rlghncxa03w 08-09-01 16:07:48 GMT  EAGLE5 39.2.0

APP       IPADDR           LOGIN            PRIO  PATH
--------  ---------------  ---------------  ----  ----
db        10.20.50.102     dbuser1          1     ~/eagle
dist      100.200.50.102   dbuser1          1     ~/eagle
meas      1.255.0.100      ftpmeas3         3     ~meas\local
```

   If the entry `db` is shown in the `APP` column, continue the procedure with *Step 3* on page 585.

   If the entry `db` is not shown in the `APP` column, perform the procedure *Adding an FTP Server* on page 433 to add the FTP server. After the FTP server has been added, continue the procedure with *Step 3* on page 585.

3. Enter the `chg-db` command with the `action=restore`, `src=server`, and `file` parameters. For this example, enter this command.

   `chg-db:action=restore:src=server:file="rlghncxa03w-39.2.0-08092612.tar.gz"`

   During command execution, these messages appear (the active MASP is displayed first).

```
RESTORE (SERVER) : Retrieve database archive from server.
RESTORE (SERVER) : Validate database archive.
RESTORE (SERVER) : Restore starts on active MASP.
RESTORE (SERVER) : Restore from server on active MASP complete.
RESTORE (SERVER) : Restore starts on standby MASP.
RESTORE (SERVER) : Restore from server on standby MASP complete.
RESTORE (SERVER) : MASP(s) will reboot to load data.
```

4. When the commands have successfully completed, re-initialize the EAGLE 5 ISS using the `init-sys` command.

   Note: The `init-sys` command causes a complete reload of the EAGLE 5 ISS, and should only be used during periods of low traffic. Using this command ensures that all cards are running the same database, but will interrupt service.

   Note: The `init-sys` command must be entered twice within 30 seconds for the EAGLE 5 ISS to be re-initialized. If the `init-sys` command is not executed twice within 30 seconds, the attempt to re-initialize the EAGLE 5 ISS is aborted.

   When the `init-sys` command is first entered, this message should appear.

```
rlghncxa03w 08-09-01  07:05:01 GMT  EAGLE5 39.2.0
CAUTION: This command causes a complete system reload, and
```

```
will result in traffic loss.
Re-enter command within 30 seconds to confirm.
```

When the `init-sys` command is re-entered within the 30 second time limit, this message should appear.

```
rlghncxa03w 08-09-01  07:05:17 GMT  EAGLE5 39.2.0
Init System command issued at terminal #4
```

From the time that the `init-sys` command is accepted, you must wait approximately 2 minutes before you can perform*Step 5* on page 586 (logging into the EAGLE 5 ISS). If the EAGLE 5 ISS terminal is in the VT-100/VT-320 mode, the terminal display will be refreshed with non-zero alarm counts. During this 2 minutes interval, an intermediate screen refresh caused by the MASPs role change from active to standby, and from standby to active. This screen refresh is typically a partial refresh and the alarm indicators are set to zero.

If you are logged into the EAGLE 5 ISS in the KSR mode, the only response you will receive that you are now able to log into the EAGLE 5 ISS is that you will receive UAM 0009, MASP became active. UAM 0009 could be issued twice due to possible transient MASP role change (switching from active to standby). Following the execution of the `init-sys` command, the MASP that was active before the `init-sys` command was entered will be the active MASP when the EAGLE 5 ISS has finished reinitializing.

5. Log into the EAGLE 5 ISS using the `login` or `act-user` command.

   This is an example of the messages that appear when you have successfully logged into the EAGLE 5 ISS.

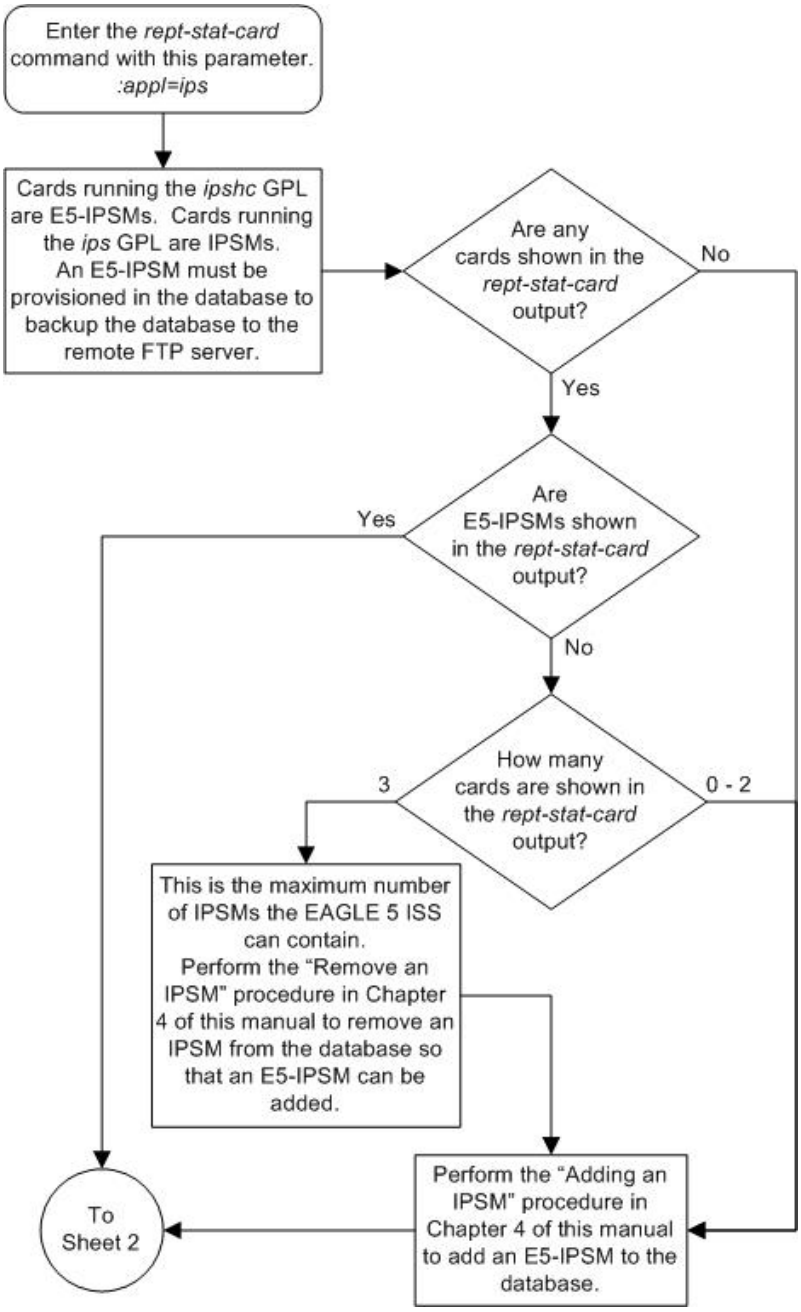
```
NOTICE: This is a private computer system.
Unauthorized access or use may lead to prosecution.

0 LOGIN failures since last successful LOGIN
Last successful LOGIN was on port 4 on 08-09-01 @ 05:34:56
```

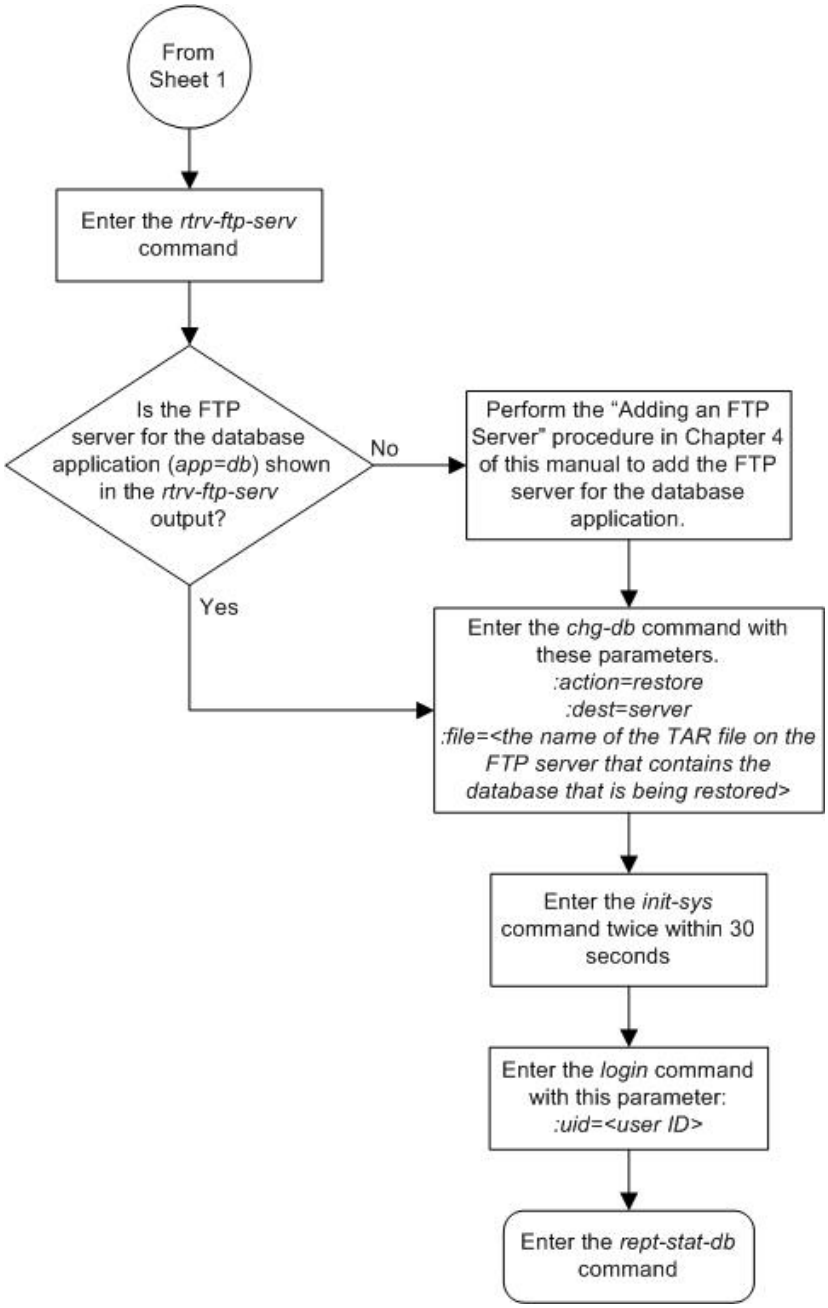
6. Verify that the databases on the removable cartridge (RD BKUP) and the current partitions of both MASPs (FD CRNT) are coherent using the `rept-stat-db` command.

   This is an example of the possible output.

```
rlghncxa03w 08-09-01 16:07:48 GMT  EAGLE5 39.2.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       35 08-09-01 07:06:18 GMT  Y       35 08-09-01 07:06:18 GMT
FD CRNT  Y      106                        Y      106
         MDAL 1117
         - --------
RD BKUP  -        -     -        -
```

Figure 92: Restoring the Database from the FTP Server


Enter the *rept-stat-card* command with this parameter. *:appl=ips*
Cards running the *ipshc* GPL are E5-IPSMs. Cards running the *ips* GPL are IPSMs. An E5-IPSM must be provisioned in the database to backup the database to the remote FTP server.
Are any cards shown in the *rept-stat-card* output?
No
Yes
Are E5-IPSMs shown in the *rept-stat-card* output?
Yes
No
How many cards are shown in the *rept-stat-card* output?
3
0 - 2
This is the maximum number of IPSMs the EAGLE 5 ISS can contain. Perform the "Remove an IPSM" procedure in Chapter 4 of this manual to remove an IPSM from the database so that an E5-IPSM can be added.
Perform the "Adding an IPSM" procedure in Chapter 4 of this manual to add an E5-IPSM to the database.
To Sheet 2



Configuring the Archive Build ID Option

When the database is backed up to the FTP server, the release number string of the file name that is created is either the software release number or the software build number. The value of the `archbldid` parameter of the `chg-stpopts` command determines which number is used as the release number string. This procedure is used to configure the value of the `archbldid` parameter. The `archbldid` parameter has two values.

- yes - the software build number is used as the release number string.
- no - the software release number is used as the release number string.

The system default value for the archbldid parameter is no.

1. Display the value for the archbldid parameter by entering the rtrv-stpopts command.

   The value of the archbldid parameter is shown in the ARCHBLDID field. This is an example of the possible output.

```
rlghncxa03w 08-09-17 16:02:05 GMT  EAGLE5 39.2.0
STP OPTIONS
----------------------
ARCHBLDID           no
```

   Note: The rtrv-stpopts command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the rtrv-stpopts command, see the rtrv-stpopts command description in the *Commands Manual*.

2. Change the value of the archbldid parameter.

   For this example, enter this command.

   chg-stpopts:archbldid=yes

   When this command has successfully completed, this message should appear.

```
rlghncxa03w 06-10-07 00:22:57 GMT  EAGLE5 36.0.0
CHG-STPOPTS: MASP A - COMPLTD
```

3. Verify the changes using the rtrv-stpopts command.

   This is an example of the possible output.

```
rlghncxa03w 08-09-17 16:02:05 GMT  EAGLE5 39.2.0
STP OPTIONS
----------------------
ARCHBLDID          yes
```

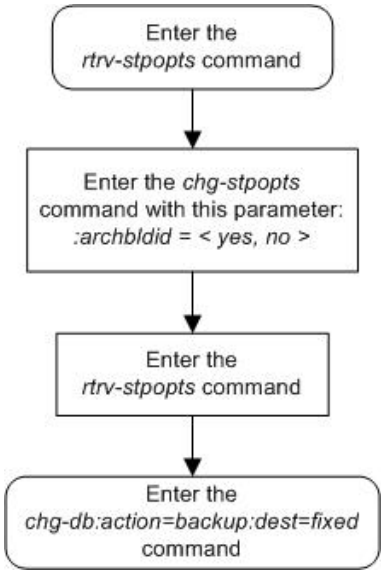
   Note: The rtrv-stpopts command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the rtrv-stpopts command, see the rtrv-stpopts command description in the *Commands Manual*.

4. Back up the new changes using the chg-db:action=backup:dest=fixed command.

   These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
BACKUP (FIXED) : MASP A - Backup starts on active MASP.
BACKUP (FIXED) : MASP A - Backup on active MASP to fixed disk complete.
BACKUP (FIXED) : MASP A - Backup starts on standby MASP.
BACKUP (FIXED) : MASP A - Backup on standby MASP to fixed disk complete.
```

Figure 93: Configuring the Archive Build ID Option


Enter the rtrv-stpopts command
Enter the chg-stpopts command with this parameter: :archbldid = < yes, no >
Enter the rtrv-stpopts command
Enter the chg-db:action=backup:dest=fixed command

Glossary

A

A	Ampere
ACMENET	*Application Communications Module* Ethernet
AINF	Application Interface Appliqué An integrated appliqué that supports the DS0A, DSCS and V.35 interfaces on the same appliqué. The AINF appliqué can be configured as either a DS0A, OCU, or V.35 interface from the user terminal.
ALM	Alarm Card
ANSI	American National Standards Institute An organization that administers and coordinates the U.S. voluntary standardization and conformity assessment system. ANSI develops and publishes standards. ANSI is a non-commercial, non-government organization which is funded by more than 1000 corporations, professional bodies, and enterprises.
A-Port	ANSI-41 Mobile Number Portability
AST	Associated State The associated state of an entity.

A

ATM	Asynchronous Transfer Mode A packet-oriented transfer mode that uses an asynchronous time division multiplexing technique to multiplex information flow in fixed blocks, called cells. A high-bandwidth, low-delay switching, and multiplexing technology to support applications that include high-speed data, local area network interconnection, multimedia application and imaging, and residential applications such as video telephony and other information-based services.
ATMANSI	The application used for high-speed ANSI ATM signaling links.
ATMITU	The application used for high-speed E1 ATM signaling links.

B

BAUD	The transmission rate of the devices connected to the I/O ports expressed in bits per second.
BIOS	Basic Input Output System
BPDCM	The communication software used in place of the IMT GPL on the Database Communications Module (DCM), Database Services Module (DSM), and General Purpose Services Module (GPSM-II).
BPHCAP	The communication software used in place of the IMT GPL on the LIMATM and E1 ATM.

B

BPHCAPT	The communication software used in place of the IMT GPL on the newer versions of the LIMATM and E1 ATM.
BPHMUX	The communication software used on the High Speed Multiplexer (HMUX) card.
BPMPL	The communication software used in place of the IMT GPL on the Multi-Port LIM (MPL).
BPMPLT	The communication software used in place of the IMT GPL on the Multi-Port LIM-T (MPLT) and the E1/T1 MIM.

C

CCS	Common Channel Signaling Allows operation over a permanent virtual circuit network via modem-derived data links, used to exchange call setup and routing information for interoffice trunks and to allow for queries to centralized databases and other calling services.
CCS7ITU	The generic program load and application for the ITU SS7 signaling links that is used with card types `limds0, limch, limocu, limv35, lime1, and limt1`.
CCS MR	Common Channel Signaling Message Router
CET	Customer Environment Test

C

CLLI

Common Language Location Identifier

The CLLI uniquely identifies the STP in terms of its physical location. It is usually comprised of a combination of identifiers for the STP's city (or locality), state (or province), building, and traffic unit identity. The format of the CLLI is:

The first four characters identify the city, town, or locality.

The first character of the CLLI must be an alphabetical character.

The fifth and sixth characters identify state or province.

The seventh and eighth characters identify the building.

The last three characters identify the traffic unit.

Coherency

The operational status of the database. Coherency is an indication of whether the update to the database was successful. Each database has a coherency indicator. When an update is attempted, the coherency indicator is set to "incoherent" before the actual update is executed. When the update has been successfully completed, the coherency indicator is changed to coherent. If the update is not successful, the coherency indicator is not changed. If the coherency indicator is incoherent, this could be an indication of possible internal coherency problems when a restart is executed (for example, an index table was updated, but the corresponding data storage table was not modified).

C

Command Class	A set of EAGLE 5 ISS commands that can be assigned to an EAGLE 5 ISS user or to a terminal port of the EAGLE 5 ISS. Command classes are assigned to a user to control the EAGLE 5 ISS commands that user can execute. Command classes are assigned to a terminal port to control the EAGLE 5 ISS commands that can be executed from a particular terminal.
Control Shelf	The shelf in the EAGLE 5 ISS that contains the Maintenance and Administration Subsystem. The Maintenance and Administration Subsystem contains 5 cards: 2 CAM cards, 2 TDMs (Terminal Disk Modules), and 1 MDAL (Maintenance Disk and Alarm) card. This shelf is designated as Shelf 1100 and cannot be added or removed from the database.
CPLD	Complex Programmable Logic Device
CSR	Customer Service Request
CSV	Comma-separated value File format where values are separated by commas.

D

Database	All data that can be administered by the user, including cards, destination point codes, gateway screening tables, global title translation tables, links, LNP services, LNP service providers, location routing numbers, routes,

D

	shelves, subsystem applications, and 10 digit telephone numbers.
DB	Database Daughter Board Documentation Bulletin
DBG	Debugger
DCM	Database Communication Module The DCM provides IP connectivity for applications. Connection to a host is achieved through an ethernet LAN using the TCP/IP protocol.
DD	Detailed Design
Destination	The node to which the signaling link traffic is routed. This destination is identified by a point code, either a full point code or a cluster point code.
DSM	Database Service Module. The DSM provides large capacity SCCP/database functionality. The DSM is an application card that supports network specific functions such as EAGLE Provisioning Application Processor (EPAP), Global System for Mobile Communications (GSM), EAGLE Local Number Portability (ELAP), and interface to Local Service Management System (LSMS).

E

E1	The European equivalent of T1 that transmits digital data over a telephone network at 2.048 Mbps.
E5-E1T1	EPM-based E1/T1 Multi-Channel Interface Module An EPM-based card that provides E1 and T1 connectivity. The E5 indicates the card is for existing EAGLE 5 control and extension shelves. E1T1 is an abbreviation for the ITU E1 and ANSI T1 interfaces. Thus the nomenclature defines the shelves where the card can be used and the physical interface that it provides.
E5-ENET	EPM-based Ethernet card A high capacity single-slot IP signaling card (EPM card plus Gig Ethernet PMC cards).
E5-IPSM	Ethernet Card w/ 2GB of main memory
E5IS	EAGLE 5 Integrated Monitoring Support The EAGLE 5 Integrated Monitoring Support feature allows the network traffic on the EAGLE 5 ISS's signaling links to be monitored by an ESP (extended services platform) or IMP (integrated message feeder) without additional intrusive cabling. Message Signaling Units (MSUs), alarms, and events are copied to the Sentinel/IMF to provide the network traffic monitoring. The monitored traffic is delivered to the Sentinel/IMF using the EAGLE'S STCs (Signaling Transport Cards) which

E

	are connected to the ESP/IMF subsystem by Ethernet links. The ESP/IMF subsystem delivers the monitored traffic to the Sentinel/IMF.
EILA	Enhanced Integrated LIM Appliqué
EIR	Equipment Identity Register A network entity used in GSM networks, as defined in the 3GPP Specifications for mobile networks. The entity stores lists of International Mobile Equipment Identity (IMEI) numbers, which correspond to physical handsets (not subscribers). Use of the EIR can prevent the use of stolen handsets because the network operator can enter the IMEI of these handsets into a 'blacklist' and prevent them from being registered on the network, thus making them useless.
ELAP	EAGLE Local Number Portability Application Processor
EMSALM	Element Management System Alarm Monitor
EOAM	Enhanced Operation, Administration, and Maintenance The application used by the GPSM-II card for enhanced OAM functions.
EOAP	Embedded Operation Support System Applications Processor Also, Enhanced OSS Application Process.

E

EPAP	EAGLE Provisioning Application Processor
EROUTE	The application used on the Sentinel Transport Card (STC) for the EAGLE 5 ISS with Integrated Sentinel feature. The Sentinel product does not support 24-bit ITU-N point codes.

F

FD	Feature Description File Descriptor File Duplicator Fixed Disk
FTA	File Transfer Area A special area that exists on each OAM hard disk, used as a staging area to copy files to and from the EAGLE 5 ISS using the Kermit file-transfer protocol.
FTP	File Transfer Protocol A client-server protocol that allows a user on one computer to transfer files to and from another computer over a TCP/IP network.
FTRA	FTP-based Table Retrieve Application An application that runs in a PC outside of the EAGLE 5 ISS and that communicates with the EAGLE 5 ISS through the IPUI feature and the FTP Retrieve and Replace feature.

G

GB	Gigabyte — 1,073,741,824 bytes

G

G-Flex	GSM Flexible numbering A feature that allows the operator to flexibly assign individual subscribers across multiple HLRs and route signaling messages, based on subscriber numbering, accordingly.
GLS	Generic Loading Services An application that is used by the TSM cards for downloading gateway screening to LIM cards.
GMT	Greenwich Mean Time
GPL	Generic Program Load Software that allows the various features in the system to work. GPLs and applications are not the same software.
G-Port	GSM Mobile Number Portability A feature that provides mobile subscribers the ability to change the GSM subscription network within a portability cluster, while retaining their original MSISDN(s).
GPSM-II	General Purpose Service Module Contains the communications processor and applications processor and provides connections to the Interprocessor Message Transport (IMT) bus. The GPSM-II card can run on the OAM, IPS, or MCP applications.

H

HC-MIM	High Capacity Multi-Channel Interface Module

H

A card that provides access to eight E1/T1 ports residing on backplane connectors A and B. Each data stream consists of 24 T1 or 31 E1 DS0 signaling links assigned in a time-division multiplex (TDM) manner. Each channel occupies a unique timeslot in the data stream and can be selected as a local signaling link on the interface card. Each card has 8 E1 or 8 T1 port interfaces with a maximum of 64 signaling links provisioned among the 8 E1/T1 ports.

High-Speed Multiplexer

See HMUX.

HIPR

High-Speed IMT Packet Router

A card that provides increased system throughput and traffic capacity. HIPR moves EAGLE from an intra-shelf ring topology to an intra-shelf switch topology. HIPR acts as a gateway between the intra-shelf IMT BUS, running at 125Mbps, and the inter-shelf operating at 1.0625Gbps. The HIPR card will seat in the same slot as an HMUX card (slots xx09 & xx10 of each shelf).

HMUX

High-Speed Multiplexer

A card that supports the requirements for up to 1500 links, allowing communication on IMT buses between cards, shelves and frames. HMUX cards interface to 16 serial links, creating a ring from a series of point to point links. Each HMUX card provides a bypass multiplexer to maintain the ring's integrity as cards are removed and inserted into an operational shelf.

H

High-Speed IMT Multiplexer, a replacement card for the IPMX.

I

ID	Identity, identifier
IMT	Inter-Module-Transport The communication software that operates the inter-module-transport bus on all cards except the LIMATM, DCM, DSM, and HMUX.
IMT Bus	Interprocessor Message Transport Bus
IMTPCI	IMT to PCI interconnection
IN	Intelligent Network A network design that provides an open platform for developing, providing and managing services.
INP	INAP-based Number Portability Tekelec's INP can be deployed as a stand-alone or an integrated signal transfer point/number portability solution. With Tekelec's stand-alone NP server, no network reconfiguration is required to implement number portability. The NP server delivers a much greater signaling capability than the conventional SCP-based approach. Intelligent Network (IN) Portability
IP	Internet Protocol

I

	IP specifies the format of packets, also called datagrams, and the addressing scheme. The network layer for the TCP/IP protocol suite widely used on Ethernet networks, defined in STD 5, RFC 791. IP is a connectionless, best-effort packet switching protocol. It provides packet routing, fragmentation and re-assembly through the data link layer.
IP Address	The location of a device on a TCP/IP network. The IP Address is a number in dotted decimal notation which looks something like [192.168.1.1].
IPGHC	GPL name for IPGWx on the High-Capacity Blade platform.
IPGWI	An application that is used by the SSEDCM/E5-ENET card for IP point-to-multi-pointconnectivity within an ITU-I or ITU-N network. The system allows a maximum of 64 cards to be assigned the IPGWI application.
IPLHC	GPL name for IPLIMx on the High-Capacity Blade platform.
IPLIM	The application used by the SSEDCM/E5-ENET card for IP point-to-point connectivity for ANSI point codes.
IPLIMI	The application used by the SSEDCM/E5-ENET card for IP point-to-point connectivity for ITU point codes.

I

IPS	Internet Protocol Services An application that is used by the IPSM card for the IP User Interface and FTP Retrieve and Replace features.
IPSHC	IPS GPL ported to run on the E5-IPSM
IPSM	IP Services Module A card that provides an IP connection for Telnet and FTP-based Table Retrieve applications. The IPSM is a GPSM-II card with a one Gigabyte (UD1G) expansion memory board in a single-slot assembly running the IPS application.
IS41 GSM Migration	A feature that adds GSM IS-41 migration functions to the existing IS-41 to GSM feature. This enhancement provides flexibility in the encoding and decoding of parameters of LOCREQ messages and responses to number migration from one mobile protocol to another.
IS-NR	In Service - Normal
ISS	Integrated Signaling System
ITU	International Telecommunications Union

K

Key	For the ICNP feature, a unique DS value used to access a table entry, consisting of a number length and number type.

K

KSR	Keyboard Send/Receive Mode

L

LCA	Logic Cell Array
LED	Light Emitting Diode An electrical device that glows a particular color when a specified voltage is applied to it.
LIM	Link Interface Module Provides access to remote SS7, X.25, IP and other network elements, such as a Signaling Control Point (SCP) through a variety of signaling interfaces (V.35, OCU, DS0, MPL, E1/T1 MIM, LIM-ATM, E1-ATM, IPLIMx, IPGWx). The LIMs consist of a main assembly and possibly, an interface appliqué board. These appliqués provide level one and some level two functionality on SS7 signaling links.
LIM-AINF	A link interface module (LIM) with the AINF interface.
LIM-ATM	A link interface module (LIM) with the ATM interface.
LIM-DS0	A link interface module (LIM) with the DS0A Appliqué.
LIM-E1	A link interface module (LIM) with the E1 Appliqué.
LIM-OCU	A link interface module (LIM) with the OCU Appliqué.

L

LIM-OCU	LIM-Office Channel Unit Applique
LIM-T1	A link interface module (LIM) with the T1 Appliqué.
Link	Signaling Link
LNP	Local Number Portability
LOC	The primary function of the LOC server is to locate subscribers on GSM and IS-41 networks.

M

MASP	Maintenance and Administration Subsystem Processor The Maintenance and Administration Subsystem Processor (MASP) function is a logical pairing of the GPSM-II card and the TDM card. The GPSM-II card is connected to the TDM card by means of an Extended Bus Interface (EBI) local bus. The MDAL card contains the removable cartridge drive and alarm logic. There is only one MDAL card in the Maintenance and Administration Subsystem (MAS) and it is shared between the two MASPs.
MCP	Measurement Collection Processor This application is used by the MCPM card for the Measurements Platform feature.
MCPM	Measurement Collection and Polling Module

M

	The Measurement Collection and Polling Module (MCPM) provides comma delimited core STP measurement data to a remote server for processing. The MCPM is an EDSM with 2 GB of memory running the MCP application.
MDAL	Maintenance Disk and Alarm Card Provides Alarming and cartridge-based loading of software. It contains a 2.3 Gbyte removable cartridge drive and alarm logic. There is only one MDAL card in the maintenance and administration subsystem and it is shared between the two MASPs.
Measurement Platform	A feature that supports the EAGLE 5 ISS beyond 700 links by providing a dedicated processor for collecting and reporting STP, LNP, INP, G-Flex, and G-Port Measurements data. The Measurement Platform collection function cannot be disabled once it is enabled in the system.
MIM	Multi-Channel Interface Module
MPL	Multi-port LIM
MPS	Multi-Purpose Server The Multi-Purpose Server provides database/reload functionality and a variety of high capacity/high speed offboard database functions for applications. The MPS resides in the General Purpose Frame.

M

MTP — The levels 1, 2, and 3 of the SS7 protocol that control all the functions necessary to route an SS7 MSU through the network.

O

OAM — Operations, Administration, and Maintenance

The generic load program (application) that operates the Maintenance and Administration Subsystem which controls the operation of the EAGLE 5 ISS.

OAP — A stand-alone processor that acts as an interface between:

- The EAGLE 5 ISS and OSS (operation support system) devices using standard interfaces and converting the communications to the EAGLE 5 ISS proprietary serial interface.
- The EAGLE 5 ISS LNP and the SEAC (Signaling Engineering and Administration Center), for the SEAS feature, converting SEAS commands into EAGLE 5 ISS LNP commands and EAGLE 5 ISS LNP commands into SEAS commands.
- The EAGLE 5 ISS LNP and the SMS (Service Management System), for the LNP feature, receiving LNP data and commands from the SMS and converting the SMS commands into EAGLE 5 ISS LNP commands and loading the LNP data onto the EAGLE 5 ISS LNP.

OOS-MT — Out of Service - Maintenance

O

	The entity is out of service and is not available to perform its normal service function. The maintenance system is actively working to restore the entity to service.
OOS-MT-DSBLD	Out of Service - Maintenance Disabled The entity is out of service and the maintenance system is preventing the entity from performing its normal service function.
OPC	Originating Point Code
OS	Operations Systems

P

PDB	Provisioning Database
PM	Processing Module
PPSMS	Prepaid Short Message Service
PPSMS	Prepaid Short Message Service Intercept
PST	Primary State A field in the `rept-stat` command outputs showing the primary state of the specified entity.

R

RD	Receive Data Removable Disk

R

ROM	Read Only Memory
RS	Requirement Specification
RTDB	Real Time Database

S

SB	Stop Bits
SBR	Subsystem Backup Routing
SCCP	Signaling Connection Control Part
SCCS	Switching Control Center System
SCP	Service Control Point
SEAS	Signaling Engineering and Administration System An interface defined by Bellcore and used by the Regional Bell Operating Companies (RBOCs), as well as other Bellcore Client Companies (BCCs), to remotely administer and monitor the signaling points in their network from a central location.
Security Log	The security log is a circular file, located on each MASP, containing a record of each command entered on a EAGLE 5 ISS terminal, the name (user ID) of the person entering the command, the date and time the command was entered, and the terminal port that the command was entered on. This record can investigate unauthorized activities that may

S

	take place on the EAGLE 5 ISS, or when problems occur, this record can examine the commands that were entered before the problem occurred to check if one or more of those commands caused the problem.
SHLF	Shelf A modular unit that contains the cards that make up the EAGLE 5 ISS. The EAGLE 5 ISS uses two types of shelves, the control shelf, and the extension shelf. The control shelf contains the components of the Maintenance and Administration Subsystem (MAS), and up to eight additional Link Interface Modules (LIMs), Translation Service Modules (TSMs), or Application Communication Modules (ACMs). The extension shelf provides locations for two High Speed Multiplexer (HMUX) cards and also 16 card locations for any combination of Link Interface Modules (LIMs), Application Communication Modules (ACMs), and Translation Service Modules (TSMs).
SLAN	Signaling Transfer Point Local Area Network A feature in the EAGLE 5 ISS that copies MSUs selected through the gateway screening process and sends these MSUs over the Ethernet to an external host computer for further processing.
SNR	Subsystem Normal Routing
SOG	Subsystem Out-of-Service Grant

S

	Service Order Gateway
SOR	Support of Optimal Routing System Out of Service Request
SRT	Subsystem Routing Status Test
SS7	Signaling System #7
SS7ANSI	SS7 ANSI An application used by the LIM cards and the E1/T1 MIM card for the MTP functionality.
SS7GX25	X.25/SS7 Gateway An application used by the LIM cards for the X.25/SS7 gateway feature. This GPL does not support 24-bit ITU-N point codes.
SS7IPGW	SS7 IP Gateway An application used by the DCM/SSEDCM card for IP point-to-multipoint capability within an ANSI network.
SS7ML	An application used on the Multi-Port LIM (MPL or MPLT) for SS7 signaling links and on the E1/T1 MIM for E1 and T1 signaling links.
SSA	Subsystem Allowed
SSH	Secure Shell A protocol for secure remote login and other network services over

S

	an insecure network. SSH encrypts and authenticates all EAGLE 5 ISS IPUI and MCP traffic, incoming and outgoing (including passwords) to effectively eliminate eavesdropping, connection hijacking, and other network-level attacks.
SSP	Subsystem Prohibited network management message. Subsystem Prohibited SCCP (SCMG) management message. (CER)
SST	Secondary State The secondary state of the specified entity. Subsystem Status Test network management message.
STC	Signaling Transport Card The Signaling Transport Card (STC) is a member of the DCM card family with an "eroute" generic program load (GPL) installed. The STCs provide the IP interface between the LIM cards on the IMT bus and the Signaling Extended Services Platform (ESP) subassembly. The STC is used for sending MSU data to the ESP/IMF.
STP	Signal Transfer Point STPs are ultra-reliable, high speed packet switches at the heart of SS7 networks, which terminate all link types except F-links. STPs are nearly always deployed in mated pairs for reliability reasons. Their primary functions are to provide access to SS7 networks and to provide routing of signaling

S

	messages within and among signaling networks.
STPLAN	Signaling Transfer Point Local Area Network The generic program load and application used by the ACM card to support the STP LAN application. This GPL does not support 24-bit ITU-N point codes.

T

T1	Transmission Level 1 A T1 interface terminates or distributes T1 facility signals for the purpose of processing the SS7 signaling links carried by the E1 carrier. A leased-line connection capable of carrying data at 1,544,000 bits-per-second.
TCP	Transfer Control Protocol
TCP/IP	Transmission Control Protocol/Internet Protocol
TDM	Terminal Disk Module The MAS card that contains the fixed disk drive (hard disk storage), the terminal processor for the 16 serial I/O ports, and an interface to the MDAL (maintenance disk and alarm) card, which contains the removable cartridge drive and alarm logic. Time Division Multiplexing
Trial GPL	A generic program load that is downloaded to a card from the removable cartridge.

T

TRM	Termination Response Mode
TSM	Translation Services Module Provides SCCP functionality or GLS functionality for Local Number Portability (LNP)/SCCP (GTT). The SCCP software allows the TSM to be used as a memory board for Global Title Translation (GTT).

U

UAM	Unsolicited Alarm Message.
UID	User ID
UIM	Unsolicited Information Message
UTILITY	The application that is used by the factory for testing. This application has no use in the field.

V

V.35	ITU Interface Recommendation, V.35 The interface used with the LIMV35 card.
V-Flex	Voicemail Flexible Routing An advanced database application based on the industry proven EAGLE 5 ISS. Deployed as a local subsystem on the EAGLE platform, V-Flex centralizes voicemail routing.
VSCCP	VxWorks Signaling Connection Control Part

V

	The application used by the Service Module card to support the G-Flex, G-Port, INP, AINPQ, EIR, A-Port, IGM, V-Flex, and LNP features. If the G-Flex, G-Port, INP, AINPQ, EIR, A-Port, IGM, V-Flex, or LNP feature is not turned on, and a Service Module card is present, the VSCCP GPL processes normal GTT traffic.
VXWSLAN	An application used by the DCM card to support the STP LAN application. This GPL does not support 24-bit ITU-N point codes.

Index

T

V