Tekelec Signaling Products Database Administration Manual - System Management

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Database Administration Manual - System Management

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TEKELEC

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Overview

The *Database Administration Manual – System Management* describes the procedures necessary for database administration personnel or translations personnel to manage the system's database and GPLs, and to configure basic system requirements such as user names and passwords, system-wide security requirements, and terminal configurations.

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*.

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:

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

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.

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

Chapter 4, "System Administration Procedures," describes the procedures used to administer the system wide security requirements, user names and passwords, the system date and time, terminal configurations, shelves, SS7 LIM cards, and configuration information for the Measurements Platform feature.

Appendix A, "EOAP Provisioning Procedures," describes initial implementation of the Embedded Operations System Support Applications Processor (EOAP) and the configuration of the Eagle STP to support either the EOAP or the Texas Micro OAP.

Appendix B, "Controlled Feature Activation Procedures," 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.

Related Publications

The *Database Administration Manual – System Management* is part of the Eagle documentation set and may reference related manuals of this set. The documentation set includes the following manuals:

- The *Commands Manual* contains procedures for logging into or out of an Eagle STP or IP^7 Secure Gateway system, a general description of the terminals, printers, the disk drive used on the system, and a description of all the commands used in the system.
- The *Commands Error Recovery Manual* contains the procedures to resolve error message conditions generated by the commands in the *Commands Manual*. These error messages are presented in numerical order.
- The *Database Administration Manual – Features* contains procedural information required to configure an Eagle STP or IP^7 Secure Gateway system to implement these features:
  - X.25 Gateway
  - STP LAN
  - Database Transport Access
  - GSM MAP Screening
  - Eagle Support for Integrated Sentinel
- The *Database Administration Manual - Gateway Screening* contains a description of the Gateway Screening (GWS) feature and the procedures necessary to configure an Eagle STP or IP^7 Secure Gateway system to support this feature.
- The *Database Administration Manual – Global Title Translation* contains procedural information required to configure an Eagle STP or IP^7 Secure Gateway system to implement these features:
  - Global Title Translation
  - Enhanced Global Title Translation
  - Variable Length Global Title Translation
  - Global Title Modification Feature
  - Intermediate GTT Load Sharing
  - ANSI-ITU-China SCCP Conversion
- The *Database Administration Manual – IP^7 Secure Gateway* contains procedural information required to configure the system to implement the SS7-IP Gateway.
- The *Database Administration Manual – LNP* contains procedural information required to configure an Eagle STP system or an IP^7 Secure Gateway system to implement the local number portability (LNP) feature.

- The *Database Administration Manual – SEAS* contains the procedures that can be performed from the Signaling Engineering and Administration Center (SEAC) or a Signaling Network Control Center (SNCC) to configure the Eagle. These procedures contain a brief description of the procedure, a reference to the procedure in either the *Database Administration Manual – SS7*, *Database Administration Manual – Global Title Translation*, or *Database Administration Manual – Gateway Screening* that contains more information on that procedure, and a flowchart showing the order that the tasks must be performed.
- The *Database Administration Manual – SS7* contains procedural information required to configure an Eagle STP system or an IP^7 Secure Gateway system to implement the SS7 protocol.
- The *ELAP Administration Manual* provides a definition of the user interface to the Eagle LNP Application Processor on the MPS/ELAP platform. The manual defines the methods for accessing the interface, menus, screens available to the user, and describes their impact. It provides the syntax and semantics of user input and defines the output the user receives, including information and error messages.
- The *FTP-Based Table Retrieve Application (FTRA) User Guide* describes how to set up and use a PC to serve as the offline application for the Eagle FTP Retrieve and Replace feature.
- The *Signaling Products Hardware Manual* contains hardware descriptions and specifications of Tekelec's Network Signaling Group (NSG) products. These include the Eagle STP system, the IP^7 Secure Gateway (SG) system, and OEM-based products which include the AS*i* 4000 Service Control Point (SCP), and the Integrated Sentinel with Extended Services Platform (ESP) subassembly.
- The *Installation Manual - Eagle* contains cabling requirements, schematics, and procedures for installing the Eagle systems along with LEDs, Connectors, Cables, and Power Cords to Peripherals. Refer to this manual to install components or the complete systems.
- The *LSMS-Eagle STP LNP Database Synchronization Manual* describes how to synchronize LNP databases at the LSMS and at a network element (an Eagle STP is an example of a network element). The methods include automatic resynchronization performed by the LSMS and the network element as well as user-initiated resynchronization of the network element's LNP database from the LSMS, audits and reconciles of the network element's LNP database from the LSMS, and procedures for performing a bulk load of the network element's LNP database from the LSMS or from another network element.
- The *LNP Feature Activation Guide* contains procedural information required to configure the system for the LNP feature using telephone number quantities from 24 million to 120 million telephone numbers.
- The *Maintenance Manual* contains procedural information required for maintaining the Eagle STP system, the IP^7 Secure Gateway system. The

Maintenance Manual provides preventive and corrective maintenance procedures used in maintaining the different systems.

- The *Previously Released Features* manual briefly describes the features of previous Eagle and IP^7 Secure Gateway releases, and it identifies the release number of their introduction.
- The *Release Documentation* contains the following documents for a specific release of the system:

  Feature Notice - Describes the features contained in the specified release. Also provides the hardware baseline, describes the customer documentation set, provides information about customer training, and explains how to access the Customer Service website.

  Release Notice - Describes the changes made to the system during the lifecycle of a release. The final Release Notice provides a list of Generic Program Loads (GPLs), PRs resolved in a build, and all known PRs.

  NOTE: The *Release Notice* is maintained solely on Tekelec's Customer Support Website to provide you with instant access to the most up-to-date release information.

  System Overview - Provides high-level information on SS7, the IP^7 Secure Gateway, system architecture, LNP, and EOAP.

  Master Index - Lists all index entries used throughout the documentation set.

  Master Glossary - Contains an alphbetical listing of terms, acronyms, and abbreviations relevant to the system.

Documentation Packaging and Updates

Customer documentation is updated whenever significant changes that affect system operation or configuration are made.

The document part number is shown on the title page along with the current revision of the document, the date of publication, and, if applicable, the software release that the document covers. The bottom of each page contains the document part number and the date of publication.

Documentation Admonishments

Admonishments are icons and text that may appear in this and other Eagle and LSMS manuals that alert the reader to assure personal safety, to minimize possible service interruptions, and to warn of the potential for equipment damage.

Following are the admonishments, listed in descending order of priority.

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

Tekelec Technical Services

The Tekelec Technical Services department offers a point of contact through which customers can receive support for problems that may be encountered during the use of Tekelec's products. The Tekelec Technical Services department is staffed with highly trained engineers to provide solutions to your technical questions and issues seven days a week, twenty-four hours a day. A variety of service programs are available through the Tekelec Technical Services department to maximize the performance of Tekelec products that meet and exceed customer needs.

To receive technical assistance, call the Tekelec Technical Services department at one of the following locations:

- Tekelec, UK

  Phone: +44 1784 467 804.

- Tekelec, USA

  Phone (within the continental US) 888-367-8552 (888-FOR-TKLC)
  (outside the continental US) +1 919-460-2150.

Or you can request assistance by way of electronic mail at **`eaglets@tekelec.com`**.

When your call is received, Technical Services issues a Customer Service Report (CSR). Each CSR includes an individual tracking number. When a CSR is issued, Technical Services determines the classification of the trouble (see Bellcore Generic Requirements, GR-929-CORE, Reliability and Quality Measurements for Telecommunications Systems (RQMS)). The CSR contains the serial number of the system, problem symptoms, and messages. Technical Services assigns the CSR to a primary engineer, who will work to solve the problem. Technical Services closes the CSR when the problem is resolved.

If a critical problem exists, Technical Services initiates emergency procedures (see the following topic, "Emergency Response").

Emergency Response

If a critical service situation occurs, Tekelec Technical Services offers emergency response twenty-four hours a day, seven days a week. The emergency response provides immediate coverage, automatic escalation, and other features to ensure a rapid resolution to the problem.

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

- Failure in the system that prevents transaction processing
- Reduction in system capacity or in system traffic-handling capability
- Inability to restart the system
- Corruption of the database
- Inability to perform maintenance or recovery operations
- Inability to provide any required critical or major trouble notification
- Any other problem severely affecting service, capacity, traffic, and billing. Maintenance capabilities may be defined as critical by prior discussion and agreement with Tekelec Technical Services.

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 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.

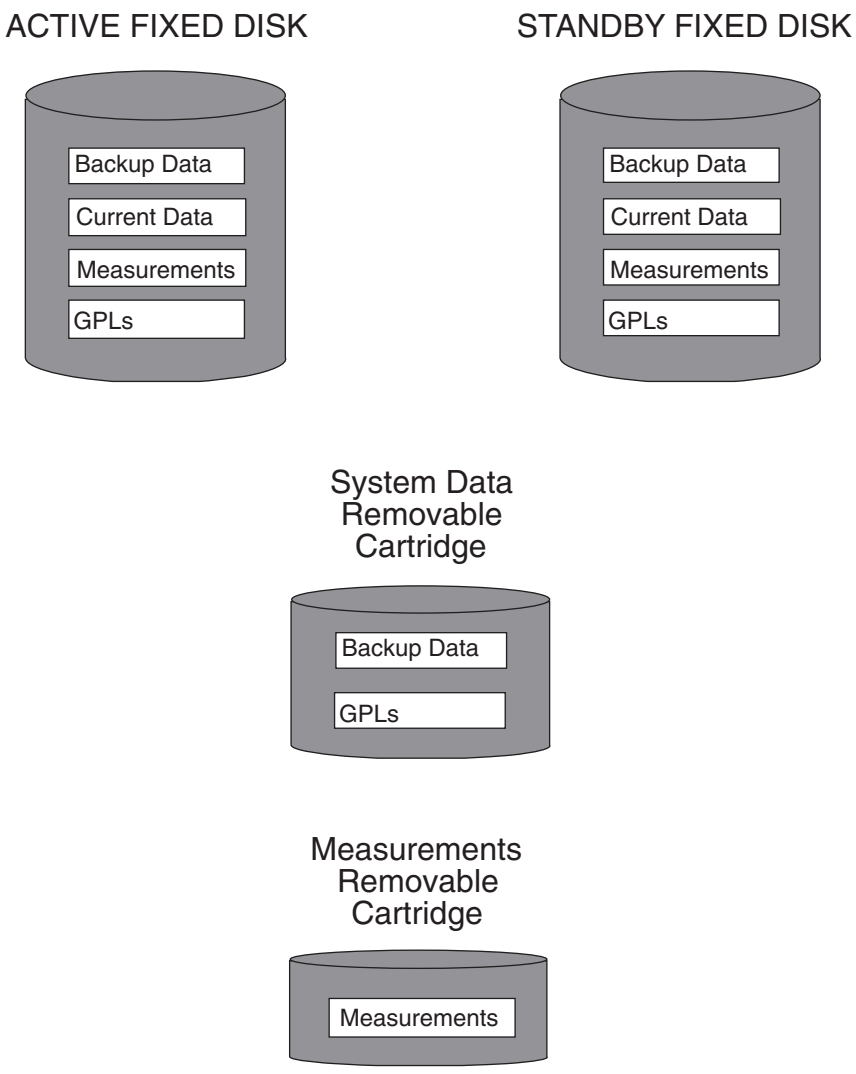
The procedures in the *Database Administration Manual – System Management* refer to the terms MASP and MDAL. The database commands, such as **`rept-stat-db`**, refer to the MASP because the MASP controls the input to the TDM and MDAL, and output from the TDM and MDAL. The MDAL is only referred to when inserting or removing the removable cartridge because the removable cartridge drive resides on the MDAL.

For more information on these cards, go to the *Installation Manual*.

Database Partitions

The data that the Eagle uses to perform its functions are stored in two separate areas: the fixed disk drives, and the removable cartridge. The Fixed Disk Drive section on page 1-10 and the Removable Cartridge section on page 1-11 describe these areas and data that is stored on them. These areas and their partitions are shown in Figure 1-1.

Figure 1-1. Database Partitions



Fixed Disk Drive

There are two fixed disk drives on the system. The fixed disk drives contain the "master" set of data and programs for the system. 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 system. 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 system 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 system provides the user the ability to format a removable cartridge for either of these purposes. A removable cartridge can be formatted on the system 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 drive can be found in the *Installation Manual*.

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

Additional and preformatted removable cartridges are available from Tekelec Technical Services.

List of Acronyms and Abbreviations

ACG .....Automatic Call Gapping

ACM.....Application Communications Module

ACM-ENET.....Applications Communications Module with the Ethernet interface

ACT .....Activate

ACTV .....Active

AFTPC.....Affected Point Code

AINF .....Application Interface Appliquè

ALIASA .....ANSI Alias Point Code

ALIASI.....ITU International Alias Point Code

ALIASN.....ITU National Alias Point Code

ALM .....Alarm

ANSI .....American National Standards Institute

APC .....Adjacent Point Code

APCA.....ANSI Adjacent Point Code

APCI.....ITU International Adjacent Point Code

APCN.....ITU National Adjacent Point Code

API .....Application Programming Interface

APPL.....Application

ARP .....Address Resolution Protocol

AST.....Associated State for Maintenance

ATM .....Asynchronous Transfer Mode

ATMANSI .....The application software for the ATM (high-speed) SS7 signaling links

ATMTSEL .....ATM timing selector

BEI.....Broadcast Exception Indicator

BIP .....Board ID PROM

BPDCM.....Application software for flash memory management on the DCM card

BPHCAP.....Application software used by the application processor and the IMT processor of the LIMATM

BPS .....Bits per Second or Bytes per Second

BSN .....Backward Sequence Number

C .....Continue

CANC .....Cancel

CAP.....Capacity

CCS .....Common Channel Signaling

CCS7ITU .....Application software for ITU SS7 signaling links

CDPA .....Called Party Address

CGPA .....Calling Party Address

CHG.....Change

CLLI .....Common Language Location Identifier

Cmd Rej.....Command Rejected

CNCF.....Calling Name Conversion Facility

COO.....Changeover Order Message

CPC .....Capability Point Code

CPCA .....ANSI Capability Point Code

CPCI.....ITU International Capability Point Code

CPCN.....ITU National Capability Point Code

CPCTYPE .....Capability Point Code Type

CRMD.....Cluster Routing and Management Diversity

DACT.....Deactivate

DB.....Database

DBG .....Debug

DCE.....Data Communication Equipment

DCM .....Database Communication Module

DESTFLD .....Allowed Affected Destination Field

DLK.....Data Link

DLT .....Delete

DPC.....Destination Point Code

DPCA.....ANSI Destination Point Code

DPCI .....ITU International Destination Point Code

DPCN.....ITU National Destination Point Code

DS0A.....Digital Signal Level - 0

DTA.....Database Transport Access

DTE.....Data Terminal Equipment

E1.....European equivalent of the North American 1.544 Mbps T1 (Trunk Level 1) except that E1 carries information at 2.048 Mbps.

ECM.....Error Correction Method

EIR.....Equipment Identity Register

ELEI.....Exception List Exclusion Indicator

EMAP.....EAGLE Measurements Application Processor

EMDC.....Element Measurement and Data Collection

EMS.....Element Management System

ENT.....Enter

FC.....Flow control

FE.....Far End

FIB.....Forward Indicator Bit

FISU.....Fill In Signal Unit

FPC.....Provisioned full point code entry

FPCA.....Full Point Code entry

FTA.....File Transfer Area

FTP.....File Transfer Protocol

Gbyte.....Gigabyte

GLS.....Gateway Loading Services – Application software for the gateway screening loading services

GN.....Generic Name parameter of an ISUP Initial Address Message (IAM)

GPL.....Generic Program Load

GPSM.....General Purpose Service Module

GTT.....Global Title Translation

GWS.....Gateway Screening

GWSA.....Gateway Screening Application

GWSD.....Gateway Screening Message Discard

GWSM ..... Gateway Screening Mode

H0 ..... H0 heading code in the service information octet

H1 ..... H1 heading code in the service information octet

I/O ..... Input/Output

IAM ..... Initial Address Message

ICMP ..... Internet Control Message Protocol

ID ..... Identity

IMT ..... Interprocessor Message Transport

INH ..... Inhibit

INIT ..... Initialize

IP ..... Internet Protocol

IPLIM ..... Application software for TCP/IP point-to-point connectivity for ANSI networks

IPLIMI ..... Application software for TCP/IP point-to-point connectivity for ITU networks

IPLIMx ..... IPLIM and IPLIMI

IS-NR ..... In Service - Normal

ISUP ..... ISDN User Part

ITU ..... International Telecommunications Union

ITU-I ..... ITU International

ITU-N ..... ITU National

ITU-TSS ..... International Telecommunications Union - Telecommunications Standardized Sector

LAN ..... Local Area Network

LBP ..... Loop Back Point

LC ..... Logical Channel

LCD ..... Loss of Cell Delineation

LC2NM ..... Logical Channel to Network Management

LED ..... Light Emitting Diode

LFS ..... Link Fault Sectionalization

LIM ..... Link Interface Module

LIMATM ..... LIM used with ATM (high-speed) signaling links

LIMDS0 ..... LIM with a DS0A interface

LIMOCU.....LIM with a OCU interface

LIMV35.....LIM with a V.35 interface

LLT .....Latching LFS Test

LOC.....Location

LNP .....Local Number Portability

LNPBAS .....LNP Basic command class

LNPDB.....LNP Database Administration command class

LNPSUB .....LNP Subscription command class

LPSET .....ATM (high-speed) signaling link parameter set identifier

LS.....Linkset

LSMS.....Local Service Management System

LSN .....Linkset Name

LST .....Linkset Type

MAP .....Mated Application

MAS .....Maintenance and Administration Subsystem

MASP.....Maintenance and Administration Subsystem Processor

Mbyte.....Megabyte

MCP .....The application software for the Measurements Platform feature

MCPM .....Measurement Collection & Polling Module

MDAL.....Maintenance Disk and Alarm Card

MSAR.....Memory Space Accounting Report

MSU .....Message Signaling Unit

MTP.....Message Transfer Part

NE .....Near End

NCPC.....New Capability Point Code

NCPCA.....New ANSI Capability Point Code

NCPCI.....New ITU International Capability Point Code

NCPCN.....New ITU National Capability Point Code

NEI .....Network Element Interface

NLT .....Non-latching LFS Test

NMA ..... Telcordia Network Monitoring and Analysis Operations Support System

OAP ..... Operations System Support/Applications Processor

OCU ..... Office Channel Unit

OOS ..... Out of Service

OOS-MT-DSBLD ..... Out of Service - Maintenance Disabled

OPC ..... Originating Point Code

PC ..... Point Code

PCA ..... ANSI Point Code

PCI ..... ITU International Point Code

PCN ..... ITU National Point Code

PCR ..... Preventive Cyclic Retransmission

PDU ..... Protocol Data Unit

PID ..... Password ID

PIP ..... Party Information Parameter parameter of an ISUP Initial Address Message (IAM)

PRTY ..... Parity

PST ..... Primary State for Maintenance

PVC ..... Permanent Virtual Circuit

RCx ..... Signaling-Route-Set-Test for either a prohibited or restricted cluster network management message

REPT-STAT ..... Report Status

RLE ..... Remote Link Element

RLI ..... Remote Link Interface

RMV ..... Remove

RSP ..... Signaling-Route-Set-Test Signal for a prohibited destination network management message

RSR ..... Signaling-Route-Set-Test Signal for a restricted destination network management message

RST ..... Restore

RSx ..... Signaling-Route-Set-Test Signal for either a restricted destination or prohibited destination network management message

RTRV ..... Retrieve

SCCP .....Signaling Connection Control Part – Application software for the global title translation (GTT) feature

SCMG .....SCCP Management

SCRN .....Screen Set Name

SCRSET.....Screen Set

SEAC.....Signaling Engineering and Administration Center

SIE .....Status Indication Emergency Alignment

SIN .....Status Indication Normal Alignment

SIO.....Status Indication Out of Alignment or Service Information Octet

SIOS.....Status Indication Out of Service

SLC.....Signaling Link Code

SLK.....Signaling Link

SLS.....Signaling Link Selector

SLSCI .....5- to 8-bit SLS Conversion Indicator

SLSCNV.....SLS Conversion

SLTC.....Signaling Link Test Control

SNCC .....Signaling Network Control Center

SS7 .....Signaling System #7

SS7 ADDR .....The dummy X.25 address assigned to the SS7 destination entity on the SS7 side of the circuit

SS7 DPC.....SS7 Destination Point Code

SS7ANSI .....The application software for the ANSI SS7 signaling links

SS7GX25 .....The application software for the X.25/SS7 gateway feature

SSA .....Subsystem Allowed network management message

SSCF .....Service Specific Coordination Function

SSCOP.....Service Specific Coordination Oriented Protocol

SSN.....SS7 Subsystem Number

SSP.....Subsystem Prohibited network management message

SST.....Secondary State for Maintenance

SST.....Subsystem Status Test network management message

STDBY	Standby
STP	Signal Transfer Point
STP LAN	Feature that copies MSUs selected through the gateway screening process and sends these MSUs over the Ethernet to an external host computer for further processing
STPLAN	Application software for the STP LAN feature
SUERM	Signal Unit Error Rate Monitor
T1	Trunk Level 1
TCA	Transfer Cluster Allowed network management message
TCAP	Transaction Capability Application Part
TCP	Transmission Control Protocol
TCP/IP	Transmission Control Protocol/Internet Protocol
TCR	Transfer Cluster Restricted network management message
TCx	Either a Transfer Cluster Allowed, Transfer Cluster Restricted, or Transfer Cluster Prohibited network management message
TDM	Terminal Disk Module
TFA	Transfer Allowed network management message
TFC	Transfer Controlled network management message
TFATCABMLQ	TFA/TCA broadcast minimum link quantity
TFATFRPR	TFA/TFR pacing rate
TFP	Transfer Prohibited network management message
TFR	Transfer Restricted network management message
TFx	Either a Transfer Allowed, Transfer Controlled, Transfer Restricted, or Transfer Prohibited network management message
TLNP	Triggerless LNP
TPC	True Point Code
TRA	Traffic Restart Allowed
TRM	Terminal
TRW	Traffic Restart Waiting
TSET	Transmitter Signaling Element Timing

TSM.....Translation Services Module

TT .....Translation Type

TVG.....Group Ticket Voucher feature

UAM .....Unsolicited Alarm Message

UDTS.....Unit Data Transfer Service

UID.....User ID

UIM .....Unsolicited Information Message

UIMRD .....UIM Redirect

UNHB .....Uninhibit

VCI .....Virtual Channel Identifier

VPI.....Virtual Path Identifier

WNP.....Wireless Number Portability

X25 ADDR.....The X.25 network address of the X.25 destination entity or the SS7 node.

X-list.....Exception list of non-provisioned members of provisioned cluster.

2

Database Management Procedures

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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 system or 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
- Restoring the database
  - from the backup partition of the fixed disk
  - from the removable cartridge
- 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 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 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 system provides the user the ability to format a removable cartridge for either of these purposes. A removable cartridge can be formatted on the system 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" procedure on page 2-80.

Additional and preformatted removable cartridges are available from Tekelec Technical Services**.** See "Tekelec Technical Services" on page 1-6.

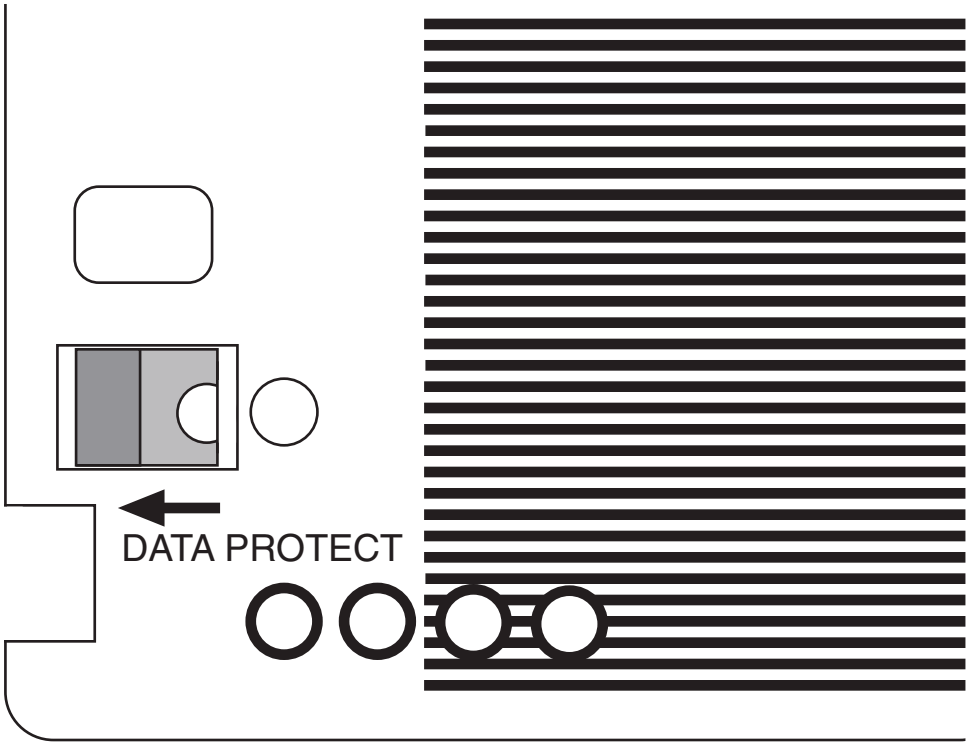
Procedures that use the removable cartridge require that the removable cartridge be either write protected or write enabled. When the cartridge is write protected, no data can be written to the cartridge, nor can the cartridge be formatted. The data can only be read from the cartridge. When the cartridge 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 2-1.

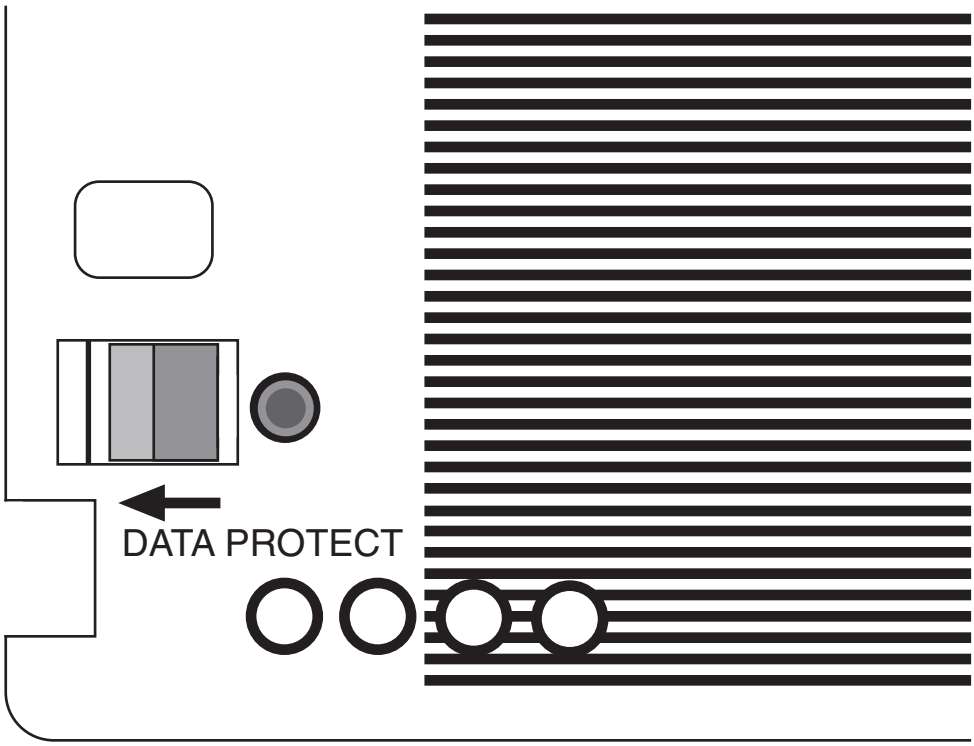
Figure 2-1. Write Protected Removable Cartridge



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 2-2.

Figure 2-2. Write Enabled Removable Cartridge

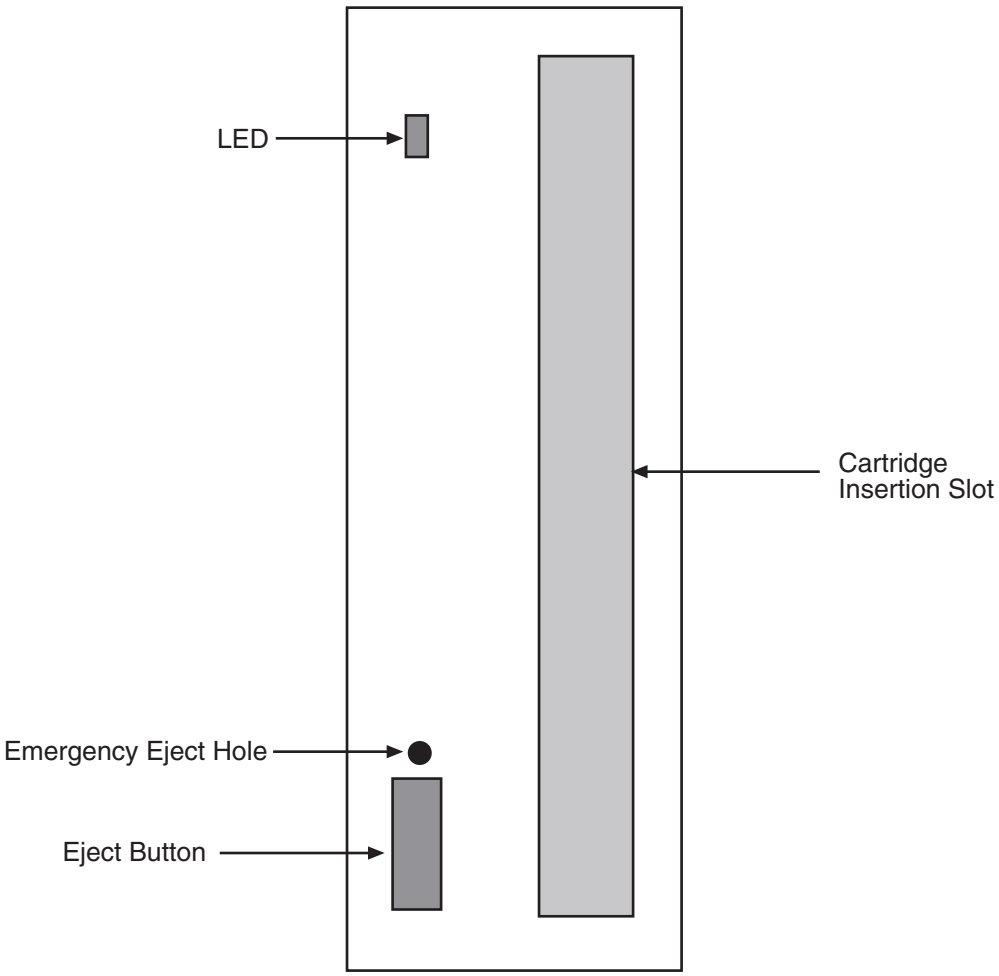


Inserting the Removable Cartridge

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.

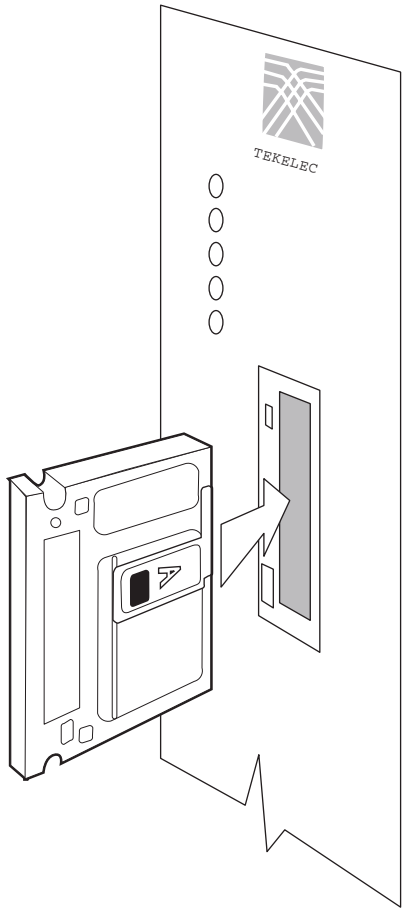
Figure 2-3 shows the layout of the removable cartridge drive.

Figure 2-3. 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 2-4.

Figure 2-4. 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 system 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 *Installation Manual*. The **db** parameter specifies which database to display: **stp** (the Eagle 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 system 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. The number value is displayed until the DSM 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.
- **EBDABLM** – The application used by the TSM to store the LNP database downloaded from the LSMS for the Enhanced Bulk Download feature.
- **EBDADCM** – The application used by the DCM to transmit the LSMS LNP database at high speed over an Ethernet connection for the Enhanced Bulk Download feature.
- **EMDC** – The application used by the DCM for the CMIP/OSI measurement collection interface as defined by Bellcore GR-376.
- **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 and LNP features.
- **VSCCP** – The **vsccp** application. This application is used for the global title translation, G-FLEX, INP, G-PORT , or if the ELAP Configuration or EIR features are enabled and activated.
- **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 ACM for the STP LAN feature.
- **VXWSLAN** – The **vxwslan** application. The application is used by the DCM for the STP LAN 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 SCCP card 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 only when either the G-FLEX, INP, or G-PORT features are on, or when the EIR is enabled and on. 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 either the G-FLEX, INP, or G-PORT features are on, or when the EIR is enabled and on. 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 either the G-FLEX, INP, G-PORT or EIR features are enabled, or if the ELAP Configuration feature is enabled and on.

PDB – The provisioning database status information. This field is displayed only when either the G-FLEX, INP, or G-PORT features are on, or when the EIR is enabled and on. 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 either the G-FLEX, INP, or G-PORT features are on, or when either the EIR or the ELAP Configuration features are 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 cards. If the birthdate or level do not match the DSM card, then the DSM 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 DSM cards to be reloaded. This field is displayed only when either the G-FLEX, INP, or G-PORT features are on, or when either the EIR or the ELAP Configuration features are 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 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 either the G-FLEX, INP, or G-PORT features are on, or when either the EIR or the ELAP Configuration features are 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.

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 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
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 04-05-31 14:29:03 GMT
```

If either the G-FLEX, INP, or G-PORT features are on, or the EIR 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 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 05-03-01 14:29:03 GMT

               EPAP A ( ACTV )
                C  BIRTHDATE           LEVEL       EXCEPTION
                -  -----------------   ----------  --------------
PDB                05-03-01 10:19:18           10        -
RTDB            Y  05-03-01 10:19:18           10        -
RTDB-EAGLE         05-03-01 10:19:18           10        -

               EPAP B ( STDBY )
                C  BIRTHDATE           LEVEL       EXCEPTION
                -  -----------------   ----------  --------------
PDB                05-03-01 10:19:18           10        -
RTDB            Y  05-03-01 10:19:18           10        -
RTDB-EAGLE         05-03-01 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 05-03-01 08:20:13 GMT  Y       11 05-03-01 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  05-03-01 08:20:04       12345        -
RTDB-EAGLE         05-03-01 08:20:04       12345        -

               ELAP B ( STDBY )
                C  BIRTHDATE           LEVEL       EXCEPTION
                -  -----------------   ----------  --------------
RTDB            Y  05-03-01 08:20:04       12345        -
RTDB-EAGLE         05-03-01 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 05-03-01 08:28:59 GMT EAGLE5 32.0.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       74 05-03-01 23:30:05 GMT  Y       74 05-03-01 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          05-03-01 23:15:06  CORRUPTED
TDM-CRNT   1116  Y  N  75          05-03-01 22:47:05  DIFF LEVEL
CCS7ITU    1207  N  N  78          05-03-01 23:05:06  INCOHERENT
```

If either the G-FLEX, INP, or G-PORT features are on, or the EIR feature is enabled and on, 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 05-03-01 08:55:54 GMT EAGLE5 32.0.0
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 05-03-01 08:20:13 GMT  Y       11 05-03-01 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          05-03-01 08:03:48  DIFF LEVEL
TDM-BKUP   1114  Y  -  11          05-03-01 08:04:00  DIFF LEVEL
TDM-BKUP   1116  Y  -  11          05-03-01 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  05-03-01 08:20:04       12345        -
RTDB            Y  05-03-01 08:20:04       12345        -
RTDB-EAGLE      Y  05-03-01 08:20:04       12345        -

               EPAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
PDB             Y  05-03-01 08:20:04       12345        -
RTDB            Y  05-03-01 08:20:04       12345        -
RTDB-EAGLE      Y  05-03-01 08:20:04       12345        -

                 EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
VSCCP      1203  Y  05-03-01 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 05-03-01 08:55:54 GMT EAGLE5 32.0.0
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 05-03-01 08:20:13 GMT  Y       11 05-03-01 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          05-03-01 08:03:48  DIFF LEVEL
TDM-BKUP   1114  Y  -  11          05-03-01 08:04:00  DIFF LEVEL
TDM-BKUP   1116  Y  -  11          05-03-01 08:04:00  DIFF LEVEL
MDAL       1117  Y  -  1           05-03-01 15:06:29  DIFF LEVEL

              ELAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  05-03-01 08:20:04       12345        -
RTDB-EAGLE      Y  05-03-01 08:20:04       12345        -

               ELAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  05-03-01 08:20:04       12345        -
RTDB-EAGLE      Y  05-03-01 08:20:04       12345        -

                 EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
VSCCP      1203  Y  05-03-01 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 05-03-01 08:39:24 GMT EAGLE5 32.0.0
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 05-03-01 08:20:13 GMT  Y       11 05-03-01 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          05-03-01 08:04:00       -
SS7ANSI    1103  Y  N  11          05-03-01 08:04:00       -
VSCCP      1105  Y  N  11          05-03-01 08:04:00       -
STPLAN     1107  Y  N  11          05-03-01 08:04:00       -
TDM-CRNT   1114  Y  N  11          05-03-01 08:04:00       -
TDM-BKUP   1114  Y  -  11          05-03-01 08:04:00       -
TDM-CRNT   1116  Y  N  11          05-03-01 08:04:00       -
TDM-BKUP   1116  Y  -  11          05-03-01 08:04:00       -
MDAL       1117  Y  -  1           04-05-31 15:06:29  DIFF LEVEL
VSCCP      1201  Y  N  11          05-03-01 08:04:00       -
VSCCP      1203  Y  N  11          05-03-01 08:04:00       -
```

If either the G-FLEX, INP, or G-PORT features are on, or the EIR feature is enabled and on, 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 05-03-01 08:39:24 GMT EAGLE5 32.0.0
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 05-03-01 08:20:13 GMT  Y       11 05-03-01 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          05-03-01 08:04:00       -
SS7ANSI    1103  Y  N  11          05-03-01 08:04:00       -
STPLAN     1107  Y  N  11          05-03-01 08:04:00       -
TDM-CRNT   1114  Y  N  11          05-03-01 08:04:00       -
TDM-BKUP   1114  Y  -  11          05-03-01 08:04:00       -
TDM-CRNT   1116  Y  N  11          05-03-01 08:04:00       -
TDM-BKUP   1116  Y  -  11          05-03-01 08:04:00       -
MDAL       1117  Y  -  1           04-05-31 15:06:29  DIFF LEVEL
VSCCP      1201  Y  N  11          05-03-01 08:04:00       -
VSCCP      1203  Y  N  11          05-03-01 08:04:00       -

               EPAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
PDB             Y  05-03-01 08:20:04       12345        -
RTDB            Y  05-03-01 08:20:04       12345        -
RTDB-EAGLE      Y  05-03-01 08:20:04       12345        -

               EPAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
PDB             Y  05-03-01 08:20:04       12345        -
RTDB            Y  05-03-01 08:20:04       12345        -
RTDB-EAGLE      Y  05-03-01 08:20:04       12345        -

                 EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
VSCCP      1201  Y  05-03-01 08:20:04       12345        -      10d 23h 21m
VSCCP      1203  Y  05-03-01 08:20:04       12345        -       5d  3h  1m
VSCCP      1105  Y  05-03-01 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 05-03-01 08:39:24 GMT EAGLE5 32.0.0
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 05-03-01 08:20:13 GMT  Y       11 05-03-01 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          05-03-01 08:04:00       -
SS7ANSI    1103  Y  N  11          05-03-01 08:04:00       -
VSCCP      1105  Y  N  11          05-03-01 08:04:00       -
STPLAN     1107  Y  N  11          05-03-01 08:04:00       -
TDM-CRNT   1114  Y  N  11          05-03-01 08:04:00       -
TDM-BKUP   1114  Y  -  11          05-03-01 08:04:00       -
TDM-CRNT   1116  Y  N  11          05-03-01 08:04:00       -
TDM-BKUP   1116  Y  -  11          05-03-01 08:04:00       -
MDAL       1117  Y  -  1           04-05-31 15:06:29  DIFF LEVEL
VSCCP      1201  Y  N  11          05-03-01 08:04:00       -
VSCCP      1203  Y  N  11          05-03-01 08:04:00       -

               ELAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  05-03-01 08:20:04       12345        -
RTDB-EAGLE         05-03-01 08:20:04       12345        -

               ELAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  05-03-01 08:20:04       12345        -
RTDB-EAGLE         05-03-01 08:20:04       12345        -

                 EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
VSCCP      1201  Y  05-03-01 08:20:04       12345        -      10d 23h 21m
VSCCP      1203  Y  05-03-01 08:20:04       12345        -       5d  3h  1m
VSCCP      1105  Y  05-03-01 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 05-03-01 08:18:47 GMT EAGLE5 32.0.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       74 05-03-01 23:30:05 GMT  Y       74 05-03-01 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          05-03-01 23:15:06  111-000-000  NORMAL
TDM-BKUP   1114  Y  -  74          05-03-01 17:24:29  123-081-188  249
TDM-CRNT   1116  Y  N  75          05-03-01 23:47:05  111-000-000  NORMAL
TDM-BKUP   1116  Y  -  74          05-03-01 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 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
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          05-03-01 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          05-03-01 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 either the G-FLEX, INP, or G-PORT features are on, or the EIR feature is enabled and on, 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 05-03-01 08:18:47 GMT EAGLE5 32.0.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       74 05-03-01 23:30:05 GMT  Y       74 05-03-01 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          05-03-01 23:15:06  111-000-000  NORMAL
TDM-BKUP   1114  Y  -  74          05-03-01 17:24:29  123-081-188  249
TDM-CRNT   1116  Y  N  75          05-03-01 23:47:05  111-000-000  NORMAL
TDM-BKUP   1116  Y  -  74          05-03-01 17:24:29  123-081-188  249
MDAL       1117  -  -      -           -        -          -
               EPAP A ( ACTV )
                C  BIRTHDATE           LEVEL       EXCEPTION
                -  -----------------   ----------  --------------
PDB                05-03-01 10:19:18           8        -
RTDB            Y  05-03-01 10:19:18           8        -
RTDB-EAGLE         05-03-01 10:19:18           8  CORRUPTED

               EPAP B ( STDBY )
                C  BIRTHDATE           LEVEL       EXCEPTION
                -  -----------------   ----------  --------------
PDB                05-03-01 10:19:18           8        -
RTDB            Y  05-03-01 10:19:18          10        -
RTDB-EAGLE         05-03-01 10:10:18          10   DIFF LEVEL

                EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION
---------  ----  -  -----------------  ----------  --------------
VSCCP      1101  -     -        -          -           -
VSCCP      1103  N  05-03-01 10:19:18           8      -
VSCCP      1213  Y  05-03-01 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 05-03-01 08:18:47 GMT EAGLE5 32.0.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       74 05-03-01 23:30:05 GMT  Y       74 05-03-01 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          05-03-01 23:15:06  111-000-000  NORMAL
TDM-BKUP   1114  Y  -  74          05-03-01 17:24:29  123-081-188  249
TDM-CRNT   1116  Y  N  75          05-03-01 23:47:05  111-000-000  NORMAL
TDM-BKUP   1116  Y  -  74          05-03-01 17:24:29  123-081-188  249
MDAL       1117  -  -      -           -        -          -

              ELAP A ( ACTV )
               C  BIRTHDATE           LEVEL       EXCEPTION
               -  -----------------   ----------  --------------
RTDB-EAGLE     Y  05-03-01 10:19:18          10  DIFF LEVEL
TIME LAST UPDATE   05-03-01 16:01:48

              ELAP B ( STDBY )
               C  BIRTHDATE           LEVEL       EXCEPTION
               -  -----------------   ----------  --------------
RTDB-EAGLE     Y  05-03-01 10:19:18          10  DIFF LEVEL
TIME LAST UPDATE   05-03-01 16:01:48

               EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION
---------  ----  -  -----------------  ----------  --------------
VSCCP      1101  -     -        -          -           -
VSCCP      1103  N  05-03-01 10:19:18           8      -
VSCCP      1213  Y  05-03-01 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 05-03-01 08:37:39 GMT EAGLE5 32.0.0
CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
---------  ----  -  -  ----------  -----------------  --------------
CCS7ITU    1207  Y  N  78          05-03-01 23:15:06       -
```

If either the G-FLEX, INP, or G-PORT features are on, or either the EIR or ELAP Configuration features are 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  05-03-01 23:15:06       -

CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION
---------  ----  -  -----------------  ----------  --------------
VSCCP      1213  Y  05-03-01 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 STP databases (**db=stp**)
- MPS/ELAP/EPAP databases (**db=mps**), which support the G-PORT, G-FLEX, INP, and EIR features, and the LNP feature when 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 EPAP system.

```
rlghncxa03w 05-03-01 08:39:24 GMT EAGLE5 32.0.0
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 05-03-01 08:20:13 GMT  Y       11 05-03-01 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 system when the **display=all** parameter is used with the **db=stp** parameter, as shown in this example.

```
rlghncxa03w 05-03-01 08:39:24 GMT EAGLE5 32.0.0
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 05-03-01 08:20:13 GMT  Y       11 05-03-01 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          05-03-01 08:04:00       -
SS7ANSI    1103  Y  N  11          05-03-01 08:04:00       -
VSCCP      1105  Y  N  11          05-03-01 08:04:00       -
STPLAN     1107  Y  N  11          05-03-01 08:04:00       -
TDM-CRNT   1114  Y  N  11          05-03-01 08:04:00       -
TDM-BKUP   1114  Y  -  11          05-03-01 08:04:00       -
TDM-CRNT   1116  Y  N  11          05-03-01 08:04:00       -
TDM-BKUP   1116  Y  -  11          05-03-01 08:04:00       -
MDAL       1117  Y  -  1           04-05-31 15:06:29  DIFF LEVEL
VSCCP      1201  Y  N  11          05-03-01 08:04:00       -
```

The output from the following **db** parameter displays the MPS database in an ELAP system. 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 05-03-01 08:39:24 GMT EAGLE5 32.0.0
rept-stat-db:db=mps

               ELAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  05-03-01 08:20:04       12345        -
RTDB-EAGLE         05-03-01 08:20:04       12345        -

               ELAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  05-03-01 08:20:04       12345        -
RTDB-EAGLE         05-03-01 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 05-03-01 08:55:54 GMT EAGLE5 32.0.0
 rept-stat-db:display=except:db=mps

              ELAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  05-03-01 08:20:04       12345        -
RTDB-EAGLE      Y  05-03-01 08:20:04       12345        -

               ELAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
RTDB            Y  05-03-01 08:20:04       12345        -
RTDB-EAGLE      Y  05-03-01 08:20:04       12345        -

                 EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
VSCCP      1203  Y  05-03-01 08:20:04       12340  DIFF LEVEL    5d  3h  1m
```

When the G-FLEX, INP, or G-PORT features are on, or the EIR feature is enabled and on, the MPS/EPAP databases are used. Output from the DB parameter provides expanded detail about the databases and cards in the MPS/EPAP system when the **display=all** parameter is used with the **db=mps** parameter, as shown in this example.

```
rlghncxa03w 05-03-01 08:39:24 GMT EAGLE5 32.0.0
rept-stat-db:display=all:db=mps

               EPAP A  ( ACTV )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
PDB             Y  05-03-01 08:20:04       12345        -
RTDB            Y  05-03-01 08:20:04       12345        -
RTDB-EAGLE      Y  05-03-01 08:20:04       12345        -

               EPAP B ( STDBY )
                C  BIRTHDATE          LEVEL       EXCEPTION
                -  -----------------  ----------  --------------
PDB             Y  05-03-01 08:20:04       12345        -
RTDB            Y  05-03-01 08:20:04       12345        -
RTDB-EAGLE      Y  05-03-01 08:20:04       12345        -

                 EAGLE RTDB REPORT
CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
---------  ----  -  -----------------  ----------  ------------ -----------
VSCCP      1201  Y  05-03-01 08:20:04       12345        -      10d 23h 21m
VSCCP      1203  Y  05-03-01 08:20:04       12345        -       5d  3h  1m
VSCCP      1105  Y  05-03-01 08:20:04       12345        -       9d 12h 37m
```

Checking the Status of the Database

To check the operational status of the database:

1. At the system prompt, enter the **rept-stat-db** command.

---

2. The output of the **rept-stat-db** command shows the current operational status of the Eagle'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" procedure on page 2-32.

```
rlghncxa03w 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       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" procedure on page 2-35.

```
rlghncxa03w 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       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  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" procedure on page 2-39. This condition is shown in this example output of the **rept-stat-db** command.

```
rlghncxa03w 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 05-03-01 10:19:18 GMT  Y       35 05-03-01 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" procedure on page 2-43. This condition is shown in this example output of the **rept-stat-db** command.

```
rlghncxa03w 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       35 05-03-01 10:19:18 GMT  Y       35 05-03-01 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" procedure on page 2-48. This condition is shown in this example output of the **rept-stat-db** command.

```
rlghncxa03w 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
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 DIFF LEVEL
        MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

If, after executing the appropriate change database command, the database is still not coherent, contact Tekelec Technical Services**.** See "Tekelec Technical Services" on page 1-6.

Backing Up the Database

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.

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 2-10.

Procedure

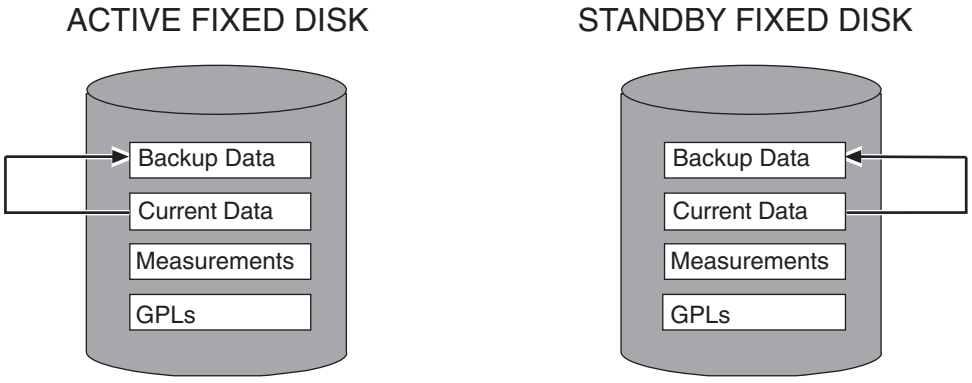
1. Verify that the databases in the current partitions of both MASPs (FD CRNT) are coherent using the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
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 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 2-5.

   NOTE: If this command takes more than 60 minutes to execute, contact Tekelec Technical Services for assistance. See "Tekelec Technical Services" on page 1-6.

Figure 2-5. Backup Action on the Fixed Disk



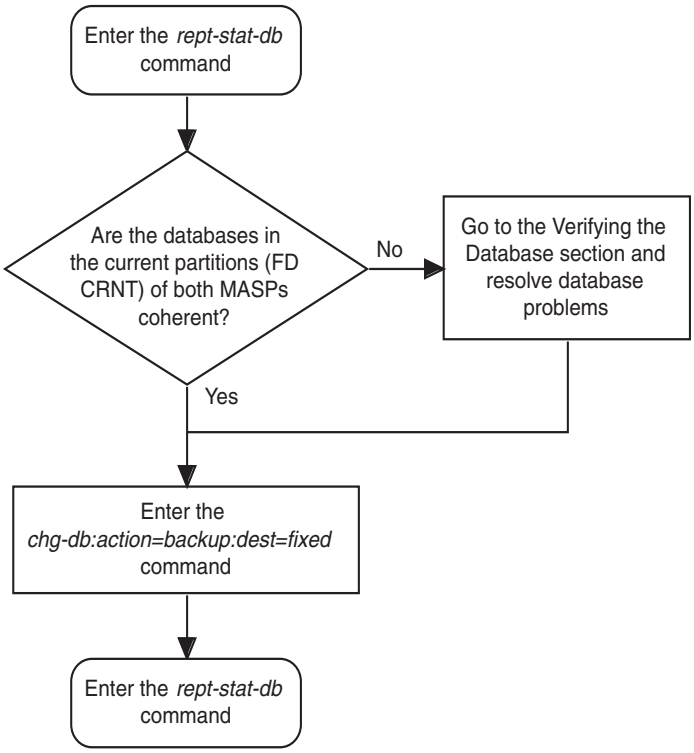
During command execution, these messages appear (the active MASP is displayed first):

```
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 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
DATABASE STATUS: >> OK <<
        TDM 1114  ( STDBY)                TDM 1116  ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y      106 05-03-01 16:09:17 GMT  Y      106 05-03-01 16:09:17 GMT
FD CRNT  Y      106                        Y      106
        MDAL 1117
         - --------
RD BKUP  Y      106 04-05-31 14:29:03 GMT
```

Flowchart 2-1. 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 2-10.

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" procedure on page 2-80 and format the cartridge. To write enable a removable cartridge, see "Write Enabling the Removable Cartridge" on page 2-7.

Procedure

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 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
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  -    -          -         -
```

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 2-8.

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

During command execution, these messages should appear.

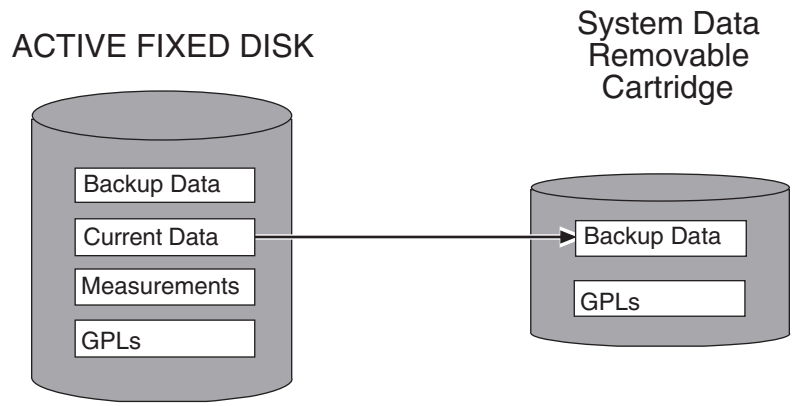
```
BACKUP (REMOVABLE) : MASP A - Backup starts on active MASP.
BACKUP (REMOVABLE) : MASP A - Backup to removable cartridge complete.
```

This command is only performed on the active MASP. The action of this command is shown in Figure 2-6.

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 Tekelec Technical Services for assistance. See "Tekelec Technical Services" on page 1-6

Figure 2-6. 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.

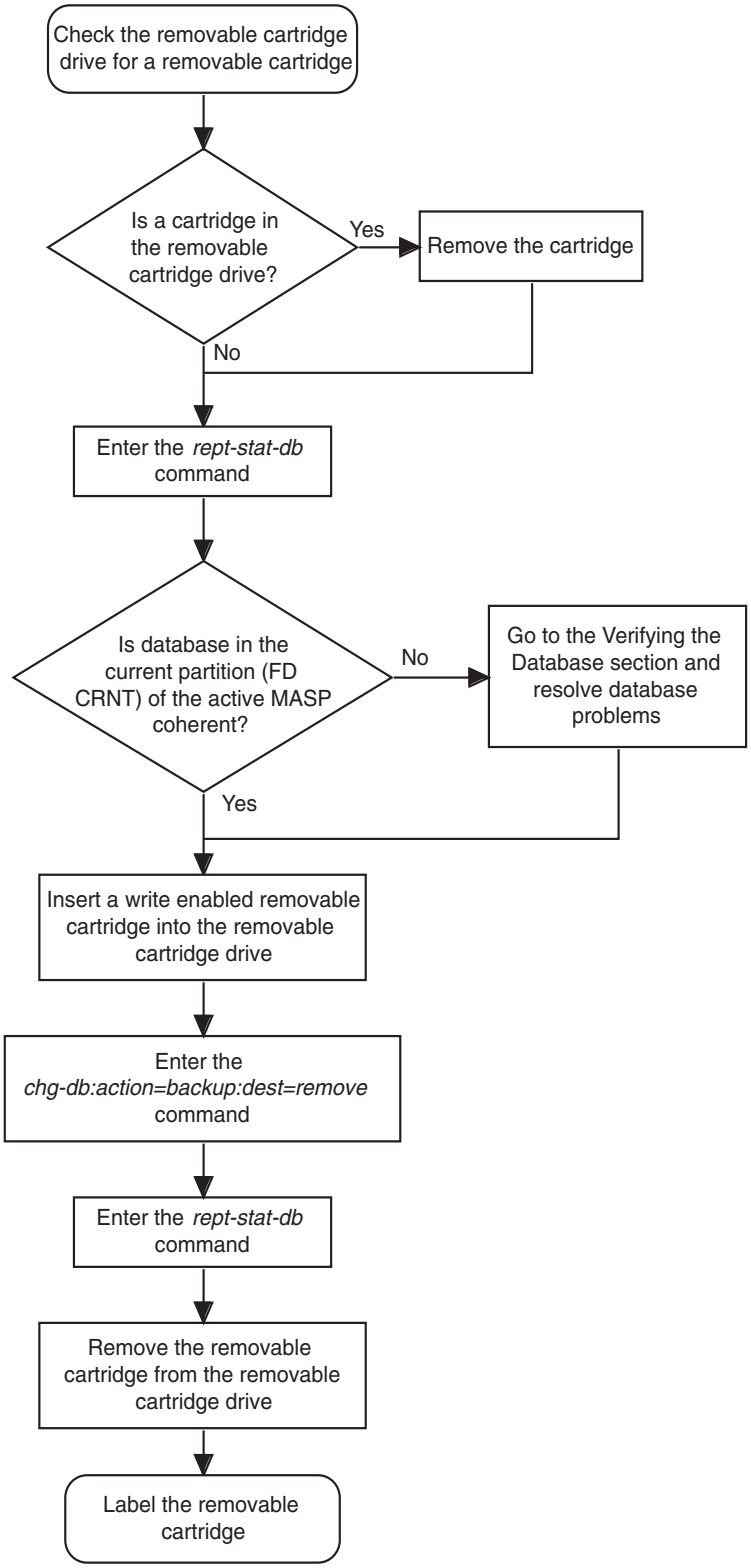
```
rlghncxa03w 05-03-01 16:11:34 GMT  EAGLE5 32.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       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 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 2-9.

---

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.

Flowchart 2-2. Making a Backup of the Database to the Removable Cartridge



Restoring the Database

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**).

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 persistant device state table becomes obsolete and is disabled. UIM 1257 is generated.

```
rlghncxa03w 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
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 2-10.

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 system.

Procedure

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 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
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  -    -         -        -
```

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.

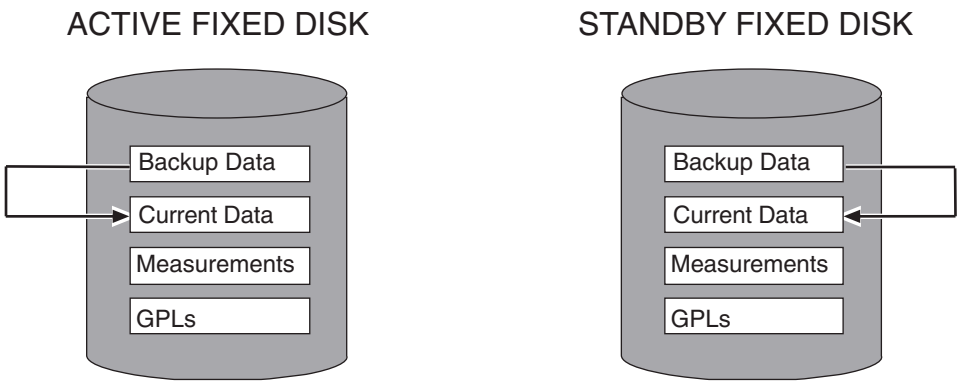
   NOTE: If this command takes more than 60 minutes to execute, contact Tekelec Technical Services for assistance. See "Tekelec Technical Services" on page 1-6.

   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 2-7.

Figure 2-7. Restore Action on the Fixed Disk



CAUTION: The `init-sys` command causes a complete system reload, 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.

3. When the commands have successfully completed, re-initialize the Eagle using the **`init-sys`** command.

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

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

   ```
   rlghncxa03w  05-03-01  07:05:01 GMT  EAGLE5 32.0.0
   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  05-03-01  07:05:17 GMT  EAGLE5 32.0.0
   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 system). If the system 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 system in the KSR mode, the only response you will receive that you are now able to log into the system 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 system has finished reinitializing.

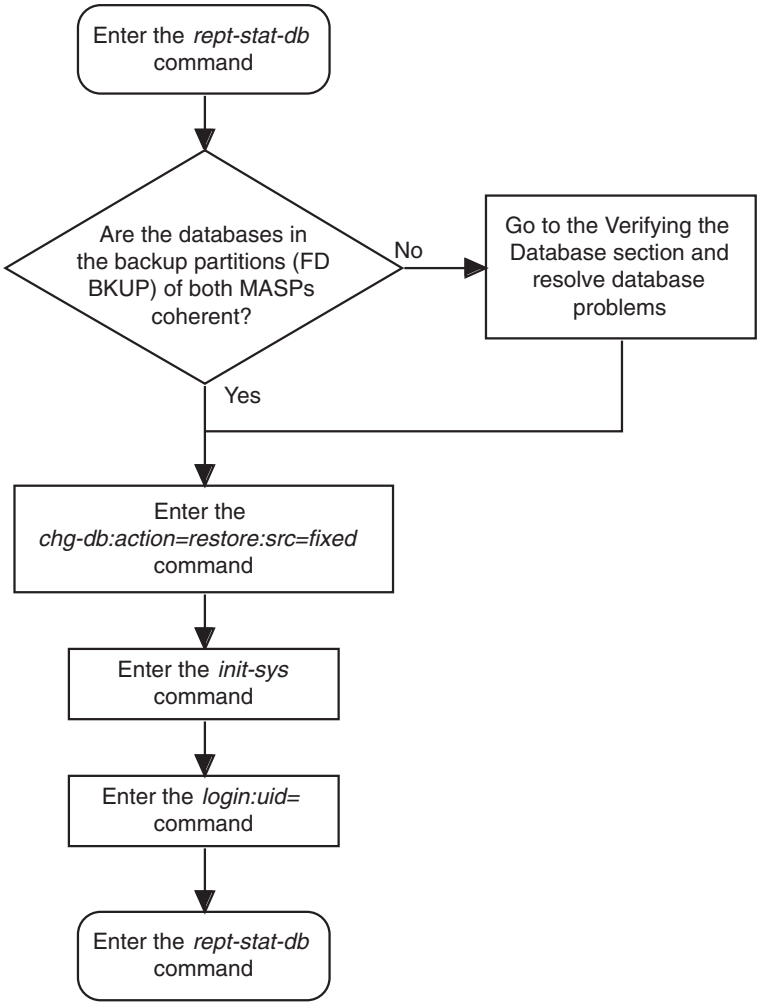
4. Log into the system using the **`login`** or **`act-user`** command. This is an example of the messages that appear when you have successfully logged onto the system.

   ```
   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 05-03-01 @ 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 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
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       35                        Y       35
        MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

Flowchart 2-3. 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, read "Verifying the Database" on page 2-10.

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 "Write Protecting the Removable Cartridge" on page 2-6.

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 system.

Procedure

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 2-9.

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 "Inserting the Removable Cartridge" on page 2-8.

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.

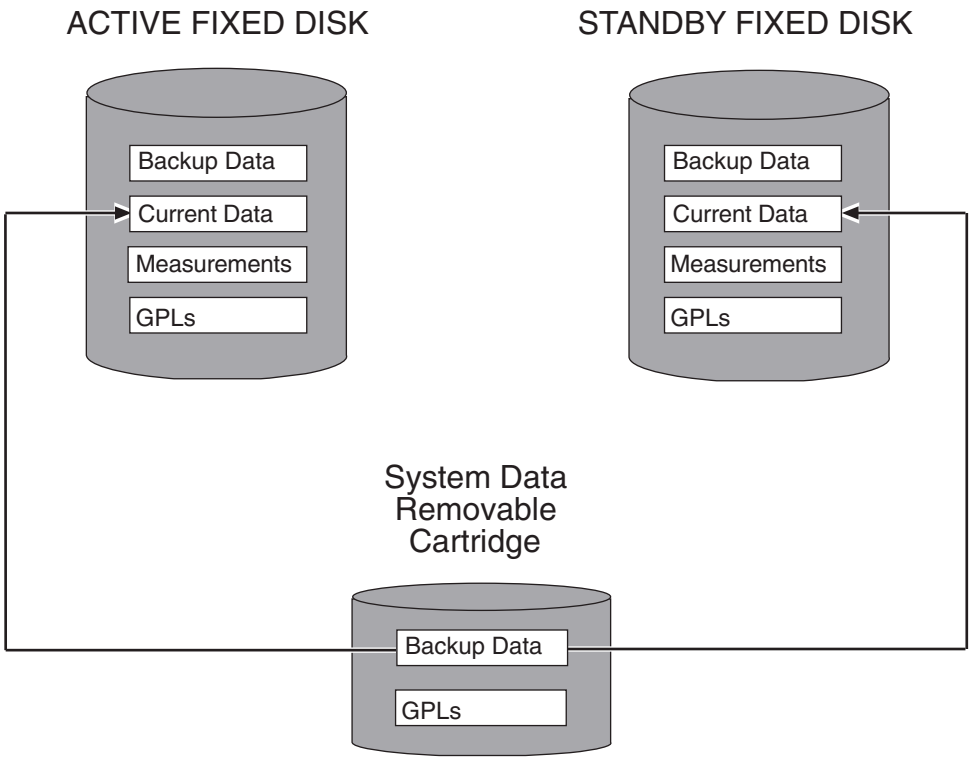
```
rlghncxa03w 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
DATABASE STATUS: >> OK <<
        TDM 1114  ( STDBY)                 TDM 1116  ( ACTV )
         C  LEVEL     TIME LAST BACKUP      C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------   - -------- ---------------------
FD BKUP  Y       35 05-03-01 10:19:18 GMT  Y       35 05-03-01 10:19:18 GMT
FD CRNT  Y       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 Tekelec Technical Services for assistance. See "Tekelec Technical Services" on page 1-6.

   The action of this command is shown in Figure 2-8.

Figure 2-8. 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.
```

CAUTION: The `init-sys` command causes a complete system reload, 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 system using the **`init-sys`** command.

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

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

   ```
   rlghncxa03w  05-03-01  07:05:01 GMT  EAGLE5 32.0.0
   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  05-03-01  07:05:17 GMT  EAGLE5 32.0.0
   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 (logging into the system). If the system 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 system in the KSR mode, the only response you will receive that you are now able to log into the system 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 system has finished reinitializing.

---

6. Log into the system using the **`login`** or **`act-user`** command.

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

   ```
   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 05-03-01 @ 09:34:56
   ```

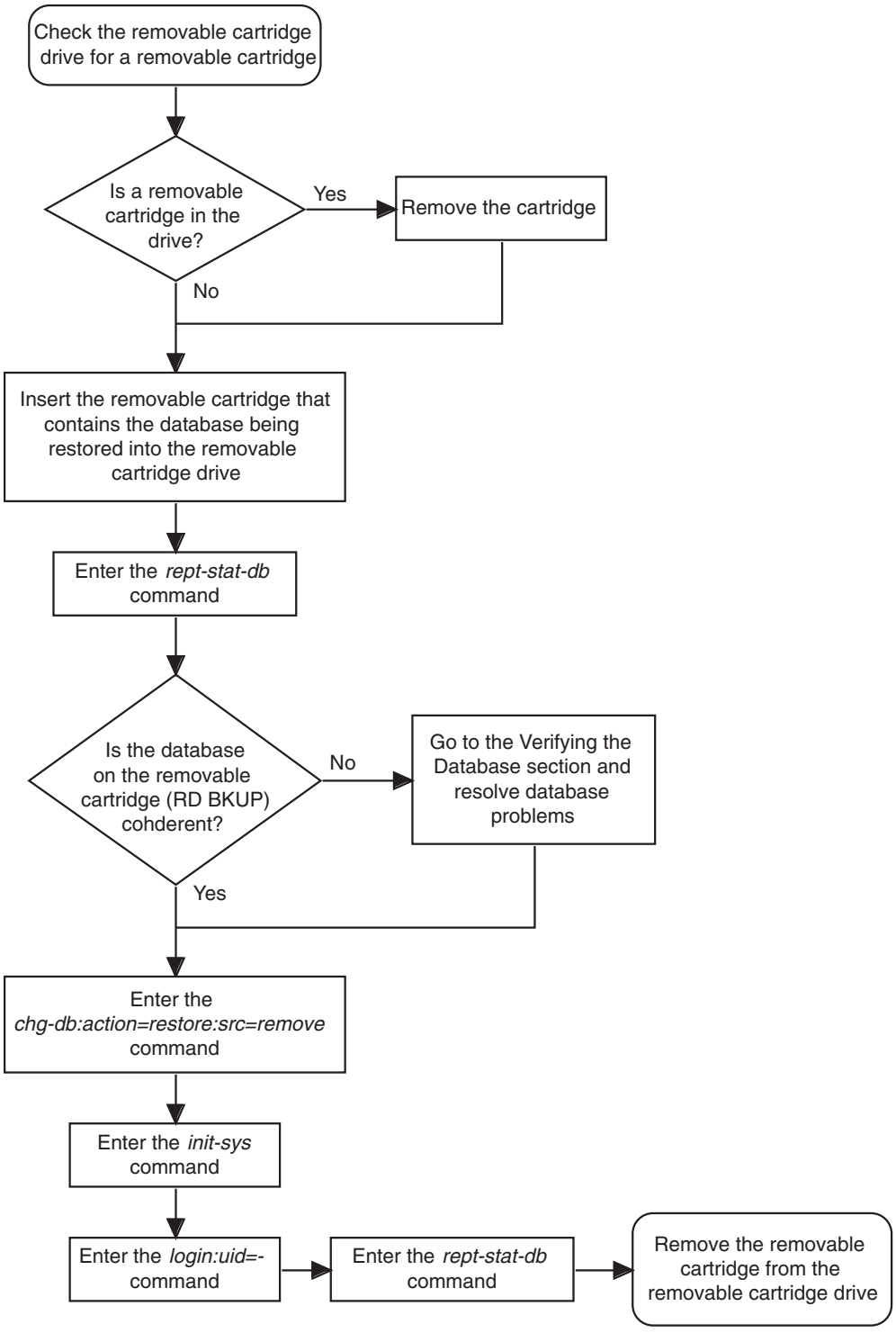
---

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 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
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 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 "Removing the Removable Cartridge" on page 2-9.

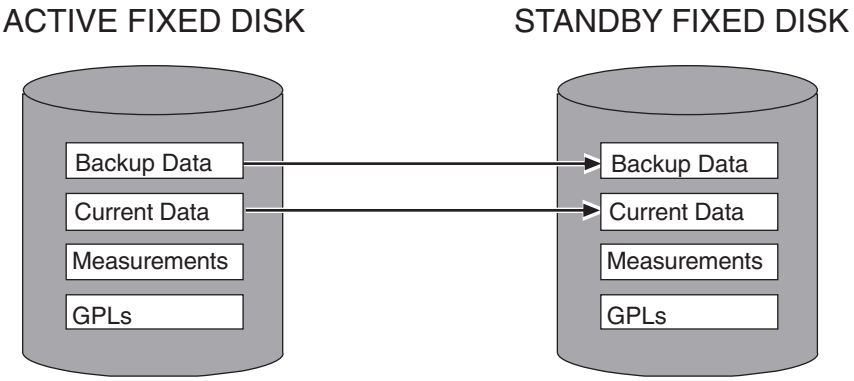
Flowchart 2-4. Restoring the Database from the Removable Cartridge



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 2-9 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 2-9. 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 "Verifying the Database" on page 2-10.

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

Procedure

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 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
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. This is an example of the possible output. In this example, the OAP terminals are terminals 6 and 9. If no OAP terminals are shown in the **rtrv-trm** command output, go to step 5.

```
rlghncxa03w  05-03-01 16:02:08 GMT EAGLE5 32.0.0
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  TRAF LINK SA  SYS PU  DB
1    NO   YES  NO  YES NO  YES
2    NO   NO   NO  NO  NO  NO
3    YES  YES  YES NO  YES YES
4    YES  NO   NO  NO  NO  NO
5    NO   YES  NO  NO  NO  NO
6    YES  YES  YES YES YES YES
7    YES  YES  YES YES YES YES
8    NO   NO   NO  NO  YES NO
9    YES  YES  YES YES YES YES
10   NO   NO   NO  NO  NO  NO
11   YES  YES  YES YES YES YES
12   YES  YES  YES YES YES YES
13   NO   YES  NO  NO  NO  NO
14   NO   NO   YES NO  NO  NO
15   YES  YES  YES NO  YES YES
16   NO   NO   NO  NO  YES 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
```

3. Display the status of the terminals with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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        -----
Command Completed.
```

4. Place the OAP terminals out of service using the **rmv-trm** command. The **force=yes** parameter must be used when placing the last OAP terminal out of service. For this example, enter these commands.

   rmv-trm:trm=6

   rmv-trm:trm=9:force=yes

   If the status of the OAP 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 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Inhibit message sent to terminal
```

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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 Tekelec Technical Services. See "Tekelec Technical Services" on page 1-6.

   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 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  N       55 05-03-01 13:11:43 GMT  Y       55 05-03-01 13:11:43 GMT
FD CRNT  N       55                        Y       55
        MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

   If OAP 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 terminals back into service with the **rst-trm** command. For this example, enter these commands.

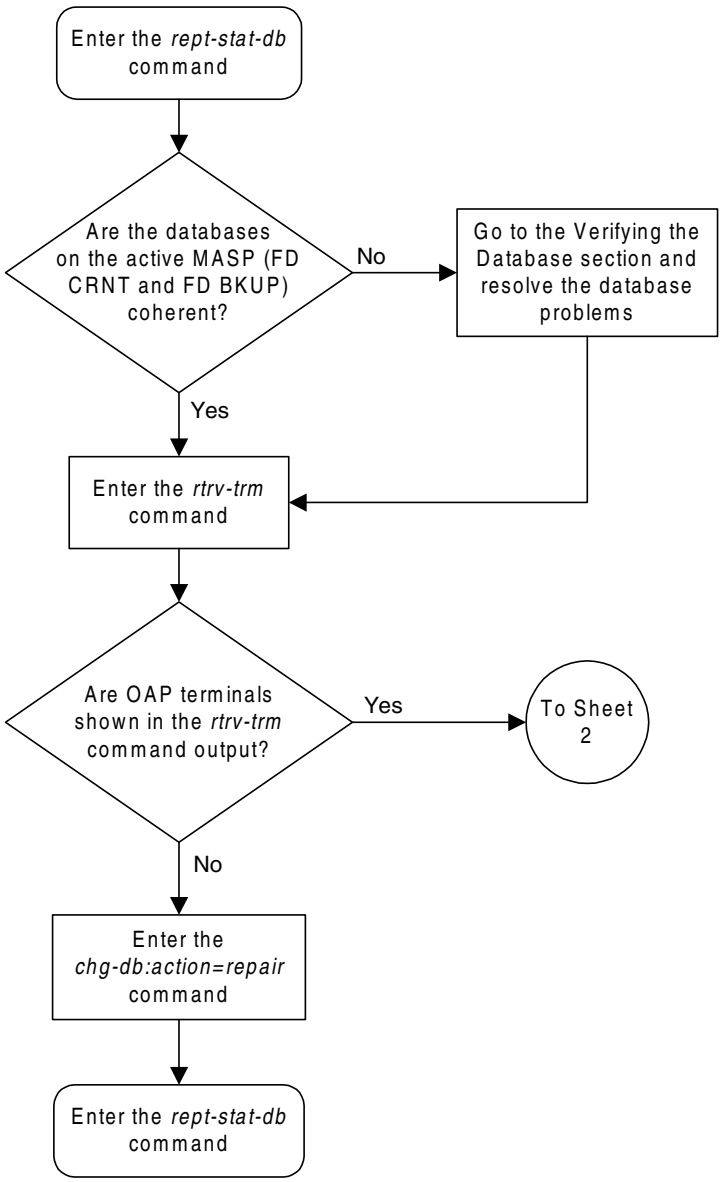
   rst-trm:trm=6

   rst-trm:trm=9

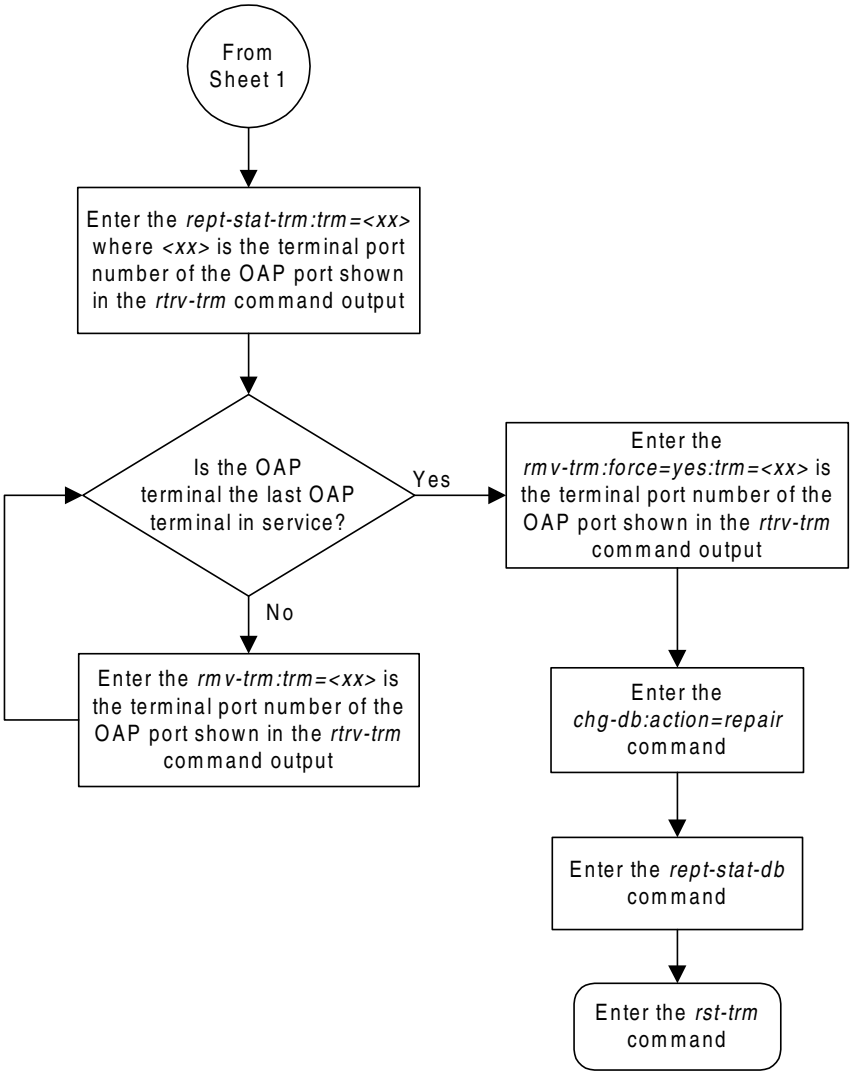
   This message should appear when each command has successfully completed.

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Allow message sent to terminal

rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Command Completed.
```

Flowchart 2-5. Repairing the Database (Sheet 1 of 2)



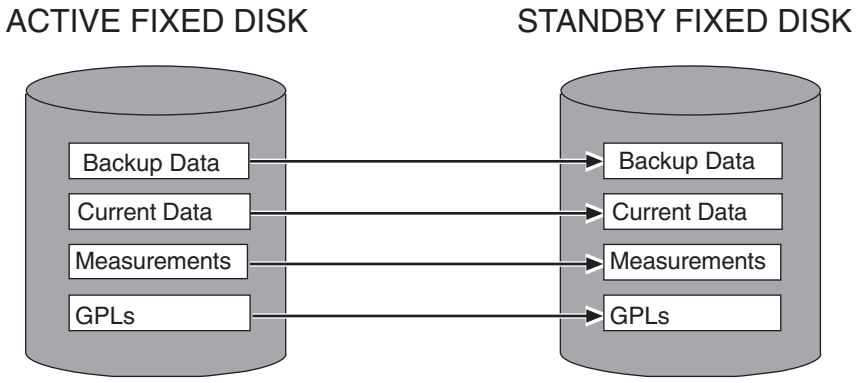
Flowchart 2-5. Repairing the Database (Sheet 2 of 2)



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 2-10 shows the action of the **copy-disk** command.

Figure 2-10. 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 Tekelec Technical Services for assistance. See "Tekelec Technical Services" on page 1-6. If the copy-disk operation without the low-level format exceeds 1.5 hours, call Tekelec Technical Services.

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 "Verifying the Database" on page 2-10. 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 terminals must be placed out of service with the rmv-trm command before executing the copy-disk command.

Procedure

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 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
DATABASE STATUS: >> NOT OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       75 05-03-01 13:11:43 GMT  Y       95 05-03-01 13:11:43 GMT
FD CRNT  N       55 DIFF LEVEL             Y      105
        MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

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 05-03-01 12:22:55 GMT EAGLE5 31.5.0
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 this step and go to step 4.

3. 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 05-03-01 16:12:50 GMT  EAGLE5 32.0.0
CHG-MEAS: MASP A - COMPLTD
```

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

```
rlghncxa03w 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
EAGLE MEASUREMENT OPTIONS LIST

Platform Enabled =on
-------------------------------------
SYSTOTSTP     =on   MTCHNP       =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 this step and step 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 05-03-01 16:43:42 GMT  EAGLE5 32.0.0

                     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 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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 05-03-01 15:59:06 GMT EAGLE5 32.0.0
             -- SINCE LAST UPLOAD --  OLDEST   NEWEST   LAST
LOC  ROLE    ENTRIES %FULL OFLO FAIL  RECORD   RECORD   UPLOAD
1114 Active  8312    84    No   No    03-12-05 05-03-01 04-05-30
                                      11:23:56 15:59:06 14:02:22

1116 Standby 693     7     No   No    03-12-05 05-03-01 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 05-03-01 15:59:06 GMT EAGLE5 32.0.0
Security log on TDM 1116 copied to file 961004s.log on TDM 1114
```

---

9. 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. This is an example of the possible output. In this example, the OAP terminals are terminals 6 and 9. If no OAP terminals are shown in the **rtrv-trm** command output, go to step 12.

```
rlghncxa03w  05-03-01 16:02:08 GMT EAGLE5 32.0.0
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  TRAF LINK SA  SYS PU  DB
1    NO   YES  NO  YES NO  YES
2    NO   NO   NO  NO  NO  NO
3    YES  YES  YES NO  YES YES
4    YES  NO   NO  NO  NO  NO
5    NO   YES  NO  NO  NO  NO
6    YES  YES  YES YES YES YES
7    YES  YES  YES YES YES YES
8    NO   NO   NO  NO  YES NO
9    YES  YES  YES YES YES YES
10   NO   NO   NO  NO  NO  NO
11   YES  YES  YES YES YES YES
12   YES  YES  YES YES YES YES
13   NO   YES  NO  NO  NO  NO
14   NO   NO   YES NO  NO  NO
15   YES  YES  YES NO  YES YES
16   NO   NO   NO  NO  YES 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
```

10. Display the status of the terminals with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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        -----
Command Completed.
```

11. Place the OAP terminals out of service using the **rmv-trm** command. The **force=yes** parameter must be used when placing the last OAP terminal out of service. For this example, enter these commands.

rmv-trm:trm=6

rmv-trm:trm=9:force=yes

If the status of the OAP terminals shown in the **PST** field in step 10 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 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Inhibit message sent to terminal

rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Command Completed.
```

12. 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 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 Tekelec Technical Services for assistance. See "Tekelec Technical Services" on page 1-6. If the copy-disk operation without the low-level format exceeds 1.5 hours, call Tekelec Technical Services.

WARNING: Failure of the copy-disk command may result in corrupted TDMs. If you experience a copy-disk command failure, call Tekelec Technical Services for assistance. See "Tekelec Technical Services" on page 1-6.

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

```
    rlghncxa03w 05-03-01 10:22:05 GMT EAGLE5 32.0.0
    copy-disk:sloc=1116:dloc=1114:force=yes
    Command entered at terminal #3.
;

    rlghncxa03w 05-03-01 10:22:06 GMT EAGLE5 32.0.0
    Copy-disk (fixed): from active (1116) to standby (1114) started.
    Extended processing required, please wait.
;

    rlghncxa03w 05-03-01 10:22:08 GMT EAGLE5 32.0.0
    Copy-disk (fixed): format of standby disk started
;

    rlghncxa03w 05-03-01 10:27:08 GMT EAGLE5 32.0.0
    Copy-disk (fixed): format in progress
;

    rlghncxa03w 05-03-01 10:32:08 GMT EAGLE5 32.0.0
    Copy-disk (fixed): format in progress
;

    rlghncxa03w 05-03-01 11:07:05 GMT EAGLE5 32.0.0
    Copy-disk (fixed): format of standby disk completed
;
```

```
    rlghncxa03w 05-03-01 11:07:06 GMT EAGLE5 32.0.0
    Copy-disk (fixed): copying to standby disk started
;

    rlghncxa03w 05-03-01 11:12:06 GMT EAGLE5 32.0.0
    Copy-disk (fixed): copy in progress
;

    rlghncxa03w 05-03-01 11:27:10 GMT EAGLE5 32.0.0
    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 05-03-01 10:22:06 GMT EAGLE5 32.0.0
    Copy-disk (fixed): from active (1116) to standby (1114) started.
    Extended processing required, please wait.
;

    rlghncxa03w 05-03-01 11:07:08 GMT EAGLE5 32.0.0
    Copy-disk (fixed): copying to standby disk started
;

    rlghncxa03w 05-03-01 11:12:06 GMT EAGLE5 32.0.0
    Copy-disk (fixed): copy in progress
;
    rlghncxa03w 05-03-01 11:17:06 GMT EAGLE5 32.0.0
    Copy-disk (fixed): copy in progress
;

    rlghncxa03w 05-03-01 11:22:06 GMT EAGLE5 32.0.0
    Copy-disk (fixed): copy in progress
;
    rlghncxa03w 05-03-01 11:27:08 GMT EAGLE5 32.0.0
    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.

NOTE: If measurement collection was not turned off in step 3, skip this step and go to step 14.

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

This message should appear.

```
rlghncxa03w 05-03-01 16:12:50 GMT  EAGLE5 32.0.0
CHG-MEAS: MASP A - COMPLTD
```

NOTE: If MCPMs were not placed out of service in step 6, skip steps 14 and 15, and go to step 16.

14. 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 05-03-01 21:20:37 GMT EAGLE5 32.0.0
    Card has been allowed.
```

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 05-03-01 16:43:42 GMT  EAGLE5 32.0.0

                     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
```

16. Verify that the databases of both MASPs are coherent using the **rept-stat-db** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
DATABASE STATUS: >> OK <<
        TDM 1114  ( STDBY)                TDM 1116  ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       95 05-03-01 05:53:36 GMT  Y       95 05-03-01 05:53:36 GMT
FD CRNT  Y      105                        Y      105
        MDAL 1117
         - --------
RD BKUP  -    -         -        -
```

If OAP terminals are shown in the **rtrv-trm** command output in step 9, go to step 17. Otherwise this procedure is completed.

17. Put the OAP terminals back into service with the **rst-trm** command. For this example, enter these commands.

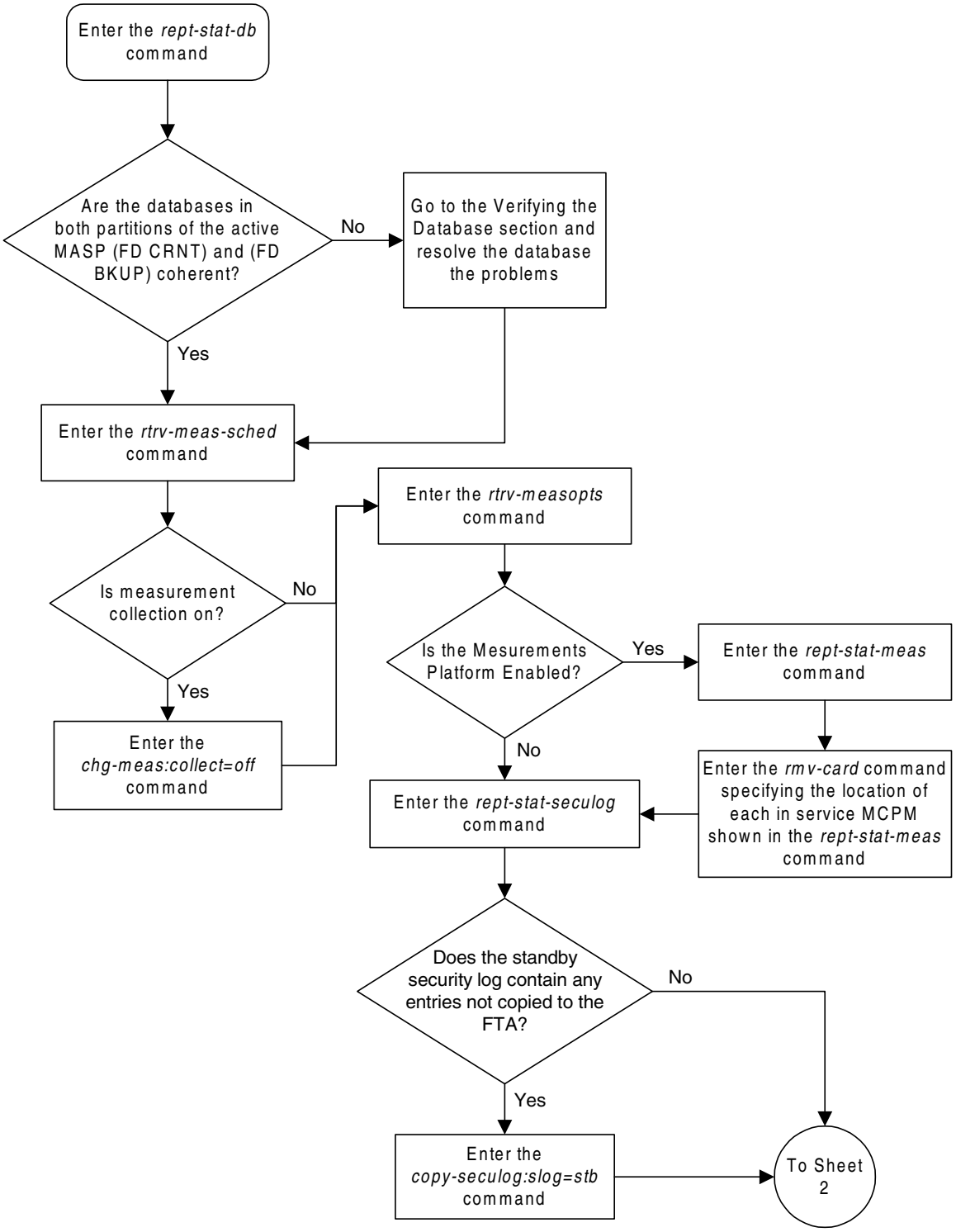
rst-trm:trm=6

rst-trm:trm=9

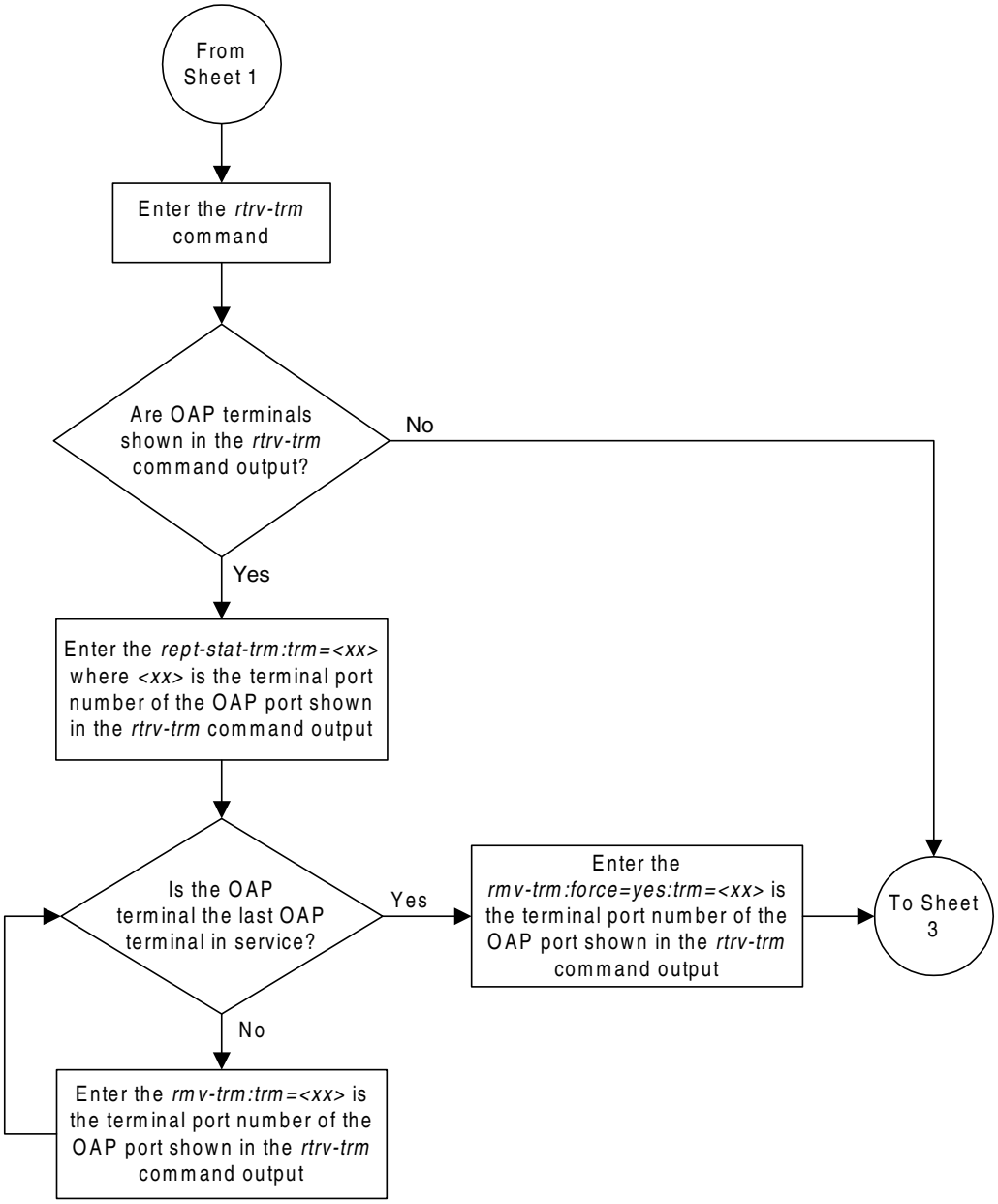
This message should appear when each command has successfully completed.

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Allow message sent to terminal

rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Command Completed.
```

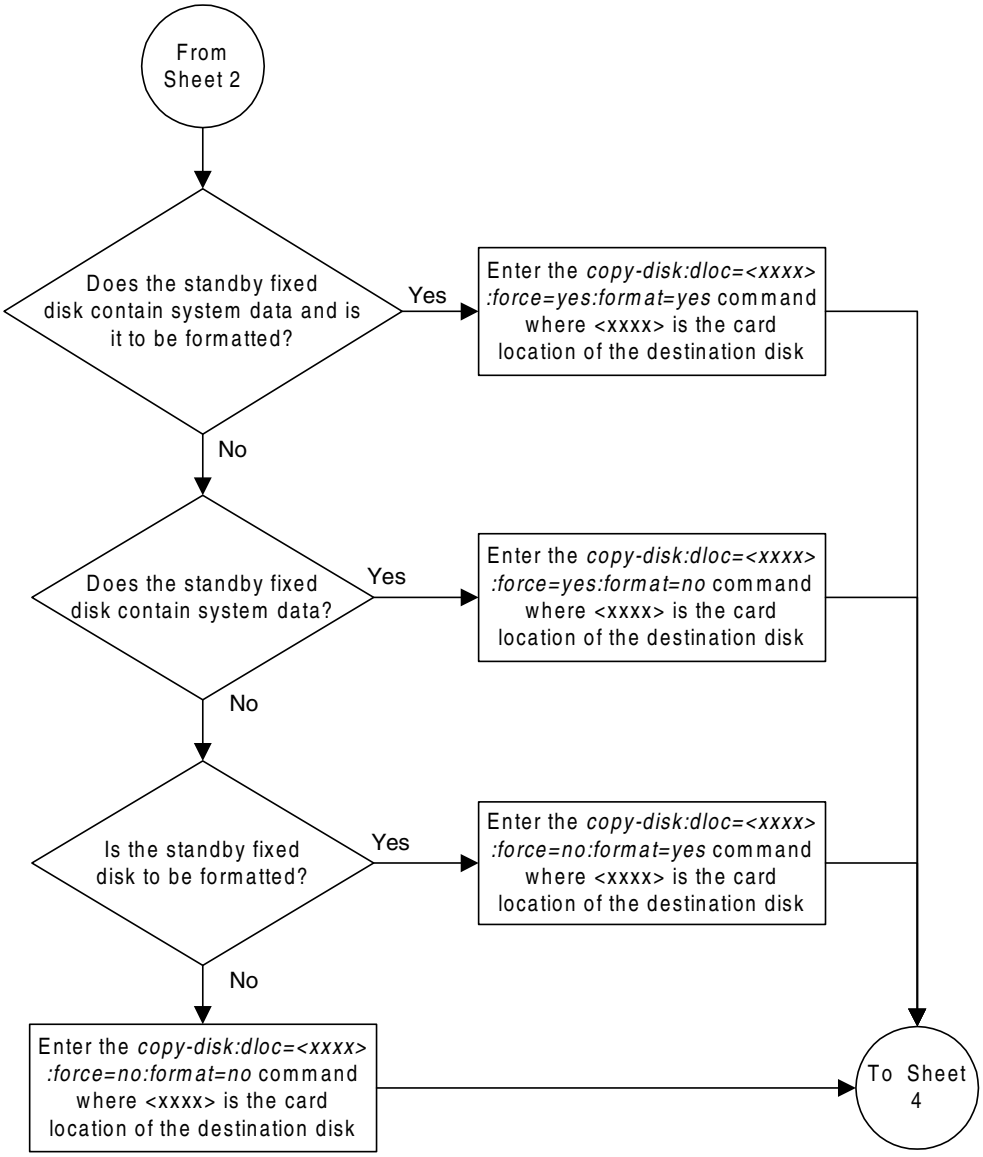
Flowchart 2-6. Copy Disk Procedure (Sheet 1 of 4)



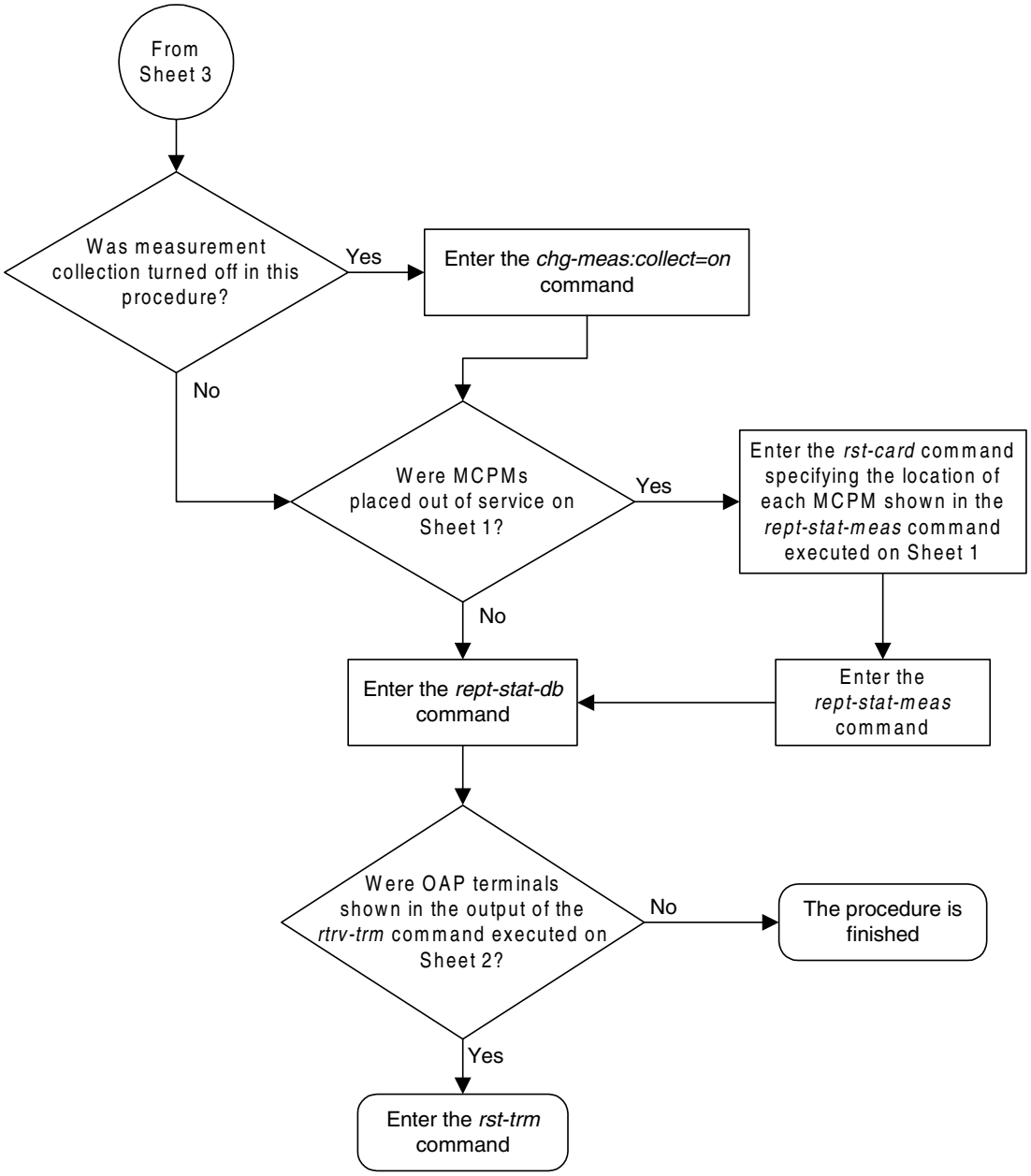
Flowchart 2-6. Copy Disk Procedure (Sheet 2 of 4)



Flowchart 2-6. Copy Disk Procedure (Sheet 3 of 4)



Flowchart 2-6. Copy Disk Procedure (Sheet 4 of 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, read "Verifying the Database" on page 2-10.

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" procedure on page 2-80 and format the cartridge. To write enable a removable cartridge, see "Write Enabling the Removable Cartridge" on page 2-7.

Procedure

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 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       95 05-03-01 05:53:36 GMT  Y       95 05-03-01 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 "Inserting the Removable Cartridge" on page 2-8.

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 05-03-01 16:09:34 GMT  EAGLE5 32.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( STDBY)                 TDM 1116 ( ACTV )
         C  LEVEL     TIME LAST BACKUP     C  LEVEL     TIME LAST BACKUP
         - -------- ---------------------  - -------- ---------------------
FD BKUP  Y       95 05-03-01 05:53:36 GMT  Y       95 05-03-01 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 05-03-01 14:50:46 GMT EAGLE5 32.0.0
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.

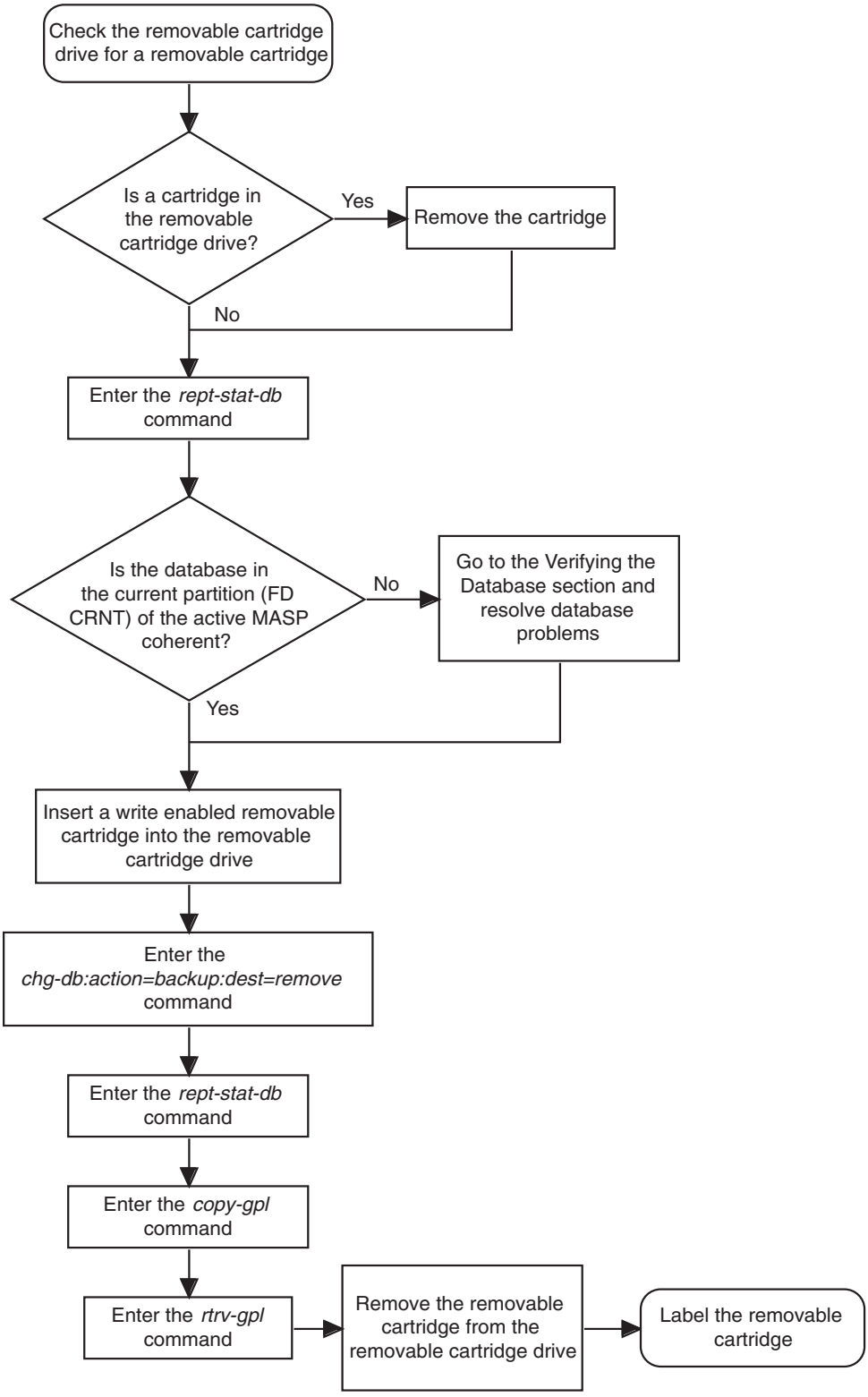
```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
GPL Auditing  ON

APPL      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  -----------
EMDC      1114  113-001-000  113-001-000      113-000-000  113-001-000
EMDC      1116  113-001-000  113-001-000      113-000-000  -----------
EBDABLM   1114  113-001-000  113-001-000      113-000-000  113-001-000
EBDABLM   1116  113-001-000  113-001-000      113-000-000  -----------
EBDADCM   1114  113-001-000  113-001-000      113-000-000  113-001-000
EBDADCM   1116  113-001-000  113-001-000      113-000-000  -----------
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      -----------  -----------
EMAP      1114  026-001-000  026-001-000      -----------  026-001-000
EMAP      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 “Removing the Removable Cartridge” on page 2-9.

---

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.

Flowchart 2-7. Backing Up System Data to 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 "Verifying the Database" on page 2-10.

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" procedure on page 4-51 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 system.

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 persistant device state table becomes obsolete and is disabled. UIM 1257 is generated.

```
rlghncxa03w 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
1234.1257    SYSTEM       INFO  DB Restore has cleared and disabled PDS
```

Procedure

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 2-9.

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 2-6.

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 "Inserting the Removable Cartridge" on page 2-8.

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 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
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          05-03-01 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          05-03-01 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 Tekelec Technical Services. See "Tekelec Technical Services" on page 1-6.

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 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
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 "Removing the Removable Cartridge" on page 2-9.

CAUTION: The init-sys command causes a complete system reload, 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 system using the **init-sys** command.

   NOTE: The init-sys command must be entered twice within 30 seconds for the system to be re-initialized. If the init-sys command is not executed twice within 30 seconds, the attempt to re-initialize the system is aborted.

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

```
rlghncxa03w  05-03-01  07:05:01 GMT  EAGLE5 32.0.0
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  05-03-01  07:05:17 GMT  EAGLE5 32.0.0
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 (logging into the system). If the system 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 system in the KSR mode, the only response you will receive that you are now able to log into the system 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 system has finished reinitializing.

---

9. Log into the system using the **login** or **act-user** command.

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

```
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 05-03-01 @ 09:34:56
```

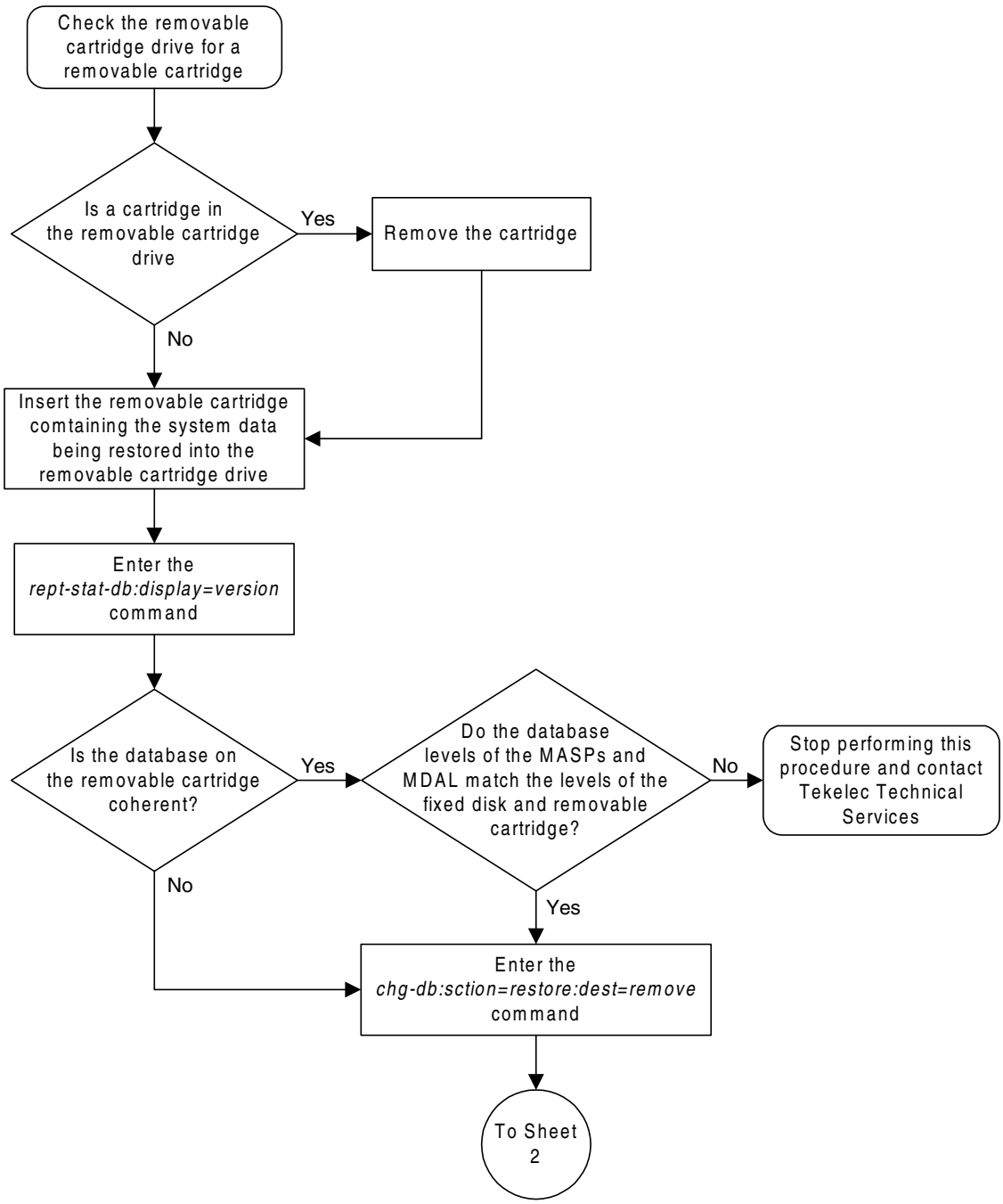
---

10. Enter the **rept-stat-db:display=all** command. This is an example of the possible output.

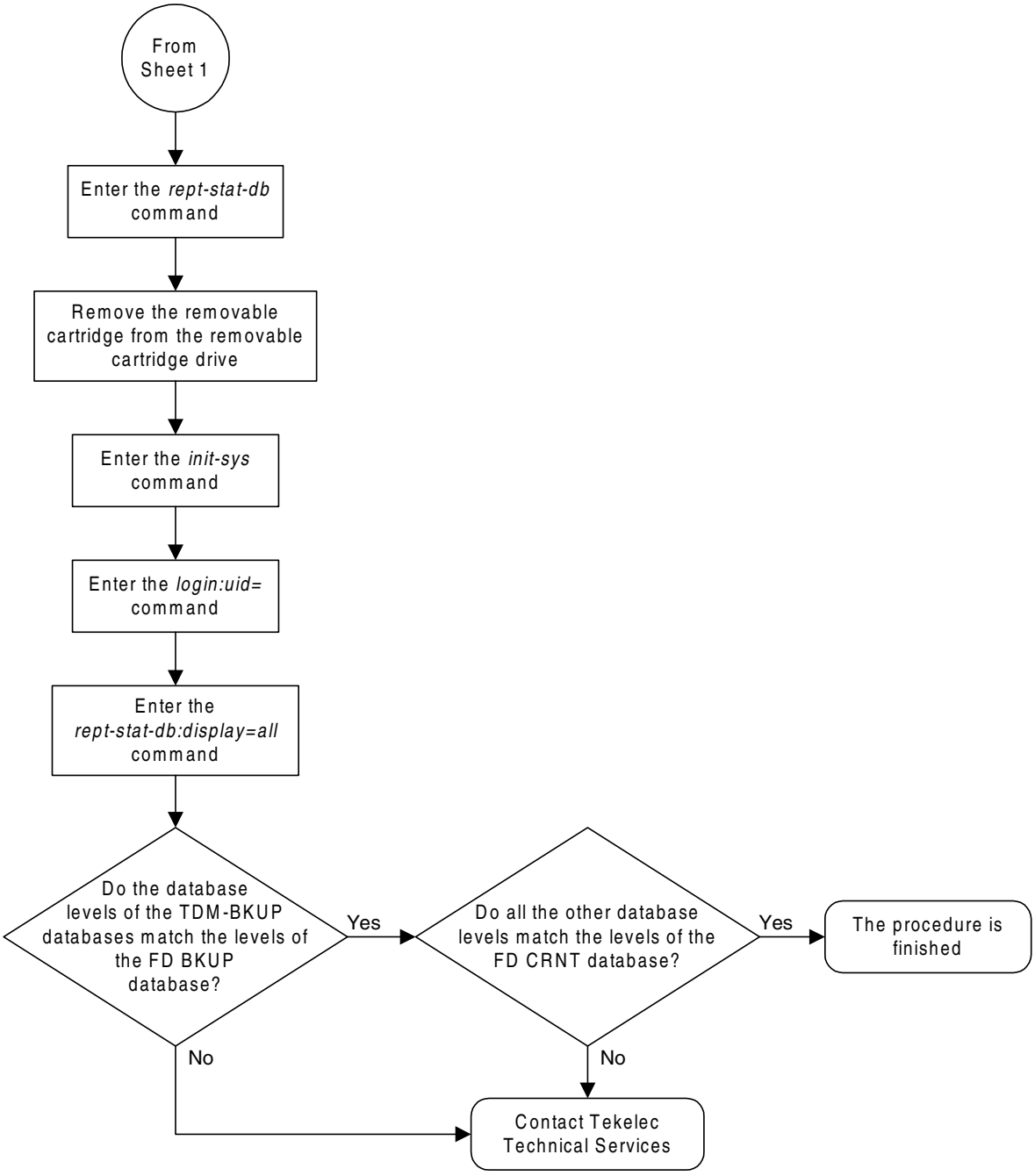
```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
DATABASE STATUS: >> OK <<
        TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
         C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
         - -------- --------------------  - -------- --------------------
FD BKUP  Y       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          05-03-01 23:15:06       -
TDM-CRNT   1114  Y  N  78          05-03-01 23:15:06       -
TDM-BKUP   1114  Y  -  74          04-05-31 21:03:21       -
TDM-CRNT   1116  Y  N  78          05-03-01 23:15:06       -
TDM-BKUP   1116  Y  -  74          04-05-31 21:03:21       -
MDAL       1117  -  -      -           -         -          -
SS7ANSI    1201  Y  N  78          05-03-01 23:15:06       -
SS7ANSI    1203  Y  N  78          05-03-01 23:15:06       -
SS7ANSI    1205  Y  N  78          05-03-01 23:15:06       -
CCS7ITU    1207  Y  N  78          05-03-01 23:15:06       -
CCS7ITU    1211  Y  N  78          05-03-01 23:15:06       -
ATMANSI    1217  Y  N  78          05-03-01 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 Tekelec Technical Services. See "Tekelec Technical Services" on page 1-6.

Flowchart 2-8. Restoring System Data (Sheet 1 of 2)



Flowchart 2-8. Restoring System Data (Sheet 2 of 2)



Formatting a Removable Cartridge

Use this procedure to prepare a new removable cartridge for use on the system 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" procedure on page 2-92.

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

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

> **NOTE: Reduce extended execution time when using 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, read "Verifying the Database" on page 2-10.

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 "Write Enabling the Removable Cartridge" on page 2-7.

Procedure

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 3. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

2. 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 "Write Enabling the Removable Cartridge" on page 2-7 to write enable the removable cartridge. Insert the removable cartridge in the removable cartridge drive and go to step 3.

3. 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 "Inserting the Removable Cartridge" on page 2-8.

   For more information on write enabling the removable cartridge, see "Write Enabling the Removable Cartridge" on page 2-7.

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 05-03-01 16:11:34 GMT  EAGLE5 32.0.0
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 04-05-31 16:09:53 GMT
```

   If the current database on the active MASP is not coherent, go to the "Verifying the Database" section on page 2-10 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 05-03-01 12:22:55 GMT EAGLE5 31.5.0
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 this step 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 05-03-01 16:12:50 GMT  EAGLE5 32.0.0
CHG-MEAS: MASP A - COMPLTD
```

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

```
rlghncxa03w 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
EAGLE MEASUREMENT OPTIONS LIST

Platform Enabled =on
-------------------------------------
SYSTOTSTP     =on   MTCHNP       =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 this step and step 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 05-03-01 16:43:42 GMT  EAGLE5 32.0.0

                     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 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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 `yes`, this command will perform a low level format of the removable cartridge. If you do not wish to perform a low level format of the removable cartridge, the `low=no` 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 05-03-01 09:44:08 GMT  EAGLE5 32.0.0
    format-disk:type=system
    Command entered at terminal #3.
;

    rlghncxa03w 05-03-01 09:44:08 GMT  EAGLE5 32.0.0
    Format-disk of system removable cartridge started.
;

    rlghncxa03w 05-03-01 09:44:08 GMT  EAGLE5 32.0.0
    Format-disk (removable cartridge) format in progress.
;

    rlghncxa03w 05-03-01 09:44:08 GMT  EAGLE5 32.0.0
    Format-disk (removable cartridge) format in progress.
;

    rlghncxa03w 05-03-01 09:44:08 GMT  EAGLE5 32.0.0
    Format-disk (removable cartridge) format is complete.
;

    rlghncxa03w 05-03-01 09:44:08 GMT  EAGLE5 32.0.0
    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 `yes`, this command will perform a low level format of the removable cartridge. If you do not wish to perform a low level format of the removable cartridge, the `low=no` 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 05-03-01 09:44:08 GMT  EAGLE5 32.0.0
    format-disk:type=system
    Command entered at terminal #3.
;

    rlghncxa03w 05-03-01 09:44:08 GMT  EAGLE5 32.0.0
    Format-disk of measurements removable cartridge started.
;

    rlghncxa03w 05-03-01 09:44:08 GMT  EAGLE5 32.0.0
    Format-disk (removable cartridge) format in progress.
;

    rlghncxa03w 05-03-01 09:44:08 GMT  EAGLE5 32.0.0
    Format-disk (removable cartridge) format in progress.
;

    rlghncxa03w 05-03-01 09:44:08 GMT  EAGLE5 32.0.0
    Format-disk (removable cartridge) format is complete.
;

    rlghncxa03w 05-03-01 09:44:08 GMT  EAGLE5 32.0.0
    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 this step and step 14, and go to step 15.

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

This message should appear.

```
rlghncxa03w 05-03-01 16:12:50 GMT  EAGLE5 32.0.0
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 05-03-01 12:22:55 GMT EAGLE5 31.5.0
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 this step and step 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

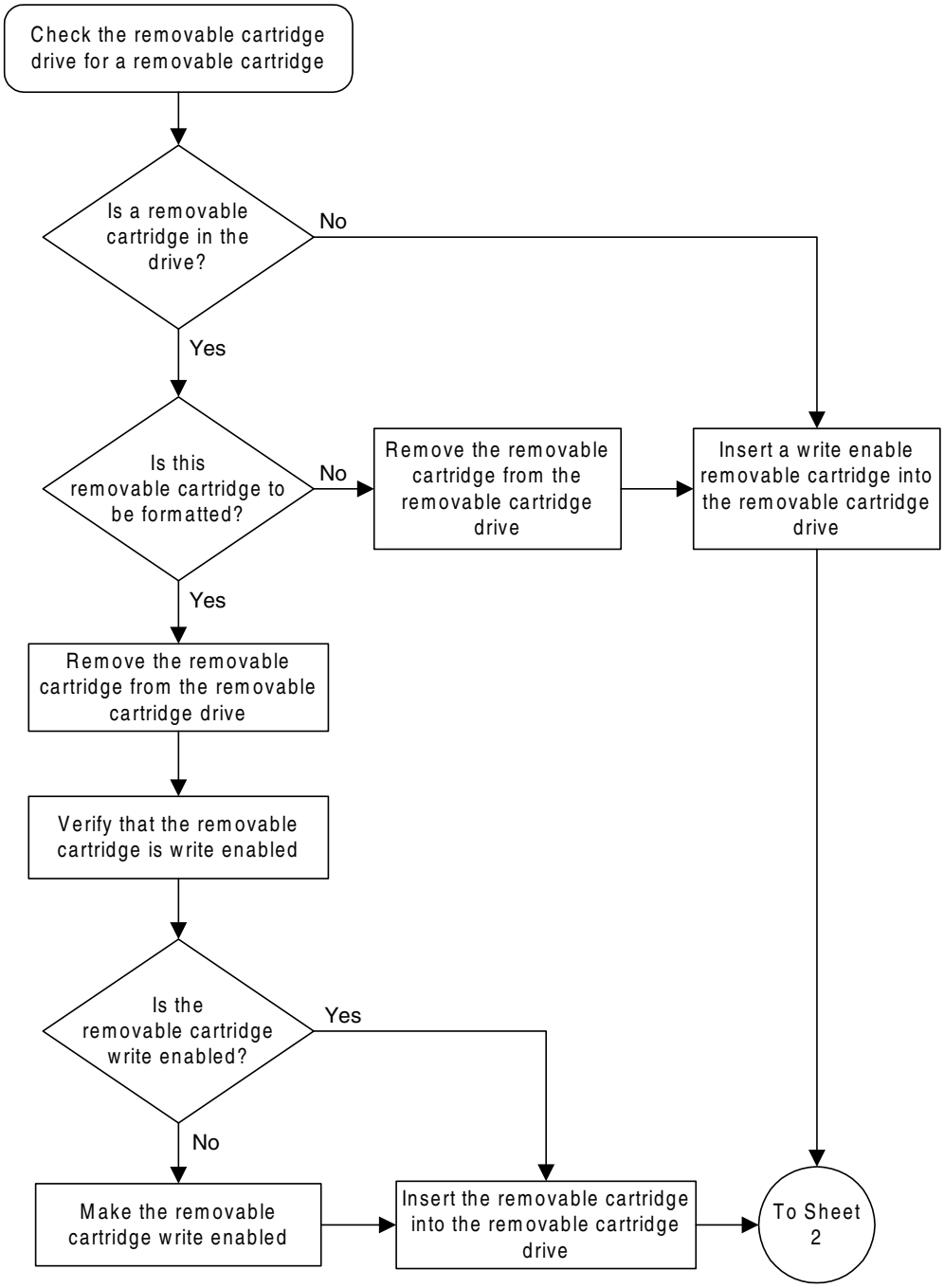
When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 05-03-01 21:20:37 GMT EAGLE5 32.0.0
    Card has been allowed.
```

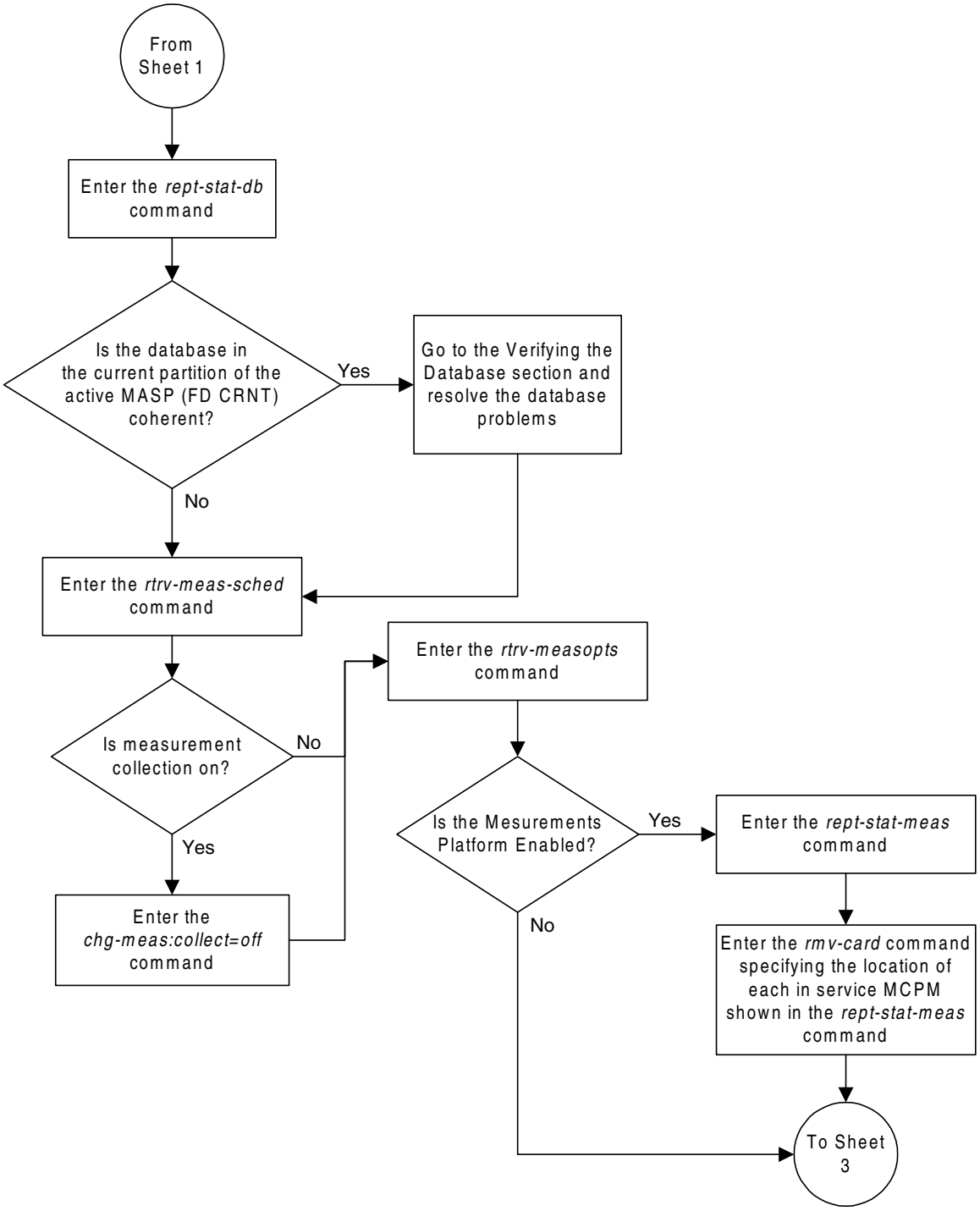
16. Display the status of the MCPMs in the database with the **rept-stat-meas** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 16:43:42 GMT  EAGLE5 32.0.0

                     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
```

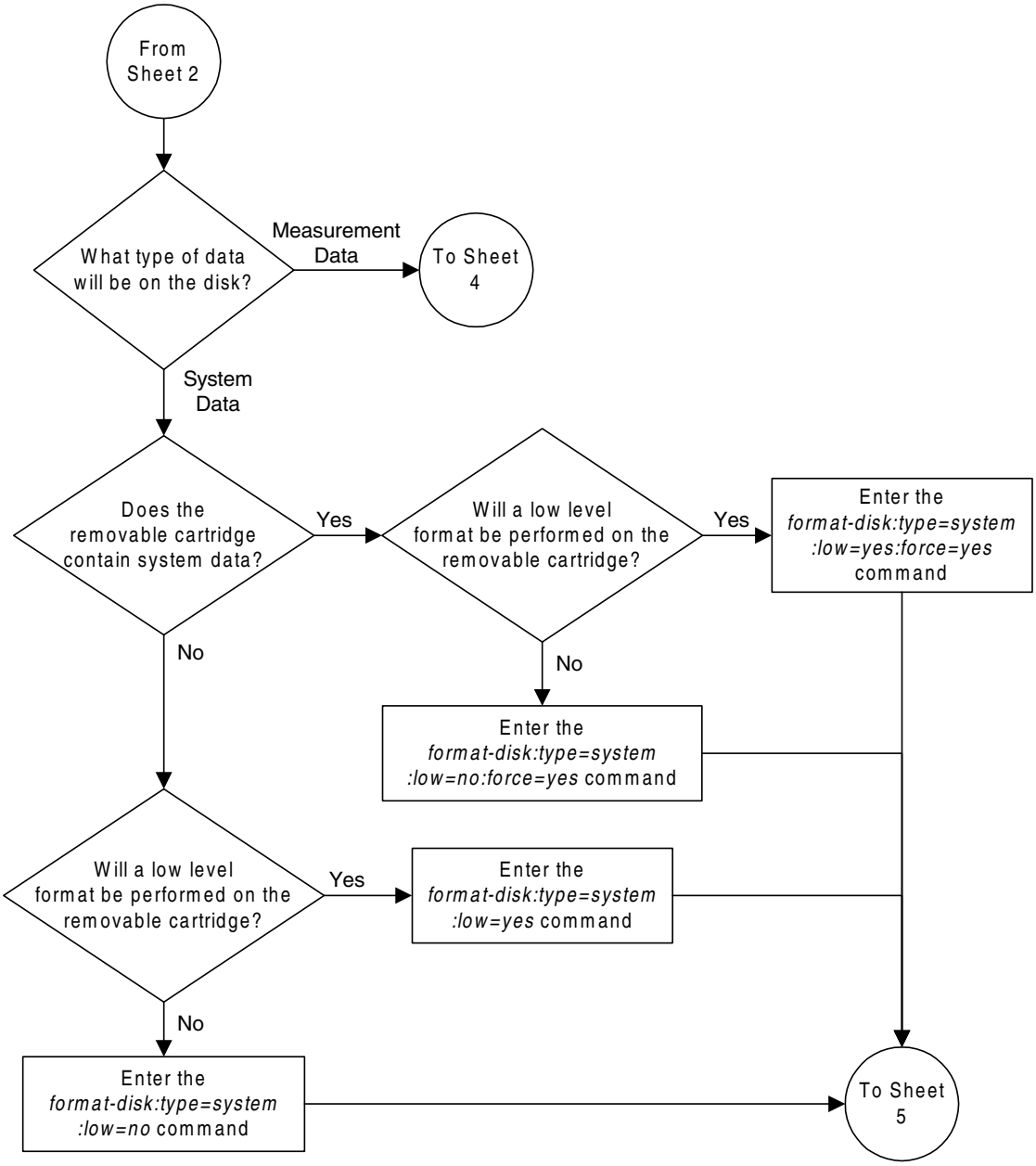
Flowchart 2-9. Formatting the Removable Cartridge (Sheet 1 of 5)



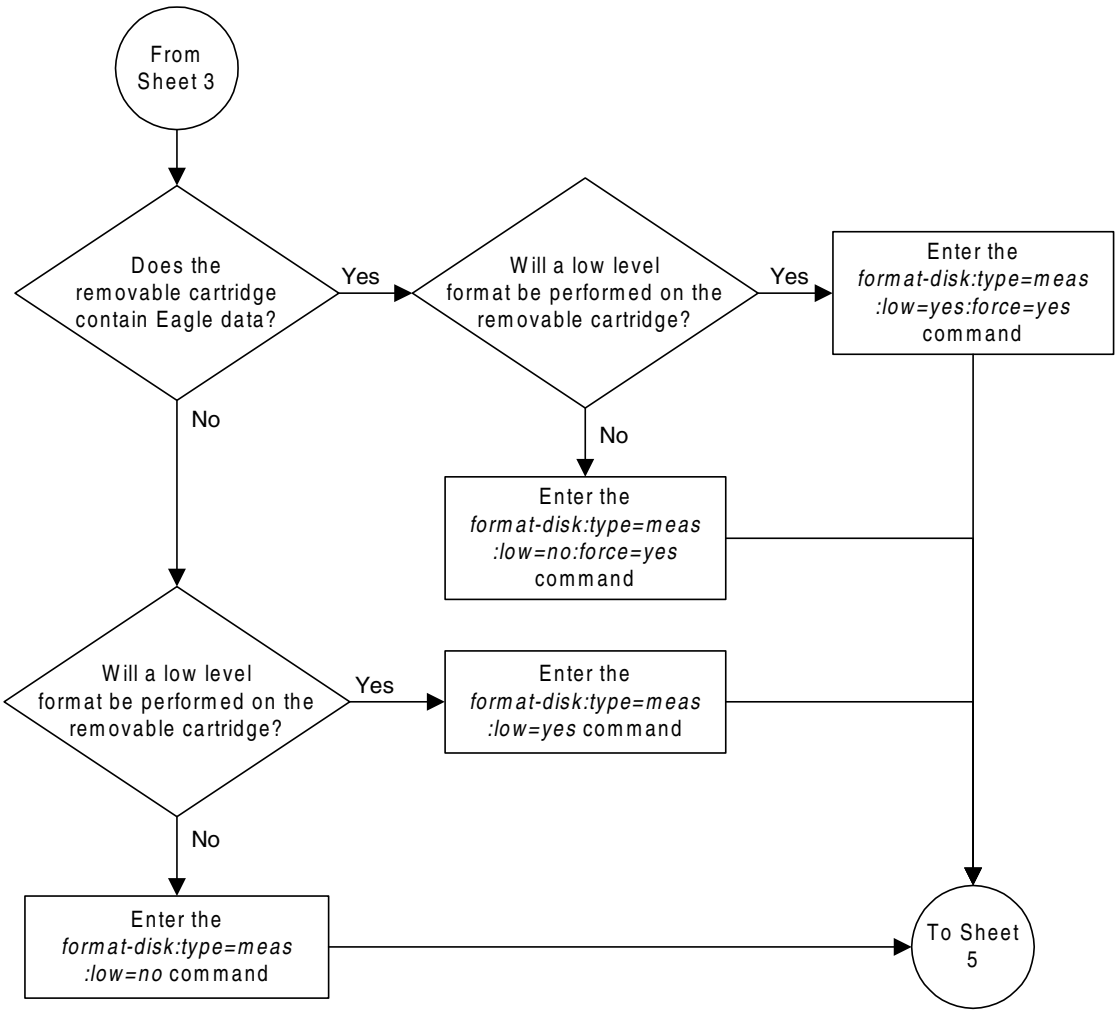
Flowchart 2-9. Formatting the Removable Cartridge (Sheet 2 of 5)



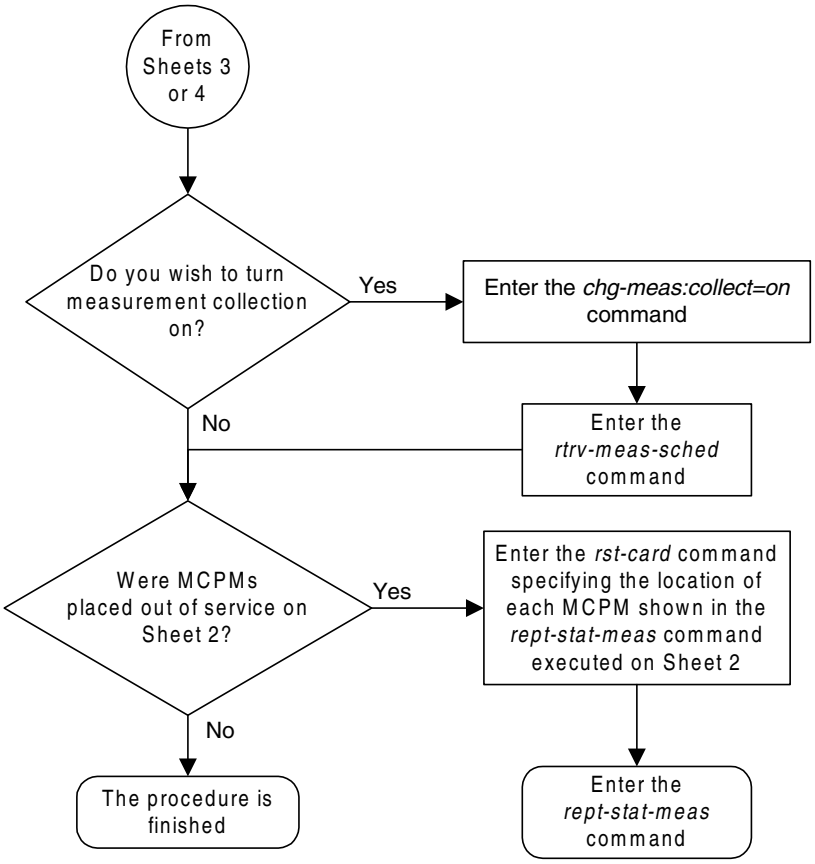
Flowchart 2-9. Formatting the Removable Cartridge (Sheet 3 of 5)



Flowchart 2-9. Formatting the Removable Cartridge (Sheet 4 of 5)



Flowchart 2-9. Formatting the Removable Cartridge (Sheet 5 of 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. To format a removable cartridge, go to the "Formatting a Removable Cartridge" procedure on page 2-80.

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.

  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 **yes**.

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

NOTE: Reduce extended execution time when using 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, read "Verifying the Database" on page 2-10.

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.

Procedure

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 05-03-01 16:11:34 GMT  EAGLE5 32.0.0
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  - -------- --------------------
```

   If the current database on the active MASP is not coherent, go to the "Verifying the Database" section on page 2-10 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 05-03-01 12:22:55 GMT EAGLE5 31.5.0
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 this step 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 05-03-01 16:12:50 GMT  EAGLE5 32.0.0
CHG-MEAS: MASP A - COMPLTD
```

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

```
rlghncxa03w 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
EAGLE MEASUREMENT OPTIONS LIST

Platform Enabled =on
-------------------------------------
SYSTOTSTP     =on   MTCHNP       =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 this step and step 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 05-03-01 16:43:42 GMT  EAGLE5 32.0.0

                     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 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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 05-03-01 15:59:06 GMT EAGLE5 32.0.0
             -- SINCE LAST UPLOAD --  OLDEST   NEWEST   LAST
LOC  ROLE    ENTRIES %FULL OFLO FAIL  RECORD   RECORD   UPLOAD
1114 Active  8312    84    No   No    03-12-05 05-03-01 04-05-30
                                      11:23:56 15:59:06 14:02:22

1116 Standby 693     7     No   No    03-12-05 05-03-01 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 05-03-01 15:59:06 GMT EAGLE5 32.0.0
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: 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.

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 yes, the low parameter can be omitted when entering the format-disk command to perform a low level format of 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.

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 05-03-01 09:44:08 GMT  EAGLE5 32.0.0
    format-disk:type=fixed:low=no:force=yes
    Command entered at terminal #3.
;
    rlghncxa03w 05-03-01 09:44:08 GMT  EAGLE5 32.0.0
    Format-disk of standby fixed disk started.
    Extended processing required, please wait.
;
    rlghncxa03w 05-03-01 09:44:08 GMT  EAGLE5 32.0.0
    Format-disk (fixed) format in progress.
;

    rlghncxa03w 05-03-01 09:44:08 GMT  EAGLE5 32.0.0
    Format-disk (fixed) format is complete.
;
    rlghncxa03w 05-03-01 09:44:08 GMT  EAGLE5 32.0.0
    Format-disk of standby fixed disk completed.
    Measurements collection may be turned on now if desired.
```

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

NOTE: If measurement collection was not turned off in step 3, skip this step and step 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 05-03-01 16:12:50 GMT  EAGLE5 32.0.0
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 05-03-01 12:22:55 GMT EAGLE5 31.5.0
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 6, skip this step 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

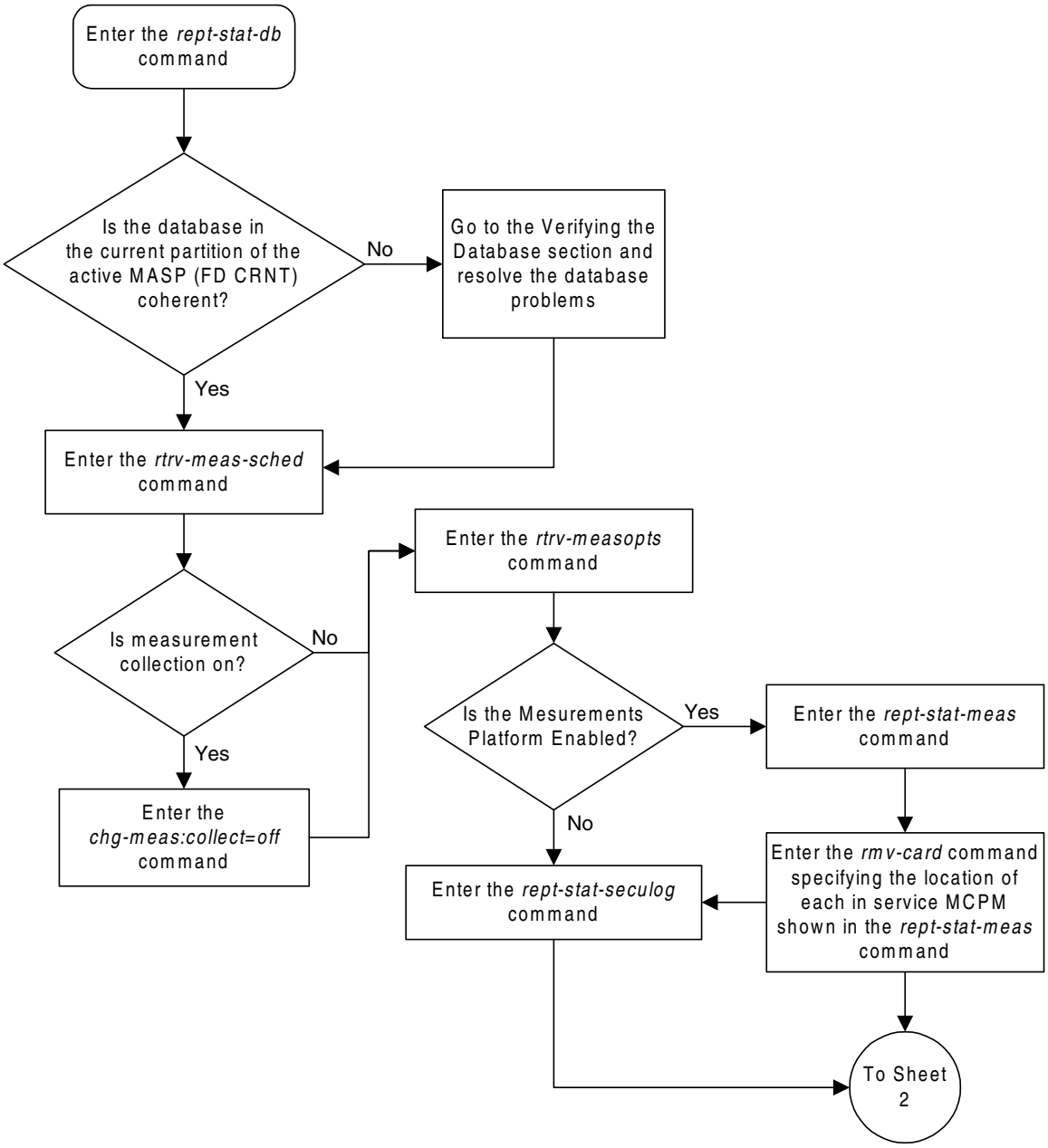
When each of these commands have successfully completed, this message should appear.

```
rlghncxa03w 05-03-01 21:20:37 GMT EAGLE5 32.0.0
Card has been allowed.
```

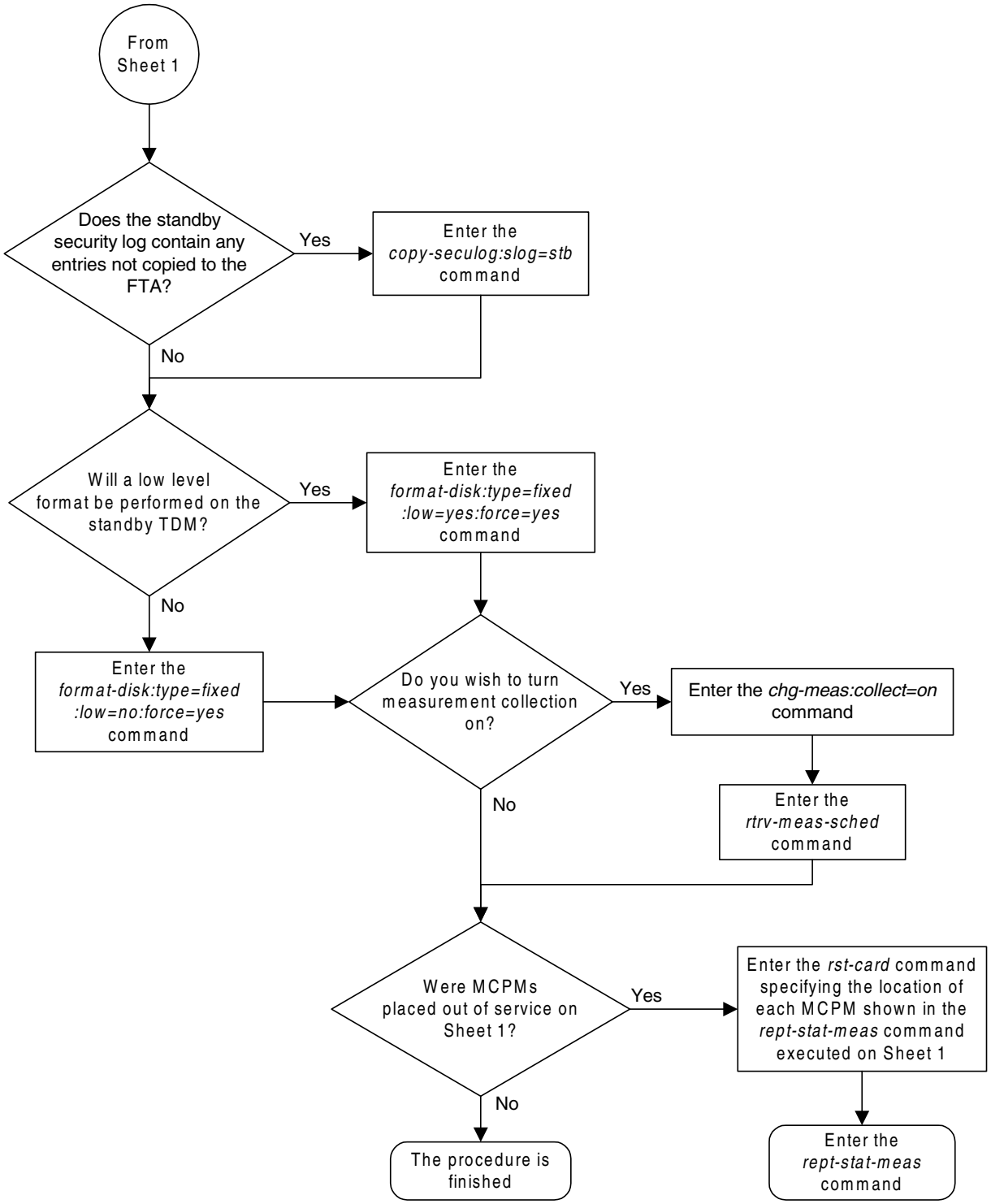
13. Display the status of the MCPMs in the database with the **rept-stat-meas** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 16:43:42 GMT  EAGLE5 32.0.0

                     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
```

Flowchart 2-10. Formatting the Fixed Disk of the Standby TDM (Sheet 1 of 2)



Flowchart 2-10. Formatting the Fixed Disk of the Standby TDM (Sheet 2 of 2)



3

GPL Management Procedures

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Introduction

The GPLs are the application software that allow the various features in the system to work. The system currently uses these GPLs:

- ATMANSI – The application software used for high-speed ANSI ATM signaling links.
- ATMITU – The application software used for high-speed E1 ATM signaling links.
- BPHCAP – The communcation software used in place of the IMT GPL on the LIMATM and E1 ATM.
- BPHCAPT – The communcation software used in place of the IMT GPL on the newer versions of the LIMATM and E1 ATM.
- BPDCM – The communcation 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).
- BPHMUX – The communcation software used on the High Speed Multiplexer (HMUX) card.
- BPMPL – The communcation software used in place of the IMT GPL on the Multi-Port LIM (MPL).
- BPMPLT – The communcation software used in place of the IMT GPL on the Multi-Port LIM-T (MPLT) and the E1/T1 MIM.
- CCS7ITU – The application software used for CCS7ITU signaling links.
- EBDABLM – The application software used by the TSM or DSM to store the LNP database downloaded from the LSMS for the Enhanced Bulk Download feature. This GPL does not support 24-bit ITU-N point codes.
- EBDADCM – The application software used by the DCM to transmit the LSMS LNP database at high speed over an Ethernet connection for the Enhanced Bulk Download feature. This GPL does not support 24-bit ITU-N point codes.
- EMDC – The application software used by the DCM for the CMIP/OSI measurement collection interface as defined by Bellcore GR-376.
- EMAP – The application software running on the EOAP used for the GR-376 feature.
- EOAM – The application software used by the GPSM-II card for enhanced OAM functions.
- EROUTE – The application software used on the STC (Sentinel Transport Card) for the Eagle with Integrated Sentinel feature. The Sentinel product does not support 24-bit ITU-N point codes.

- GLS – The application software used for the gateway screening feature.
- IMT – The communication software that operates the IMT bus on all cards except the LIMATM, DCM, DSM, and HMUX.
- IPLIM – The application software used for TCP/IP point-to-point ANSI connectivity.
- IPGWI – The application software used for TCP/IP point-to-multipoint connectivity within an ITU-I or ITU-N network.
- IPLIMI – The application software used for TCP/IP point-to-point ITU connectivity.
- IPS – The application software used for the IP User Interface and FTP Retrieve and Replace features.
- MCP – The application software used on the MCPM (Measurement Collection & Polling Module) for the Measurments Platform feature.
- OAP – The application software running on the OAP used for the SEAS and LNP features. The LNP feature can be enabled only for a quantity of 2 to 12 million numbers. This GPL does not support 24-bit ITU-N point codes.
- SCCP – The application software used for the global title translation and LNP features. The LNP feature can be enabled only for a quantity of 2 to 12 million numbers.
- SS7ANSI – The application software used for SS7 signaling links.
- SS7GX25 – The application software used for X.25 signaling links. This GPL does not support 24-bit ITU-N point codes.
- SS7IPGW – The application software used for TCP/IP point-to-multipoint connectivity within an ANSI network.
- SS7ML – The application software 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.
- STPLAN – The application software used by the ACM for the STP LAN feature. This GPL does not support 24-bit ITU-N point codes.
- UTILITY – The application software used by the factory for testing and has no use in the field.
- VSCCP – The application software used for the global title translation, LNP, GFLEX, INP, G-PORT, and EIR features.
- VXWSLAN – The application software used by the DCM for the STP LAN feature. This GPL does not support 24-bit ITU-N point codes.

Managing GPLs

Managing these GPLs consists of loading them onto the system from a removable cartridge, downloading these GPLs to the appropriate cards in the system, 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 system is not running.

The approved GPL is the GPL that the system 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 system 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 system. The GPLs are loaded onto the system from a removable cartridge. To get the GPLs from the removable cartridge onto the system 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:

`appl` – the GPL being loaded onto the system

`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 system, the **`appl`** 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 or EMAP GPLs. The **`ver`** parameter is not required when loading any of these GPLs.

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:

appl – the GPL being loaded onto the system

ver – the version number of the GPL

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

- OAP
- EMAP
- 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 system. 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:

- **APPL** – 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.

```
APPL     CARD   RUNNING          APPROVED      TRIAL
SS7ANSI  1201   123-002-000      123-002-000   123-001-000
```

The example **rept-stat-gpl** output shows that the card in slot 1201 is running the SS7ANSI GPL, version number 123-002-000, which is also the approved version of the SS7ANSI GPL. The trial version number of the SS7ANSI GPL is 123-001-000.

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

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

```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
APPL      CARD      RUNNING            APPROVED      TRIAL
EOAM      1113      123-002-000       123-002-000   -----------
EOAM      1115      123-002-000       123-002-000   -----------
SCCP      1212      123-001-000       123-001-000   123-001-000
VSCCP     1103      123-001-000       123-001-000   123-001-000
SS7ANSI   1201      123-002-000       123-002-000   123-001-000
SS7ANSI   1202      123-002-000       123-002-000   123-001-000
SS7ANSI   1203      123-002-000       123-002-000   123-001-000
SS7ML     1204      123-002-000       123-002-000   123-001-000
SS7ANSI   1205      123-002-000       123-002-000   123-001-000
CCS7ITU   1301      123-001-000       123-001-000   123-001-000
CCS7ITU   1302      123-001-000       123-001-000   123-001-000
IPLIM     1303      123-001-000       123-001-000   123-001-000
ATMANSI   1305      123-001-000       123-001-000   123-001-000
SS7IPGW   1307      123-001-000       123-001-000   123-001-000
ATMANSI   1311      123-001-000       123-001-000   123-001-000
SS7IPGW   2101      123-002-000       123-002-000   123-003-000
EMDC      2103      123-002-000       123-002-000   123-003-000
EMDC      2105      123-002-000       123-002-000   123-002-000
VXWSLAN   2113      123-002-000       123-002-000   123-003-000
VXWSLAN   2205      123-002-000       123-002-000   123-003-000
VXWSLAN   2207      123-002-000       123-002-000   123-003-000
VXWSLAN   2213      123-002-000       123-002-000   123-003-000
IPLIM     2301      123-002-000       123-002-000   123-003-000
IPLIM     2303      123-002-000       123-002-000   123-003-000
IPLIM     2305      123-002-000       123-002-000   123-003-000
IPLIM     2307      123-002-000       123-002-000   123-003-000
EROUTE    2311      123-002-000       123-002-000   123-003-000
EROUTE    2313      123-002-000       123-002-000   123-003-000
EROUTE    2315      123-002-000       123-002-000   123-003-000
MCP       2317      123-002-000       123-002-000   123-003-000
MCP       3101      123-002-000       123-002-000   123-003-000
MCP       3103      123-002-000       123-002-000   123-003-000
OAP          A      028-001-000       028-001-000   -----------
OAP          B      028-001-000       028-001-000   -----------
EMAP         A      026-015-000       026-015-000   -----------
EMAP         B      026-015-000       026-015-000   -----------
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:appl=ss7ansi** command is entered, then all cards running the SS7ANSI GPL are displayed as shown in the following example.

```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
APPL      CARD      RUNNING            APPROVED      TRIAL
SS7ANSI   1201      123-002-000        123-002-000   123-001-000
SS7ANSI   1202      123-002-000        123-002-000   123-001-000
SS7ANSI   1203      123-002-000        123-002-000   123-001-000
SS7ANSI   1205      123-002-000        123-002-000   123-001-000
```

```
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:appl=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:appl=bpdcm** command.

```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
APPL      CARD      RUNNING            APPROVED      TRIAL
BPDCM     1303      002-002-000        002-002-000   002-003-000
BPDCM     1307      002-002-000        002-002-000   002-003-000
BPDCM     2101      002-002-000        002-002-000   002-003-000
BPDCM     2103      002-002-000        002-002-000   002-003-000
BPDCM     2105      002-002-000        002-002-000   002-003-000
BPDCM     2113      002-002-000        002-002-000   002-003-000
BPDCM     2205      002-002-000        002-002-000   002-003-000
BPDCM     2207      002-002-000        002-002-000   002-003-000
BPDCM     2213      002-002-000        002-002-000   002-003-000
BPDCM     2301      002-002-000        002-002-000   002-003-000
BPDCM     2303      002-002-000        002-002-000   002-003-000
BPDCM     2305      002-002-000        002-002-000   002-003-000
BPDCM     2307      002-002-000        002-002-000   002-003-000
BPDCM     2311      002-002-000        002-002-000   002-003-000
BPDCM     2313      002-002-000        002-002-000   002-003-000
BPDCM     2315      002-002-000        002-002-000   002-003-000
BPDCM     2317      002-002-000        002-002-000   002-003-000
BPDCM     3101      002-002-000        002-002-000   002-003-000
BPDCM     3103      002-002-000        002-002-000   002-003-000
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 system are displayed as shown in this example.

```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
APPL      CARD      RUNNING            APPROVED      TRIAL
EOAM      1113      123-002-000        123-002-000   123-002-000
      IMT           123-001-000        123-001-000   123-001-003
EOAM      1115      123-002-000        123-002-000   123-002-000
      IMT           123-001-000        123-001-000   123-001-003
SCCP      1212      123-001-000        123-001-000   123-001-000
      IMT           123-001-000        123-001-000   123-001-003
VSCCP     1103      123-001-000        123-001-000   123-001-000
      BPDCM         002-001-000        002-001-000   002-001-003
SS7ANSI   1201      123-002-000        123-002-000   123-001-000
      IMT           123-001-000        123-001-000   123-001-003
SS7ANSI   1202      123-002-000        123-002-000   123-001-000
      IMT           123-001-000        123-001-000   123-001-003
SS7ANSI   1203      123-002-000        123-002-000   123-001-000
      IMT           123-001-000        123-001-000   123-001-003
SS7ML     1204      123-002-000        123-002-000   123-001-000
      BPMPL         002-001-000        002-001-000   002-001-003
SS7ANSI   1205      123-002-000        123-002-000   123-001-000
      IMT           123-001-003  ALM   123-001-000   123-001-003
CCS7ITU   1301      123-001-000        123-001-000   123-001-000
      IMT           123-001-000        123-001-000   123-001-003
CCS7ITU   1302      123-001-000        123-001-000   123-001-000
      IMT           123-001-000        123-001-000   123-001-003
IPLIM     1303      123-001-000        123-001-000   123-001-000
      BPDCM         002-001-000        002-001-000   002-001-003
```

```
ATMANSI   1305      123-001-000        123-001-000   123-001-000
      BPHCAP        002-001-000        002-001-000   002-001-003
SS7IPGW   1307      123-001-000        123-001-000   123-001-000
      BPDCM         002-001-000        002-001-000   002-001-003
ATMANSI   1311      123-001-000        123-001-000   123-001-000
      BPHCAP        002-001-003  ALM   002-001-000   002-001-003
SS7IPGW   2101      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-003  ALM+  002-001-000   002-001-003
EMDC      2103      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
EMDC      2105      123-002-000        123-002-000   123-002-000
      BPDCM         002-001-000        002-001-000   002-001-003
VXWSLAN   2113      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
VXWSLAN   2205      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
VXWSLAN   2207      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
VXWSLAN   2213      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
IPLIM     2301      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
IPLIM     2303      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
IPLIM     2305      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
IPLIM     2307      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
EROUTE    2311      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
EROUTE    2313      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
EROUTE    2315      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
MCP       2317      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
MCP       3101      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
MCP       3103      123-002-000        123-002-000   123-003-000
      BPDCM         002-001-000        002-001-000   002-001-003
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   -----------
EMAP         A      026-015-000        026-015-000   -----------
EMAP         B      026-015-001  ALM   026-015-000   -----------
   Command Completed.
```

The **`display=all`** and the **`appl`** 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 in the output when the **appl=bphcap**, **appl=bpdcm**, **appl=bpmpl**, **appl=bpmplt**, or **appl=bphmux** parameter is specified indicates that the BPHCAP GPL, BPHCAPT GPL, BPDCM GPL, BPMPL GPL, BPMPLT GPL, or the BPHMUX GPL currently being run 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:

- **APPL** – 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 05-03-01 07:01:08 GMT EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  123-002-000  123-002-000      123-001-000  123-003-000
SS7ANSI   1116  123-002-000  123-002-000      123-001-000  ----------
```

The example **rtrv-gpl** output shows that the version number of the SS7ANSI GPL in the system release ID table on both TDMs is 123-002-000, which is also the approved version of the SS7ANSI GPL. The trial version of the SS7ANSI GPL is 123-001-000. A removable cartridge is in the removable cartridge drive on the MDAL containing another version of the SS7ANSI GPL, version number 123-003-000. 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 system or a specific GPL in the system.

If you specify the **rtrv-gpl** command with no parameters, all the GPLs in the system are displayed as shown in this example.

```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
EOAM      1114  123-003-000  123-003-000      123-004-000  123-004-000
EOAM      1116  123-003-000  123-003-000      -----------  -----------
SS7ANSI   1114  123-002-000  123-002-000      123-002-000  123-003-000
SS7ANSI   1116  123-002-000  123-002-000      123-002-000  -----------
SCCP      1114  123-002-000  123-002-000      123-002-000  123-003-000
SCCP      1116  123-002-000  123-002-000      123-002-000  -----------
GLS       1114  123-002-000  123-002-000      123-002-000  123-003-000
GLS       1116  123-002-000  123-002-000      123-002-000  -----------
CDU       1114  153-000-000  153-000-000      153-001-000  153-001-000
CDU       1116  153-000-000  153-000-000      -----------  -----------
CCS7ITU   1114  123-002-000  123-002-000      123-002-000  123-003-000
CCS7ITU   1116  123-002-000  123-002-000      123-002-000  -----------
SS7GX25   1114  123-001-000  123-001-000      123-001-000  123-002-000
SS7GX25   1116  123-001-000  123-001-000      123-001-000  -----------
STPLAN    1114  123-001-000  123-001-000      123-001-000  123-002-000
STPLAN    1116  123-001-000  123-001-000      123-001-000  -----------
IMT       1114  123-001-000  123-001-000      123-001-000  123-002-000
IMT       1116  123-001-000  123-001-000      123-001-000  -----------
ATMANSI   1114  123-002-000  123-002-000      123-001-000  123-002-000
ATMANSI   1116  123-002-000  123-002-000      123-001-000  -----------
BPHCAP    1114  002-001-000  002-001-000      002-000-000  002-001-000
BPHCAP    1116  002-001-000  002-001-000      002-000-000  -----------
BPDCM     1114  002-001-000  002-001-000      002-000-000  002-001-000
BPDCM     1116  002-001-000  002-001-000      002-000-000  -----------
EMDC      1114  123-001-000  123-001-000      123-000-000  123-001-000
EMDC      1116  123-001-000  123-001-000      123-000-000  -----------
EBDABLM   1114  123-001-000  123-001-000      123-000-000  123-001-000
EBDABLM   1116  123-001-000  123-001-000      123-000-000  -----------
EBDADCM   1114  123-001-000  123-001-000      123-000-000  123-001-000
EBDADCM   1116  123-001-000  123-001-000      123-000-000  -----------
VXWSLAN   1114  123-001-000  123-001-000      123-000-000  123-001-000
VXWSLAN   1116  123-001-000  123-001-000      123-000-000  -----------
IPLIM     1114  123-002-000  123-002-000      123-002-000  123-003-000
IPLIM     1116  123-002-000  123-002-000      123-002-000  -----------
IPLIMI    1114  123-002-000  123-002-000      123-002-000  123-003-000
IPLIMI    1116  123-002-000  123-002-000      123-002-000  -----------
SS7IPGW   1114  123-002-000  123-002-000      123-002-000  123-003-000
SS7IPGW   1116  123-002-000  123-002-000      123-002-000  -----------
VSCCP     1114  123-002-000  123-002-000      123-002-000  123-003-000
VSCCP     1116  123-002-000  123-002-000      123-002-000  -----------
ATMITU    1114  123-002-000  123-002-000      123-002-000  123-003-000
ATMITU    1116  123-002-000  123-002-000      123-002-000  -----------
VCDU      1114  153-000-000  153-000-000      153-001-000  153-001-000
```

```
VCDU      1116  153-000-000  153-000-000      -----------  -----------
BPMPL     1114  002-001-000  002-001-000      002-000-000  002-001-000
BPMPL     1116  002-001-000  002-001-000      002-000-000  -----------
SS7ML     1114  123-002-000  123-002-000      123-002-000  123-003-000
SS7ML     1116  123-002-000  123-002-000      123-002-000  -----------
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  123-002-000  123-002-000      123-002-000  123-003-000
IPGWI     1116  123-002-000  123-002-000      123-002-000  -----------
IPS       1114  123-002-000  123-002-000      123-002-000  123-003-000
IPS       1116  123-002-000  123-002-000      123-002-000  -----------
EROUTE    1114  123-001-000  123-001-000      123-000-000  123-001-000
EROUTE    1116  123-001-000  123-001-000      123-000-000  -----------
BPMPLT    1114  002-001-000  002-001-000      002-000-000  002-001-000
BPMPLT    1116  002-001-000  002-001-000      002-000-000  -----------
MCP       1114  123-001-000  123-001-000      123-000-000  123-001-000
MCP       1116  123-001-000  123-001-000      123-000-000  -----------
BPHCAP    1114  002-001-000  002-001-000      002-000-000  002-001-000
BPHCAP    1116  002-001-000  002-001-000      002-000-000  -----------
OAP       1114  028-001-000  028-001-000      -----------  028-001-000
OAP       1116  028-001-000  028-001-000      -----------  -----------
EMAP      1114  026-015-000  026-015-000      -----------  026-015-000
EMAP      1116  026-015-000  026-015-000      -----------  -----------
```

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

```
rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  123-002-000  123-002-000      123-001-000  123-003-000
SS7ANSI   1116  123-002-000  123-002-000      123-001-000  -----------
```

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 system 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 system 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 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  123-002-000  123-002-000      123-001-000  123-003-000
SS7ANSI   1116  123-002-000  123-002-000      123-001-000  -----------
```

   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 05-03-01 07:01:08 GMT EAGLE5 32.0.0
APPL      CARD      RUNNING            APPROVED      TRIAL
SS7ANSI   1201      123-002-000        123-002-000   123-001-000
SS7ANSI   1202      123-002-000        123-002-000   123-001-000
SS7ANSI   1203      123-002-000        123-002-000   123-001-000
SS7ANSI   1205      123-002-000        123-002-000   123-001-000
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 :appl=ss7ansi:ver=123-003-000** command would be entered at the system 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:appl=ss7ansi

```
rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  123-002-000  123-002-000      123-003-000  123-003-000
SS7ANSI   1116  123-002-000  123-002-000      123-003-000  -----------
```

   rept-stat-gpl:appl=ss7ansi

```
rlghncxa03w 05-03-01 11:40:26 GMT  EAGLE5 32.0.0
APPL     CARD   RUNNING           APPROVED      TRIAL
SS7ANSI  1201   123-002-000       123-002-000   123-003-000
SS7ANSI  1202   123-002-000       123-002-000   123-003-000
SS7ANSI  1203   123-002-000       123-002-000   123-003-000
SS7ANSI  1205   123-002-000       123-002-000   123-003-000
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:appl=ss7ansi

   ```
   rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
   GPL Auditing  ON

   APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
   SS7ANSI   1114  123-003-000  123-003-000      123-002-000  123-003-000
   SS7ANSI   1116  123-003-000  123-003-000      123-002-000  -----------
   ```

   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:appl=ss7ansi

   ```
   rlghncxa03w 05-03-01 11:50:11 GMT  EAGLE5 32.0.0
   APPL     CARD   RUNNING           APPROVED      TRIAL
   SS7ANSI  1201   123-002-000 ALM   123-003-000   123-002-000
   SS7ANSI  1202   123-002-000 ALM   123-003-000   123-002-000
   SS7ANSI  1203   123-002-000 ALM   123-003-000   123-002-000
   SS7ANSI  1205   123-002-000 ALM   123-003-000   123-002-000
   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** indictor is shown for cards 1202, 1203, and 1205 because they are not running the **RELEASE** version of the GPL.

RTRV-GPL Output

```
rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  123-003-000  123-003-000      123-002-000  123-003-000
SS7ANSI   1116  123-003-000  123-003-000      123-002-000  -----------
```

REPT-STAT-GPL Output

```
rlghncxa03w 05-03-01 11:50:11 GMT  EAGLE5 32.0.0
APPL     CARD   RUNNING           APPROVED      TRIAL
SS7ANSI  1201   123-003-000       123-003-000   123-002-000
SS7ANSI  1202   123-002-000 ALM   123-003-000   123-002-000
SS7ANSI  1203   123-002-000 ALM   123-003-000   123-002-000
SS7ANSI  1205   123-002-000 ALM   123-003-000   123-002-000
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 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  123-003-000  123-003-000      123-002-000  123-003-000
SS7ANSI   1116  123-003-000  123-003-000      123-002-000  -----------
```

REPT-STAT-GPL Output

```
rlghncxa03w 05-03-01 11:50:11 GMT  EAGLE5 32.0.0
APPL     CARD   RUNNING           APPROVED      TRIAL
SS7ANSI  1201   123-002-000 ALM   123-003-000   123-002-000
SS7ANSI  1202   123-002-000 ALM   123-003-000   123-002-000
SS7ANSI  1203   123-002-000 ALM   123-003-000   123-002-000
SS7ANSI  1205   123-002-000 ALM   123-003-000   123-002-000
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 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  123-002-000  123-002-000      123-003-000  123-003-000
SS7ANSI   1116  123-002-000  123-002-000      123-003-000  -----------
```

REPT-STAT-GPL Output

```
rlghncxa03w 05-03-01 11:50:11 GMT  EAGLE5 32.0.0
APPL     CARD   RUNNING           APPROVED      TRIAL
SS7ANSI  1201   123-003-000 ALM   123-002-000   123-003-000
SS7ANSI  1202   123-002-000       123-002-000   123-003-000
SS7ANSI  1203   123-002-000       123-002-000   123-003-000
SS7ANSI  1205   123-002-000       123-002-000   123-003-000
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 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ANSI   1114  123-002-000  123-002-000      123-003-000  123-003-000
SS7ANSI   1116  123-002-000  123-002-000      123-003-000  -----------
```

REPT-STAT-GPL Output

```
rlghncxa03w 05-03-01 11:50:11 GMT  EAGLE5 32.0.0
APPL     CARD   RUNNING           APPROVED      TRIAL
SS7ANSI  1201   123-002-000       123-002-000   123-003-000
SS7ANSI  1202   123-002-000       123-002-000   123-003-000
SS7ANSI  1203   123-002-000       123-002-000   123-003-000
SS7ANSI  1205   123-002-000       123-002-000   123-003-000
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 system, approved and trial versions. The **imt** GPL on the removable cartridge serves as the trial GPL.

The **imt** GPL can be loaded on all cards in the system except LIM-ATMs, E1-ATMs, DCMs, DSMs, Multi-port LIMs, E1/T1 MIMs, and HC-MIMs.

The removable cartridge that contains the **imt** GPL to be loaded on to the system is required.

Procedure

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:appl=imt** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
IMT       1114  123-001-000  123-001-000      -----------  -----------
IMT       1116  123-001-000  123-001-000      123-000-000  123-002-000
```

   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 2-9.

   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, 3, and 4, and go to step 5.

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 2-6.

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 2-8.

4. Display the **imt** GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl:appl=imt** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
IMT       1114  123-001-000  123-001-000      -----------  -----------
IMT       1116  123-001-000  123-001-000      123-000-000  123-002-000
```

5. Verify the **imt** GPLs on the fixed disk and which cards are running the **imt** GPLs using the **rept-stat-gpl:appl=imt** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
APPL      CARD      RUNNING            APPROVED      TRIAL
IMT       1113      123-001-000       123-001-000   123-000-000
IMT       1115      123-001-000       123-001-000   123-000-000
IMT       1201      123-001-000       123-001-000   123-000-000
IMT       1202      123-001-000       123-001-000   123-000-000
IMT       1203      123-001-000       123-001-000   123-000-000
IMT       1205      123-001-000       123-001-000   123-000-000
IMT       1207      123-001-000       123-001-000   123-000-000
IMT       1211      123-001-000       123-001-000   123-000-000
IMT       1212      123-001-000       123-001-000   123-000-000
Command Completed.
```

6. 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 steps 1 or 4.

   For this example, enter this command.

   chg-gpl:appl=imt:ver=123-002-000

   These messages should appear.

```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
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
```

7. Activate the trial GPL, using the **act-gpl** command and specifying the value for the trial **imt** GPL shown in step 6. For this example, enter the **act-gpl:appl=imt:ver=123-002-000** command. These messages should appear.

```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
IMT activate on 1114 completed
IMT activate on 1116 completed
```

The **act-gpl:appl=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:appl=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:appl=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 system 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:appl=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:appl=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:appl=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 05-03-01 07:01:08 GMT EAGLE5 32.0.0
    0191.1105    SYSTEM         INFO   REPT EVT:IMT GPL reloading
                  cards   loaded:   1 of 25
           Report Date: 05-03-01  Time: 07:01:08
;

    rlghncxa03w 05-03-01 07:01:09 GMT EAGLE5 32.0.0
    0192.0014    CARD 1201 SS7ANSI     Card is present
;

    rlghncxa03w 05-03-01 07:01:10 GMT EAGLE5 32.0.0
    0193.0014    CARD 1202 SS7ANSI     Card is present
```

```
;

    rlghncxa03w 05-03-01 07:01:11 GMT EAGLE5 32.0.0
    0194.0014    CARD 1203 SS7ANSI     Card is present
;

    rlghncxa03w 05-03-01 07:01:12 GMT EAGLE5 32.0.0
    0195.0014    CARD 1204 SS7ANSI     Card is present
;

    rlghncxa03w 05-03-01 07:01:12 GMT EAGLE5 32.0.0
    0196.0014    CARD 1205 SS7ANSI     Card is present
;
    rlghncxa03w 05-03-01 07:01:14 GMT EAGLE5 32.0.0
    0197.1106    SYSTEM         INFO   REPT COND:IMT GPL reloading
                 cards  loaded:     5 of 25
            Report Date: 05-03-01  Time: 07:01:14
;
```

8. 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 5. 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 system, 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 05-03-01 07:01:08 GMT EAGLE5 32.0.0
    Initializing IMT GPL for card 1201.
;

    rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
*   0192.0013  * CARD 1201 SS7ANSI     Card is isolated from the system
;

    rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
    0193.0014    CARD 1201 SS7ANSI     Card is present
;

    rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
    0194.0096    CARD 1201 SS7ANSI     Card has been reloaded
;
```

9. Verify the **imt** GPLs on the cards using the **rept-stat-gpl:appl=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 7, 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.

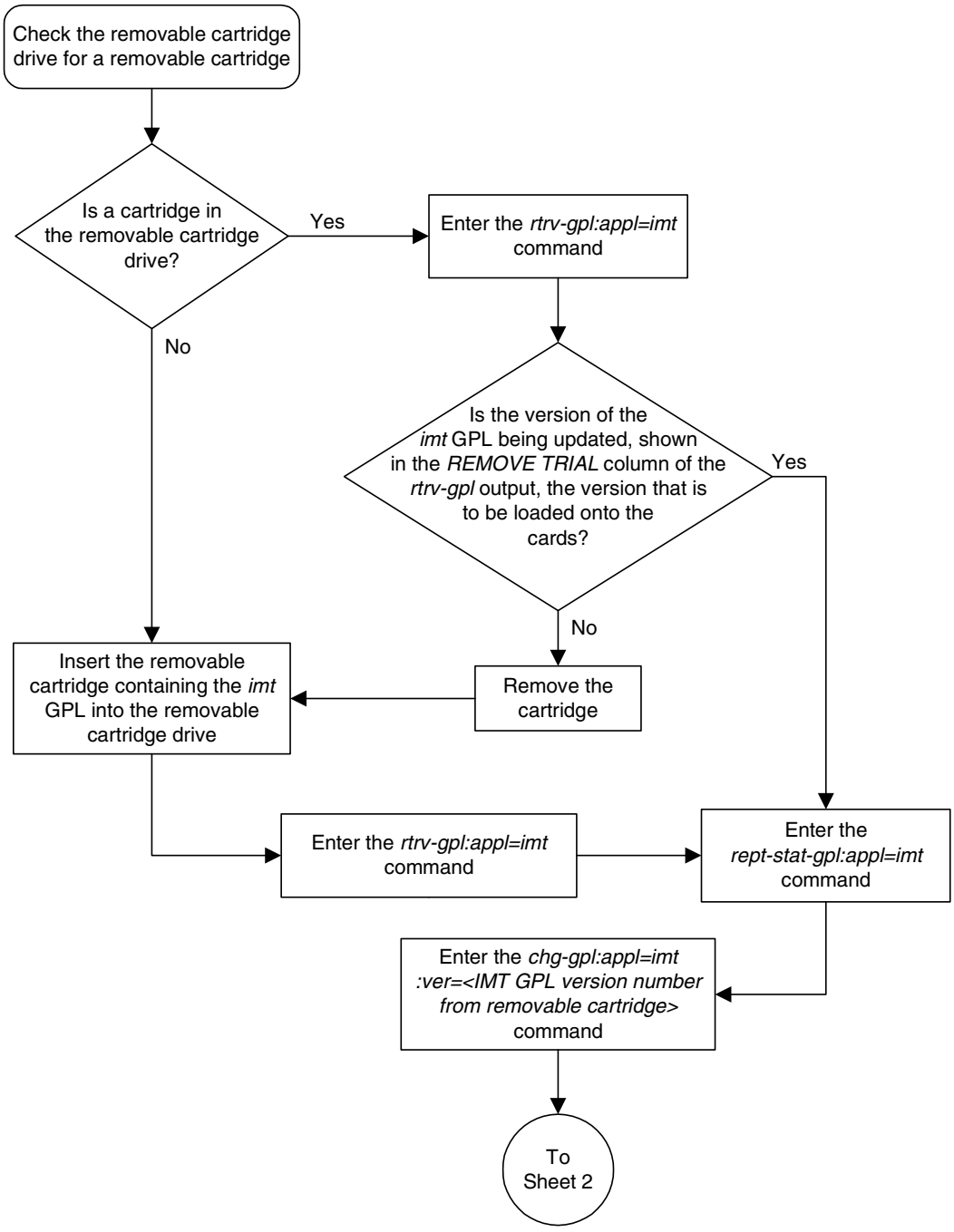
For this example, card 1201 was loaded with the new approved version of the IMT GPL. This is an example of the possible output.

```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
APPL      CARD      RUNNING            APPROVED      TRIAL
IMT       1113      123-001-000 ALM    123-002-000   123-001-000
IMT       1115      123-001-000 ALM    123-002-000   123-001-000
IMT       1201      123-002-000        123-002-000   123-001-000
IMT       1202      123-001-000 ALM    123-002-000   123-001-000
IMT       1203      123-001-000 ALM    123-002-000   123-001-000
IMT       1205      123-001-000 ALM    123-002-000   123-001-000
IMT       1207      123-001-000 ALM    123-002-000   123-001-000
IMT       1211      123-001-000 ALM    123-002-000   123-001-000
IMT       1212      123-001-000 ALM    123-002-000   123-001-000
Command Completed.
```

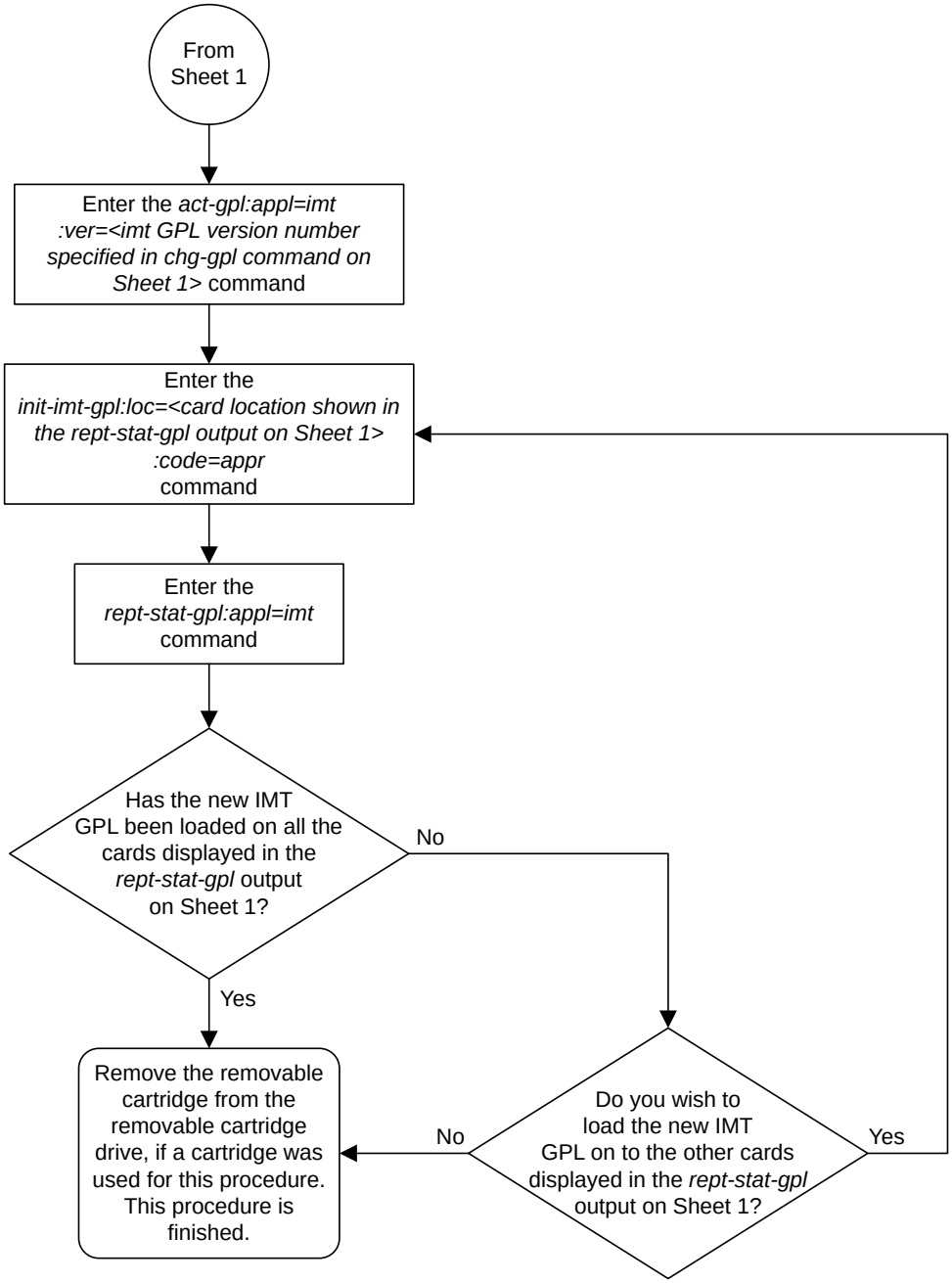
10. If the new IMT GPL has been loaded onto all the cards shown in step 5, or if you do not wish to load the new IMT GPL onto other cards, this procedure is finished. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

If you wish to load the new IMT GPL onto the other cards shown in step 5, repeat this procedure from step 8 for each card shown in step 5.

Flowchart 3-1. Updating the IMT GPL (Sheet 1 of 2)



Flowchart 3-1. Updating the IMT GPL (Sheet 2 of 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 system, the removable cartridge that contains the new version of the **eoam** GPL is required.

Procedure

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:appl=eoam** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
EOAM      1114  123-002-000  123-002-000      123-001-000  123-003-000
EOAM      1116  123-002-000  123-002-000      123-001-000  -----------
```

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 "Removing the Removable Cartridge" on page 2-9.

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, 3, 4, and 5, and go to step 6.

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 "Removing the Removable Cartridge" on page 2-9.

3. 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 2-6.

4. Insert the removable cartridge containing the **eoam** 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 2-8.

5. Display the **eoam** GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl:appl=eoam** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
EOAM      1114  123-002-000  123-002-000      123-001-000  123-003-000
EOAM      1116  123-002-000  123-002-000      123-001-000  -----------
```

6. 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 from either steps 1 or 5. For this example, enter this command.

   chg-gpl:appl=eoam:ver=123-003-000

   These messages should appear.

```
rlghncxa03w 05-03-01  11:43:04  GMT  EAGLE5 32.0.0
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
```

7. Verify that the trial **eoam** GPL has been made the approved GPL using the **rtrv-gpl:appl=eoam** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:34:04 GMT EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
EOAM      1114  123-003-000  123-003-000      123-002-000  123-003-000
EOAM      1116  123-003-000  123-003-000      123-002-000  -----------
```

8. Verify which cards are running the **eoam** GPLs using the **rept-stat-gpl:appl=eoam** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:40:26 GMT  EAGLE5 32.0.0
APPL     CARD   RUNNING           APPROVED      TRIAL
EOAM     1113   123-002-000 ALM   123-003-000   123-002-000
EOAM     1115   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

9. 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 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
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.

10. 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. This is an example of the possible output. In this example, the OAP terminals are terminals 6 and 9. If no OAP terminals are shown in the **rtrv-trm** command output, go to step 14.

```
rlghncxa03w 05-03-01 16:02:08 GMT EAGLE5 32.0.0
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  TRAF LINK SA  SYS PU  DB
1    NO   YES  NO  YES NO  YES
2    NO   NO   NO  NO  NO  NO
3    YES  YES  YES NO  YES YES
4    YES  NO   NO  NO  NO  NO
5    NO   YES  NO  NO  NO  NO
6    YES  YES  YES YES YES YES
7    YES  YES  YES YES YES YES
8    NO   NO   NO  NO  YES NO
9    YES  YES  YES YES YES YES
10   NO   NO   NO  NO  NO  NO
11   YES  YES  YES YES YES YES
12   YES  YES  YES YES YES YES
13   NO   YES  NO  NO  NO  NO
14   NO   NO   YES NO  NO  NO
15   YES  YES  YES NO  YES YES
16   NO   NO   NO  NO  YES 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
```

11. Display the status of the terminals with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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        -----
Command Completed.
```

12. Place the OAP terminals out of service using the **rmv-trm** command. The **force=yes** parameter must be used when placing the last OAP terminal out of service. For this example, enter these commands.

rmv-trm:trm=6

rmv-trm:trm=9:force=yes

If the status of the OAP terminals shown in the **PST** field in step 11 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 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Inhibit message sent to terminal

rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Command Completed.
```

---

13. Change the terminal type of the OAP terminals to NONE with the **chg-trm** command, the **type=none** parameter, and with the values of the OAP terminals used in step 12. For this example, enter these commands.

chg-trm:trm=6:type=none

chg-trm:trm=9:type=none

This message should appear when these commands have successfully completed.

```
rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
CHG-TRM: MASP B - COMPLTD
```

---

14. Using the outputs of steps 8 and 9 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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
Card has been inhibited.
```

---

15. Put the card that was inhibited in step 14 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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
Card has been allowed.
```

---

16. Verify the **eoam** GPLs on the GPSM-II cards using the **rept-stat-gpl:appl=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 7, 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 05-03-01 11:40:26 GMT  EAGLE5 32.0.0
APPL     CARD   RUNNING           APPROVED      TRIAL
EOAM     1113   123-003-000       123-003-000   123-002-000
EOAM     1115   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

17. If you do not wish to load the new version of the **eoam** GPL onto the other GPSM-II card, skip this step and go to step 18.

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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
Init Card command issued to card 1115
```

NOTE: If OAP terminals are not shown in the `rtrv-trm` command output in step 10, skip this step and step 19, and go to step 20.

18. Change the terminal type of the terminals that were changed to **NONE** in step 13 to the terminal type **OAP** with the **chg-trm** command and the **type=oap** parameter. The terminal type is shown in the **TYPE** field in the **rtrv-trm** command output in step 10. For this example, enter these commands.

chg-trm:trm=6:type=oap

chg-trm:trm=9:type=oap

This message should appear when these commands have successfully completed.

```
rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
CHG-TRM: MASP B - COMPLTD
```

19. Put the OAP terminals back into service with the **rst-trm** command. For this example, enter these commands.

rst-trm:trm=6

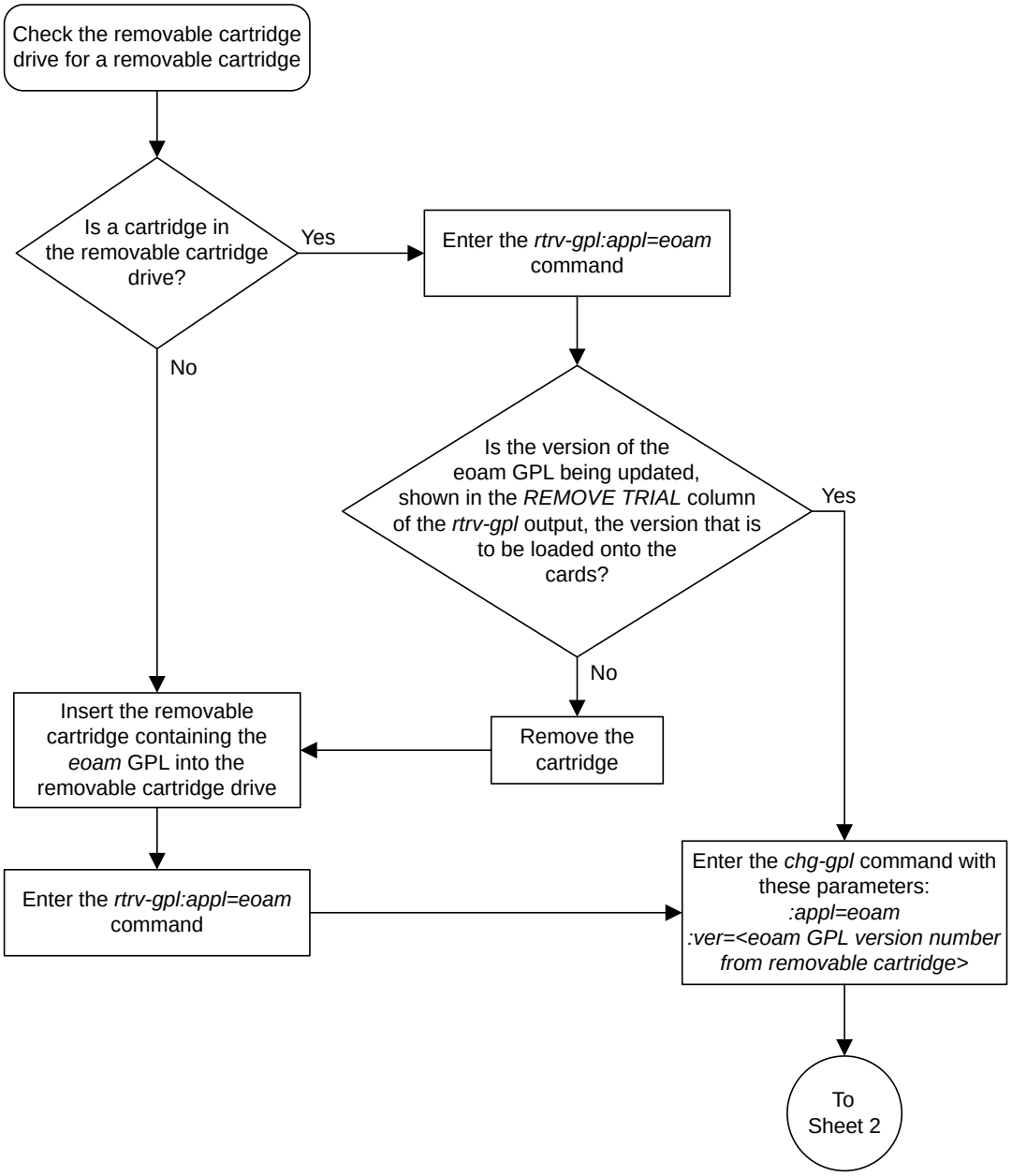
rst-trm:trm=9

This message should appear when each command has successfully completed.

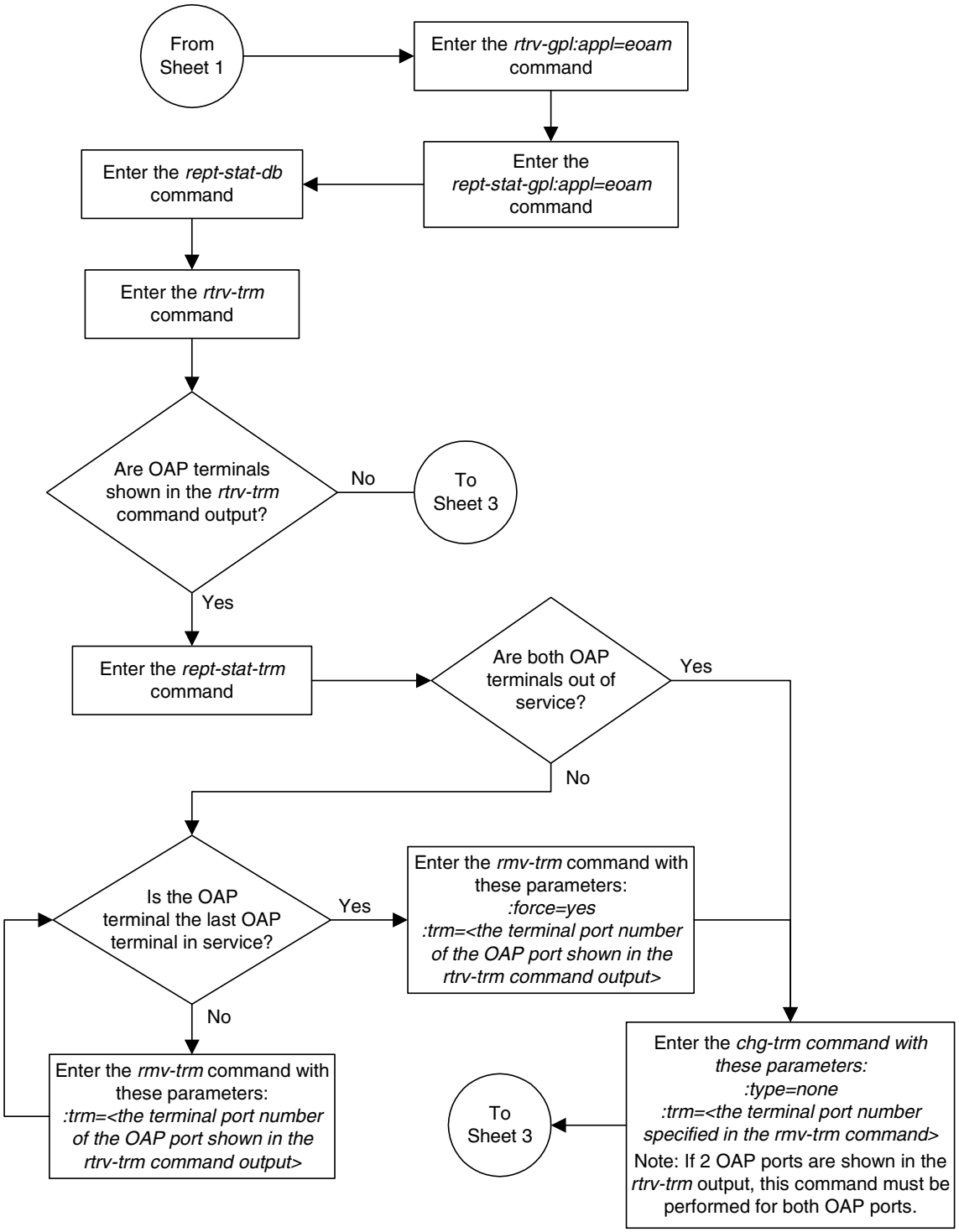
```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Allow message sent to terminal

rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Command Completed.
```

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 2-9.

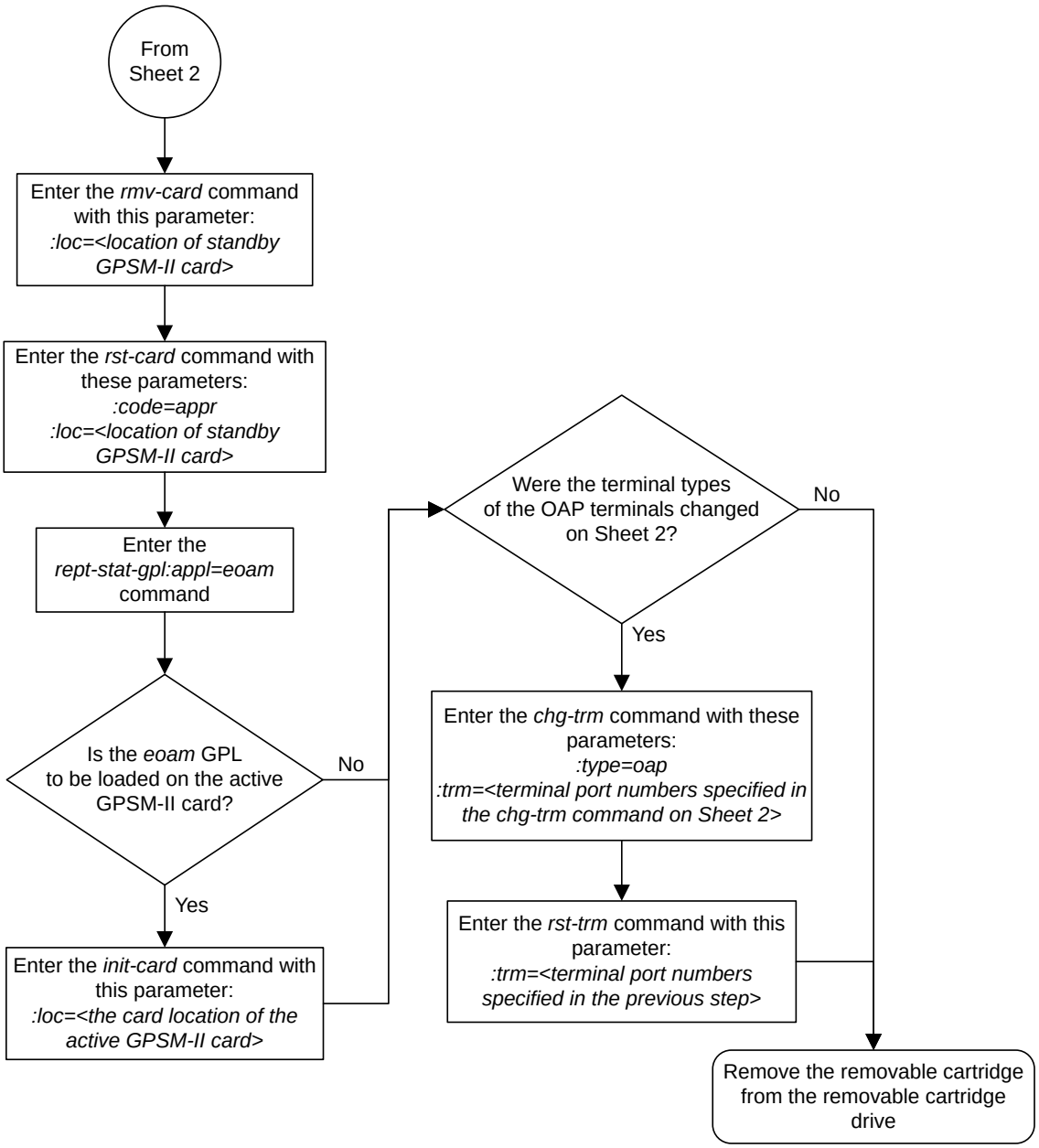
Flowchart 3-2. Updating the EOAM GPL (Sheet 1 of 3)



Flowchart 3-2. Updating the EOAM GPL (Sheet 2 of 3)



Flowchart 3-2. Updating the EOAM GPL (Sheet 3 of 3)



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**. 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** The signaling link GPLs are assigned to the card types shown in Table 3-1.

Table 3-1. SS7 LIM Card Types

GPL	Card Type
ss7ansi, ccs7itu, & ss7ml	limds0, limocu, limv35, lime1, limch, limt1
ss7gx25	limds0, limocu, limv35
atmansi	limatm
atmitu	lime1atm
ss7ipgw, iplim, iplimi, ipgwi	dcm

Data links are assigned to cards running either the **vxwslan** or **stplan** GPLs. The data link GPLs are assigned to the card types shown in Table 3-2.

Table 3-2. Data Link Card Types

GPL	Card Type
stplan	acmenet
vxwslan	dcm

These GPLs do not support 24-bit ITU-N point codes: **ss7gx25**, **stplan**, **vxwslan**.

The card types shown in Tables 3-1 and 3-2 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 and each card can support eight signaling link ports. The **rtrv-card** output shows these cards running either the **ss7ansi** or **ccs7itu** applications, but the **rept-stat-card** and **rept-stat-gpl** outputs shows that these cards are actually running the **ss7ml** GPL. Having these cards configured in the database this way allows these cards to replace the 2-port cards shown in the following list without have to remove the 2-port cards from the database with the **dlt-card** command, then enter the 8-port cards with the **ent-card** command:

- A Multi-Port LIM replacing a 2-port LIM
- An E1/T1 MIM, configured as an E1 card, replacing a 2-port E1 card
- An E1/T1 MIM, configured as an E1 channel card, replacing a 2-port E1 channel card

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*.

Procedure

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:appl=ss7ml

   ```
   rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
   GPL Auditing  ON

   APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
   SS7ML     1114  123-002-000  123-002-000      123-001-000  123-003-000
   SS7ML     1116  123-002-000  123-002-000      123-001-000  -----------
   ```

   rtrv-gpl:appl=vxwslan

   ```
   rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
   GPL Auditing  ON

   APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
   VXWSLAN   1114  123-002-000  123-002-000      123-001-000  123-003-000
   VXWSLAN   1116  123-002-000  123-002-000      123-001-000  -----------
   ```

   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 2-9.

   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, 3, 4, and 5, and go to step 6.

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 2-6.

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 2-8.

4. 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:appl=ss7ml

```
rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ML     1114  123-002-000  123-002-000      123-001-000  123-003-000
SS7ML     1116  123-002-000  123-002-000      123-001-000  -----------
```

rtrv-gpl:appl=vxwslan

```
rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
VXWSLAN   1114  123-002-000  123-002-000      123-001-000  123-003-000
VXWSLAN   1116  123-002-000  123-002-000      123-001-000  -----------
```

5. 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 steps 1 or 4. For this example, enter these commands.

chg-gpl:appl=ss7ml:ver=123-003-000

These messages should appear.

```
rlghncxa03w 05-03-01  11:43:04  GMT  EAGLE5 32.0.0
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:appl=vxwslan:ver=123-003-000

These messages should appear.

```
rlghncxa03w 05-03-01  11:43:04  GMT  EAGLE5 32.0.0
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
```

6. Activate the trial GPL, using the **act-gpl** command and specifying the value for the trial GPL shown in step 5. For this example, enter this command.

act-gpl:appl=ss7ml:ver=123-003-000

These messages should appear.

```
rlghncxa03w 05-03-01 06:54:39 GMT EAGLE5 32.0.0
SS7ML activate on 1114 completed
SS7ML activate on 1116 completed
```

act-gpl:appl=vxwslan:ver=123-003-000

These messages should appear.

```
rlghncxa03w 05-03-01 06:54:39 GMT EAGLE5 32.0.0
VXWSLAN activate on 1114 completed
VXWSLAN activate on 1116 completed
```

7. Verify that the trial GPL has been made the approved GPL using the **rtrv-gpl** command with the **gpl** parameter value specified in steps 5 and 6. For this example, enter these commands.

rtrv-gpl:appl=ss7ml

This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:34:04 GMT EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
SS7ML     1114  123-003-000  123-003-000      123-002-000  123-003-000
SS7ML     1116  123-003-000  123-003-000      123-002-000  -----------
```

rtrv-gpl:appl=vxwslan

This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:34:04 GMT EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
VXWSLAN   1114  123-003-000  123-003-000      123-002-000  123-003-000
VXWSLAN   1116  123-003-000  123-003-000      123-002-000  -----------
```

8. Verify which cards are running the GPL using the **rept-stat-gpl** command with the **gpl** parameter value specified in step 7. For this example, enter these commands.

rept-stat-gpl:appl=ss7ml

This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:40:26 GMT  EAGLE5 32.0.0
APPL     CARD   RUNNING           APPROVED      TRIAL
SS7ML    1201   123-002-000 ALM   123-003-000   123-002-000
SS7ML    1204   123-002-000 ALM   123-003-000   123-002-000
SS7ML    1211   123-002-000 ALM   123-003-000   123-002-000
SS7ML    1215   123-002-000 ALM   123-003-000   123-002-000
SS7ML    1307   123-002-000 ALM   123-003-000   123-002-000
SS7ML    2111   123-002-000 ALM   123-003-000   123-002-000
SS7ML    2112   123-002-000 ALM   123-003-000   123-002-000
SS7ML    2115   123-002-000 ALM   123-003-000   123-002-000
SS7ML    2116   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

rept-stat-gpl:appl=vxwslan

This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:40:26 GMT  EAGLE5 32.0.0
APPL     CARD   RUNNING           APPROVED      TRIAL
VXWSLAN  2105   123-002-000 ALM   123-003-000   123-002-000
VXWSLAN  2113   123-002-000 ALM   123-003-000   123-002-000
VXWSLAN  2301   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

NOTE: If the GPL being updated is either VXWSLAN or STPLAN, skip steps 9 and 10, and go to step 11.

9. Display the signaling links associated with the cards shown in step 8. Enter the **rtrv-slk** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 21:16:37 GMT EAGLE5 32.0.0
                                    L2T         L1                PCR  PCR
LOC  PORT 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  PORT 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  PORT 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

LOC  PORT LSN         SLC TYPE      IPLIML2

No Links Set up.

LOC  PORT LSN         SLC TYPE

No Links Set up.

                                    L2T              PCR  PCR   E1   E1
LOC  PORT 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  PORT 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.
```

10. Using the outputs of steps 8 and 9 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:port=a

dact-slk:loc=1201:port=b

dact-slk:loc=1201:port=a1

dact-slk:loc=1201:port=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 system at the same time. Doing so will take all the SS7 signaling links out of service and isolate the system from the network.

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

```
rlghncxa03w 05-03-01 11:45:18 GMT  EAGLE5 32.0.0
Deactivate SLK message sent to card
```

NOTE: If the GPL being updated is not VXWSLAN or STPLAN, skip steps 11 and 12, and go to step 13.

11. Display the data links, and their status, associated with the cards shown in step 8. Enter the **rept-stat-dlk** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 17:00:36 GMT  EAGLE5 32.0.0
DLK    PST           SST        AST
2105   IS-NR         Avail      ---
2113   IS-NR         Avail      ---
2301   IS-NR         Avail      ---
Command Completed.
```

---

12. Deactivate the TCP/IP data link on the card (shown in step 11) 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 system at the same time. Doing so will take all the TCP/IP data links out of service and cause the STP LAN feature to be disabled.

If there is only one TCP/IP data link in the system, placing the card out of service will cause the STP LAN feature to be disabled.

When this command has successfully completed, this message should appear.

```
rlghncxa03w 05-03-01 11:45:18 GMT  EAGLE5 32.0.0
Deactivate Link message sent to card.
Command Completed.
```

---

13. Place the card specified in either steps 10 or 12 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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
Card has been inhibited.
```

---

14. Put the cards that were inhibited in step 13 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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
Card has been allowed.
```

---

15. Verify the GPLs on the cards using the **rept-stat-gpl** command with the **gpl** parameter value specified in step 8. If any card is not running the release version of the GPL, shown in the **RELEASE** column of the **rtrv-gpl** output in step 7, 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:appl=ss7ml

This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:40:26 GMT  EAGLE5 32.0.0
APPL     CARD   RUNNING           APPROVED      TRIAL
SS7ML    1201   123-003-000       123-003-000   123-002-000
SS7ML    1204   123-002-000 ALM   123-003-000   123-002-000
SS7ML    1211   123-002-000 ALM   123-003-000   123-002-000
SS7ML    1215   123-002-000 ALM   123-003-000   123-002-000
SS7ML    1307   123-002-000 ALM   123-003-000   123-002-000
SS7ML    2111   123-002-000 ALM   123-003-000   123-002-000
SS7ML    2112   123-002-000 ALM   123-003-000   123-002-000
SS7ML    2115   123-002-000 ALM   123-003-000   123-002-000
SS7ML    2116   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

rept-stat-gpl:appl=vxwslan

This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:40:26 GMT  EAGLE5 32.0.0
APPL     CARD   RUNNING           APPROVED      TRIAL
VXWSLAN  2105   123-003-000       123-003-000   123-002-000
VXWSLAN  2113   123-002-000 ALM   123-003-000   123-002-000
VXWSLAN  2301   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

NOTE: If the GPL being updated is either VXWSLAN or STPLAN, skip steps 16 and 17, and go to step 18.

16. 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=1201:port=a

act-slk:loc=1201:port=b

act-slk:loc=1201:port=a1

act-slk:loc=1201:port=b1

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

```
rlghncxa03w 05-03-01 11:55:49 GMT  EAGLE5 32.0.0
Activate SLK message sent to card
```

---

17. Verify that the signaling links activated in step 16 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:port=a

This is an example of the possible output.

```
rlghncxa03w 05-03-01 13:06:25 GMT EAGLE5 32.0.0
SLK      LSN       CLLI        PST          SST       AST
1201,A   lsnmpl1   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

rept-stat-slk:loc=1201:port=b

This is an example of the possible output.

```
rlghncxa03w 05-03-01 13:06:25 GMT EAGLE5 32.0.0
SLK      LSN       CLLI        PST          SST       AST
1201,B   lsnmpl2   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

rept-stat-slk:loc=1201:port=a1

This is an example of the possible output.

```
rlghncxa03w 05-03-01 13:06:25 GMT EAGLE5 32.0.0
SLK      LSN       CLLI        PST          SST       AST
1201,A1  lsnmpl3   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

rept-stat-slk:loc=1201:port=b1

This is an example of the possible output.

```
rlghncxa03w 05-03-01 13:06:25 GMT EAGLE5 32.0.0
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 or STPLAN, skip steps 18 and 19, and go to step 20.

18. Place the TCP/IP data link that was deactivated in step 12 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 05-03-01 11:55:49 GMT  EAGLE5 32.0.0
Activate Link message sent to card.
```

---

19. Verify that the TCP/IP date links activated in step 18 are back in service with the **rept-stat-dlk** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 12:57:50 GMT EAGLE5 32.0.0
DLK    PST           SST        AST
2105   IS-NR         Avail      ---
2113   IS-NR         Avail      ---
2301   IS-NR         Avail      ---
Command Completed.
```

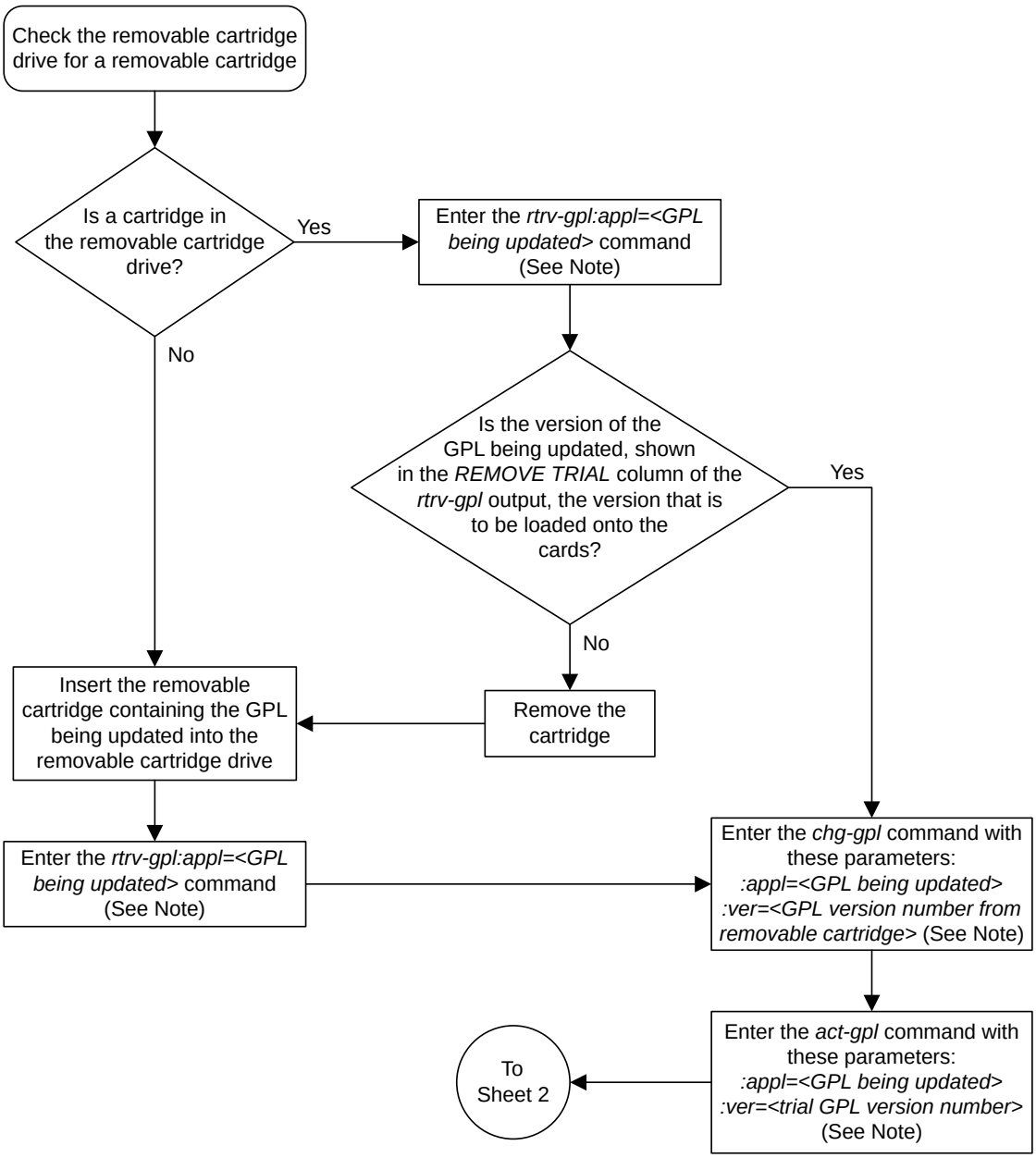
---

20. If you wish to load the new GPL onto the other cards shown in step 8, repeat this procedure from either steps 10 or 12 for each card shown in step 8.

---

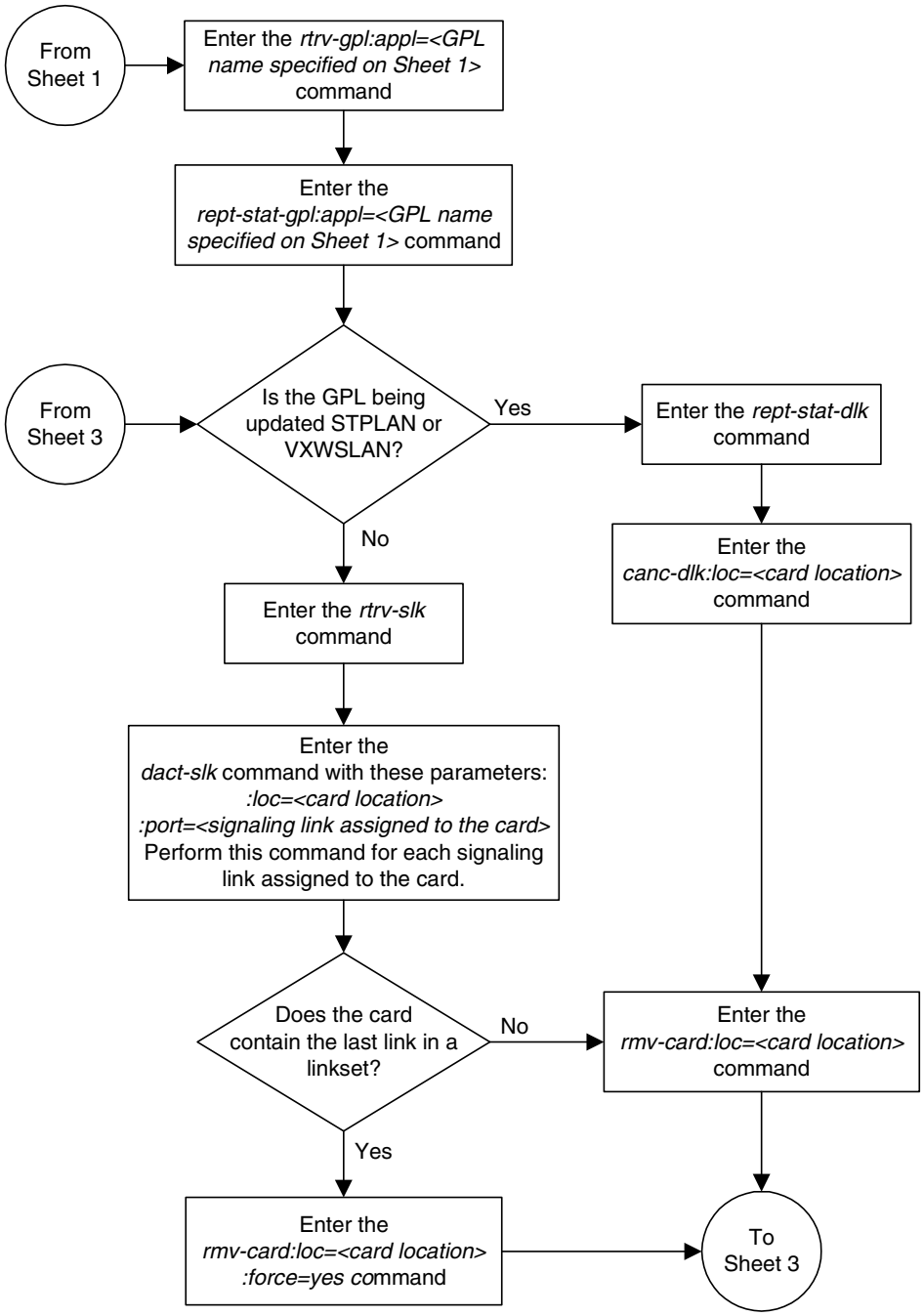
21. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

Flowchart 3-3. Updating the Signaling Link and Data Link GPLs (Sheet 1 of 3)

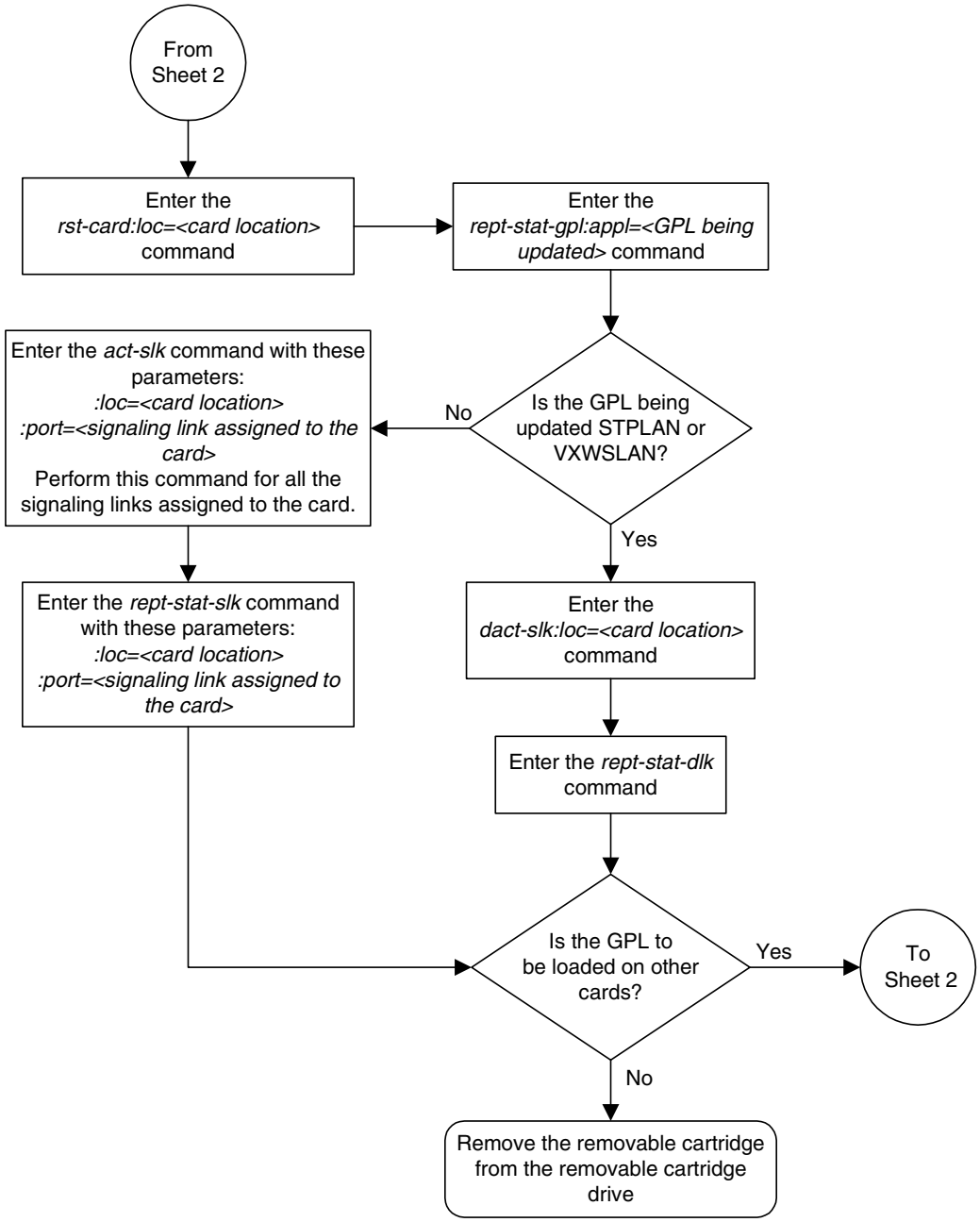


Note: This procedure is used to update these GPLs: SS7ANSI, SS7GX25, CCS7ITU, SS7ML, SS7IPGW, IPLIM, IPLIMI, IPGWI, ATMANSI, ATMITU, STPLAN, VXWSLAN. These names are used as the value of the *APPL* parameter of the *chg-gpl*, *act-gpl*, *rept-stat-gpl*, and *rtrv-gpl* commands. The SS7GX25, STPLAN, and VXWSLAN GPLs do not support the 24-bit ITU-N point code.

Flowchart 3-3. Updating the Signaling Link and Data Link GPLs (Sheet 2 of 3)



Flowchart 3-3. Updating the Signaling Link and Data Link GPLs (Sheet 3 of 3)



Updating the Service GPLs

This procedure is used to update these GPLs: **sccp**, **vsccp**, **gls**, **ebdadcm**, **ebdablm**, **emdc**, **eroute**, **mcp**, **ips**. 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 3-3.

Table 3-3. Service GPL Card Types

GPL	Card Type
sccp, gls, ebdablm	tsm
vsccp	dsm
ebdadcm, edmc	dcm
eroute	stc
mcp	mcpm
ips	ipsm

These GPLs do not support 24-bit ITU-N point codes: **ebdablm**, **ebdadcm**.

The card types shown in Table 3-3 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.

Procedure

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:appl=vsccp

rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
VSCCP     1114  123-002-000  123-002-000      123-001-000  123-003-000
VSCCP     1116  123-002-000  123-002-000      123-001-000  -----------
```

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 2-9.

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, 3, 4, and 5, and go to step 6.

---

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 2-6.

---

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 2-8.

---

4. 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:appl=vsccp

```
rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
VSCCP     1114  123-002-000  123-002-000      123-001-000  123-003-000
VSCCP     1116  123-002-000  123-002-000      123-001-000  -----------
```

---

5. 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 steps 1 or 4. For this example, enter this command.

   chg-gpl:appl=vsccp:ver=123-003-000

   These messages should appear.

```
rlghncxa03w 05-03-01  11:43:04  GMT  EAGLE5 32.0.0
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
```

---

6. Activate the trial GPL, using the **act-gpl** command and specifying the value for the trial GPL shown in step 5. For this example, enter this command.

   act-gpl:appl=vsccp:ver=123-003-000

   These messages should appear.

```
rlghncxa03w 05-03-01 06:54:39 GMT EAGLE5 32.0.0
VSCCP activate on 1114 completed
VSCCP activate on 1116 completed
```

7. Verify that the trial GPL has been made the approved GPL using the **rtrv-gpl** command with the **gpl** parameter value specified in steps 5 and 6. For this example, enter this command.

   rtrv-gpl:appl=vsccp

   This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:34:04 GMT EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
VSCCP     1114  123-003-000  123-003-000      123-002-000  123-003-000
VSCCP     1116  123-003-000  123-003-000      123-002-000  -----------
```

8. Verify which cards are running the GPL using the **rept-stat-gpl** command with the **gpl** parameter value specified in step 7. For this example, enter this command.

   rept-stat-gpl:appl=vsccp

   This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:40:26 GMT  EAGLE5 32.0.0
APPL     CARD   RUNNING           APPROVED      TRIAL
VSCCP    1101   123-002-000 ALM   123-003-000   123-002-000
VSCCP    1102   123-002-000 ALM   123-003-000   123-002-000
VSCCP    1103   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

9. Steps 10 through 17 are performed based on the GPL being updated (shown in the **rept-stat-gpl** output in step 8). The following list shows the steps that are performed for the GPL being updated.

- SCCP or VSCCP – Perform step 10, then go to step 18. Skip steps 11 through 17.
- MCP – Perform step 11, then go to step 18. Skip step 10 and steps 12 through 17.
- EMDC – Perform step 12, then go to step 18. Skip steps 10, 11, and 14 through 17.
- EROUTE – Perform step 13, then go to step 18. Skip steps 10 through 12 and 14 through 17.
- EBDABLM, EBDADCM – Perform step 14, then go to step 18. Skip steps 10 through 13 and 15 through 17.
- IPS – Perform steps 14 through 17, then go to step 18. Skip steps 10 through 13.

---

10. Display the status of the SCCP cards by entering the **rept-stat-sccp** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:57:31 GMT  EAGLE5 32.0.0
SCCP SUBSYSTEM REPORT IS-NR          Active     -----
SCCP Cards Configured=3  Cards IS-NR=3
System TPS Alarm Threshold = 80% Total Capacity
System Peak SCCP Load = 4000 TPS
System Total SCCP Capacity = 5100 TPS
CARD  VERSION      PST             SST        AST       MSU USAGE  CPU USAGE
------------------------------------------------------------------------------
1101  123-002-001  IS-NR           Active     -----       47%         81%
1102  123-002-001  IS-NR           Active     -----       34%         50%
1103  123-002-001  IS-NR           Active     -----       21%         29%
------------------------------------------------------------------------------
SCCP Service Average MSU Capacity = 36%       Average CPU Capacity = 56%
Command Completed.
```

Skip steps 11 through 17, and go to step 18.

---

11. Display the status of the MCPMs in the database with the **rept-stat-meas** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 16:43:42 GMT  EAGLE5 32.0.0

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

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 123-002-000     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   123-002-000     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 12 through 17, and go to step 18.

---

12. Display the status of the DCM-EMDC cards using the **rept-stat-ndc** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
CARD   VERSION      TYPE    APPL       PST            SST        AST
2205   123-002-000  DCM     EMDC       IS-NR          Active     -----
  DCM A IP CONNECTION                  IS-NR          Avail      -----
  OAP A IP CONNECTION                  IS-NR          Avail      -----
  OAP A NDC AGENT                      IS-NR          Active     -----


CARD   VERSION      TYPE    APPL       PST            SST        AST
2207   123-002-000  DCM     EMDC       IS-NR          Idle       -----
  DCM B IP CONNECTION                  IS-NR          Avail      -----
  OAP B IP CONNECTION                  IS-NR          Avail      -----
  OAP B NDC AGENT                      IS-NR          Idle       -----


  NDC Q.3 ASSOCIATION [OAP A]          IS-NR          Avail      -----
  DCM-DCM IP CONNECTION                IS-NR          Avail      -----
  OAP-OAP SERIAL CONNECTION            IS-NR          Avail      -----

ALARM STATUS:

Command Completed.
```

Skip steps 14 through 17, and go to step 18.

---

13. Display the status of the STC cards using the **rept-stat-eroute** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0

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   123-002-000  IS-NR         Active     -----      35%    52%
1205   123-002-000  IS-NR         Active     -----      35%    52%
1211   123-002-000  IS-NR         Active     -----      35%    52%
1303   123-002-000  IS-NR         Active     -----      35%    52%
1311   123-002-000  IS-NR         Active     -----      35%    52%
1313   123-002-000  IS-NR         Active     -----      35%    52%
2211   123-002-000  IS-NR         Active     -----      35%    52%
2213   123-002-000  IS-NR         Active     -----      35%    52%
------------------------------------------------------------------
EROUTE Service Average TVG Capacity =  35%  Average CPU Capacity =  52%
```

Skip steps 14 through 17, and go to step 18.

---

14. Display the status of the IPSMs (if the IPS GPL is being updated), or the cards running the EBDADCM or EBDABLM GPL using the **rept-stat-card** command and specifying the location of the card shown in the **rept-stat-gpl** output in step 8. For this example, enter this command.

rept-stat-card:loc=2301

This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
CARD   VERSION      TYPE      APPL       PST            SST        AST
2301   123-001-000  DCM       EBDADCM    IS-NR          Active     -----

  ALARM STATUS       = No Alarms.
  BPDCM GPL          = 123-002-000
  IMT BUS A          = Conn
  IMT BUS B          = Conn
Command Completed.
```

If the EBDABLM or EBDADCM GPLs are being updated, skip steps 15 through 17, and go to step 18.

---

15. 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 05-03-01 16:02:08 GMT EAGLE5 32.0.0
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  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
```

16. Display the status of the terminals with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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.
```

17. Place the terminals associated with the IPSM that will be updated with the new IPS GPL 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

CAUTION: Placing these terminals out of service will disable any Telnet sessions running on these terminals.

If the status of the OAP 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 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Inhibit message sent to terminal

rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Command Completed.
```

18. 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 steps 8, 10, 11, 12, 13 or 14, 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**), 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 system 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.

If there is only one in service card running the GPL being updated in the system, 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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
Card has been inhibited.
```

19. Put the card that was inhibited in step 18 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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
Card has been allowed.
```

20. 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 8. If any card is not running the release version of the GPL, shown in the **RELEASE** column of the **rtrv-gpl** output in step 7, 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:appl=vsccp
```

This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:40:26 GMT  EAGLE5 32.0.0
APPL     CARD   RUNNING           APPROVED      TRIAL
VSCCP    1101   123-003-000       123-003-000   123-002-000
VSCCP    1102   123-002-000 ALM   123-003-000   123-002-000
VSCCP    1103   123-002-000 ALM   123-003-000   123-002-000
Command Completed
```

NOTE: If the IPS GPL is not being updated in this procedure, skip step 21 and 22, and go to step 23.

21. Put the terminals that were placed out of service in step 17 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 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Allow message sent to terminal

rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Command Completed.
```

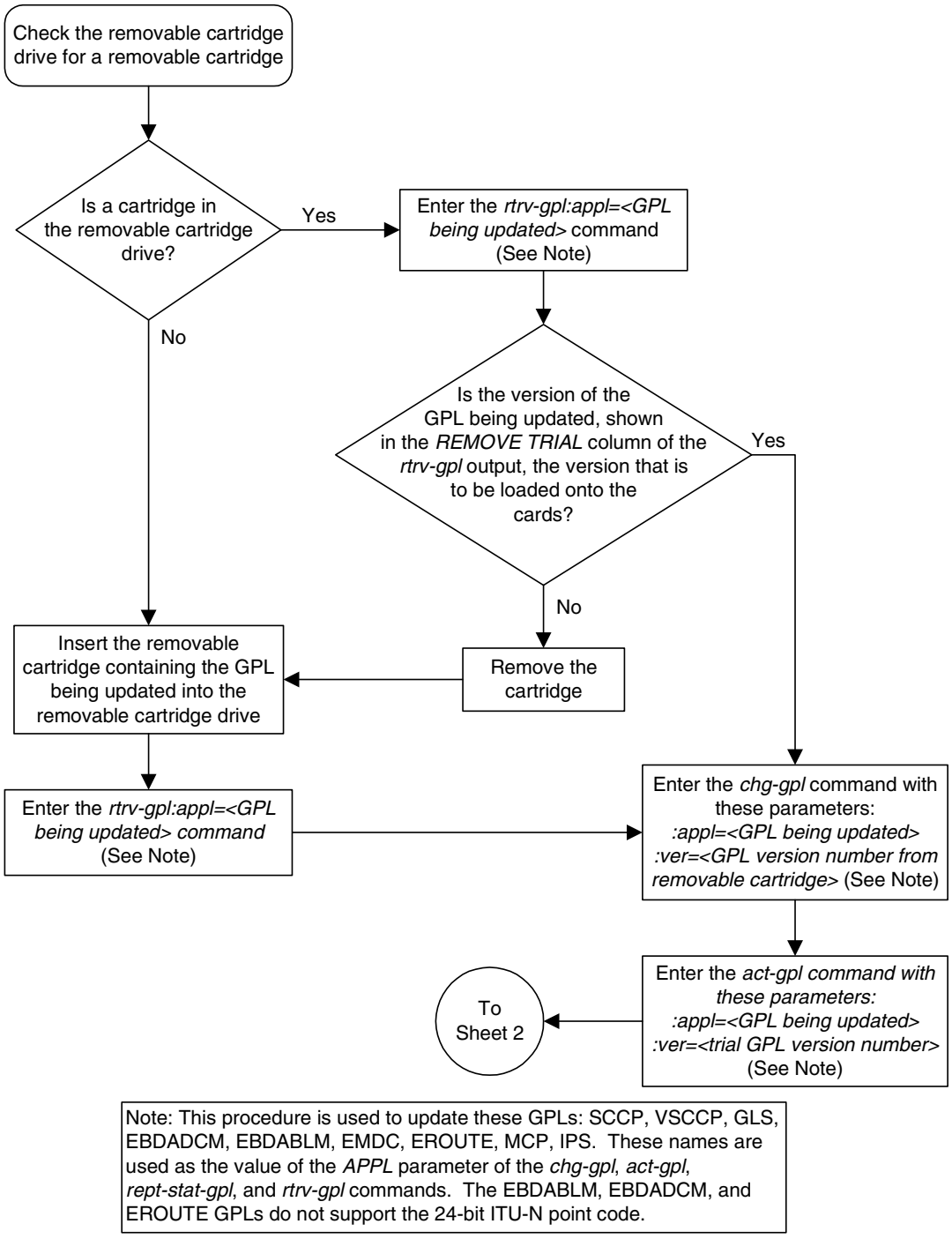
22. Verify that the terminals are in service with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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.
```

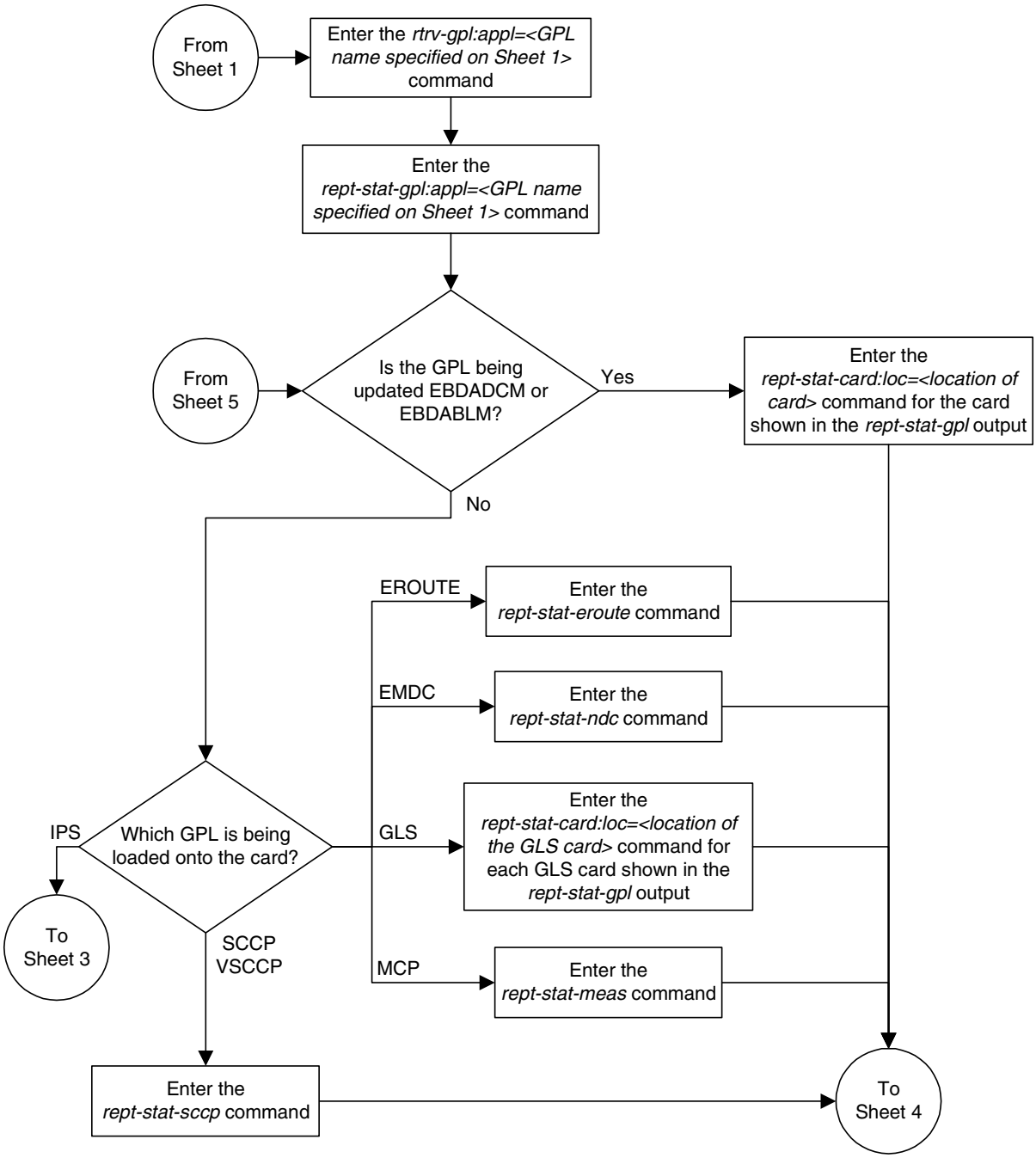
23. If you wish to load the new GPL onto the other cards shown in step 8, repeat this procedure from step 9 for each card shown in step 8.

24. 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 2-9.

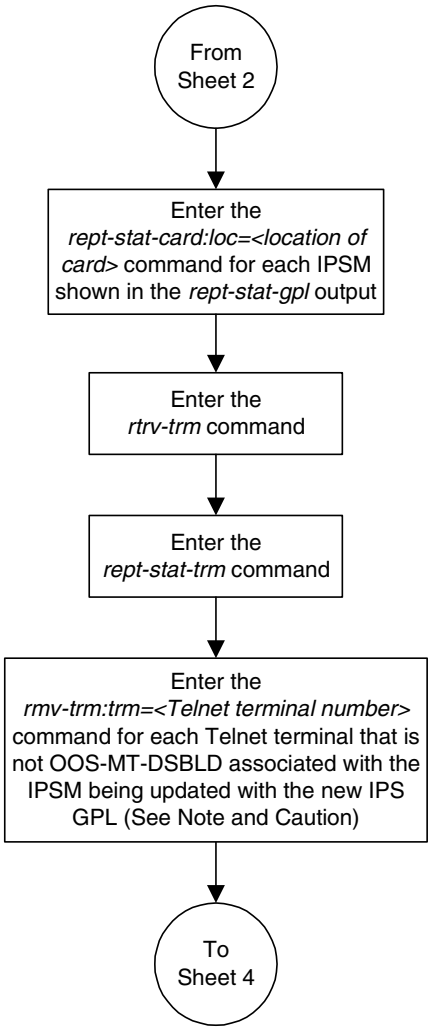
Flowchart 3-4. Updating the Service GPLs (Sheet 1 of 5)



Flowchart 3-4. Updating the Service GPLs (Sheet 2 of 5)



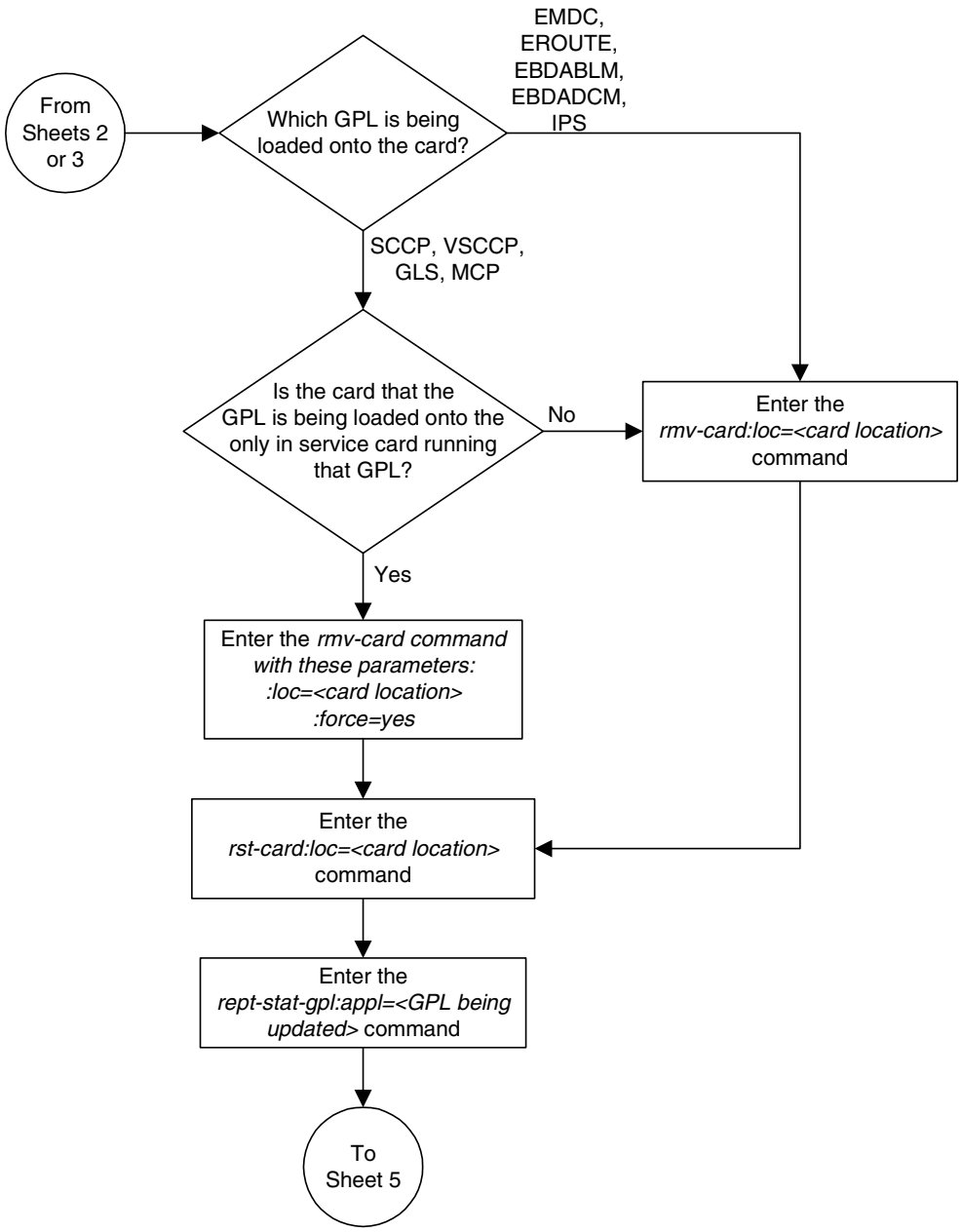
Flowchart 3-4. Updating the Service GPLs (Sheet 3 of 5)



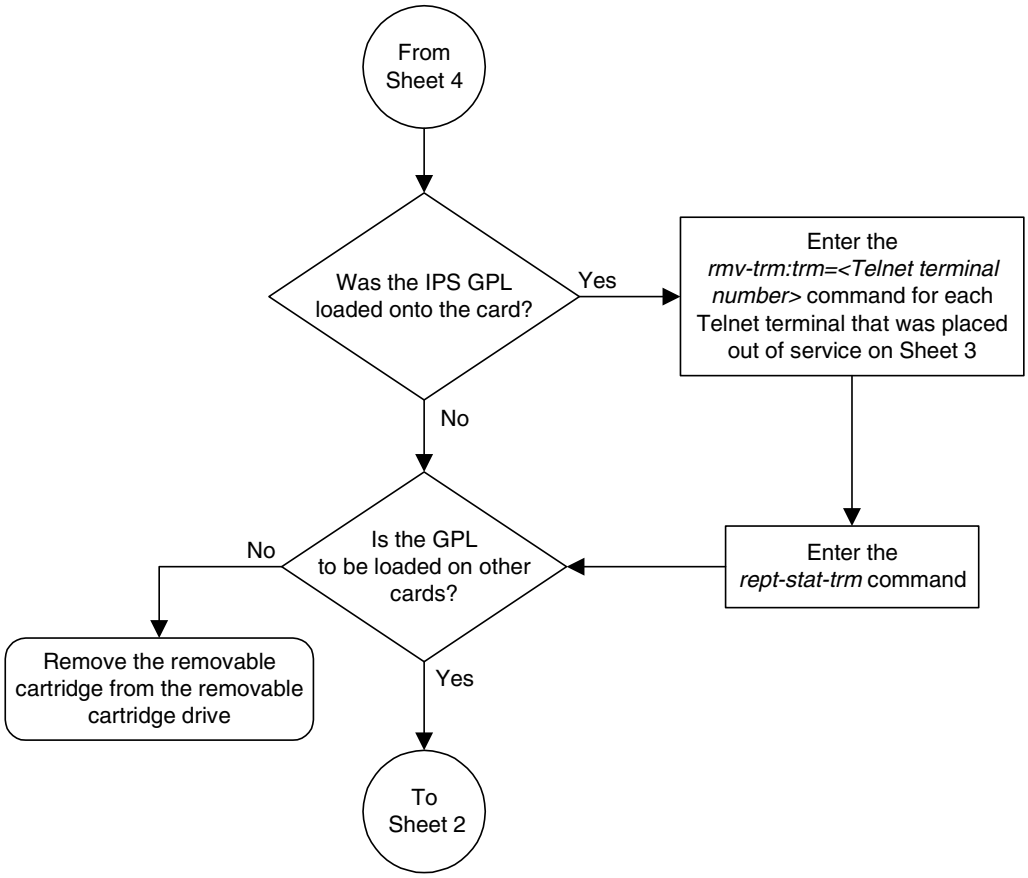
Caution: Placing the Telnet terminals out of service will disable all Telnet sessions supported by the terminals associated with the IPSM.

Note: Each IPSM has 8 Telnet terminals associated with it. The *rtrv-trm* output shows the Telnet terminals that are associated with each IPSM.

Flowchart 3-4. Updating the Service GPLs (Sheet 4 of 5)



Flowchart 3-4. Updating the Service GPLs (Sheet 5 of 5)



Updating the Flash GPLs

This procedure is used to update these GPLs: **bphcap**, **bphcapt**, **bpmpl**, **bpmplt**, **bpdcm**. These names are used as the value of the **gpl** parameter of the **chg-gpl**, **act-gpl**, **rept-stat-gpl**, and **rtrv-gpl** commands.

The **bphmux** gpl is also a flash GPL that runs only on the HMUX cards and is not covered in this procedure. To update the **bphmux** GPL, go to the "Updating the BPHMUX GPL" procedure on page 3-99.

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 SS7 ANSI or CCS7ITU applications for SS7 signaling links.
- BPMPLT – Multi-Port LIM (MPLT) or E1/T1 MIM running the SS7ML application. 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 applications:
  - VXWSLAN – Used to support the STPLAN feature
  - EMDC – Used to support the GR-376 Interface feature
  - EBDADCM – Used to support the Enhanced Bulk Download feature
  - SS7IPGW, IPGWI, IPLIM, or IPLIMI – Used to support IP signaling links
  - VSCCP – Used to support these features: GTT, EGTT, VGTT, MGTT, IGTTLS, LNP, INP, G-FLEX, G-PORT, EIR, XGTT Table Expansion, XMAP Table Expansion
  - EROUTE – Used to support the Eagle with Integrated Sentinel 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.

  These applications do not support 24-bit ITU-N point codes: **vxwslan**, **ebdablm**, **ebdadcm**. The LNP and INP features and the Sentinel product do not support 24-bit ITU-N point codes.

The card types and applications shown in Table 3-3 on page 3-46 are the values shown in the **TYPE** or **APPL** columns of the **rept-stat-card** output.

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*.

Procedure

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:appl=bpdcm

This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BPDCM     1114  002-002-000  002-002-000      002-001-000  002-003-000
BPDCM     1116  002-002-000  002-002-000      002-001-000  -----------
```

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 2-9.

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, 3, and 4, and go to step 5.

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 2-6.

3. Insert the removable cartridge containing the **bpdcm** 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 2-8.

4. 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:appl=bpdcm

   This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BPDCM     1114  002-002-000  002-002-000      002-001-000  002-003-000
BPDCM     1116  002-002-000  002-002-000      002-001-000  -----------
```

5. 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 steps 1 or 4. For this example, enter this command.

   chg-gpl:appl=bpdcm:ver=002-003-000

   These messages should appear.

```
rlghncxa03w 05-03-01  11:43:04  GMT  EAGLE5 32.0.0
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
```

6. Activate the trial GPL, using the **act-gpl** command and specifying the name and version of the trial GPL specified in step 5. For this example, enter this command.

   act-gpl:appl=bpdcm:ver=002-003-000

   These messages should appear.

```
rlghncxa03w 05-03-01 06:54:39 GMT EAGLE5 32.0.0
BPDCM activate on 1114 completed
BPDCM activate on 1116 completed
```

7. Verify that the GPL on the removable cartridge is the approved GPL on the fixed disk using the **rtrv-gpl** command with the **gpl** parameter value specified in step 6. For this example, enter this command.

   rtrv-gpl:appl=bpdcm

   This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:34:04 GMT EAGLE5 32.0.0
GPL Auditing ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
BPDCM     1114  002-003-000  002-003-000      002-002-000  002-003-000
BPDCM     1116  002-003-000  002-003-000      002-002-000  -----------
```

8. 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 specified in step 7. For this example, enter this command.

   rept-stat-gpl:appl=bpdcm

   This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:40:26 GMT  EAGLE5 32.0.0
APPL     CARD   RUNNING           APPROVED      TRIAL
BPDCM    1113   002-002-000 ALM   002-003-000   002-002-000
BPDCM    1115   002-002-000 ALM   002-003-000   002-002-000
BPDCM    1303   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2101   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2103   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2105   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2107   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2111   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2113   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2115   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2205   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2207   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2213   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2301   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2303   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2305   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2307   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2311   002-002-000 ALM   002-003-000   002-002-000
BPDCM    3103   002-002-000 ALM   002-003-000   002-002-000
BPDCM    3105   002-002-000 ALM   002-003-000   002-002-000
BPDCM    3107   002-002-000 ALM   002-003-000   002-002-000
Command Completed
```

   NOTE: If the GPL being displayed by the `rept-stat-gpl` command is the bpdcm GPL, the output of the `rept-stat-gpl` command will show any DCMs, DSMs, or GPSM-II cards that are inserted in the system, whether they are configured in the database or not.

9. Display the status of the card, shown in the **rept-stat-gpl** output in step 8, 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=2105

This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
CARD  VERSION      TYPE    APPL      PST           SST       AST
2105  123-003-000  DCM     VXWSLAN   IS-NR         Active    -----
  ALARM STATUS      = No Alarms.
  BPDCM GPL         = 002-002-000
  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.
```

10. Steps 11 through 21 are performed based on the application running on the card shown in the **APPL** column in the **rept-stat-card** output in step 9. The following list shows the steps that are performed for the application running on the card being updated with the new flash GPL.

- EMDC, EROUTE, EBDABLM, EBDADCM – Step 9 shows the status of these cards. Skip steps 11 through 21 and go to step 22.
- ATMANSI, ATMITU, SS7ANSI, CCS7ITU, IPLIM, IPLIMI, SS7IPGW, IPGWI – Perform steps 11 and 12, then go to step 22. Skip steps 13 through 21.
- VXWSLAN – Perform steps 13 and 14, then go to step 22. Skip steps 11 and 12, and steps 15 through 21.
- VSCCP – Perform step 15, then go to step 22. Skip steps 11 through 14, and steps 16 through 21.
- MCP – Perform step 16, then go to step 22. Skip the steps 11 through 15, and steps 17 through 21.
- EOAM – Perform steps 17 through 21, then go to step 22. Skip steps 11 through 16.
- IPS – Perform steps 18, 19, and 20, then go to step 22. Skip steps 11 through 17 and step 21.

11. 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. This is an example of the possible output.

```
rlghncxa03w 05-03-01 21:16:37 GMT  EAGLE5 32.0.0

                                    L2T          L1                PCR  PCR
LOC  PORT 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  ---  -----
```

12. Deactivate the SS7 signaling links on the card using the **dact-slk** command. For this example, enter these commands.

dact-slk:loc=1201:port=a

dact-slk:loc=1201:port=b

dact-slk:loc=1201:port=a1

dact-slk:loc=1201:port=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 system at the same time. Doing so will take all the SS7 signaling links out of service and isolate the system from the network.

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

```
rlghncxa03w 05-03-01 11:45:18 GMT  EAGLE5 32.0.0
Deactivate SLK message sent to card
```

Skip steps 13 through 21, and go to step 22.

13. Display the TCP/IP data links, and their status, associated with the cards shown in steps 8 and 9. Enter the **rept-stat-dlk** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 17:00:36 GMT  EAGLE5 32.0.0
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.
```

14. Deactivate the TCP/IP data link that you wish to load the GPL onto, shown in step 13, 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 system at the same time. Doing so will take all the TCP/IP data links out of service and cause the STP LAN feature to be disabled.

If there is only one TCP/IP data link in the system, placing the card out of service will cause the STP LAN feature to be disabled.

When this command has successfully completed, this message should appear.

```
rlghncxa03w 05-03-01 11:45:18 GMT  EAGLE5 32.0.0
Deactivate Link message sent to card.
Command Completed.
```

Skip steps 15 through 21, and go to step 22.

---

15. Display the status of the SCCP cards by entering the **rept-stat-sccp** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:57:31 GMT  EAGLE5 32.0.0
SCCP SUBSYSTEM REPORT IS-NR          Active     -----
SCCP Cards Configured=3  Cards IS-NR=3
System TPS Alarm Threshold = 80% Total Capacity
System Peak SCCP Load = 3000 TPS
System Total SCCP Capacity = 5100 TPS
CARD  VERSION      PST             SST        AST       MSU USAGE  CPU USAGE
------------------------------------------------------------------------------
2311  123-002-001  IS-NR           Active     -----       47%         81%
3101  123-002-001  IS-NR           Active     -----       34%         50%
3103  123-002-001  IS-NR           Active     -----       21%         29%
------------------------------------------------------------------------------
SCCP Service Average MSU Capacity = 34%       Average CPU Capacity = 54%
Command Completed.
```

Skip steps 16 through 21, and go to step 22.

---

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 05-03-01 16:43:42 GMT  EAGLE5 32.0.0

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

    CARD   VERSION         TYPE    PST           SST        AST
    2107 P 123-002-000     MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2111   123-002-000     MCPM    IS-NR         Active     -----
       IP Link A                   IS-NR         Active     Available
    2115   123-002-000     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 17 through 21, and go to step 22.

NOTE: Step 17 is performed only if the application running on the card shown in the rept-stat-card output in step 9 is EOAM. If the application running on the card is IPS, skip step 17 and go to step 18.

17. To load the **bpdcm** 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 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
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.

---

18. Display the terminal configuration in the database with the **rtrv-trm** command.

If the application running on the card is EOAM, the OAP terminals must be taken out of service. The OAP terminals are shown in the output with the entry **OAP** in the **TYPE** field. If no OAP terminals are shown in the **rtrv-trm** command output, skip steps 19 through 21 and go to step 22.

If the application running on the card is IPS, 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 OAP terminals are terminals 6 and 9. The Telnet terminals that must be taken out of service are terminals 17 to 24.

```
rlghncxa03w 05-03-01 16:02:08 GMT EAGLE5 32.0.0
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    1201             60    5     00:30:00
18   TELNET    1201             60    5     00:30:00
19   TELNET    1201             60    5     00:30:00
20   TELNET    1201             60    5     00:30:00
21   TELNET    1201             60    5     00:30:00
22   TELNET    1201             60    5     00:30:00
23   TELNET    1201             60    5     00:30:00
24   TELNET    1201             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  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
```

19. Display the status of the terminals with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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.
```

20. Place the required terminals out of service using the **rmv-trm** command.

If the OAP terminals are being placed out of service, the **force=yes** parameter must be used when placing the last OAP 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
```

CAUTION: Placing the OAP terminals out of service will disable the SEAS feature and stop new LNP updates being sent from the LSMS to the Eagle through the OAPs.

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 19 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 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Inhibit message sent to terminal

rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Command Completed.
```

NOTE: Step 21 is performed only if the OAP terminals were placed out of service in step 20. If the OAP terminals were not placed out of service in step 20, skip step 21 and go to step 22.

21. Change the terminal type of the OAP terminals to NONE with the **chg-trm** command, the **type=none** parameter, and with the values of the OAP terminals used in step 20. For this example, enter these commands.

```
chg-trm:trm=6:type=none
```

```
chg-trm:trm=9:type=none
```

This message should appear when these commands have successfully completed.

```
rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
CHG-TRM: MASP B - COMPLTD
```

---

22. Place the card shown in step 9 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 25). This requires that the cards in the locations specified with the init-flash command in step 25 are out of service. All the cards running a one of these applications (ss7ansi, ccs7itu, atmansi, atmitu, iplim, iplimi, ss7ipgw, ipgwi, vxwslan, vsccp, mcp, emdc, eroute, and ips) can be placed out of service. However, it is recommended that only some of the cards running a specific application are placed out of service. Placing all the cards running a specific application 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 eaom application 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 application cannot be placed out of service at the same time.

CAUTION: If there is only one card running these applications (ss7ansi, ccs7itu, atmansi, atmitu, iplim, iplimi, ss7ipgw, ipgwi, vxwslan, vsccp, mcp, emdc, eroute, or ips), shown in the APPL column in the rept-stat-card output in step 9, in the system, 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 25, repeat this step for those cards.

When this command has successfully completed, this message should appear.

```
rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
Card has been inhibited.
```

If the card is running the **ss7ansi**, **ccs7itu**, **iplim**, **iplimi**, **ss7ipgw**, or **ipgwi** applications, 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** applications, and is the last card running that application in service, the **force=yes** parameter must be specified.

NOTE: If you do not wish to reload the TDM clock LCA bitfile, skip steps 23 and 24, and go to step 25.

23. Verify the status of the high-speed clocks by entering the **rept-stat-clk** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
CARD LOC = 1114 (Standby  )   CARD LOC = 1116 (Active   )
PRIMARY BITS     = Active     PRIMARY BITS     = Active
SECONDARY BITS   = Idle       SECONDARY BITS   = Idle
HS PRIMARY CLK   = Active     HS PRIMARY CLK   = Active
HS SECONDARY CLK = Idle       HS SECONDARY CLK = Idle
HS CLK TYPE      = RS422      HS CLK TYPE      = RS422
HS CLK LINELEN   = LONGHAUL   HS CLK LINELEN   = LONGHAUL

                              PST           SST       AST
SYSTEM CLOCK                  IS-NR         Active    -----
ALARM STATUS     = No Alarms.
# Cards using CLK A = 009     # Cards with bad CLK A = 000
# Cards using CLK B = 000     # Cards with bad CLK B = 000
# Cards using CLK I = 000

                              PST           SST       AST
HS SYSTEM CLOCK               IS-NR         Active    -----
ALARM STATUS      = No Alarms.
# Cards using HS CLK A = 002  # Cards with bad HS CLK A = 000
# Cards using HS CLK B = 000  # Cards with bad HS CLK B = 000
# Cards using HS CLK I = 000

Command Completed.
```

If the **rept-stat-clk** output does not show any high-speed clocks (**HS SYSTEM CLOCK**, **HS PRIMARY CLK**, **HS SECONDARY CLK**, **HS CLK TYPE**, and **HS CLK LINELEN** fields), the system 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 24 and go to step 25.

24. Visually verify the part numbers of both TDMs in the system. 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 870-0743-15 or later. Contact Tekelec Technical Services before replacing the TDMs. See "Tekelec Technical Services" on page 1-6. If the older TDMs are not replaced, this procedure cannot be performed.

---

25. Load the GPL onto the card inhibited in step 22 using the **`init-flash`** command with the **`code=appr`** parameter to load the approved version of the 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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    FLASH Memory Downloading for card 2105 Started.
;
    rlghncxa03w 05-03-01  11:11:28 GMT EAGLE5 32.0.0
    BPHCAP Downloading for card 2105 Complete.
;
    rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    Command Completed.
```

If the card inhibited in step 22 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 system 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 23, on the TDM which is not beng 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 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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    FLASH Memory Download for card 1113 Started.
;

    rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    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

appl – 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 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:appl=bpdcm
```

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    FLASH Memory Download for cards 1101 - 2115 Started.
;
    rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    Command Completed.
```

When the **init-flash** command has completed successfully, the card specified in the **init-flash** command is rebooted.

26. Put the cards that were inhibited in step 22 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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
Card has been allowed.
```

---

27. Verify that the GPL from step 25 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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
CARD  VERSION      TYPE    APPL      PST           SST       AST
2105  123-003-000  DCM     VXWSLAN   IS-NR         Active    -----
  ALARM STATUS      = No Alarms.
  BPDCM GPL         = 002-003-000 +
  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 GPL has not been activated.

NOTE: If the version number of the `bpdcm` GPL shown in the `rept-stat-card` command output is different than the version specified in step 5, contact Tekelec Technical Services. See "Tekelec Technical Services" on page 1-6.

---

28. Activate the approved GPL loaded onto the cards in step 25 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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    FLASH Memory Activation for card 2105 Completed.
;
    rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    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 25, 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

appl – 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 1101 to 2115.

act-flash:sloc=1101:eloc=2115:appl=bpdcm

When this command has successfully completed, these messages should appear.

```
    rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    FLASH Memory Activation for cards 1101 - 2115 Started.
;
    rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    Command Completed.
```

29. Verify the GPLs on the cards using the **rept-stat-gpl** command with the **gpl** parameter value specified in step 6. If any card is not running the release version of the GPL, shown in the **RELEASE** column of the **rtrv-gpl** output in step 7, 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.

This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:40:26 GMT  EAGLE5 32.0.0
APPL     CARD   RUNNING           APPROVED      TRIAL
BPDCM    1113   002-002-000 ALM   002-003-000   002-002-000
BPDCM    1115   002-002-000 ALM   002-003-000   002-002-000
BPDCM    1303   002-002-000 ALM   002-003-000   002-002-000
BPDCM    1307   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2101   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2103   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2105   002-003-000       002-003-000   002-002-000
BPDCM    2113   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2205   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2207   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2213   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2301   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2303   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2305   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2307   002-002-000 ALM   002-003-000   002-002-000
BPDCM    2311   002-002-000 ALM   002-003-000   002-002-000
BPDCM    3101   002-002-000 ALM   002-003-000   002-002-000
BPDCM    3103   002-002-000 ALM   002-003-000   002-002-000
BPDCM    3105   002-002-000 ALM   002-003-000   002-002-000
BPDCM    3107   002-002-000 ALM   002-003-000   002-002-000
Command Completed
```

NOTE: If the GPL being displayed by the rept-stat-gpl command is the bpdcm GPL, the output of the rept-stat-gpl command will show any DCMs, DSMs, or GPSM-II cards that are inserted in the system, whether they are configured in the database or not.

NOTE: If the card's application, shown in the rept-stat-card output in step 9, is ss7ansi, ccs7itu, atmansi, atmitu, iplim, iplimi, ss7ipgw, ipgwi, perform steps 30 and 31, then go to step 39. Skip steps 33 through 38.

30. 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:port=a

act-slk:loc=1201:port=b

act-slk:loc=1201:port=a1

act-slk:loc=1201:port=b1
```

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

```
rlghncxa03w 05-03-01 11:55:49 GMT  EAGLE5 32.0.0
Activate SLK message sent to card
```

---

31. Verify that the signaling links activated in step 30 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:port=a

This is an example of the possible output.

```
rlghncxa03w 05-03-01 13:06:25 GMT EAGLE5 32.0.0
SLK      LSN       CLLI        PST          SST       AST
1201,A   lsnmpl1   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

rept-stat-slk:loc=1201:port=b

This is an example of the possible output.

```
rlghncxa03w 05-03-01 13:06:25 GMT EAGLE5 32.0.0
SLK      LSN       CLLI        PST          SST       AST
1201,B   lsnmpl2   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

rept-stat-slk:loc=1201:port=a1

This is an example of the possible output.

```
rlghncxa03w 05-03-01 13:06:25 GMT EAGLE5 32.0.0
SLK      LSN       CLLI        PST          SST       AST
1201,A1  lsnmpl3   ----------- IS-NR        Avail     ----
  ALARM STATUS       = No Alarms.
  UNAVAIL REASON     = --
```

rept-stat-slk:loc=1201:port=b1

This is an example of the possible output.

```
rlghncxa03w 05-03-01 13:06:25 GMT EAGLE5 32.0.0
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, shown in the rept-stat-card output in step 9, is vxwslan, perform steps 32 and 33, then go to step 39. Skip steps 34 through 38.

32. 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 05-03-01 11:55:49 GMT  EAGLE5 32.0.0
Activate Link message sent to card.
```

---

33. Verify that the TCP/IP data links activated in step 32 are back in service with the **rept-stat-dlk** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 17:00:36 GMT  EAGLE5 32.0.0
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 running on the card is not EOAM, skip steps 34 through 38, and go to step 39.

NOTE: If the application running on the is IPS, perform steps 36 and 37, then go to step 39. Skip steps 34, 35, and 38.

NOTE: If you do not wish to load the new version of the bpdcm GPL onto the other GPSM-II card running the EOAM application, skip this step and go to step 35.

34. 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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
Init Card command issued to card 1115
```

After the **init-card** command has completed, repeat this procedure from step 22, specifying the card location used in the **init-card** command.

NOTE: If OAP terminals are not shown in the `rtrv-trm` command output in step 18, skip steps 35 through 37, and go to step 38.

NOTE: If the application running on the is IPS, skip step 35 and go to step 36.

35. Change the terminal type of the terminals that were changed to **`NONE`** in step 21 to the terminal type OAP with the **`chg-trm`** command and the **`type=oap`** parameter. The terminal type is shown in the TYPE field in the **`rtrv-trm`** command output in step 18. For this example, enter these commands.

`chg-trm:trm=6:type=oap`

`chg-trm:trm=9:type=oap`

This message should appear when these commands have successfully completed.

```
rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
CHG-TRM: MASP B - COMPLTD
```

36. Put the required terminals back into service with the **`rst-trm`** command.

If OAP terminals were placed out of service in step 20, for this example, enter these commands.

`rst-trm:trm=6`

`rst-trm:trm=9`

If Telnet terminals were placed out of service in step 20, 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 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Allow message sent to terminal

rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Command Completed.
```

37. Verify that the terminals are in service with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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.
```

38. 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 2-9.

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.

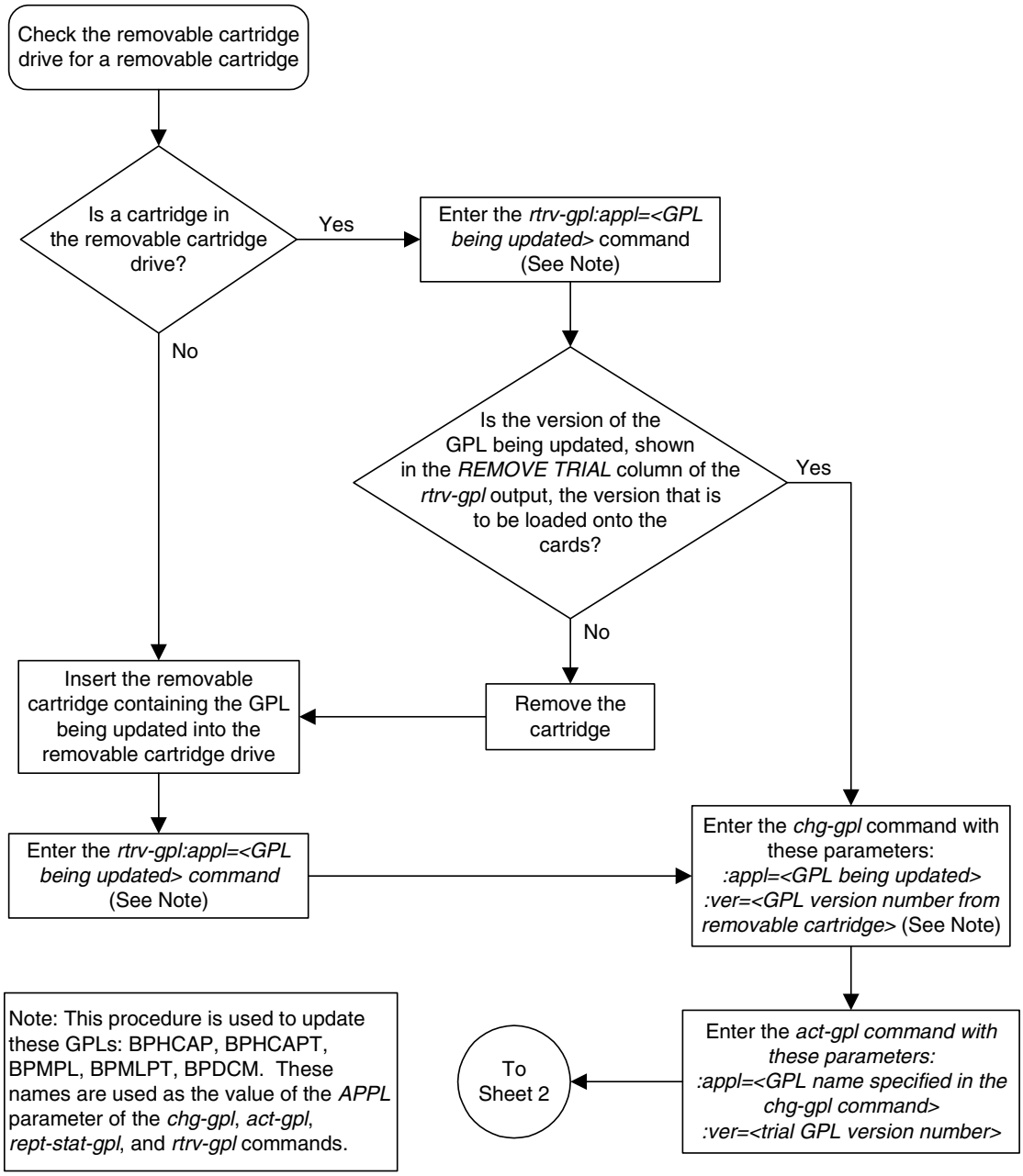
NOTE: If the application running on the card is EOAM, do not perform step 39. This procedure is finished.

39. If you wish to load the new GPL onto the other cards, other than the GPSM-II, shown in step 8, repeat this procedure from step 9 for each card.

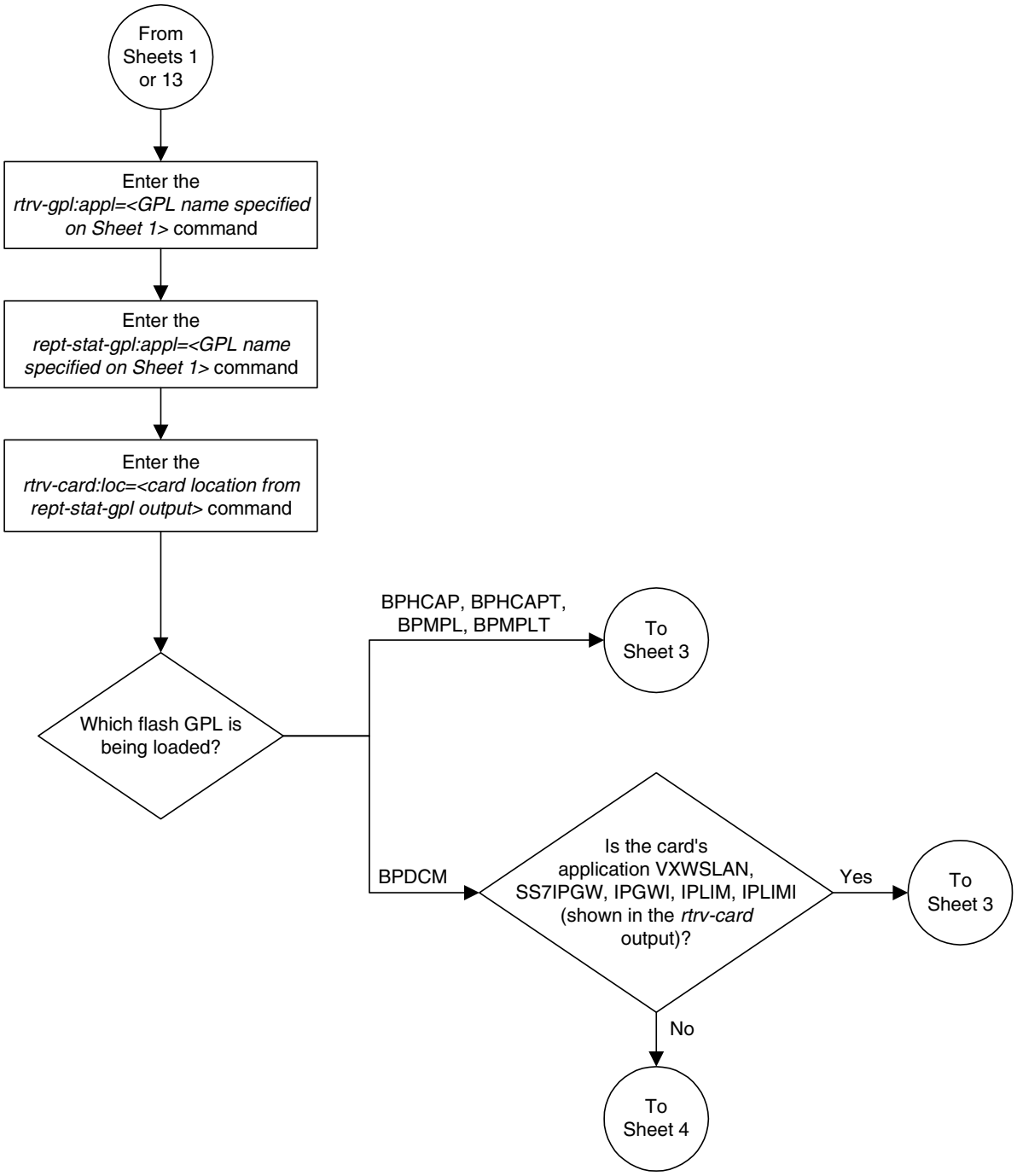
If the new GPL updated in this procedure is not being loaded on the other cards in the system, this procedure is finished. Remove the removable cartridge from the removable cartridge drive on the MDAL card. For more information on removing the removable cartridge from the removable cartridge drive, see "Removing the Removable Cartridge" on page 2-9.

If you wish to update one of the other flash GPLs, repeat this procedure from step 1.

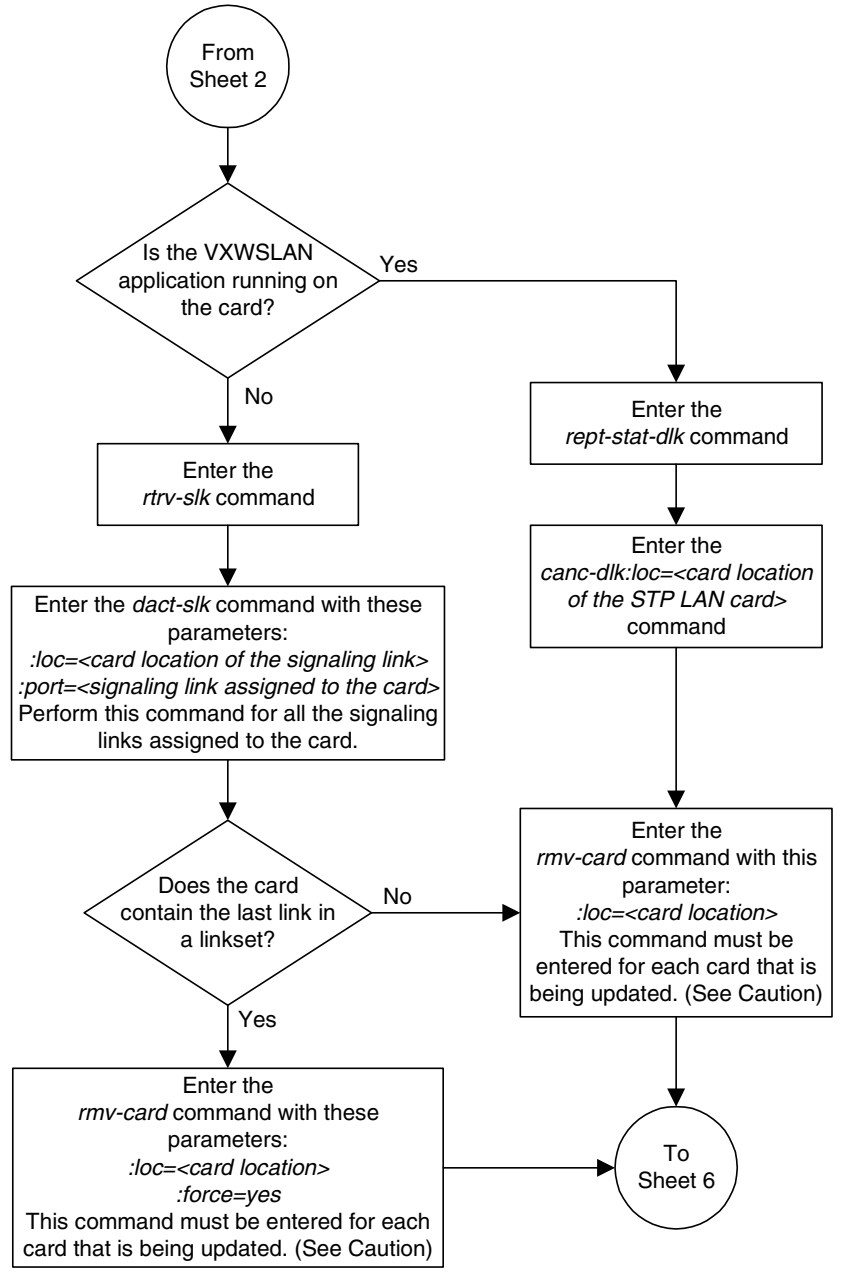
Flowchart 3-5. Updating the Flash GPLs (Sheet 1 of 13)



Flowchart 3-5. Updating the Flash GPLs (Sheet 2 of 13)

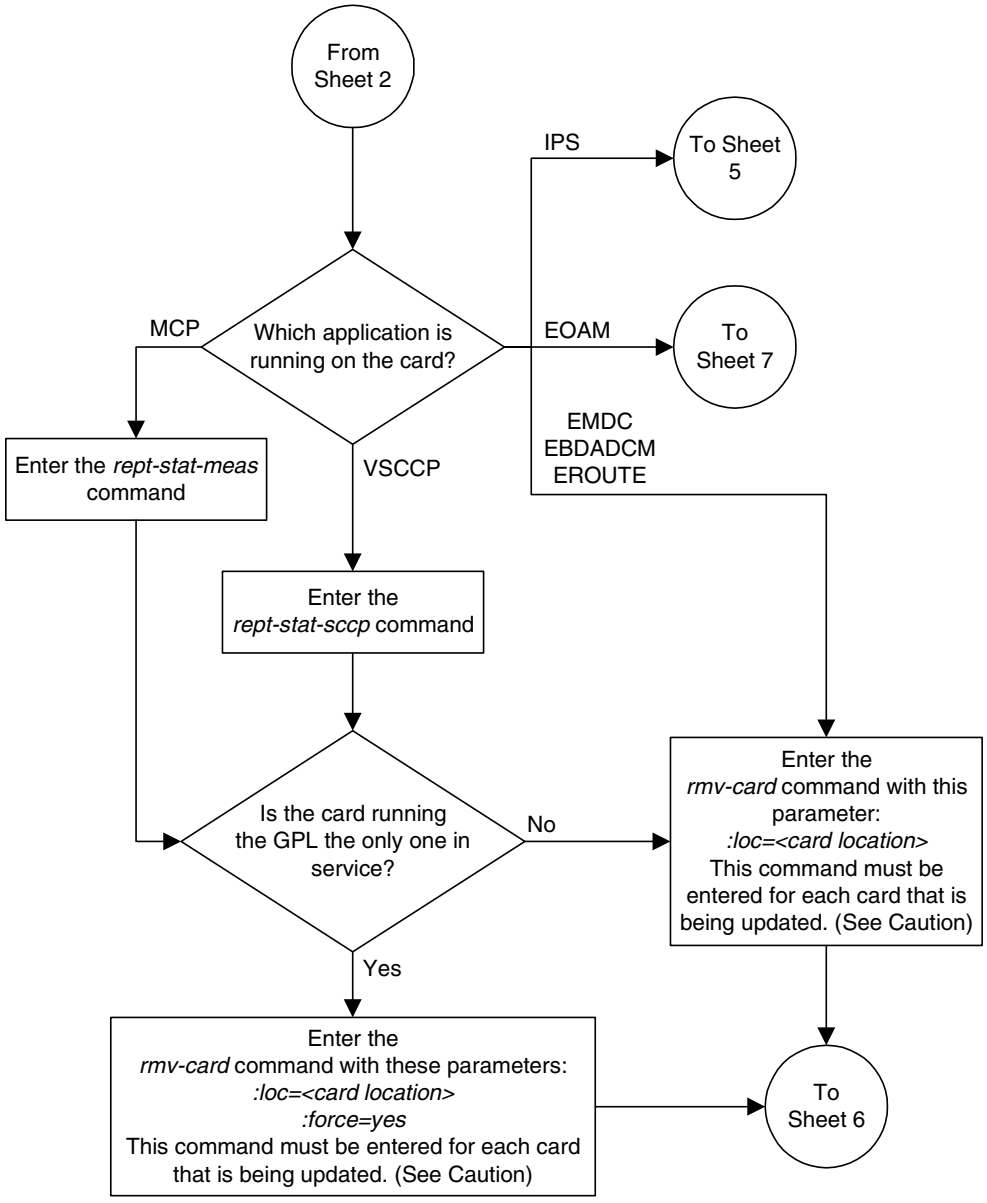


Flowchart 3-5. Updating the Flash GPLs (Sheet 3 of 13)



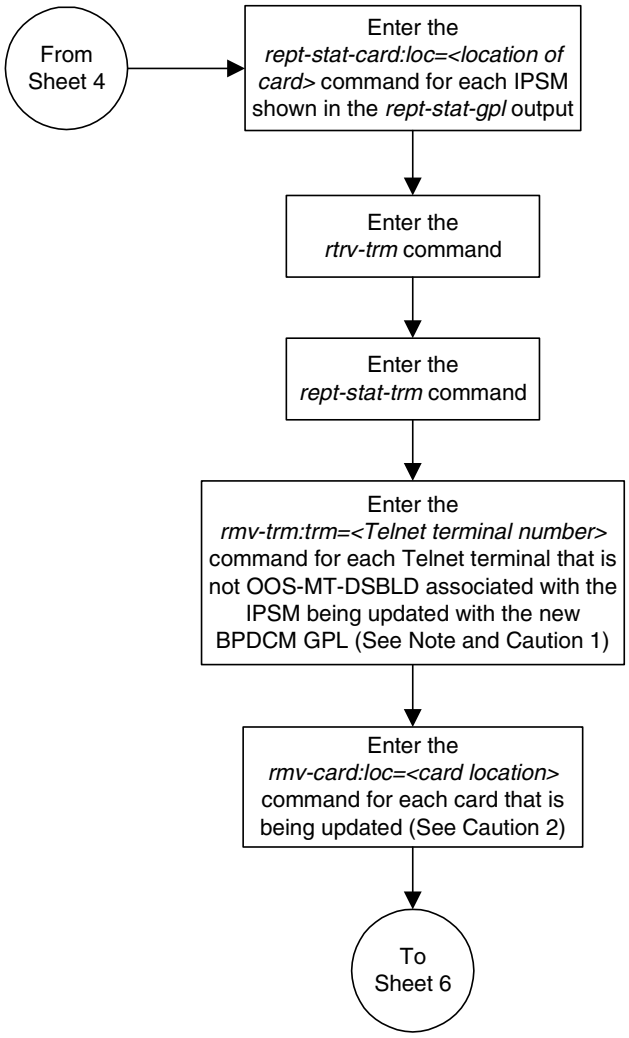
Caution: Multiple cards running the same flash GPL can be updated at the same time with the *init-flash* command. This requires that the cards in the locations specified with the *init-flash* command are out of service. All the cards running a one of these applications (ss7ansi, ccs7itu, atmansi, atmitu, 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 are placed out of service. Placing all the cards running a specific application out of service will cause the traffic carried by these cards to be lost and disable the features supported by these cards.

Flowchart 3-5. Updating the Flash GPLs (Sheet 4 of 13)



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 applications (vsccp, mcp, emdc, eroute) can be placed out of service. However, it is recommended that only some of the cards running a specific application are placed out of service. Placing all the cards running a specific application out of service will cause the traffic carried by these cards to be lost and disable the features supported by these cards.

Flowchart 3-5. Updating the Flash GPLs (Sheet 5 of 13)



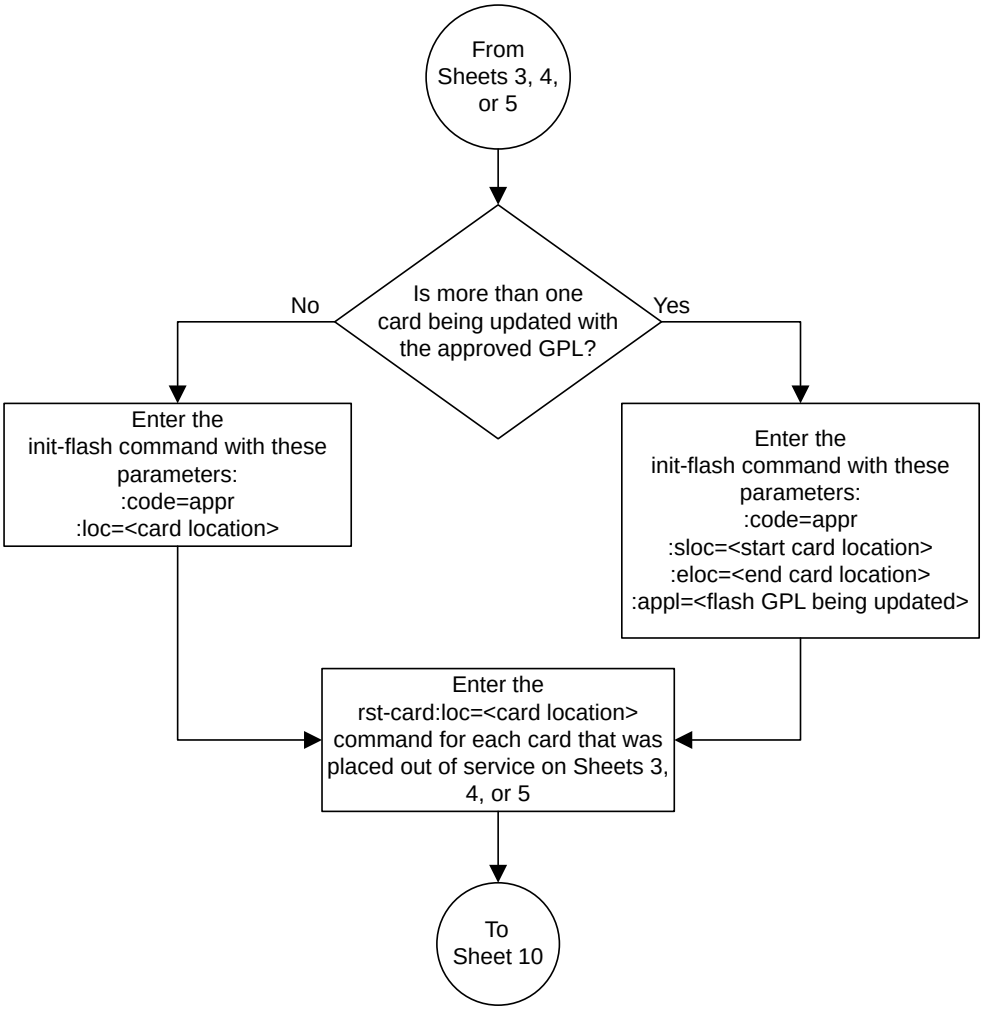
Note: Each IPSM has 8 Telnet terminals associated with it. The *rtrv-trm* output shows the Telnet terminals that are associated with each IPSM.

Cautions:

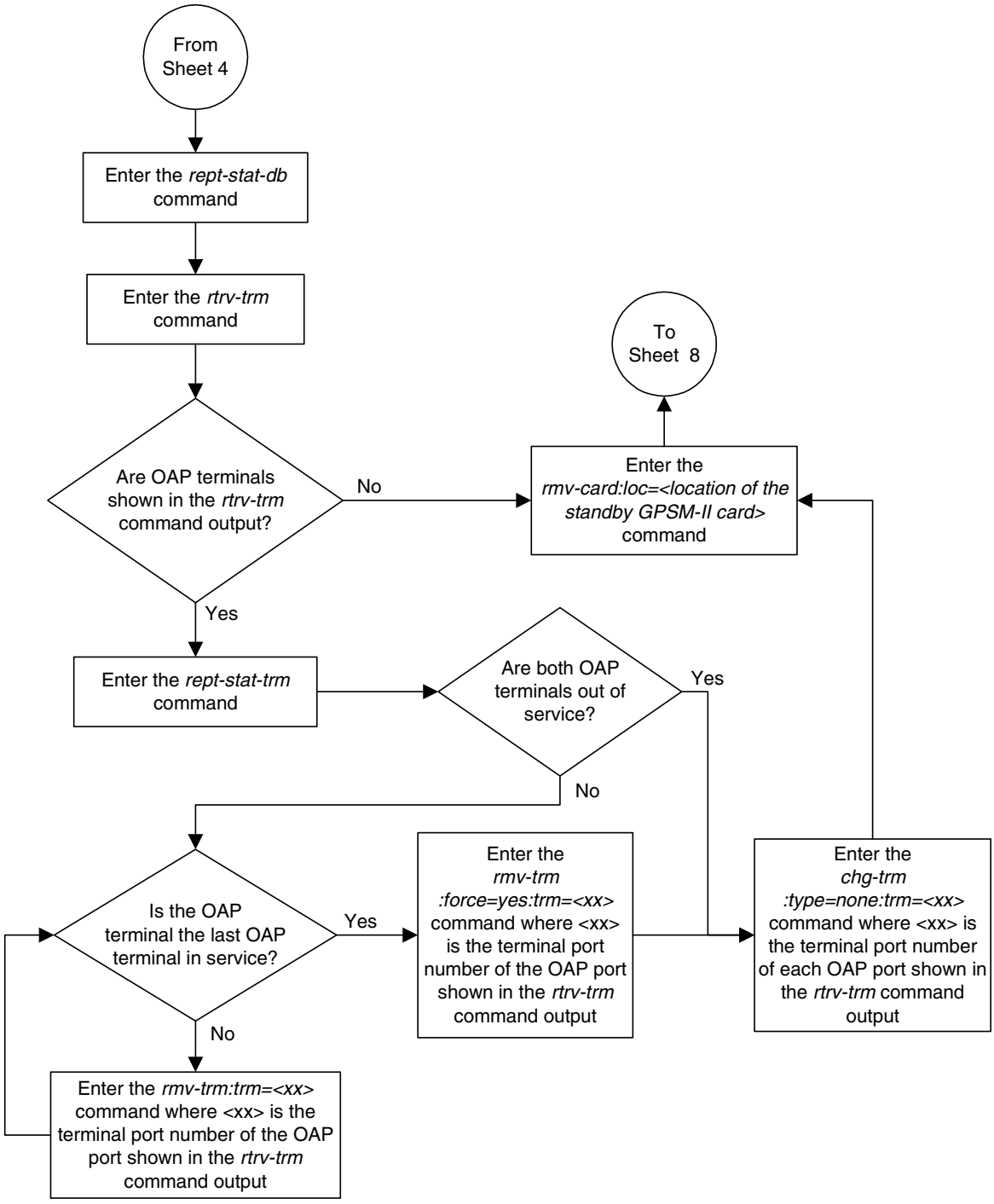
1. Placing the Telnet terminals out of service will disable all Telnet sessions supported by the terminals associated with the IPSM.

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.

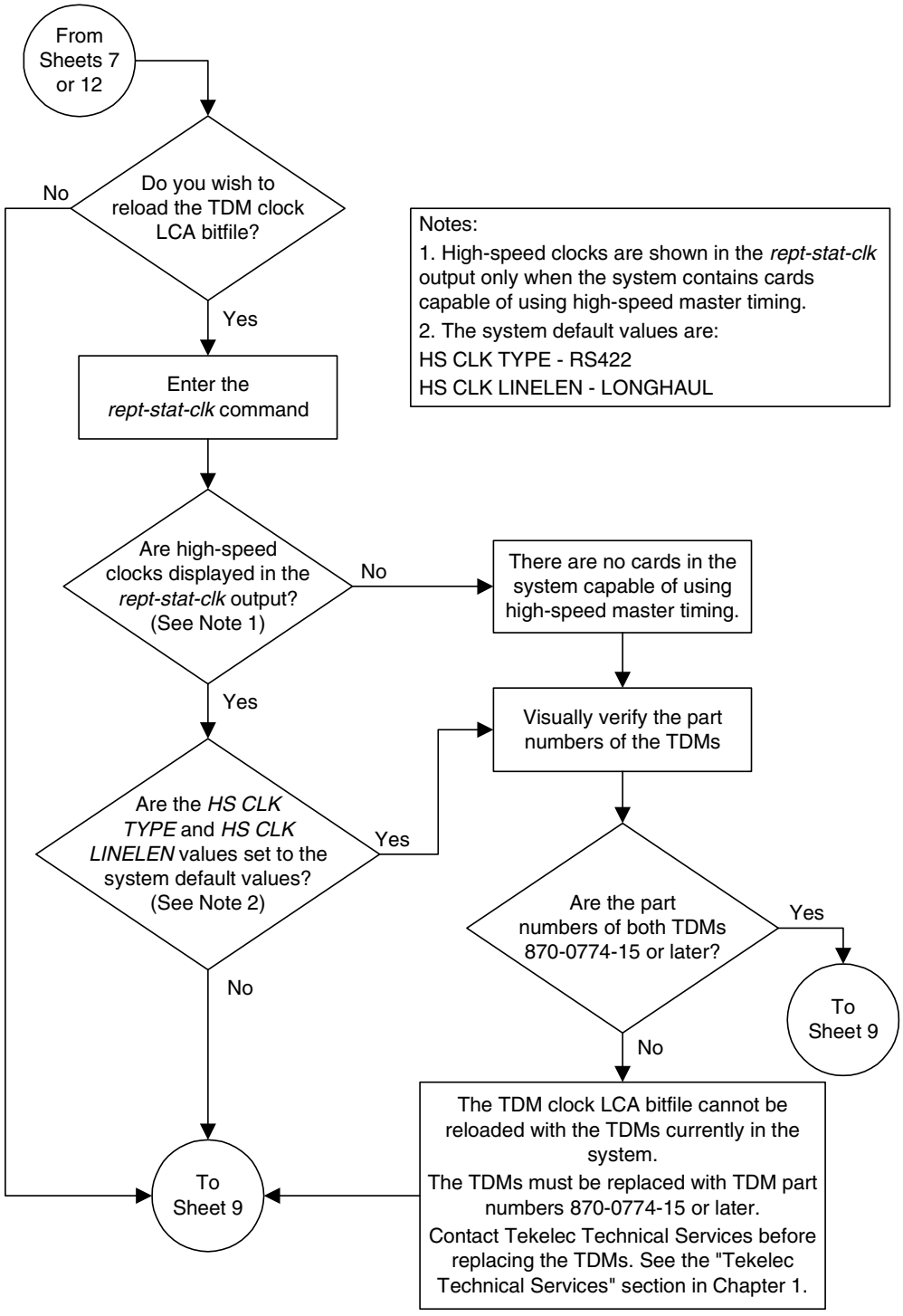
Flowchart 3-5. Updating the Flash GPLs (Sheet 6 of 13)



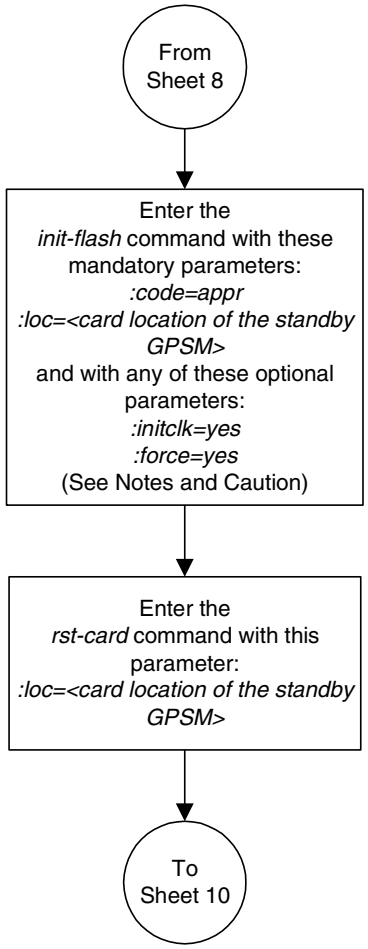
Flowchart 3-5. Updating the Flash GPLs (Sheet 7 of 13)



Flowchart 3-5. Updating the Flash GPLs (Sheet 8 of 13)



Flowchart 3-5. Updating the Flash GPLs (Sheet 9 of 13)

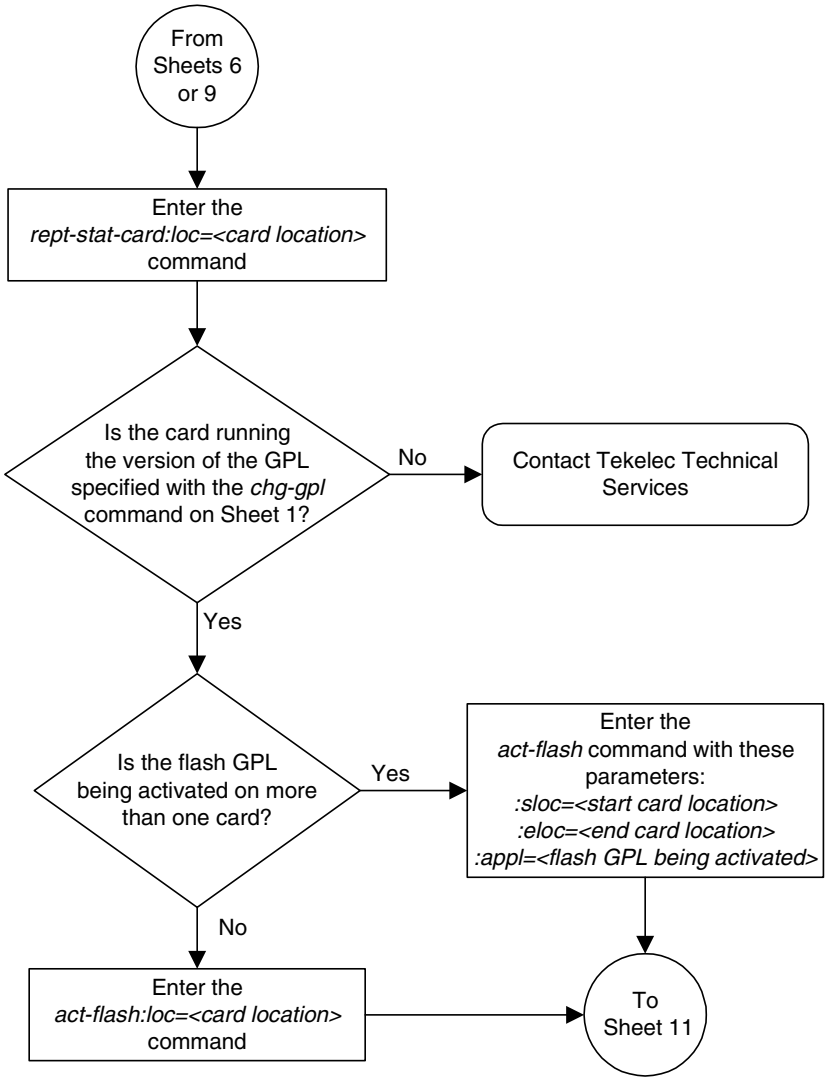


Notes:

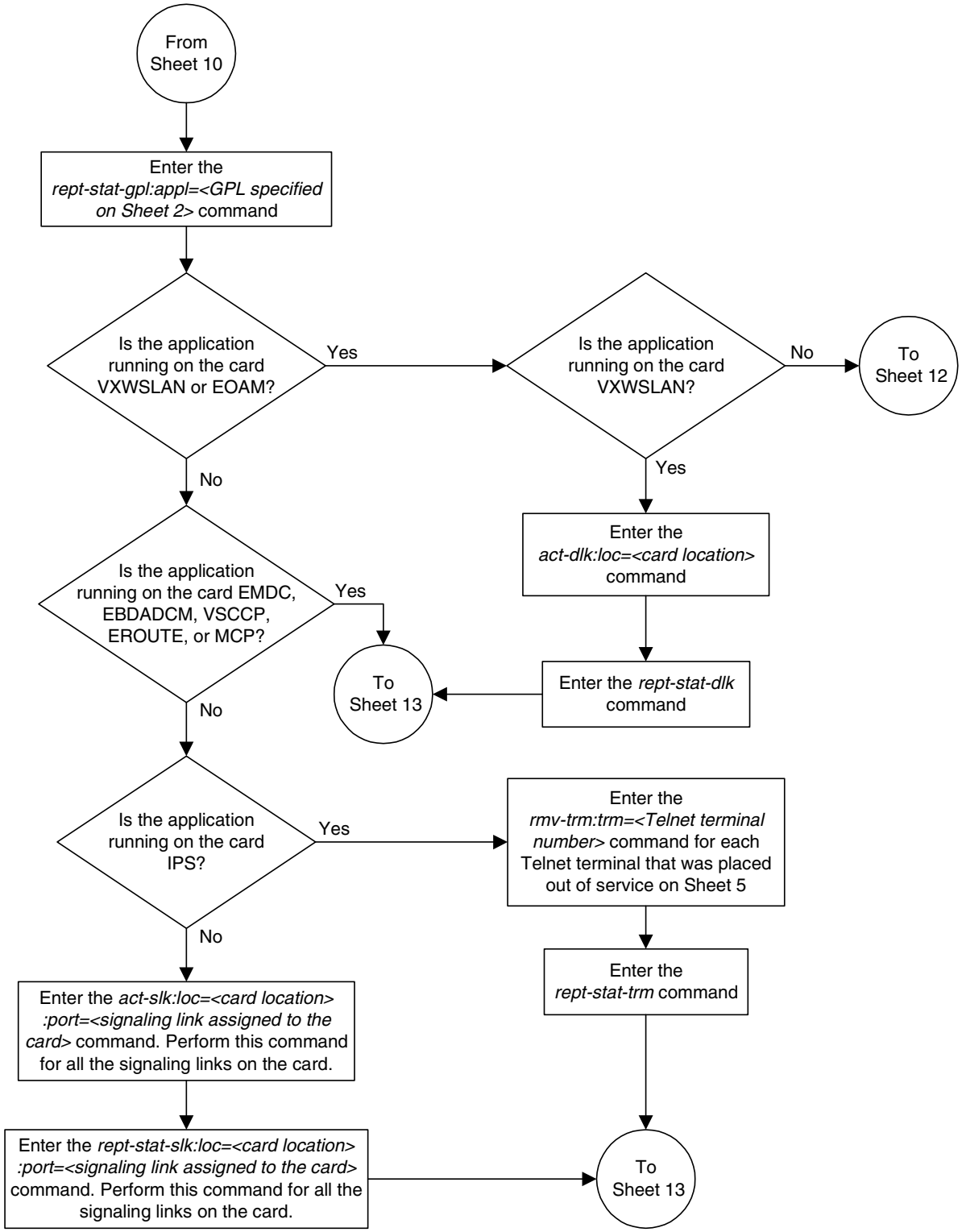
1. The *initclk=yes* parameter can be specified only if the part numbers of the TDMs in the system are 870-0774-15 or later. See Sheet 8.
2. The *force=yes* parameter can be specified only if the *initclk=yes* parameter is specified.
3. The *force=yes* parameter should be used only if the TDM clock LCA 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.

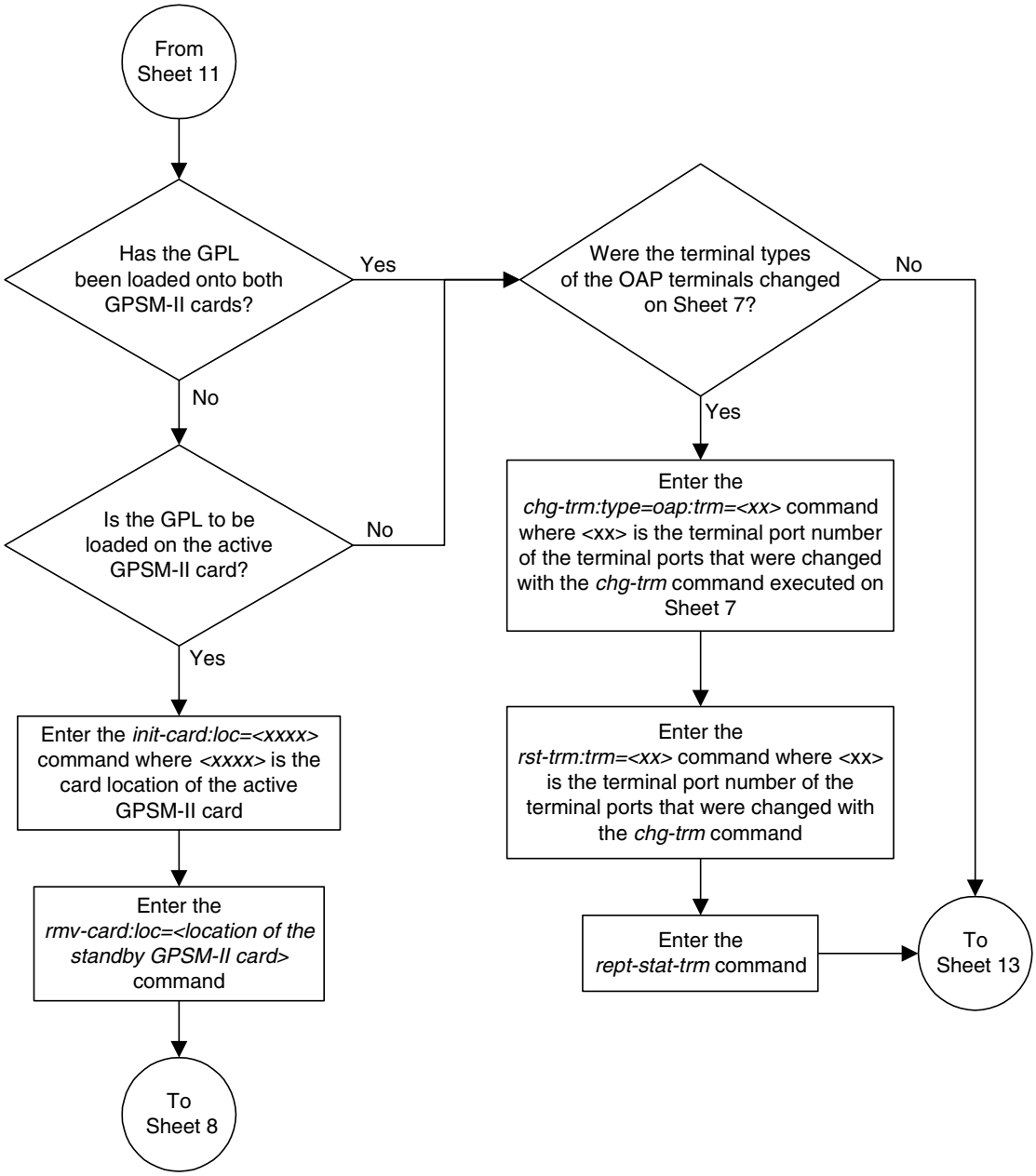
Flowchart 3-5. Updating the Flash GPLs (Sheet 10 of 13)



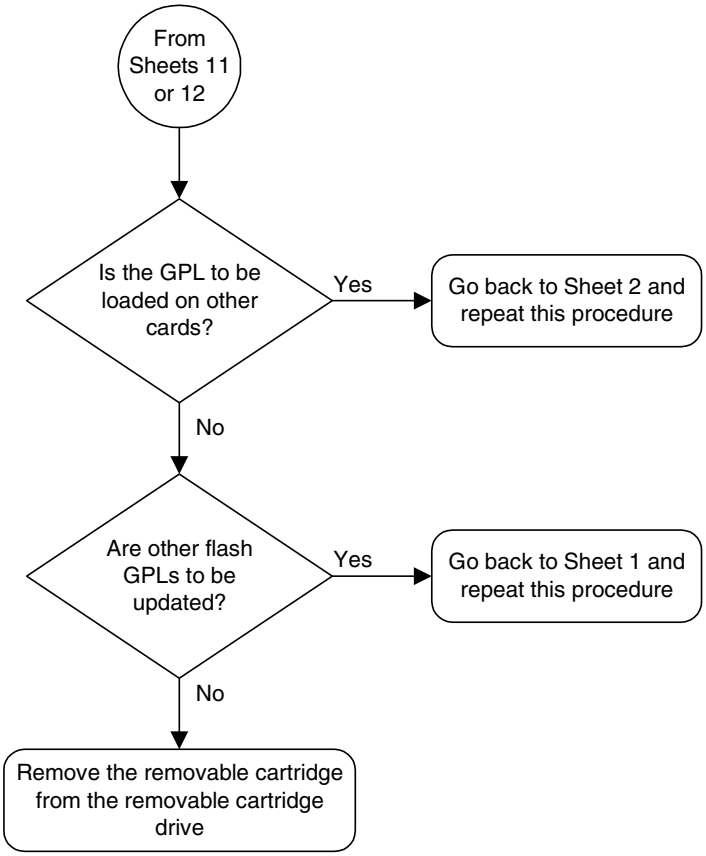
Flowchart 3-5. Updating the Flash GPLs (Sheet 11 of 13)



Flowchart 3-5. Updating the Flash GPLs (Sheet 12 of 13)



Flowchart 3-5. Updating the Flash GPLs (Sheet 13 of 13)



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 system.

This section presents the procedure for loading the **bphmux** GPL onto the system 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 system is required.

Procedure

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 2-9.

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 2-6.

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 2-8.

4. Display the **bphmux** GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl:appl=bphmux** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
GPL Auditing  ON

APPL      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:appl=bphmux:ver=118-003-000

   These messages should appear.

```
rlghncxa03w 05-03-01  11:43:04  GMT  EAGLE5 32.0.0
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:appl=bphmux:ver=118-003-000

   These messages should appear.

```
rlghncxa03w 05-03-01 06:54:39 GMT EAGLE5 32.0.0
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:appl=bphmux** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
GPL Auditing  ON

APPL      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:appl=bphmux** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:40:26 GMT  EAGLE5 32.0.0
APPL     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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    FLASH Memory Downloading for card 1109 Started.
;
    rlghncxa03w 05-03-01  11:11:28 GMT EAGLE5 32.0.0
    BPHMUX Downloading for card 1109 Complete.
;
    rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    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 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.

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

appl – 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:appl=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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    FLASH Memory Download for cards 1110 - 2110 Started.
;
    tekelecstp 97-09-09 13:07:15 GMT EAGLE5 32.0.0
    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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
CARD   VERSION      TYPE      APPL       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 **bphmux** GPL shown in the **rept-stat-card** command output is different than the version specified in step 5, contact Tekelec Technical Services. See "Tekelec Technical Services" on page 1-6.

---

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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    FLASH Memory Activation for card 1109 Completed.
;
    rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    Command Completed.
```

Activating the BPHMUX GPL on more than One HMUX Card 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

appl – 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:appl=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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    FLASH Memory Activation for cards 1110 - 2110 Started.
;
    tekelecstp 97-09-09 13:07:15 GMT EAGLE5 32.0.0
    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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
    Command Completed.
```

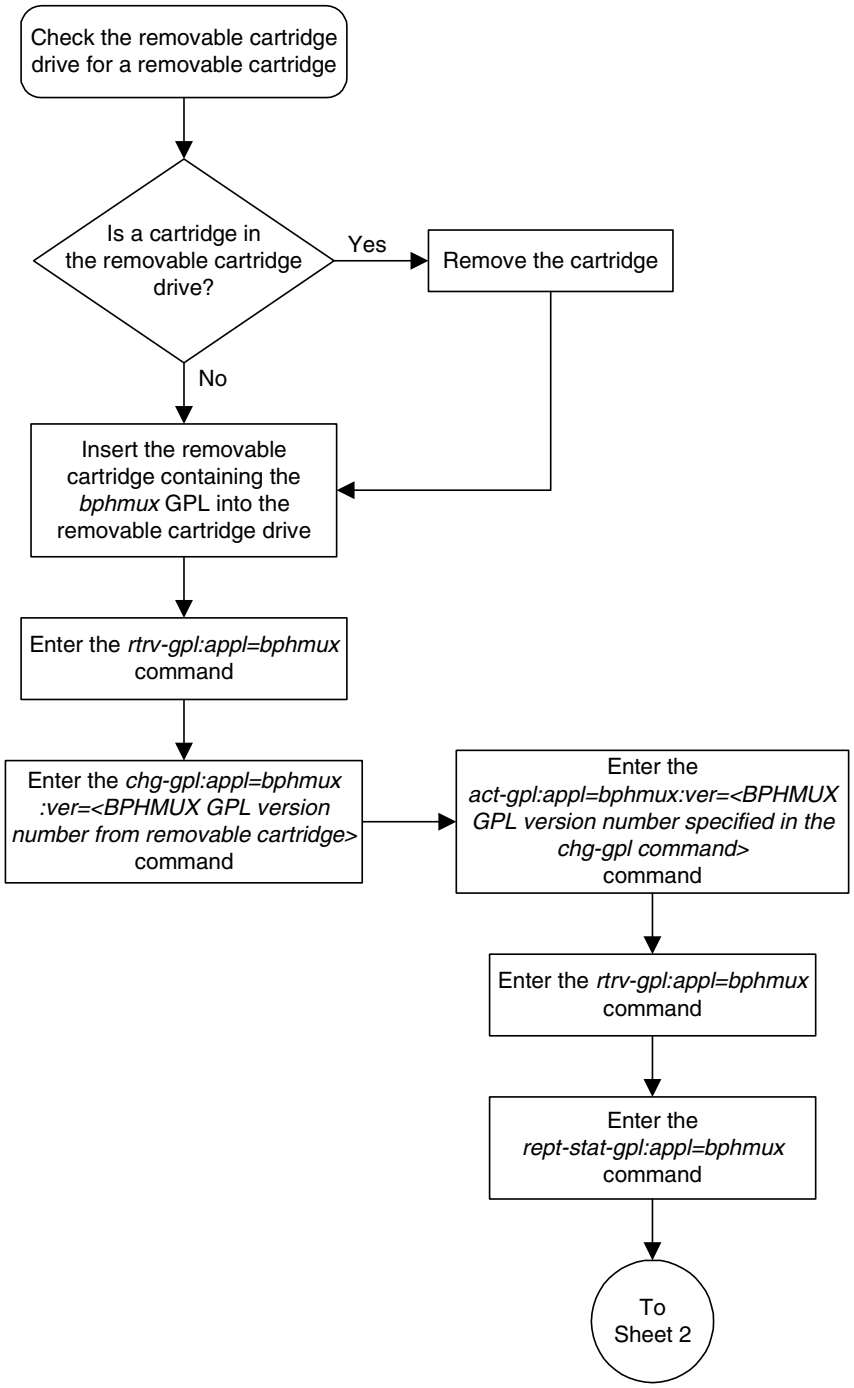
13. Verify the **bphmux** GPLs on the fixed disk and the cards that are running the **bphmux** GPLs using the **rept-stat-gpl:appl=bphmux** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:40:26 GMT  EAGLE5 32.0.0
APPL     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
```

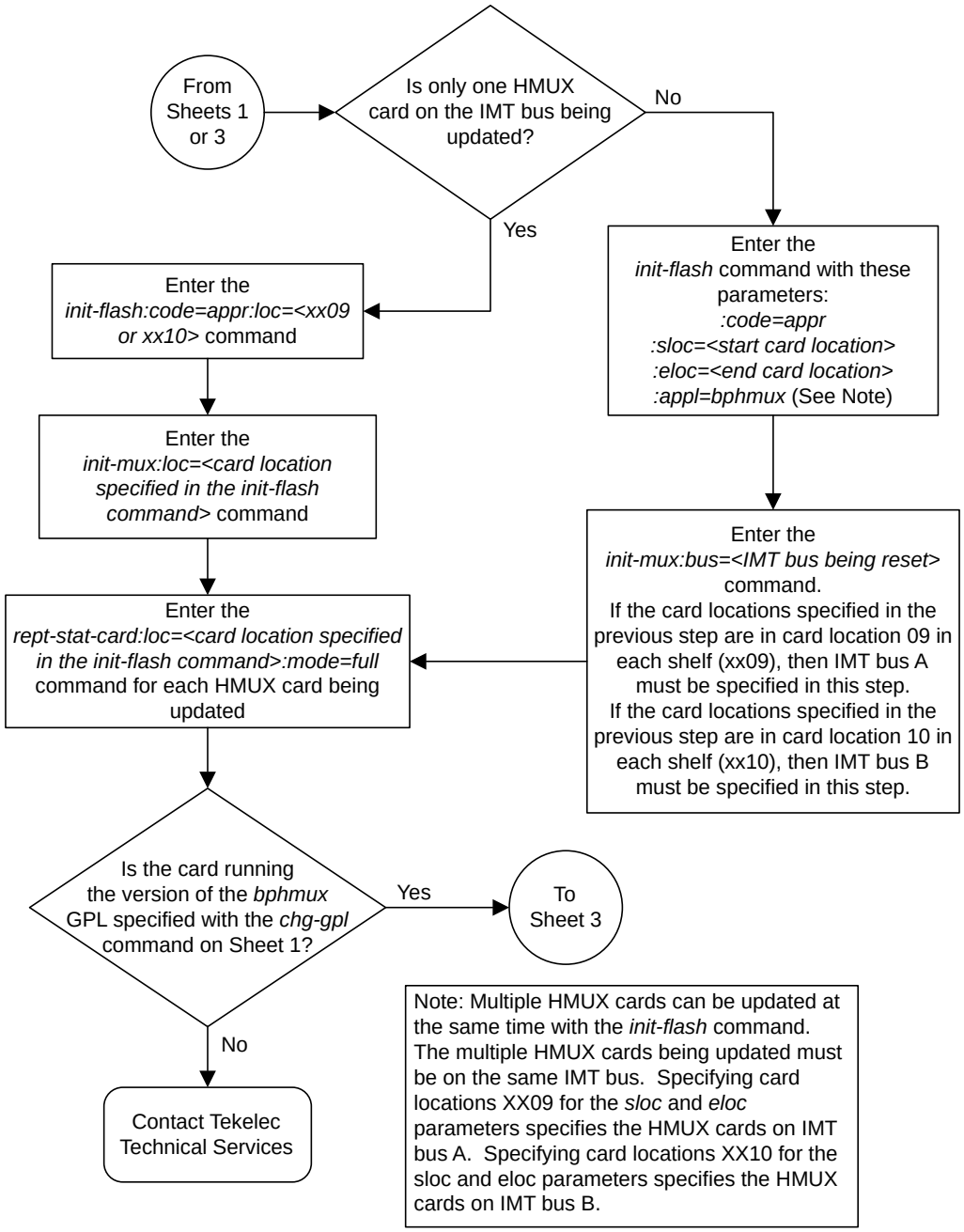
14. To load the **bphmux** GPL on the other HMUX cards, repeat steps 9 through 13 for each card.

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 2-9.

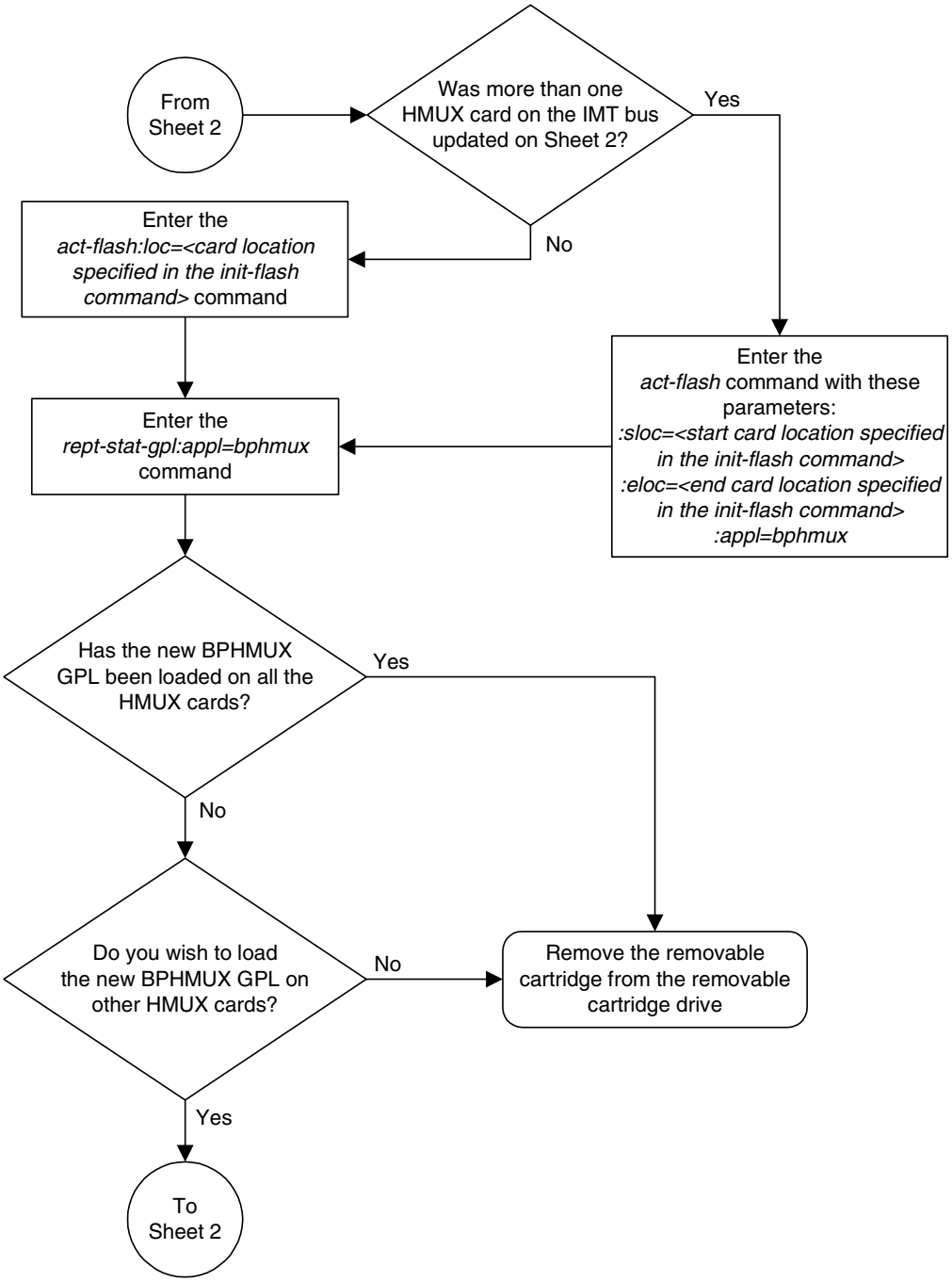
Flowchart 3-6. Updating the BPHMUX GPL (Sheet 1 of 3)



Flowchart 3-6. Updating the BPHMUX GPL (Sheet 2 of 3)



Flowchart 3-6. Updating the BPHMUX GPL (Sheet 3 of 3)



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 system is required.

Procedure

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 2-9.

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 2-6.

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 2-8.

4. Display the **utility** GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl:appl=utility** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
GPL Auditing  ON

APPL      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:appl=utility:ver=153-001-000

   This message should appear.

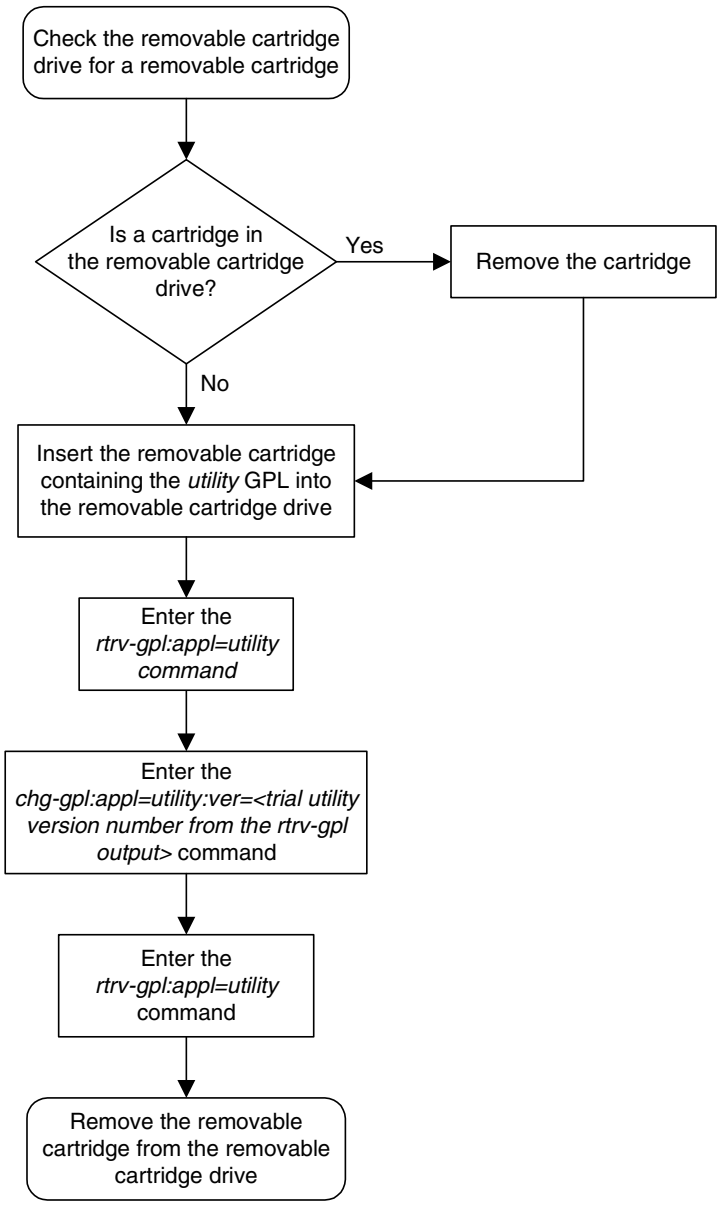
```
rlghncxa03w 05-03-01 06:52:20 GMT EAGLE5 32.0.0
GPL Auditing  ON

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:appl=utility** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
GPL Auditing  ON

APPL      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 2-9.

Flowchart 3-7. 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 and LNP features. The LNP feature can be enabled only for a quantity of 2 to 12 million numbers. This software is assigned a version number using the GPL numbering scheme used by the Eagle GPL version numbers. When the OAP is connected to the Eagle, the **oap** GPL version number is transmitted to the Eagle.

The Eagle's system release ID table contains the version numbers of all the GPLs used on the Eagle, including the **oap** GPL. The **oap** GPL version number must match the number contained in the Eagle's system release ID table. The Eagle'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 does not match the **oap** GPL version number in the Eagle'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 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, 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:appl=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 Tekelec Technical Services (see "Tekelec Technical Services" on page 1-6) 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:appl=oap` command copies the system release ID table from the removable cartridge onto the Eagle. This not only changes the approved version number of the `oap` GPL on the Eagle, 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. 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 system is required if the **`oap`** GPL is to be loaded onto the system using the **`chg-gpl`** command.

Procedure

1. Display the **`oap`** GPLs on the fixed disk and on the removable cartridge using the **`rtrv-gpl:appl=oap`** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
GPL Auditing  ON

APPL      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:appl=oap`** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 12:55:34 GMT EAGLE5 32.0.0
APPL      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 Tekelec Technical Services (see "Tekelec Technical Services" on page 1-6) 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 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 Tekelec Technical Services (see "Tekelec Technical Services" on page 1-6) 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 2-9.

4. 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 2-6.

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 2-8.

6. Display the **oap** GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl:appl=oap** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
GPL Auditing  ON

APPL      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:appl=oap** command.

   These messages should appear.

```
rlghncxa03w 05-03-01  11:43:04  GMT  EAGLE5 32.0.0
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:appl=oap** command. This is an example of the possible output.

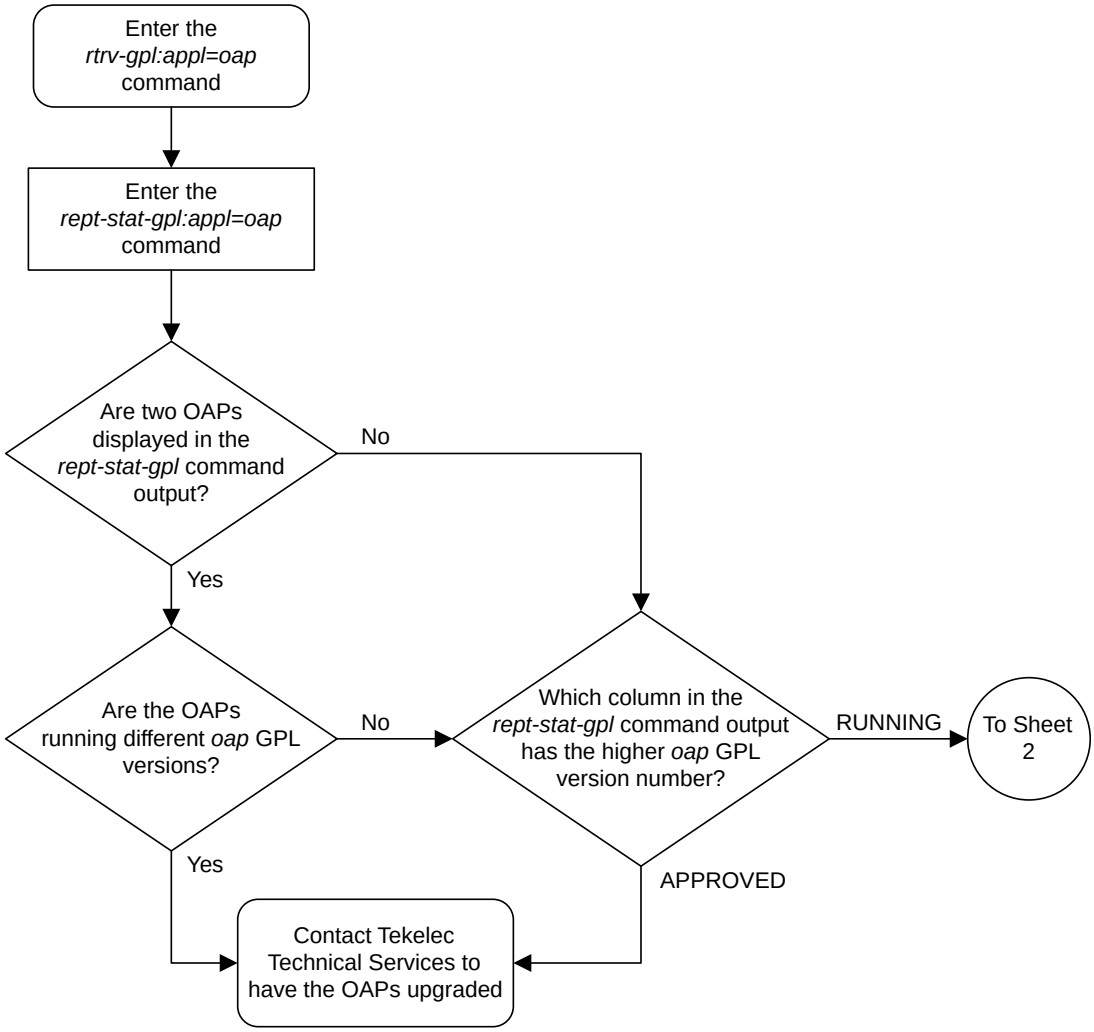
```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
GPL Auditing  ON

APPL      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:appl=oap** command. This is an example of the possible output.

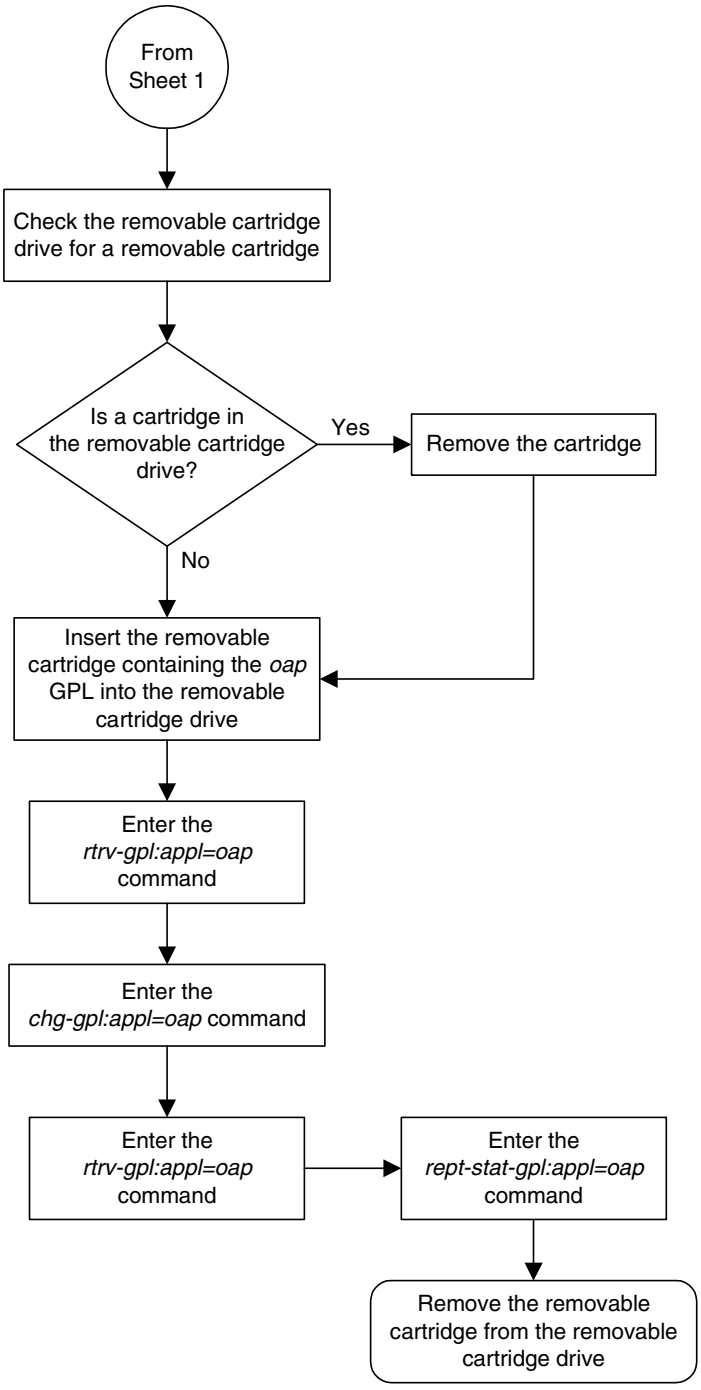
```
rlghncxa03w 05-03-01 12:55:34 GMT EAGLE5 32.0.0
APPL      CARD      RUNNING            APPROVED      TRIAL
OAP          A      028-004-000        028-004-000   -----------
OAP          B      028-004-000        028-004-000   -----------
Command Completed.
```

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 2-9.

Flowchart 3-8. Updating the OAP GPL (Sheet 1 of 2)



Flowchart 3-8. Updating the OAP GPL (Sheet 2 of 2)



Updating the EMAP GPL

This section presents the procedure for updating the **emap** generic program load (GPL). The **emap** GPL is the software that is running on the EOAP used for the GR-376 feature. This software is assigned a version number using the GPL numbering scheme used by the system GPL version numbers. When the EOAP is connected to the system, the **emap** GPL version number is transmitted to the system.

The system's release ID table contains the version numbers of all the GPLs used in the system, including the **emap** GPL. The **emap** GPL version number must match the number contained in the system's release ID table. The system's release ID table contains the approved version number of the **emap** 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 **emap** GPL version transmitted to the system does not match the **emap** GPL version number in the system's 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 **emap** GPL version the GR-376 EOAP is actually running. The **ALM** indicator is also displayed next to the **APPROVED** column in the **rtrv-gpl** output.

> **NOTE: There is no trial version of the emap 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 **emap** GPL version number on the removable cartridge is displayed in the **REMOVE TRIAL** column in the **rtrv-gpl** command output.

Only the GR-376 EOAPs that are connected to the system are shown in the **rtrv-gpl** and **rept-stat-gpl** command outputs. The GR-376 EOAPs are shown in the **rtrv-gpl** and **rept-stat-gpl** command outputs as EMAP A and EMAP B. If only one GR-376 EOAP is connected to the system, it is shown in the **rtrv-gpl** and **rept-stat-gpl** command outputs as EMAP A and is the only GR-376 EOAP shown in these outputs.

To remove the alarm condition caused by mismatched **emap** GPL versions, either the GR-376 EOAP must be upgraded, or the correct **emap** GPL must be loaded from a removable cartridge using the **chg-gpl:appl=emap** command. To determine which action must be performed, enter the **rept-stat-gpl** command. If the **emap** GPL version shown in the **RUNNING** column is less than the **emap** GPL version shown in the **APPROVED** column, contact Tekelec Technical Services (see "Tekelec Technical Services" on page 1-6) to have the GR-376 EOAPs upgraded.

If the **emap** GPL version shown in the **RUNNING** column is greater than the **emap** GPL version shown in the **APPROVED** column, then the **emap** GPL must be loaded from the removable cartridge with the **chg-gpl** command.

CAUTION: The `chg-gpl:appl=emap` command copies the system's release ID table from the removable cartridge onto the system. This not only changes the approved version number of the `emap` GPL on the system, 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 system. 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 **`emap`** GPL is required to load the **`emap`** GPL onto the system using the **`chg-gpl`** command.

Procedure

1. Display the **`emap`** GPLs on the fixed disk and on the removable cartridge using the **`rtrv-gpl:appl=emap`** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
EMAP         A  026-015-000  026-015-000      -----------  -----------
EMAP         B  026-015-000  026-015-000      -----------  -----------
```

2. Display the **`emap`** GPLs in the database using the **`rept-stat-gpl:appl=emap`** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 12:55:34 GMT EAGLE5 32.0.0
APPL      CARD      RUNNING            APPROVED      TRIAL
EMAP         A      026-016-000 ALM    026-015-000   -----------
EMAP         B      026-015-000        026-015-000   -----------
Command Completed.
```

   If the **`emap`** GPL version shown in the **`RUNNING`** column is less than the **`emap`** GPL version shown in the **`APPROVED`** column, contact Tekelec Technical Services (see "Tekelec Technical Services" on page 1-6) to have the GR-376 EOAPs upgraded.

   If the **`emap`** GPL version shown in the **`RUNNING`** column is greater than the **`emap`** GPL version shown in the **`APPROVED`** column, then the **`emap`** GPL must be loaded from the removable cartridge with the **`chg-gpl`** command.

   If there are two GR-376 EOAP connected to the system and they are running different **`emap`** GPL versions, as shown in the output example in this step, the GR-376 EOAP not showing the **`ALM`** indicator should be upgraded to run the same **`emap`** GPL version as the one that has the **`ALM`** indicator. Contact Tekelec Technical Services (see "Tekelec Technical Services" on page 1-6) to have the GR-376 EOAPs upgraded.

   For this example, the **`emap`** 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 2-9.

4. 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 2-6.

5. Insert the removable cartridge containing the **emap** 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 2-8.

6. Display the **emap** GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl:appl=emap** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
EMAP         A  026-015-000  026-015-000      -----------  026-016-000
EMAP         B  026-015-000  026-015-000      -----------  -----------
```

7. Load the **emap** GPL from the removable cartridge using the **chg-gpl:appl=emap** command.

   These messages should appear.

```
rlghncxa03w 05-03-01  11:43:04  GMT  EAGLE5 32.0.0
GPL Auditing  ON

System Release ID table upload 1114 completed
System Release ID table upload 1116 completed
```

8. Verify the **emap** GPLs on the fixed disk and on the removable cartridge using the **rtrv-gpl:appl=emap** command. This is an example of the possible output.

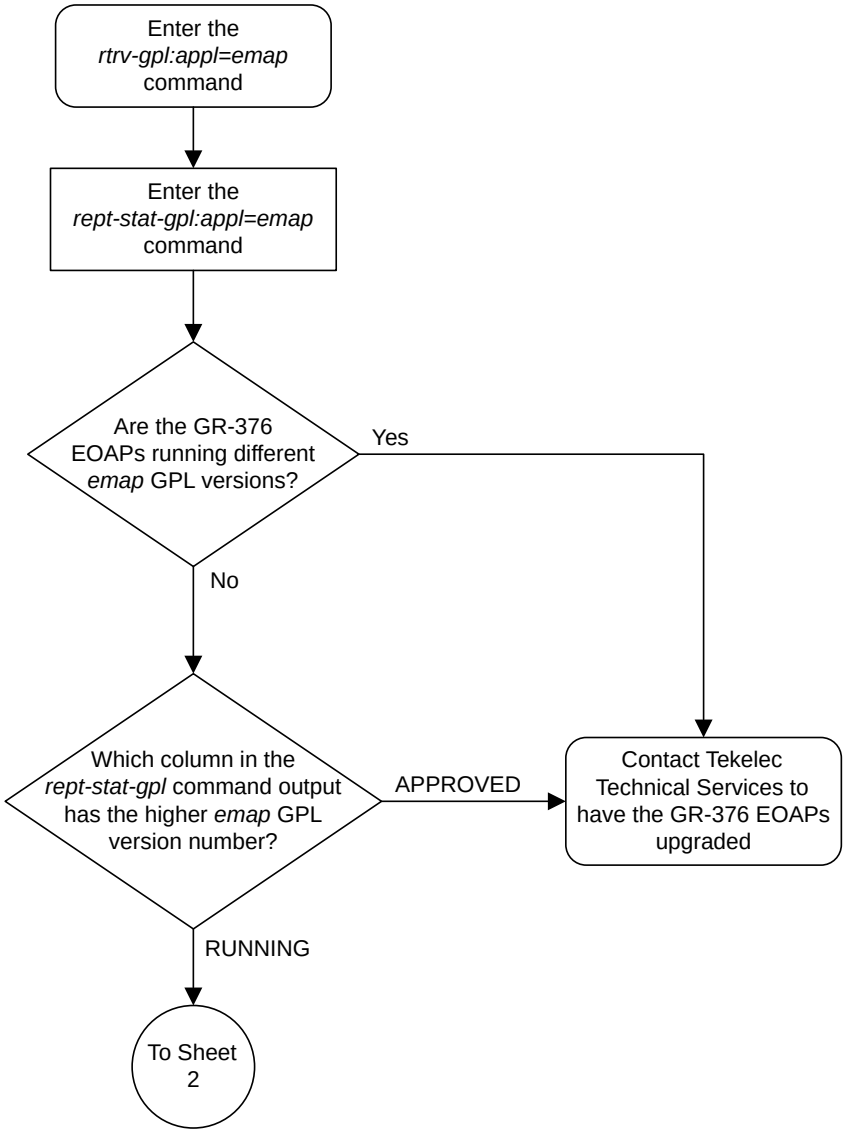
```
rlghncxa03w 05-03-01 07:01:08 GMT EAGLE5 32.0.0
GPL Auditing  ON

APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
EMAP         A  026-016-000  026-016-000      -----------  026-016-000
EMAP         B  026-016-000  026-016-000      -----------  -----------
```

9. Display the **emap** GPLs in the database using the **rept-stat-gpl:appl=emap** command. This is an example of the possible output.

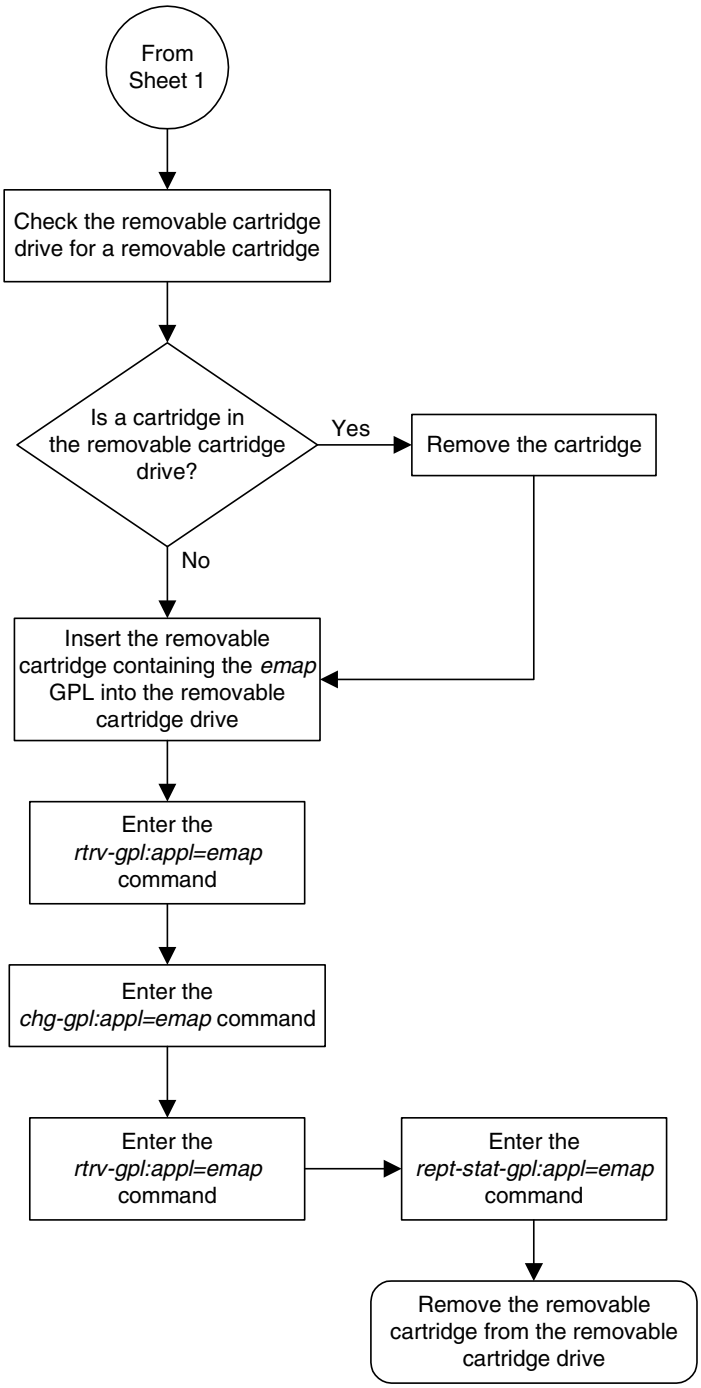
```
rlghncxa03w 05-03-01 12:55:34 GMT EAGLE5 32.0.0
APPL      CARD      RUNNING           APPROVED      TRIAL
EMAP         A      026-016-000       026-016-000   -----------
EMAP         B      026-016-000       026-016-000   -----------
Command Completed.
```

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 2-9.

Flowchart 3-9. Updating the EMAP GPL (Sheet 1 of 2)



Flowchart 3-9. Updating the EMAP GPL (Sheet 2 of 2)



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-clk`** output in step 1 shows which TDM is the standby TDM with the entry **`(Standby )`** 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 system contains older TDMs, these TDMs must be replaced with TDMs 870-0774-15 or later to perform this procedure.

NOTE: Contact Tekelec Technical Services before replacing the TDMs. See "Tekelec Technical Services" on page 1-6.

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 system 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 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.

Procedure

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 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
CARD LOC = 1114 (Active   )   CARD LOC = 1116 (Standby  )
PRIMARY BITS     = Active     PRIMARY BITS     = Active
SECONDARY BITS   = Idle       SECONDARY BITS   = Idle
HS PRIMARY CLK   = Active     HS PRIMARY CLK   = Active
HS SECONDARY CLK = Idle       HS SECONDARY CLK = Idle
HS CLK TYPE      = RS422      HS CLK TYPE      = RS422
HS CLK LINELEN   = LONGHAUL   HS CLK LINELEN   = LONGHAUL

                              PST           SST       AST
SYSTEM CLOCK                  IS-NR         Active    -----
ALARM STATUS     = No Alarms.
# Cards using CLK A = 009     # Cards with bad CLK A = 000
# Cards using CLK B = 000     # Cards with bad CLK B = 000
# Cards using CLK I = 000

                              PST           SST       AST
HS SYSTEM CLOCK               IS-NR         Active    -----
ALARM STATUS      = No Alarms.
# Cards using HS CLK A = 002  # Cards with bad HS CLK A = 000
# Cards using HS CLK B = 000  # Cards with bad HS CLK B = 000
# Cards using HS CLK I = 000

Command Completed.
```

If the **rept-stat-clk** output does not show any high-speed clocks (**HS SYSTEM CLOCK**, **HS PRIMARY CLK**, **HS SECONDARY CLK**, **HS CLK TYPE**, and **HS CLK LINELEN** fields), the system 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 2 and go to step 3.

---

2. Visually verify the part numbers of both TDMs in the system. 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 3.

If the TDM part numbers are not 870-0774-15 or later, the TDMs must be replaced with TDM part numbers 870-0743-15 or later. Contact Tekelec Technical Services before replacing the TDMs. See "Tekelec Technical Services" on page 1-6. 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 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. If no OAP terminals are shown in the **rtrv-trm** command output, skip steps 4 through 6 and go to step 7.

This is an example of the possible output. In this example, the OAP terminals are terminals 6 and 9.

```
rlghncxa03w 05-03-01 16:02:08 GMT EAGLE5 32.0.0
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    1201             60    5     00:30:00
18   TELNET    1201             60    5     00:30:00
19   TELNET    1201             60    5     00:30:00
20   TELNET    1201             60    5     00:30:00
21   TELNET    1201             60    5     00:30:00
22   TELNET    1201             60    5     00:30:00
23   TELNET    1201             60    5     00:30:00
24   TELNET    1201             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  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
```

4. Display the status of the terminals with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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 terminals out of service using the **rmv-trm** command.

   The **force=yes** parameter must be used when placing the last OAP 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
   ```

CAUTION: Placing the OAP terminals out of service will disable the SEAS feature and stop new LNP updates being sent from the LSMS to the Eagle through the OAPs.

   If the status of any of the terminals 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.

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

   ```
   rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
   Inhibit message sent to terminal

   rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
   Command Completed.
   ```

NOTE: Step 6 is performed only if the OAP terminals were placed out of service in step 5. If the OAP terminals were not placed out of service in step 5, skip step 6 and go to step 7.

6. Change the terminal type of the OAP terminals to NONE with the **chg-trm** command, the **type=none** parameter, and with the values of the OAP terminals used in step 5. For this example, enter these commands.

   ```
   chg-trm:trm=6:type=none
   chg-trm:trm=9:type=none
   ```

   This message should appear when these commands have successfully completed.

   ```
   rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
   CHG-TRM: MASP B - COMPLTD
   ```

---

7. Place the GPSM-II card in the standby MASP out of service using the **rmv-card** command.

   The **rept-stat-clk** output in step 1 shows which TDM is the standby TDM with the entry **(Standby)** after the TDM's 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 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
Card has been inhibited.
```

8. Load the TDM clock LCA bitfile onto the TDM associated with the GPSM-II card inhibited in step 7 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 system 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 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 05-03-01 13:01:59 GMT  EAGLE5 32.0.0
    Init Card command issued to card 1115
;

    rlghncxa03w 05-03-01 13:01:59 GMT  EAGLE5 32.0.0
*   3021.0013  * CARD 1115 EOAM        Card is isolated from the system
;

    rlghncxa03w 05-03-01 13:03:10 GMT  EAGLE5 32.0.0
    3022.0014    CARD 1115 EOAM        Card is present
                 ASSY SN:  1216115
```

9. Put the GPSM-II card that was inhibited in step 8 back into service using the **rst-card** command with the card location specified in step 8. For this example, enter this command.

rst-card:loc=1115

When this command has successfully completed, this message should appear.

```
rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
Card has been allowed.
```

NOTE: If you do not wish to load the TDM clock LCA bitfile on the other TDM in the system, skip this step and go to step 11.

10. 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

For this example, enter the **init-card:loc=1113** command. This message should appear.

```
rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
Init Card command issued to card 1113
```

After the **init-card** command has completed, repeat steps 7, 8, and 9, specifying the card location used in the **init-card** command.

---

11. Verify the status of the high-speed clocks by entering the **rept-stat-clk** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 11:34:04 GMT  EAGLE5 32.0.0
CARD LOC = 1114 (Standby  )   CARD LOC = 1116 (Active   )
PRIMARY BITS     = Active     PRIMARY BITS     = Active
SECONDARY BITS   = Idle       SECONDARY BITS   = Idle
HS PRIMARY CLK   = Active     HS PRIMARY CLK   = Active
HS SECONDARY CLK = Idle       HS SECONDARY CLK = Idle
HS CLK TYPE      = RS422      HS CLK TYPE      = RS422
HS CLK LINELEN   = LONGHAUL   HS CLK LINELEN   = LONGHAUL

                              PST           SST       AST
SYSTEM CLOCK                  IS-NR         Active    -----
ALARM STATUS     = No Alarms.
# Cards using CLK A = 009     # Cards with bad CLK A = 000
# Cards using CLK B = 000     # Cards with bad CLK B = 000
# Cards using CLK I = 000

                              PST           SST       AST
HS SYSTEM CLOCK               IS-NR         Active    -----
ALARM STATUS      = No Alarms.
# Cards using HS CLK A = 002  # Cards with bad HS CLK A = 000
# Cards using HS CLK B = 000  # Cards with bad HS CLK B = 000
# Cards using HS CLK I = 000

Command Completed.
```

NOTE: If OAP terminals are not shown in the `rtrv-trm` command output in step 3, skip steps 12 through 14, and go to step 15.

12. Change the terminal type of the terminals that were changed to **`NONE`** in step 6 to the terminal type OAP with the **`chg-trm`** command and the **`type=oap`** parameter. The terminal type is shown in the TYPE field in the **`rtrv-trm`** command output in step 3. For this example, enter these commands.

`chg-trm:trm=6:type=oap`

`chg-trm:trm=9:type=oap`

This message should appear when these commands have successfully completed.

```
rlghncxa03w 05-03-01  11:11:28 GMT  EAGLE5 32.0.0
CHG-TRM: MASP B - COMPLTD
```

13. If the OAP terminals were placed out of service in step 5, put the OAP terminals back into service with the **`rst-trm`** command. For this example, enter these commands.

`rst-trm:trm=6`

`rst-trm:trm=9`

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

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Allow message sent to terminal

rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Command Completed.
```

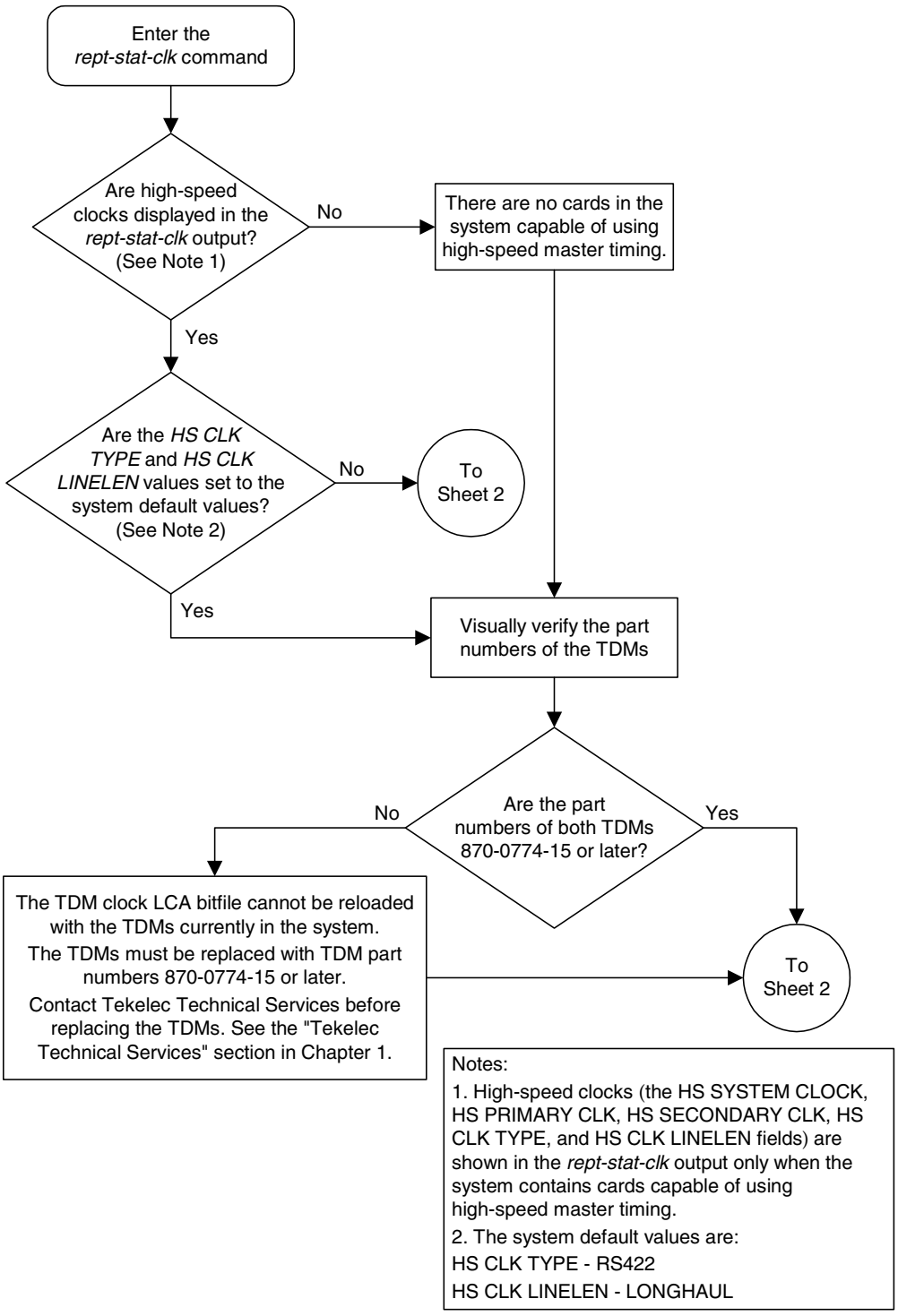
14. Verify that the terminals are in service with the **rept-stat-trm** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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.
```

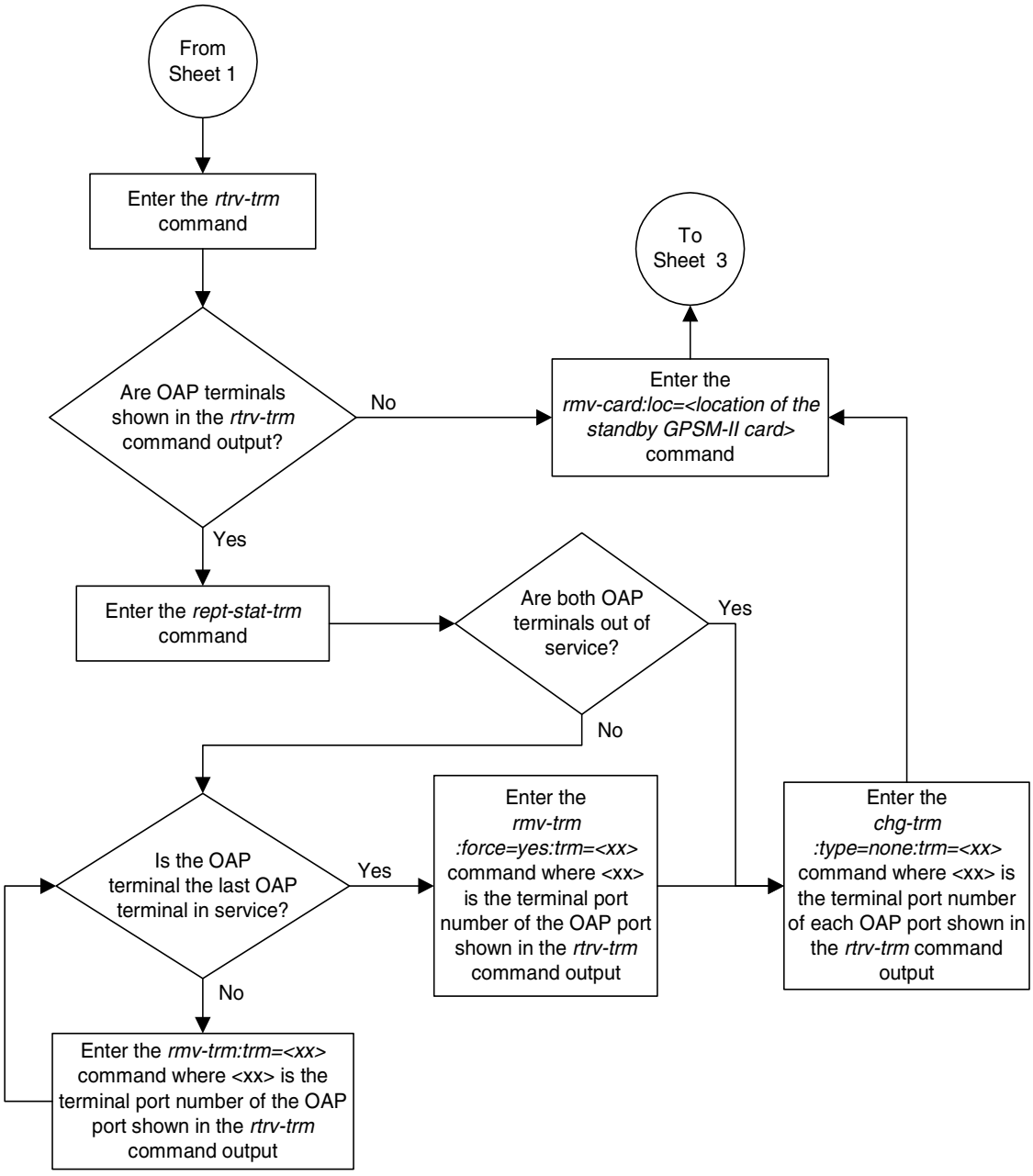
15. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

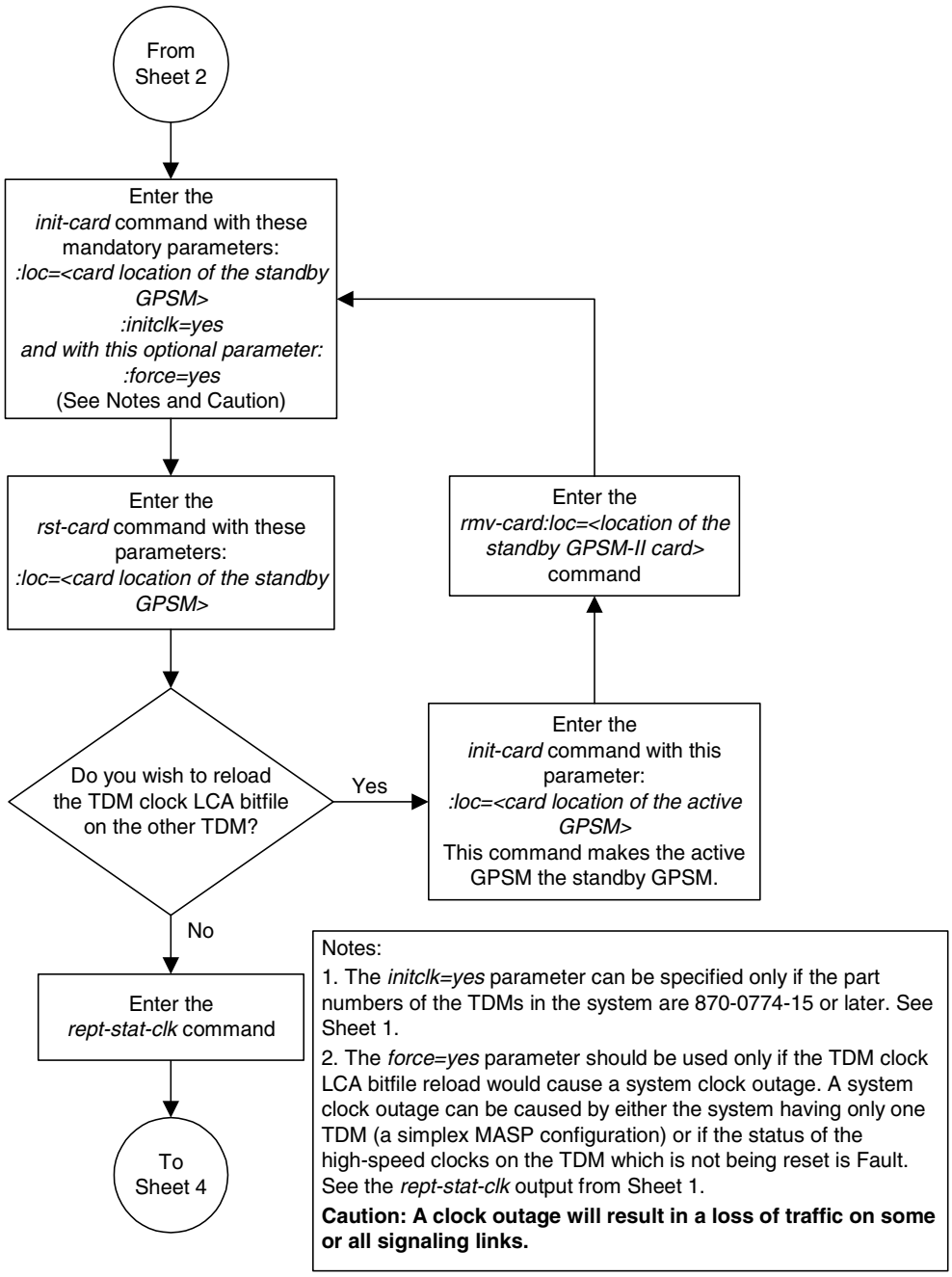
Flowchart 3-10. Reloading the TDM LCA Clock Bitfile (Sheet 1 of 4)



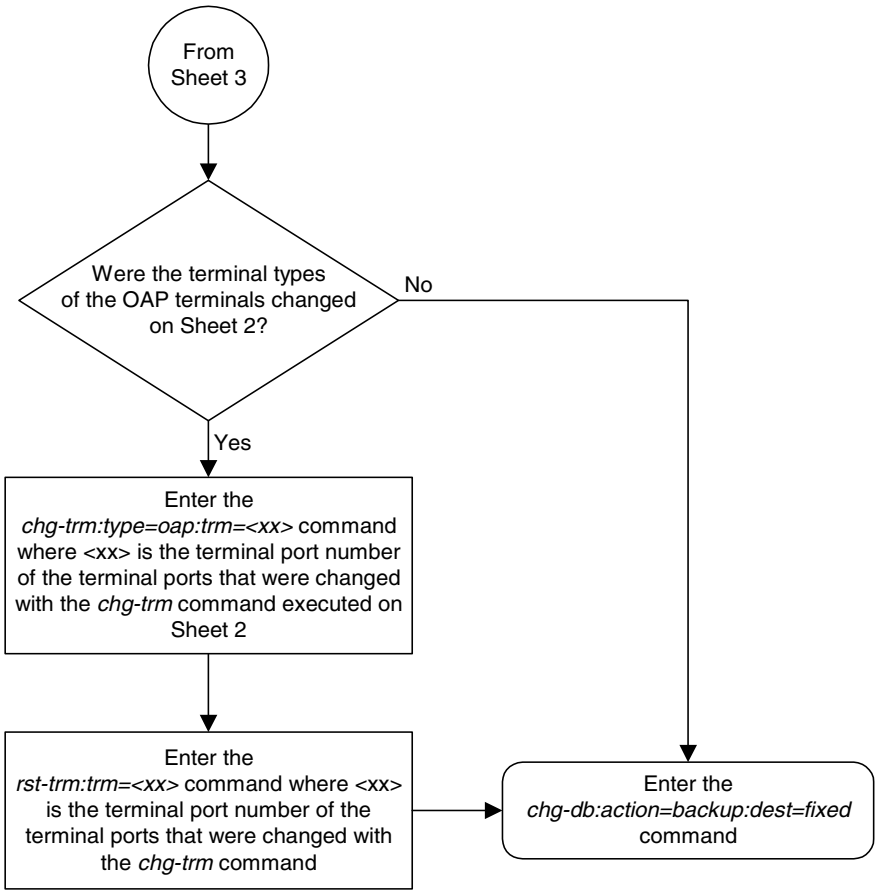
Flowchart 3-10. Reloading the TDM LCA Clock Bitfile (Sheet 2 of 4)



Flowchart 3-10. Reloading the TDM LCA Clock Bitfile (Sheet 3 of 4)



Flowchart 3-10. Reloading the TDM LCA Clock Bitfile (Sheet 4 of 4)



4

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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

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 System Clock and Date

This procedure is used to set the system's clock and date.

Procedure

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 05-03-01 09:33:19 GMT  EAGLE5 32.0.0
   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 system uses the time zone that was entered with the previous **set-time** command. The values for the time zone parameter are shown in Table 4-1. The entry in the Abbreviation column of Table 4-1 is the value to be specified for the time zone parameter.

Table 4-1. 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

Table 4-1. Time Zones (Continued)

Time Zone	Abbreviation	Offset from GMT (hours)
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
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
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

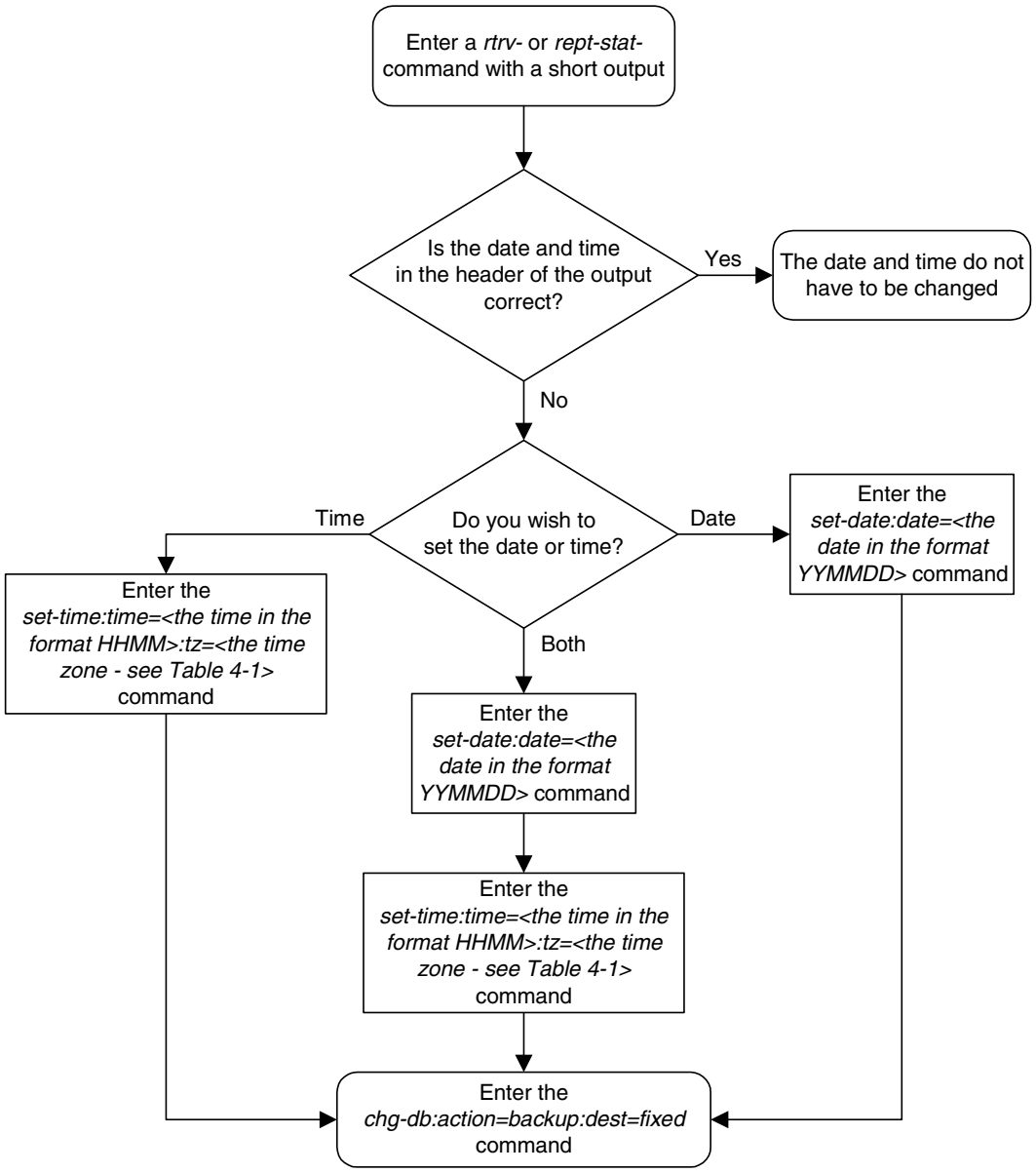
When this command has successfully completed, this message should appear.

```
rlghncxa03w 05-03-01 14:20:00 GMT  EAGLE5 32.0.0
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.
```

Flowchart 4-1. 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 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 system 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 system 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 system rejects any attempt to log into the system with that user ID. The value of this parameter applies to all user IDs in the system 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)

: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 (").

This procedure does not use the **wrnln** and **wrntx** parameters. These parameters are used to configure the unauthorized use warning message that is displayed when a user logs into the system. To configure the unauthorized use warning message, go to the "Configuring the Unauthorized Use Warning Message" procedure on page 4-11.

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 system 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 system 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.

Procedure

1. Display the current security defaults by entering the **rtrv-secu-dflt** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
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 05-03-01 11:43:04 GMT EAGLE5 32.0.0
CHG-SECU-DFLT: MASP A - COMPLTD
```

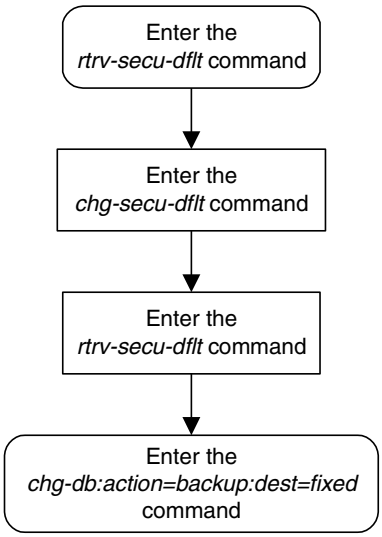
3. Verify the changes with the **rtrv-secu-dflt** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
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.
```

Flowchart 4-2. 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 system. This message is configured with the **wrnln** and **wrntx** parameters of the **chg-secu-dflt** command. These are all of the parameters of the **chg-secu-dflt** command.

:**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 user IDs in the system 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 system 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 system rejects any attempt to log into the system with that user ID. The value of this parameter applies to all user IDs in the system 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)

: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 text line with no characters can be specified with this text string, “”. This prevents the text line from being displayed in the unauthorized use warning message. A blank line is specified with this text string, “ “, the blank space character enclosed in double quotes.

The **chg-secu-dflt** parameters **page**, **uout**, **multlog**, **minlen**, **alpha**, **num**, and **punc** are used to change the user ID and password security defaults on the system. To change the user ID and password security defaults, go to the "Changing the Security Defaults" procedure on page 4-7.

NOTE: when the system 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           *
*                                                           *
*                                                           *
*   02/17/00 Notice!!! System will be upgraded between      *
*                      the hours of 2am-3am on 11/23/96     *
*                                                           *
*                                                           *
************************************************************
```

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.

Procedure

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 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
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** and **wrntx** parameters. For this example, 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="* 11/17/97 Notice!!! System will be upgraded between*"
chg-secu-dflt:wrnln=7:wrntx="*                  the hours of 2am-3am on 02/07/00*"
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:wrntx=""
chg-secu-dflt:wrnln=13:wrntx=""
chg-secu-dflt:wrnln=14:wrntx=""
chg-secu-dflt:wrnln=15:wrntx=""
chg-secu-dflt:wrnln=16:wrntx=""
chg-secu-dflt:wrnln=17:wrntx=""
chg-secu-dflt:wrnln=18:wrntx=""
chg-secu-dflt:wrnln=19:wrntx=""
chg-secu-dflt:wrnln=20:wrntx=""
```

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

```
rlghncxa03w 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
CHG-SECU-DFLT: MASP A - COMPLTD
```

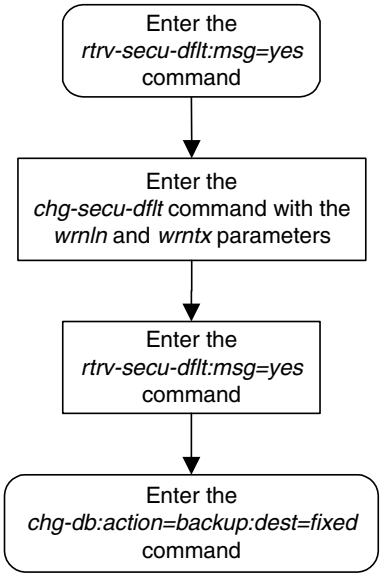
3. Verify the changes with the **rtrv-secu-dflt:msg=yes** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
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:"* 02/17/00 Notice!!! System will be upgraded between *"
7:"*                 the hours of 2am-3am on 02/07/00  *"
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.
```

Flowchart 4-3. Configuring the Unauthorized Use Warning Message



Changing the Security Log Characteristics

This procedure is used to change the characteristics of the system'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 **upldalm=yes** parameter turns the security log alarms on. The **upldalm=no** turns the security log alarms off. If a security log alarm has been generated, the **upldalm=no** parameter lowers the alarm.

:upslg – the threshold at which the system generates the upload required security log alarm, if the **upldalm=yes** parameter has been specified. The threshold is the percentage of the maximum capacity of the security log.

When the system is delivered to the user, the security log characteristics will be set to these values:

:upldalm = yes

:upslg = 90

Procedure

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 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
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 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
CHG-ATTR-SECULOG: MASP A - COMPLTD
```

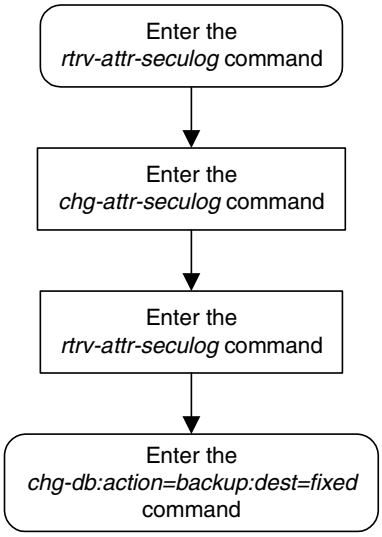
3. Verify the changes with the **rtrv-attr-seculog** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
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.
```

Flowchart 4-4. Changing the Security Log Characteristics



Copying the Security Log to the File Transfer Area

This procedure is used to copy the system'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 system 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.

Procedure

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 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
             -- SINCE LAST UPLOAD --  OLDEST   NEWEST   LAST
LOC  ROLE    ENTRIES %FULL OFLO FAIL  RECORD   RECORD   UPLOAD
1114 Active  8312    84    No   No    03-12-05 05-03-01 04-05-30
                                      11:23:56 15:59:06 14:02:22

1116 Standby 693     7     No   No    03-12-05 05-03-01 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

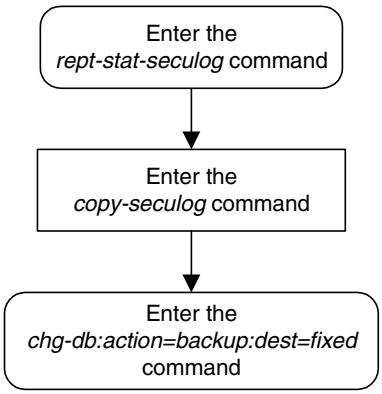
   When this command has successfully completed, this message should appear.

```
rlghncxa03w 05-03-17 16:02:37 GMT  EAGLE5 32.0.0
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 05-03-01 16:04:43 GMT  EAGLE5 32.0.0
             -- SINCE LAST UPLOAD --  OLDEST   NEWEST   LAST
LOC  ROLE    ENTRIES %FULL OFLO FAIL  RECORD   RECORD   UPLOAD
1114 Active  1       1     No   No    05-03-01 05-03-01 05-03-01
                                      16:04:43 16:04:43 16:02:37

1116 Standby 0       0     No   No    03-12-05 05-03-01 04-05-30
                                      11:24:12 14:00:06 14:02:13
```

Flowchart 4-5. 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 system 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" procedure on page B-12 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 for a quantity of 2 of 12 million numbers, **lnpbas**, **lnpdb**, **lnpsub**).

: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."

:lnpdb – The user has access to all commands in the command class "LNP Database Administration."

:lnpsub – The user has access to all commands in the command class "LNP Subscription."

: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" procedure on page B-3 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" procedure on page 4-83.

The **ent-user** command allows up to eight configurable command classes to be assigned to the user. Use the "Changing User Information" procedure on page 4-35 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 system 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 system 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 system rejects any attempt to log into the system with that user ID.

If the **uout** parameter is not specified with the **ent-user** command, the system 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 system and not be used

:**revoke** – Is the specified user ID in service? Any login attempts using a revoked user ID are rejected by the system. 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 system on either of the two OAP ports.

To assign a user to the LNP Basic, LNP Database Administration, or LNP subscription command classes, the LNP feature must be enabled for a quantity of 2 to 12 million numbers. This can be verified with the **rtrv-ctrl-feat** command. If the LNP feature is enabled, shown by the entry **LNP TNs**, in the output of the **rtrv-ctrl-feat** command with a quantity of 2 to 12 million numbers, go to the "Enabling the LNP Feature for 2 to 12 Million Numbers" procedure in the *Database Administration Manual - LNP* and 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, or the ELAP Configuration feature is enabled and activated, the fields **LNPBAS**, **LNPDB**, **LNPSUB** are 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 05-03-01 08:33:48 GMT EAGLE5 32.0.0
                                                                LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
frodo                750 0    0    NO  YES  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 NO  NO  NO  NO  YES


                                                                LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
manny                36  60   60   NO  YES  YES 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 LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
moe                  100 30   60   YES YES  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 LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
jack                 10  30 * 30 * NO  YES  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 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*.

Procedure

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" procedure on page 4-35.

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`, `lnpdb`, or `lnpsub` parameters are not being specified in this procedure, or the `LNPBAS`, `LNPDB`, or `LNPSUB` fields are shown in the `rtrv-secu-user` output, skip this step, and go to step 3.

2. Verify that the LNP feature is enabled for a quantity of 2 to 12 million numbers, by entering the **`rtrv-ctrl-feat`** command. If the LNP feature is enabled for a quantity of 2 to 12 million numbers, the quantity shown in the **`LNP TNs`** field should be 2 to 12 million numbers.

3. 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 for a quantity of 2 to 12 million numbers, go to step 3.

   If the LNP feature is not enabled, go to the "Enabling the LNP Feature for 2 to 12 Million Numbers" procedure in the *Database Administration Manual - LNP* and enable the LNP feature.

   If the ELAP Configuration feature is enabled and activated, the **`lnpbas`**, **`lnpdb`**, and **`lnpsub`** parameters cannot be specified in this procedure.

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.

4. Verify that the Command Classs Management feature is enabled and activated, by entering the **`rtrv-ctrl-feat`** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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 Classs Management feature is not enabled or activated, go to the “Activating Controlled Features” procedure on page B-3 and enable and activate the Command Classs 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.

---

5. 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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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
ent-lnp-sub         lnpsub, u22

.
.
.

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" procedure on page 4-83 and configure the desired command classes.

6. 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 system. 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 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
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.

7. 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.

   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  05-03-01  09:12:36 GMT  EAGLE5 32.0.0
   ENT-USER: MASP A - COMPLTD
   ```

---

8. 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 6.

---

9. At the prompt **verify password**, re-enter the password that was entered in step 8 again.

---

10. 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.

---

11. 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

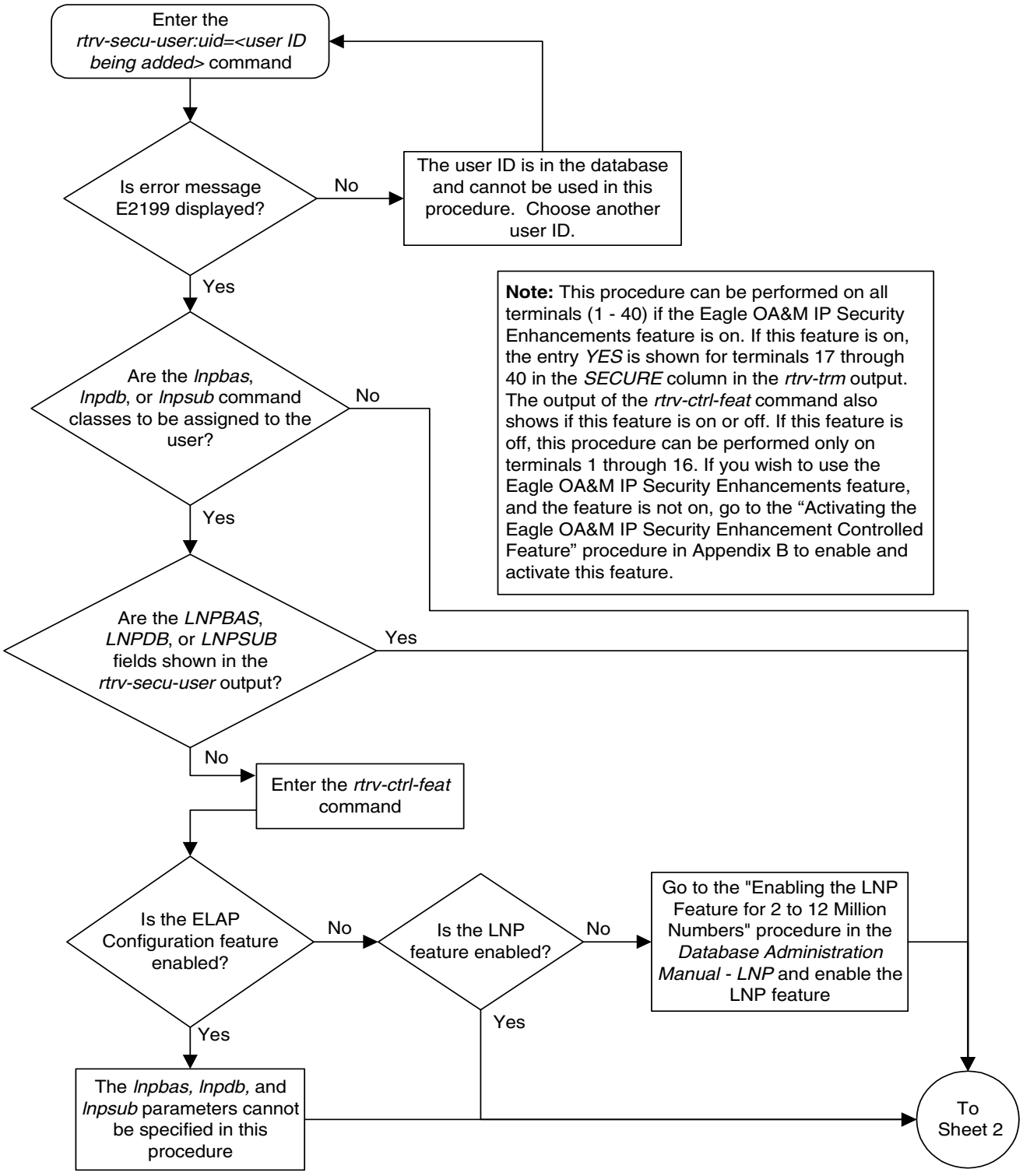
This is an example of the possible output.

```
rlghncxa03w 05-03-01 08:33:48 GMT EAGLE5 32.0.0
                                                                    LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
frodo                0   60 * 90 * NO  YES  NO  YES NO  YES YES NO  NO  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
```

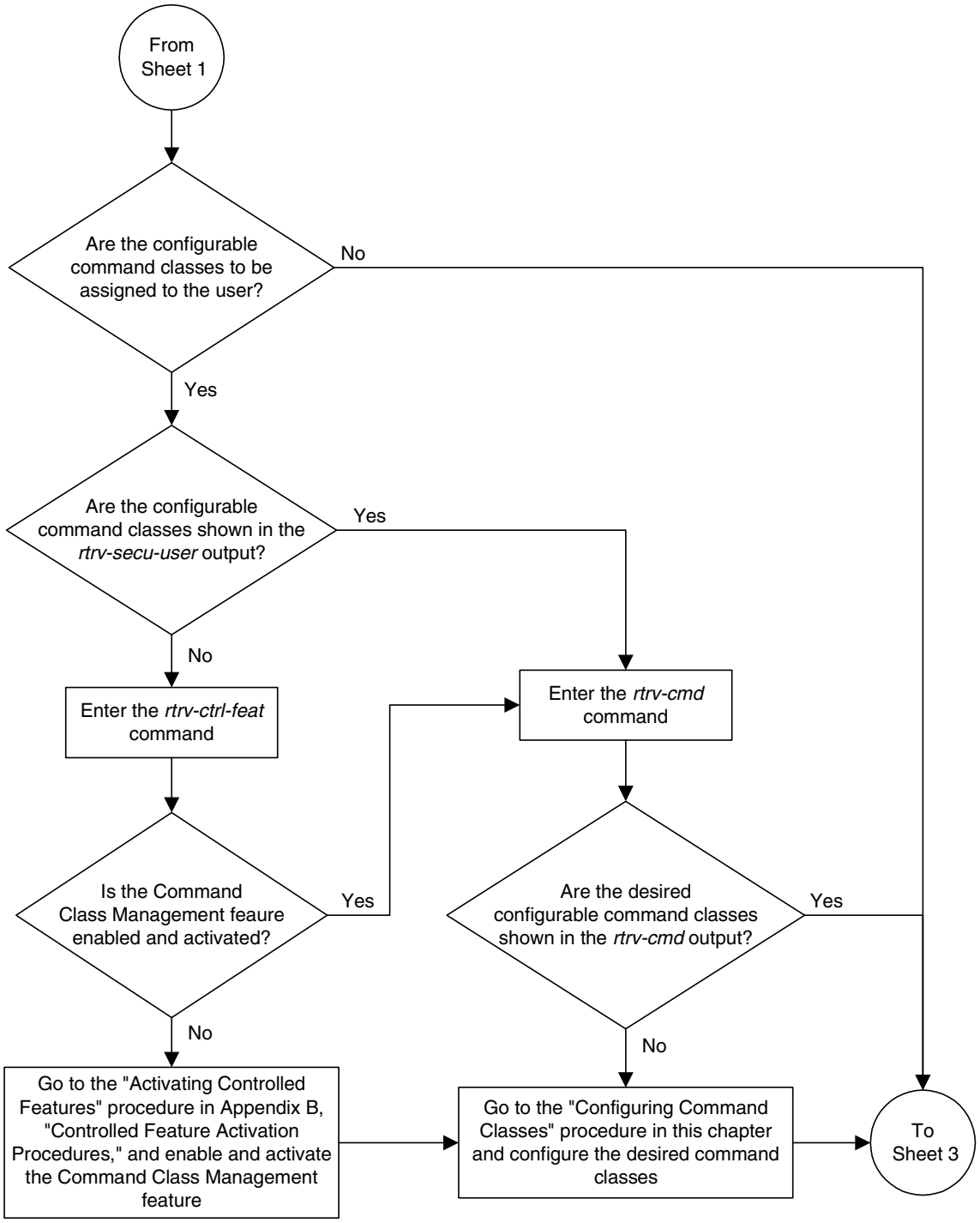
12. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

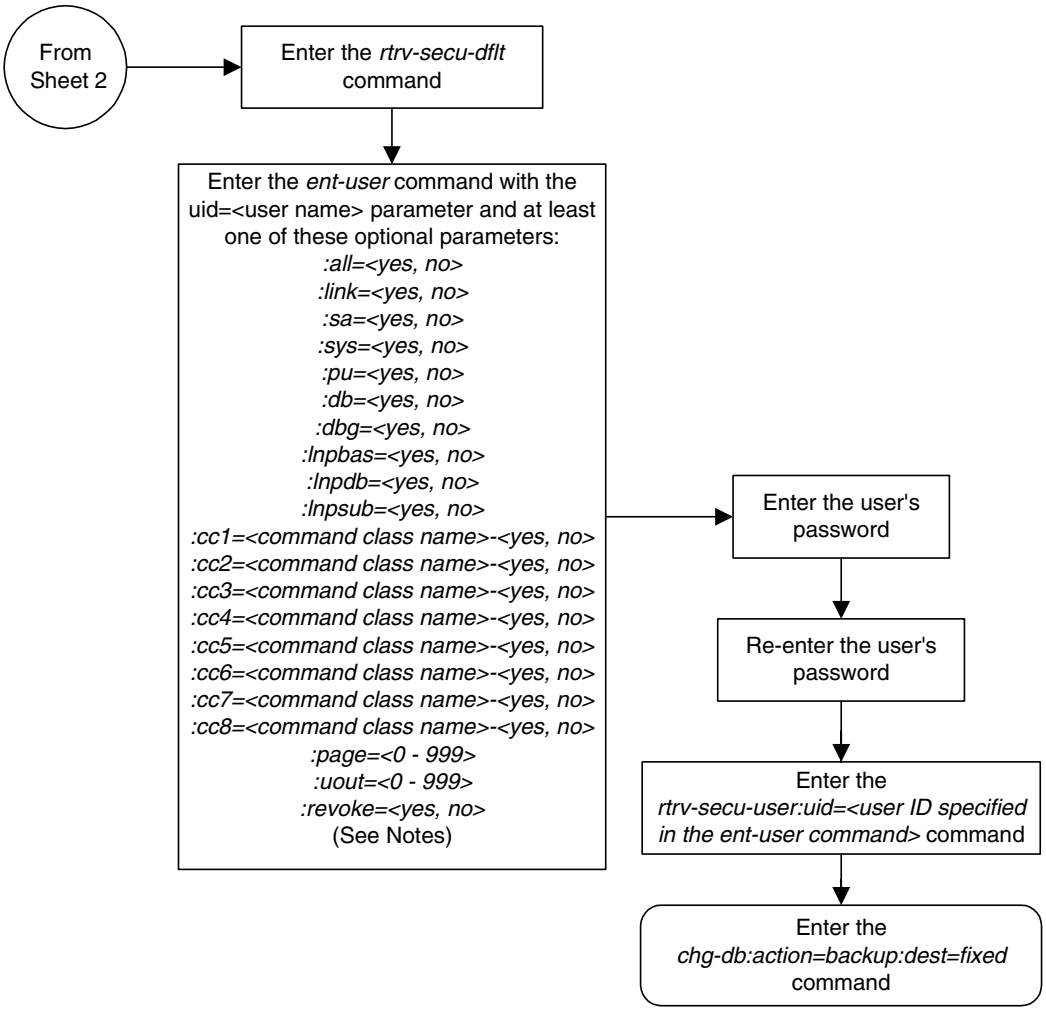
Flowchart 4-6. Adding a User to the System (Sheet 1 of 3)



Flowchart 4-6. Adding a User to the System (Sheet 2 of 3)



Flowchart 4-6. Adding a User to the System (Sheet 3 of 3)



Notes:

1. The *revoke=yes* parameter cannot be specified with the *sa* parameter value is *yes*.

2. To specify the *lnpbas*, *lnpdb*, or *lnpsub* parameters, the LNP feature must be enabled for 2 to 12 million numbers.

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*, *lnpdb*, *lnpsub*) 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 system 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.

Procedure

1. Display the user IDs in the database using the **rtrv-secu-user** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 08:33:48 GMT EAGLE5 32.0.0
                                                                 LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
frodo                0   60 * 90 * NO  YES  NO  YES NO  YES YES NO  NO  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 LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
manny                36  60   60   NO  YES  YES 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 LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
fred                 750 0    0    NO  YES  YES 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 YES NO  NO  NO

                                                                 LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
travist              101 60 * 90 * NO  YES  NO  YES NO  NO  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 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  05-03-01 09:12:36 GMT  EAGLE5 32.0.0
   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

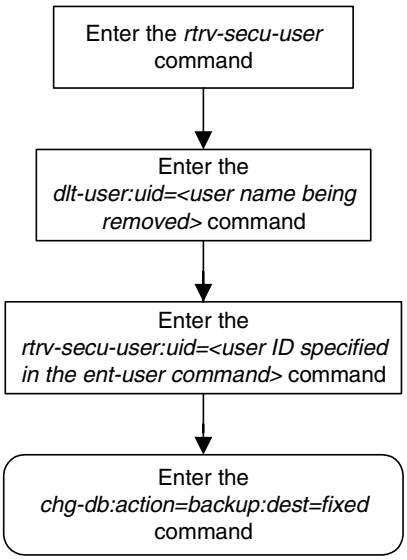
   If the user ID was removed in step 2, error message E2199 is displayed.

   ```
   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.
   ```

Flowchart 4-7. Removing a User from the System



Changing User Information

This procedure is used to change the characteristics of a user on the system 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" procedure on page B-12 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."

:lnpdb – The user has access to all commands in the command class "LNP Database Administration."

:lnpsub – The user has access to all commands in the command class "LNP Subscription."

: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" procedure on page B-3 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" procedure on page 4-83.

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 system 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 system 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 system rejects any attempt to log into the system with that user ID.

If the **uout** parameter is not specified with the **ent-user** command, the system 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 system and not be used

:**revoke** – Is the specified user ID in service? Any login attempts using a revoked user ID are rejected by the system. 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, LNP Database Administration, or LNP subscription command classes, the LNP feature must be enabled for a quantity of 2 to 12 million numbers. This can be verified with the **rtrv-ctrl-feat** command. If the LNP feature is enabled, shown by the entry **LNP TNs**, in the output of the **rtrv-ctrl-feat** command with a quantity of 2 to 12 million numbers, go to the "Enabling the LNP Feature for 2 to 12 Million Numbers" procedure in the *Database Administration Manual - LNP* and 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, or the ELAP Configuration feature is enabled and activated, the fields **LNPBAS**, **LNPDB**, **LNPSUB** are 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 05-03-01 08:33:48 GMT EAGLE5 32.0.0
                                                                LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
frodo                750 0    0    NO  YES  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 NO  NO  NO  NO  YES


                                                                LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
manny                36  60   60   NO  YES  YES 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 LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
moe                  100 30   60   YES YES  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 LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
jack                 10  30 * 30 * NO  YES  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 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
```

Procedure

1. Display the user IDs in the database using the **rtrv-secu-user** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 08:33:48 GMT EAGLE5 32.0.0
                                                                  LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
frodo                0   60 * 90 * NO  YES  NO  YES NO  YES YES NO  NO  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 LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
manny                36  60   60   NO  YES  YES 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 LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
fred                 750 0    0    NO  YES  YES 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 LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
travist              101 60 * 90 * NO  YES  NO  YES NO  NO  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 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`, `lnpdb`, or `lnpsub` parameters are not being specified in this procedure, or the `LNPBAS`, `LNPDB`, or `LNPSUB` fields are shown in the `rtrv-secu-user` output, skip this step, and go to step 3.

2. Verify that the LNP feature is enabled for a quantity of 2 to 12 million numbers, by entering the `rtrv-ctrl-feat` command. If the LNP feature is enabled for a quantity of 2 to 12 million numbers, the quantity shown in the `LNP TNs` field should be 2 to 12 million numbers.

   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 for a quantity of 2 to 12 million numbers, go to step 3.

   If the LNP feature is not enabled, go to the "Enabling the LNP Feature for 2 to 12 Million Numbers" procedure in the *Database Administration Manual - LNP* and enable the LNP feature.

   If the ELAP Configuration feature is enabled and activated, the `lnpbas`, `lnpdb`, and `lnpsub` parameters cannot be specified in this procedure.

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 Classs Management feature is enabled and activated, by entering the `rtrv-ctrl-feat` command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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 Classs Management feature is not enabled or activated, go to the "Activating Controlled Features" procedure on page B-3 and enable and activate the Command Classs 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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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
ent-lnp-sub         lnpsub, u22

.
.
.

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" procedure on page 4-83 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 ID is being revoked, the intent is to immediately deny the user access to the system. In this case, the user will be logged off when the database is updated.

5. Verify that the user is not logged on the system using the **`rept-stat-user`** command. If the user is logged on to the system, the **`chg-user`** command will log the user off the system when the command is executed. Notify the user to log off the system. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:15 GMT  EAGLE5 32.0.0
REPT-STAT-USER COMPLTD
USER ID    TERM# IDLE SINCE         COMMAND         STATE
fred         3   05-03-01 05:06:43  rept-stat-user  PROCESSING
frodo       13   05-03-01 08:12:23  chg-db          IDLE
manny        1   05-03-01 04:37:56  ent-dlk         IDLE
travist      7   05-03-01 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 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
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 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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

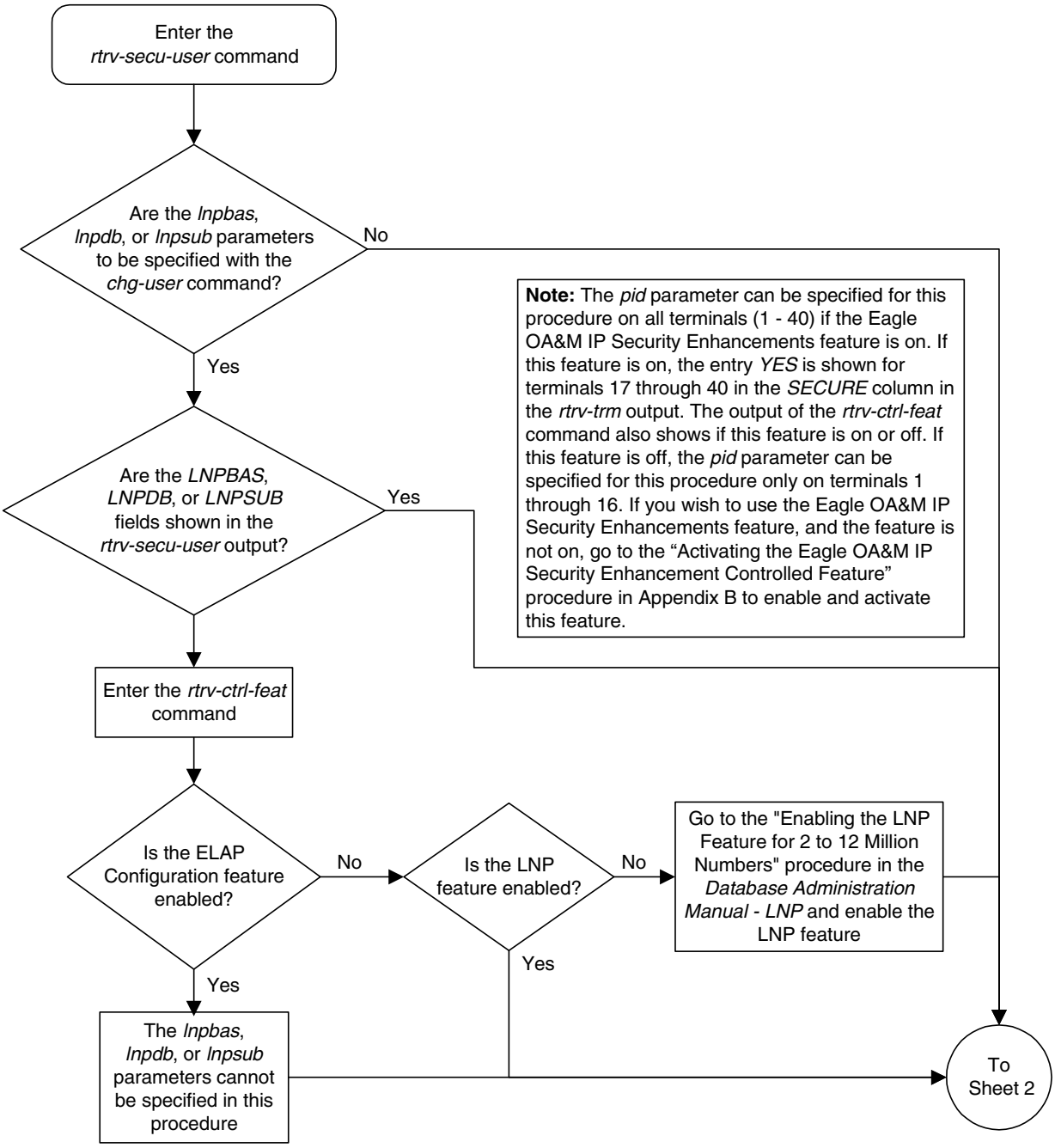
   This is an example of the possible output.

```
rlghncxa03w 05-03-01 08:33:48 GMT EAGLE5 32.0.0
                                                          LNP LNP LNP
USER ID              AGE PAGE UOUT REV LINK SA  SYS PU  DB  DBG BAS DB  SUB
bilbo                36  60   60   NO  YES  YES YES NO  NO  NO  YES YES 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
```

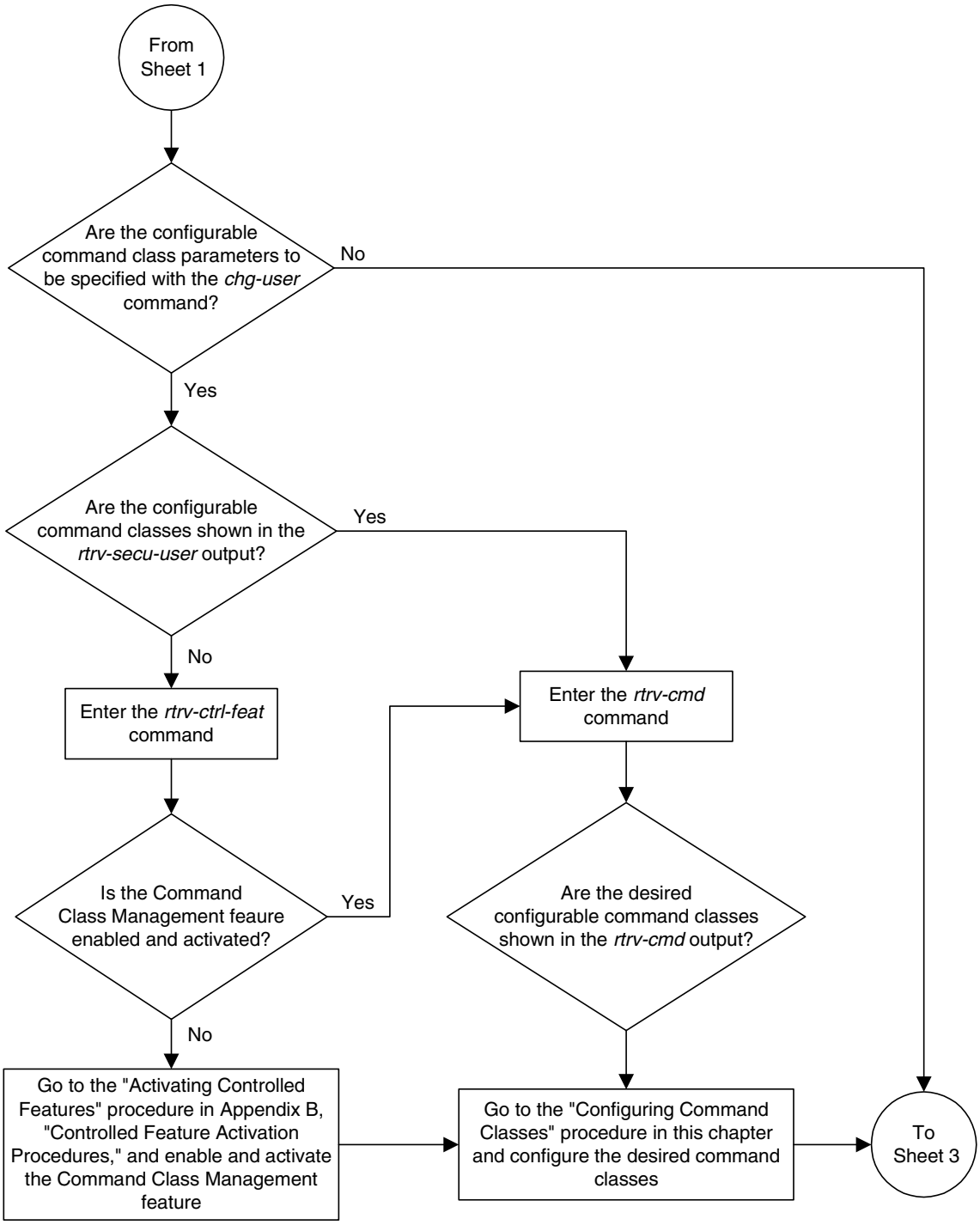
8. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

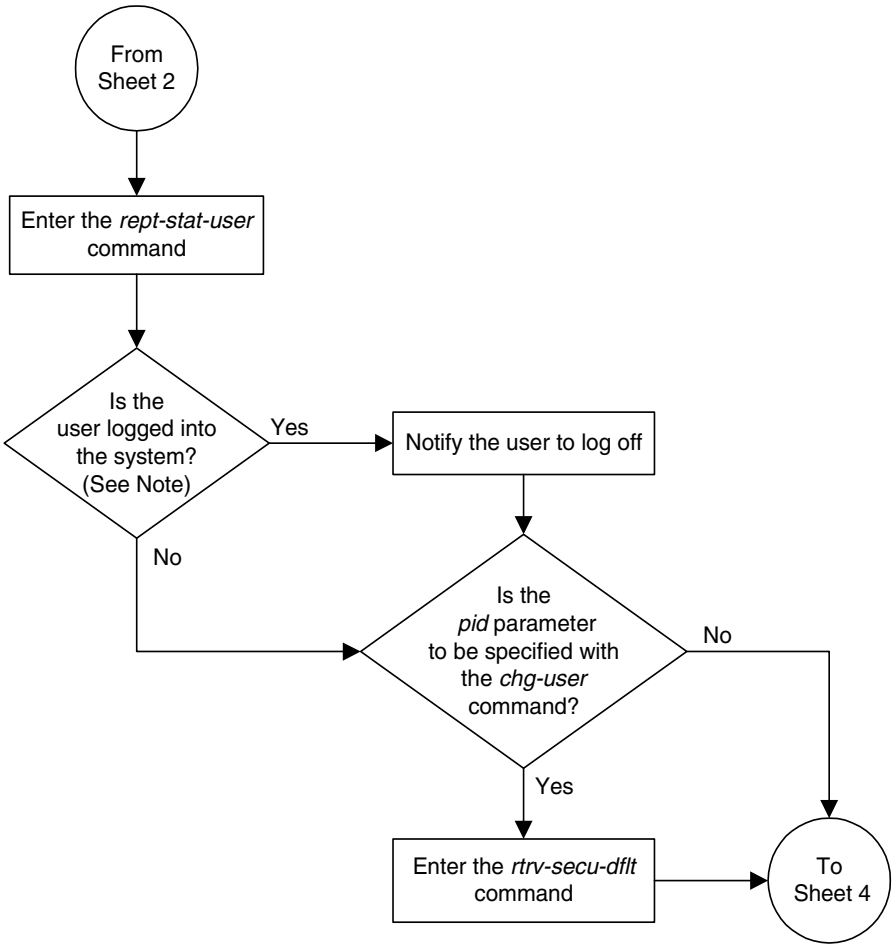
Flowchart 4-8. Changing User Information (Sheet 1 of 5)



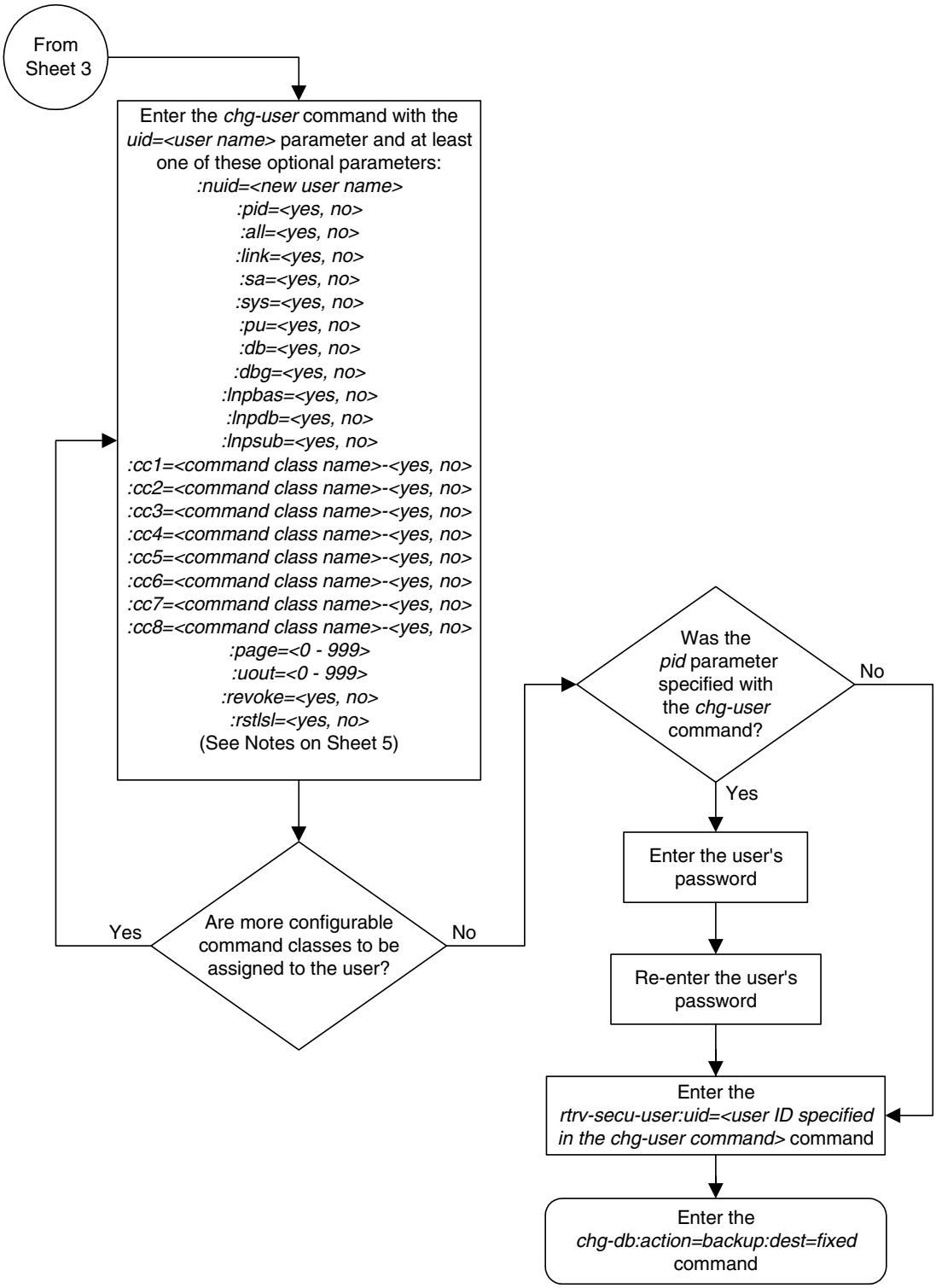
Flowchart 4-8. Changing User Information (Sheet 2 of 5)



Flowchart 4-8. Changing User Information (Sheet 3 of 5)



Flowchart 4-8. Changing User Information (Sheet 4 of 5)



Flowchart 4-8. Changing User Information (Sheet 5 of 5)

Notes:

1. The words SEAS and NONE are reserved by the system 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*, *lnpdb*, or *lnpsub* parameters, the LNP feature must be enabled for 2 to 12 million numbers.

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*, *lnpdb*, *lnpsub*) 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 system administrator to change the password of any user (see "Changing User Information" on page 4-35).

The rules for the format of the password are determined by the **chg-secu-dflt** command (see the "Changing the Security Defaults" procedure on page 4-7 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" procedure on page B-12 to enable and activate this feature.

Procedure

1. Log into the system using the **login** or **act-user** command. This is an example of the messages that appear when you have successfully logged onto the system.

```
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 05-03-01 @ 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 system 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 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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 system.

   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.

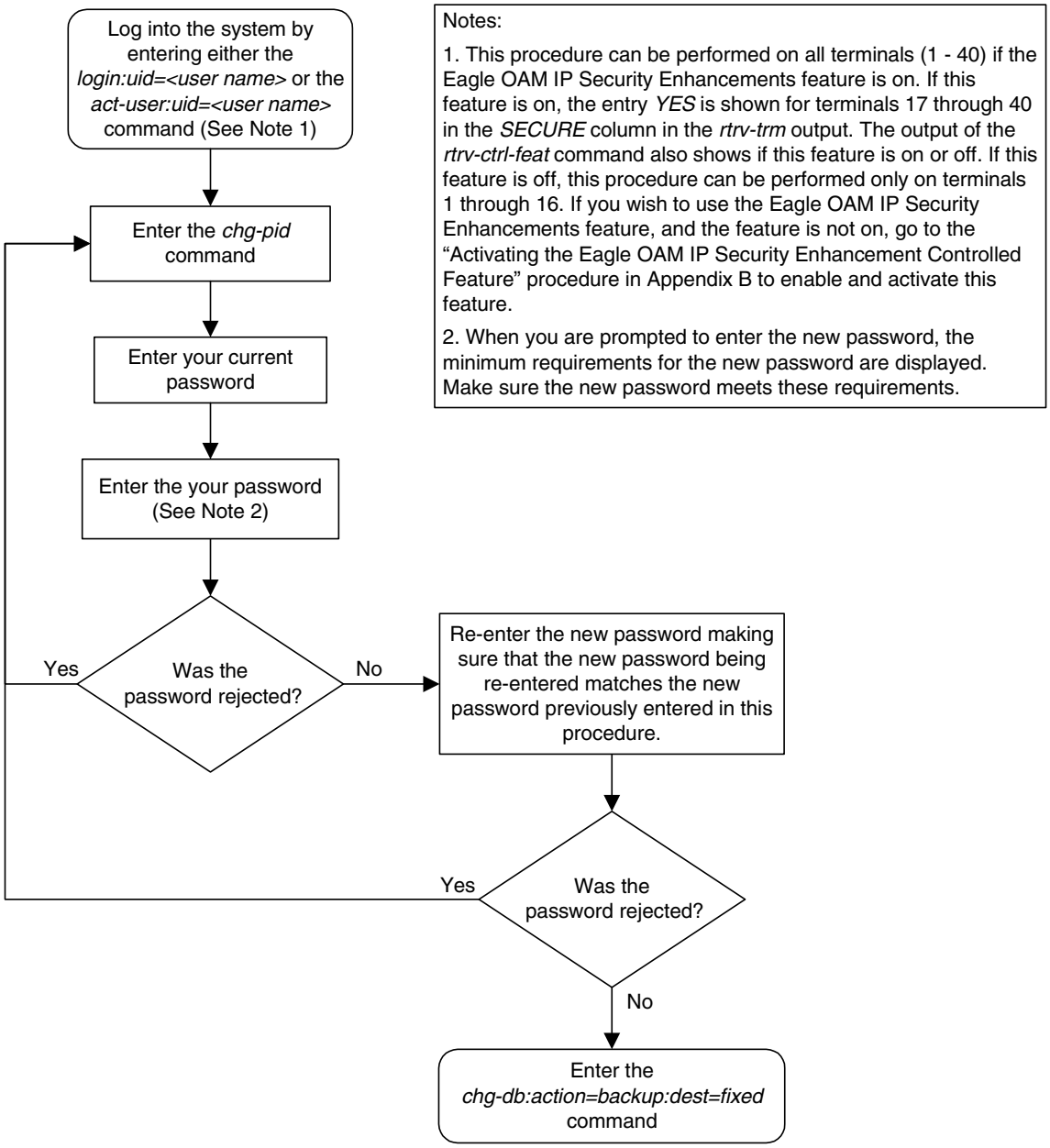
6. When the **command executed** message appears, the execution of the command has been completed, and the new password has been entered into the system database. This message should also appear.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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.
```

Flowchart 4-9. Changing a Password



Changing Terminal Characteristics

This procedure is used to change the characteristics of a terminal, except for the OAP port and a measurements terminal for a 700 signaling link system, using the **chg-trm** command.

To configure a measurements terminal for a 700 signaling link system, go to the "Configuring the Measurements Terminal for a 700 Signaling Link System" procedure on page 4-134.

To configure a terminal as an OAP port, go to the "Configuring the OAP Port at the Eagle STP" procedure on page A-15.

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 on page 4-55)

:fc – The type of flow control used between the system 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 on page 4-57)

:**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 on page 4-57)

:**dural** – The length of time that the terminal is disabled after the login failure threshold has been exceeded. (See the "Security Parameters" section on page 4-57)

:**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)

:lnpdb – Specifies whether or not LNP database administration related unsolicited messages are displayed on the specified terminal (yes or no)

:lnpsub – Specifies whether or not LNP subscription 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)

The messages assigned to the output message groups defined by the **traf**, **db**, **link**, **sa**, **sys**, **pu**, **lnpdb**, **lnpsub**, **uimrd**, **appserv**, **appss**, **card**, **clk**, **dbg**, **gtt**, **gws**, **meas**, **mon**, **mps**, **seas**, and **slan** parameters are listed in the *Maintenance 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 system handles them.

The **uimrd=yes** parameter of the **chg-stpopts** command tells the system 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 4-2 shows the combination of the values of both **uimrd** parameters and how the system handles the messages. The unsolicited output group message assignments are listed in the *Maintenance Manual*.

Table 4-2. 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 system 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 system 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" procedure on page 4-73 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 assisignment of another terminal to include the Security Administration command class.

If the **all=yes** parameter and the **traf**, **db**, **link**, **sa**, **sys**, **pu**, **lnpdb**, **lnpsub**, **uimrd**, **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**).

The **lnpdb** and **lnpsub** parameters can only be specified if the LNP feature is enabled for a quantity of 2 to 12 million numbers. 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. If the **all=yes** parameter is specified and the LNP feature is not enabled, or the ELAP Configuration feature is enabled and activated, the values of the **lnpdb** and **lnpsub** parameters are set to **no**. To enable the LNP feature for a quantity of 2 to 12 million numbers, go to the "Enabling the LNP Feature for 2 to 12 Million Numbers" procedure in the *Database Administration Manual - LNP* and enable the LNP feature.

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 port 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 nine terminal types that can be used on the Eagle.

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 and LNP features. The OAP terminal type is not used in this procedure. To configure a terminal as an OAP port, go to the "Configuring the OAP Port at the Eagle STP" procedure on page A-15.

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 and the customer's network to provide network surveillance.

The **TELNET** terminal type provides up to 24 IP based connections to the system'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 system 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, lnpdb, lnpsub, 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. 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 a 700 Signaling Link System" procedure on page 4-134), 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**, **lnpdb**, **lnpsub**, **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**, **lnpdb**, **lnpsub**, **uimrd**, **appserv**, **appss**, **card**, **clk**, **dbg**, **gtt**, **gws**, **meas**, **mon**, **mps**, **seas**, **slan**) parameters values can be changed.

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 indefinitley 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 system 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 system 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 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  05-03-01 16:02:08 GMT EAGLE5 32.0.0
TRM  TYPE    COMM        FC    TMOUT MXINV DURAL
3    VT320    9600-7-E-1 SW    30    5     99:59:59

                                LNP LNP
TRM  TRAF LINK SA  SYS PU  DB  DB  SUB  UIMRD
3    NO   YES  NO  YES NO  YES YES 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
```

This example shows a **rtrv-trm** command output when the LNP feature is enabled for a quantity of 2 to 12 million numbers. If the LNP feature is not enabled, or the ELAP Configuration feature is enabled and activated, the fields LNPDB, and LNPSUB are not shown in the **rtrv-trm** command output.

If the terminal is a telnet terminal (terminals 17 to 40) the **COMM** and **FC** fields are not displayed in the **rtrv-trm** output. The card location on the IPSM associated with the telnet terminals is displayed. The security status of the telnet terminal is displayed in the **SECURE** field. If the Eagle OA&M IP Security Enhancements feature is on, the telnet terminal is secure. The entry **yes** is shown in the **SECURE** field. If the Eagle OA&M IP Security Enhancements feature is off, the telnet terminal is not secure. The entry **no** is shown in the **SECURE** field. Appendix B, "Controlled Feature Activation Procedures," contains the procedures to enable and turn on, or turn off the Eagle OA&M IP Security Enhancements feature.

In this example, terminal 3 is running at 9600 baud with 7 data bits, even parity, and 1 stop bit.

Using Telnet Terminals in Place of Serial Terminals

For Eagle 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 and provisioned in the database because Security Administration commands cannot be executed from a telnet terminal.

For Eagle 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 commands from a telnet terminal, it is recommended that at least two serial terminals remain connected to the Eagle. 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, the user would still have access to the Eagle in the event of a telnet terminal connection failure.

Upgrades of the Eagle from a telnet terminal are not supported. When the Eagle is upgraded, the MASPs are upgraded first, followed by the various cards in the Eagle. 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. 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 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'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 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.

Procedure

1. Display the values of all terminals using the **rtrv-trm** command. This is an example of the possible output.

```
rlghncxa03w  05-03-01 16:02:08 GMT EAGLE5 32.0.0
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   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 the `lnpdb` or `lnpsub` parameters are not being specified in this procedure, or the `LNPDB` or `LNPSUB` fields are shown in the `rtrv-trm` output, skip this step, and go to step 3.

2. Verify that the LNP feature is enabled for a quantity of 2 to 12 million numbers, by entering the **`rtrv-ctrl-feat`** command. If the LNP feature is enabled for a quantity of 2 to 12 million numbers, the quantity shown in the **`LNP TNs`** field should be 2 to 12 million numbers.

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 for a quantity of 2 to 12 million numbers, go to step 3.

If the LNP feature is not enabled, go to the "Enabling the LNP Feature for 2 to 12 Million Numbers" procedure in the *Database Administration Manual - LNP* and enable the LNP feature.

If the ELAP Configuration feature is enabled and activated, the **`lnpdb`** or **`lnpsub`** parameters cannot be specified in this procedure.

NOTE: If telnet terminals are not being added in this procedure, skip step 3, and go to step 4.

3. If the **rtrv-trm** output in step 1 shows terminals 1 to 16 and you wish to add telnet terminals (**type=telnet**, terminals 17 through 40), go to the "Adding an IPSM" procedure on page 4-168. Adding an IPSM adds eight telnet terminals to the system.

When an IPSM is added to the database, the eight telnet terminals associated with the IPSM are added to the database with default values for the security (**tmout**, **mxinv**, **dural**) and output message group (**traf**, **db**, **link**, **sa**, **sys**, **pu**, **lnpdb**, **lnpsub**, **uimrd**, **appserv**, **appss**, **card**, **clk**, **dbg**, **gtt**, **gws**, **meas**, **mon**, **mps**, **seas**, **slan**) parameters, and the **telnet** terminal type.

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**) and output message group (**traf**, **db**, **link**, **sa**, **sys**, **pu**, **lnpdb**, **lnpsub**, **uimrd**, **appserv**, **appss**, **card**, **clk**, **dbg**, **gtt**, **gws**, **meas**, **mon**, **mps**, **seas**, **slan**) parameters.

If teminals 17 through 40 are being changed, go to step 4.

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 the "Adding an IPSM" procedure, this procedure is finished.

NOTE: If only the output message group or security parameters are being changed, skip steps 4 through 7, and go to step 8.

4. 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 3).

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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.
```

5. If the communication attributes (**baud**, **sb**, **prty**, and **fc**) or the terminal type (**type**) 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 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 these commands.

   rmv-trm:trm=4

   rmv-trm:trm=8

   rmv-trm:trm=19

   rmv-trm:trm=23

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

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Inhibit message sent to terminal

rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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. For this command, enter these commands.

   rept-stat-trm:trm=4

   This is an example of the possible output.

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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 05-03-01 15:08:45 GMT EAGLE5 32.0.0
TRM   PST            SST           AST
23    OOS-MT-DSBLD   MANUAL        -----
Command Completed.
```

NOTE: If the terminal type is not being changed to either `printer` or `none`, skip this step and go to step 8.

7. Display the command class values of all terminals using the **`rtrv-secu-trm`** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 12:31:04 GMT EAGLE5 32.0.0
                                        LNP  LNP  LNP
TRM    LINK SA  SYS  PU   DB   DBG  BAS  DB   SUB
1      NO   NO  YES  NO   YES  NO   NO   NO   NO
2      NO   NO  NO   NO   YES  NO   NO   NO   NO
3      YES  *** YES  YES  YES  YES  NO   NO   NO
4      NO   YES NO   NO   NO   NO   NO   NO   NO
5      YES  NO  NO   NO   YES  YES  NO   NO   NO
6      NO   YES NO   NO   NO   NO   NO   NO   NO
7      NO   *** YES  NO   YES  NO   NO   NO   NO
8      NO   NO  NO   NO   NO   NO   NO   NO   NO
9      YES  YES YES  YES  YES  YES  NO   NO   NO
10     NO   NO  NO   NO   NO   NO   NO   NO   NO
11     YES  NO  YES  NO   YES  YES  NO   NO   NO
12     NO   *** NO   NO   NO   NO   NO   NO   NO
13     NO   NO  NO   NO   YES  YES  NO   NO   NO
14     NO   YES NO   NO   YES  YES  NO   NO   NO
15     NO   NO  NO   NO   YES  YES  NO   NO   NO
16     NO   NO  NO   NO   YES  YES  NO   NO   NO
17     NO   NO  YES  NO   YES  NO   NO   NO   NO
18     NO   NO  NO   NO   YES  NO   NO   NO   NO
19     YES  NO  YES  YES  YES  YES  NO   NO   NO
20     NO   YES NO   NO   NO   NO   NO   NO   NO
21     YES  NO  NO   NO   YES  YES  NO   NO   NO
22     NO   YES NO   NO   NO   NO   NO   NO   NO
23     NO   NO  YES  NO   YES  NO   NO   NO   NO
24     NO   NO  NO   NO   NO   NO   NO   NO   NO
25     YES  YES YES  YES  YES  YES  NO   NO   NO
26     NO   NO  NO   NO   NO   NO   NO   NO   NO
27     YES  NO  YES  NO   YES  YES  NO   NO   NO
28     NO   NO  NO   NO   NO   NO   NO   NO   NO
29     NO   NO  NO   NO   YES  YES  NO   NO   NO
30     NO   YES NO   NO   YES  YES  NO   NO   NO
31     NO   NO  NO   NO   YES  YES  NO   NO   NO
32     NO   NO  NO   NO   YES  YES  NO   NO   NO
```

NOTE: If the terminal type is being changed to either `printer` or `none`, make sure the system 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 system with only one terminal assigned to the Security Administration command class, go to the "Changing Terminal Command Class Assignments" procedure on page 4-73 and change the command class assignment of another terminal to include the Security Administration command class.

8. Change the terminal characteristics using the **`chg-trm`** command. For this example enter this command.

```
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
:lnpbas=yes:lnpdb=yes:tmout=30

chg-trm:trm=8:type=emsalm

chg-trm:trm=23:type=emsalm
```

NOTE: If step 5 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`).**

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 a 700 Signaling Link System" procedure on page 4-134), it is recommended that this terminal is not changed to an EMSALM terminal.

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

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
CHG-TRM: MASP A - COMPLTD
```

9. Verify the changes made in step 8 by using the **rtrv-trm** command with the terminal number specified in step 8. For this example, enter these commands.

rtrv-trm:trm=4

This is an example of the possible output.

```
rlghncxa03w  05-03-01 16:02:08 GMT EAGLE5 32.0.0
TRM  TYPE    COMM        FC    TMOUT MXINV DURAL
4    VT320    9600-7-E-1 BOTH  30    5     00:30:00

                               LNP LNP
TRM  TRAF LINK SA  SYS PU  DB  DB  SUB  UIMRD
4    NO   YES  YES NO  NO  YES NO  NO   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  05-03-01 16:02:08 GMT EAGLE5 32.0.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
19   NONE      1201             60    5     00:30:00   yes

                               LNP LNP
TRM  TRAF LINK SA  SYS PU  DB  DB  SUB  UIMRD
19   NO   NO   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  05-03-01 16:02:08 GMT EAGLE5 32.0.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
21   TELNET    1201             30    5     00:30:00   yes

                               LNP LNP
TRM  TRAF LINK SA  SYS PU  DB  DB  SUB  UIMRD
21   NO   YES  YES YES NO  YES YES 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  05-03-01 16:02:08 GMT EAGLE5 32.0.0
TRM  TYPE     COMM        FC    TMOUT MXINV DURAL
8    EMSALM  19200-7-E-2  BOTH  30    5     00:30:00

                               LNP LNP
TRM  TRAF LINK SA  SYS PU  DB  DB  SUB UIMRD
8    YES  YES  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  05-03-01 16:02:08 GMT EAGLE5 32.0.0
TRM  TYPE      LOC              TMOUT MXINV DURAL      SECURE
23   EMSALM    1201             60    5     00:30:00   yes

                                LNP LNP
TRM  TRAF LINK SA  SYS PU  DB  DB  SUB 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 the terminal was not inhibited in step 5, skip this step and go to step 11.

10. When the changes are complete, and if the terminal was inhibited in step 5, 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

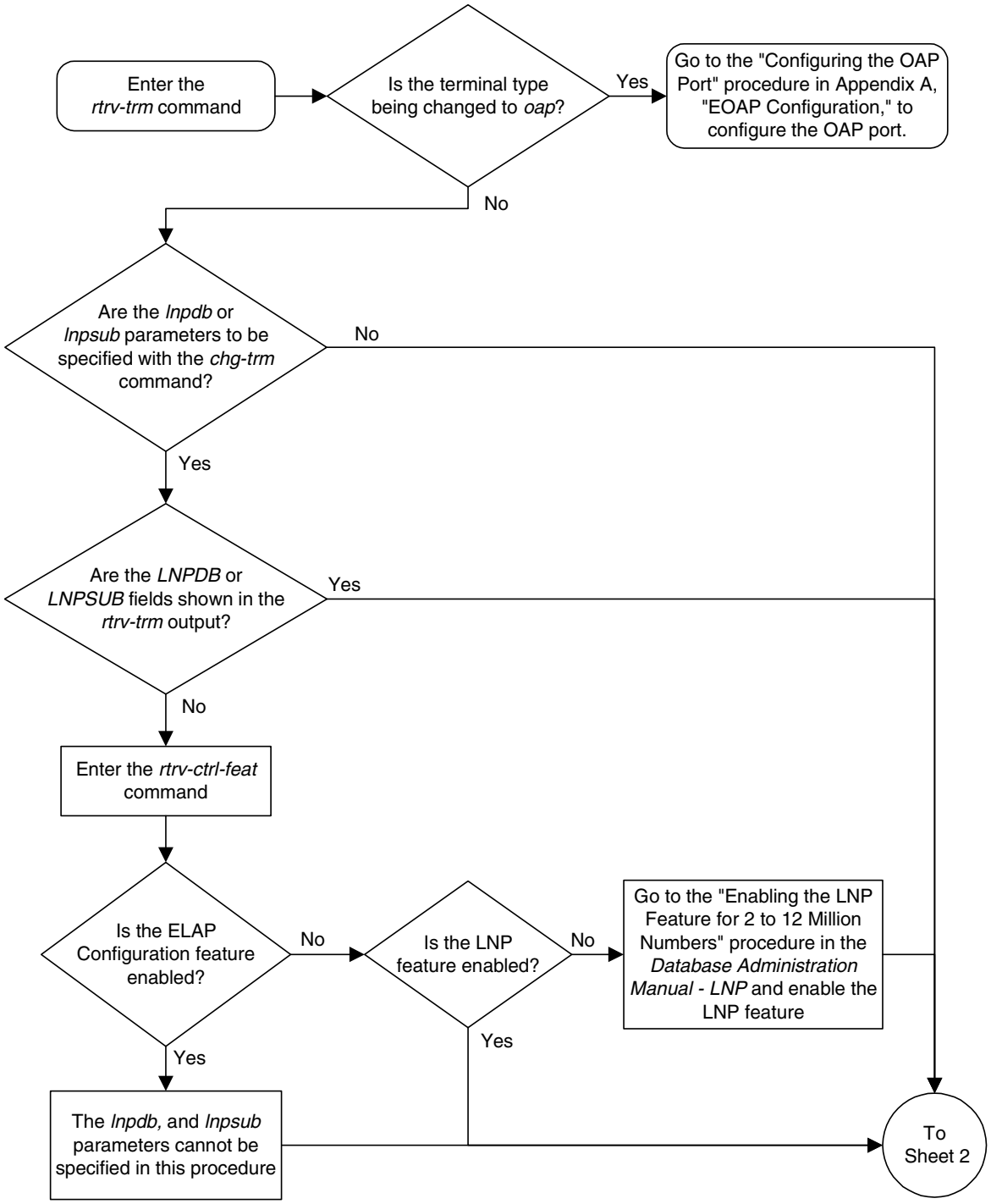
When these commands have successfully completed, this message should appear.

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Allow message sent to terminal
```

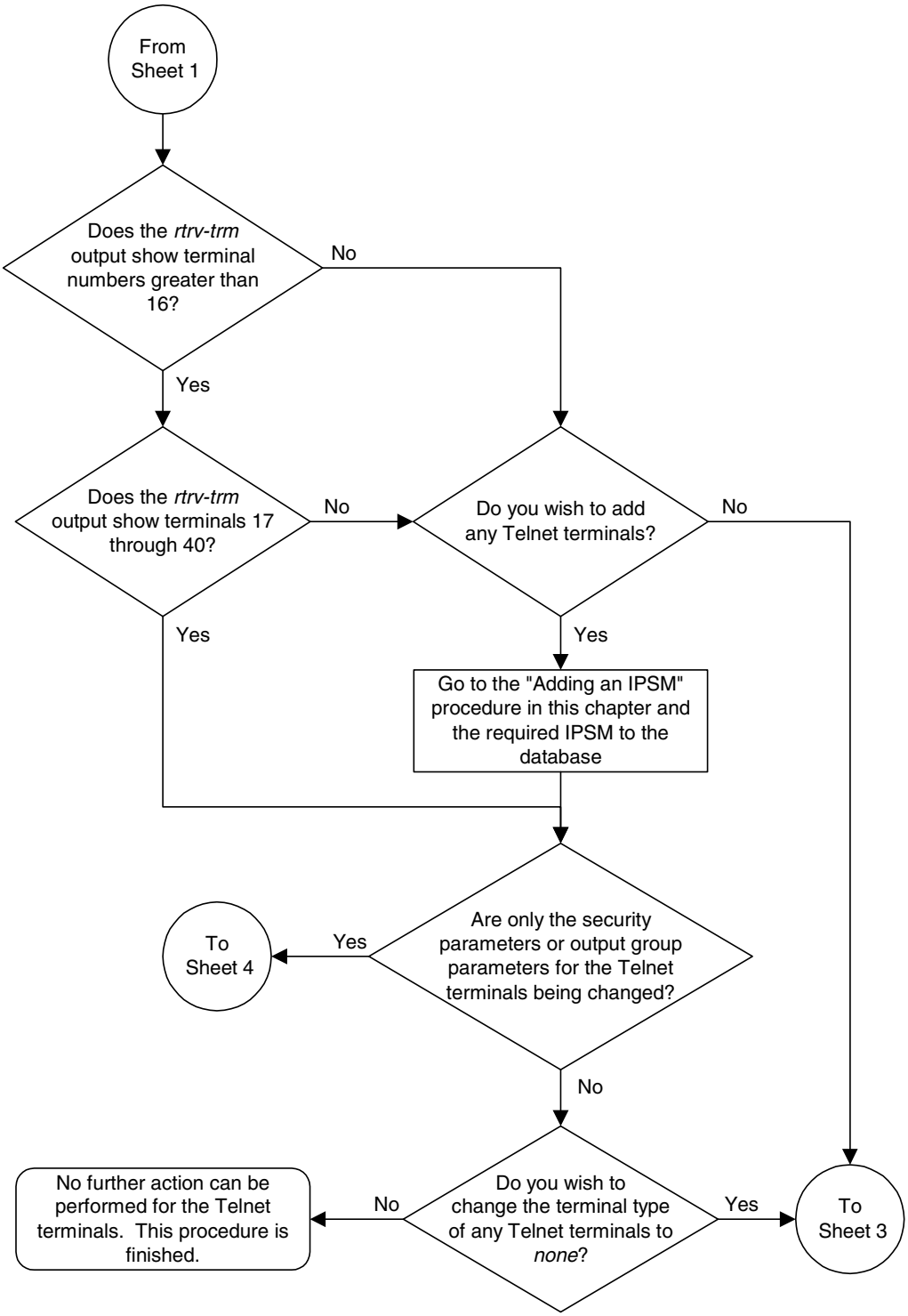
11. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

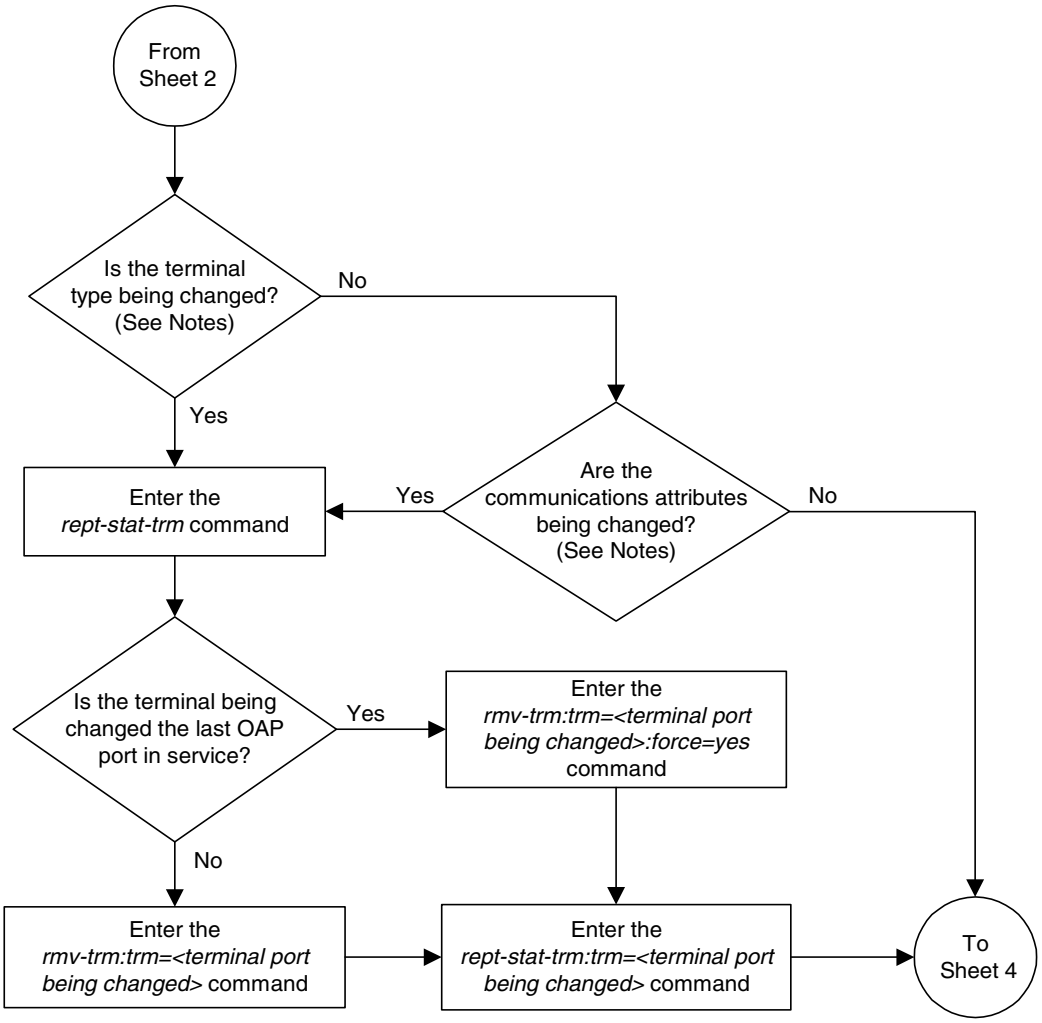
Flowchart 4-10. Changing Terminal Characteristics (Sheet 1 of 5)



Flowchart 4-10. Changing Terminal Characteristics (Sheet 2 of 5)



Flowchart 4-10. Changing Terminal Characteristics (Sheet 3 of 5)



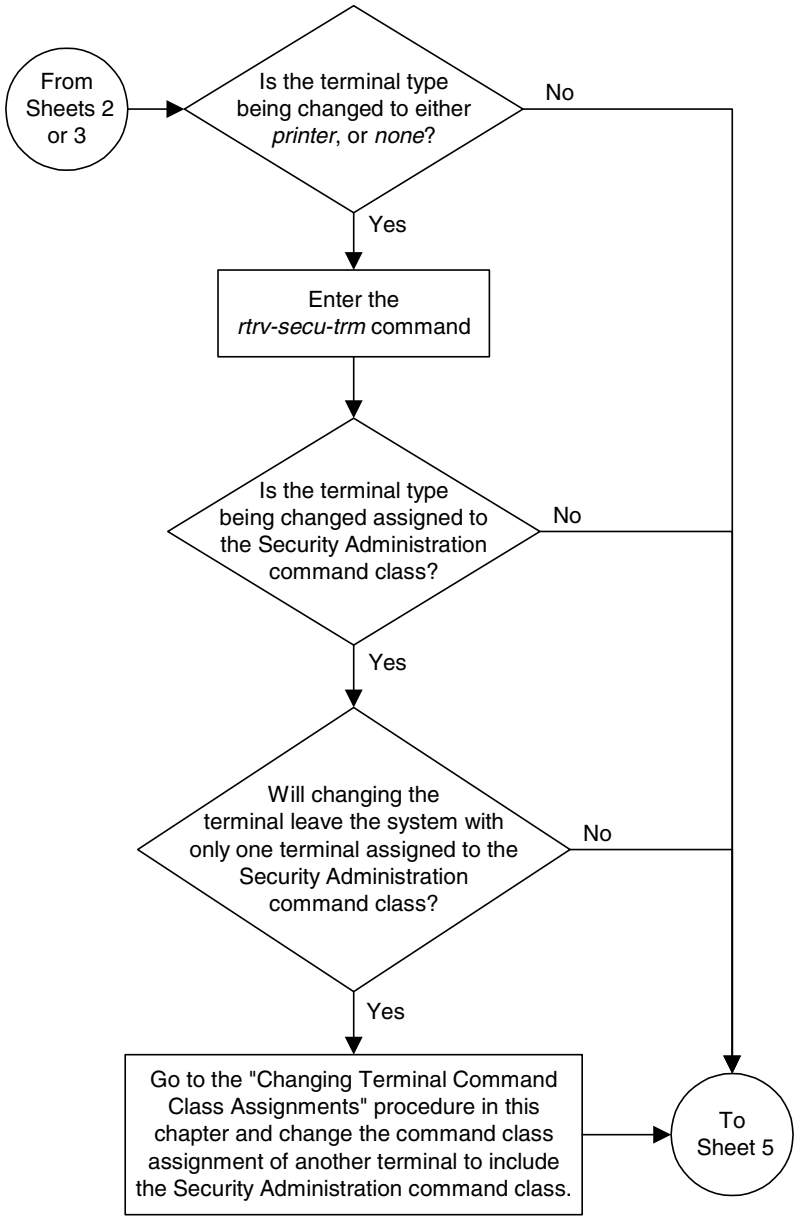
Notes:

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.

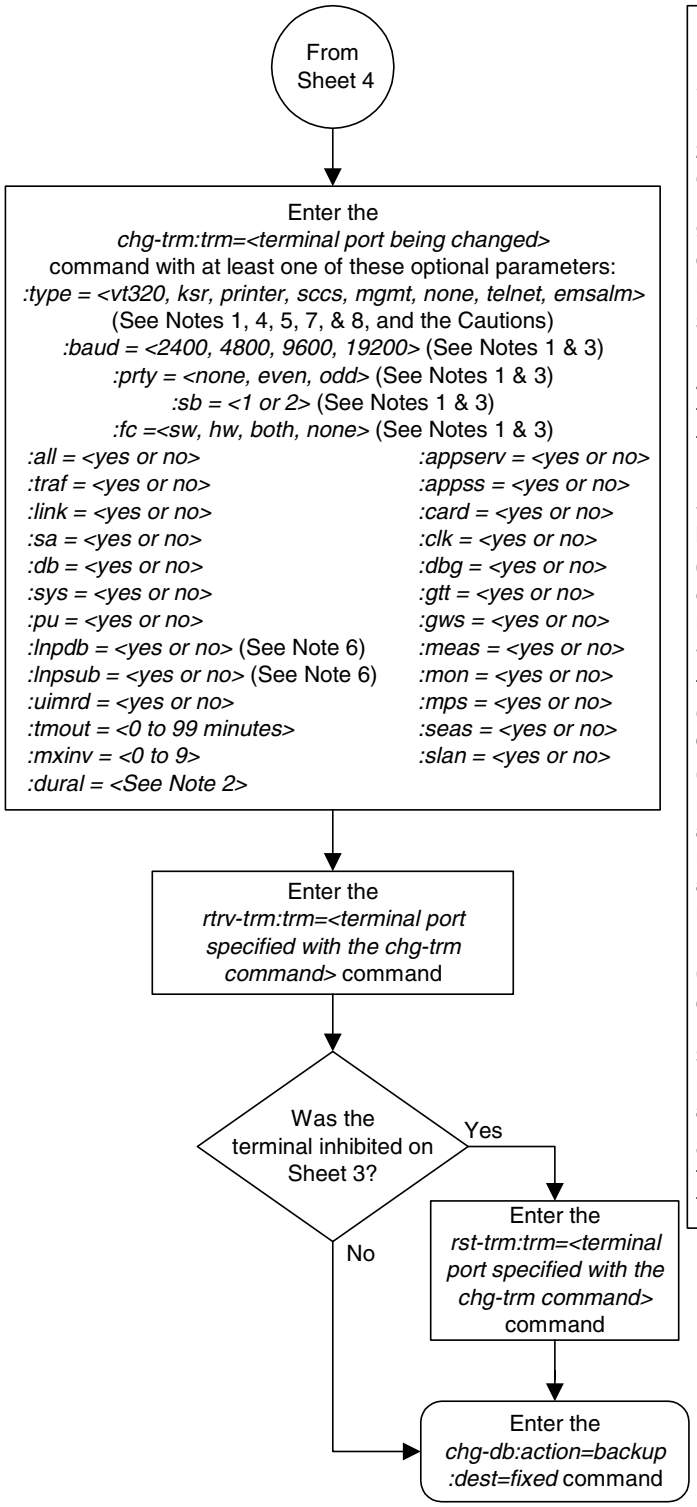
2. If the terminal numbers are from 1 to 16, the values for the *type* parameter can be *vt320*, *ksr*, *printer*, *sccs*, *mgmt*, *none*, or *emsalm*. The communication attributes for these terminals can be specified and changed.

3. The communications attributes are defined by these parameters: *baud* (baud rate), *prty* (parity), *sb* (stop bits), and *fc* (flow control).

Flowchart 4-10. Changing Terminal Characteristics (Sheet 4 of 5)



Flowchart 4-10. Changing Terminal Characteristics (Sheet 5 of 5)



Notes:

1. If the terminal was not placed out of service on Sheet 3, 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 *lnpdb* and *lnpsub* parameters can be specified only if the LNP feature is enabled for 2 to 12 million numbers.

7. 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.

8. The output group settings are not changed when the terminal type is changed from *emsalm* to another terminal type.

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 a system terminal. This procedure can only be performed if you and the terminal have been assigned the command class "Security Administration." The system commands are grouped into these command classes.

- Basic
- Database Administration
- Debug
- Link Maintenance
- Program Update
- Security Administration
- System Maintenance
- LNP Basic
- LNP Database Administration
- LNP Subscription
- 32 Configurable Command Classes

With the **chg-secu-trm** command, only nine 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

:all – The commands in all non-configurable command classes (**dbg**, **link**, **sys**, **sa**, **pu**, **db**, and if the LNP feature is enabled for a quantity of 2 to 12 million numbers, **lnpbas**, **lnpdb**, **lnpsub**) 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.

:lnpdb – LNP Database Administration commands can be entered on the specified terminal.

:lnpsub – LNP Subscription 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" procedure on page B-3 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" procedure on page 4-83.

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, lnpdb**, or **lnpsub** 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, LNP Database Administration, or LNP Subscription command classes to a terminal, the LNP feature must be enabled for a quantity of 2 to 12 million numbers. 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 for a quantity of 2 to 12 million numbers, go to the "Enabling the LNP Feature for 2 to 12 Million Numbers" procedure in the *Database Administration Manual - LNP* and enable the LNP feature.

The values of the **lnpbas**, **lnpdb**, and **lnpsub** parameters are shown in the **LNPBAS**, **LNPDB**, and the **LNPSUB** fields of the **rtrv-secu-trm** command output. These fields can only be displayed if the LNP feature is enabled for a quantity of 2 to 12 million numbers.

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 system must always be assigned to the security administration command class to prevent the system 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 system 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
lnpbas = no
lnpdb = no
lnpsub = 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.

Procedure

1. Display the command class values of all terminals using the **rtrv-secu-trm** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 12:31:04 GMT EAGLE5 32.0.0
                                        LNP  LNP  LNP
TRM    LINK SA  SYS  PU   DB   DBG   BAS  DB   SUB
1      NO   NO  YES  NO   YES  NO    YES  YES  YES
2      NO   NO  NO   NO   YES  NO    YES  NO   NO
3      YES  *** YES  YES  YES  YES   NO   NO   NO
4      NO   YES NO   NO   NO   NO    NO   NO   NO
5      YES  NO  YES  NO   YES  YES   NO   NO   NO
6      NO   NO  NO   NO   NO   NO    NO   NO   NO
7      NO   NO  YES  NO   YES  NO    NO   NO   NO
8      NO   NO  NO   NO   NO   NO    NO   NO   NO
9      YES  YES YES  YES  YES  YES   NO   NO   NO
10     NO   NO  NO   NO   NO   NO    NO   NO   NO
11     YES  NO  YES  NO   YES  YES   NO   NO   NO
12     NO   NO  NO   NO   NO   NO    NO   NO   NO
13     NO   NO  NO   NO   YES  YES   NO   NO   NO
14     NO   NO  NO   NO   YES  YES   NO   NO   NO
15     NO   NO  NO   NO   YES  YES   NO   NO   NO
16     NO   NO  NO   NO   YES  YES   NO   NO   NO
```

NOTE: If the lnpbas, lnpdb, or lnpsub parameters are not being specified in this procedure, or the LNPBAS, LNPDB, or LNPSUB fields are shown in the rtrv-secu-trm output, skip this step, and go to step 3.

2. Verify that the LNP feature is enabled for a quantity of 2 to 12 million numbers, by entering the **rtrv-ctrl-feat** command. If the LNP feature is enabled for a quantity of 2 to 12 million numbers, the quantity shown in the **LNP TNs** field should be 2 to 12 million numbers.

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 for a quantity of 2 to 12 million numbers, go to step 3.

If the LNP feature is not enabled, go to the "Enabling the LNP Feature for 2 to 12 Million Numbers" procedure in the *Database Administration Manual - LNP* and enable the LNP feature.

If the ELAP Configuration feature is enabled and activated, the **lnpbas**, **lnpdb**, and **lnpsub** parameters cannot be specified in this procedure.

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-trm` output, skip this step, and go to step 4.

3. Verify that the Command Classs Management feature is enabled and activated, by entering the **`rtrv-ctrl-feat`** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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 Classs Management feature is not enabled or activated, go to the "Activating Controlled Features" procedure on page B-3 and enable and activate the Command Classs 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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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
ent-lnp-sub         lnpsub, u22

.
.
.

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" procedure on page 4-83 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 05-03-01 09:12:15 GMT  EAGLE5 32.0.0
REPT-STAT-USER COMPLTD
USER ID    TERM# IDLE SINCE          COMMAND         STATE
fred         3   05-03-01 05:06:43  rept-stat-user  PROCESSING
frodo       13   05-03-01 08:12:23  chg-db          IDLE
manny        1   05-03-01 04:37:56  ent-dlk         IDLE
travist      7   05-03-01 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 system 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 system 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 05-03-01 12:31:04 GMT EAGLE5 32.0.0
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

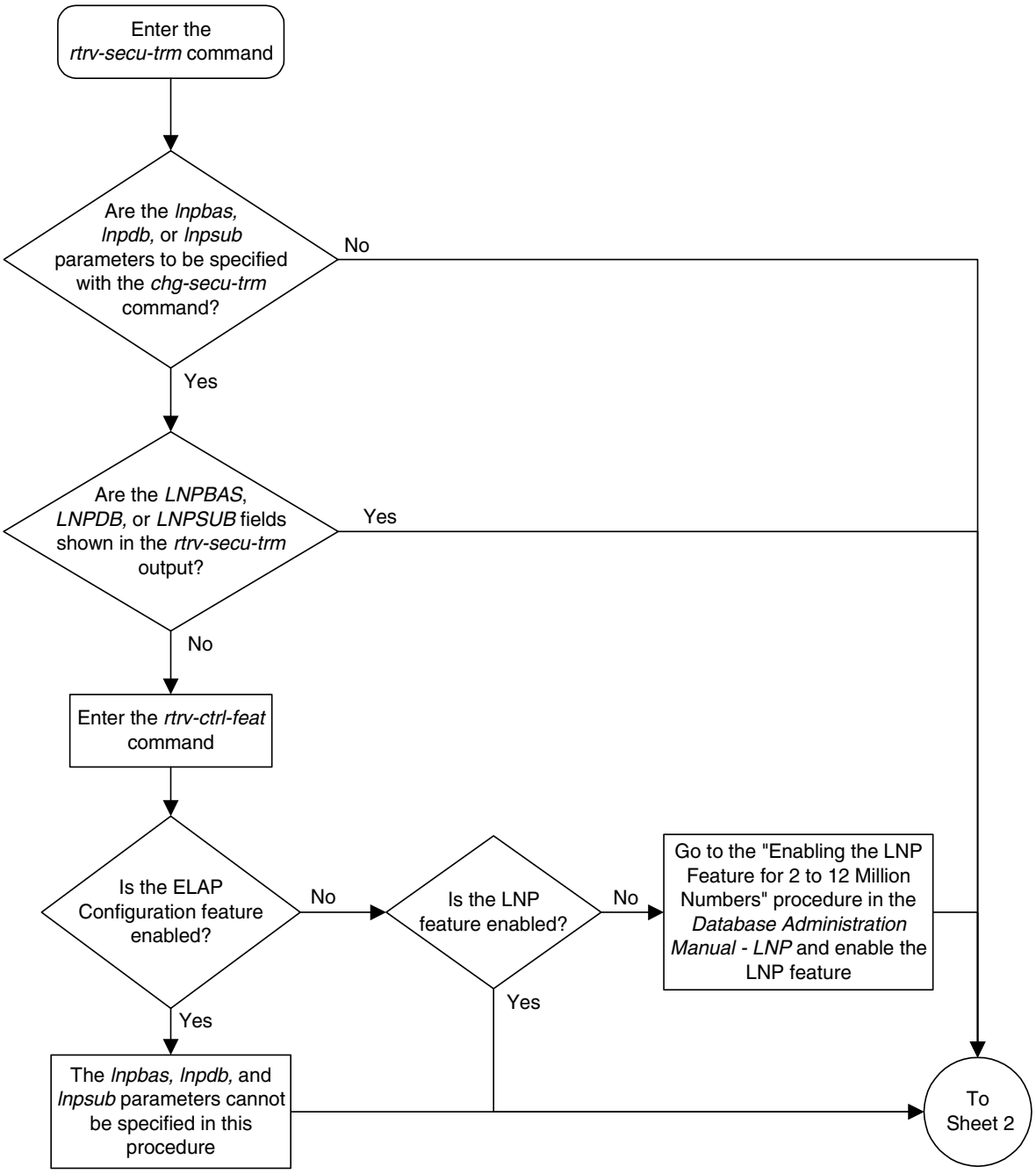
   This is an example of the possible output.

```
rlghncxa03w 05-03-01 12:31:04 GMT EAGLE5 32.0.0
                                      LNP  LNP  LNP
TRM    LINK SA  SYS  PU   DB   DBG  BAS  DB   SUB
4      YES  NO  NO   YES  YES  NO   NO   NO   NO
```

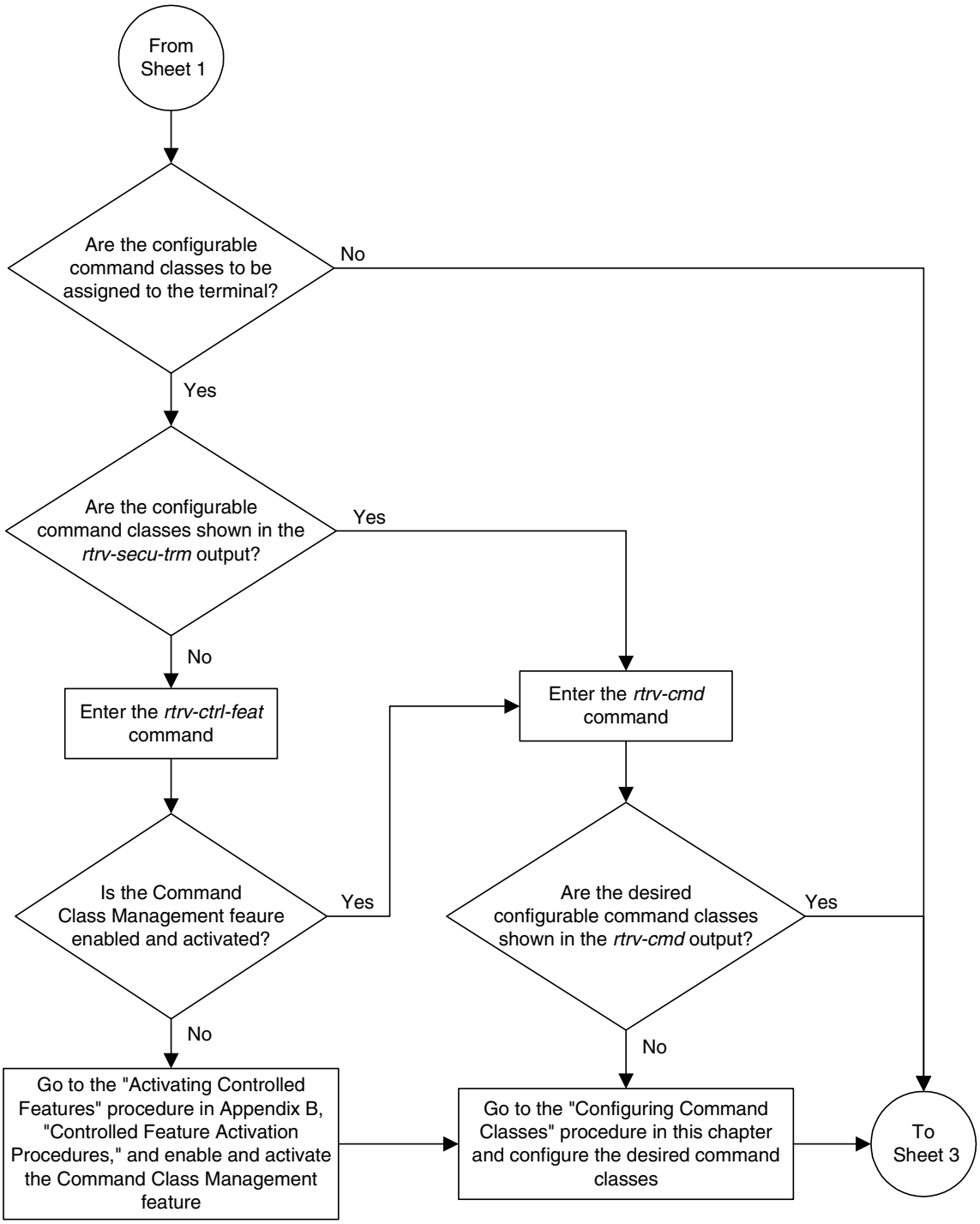
9. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

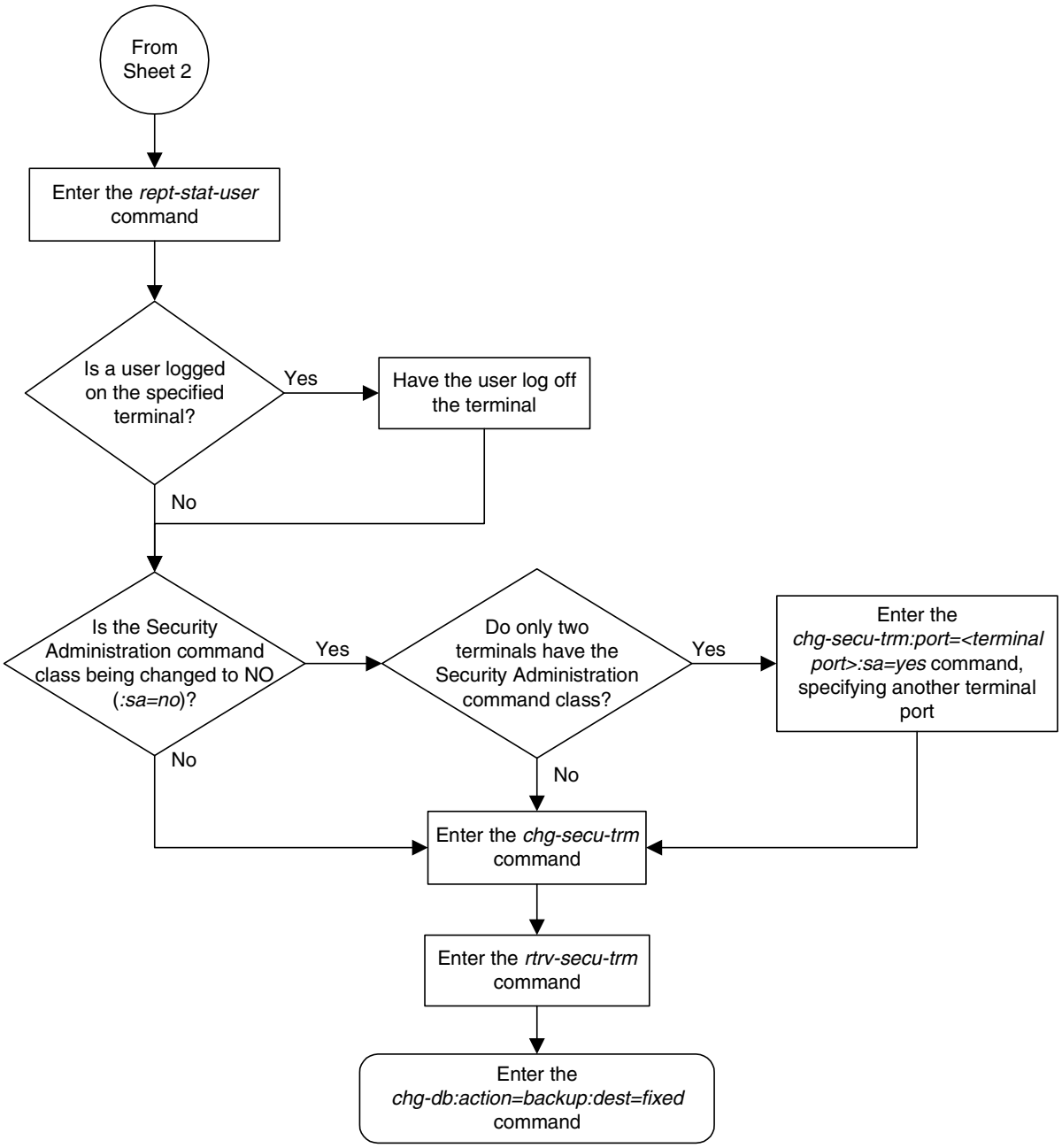
Flowchart 4-11. Changing Terminal Command Class Assignments (Sheet 1 of 3)



Flowchart 4-11. Changing Terminal Command Class Assignments (Sheet 2 of 3)



Flowchart 4-11. Changing Terminal Command Class Assignments (Sheet 3 of 3)



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 system still has the non-configurable 10 command classes: Basic, Database Administration, Debug, Link Maintenance, Program Update, Security Administration, System Maintenance, LNP Basic, LNP Database Administration, LNP Subscription.

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-lnp-serv**, **rtrv-lnp-sub**, **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, LNP Basic, 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, slignaling 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" procedure on page B-3 to enable and activate the Command Class Management feature.

To add commands from the LNP Basic, LNP Database Administration, or LNP Subscription command classes, the LNP feature must be enabled for a quantity of 2 to 12 million numbers. 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 for a quantity of 2 to 12 million numbers, go to the "Enabling the LNP Feature for 2 to 12 Million Numbers" procedure in the *Database Administration Manual - LNP* and enable the LNP feature.

Procedure

1. Verify that the Command Classs Management feature is enabled and activated, by entering the **rtrv-ctrl-feat** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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 Classs Management feature is not enabled or activated, go to the "Activating Controlled Features" procedure on page B-3 and enable and activate the Command Classs 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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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
ent-lnp-sub         lnpsub, u22

.
.
.

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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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
lnpdb               lnp database commands
lnpsub              lnp subscription 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, pu, lnpbas, lnpdb, and lnpsub cannot be changed.

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

```
rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
CLASS               DESCR
db1                 retrieve database commands
```

   rtrv-cmdclass:class=s15

   This is an example of the possible output.

```
rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
CLASS               DESCR
s15                 your command class description
```

   rtrv-cmdclass:class=u03

   This is an example of the possible output.

```
rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
CLASS               DESCR
u03                 user commands 3
```

NOTE: If commands from the LNPBAS, LNPDB, or LNPSUB command classes are not being added to a configurable command class, or if the LNPBAS, LNPDB, and LNPSUB command classes are shown in the rtrv-cmdclass output in step 3 or in the rtrv-cmd output in step 2, skip this step, and go to step 7.

6. Verify that the LNP feature is enabled for a quantity of 2 to 12 million numbers, by entering the **rtrv-ctrl-feat** command. If the LNP feature is enabled for a quantity of 2 to 12 million numbers, the quantity shown in the **LNP TNs** field should be 2 to 12 million numbers.

   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 for a quantity of 2 to 12 million numbers, go to step 7.

   If the LNP feature is not enabled, go to the "Enabling the LNP Feature for 2 to 12 Million Numbers" procedure in the *Database Administration Manual - LNP* and enable the LNP feature.

   If the ELAP Configuration feature is enabled and activated, commands from the **LNPBAS**, **LNPDB**, and **LNPSUB** command classes cannot be specified in this procedure.

---

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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
   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 7. For this example, enter these commands.

   rtrv-cmd:cmd=rtrv-card

   This is an example of the possible output.

   ```
   rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
   CMD                 CLASS
   rtrv-card           db, db1
   ```

   rtrv-cmd:cmd=tst-dlk

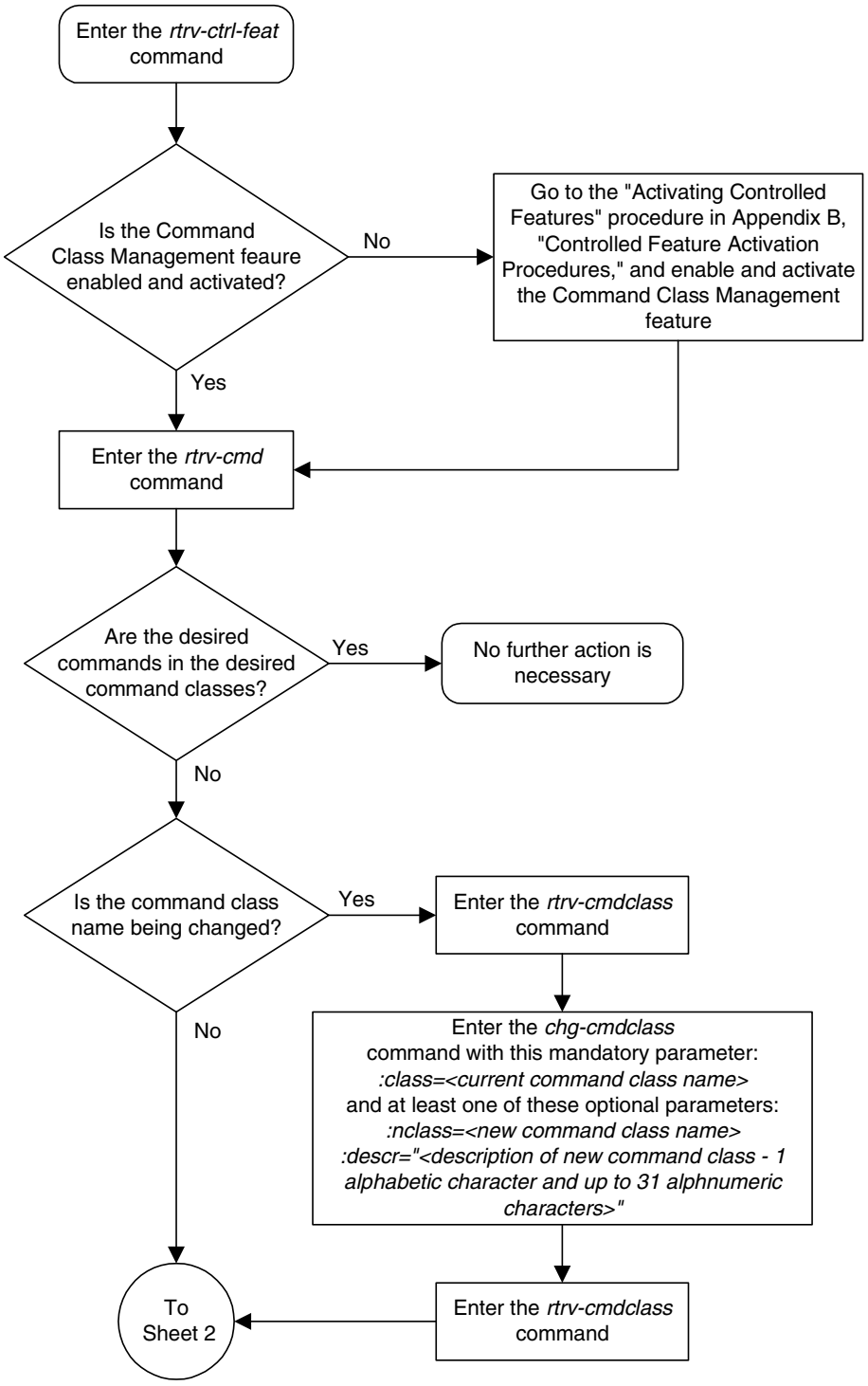
   This is an example of the possible output.

   ```
   rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
   CMD                 CLASS
   tst-dlk             link
   ```

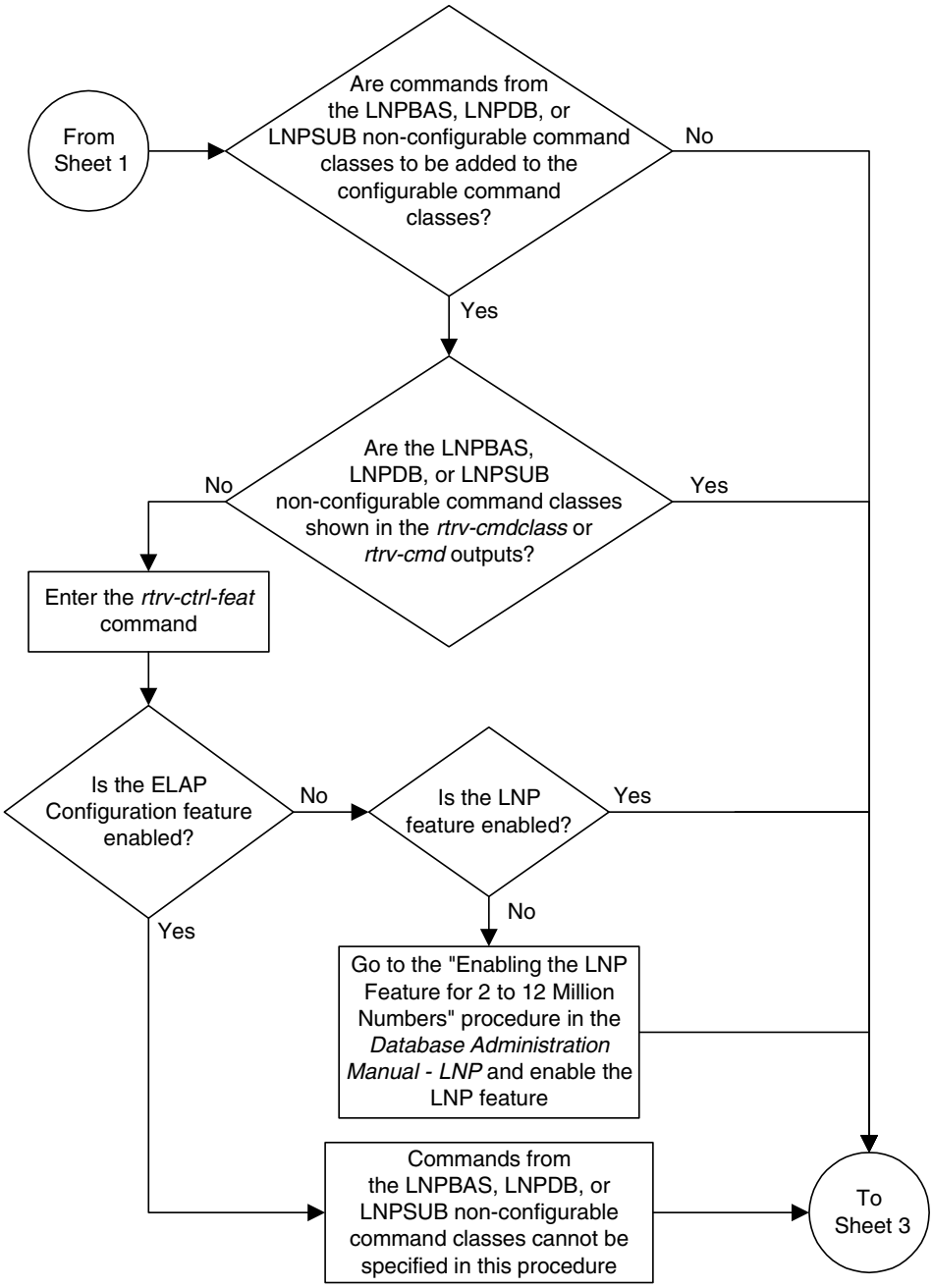
9. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

   ```
   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.
   ```

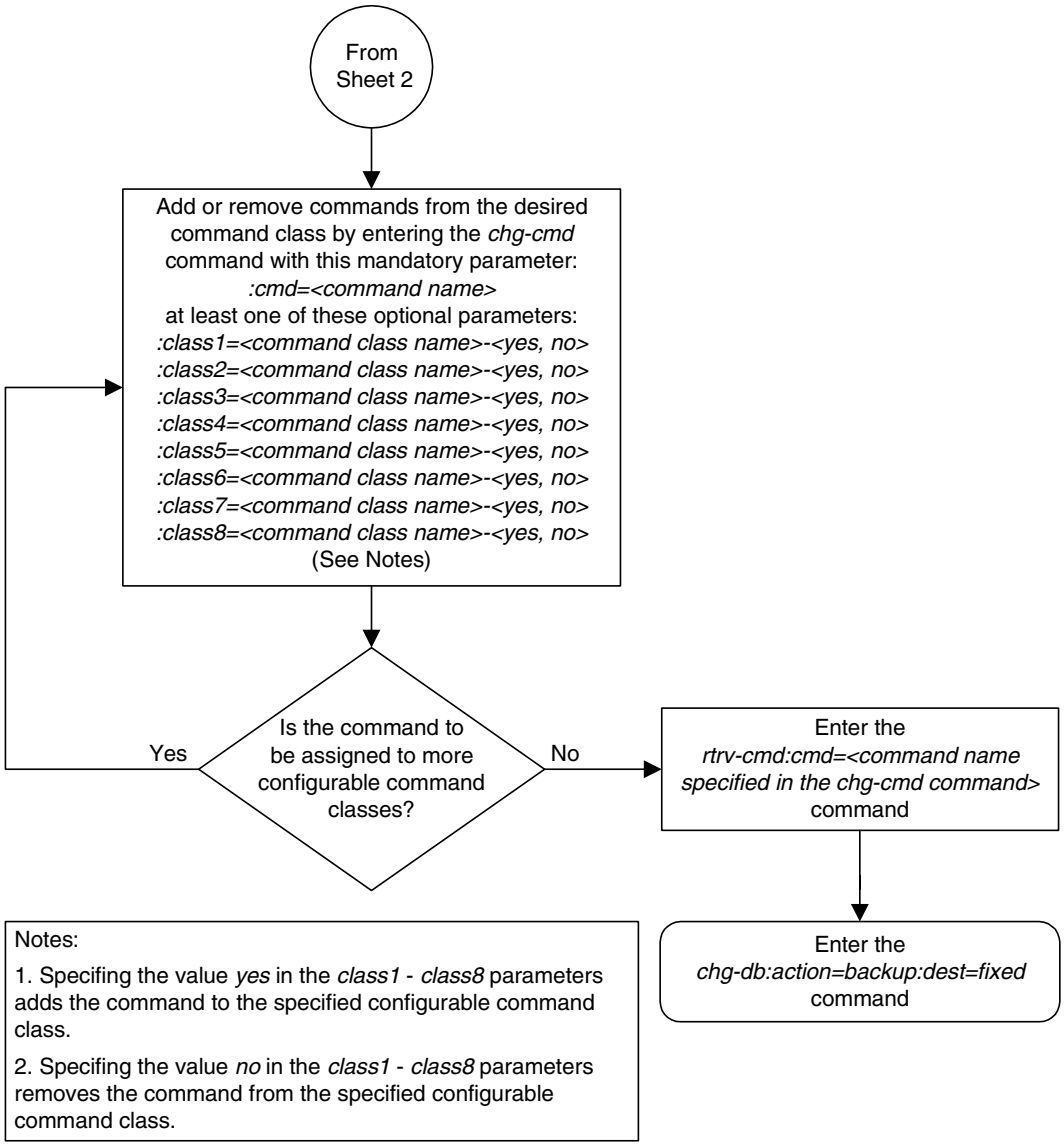
Flowchart 4-12. Configuring Command Classes (Sheet 1 of 3)



Flowchart 4-12. Configuring Command Classes (Sheet 2 of 3)



Flowchart 4-12. Configuring Command Classes (Sheet 3 of 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 system.

Procedure

1. Display the current shelf information using the **rtrv-shlf** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
ENT-SHLF: MASP A - COMPLTD
```

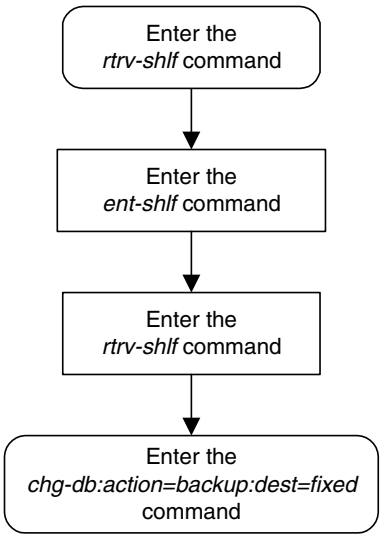
3. Verify the changes using the **rtrv-shlf** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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.
```

Flowchart 4-13. 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 4-3 shows the location of these procedures.

Table 4-3. Card Removal Procedures

Card Application	Procedure
SS7ANSI, ATMANSI, CCS7ITU, ATMITU	"Removing an SS7 LIM" on page 4-117 "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 an SCCP Card" in Chapter 2, "Global Title Translation (GTT) Overview,"in the *Database Administration Manual - Global Title Translation* "Removing an SCCP Card" in Chapter 2, "LNP Configuration," in the *Database Administration Manual - LNP*
VSCCP	
GLS	"Removing a GLS Card" in Chapter 2, "Gateway Screening (GWS) Overview," in the *Database Administration Manual - Gateway Screening*
STPLAN, VXWSLAN	"Removing an STP LAN Card" in Chapter 3, "STP LAN Configuration," in the *Database Administration Manual - Features*
EBDADCM	"Removing the DCM for the LSMS High-Speed Operations" in Chapter 4, "Preparing the Eagle for High-Speed Operations," in the *LNP Database Synchronization Manual - Eagle/LSMS*
EBDABLM	"Removing the BLM for the LSMS High-Speed Operations" in Chapter 4, "Preparing the Eagle for High-Speed Operations," in the *LNP Database Synchronization Manual - Eagle/LSMS*
EMDC	Chapter 5, "Replacement Procedures," in the *Feature Manual - GR-376*
IPLIM, IPLIMI, SS7IPGW, IPGWI	"Removing an IP Card" in Chapter 3, "IP^7 Secure Gateway Configuration Procedures," in the *Database Administration Manual - IP^7 Secure Gateway*

Table 4-3. Card Removal Procedures (Continued)

Card Application	Procedure
EROUTE	"Removing an STC Card" in Chapter 6, "Eagle Support for Integrated Sentinel Configuration," in the *Database Administration Manual - Features*
MCP	"Removing an MCPM" on page 4-146
IPS	"Removing an IPSM" on page 4-179
Note: These card applications do not support 24-bit ITU-N point codes: SS7GX25, STPLAN, VXWSLAN, EBDADCM, EBDABLM. The LNP feature and the Sentinel product do not support 24-bit ITU-N point codes.	

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 4-4 for a description of the effect that removing the last card type that is in service has on the system.

Table 4-4. Effect of Removing the Last In-Service Card Type from the Database

Card type	Application assigned to card	Effect on system
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 the LNP feature is enabled, LNP traffic is also lost. If the INP, G-PORT, G-FLEX, or EIR features are on, INP, G-PORT, G-FLEX, or EIR traffic is also lost.
DSM	VSCCP	
TSM	GLS	Gateway screening feature is disabled.

Table 4-4. Effect of Removing the Last In-Service Card Type from the Database (Continued)

Card type	Application assigned to card	Effect on system
ACMENET	STPLAN	STP LAN feature is disabled.
DCM	VXWSLAN	
	EBDADCM	High-speed bulk download of the LNP database from the LSMS is disabled
TSM	EBDABLM	
DCM	EMDC	The GR-376 Interface feature is disabled
DCM	IPLIM	Point-to-point connectivity for ANSI networks in the IP^7 Secure Gateway is disabled.
	IPLIMI	Point-to-point connectivity for ITU networks in the IP^7 Secure Gateway is disabled.
	SS7IPGW	Point-to-multipoint connectivity for ANSI networks in the IP^7 Secure Gateway is disabled.
	IPGWI	Point-to-multipoint connectivity for ITU networks in the IP^7 Secure Gateway is disabled.
STC	EROUTE	Monitoring of the system by the 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 examples in this procedure are used to remove shelf 1200 from the database.

Procedure

1. Display the cards in the database using the **rtrv-card** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT SLC
1101   TSM       SCCP      ------------  --   --  ------------  --   --
1102   TSM       GLS       ------------  --   --  ------------  --   --
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1118   RESERVED
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       ------------  --   --  ------------  --   --
1213   TSM       EBDABLM   ------------  --   --  ------------  --   --
1215   DCM       VXWSLAN   ------------  --   --  ------------  --   --
1217   DCM       EBDADCM   ------------  --   --  ------------  --   --
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   ------------  --   --  ------------  --   --
```

In this example, these cards must be removed from the database: 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1211, 1212, 1213, 1215, and 1217.

NOTE: If the `rtrv-card` output shows that the shelf being removed from the database does not contain any cards running the `SCCP` or `VSCCP` applications, skip this step and go to step 3.

2. Verify whether or not that the global title translation (GTT), or enhanced global title translation (EGTT) features are on, by entering the **`rtrv-feat`** command. If these features are on, these entries appear in the **`rtrv-feat`** command output:

   - GTT – **`GTT = on`**
   - EGTT – **`EGTT = on`**

   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*.

---

3. Verify that the LNP feature is enabled, by entering the **`rtrv-ctrl-feat`** command. If the LNP feature is enabled, the quantity shown in the **`LNP TNs`** field should be greater than zero.

   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*.

---

4. Based on the application assigned to the cards in the shelf to be removed, and the output of the **`rtrv-feat`** or **`rtrv-ctrl-feat`** command, if applicable, perform the appropriate procedures shown in Table 4-3 on page 4-95 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.

---

5. Remove the shelf from the database using the **`dlt-shlf`** command. For this example, enter this command.

   `dlt-shlf:loc=1200`

   When this command has successfully completed, this message should appear.

   ```
   rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
   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=1200

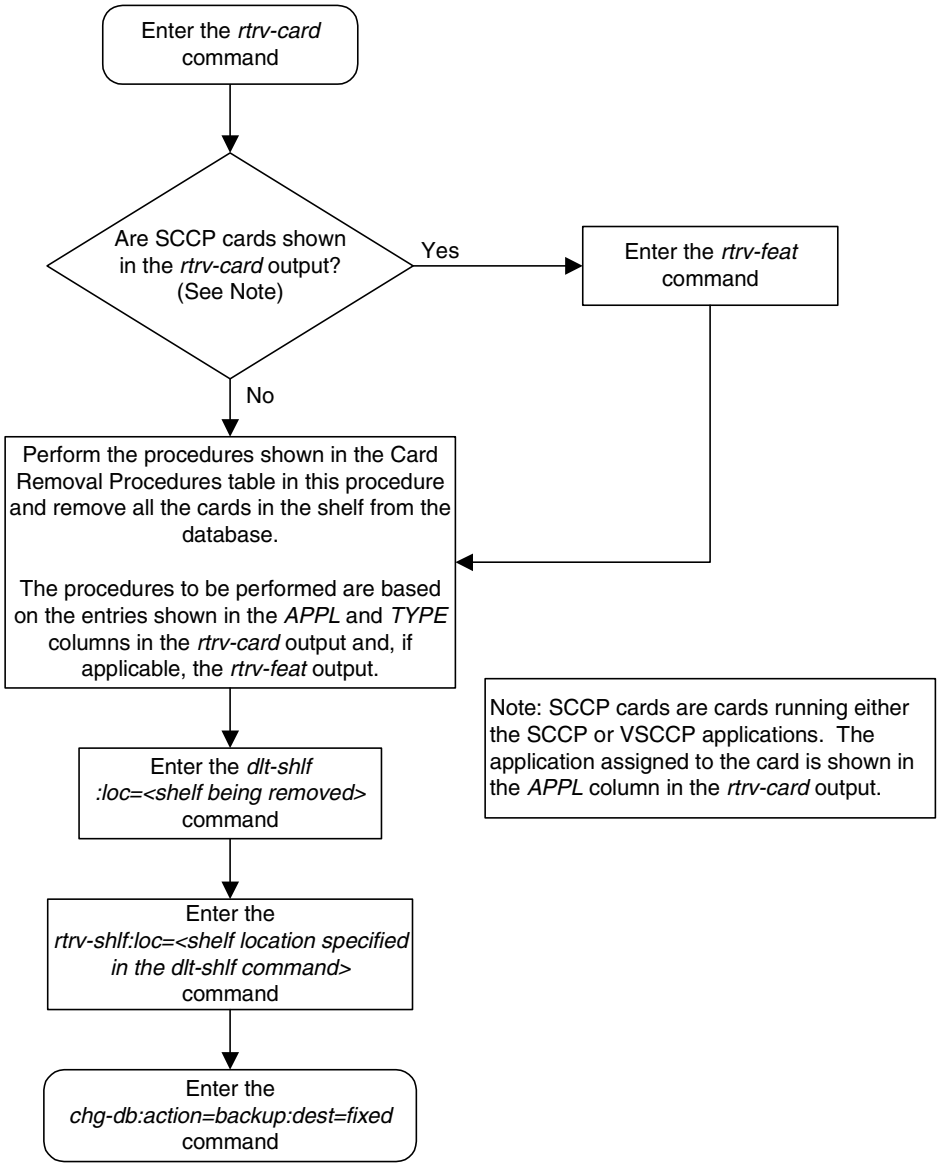
   When this command has successfully completed, this message should appear.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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.
```

Flowchart 4-14. 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.

NOTES:

1. LIM-E1 or LIMCH cards for E1 signaling links are configured in 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 configured in the database using the procedures in Appendix B, "T1 Interface," in the *Database Administration Manual - SS7*.

3. LIM-ATM or LIME1ATM 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*.

4. IP cards (DCMs used for IP links) are configured in the database using the procedures in Chapter 3, "IP^7 Secure Gateway Configuration Procedures," in the *Database Administration Manual - SS7*.

5. X.25 LIMs are configured in the database using the procedures in Chapter 2, "X.25 Gateway Configuration," in the *Database Administration Manual - Features*.

Linksets and routes associated with X.25 LIMs do not support 24-bit ITU-N point codes.

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 or GPL 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 (see the **chg-th-sccp** command description in the *Commands Manual*) is unable to support the additional SCCP transaction-per-second capacity created by adding the LIM. The default value for this parameter is **no**, which does not allow the LIM to be added to the database unless there are enough SCCP cards in the database. If the global title translation feature is not on, this parameter has no meaning and should not be used.

NOTE: For more information on using the force parameter, see "Using the FORCE Parameter" on page 4-104.

NOTE: If the `force=yes` parameter is used to add a LIM to the database, it is recommended that that you increase the SCCP transactions-per-second capacity of the system by adding additional SCCP cards to the database after the LIM is added to avoid losing GTT traffic.

Table 4-5 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 system. 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 system can have.

Table 4-5. SS7 LIM Card Type and Card Application Combinations

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

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 link ports as opposed to the LIM-DS0, LIM-OCU, LIM-V.35, LIM, LIM-AINF, or EILA, which contains only two SS7 signaling link ports.

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” procedure on page 4-93.

The examples in this procedure are used to add the cards shown in Table 4-6 to the database.

Table 4-6. Example Card Configuration

Card Type	Application	Card Location
limds0	ss7ansi	1305
limocu	ccs7itu	1205
limv35	ss7ansi	1202
limds0 (MPL)	ss7ansi	1311

Using the FORCE Parameter

When LIMs or DCMs containing IP links, also known as SS7 cards, are added to the database and the global title translation feature is on, the system must contain enough SCCP cards to handle the number of SCCP transactions per second the SS7 cards will send to the SCCP cards.

The global title translation feature is on if the entries **`SCCP`** or **`VSCCP`** are shown in the **`APPL`** field of the **`rtrv-card`** command output. The entry **`GTT = on`** in the **`rtrv-feat`** command output also shows that the global title translation feature is on.

An SCCP card is either a TSM running the SCCP application, or a DSM running the VSCCP application. Table 4-7 shows the maximum number of transactions per second that an SCCP card can handle.

Table 4-7. Number of Transactions per Second for each SCCP Card

Type of SCCP Card	Transactions per Second
TSM	850
DSM	1700

The system uses the live SCCP transactions-per-second and the number of SCCP transactions the SS7 card can deliver to the SCCP cards to determine if the additional LIM card transactions-per-second rating will exceed the SCCP transactions-per-second threshold. Table 4-8 shows the card types that can be in the database, card applications that can be assigned to these cards, the type of signaling link that is assigned to the card running that application, and the number of SCCP transactions the card can deliver to an SCCP card. Please refer to Tables 4-7 and 4-8 to determine the transactions-per-second rating of a card.

Table 4-8. SS7 Card Applications and Signaling Link Types

Card Type	Card Application	Signaling Link Assigned to the Card	Number of SCCP Transactions per Second
limds0	ss7ansi, ss7gx25, ccs7itu	Low-speed signaling link	53
limocu	ss7ansi, ss7gx25, ccs7itu	Low-speed signaling link	53
limv35	ss7ansi, ss7gx25, ccs7itu	Low-speed signaling link	53
limds0 (Multi-Port LIM)	ss7ansi	Low-speed signaling link	186
lime1 & limch (2-port LIM-E1)	ss7ansi, ccs7itu	E1 signaling link	53
lime1, limt1, limch (8-port E1/T1 MIM)	ss7ansi, ccs7itu	E1 and T1 signaling links	53
limatm	atmansi	High-speed signaling link	480
lime1atm	atmitu	E1 ATM high-speed signaling link	480
dcm	iplim, iplimi	IP Link	1000

The **rept-stat-sccp** output shows the status of the SCCP cards and the GTT (Global Title Translation), G-Flex (GSM Flexible Numbering), or INP (INAP-based Number Portability) services executing on those cards. This command also displays the SCCP capacity threshold, in the **System TPS Alarm Threshold** field, and the average SCCP capacity, in the **SCCP Service Average MSU Capacity** field. The **MSU USAGE** field shows the percentage of MSUs each SCCP card is processing.

```
rlghncxa03w 00-10-12 09:12:36 GMT  EAGLE5 32.0.0
SCCP SUBSYSTEM REPORT IS-NR          Active     -----
SCCP Cards Configured=2  Cards IS-NR=2
System TPS Alarm Threshold = 80% Total Capacity
System Peak SCCP Load = 550 TPS
System Total SCCP Capacity = 1700 TPS

CARD   VERSION      PST          SST          AST       MSU USAGE  CPU USAGE
------------------------------------------------------------------------------
1101   113-001-000  IS-NR        Active       -----       47%         54%
1301   113-001-000  IS-NR        Active       -----       34%         31%
------------------------------------------------------------------------------
SCCP Service Average MSU Capacity = 41%       Average CPU Capacity = 43%
Command Completed.
```

If the **mode=perf** parameter is specified with the **rept-stat-sccp** command, the general SCCP traffic performance including the total number of SCCP transactions per second the system currently contains. The SCCP capacity threshold is shown in the **System TPS Alarm Threshold** field, and the average SCCP capacity is shown in the **AVERAGE MSU USAGE** field.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
SCCP SUBSYSTEM REPORT IS-NR          Active     -----
SCCP Cards Configured=2  Cards IS-NR=2
System TPS Alarm Threshold =  80% Total Capacity
System Peak SCCP Load = 550 TPS
System Total SCCP Capacity = 1700 TPS

TPS STATISTICS
======================================================================
CARD   CPU      TOTAL     CLASS 0   Class 1
       USAGE    MSU RATE  TVG RATE  TVG RATE
----------------------------------------------------------------------
1101   54%      850       770        80
1301   31%      490       400        90
----------------------------------------------------------------------
AVERAGE MSU USAGE = 44%
AVERAGE CPU USAGE = 24%
TOTAL MSU RATE    = 1440

STATISTICS FOR PAST 30 SECONDS
======================================================================
TOTAL TRANSACTIONS:   5400
TOTAL ERRORS:    5
Command Completed.
```

For more information on the **rept-stat-sccp** command, go to the *Commands Manual*.

When a new SS7 card is being added to the database, the number of transactions per second the new SS7 card is expected to deliver to the SCCP card is added to the average number of transactions per second the existing SS7 cards are delivering to the SCCP cards. If this sum is above the SCCP card threshold, the **ent-card** command is rejected with command rejected error message E3715.

```
E3715 Cmd Rej: SYSTEM CURRENT RATED TPS UNABLE TO SUPPORT ADDITIONAL SS7
               CARD - USE FORCE=YES
```

A warning message is also displayed in the scroll area of the terminal display.

```
WARNING: Insufficient system TPS to support addition of new SS7 card.
```

The SS7 card can still be added to the database by adding more SCCP cards to the database, by raising the SCCP alarm threshold with the **chg-th-sccp** command, or by specifying the **force=yes** parameter with the **ent-card** command. When the **force=yes** parameter is specified, the **ent-card** command is accepted, but the warning message is displayed in the scroll area of the terminal display.

If the system does not have enough SCCP cards in the database and the **force=yes** parameter is used with the **ent-card** command, it is recommended that the required number of SCCP cards be added to the database after the SS7 card is added to avoid losing GTT traffic.

To add more SCCP cards to the database, perform the "Adding an SCCP Card" procedure in the *Database Administration Manual - Global Title Translation*.

Procedure

1. Display the cards in the database using the **rtrv-card** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT SLC
1101   TSM       SCCP      ------------  --   --  ------------  --   --
1102   TSM       GLS       ------------  --   --  ------------  --   --
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1118   RESERVED
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 system for proper power distribution. Refer to the *Installation Manual* for the shelf power distribution.

If the **rtrv-card** command output shows the entry **SCCP** or **VSCCP** in the **APPL** field, then the global title translation field is on. If the global title translation feature is on, go to step 3 and verify that the database contains enough SCCP cards to support the number of LIMs the database will contain when the new LIM is added to the database.

If there are no SCCP cards shown in the **rtrv-card** output, go to step 2 to verify whether or not the global title translation feature is on.

2. Verify whether or not that the global title translation feature is on, by entering the **rtrv-feat** command. If the global title translation feature is on, the entry **GTT = on** appears 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 global title translation feature is not on, skip the verification of the number of SCCP cards in step 3, and go to step 4.

---

3. Display the status of the SCCP cards by entering the **rept-stat-sccp** command. This is an example of the possible output.

```
rlghncxa03w 00-10-12 09:12:36 GMT  EAGLE5 32.0.0
SCCP SUBSYSTEM REPORT IS-NR          Active     -----
SCCP Cards Configured=2  Cards IS-NR=2
System TPS Alarm Threshold = 80% Total Capacity
System Peak SCCP Load = 550 TPS
System Total SCCP Capacity = 1700 TPS

CARD   VERSION      PST          SST          AST       MSU USAGE  CPU USAGE
------------------------------------------------------------------------------
1101   113-001-000  IS-NR        Active       -----       47%         54%
1301   113-001-000  IS-NR        Active       -----       34%         31%
------------------------------------------------------------------------------
SCCP Service Average MSU Capacity = 41%       Average CPU Capacity = 43%
Command Completed.
```

   If there are not enough SCCP cards, the **force=yes** parameter must be specified with the **ent-card** command. Additional SCCP cards can be added to the database by performing the "Adding an SCCP Card" procedure in the *Database Administration Manual - Global Title Translation*.

---

4. Using Table 4-5 on page 4-103 as a reference, verify that the card has been physically installed into the proper location.

---

5. Add the card using the **ent-card** command. If the global title translation feature is on and the outputs of either the **rtrv-card** command (step 1) or the **rept-stat-sccp** command (step 3) shows that there are not enough SCCP cards to support the number of LIMs the database will contain when the new LIM is added to the database, the **force=yes** parameter must be specified with the **ent-card** command. For more information on using the **force** parameter, see "Using the FORCE Parameter" on page 4-104.

   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 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
ENT-CARD: MASP A - COMPLTD
```

6. 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 05-03-01 09:12:36 GMT EAGLE5 32.0.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT SLC
1202   LIMV35    SS7ANSI   ------------  --   --  ------------  --   --
                           ------------  --   --  ------------  --   --
                           ------------  --   --  ------------  --   --
                           ------------  --   --  ------------  --   --
```

rtrv-card:loc=1205

This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT SLC
1205   LIMOCU    CCS7ITU   ------------  --   --  ------------  --   --
```

rtrv-card:loc=1305

This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT SLC
1305   LIMDS0    SS7ANSI   ------------  --   --  ------------  --   --
                           ------------  --   --  ------------  --   --
                           ------------  --   --  ------------  --   --
                           ------------  --   --  ------------  --   --
```

rtrv-card:loc=1311

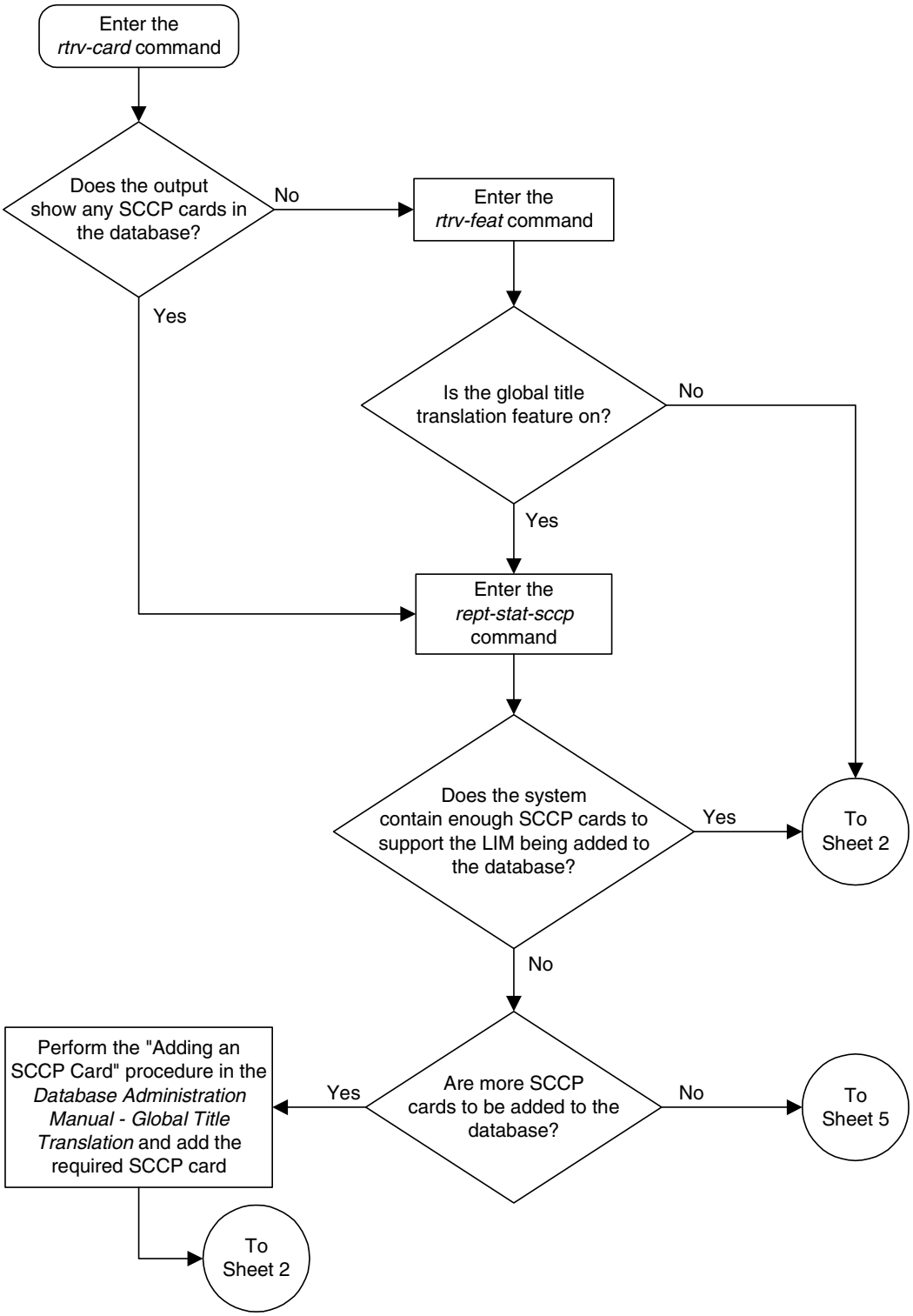
This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT SLC
1311   LIMDS0    SS7ANSI   ------------  --   --  ------------  --   --
                           ------------  --   --  ------------  --   --
                           ------------  --   --  ------------  --   --
                           ------------  --   --  ------------  --   --
```

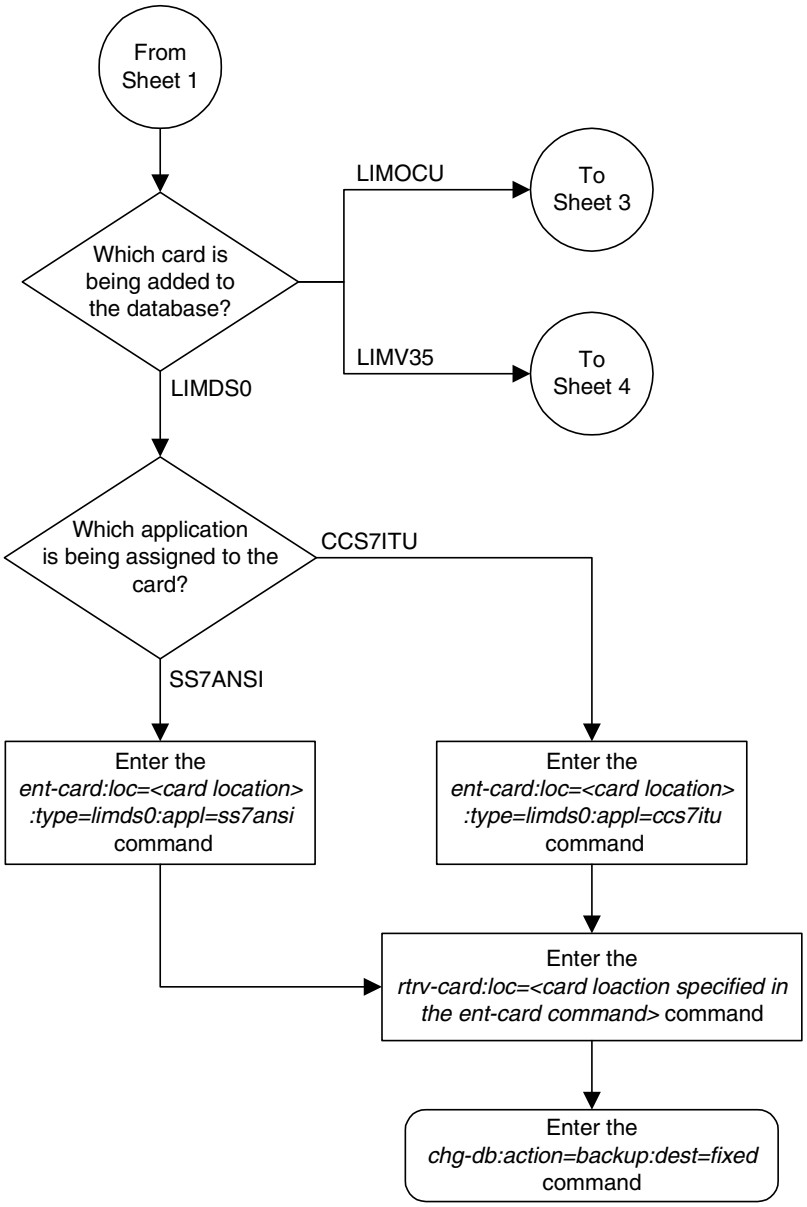
7. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

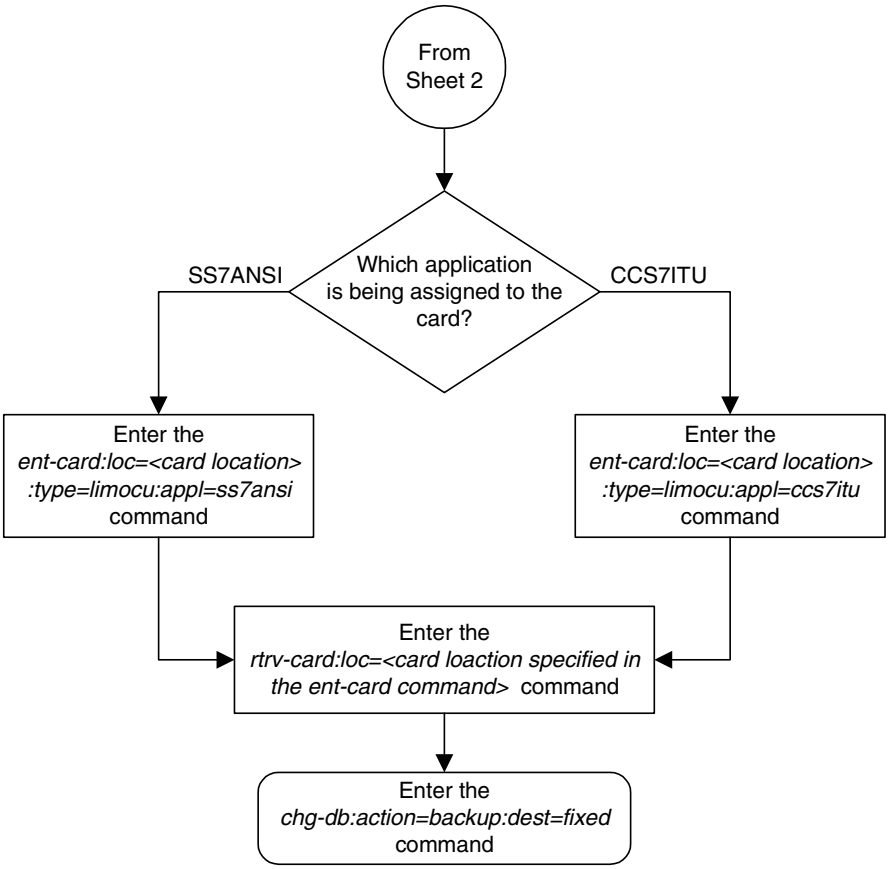
Flowchart 4-15. Adding an SS7 LIM (Sheet 1 of 7)



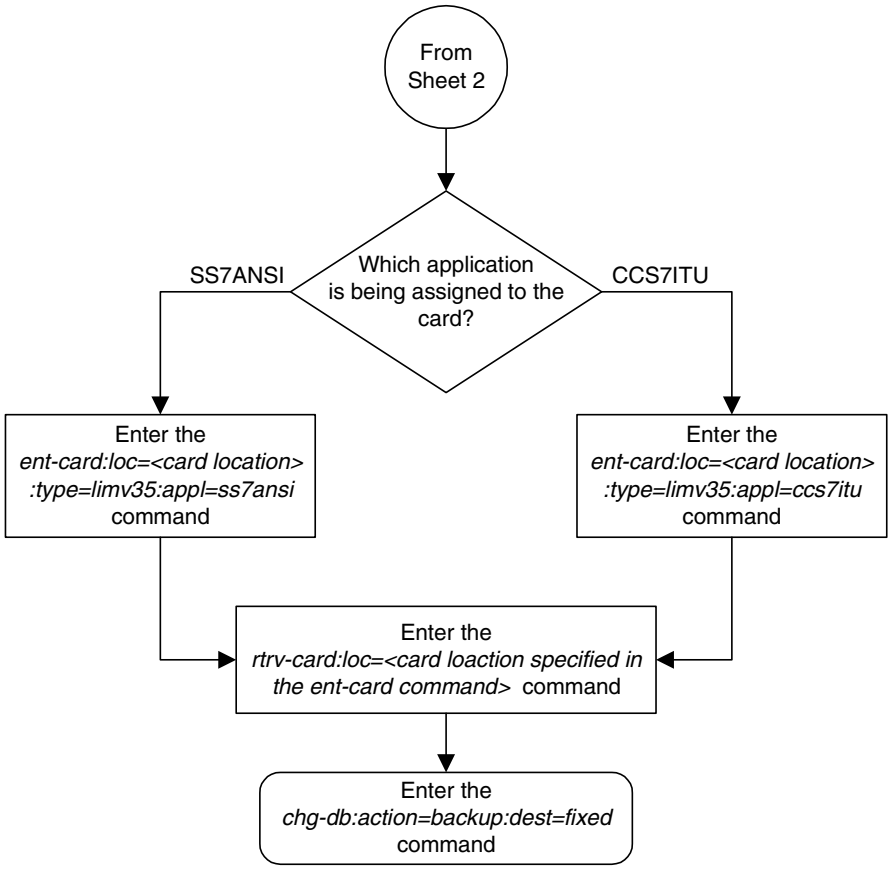
Flowchart 4-15. Adding an SS7 LIM (Sheet 2 of 7)



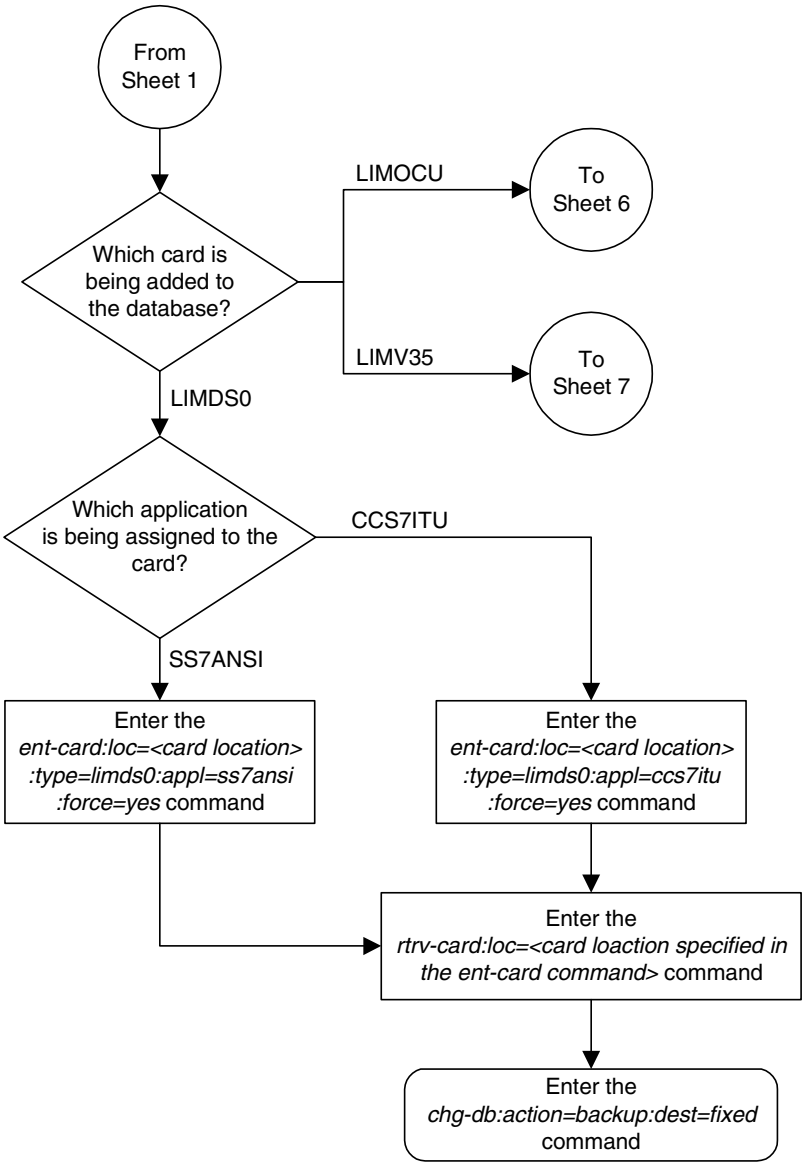
Flowchart 4-15. Adding an SS7 LIM (Sheet 3 of 7)



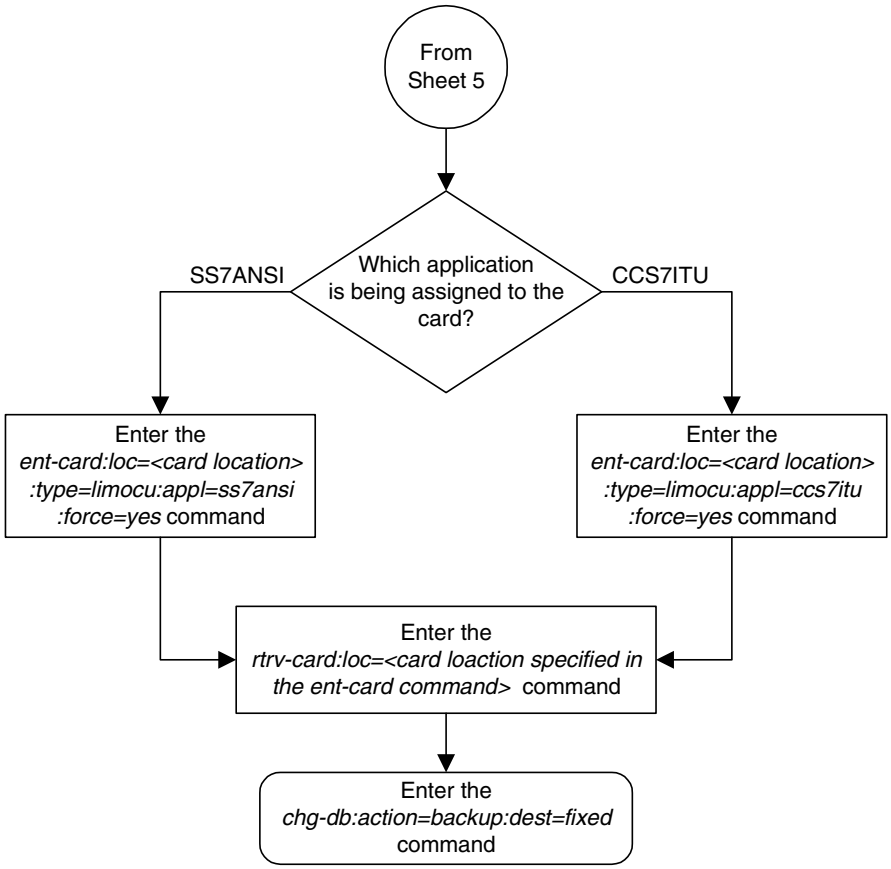
Flowchart 4-15. Adding an SS7 LIM (Sheet 4 of 7)



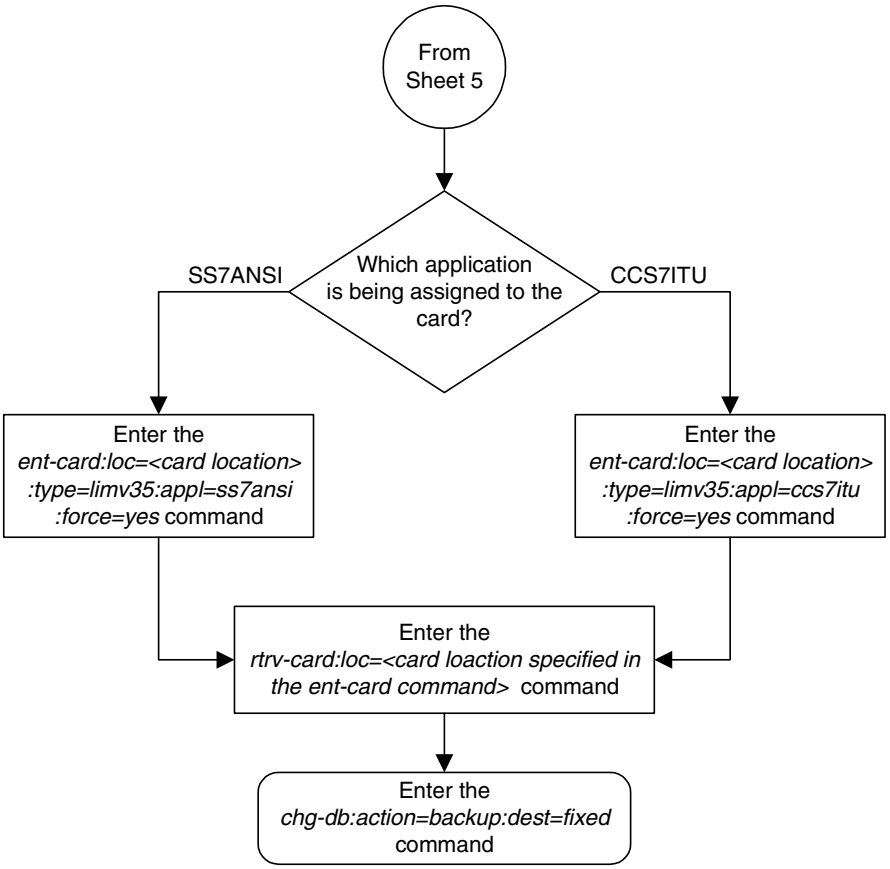
Flowchart 4-15. Adding an SS7 LIM (Sheet 5 of 7)



Flowchart 4-15. Adding an SS7 LIM (Sheet 6 of 7)



Flowchart 4-15. Adding an SS7 LIM (Sheet 7 of 7)



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 system from the network.

NOTES:

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 Chapter 3, "IP^7 Secure Gateway Configuration Procedures," in the *Database Administration Manual - IP^7 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*.

Linksets and routes associated with X.25 LIMs do not support 24-bit ITU-N point codes.

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*.

Procedure

1. Display the cards in the database using the **rtrv-card** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT SLC
1101   TSM       SCCP      ------------  --   --  ------------  --   --
1102   TSM       GLS       ------------  --   --  ------------  --   --
1103   DCM       VXWSLAN   ------------  --   --  ------------  --   --
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1118   RESERVED
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 port. 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:port=a

   This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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:port=b

   This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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:port=a

   This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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:port=a

   This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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:port=a1

   This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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:port=b

This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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:port=b1

This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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:port=a

   dact-slk:loc=1201:port=b

   dact-slk:loc=1318:port=a

   dact-slk:loc=1311:port=a

   dact-slk:loc=1311:port=a1

   dact-slk:loc=1311:port=b

   dact-slk:loc=1311:port=b1

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

   ```
   rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
   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 05-03-01 16:43:42 GMT  EAGLE5 32.0.0
CARD  VERSION      TYPE    APPL      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 (**LSET NAME** 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 05-03-01 16:31:35 GMT EAGLE5 32.0.0

                              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 IPGWAPC
           -----------  2          yes    yes  no

                              L2T         L1               PCR  PCR
           LOC  PORT SLC TYPE     SET  BPS    MODE TSET  ECM   N1   N2
           1201 B    0   LIMDS0   1    56000  ---  ---   BASIC ---  -----
           1311 B    0   LIMDS0   1    56000  ---  ---   BASIC ---  -----

                              LP            ATM
           LOC  PORT SLC TYPE     SET  BPS      TSEL      VCI    VPI   LL

                              LP          ATM                     E1ATM
           LOC  PORT SLC TYPE     SET BPS    TSEL     VCI   VPI  CRC4 SI SN

           LOC  PORT SLC TYPE     IPLIML2

           LOC  PORT SLC TYPE

                              L2T                PCR  PCR   E1   E1
           LOC  PORT SLC TYPE     SET  BPS    ECM   N1   N2    LOC  PORT TS

                              L2T                PCR  PCR   T1   T1
           LOC  PORT SLC TYPE     SET  BPS    ECM   N1   N2    LOC  PORT TS

Link set table is ( 10 of 1024)  1% full
```

rtrv-ls:lsn=sp2

This is an example of the possible output

```
rlghncxa03w 05-03-01 16:31:35 GMT EAGLE5 32.0.0

                              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 IPGWAPC
           -----------  2          yes    yes  no

                               L2T          L1              PCR  PCR
           LOC  PORT 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 ---  -----

                              LP            ATM
           LOC  PORT SLC TYPE     SET  BPS      TSEL      VCI    VPI   LL

                              LP          ATM                     E1ATM
           LOC  PORT SLC TYPE     SET BPS    TSEL     VCI   VPI  CRC4 SI SN

           LOC  PORT SLC TYPE     IPLIML2
```

```
           LOC  PORT SLC TYPE

                                 L2T               PCR  PCR   E1   E1
           LOC  PORT SLC TYPE    SET  BPS    ECM   N1   N2    LOC  PORT TS

                                 L2T               PCR  PCR   T1   T1
           LOC  PORT SLC TYPE    SET  BPS    ECM   N1   N2    LOC  PORT TS

Link set table is ( 10 of 1024)  1% full
```

rtrv-ls:lsn=lsnatm1

This is an example of the possible output

```
rlghncxa03w 05-03-01 16:31:35 GMT EAGLE5 32.0.0

                                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 IPGWAPC
           -----------  2          yes    yes  no

                                 L2T          L1              PCR  PCR
           LOC  PORT SLC TYPE    SET  BPS    MODE TSET  ECM   N1   N2

                                 LP            ATM
           LOC  PORT 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

                                 LP         ATM                    E1ATM
           LOC  PORT SLC TYPE    SET BPS    TSEL     VCI   VPI  CRC4 SI SN

           LOC  PORT SLC TYPE    IPLIML2

           LOC  PORT SLC TYPE

                                 L2T               PCR  PCR   E1   E1
           LOC  PORT SLC TYPE    SET  BPS    ECM   N1   N2    LOC  PORT TS

                                 L2T               PCR  PCR   T1   T1
           LOC  PORT SLC TYPE    SET  BPS    ECM   N1   N2    LOC  PORT TS


Link set table is ( 10 of 1024)  1% full
```

rtrv-ls:lsn=sp3

This is an example of the possible output

```
rlghncxa03w 05-03-01 16:31:35 GMT EAGLE5 32.0.0
                           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 IPGWAPC
          -----------  2          yes    yes  no

                                L2T          L1              PCR  PCR
          LOC  PORT 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 ---  -----

                                LP           ATM
          LOC  PORT SLC TYPE    SET  BPS     TSEL      VCI    VPI   LL

                                LP         ATM                    E1ATM
          LOC  PORT SLC TYPE    SET BPS    TSEL     VCI   VPI  CRC4 SI SN

          LOC  PORT SLC TYPE    IPLIML2

          LOC  PORT SLC TYPE

                                L2T               PCR  PCR   E1   E1
          LOC  PORT SLC TYPE    SET  BPS    ECM   N1   N2    LOC  PORT TS

                                L2T               PCR  PCR   T1   T1
          LOC  PORT SLC TYPE    SET  BPS    ECM   N1   N2    LOC  PORT TS

Link set table is ( 10 of 1024)  1% full
```

rtrv-ls:lsn=sp7

This is an example of the possible output

```
rlghncxa03w 05-03-01 16:31:35 GMT EAGLE5 32.0.0

                              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 IPGWAPC
          -----------  2          yes    yes  no

                                L2T          L1              PCR  PCR
          LOC  PORT 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 ---  -----

                                LP           ATM
          LOC  PORT SLC TYPE    SET  BPS     TSEL      VCI    VPI   LL

                                LP         ATM                    E1ATM
          LOC  PORT SLC TYPE    SET BPS    TSEL     VCI   VPI  CRC4 SI SN

          LOC  PORT SLC TYPE    IPLIML2

          LOC  PORT SLC TYPE
```

```
                          L2T                PCR  PCR   E1   E1
LOC  PORT SLC TYPE        SET  BPS    ECM    N1   N2    LOC  PORT TS

                          L2T                PCR  PCR   T1   T1
LOC  PORT SLC TYPE        SET  BPS    ECM    N1   N2    LOC  PORT TS


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 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
   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:port=a

   dlt-slk:loc=1201:port=b

   dlt-slk:loc=1318:port=a

   dlt-slk:loc=1311:port=a

   dlt-slk:loc=1311:port=a1

   dlt-slk:loc=1311:port=b:force=yes

   dlt-slk:loc=1311:port=b1

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

   ```
   rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
   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 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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.

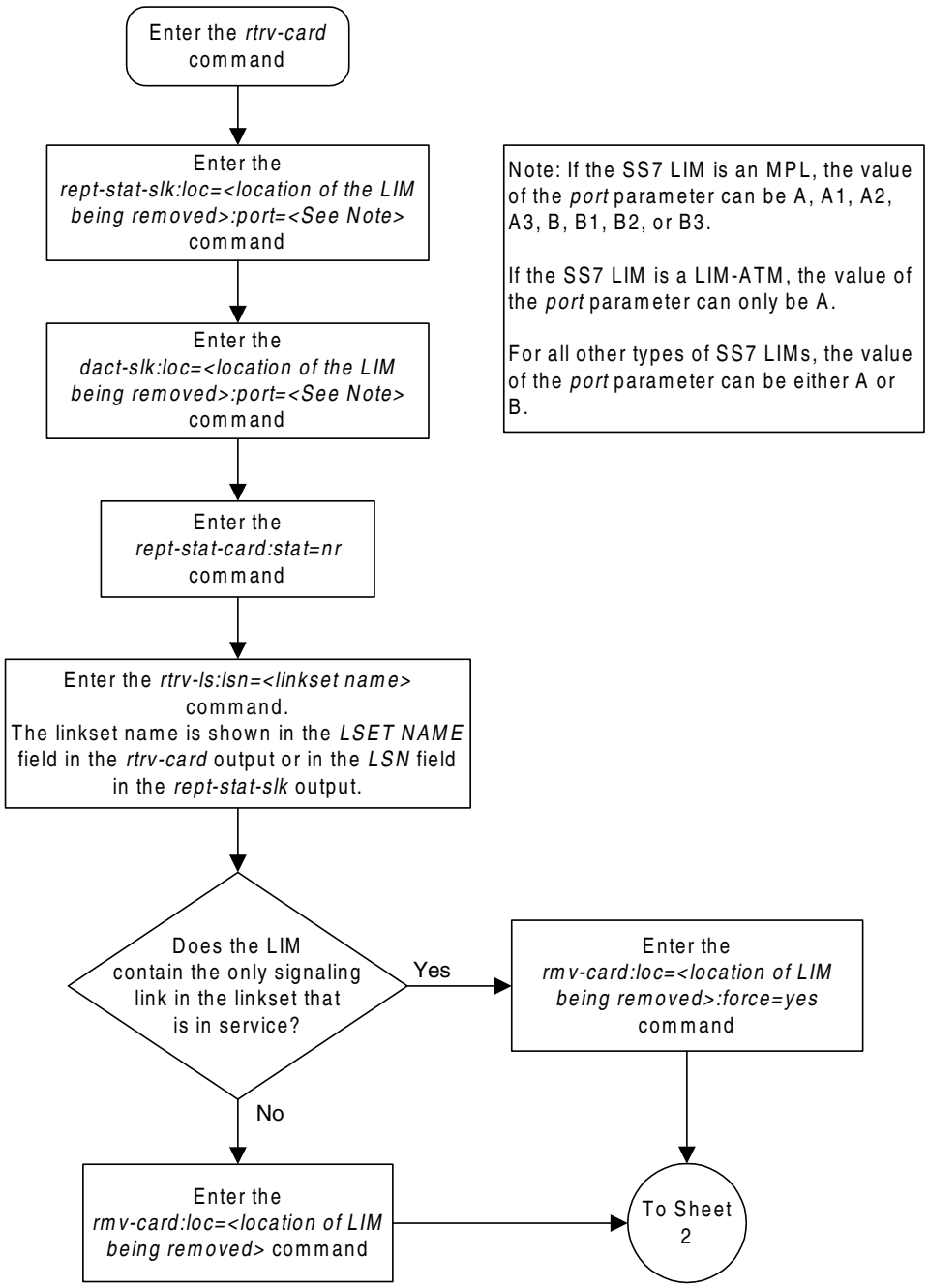
```
E2144 Cmd Rej: Location invalid for hardware configuration
```

---

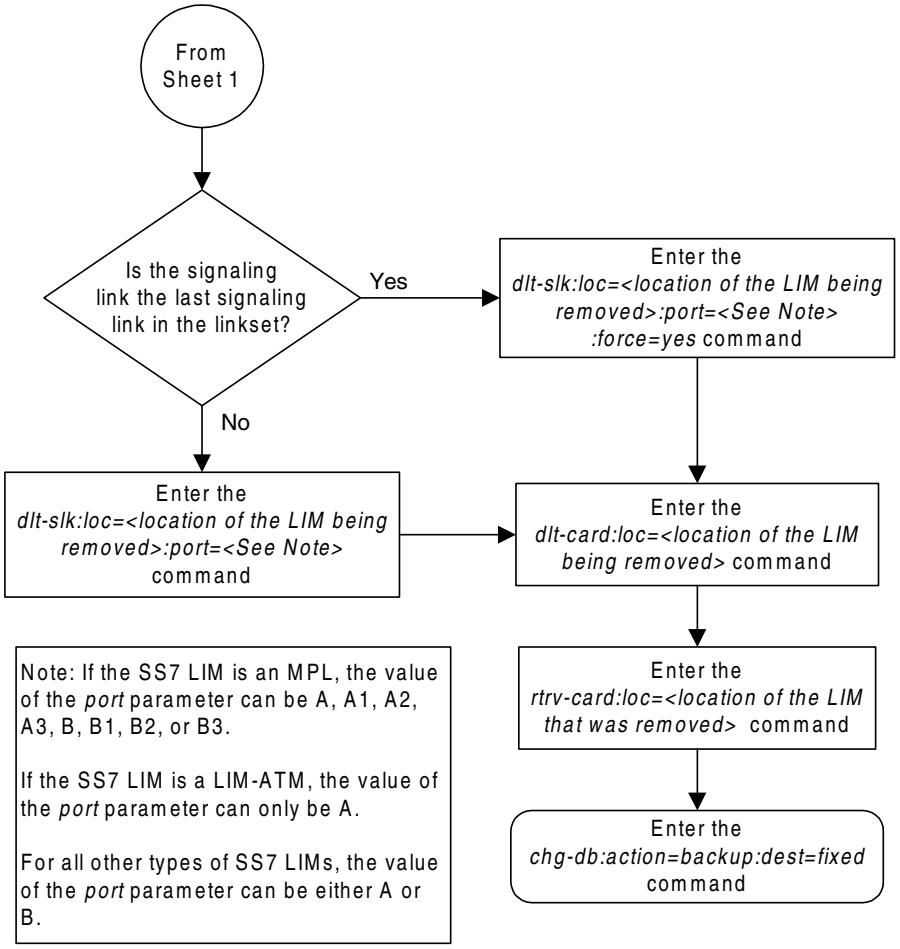
10. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

Flowchart 4-16. Removing an SS7 LIM (Sheet 1 of 2)



Flowchart 4-16. Removing an SS7 LIM (Sheet 2 of 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 a system 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. See the *Maintenance 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 system terminal.

:force – The **force=yes** parameter allows the **limit** parameter to be set to 0 should the conditions at the Eagle 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 system 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 4-9.

Table 4-9. 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

Procedure

1. Display the UIM thresholds in the database using the **rtrv-uim-acthresh** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 08:50:12 GMT EAGLE5 32.0.0
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 05-03-01 08:50:12 GMT EAGLE5 32.0.0
SET-UIM-ACTHRESH: MASP A - COMPLTD
```

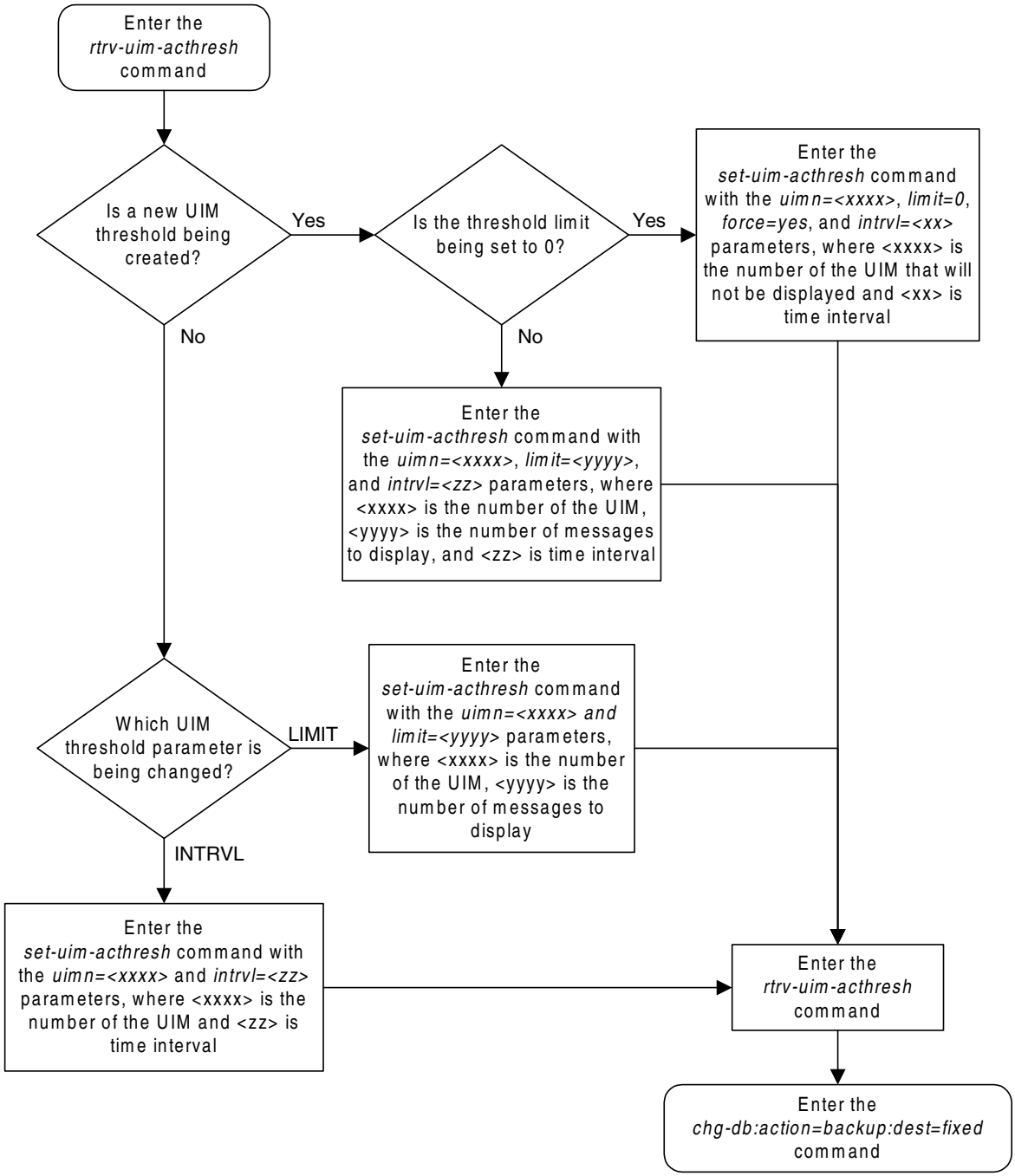
3. Verify the changes using the **rtrv-uim-acthresh** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 08:50:12 GMT EAGLE5 32.0.0
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.
```

Flowchart 4-17. 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.

Procedure

1. Display the UIM thresholds in the database using the **rtrv-uim-acthresh** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 08:50:12 GMT EAGLE5 32.0.0
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 05-03-01 08:50:12 GMT EAGLE5 32.0.0
DLT-UIM-ACTHRESH: MASP A - COMPLTD
```

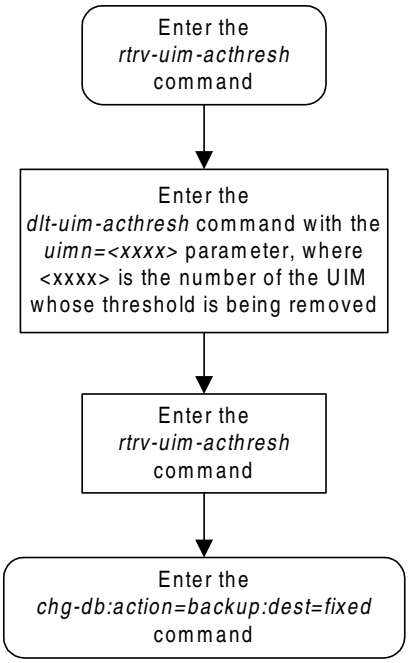
3. Verify the changes using the **rtrv-uim-acthresh** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 08:50:12 GMT EAGLE5 32.0.0
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.
```

Flowchart 4-18. Removing a UIM Threshold



Configuring the Measurements Terminal for a 700 Signaling Link System

This procedure is used to configure a terminal to collect measurement reports on a system 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 system 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 *Maintenance 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 system and the output devices (vt320 terminal, modem, printer, or KSR terminal, or OAP port).

: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 the "Changing Terminal Characteristics" procedure on page 4-51, 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 *Maintenance Manual*.

The **tmout**, **dural**, and **mxinv** parameters can be applied to this terminal. See the "Security Parameters" section on page 4-57 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  05-03-01 16:02:08 GMT EAGLE5 32.0.0
TRM  TYPE    COMM        FC    TMOUT MXINV DURAL
3    VT320    9600-7-E-1 SW    30    5     99:59:59

                               LNP LNP
TRM  TRAF LINK SA  SYS PU  DB  DB  SUB  UIMRD
3    NO   YES  NO  YES NO  YES YES 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
```

This example shows an **rtrv-trm** command output when the LNP feature is enabled for a quantity of 2 to 12 million numbers. If the LNP feature is not enabled, or the ELAP Configuration feature is enabled and activated, the fields **LNPDB**, and **LNPSUB** are not shown in the **rtrv-trm** command output.

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.

Procedure

1. Display the values of all terminals using the **rtrv-trm** command. This is an example of the possible output.

```
rlghncxa03w  05-03-01 16:02:08 GMT EAGLE5 32.0.0
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 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Inhibit message sent to terminal

rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Command Completed.
```

3. Verify that the terminal that was inhibited in step 5 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 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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  05-03-01 16:02:08 GMT EAGLE5 32.0.0
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 5, activate the terminal using the **rst-trm** command. For this example, enter this command.

   rst-trm:trm=1

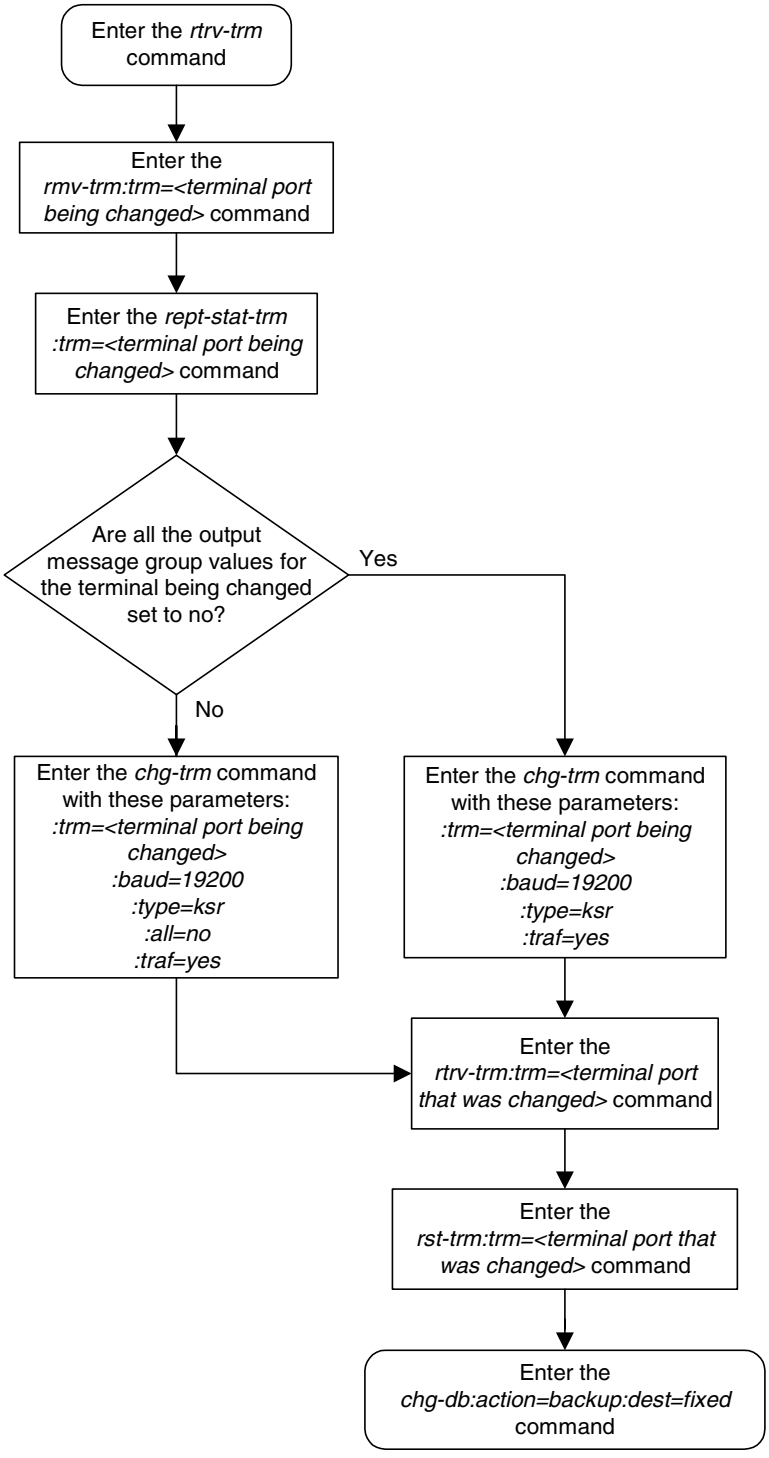
   When this command has successfully completed, this message should appear.

```
rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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.
```

Flowchart 4-19. Configuring the Maintenance Terminal for a 700 Signaling Link System



Adding an MCPM

This procedure is used to add an MCPM (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 and the customer's network. The Measurements Platform provides a dedicated processor for collecting and transferring measurements data to a customer supplied FTP server.

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 or GPL 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 SCCP cards to support the number of LIMs in the system. 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" procedure on page 4-93.

After all required MCPMs have been configured in the database, go to the "Configuring the Measurements Platform Feature" procedure on page 4-150 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.

Procedure

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 05-03-01 09:12:36 GMT EAGLE5 32.0.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT SLC
1101   TSM       SCCP      ------------  --   --  ------------  --   --
1102   TSM       GLS       ------------  --   --  ------------  --   --
1103   DCM       VXWSLAN   ------------  --   --  ------------  --   --
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1118   RESERVED
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 system for proper power distribution. Refer to the *Installation Manual* 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 05-03-01 21:18:37 GMT EAGLE5 32.0.0
   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 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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 05-03-01 09:12:36 GMT EAGLE5 32.0.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT SLC
2107   MCPM      MCP       ------------  --   --  ------------  --   --
```

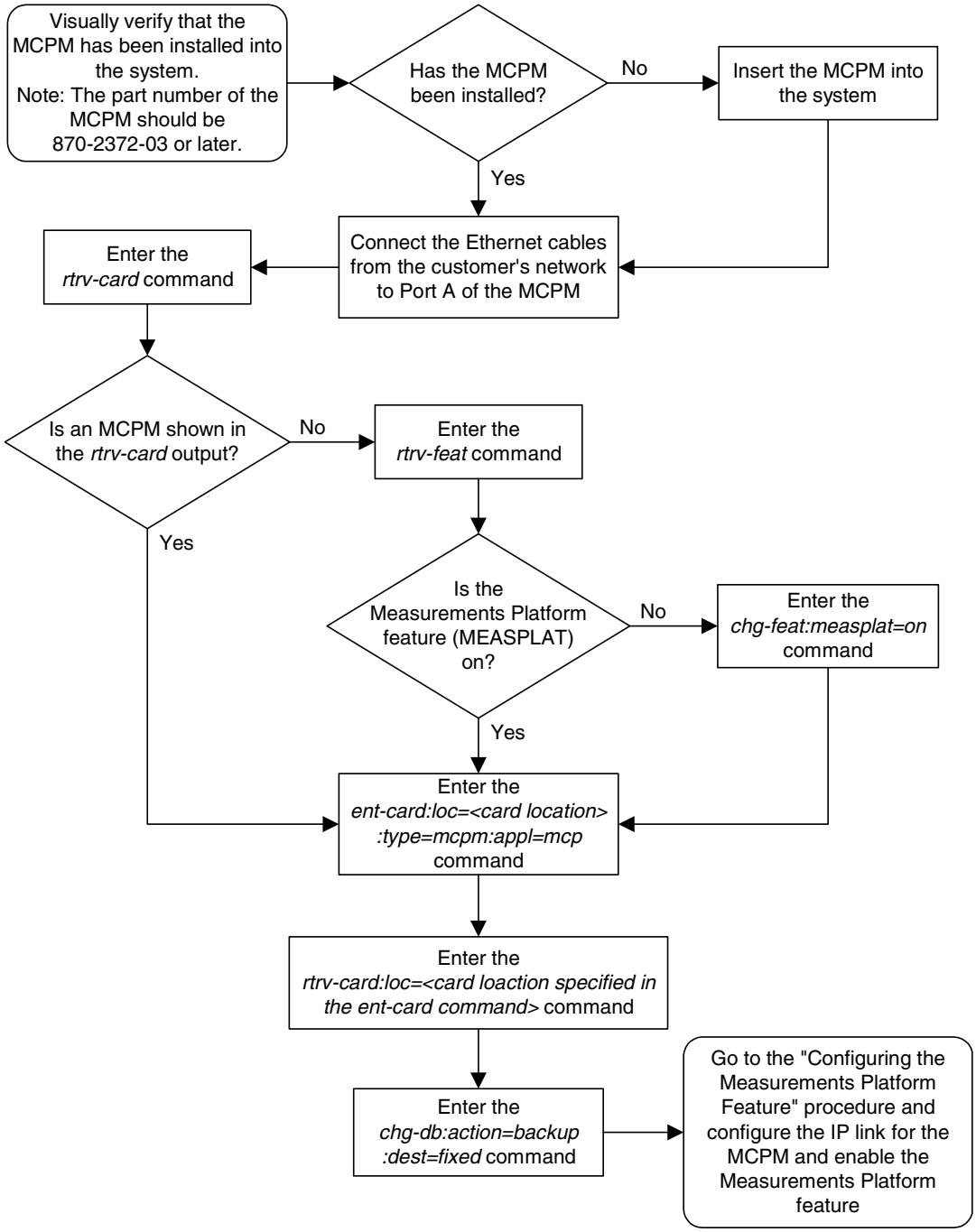
8. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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" procedure on page 4-150 and configure the IP links for these MCPMs and enable the Measurement Platform feature, if necessary.

Flowchart 4-20. 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*.

Procedure

1. Display the cards in the database using the **rtrv-card** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT SLC
1101   TSM       SCCP      ------------  --   --  ------------  --   --
1102   TSM       GLS       ------------  --   --  ------------  --   --
1103   DCM       VXWSLAN   ------------  --   --  ------------  --   --
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1118   RESERVED
```

```
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 05-03-01 16:43:42 GMT  EAGLE5 32.0.0

                     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 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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

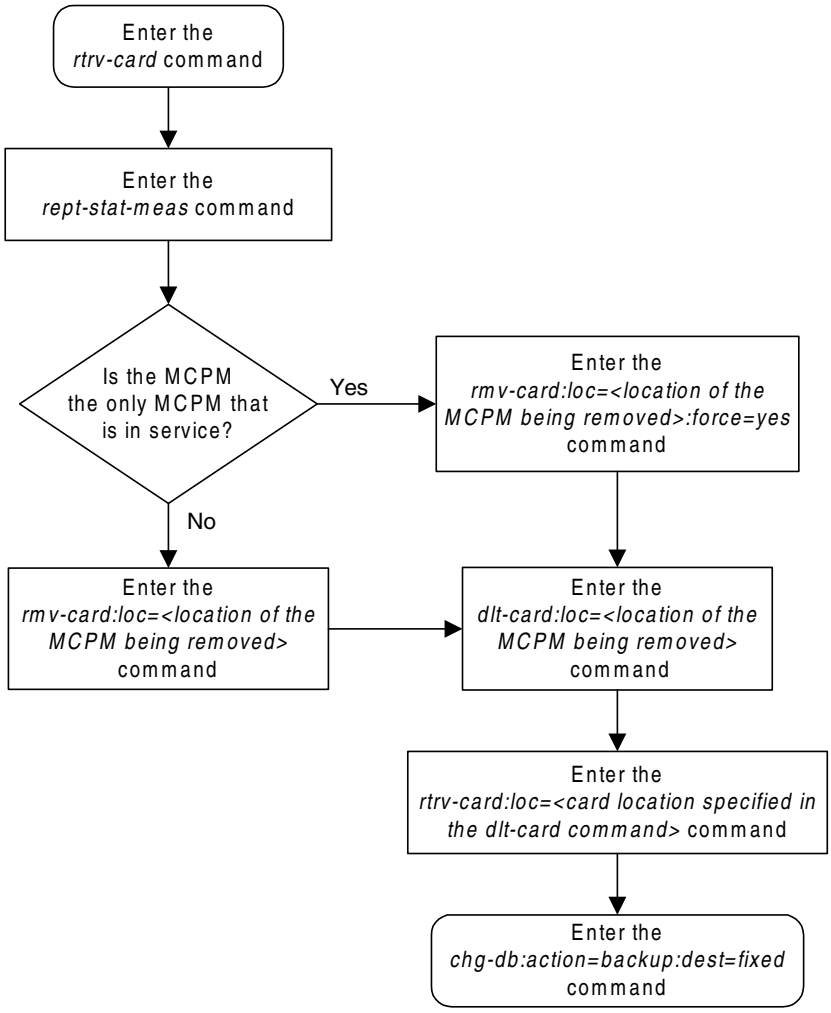
   When this command has successfully completed, this message should appear.

```
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.
```

Flowchart 4-21. Removing an MCPM



Configuring the Measurements Platform Feature

This procedure is used to configure IP communications link between the Eagle and the customer's network, and to enable the Measurements Platform on the Eagle 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" procedure on page 4-158
- "Changing an FTP Server" procedure on page 4-164

MCPMs must be configured in the database before this procedure can be performed. This can be verified with the **rtrv-card** command.

Procedure

1. Display the cards in the database using the **rtrv-card** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT SLC
1101   TSM       SCCP      ------------  --   --  ------------  --   --
1102   TSM       GLS       ------------  --   --  ------------  --   --
1103   DCM       VXWSLAN   ------------  --   --  ------------  --   --
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1118   RESERVED
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" procedure on page 4-141 and configure the required MCPMs.

---

2. 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 05-03-01 09:12:36 GMT EAGLE5 32.0.0
IPADDR          HOST
150.1.1.2       GW102.NC.TEKELEC.COM
150.1.1.3       GW103.NC.TEKELEC.COM

IP Host table is  (2 of 512) 1% full
```

---

3. 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 05-03-01 21:18:37 GMT EAGLE5 32.0.0
ENT-IP-HOST: MASP A - COMPLTD
```

---

4. Display the status of the MCPMs in the database with the **rept-stat-meas** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 16:43:42 GMT  EAGLE5 32.0.0

                     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
```

NOTE: If the status of the MCPM that the IP link is being assigned to is OOS-MT-DSBLD, skip step 5 and go to step 6.

5. 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 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
Card has been inhibited.
```

6. 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 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
   LOC 2108
     SRCHORDR  LOCAL
     DNSA      150.1.1.2
     DNSB      ---------------
     DEFROUTER 150.1.1.25
     DOMAIN    NC.TEKELEC.COM

   LOC 2111
     SRCHORDR  LOCAL
     DNSA      150.1.1.3
     DNSB      ---------------
     DEFROUTER 150.1.1.28
     DOMAIN    NC.TEKELEC.COM
```

7. 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 05-03-01 21:20:37 GMT EAGLE5 32.0.0
CHG-IP-CARD:   MASP A - COMPLTD
```

8. Display the IP link assignments using the **rtrv-ip-lnk** command. The following is an example of the possible output.

```
rlghncxa03w 05-03-01 21:20:37 GMT EAGLE5 32.0.0
LOC   PORT IPADDR           SUBMASK        DUPLEX SPEED MACTYPE AUTO MCAST
2108  A    150.123.123.123  255.255.255.0  ----   100   ---     ---  YES
2111  A    150.123.123.125  255.255.255.0  ----   100   ---     ---  YES
```

9. 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**. The IP address used in this command must be the IP address specified in the **ent-ip-host** command in step 3. 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 05-03-01 21:20:37 GMT EAGLE5 32.0.0
CHG-IP-LNK:   MASP A - COMPLTD
```

10. 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 05-03-01 21:20:37 GMT EAGLE5 32.0.0
Card has been allowed.
```

11. Verify the status of the MCPM using the **rept-stat-meas** command, specifiying the location of the MCPM. For this example, enter this command.

rept-stat-meas:loc=2107

```
rlghncxa03w 05-03-01 16:43:42 GMT  EAGLE5 32.0.0

                     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
```

12. Display the FTP Server configuration using the **rtrv-ftp-serv** command.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
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:  \tmp\measurements\backup\dat

FTP SERV table is (2 of 10) 20% full
```

The system 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" procedure on page 4-158 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" procedure on page 4-164.

---

13. Verify whether or nor the Measurements Platform option is enabled (**Platform Enabled = on**) using the **rtrv-measopts** command.

```
rlghncxa03w 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
EAGLE MEASUREMENT OPTIONS LIST

Platform Enabled =on
-------------------------------------
SYSTOTSTP     =on   MTCHNP       =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 13 is enabled, skip this step and go to step 15.

14. Enable the Measurements Platform option using the **chg-measopts** command with the **platformenabled** parameter. For this example, enter this command.

```
chg-measopts:platformenabled=on
```

When the **chg-measopts** command has successfully completed, this message should appear.

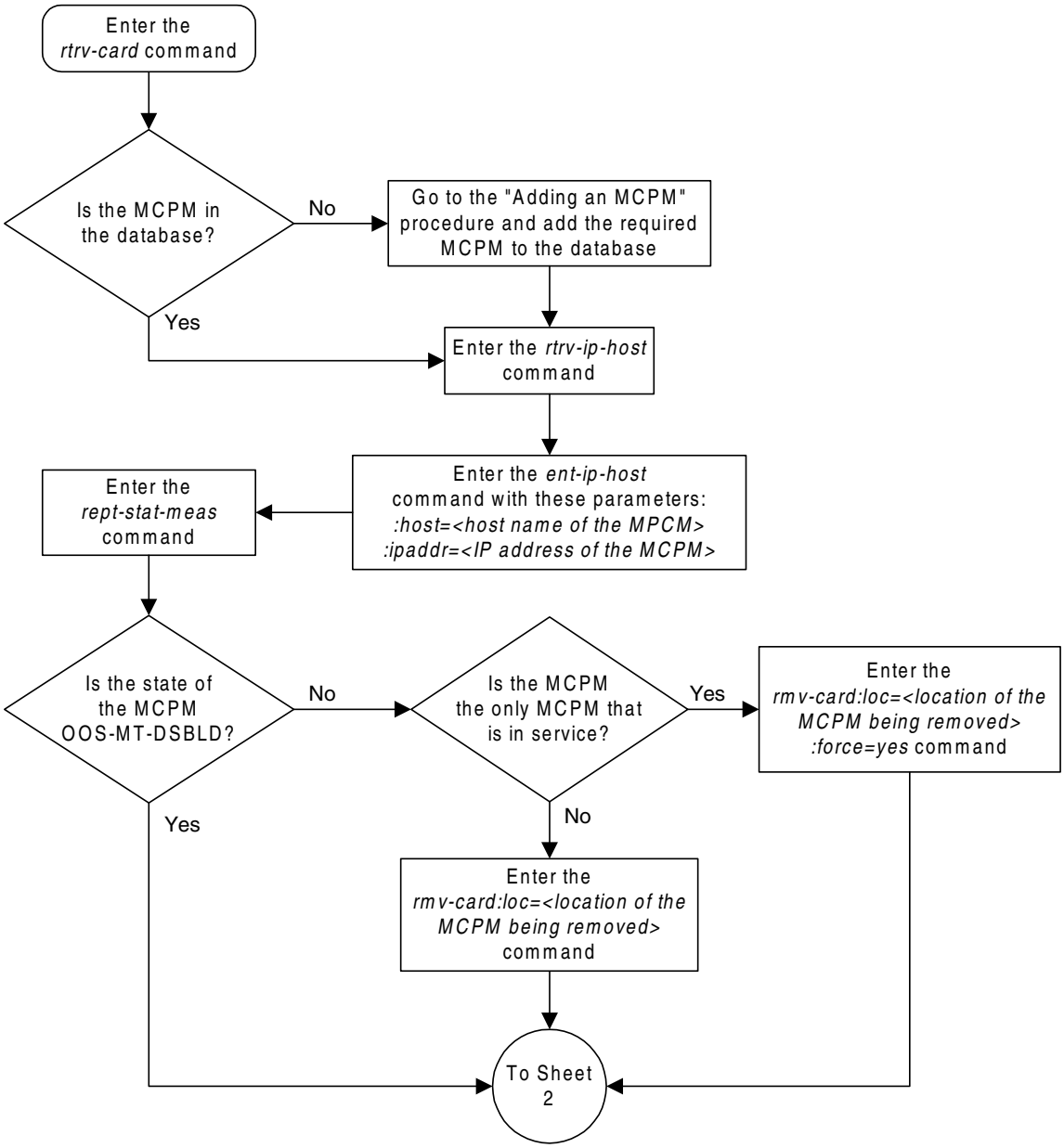
```
rlghncxa03w 05-03-01 00:22:57 GMT  EAGLE5 32.0.0
CHG-MEAS-OPTS: MASP A - COMPLTD
```

---

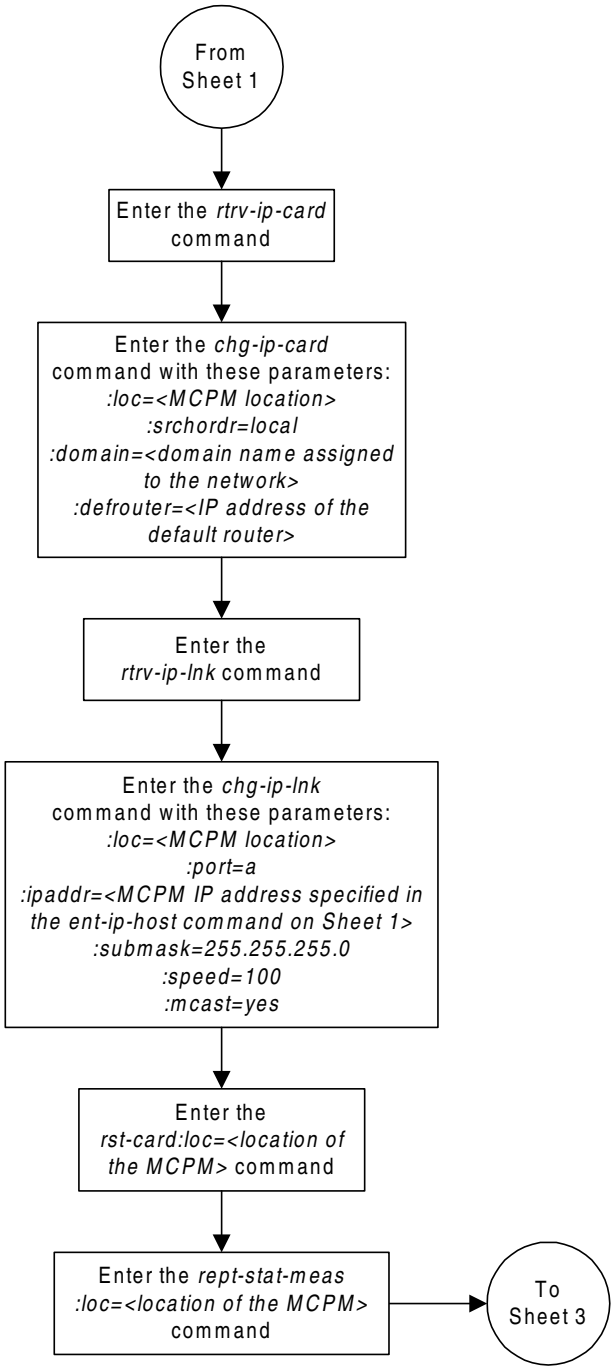
15. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

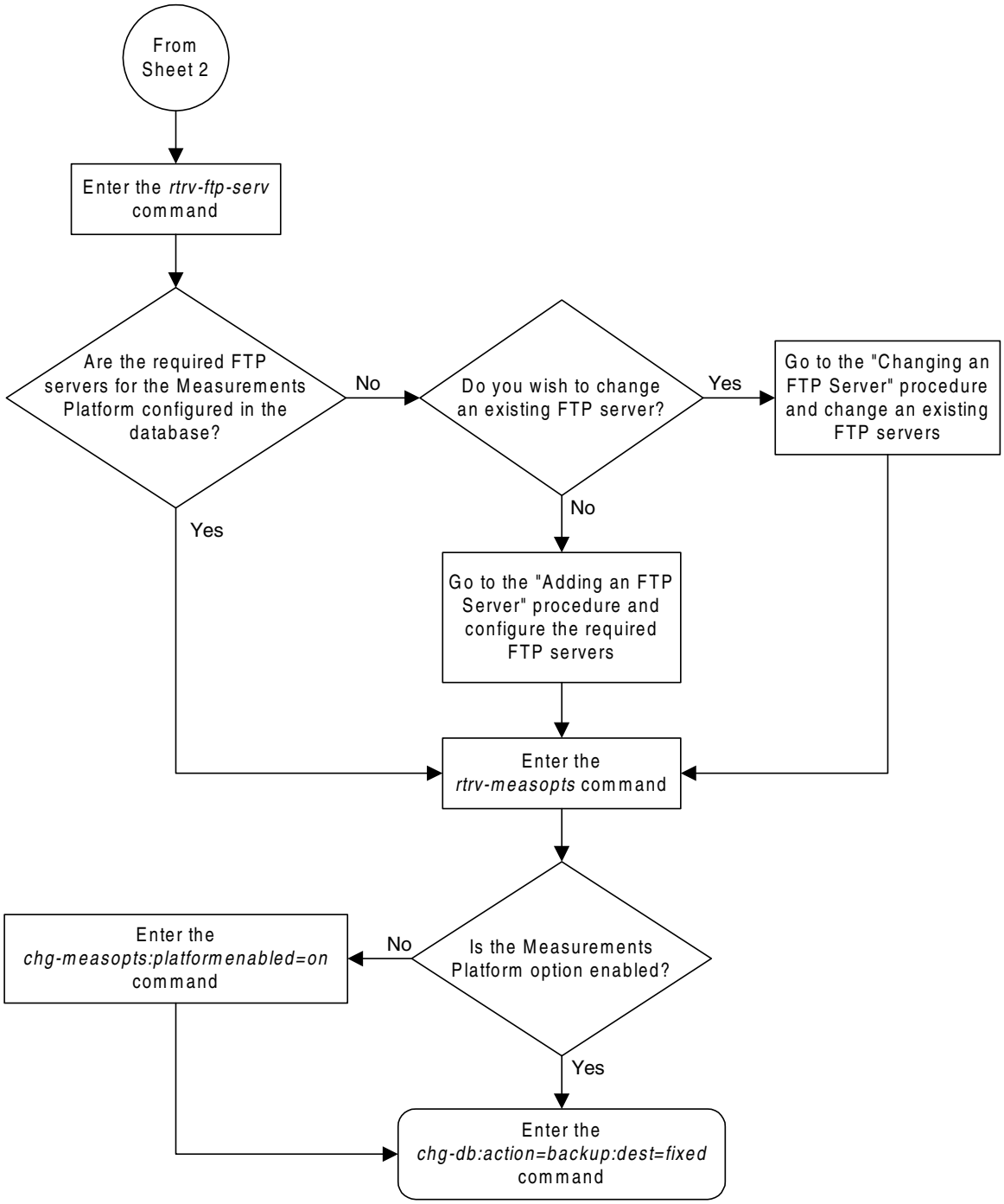
Flowchart 4-22. Configuring the Measurments Platform Feature (Sheet 1 of 3)



Flowchart 4-22. Configuring the Measurments Platform Feature (Sheet 2 of 3)



Flowchart 4-22. Configuring the Measurments Platform Feature (Sheet 3 of 3)



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 two values for the **app** parameter:

- **meas** – The FTP servers for the Measurements Platform
- **user** – The FTP servers for the FTP Retrieve and Replace feature.

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 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 that is to be sent to the FTP server.

:prio – The priority of the FTP server, from 1 to 10.

Only two FTP servers can be configured for the Measurements Platform feature.

Only two FTP servers can be configured for the FTP Retrieve and Replace feature.

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. 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.

Procedure

1. Display the FTP servers in the database using the **rtrv-ftp-serv** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
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 this command.

```
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"
```

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 by the FTP-Based Table Retrieve Application (FTRA).

When each of these commands has successfully completed, the following message should appear.

```
rlghncxa03w 05-03-01 21:18:37 GMT EAGLE5 32.0.0
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 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.

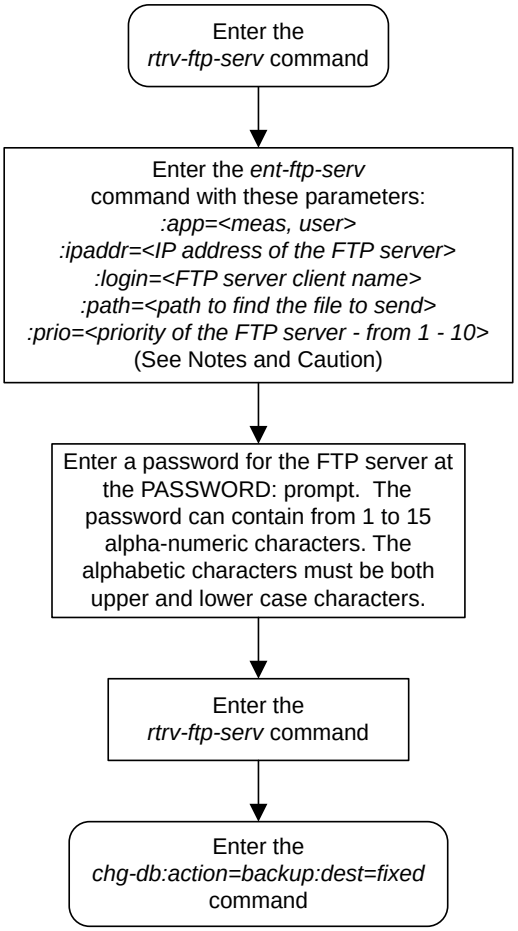
4. Display the changes using the **rtrv-ftp-serv** command. The following is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
FTP Client Security: ON

APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
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 (4 of 10) 40% 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.
```

Flowchart 4-23. Adding an FTP Server



Notes:

1. Only 2 FTP servers for the Measurement Platform (*:app=meas*) can be configured in the database.

2. Only 2 FTP servers for the FTP Retrieve and Replace feature (*:app=user*) can be configured in the database.

3. The *login* parameter value can contain from 1 to 15 alpha-numeric characters. The alphabetic characters can be both upper and lower case characters.

4. The *path* parameter value is a mixed-case quoted character string with a valid FTP path format that can contain up to 100 characters.

5. 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. Enter the *rtrv-ctrl-feat* command to verify whether or not the Eagle OAM IP Security Enhancement Controlled Feature is enabled and activated.

6. 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 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 two values for the **app** parameter:

- **meas** – The FTP servers for the Measurements Platform
- **user** – The FTP servers for the FTP Retrieve and Replace feature.

: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.

Procedure

1. Display the FTP servers in the database using the **rtrv-ftp-serv** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
FTP Client Security: ON

APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
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 (4 of 10) 40% 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 05-03-01 21:18:37 GMT EAGLE5 32.0.0
FTP SERV table is (1 of 10) 10% full
DLT-FTP-SERV: MASP A - COMPLTD
```

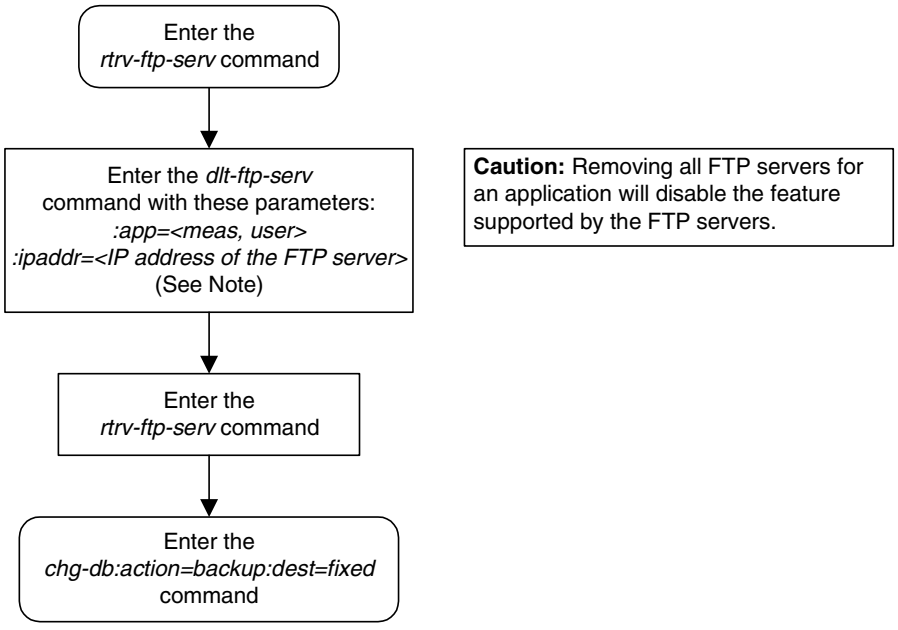
3. Display the changes using the **rtrv-ftp-serv** command. The following is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
FTP Client Security: ON

APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
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 (3 of 10) 30% 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.
```

Flowchart 4-24. 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 two values for the **app** parameter:

- **meas** – The FTP servers for the Measurements Platform
- **user** – The FTP servers for the FTP Retrieve and Replace feature.

CAUTION: While this procedure can be used to change a USER FTP server configuration, any USER FTP server configurations changd by this procedure will be overwritten by the FTP server configuration information sent to the Eagle 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 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" procedure on page 4-162, then re-entered with the new IP address using the "Changing an FTP Server" procedure on page 4-164.

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. 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.

Procedure

1. Display the FTP servers in the database using the **rtrv-ftp-serv** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
FTP Client Security: ON

APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
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 (4 of 10) 40% 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 05-03-01 21:18:37 GMT EAGLE5 32.0.0
CHG-FTP-SERV: MASP A - COMPLTD
```

NOTE: If the login parameter was not specified in step 2, skip this step and go to step 4.

3. Enter a password for the FTP server changed in step 2 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.

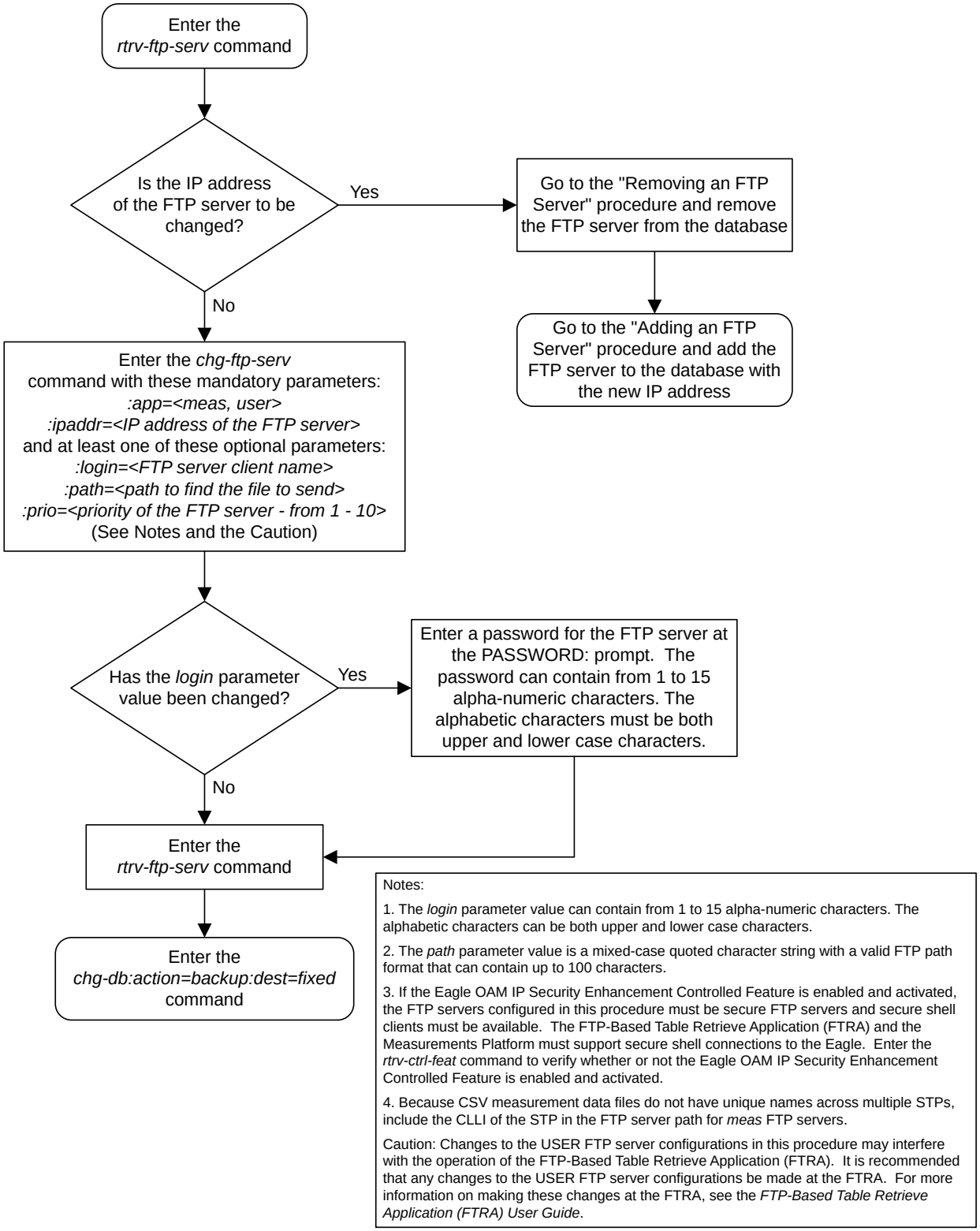
4. Display the changes using the **rtrv-ftp-serv** command. The following is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
FTP Client Security: ON

APP       IPADDR           LOGIN            PRIO
--------  ---------------  ---------------  ----
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 (4 of 10) 40% 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.
```

Flowchart 4-25. Changing an FTP Server



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 system's user interface through a telnet client.

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 or GPL 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 SCCP cards to support the number of LIMs in the system. 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. 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" procedure on page B-3.

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" procedure on page 4-93.

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, 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 **ent-ip-host** and **chg-ip-lnk** commands.

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" procedure on page 4-51.

The examples in this procedure are used to add an IPSM in card location 2107.

Procedure

1. Display the cards in the database using the **rtrv-card** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT SLC
1101   TSM       SCCP      ------------  --   --  ------------  --   --
1102   TSM       GLS       ------------  --   --  ------------  --   --
1103   DCM       VXWSLAN   ------------  --   --  ------------  --   --
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1118   RESERVED
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 system for proper power distribution. Refer to the *Installation Manual* for the shelf power distribution.

NOTE: The system can contain a maximum of 3 IPSMs. If the `rtrv-card` output shows that there are three IPSMs in the system, this procedure cannot be performed.

---

2. 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*.

---

3. Add the IPSM using the **`ent-card`** command. For this example, enter this commands.

`ent-card:loc=2107:type=ipsm:appl=ips`

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

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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
```

---

4. Verify the changes using the **`rtrv-card`** command with the card location specified in step 3. For this example, enter this command.

`rtrv-card:loc=2107`

This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT SLC
2107   IPSM      IPS       ------------  --   --  ------------  --   --
```

---

5. verify that the terminals shown as added in step 3 have been added by entering the **rtrv-trm** command. the following is an example of the possible ouptut.

```
rlghncxa03w  05-03-01 16:02:08 GMT EAGLE5 32.0.0
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  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 for the telnet terminals added in this procedure, perform the "Changing Terminal Characteristics" procedure on page 4-51.

---

6. 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 05-03-01 09:12:36 GMT EAGLE5 32.0.0
IPADDR          HOST
150.1.1.2       GW102.NC.TEKELEC.COM
150.1.1.3       GW103.NC.TEKELEC.COM

IP Host table is  (2 of 512) 1% full
```

---

7. 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 05-03-01 21:18:37 GMT EAGLE5 32.0.0
ENT-IP-HOST: MASP A - COMPLTD
```

---

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 05-03-01 21:20:37 GMT EAGLE5 32.0.0
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**. The IP address used in this command must be the IP address specified in the **ent-ip-host** command in step 7. 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 05-03-01 21:20:37 GMT EAGLE5 32.0.0
CHG-IP-LNK:   MASP A - COMPLTD
```

10. Verify the changes made in step 8 using the **rtrv-ip-lnk** command and specifying the card location and port values used in step 8. For this example, enter this command.

rtrv-ip-lnk:loc=2107:port=a

The following is an example of the possible output.

```
rlghncxa03w 05-03-01 21:20:37 GMT EAGLE5 32.0.0
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 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 05-03-01 21:20:37 GMT EAGLE5 32.0.0
LOC 2107
  SRCHORDR  SRVR
  DNSA      ---------------
  DNSB      ---------------
  DEFROUTER ---------------
  DOMAIN    ---------------
```

12. 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 ent-ip-host (step 6) and chg-ip-lnk (step 8) 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 05-03-01 21:20:37 GMT EAGLE5 32.0.0
CHG-IP-CARD:   MASP A - COMPLTD
```

---

13. Verify the changes made in step 11 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 05-03-01 21:20:37 GMT EAGLE5 32.0.0
LOC 2107
  SRCHORDR  LOCAL
  DNSA      ---------------
  DNSB      ---------------
  DEFROUTER 150.1.1.250
  DOMAIN    ip.nc.tekelec.com
```

---

14. Verify that the IP User Interface (Telnet) feature is enabled and activated, and if secure connections to the Eagle 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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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 activated (**status = on**), go to step 15.

If the IP User Interface (Telnet) feature is not enabled or activated, go to the "Activating Controlled Features" procedure on page B-3 and enable and activate 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 activated. If the OA&M IP

Security Enhancements feature is enabled and activated (**status = on**), go to step 15.

If the OA&M IP Security Enhancements feature is not enabled or activated, and secure connections are to the Eagle are to be used, go to the "Activating the Eagle OA&M IP Security Enhancement Controlled Feature" procedure on page B-12 and enable and activate the OA&M IP Security Enhancements feature.

---

15. 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 05-03-01 21:20:37 GMT EAGLE5 32.0.0
Card has been allowed.
```

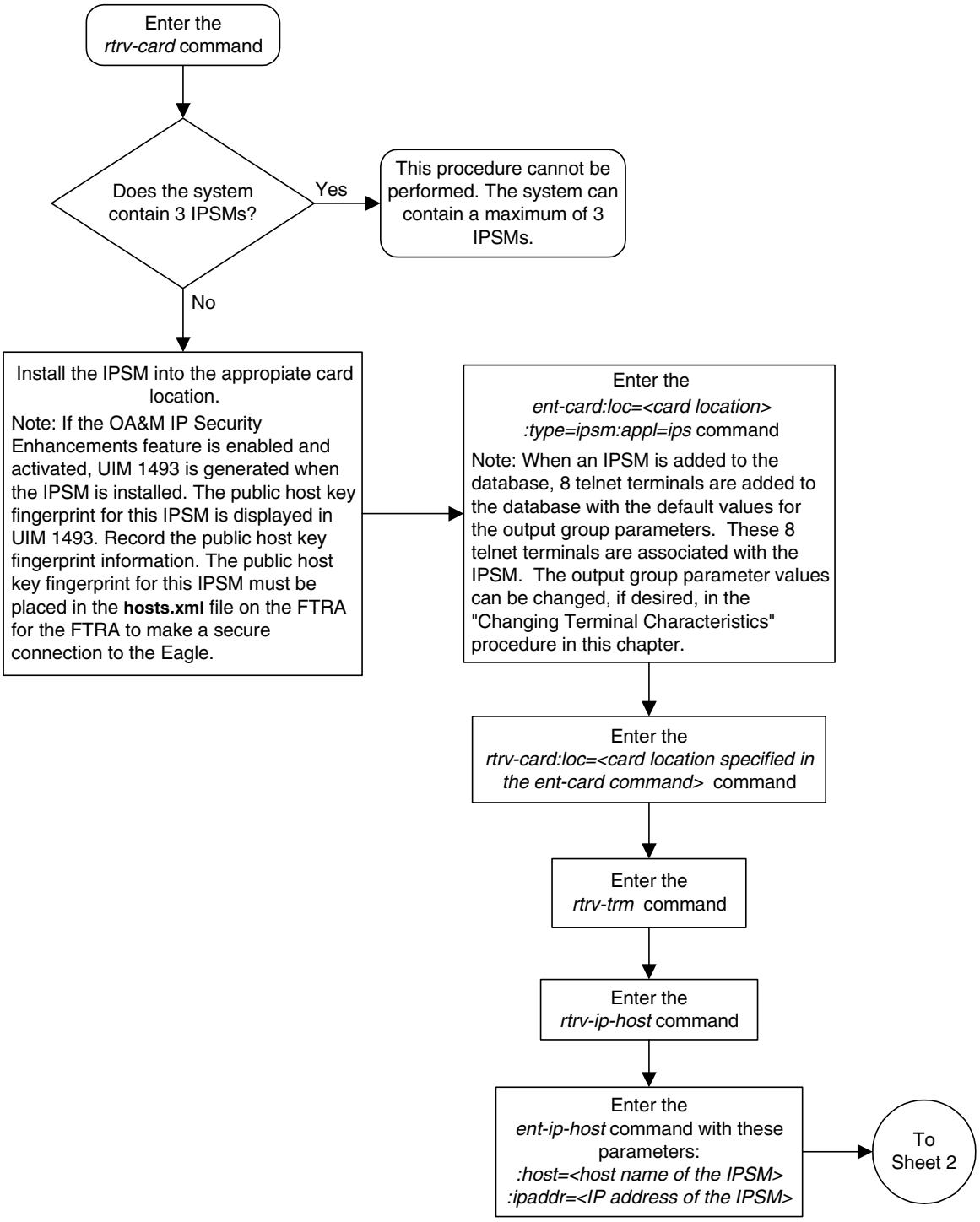
If the OA&M IP Security Enhancements feature is enabled and activated, UIM 1494, SSH Host Keys Loaded, is displayed. UIM 1494 contains the public host key fingerprint which is used to establish a secure connection with an SSH client. If the secure connection is to be made with the FTRA, the public host key fingerprint displayed in UIM 1494 must be added to the **hosts.xml** file in the FTRA. If the public host key fingerptint was not recorded in step 2, 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*.

---

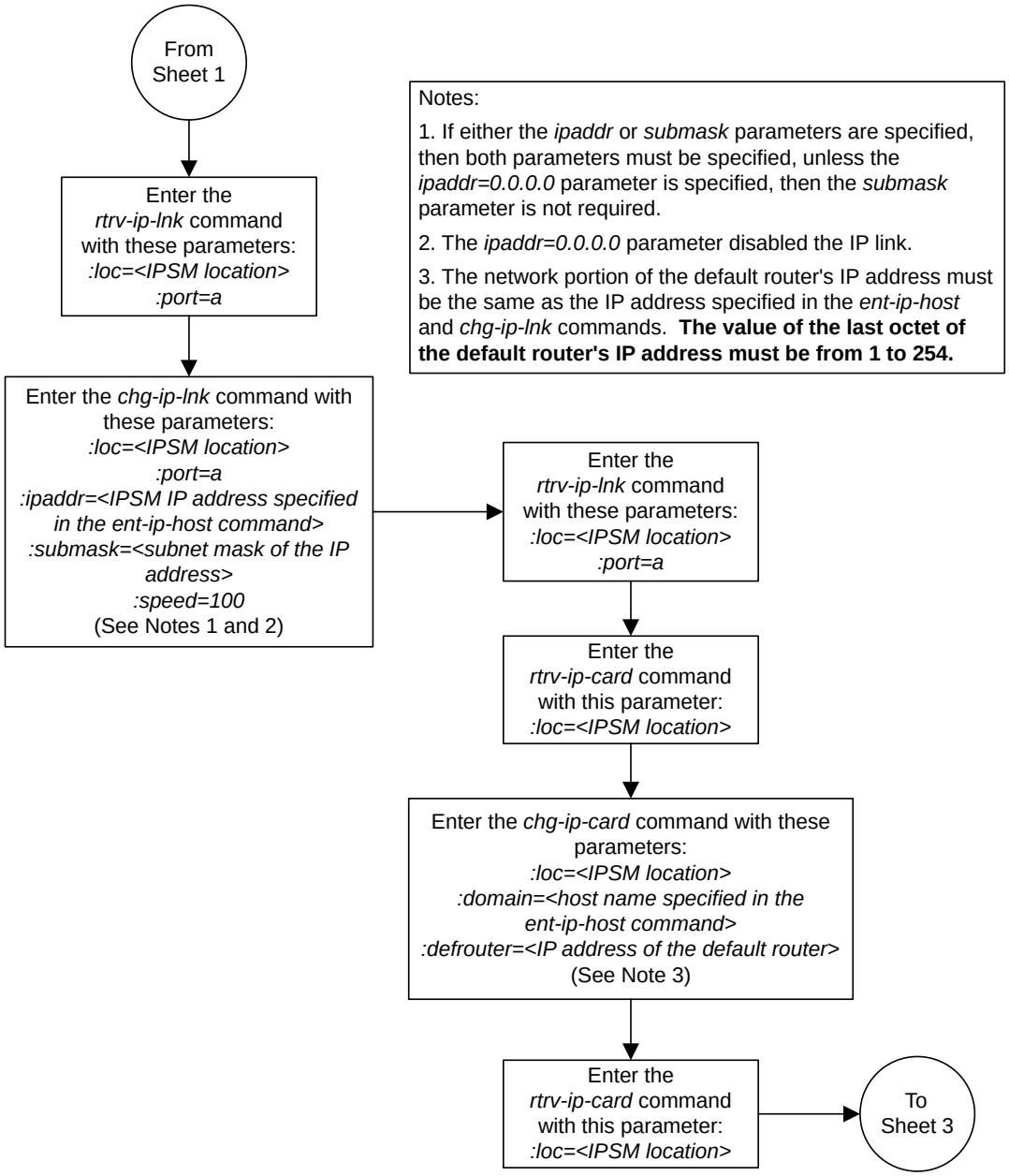
16. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

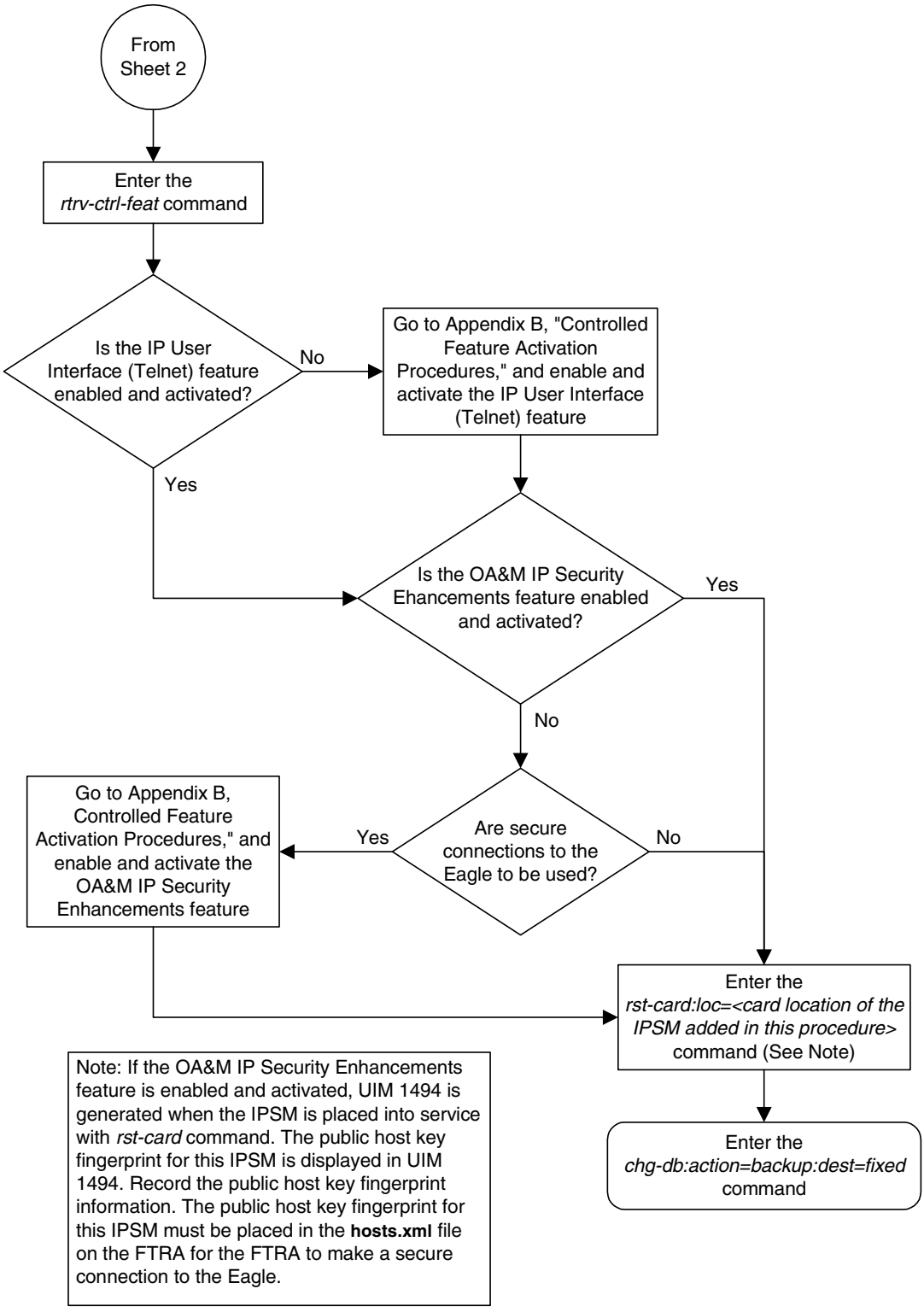
Flowchart 4-26. Adding an IPSM (Sheet 1 of 3)



Flowchart 4-26. Adding an IPSM (Sheet 2 of 3)



Flowchart 4-26. Adding an IPSM (Sheet 3 of 3)



Removing an IPSM

This procedure is used to add an IPSM (IP Services Module) from the database using the **dlt-card** command.

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*.

Procedure

1. Display the cards in the database using the **rtrv-card** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT EAGLE5 32.0.0
CARD   TYPE      APPL      LSET NAME     PORT SLC LSET NAME     PORT SLC
1101   TSM       SCCP      ------------  --   --  ------------  --   --
1102   TSM       GLS       ------------  --   --  ------------  --   --
1103   DCM       VXWSLAN   ------------  --   --  ------------  --   --
1113   GSPM      EOAM
1114   TDM-A
1115   GSPM      EOAM
1116   TDM-B
1117   MDAL
1118   RESERVED
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 05-03-01 16:43:42 GMT  EAGLE5 32.0.0
CARD   VERSION      TYPE      APPL       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  05-03-01 16:02:08 GMT EAGLE5 32.0.0
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   TELNET    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   TELNET    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  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 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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
```

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 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Inhibit message sent to terminal

rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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
```

When this command has successfully completed, this message should appear.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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

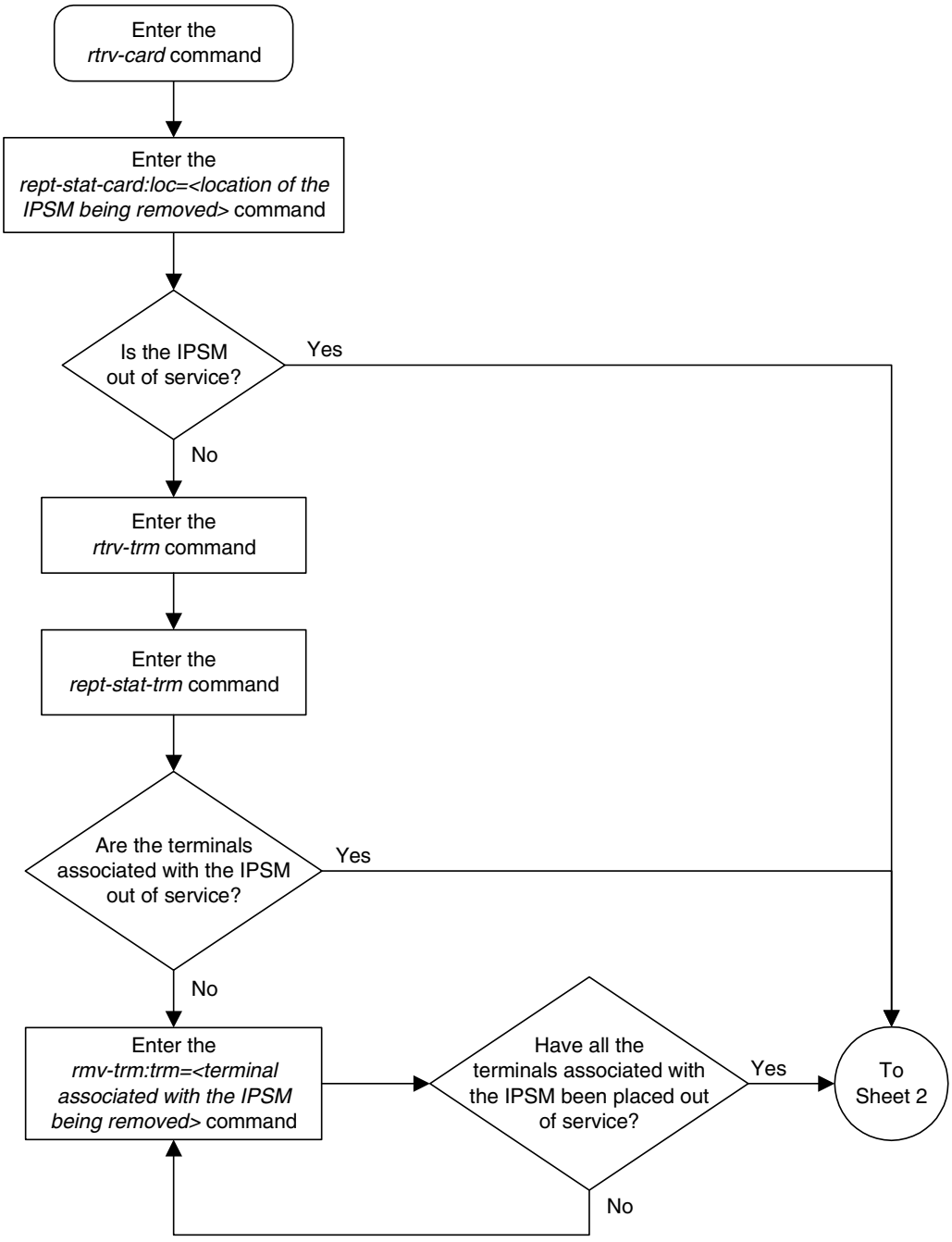
   When this command has successfully completed, this message should appear.

   ```
   E2144 Cmd Rej: Location invalid for hardware configuration
   ```

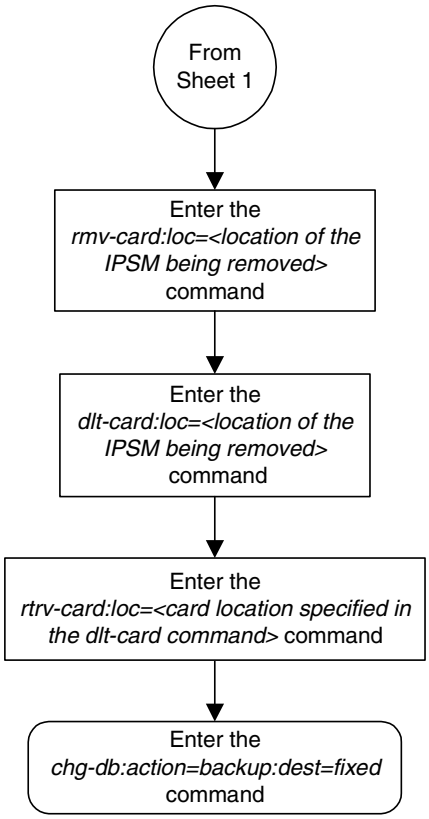
9. Back up the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

   ```
   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.
   ```

Flowchart 4-27. Removing an IPSM (Sheet 1 of 2)



Flowchart 4-27. Removing an IPSM (Sheet 2 of 2)



Configuring the Options for the Network Security Enhancements Feature

This procedure is used to configure the system 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 system should not receive a message where the OPC is equal to the system's own true, secondary or capability point codes.
- SECMTPMATE – The system 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 system should not receive an MTP network management message unless:
  - The OPC is an adjacent point code
  - The system has a route to the OPC of the MTP network management message on the linkset which the message was received.
  - The system 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 system should not receive an SCCP network management message unless:
  - The system has a route to the OPC of the SCMG message on the linkset, on which the message was received.
  - The system 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 system 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" procedure on page B-3.

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.

Procedure

1. Display the Network Security Enhancements options using the **rtrv-stpopts** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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" procedure on page B-3 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 05-03-01 00:22:57 GMT  EAGLE5 32.0.0
CHG-STPOPTS: MASP A - COMPLTD
```

---

4. Verify the changes using the **`rtrv-stpopts`** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
STP OPTIONS
-----------------------
SECMTPSID           silent
SECMTPMATE          notify
SECMTPSNM           notify
SECMTPSCMG          notify
```

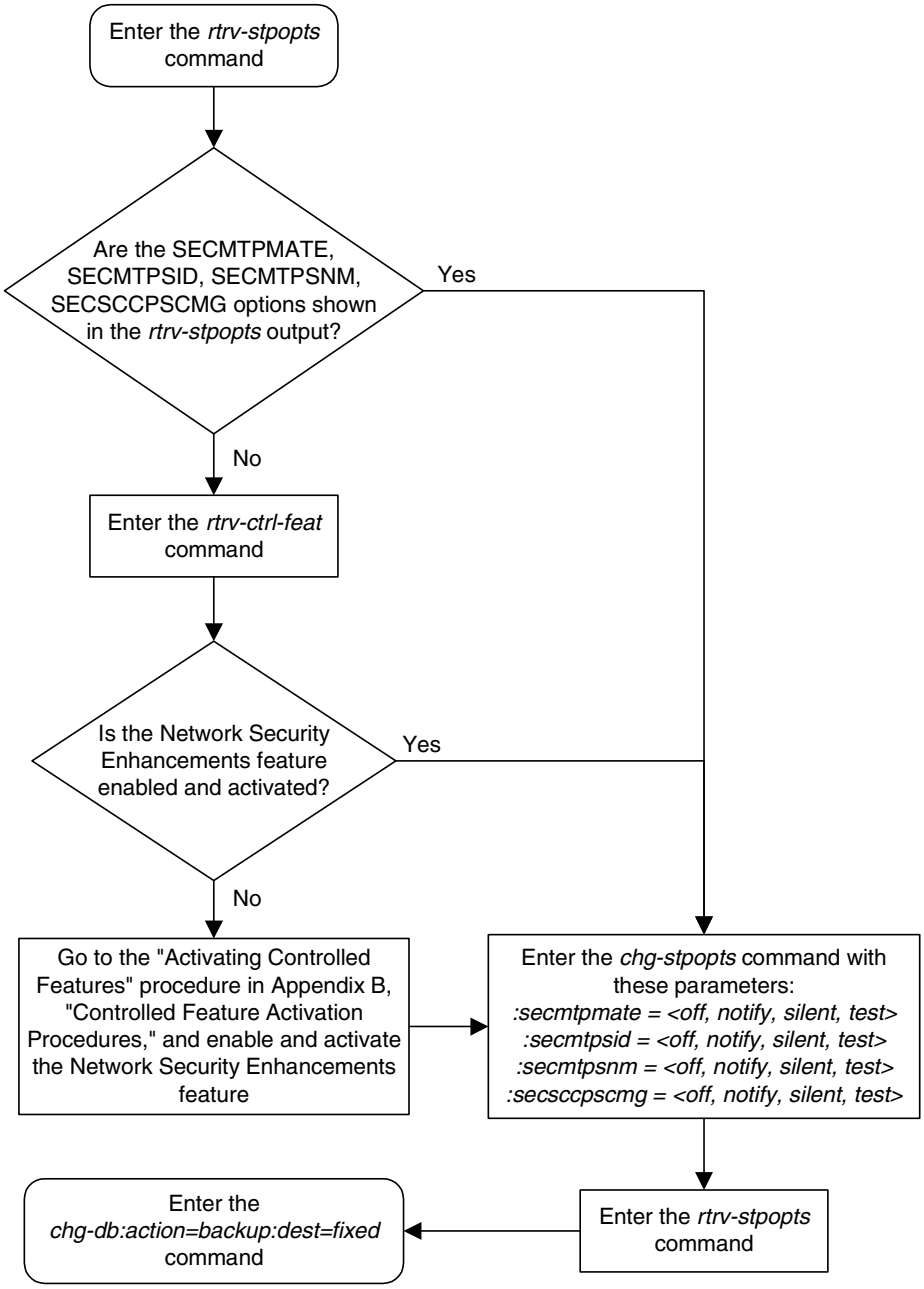
   NOTE: The `rtrv-stpopts` command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the `rtrv-stpopts` command, see the `rtrv-stpopts` command description in the *Commands Manual*.

---

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.
```

Flowchart 4-28. 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 system 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 system 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 system 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'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 system 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 persistant device state table becomes obsolete and is disabled. UIM 1257 is generated.

```
rlghncxa03w 05-03-01 16:07:48 GMT  EAGLE5 32.0.0
1234.1257    SYSTEM       INFO  DB Restore has cleared and disabled PDS
```

Procedure

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 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
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 05-03-01 00:22:57 GMT  EAGLE5 32.0.0
CHG-STPOPTS: MASP A - COMPLTD
```

3. Verify the changes using the **rtrv-stpopts** command. This is an example of the possible output.

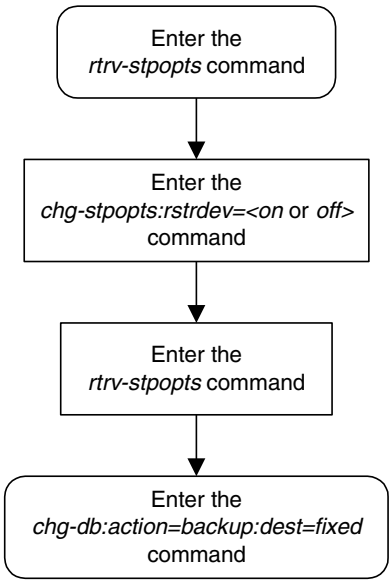
```
rlghncxa03w 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
STP OPTIONS
----------------------
RSTRDEV             on
```

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.
```

Flowchart 4-29. Configuring the Restore Device State Option



A

EOAP Provisioning Procedures

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Overview

This appendix describes initial implementation of the Embedded Operations System Support Applications Processor (EOAP) and the configuration of the Eagle STP to support either the EOAP or the Texas Micro OAP. Perform these procedures after the EOAP shelf or the Texas Micro OAP has been powered up.

NOTE 1: Throughout this appendix, the term EOAP is used only when referring to the specific EOAP hardware platform. The term OAP is used when referring to the functions performed by either the EOAP hardware or the Texas Micro OAP or when referring to either type of OAP.

NOTE 2: Perform all procedures logged in as "root" unless specified otherwise.

NOTE 3: In the event of a failure, repeat the section in which the failure occurred. If the failure re-occurs, contact technical services for assistance.

NOTE 4: Some of the following steps require use of function keys. To press function keys on a VT-520 terminal, type <Esc> plus the number or use the corresponding PF key. For example, to press function key F2, type <Esc>-2 or press the PF2 key. A quick reference guide to *vi* text editor commands is provided on page A-81.

OAPs are named and addressed according to their MMI port number on the Eagle STP backplane. OAP-A can use any MMI port, as long as OAP-B is assigned to a higher-numbered MMI port. The **`act-oap-config`** command will send the configuration information to the corresponding OAP. Depending on the differences in configuration, outages are possible.

On the EOAP hardware platform, when facing the front of the EOAP chassis, OAP-A is on the left side and OAP-B the right side. For the Texas Micro OAP, the designation of OAP A and OAP-B is soley dependent of the MMI port they are connected to.

If the host name, IP address, or net mask of the OAPs needs to be modified, configure the OAPs one by one. Always modify EOAP-A first. When these parameters are modified, the OAP needs to be rebooted to utilize the new data. Rebooting might take up to 10 minutes and the connection to SEAS will be lost during this time.

If for any reason, the Eagle STP fails to deliver the OAP configuration to an OAP, or an OAP fails to utilize it, the OAP may be configured incorrectly or the OAP might be receiving bad data. This condition will be detected but not automatically corrected. The Eagle STP will generate an alarm within 10 seconds of any mismatch in Eagle STP and OAP databases. When the databases are back in synchronization, the Eagle STP will clear the alarm within 5 seconds. Note that there can be two alarms raised, one for each OAP.

Tools and Equipment

The following tools and equipment are required for provisioning the EOAP for the first time:

- VT-520 display unit(s) or equivalent
  - connected to EOAP-A and EOAP-B
  - connected to Eagle STP
- System information sheet for each GR-376 EOAP processor card containing
  - system's hostname
  - customer's network IP address.
- Any of the following general information that is applicable to the customer's system
  - customer's subnet netmask
  - customer's network default router IP address
  - number of configured EOAPs (single or dual)
  - LSMS system identity (main or shadow)
  - network service access point (MNSAP) of the main LSMS system
  - session selector (MSSEL) of the main LSMS system
  - presentation selector (MPSEL) of the main LSMS system
  - network service access point (SNSAP) of the shadow LSMS system
  - session selector (SSSEL) of the shadow LSMS system
  - presentation selector (SPSEL) of the shadow LSMS system
  - SEAC common language location identifier (SEACCLLI)
  - X.25 packet size (7 or 8)
  - X.25 mode (DCE or DTE)

Initial Implementation

This section provides the procedures for the initial implementation of the EOAP. These procedures are:

1. "Configuring System Parameters (Eagle Releases 27.2 and Earlier)" procedure

   NOTE: For Eagle Release 28.1, refer to the OAP Upgrade procedure for comparable steps. The OAP Upgrade procedure is included in the Release Documentation of your Documentation Suite, in the Upgrade Kit, or on the Customer Secure website.

2. "Installing UAL Software (Eagle Releases 27.2 and Earlier)" procedure on page A-8

   NOTE: For Eagle Release 28.1, refer to the OAP Upgrade procedure for comparable steps. The OAP Upgrade procedure is included in the Release Documentation of your Documentation Suite, in the Upgrade Kit, or on the Customer Secure website.

3. "Configuring the OAP Port at the Eagle STP" procedure on page A-15

4. "Configuring the OAP from the Eagle STP Terminal" procedure on page A-25.

Procedures 1 and 2 apply to the EOAP platform only. If your system has Eagle Release 27.2 and earlier installed, perform all four procedures described here. If your system has Eagle Release 28.1 software installed, refer to the OAP Upgrade procedure to perform initial EOAP configuration, and then continue with procedures 3 and 4. Procedures 3 and 4 are used with either the EOAP platform or the Texas Micro OAP platform. If you are configuring an OAP for the Texas Micro OAP platform, perform only procedures 3 and 4. For reprovisioning individual OAP settings for either hardware platform, go to section "Reprovisioning" on page A-60.

Configuring System Parameters (Eagle Releases 27.2 and Earlier)

Procedure

1. After a manual or automatic first boot, the EOAP boots up in configuration mode.

2. Perform the System Identification Procedures with the following settings when prompted:

```
What type of terminal are you using: 3  DEC VT100      <Enter>
Read the screen navigation information                 <F2> or <Esc>-<2>

A series of screens will request the following information. Use function keys
to complete screens and confirm selections.

To begin the System Identification, select continue:  <F2> or <Esc>-<2>
Hostname:                    tekelec-xxx               <F2> or <Esc>-<2>
     Where "xxx" is the actual number for this GR-376 EOAP
Networked?:                  [x] yes                   <F2> or <Esc>-<2>
IP Address:          <Enter the loghost ip address>    <F2> or <Esc>-<2>
Verify your selections                                 <F2> or <Esc>-<2>

Name service:                [x] none                  <F2> or <Esc>-<2>
Verify your selections                                 <F2> or <Esc>-<2>

System part of a subnet?:    [x] no                    <F2> or <Esc>-<2>

Regions:                     [x] United States         <F2> or <Esc>-<2>
Time zone:                   [x] Eastern               <F2> or <Esc>-<2>
Date/Time:                   <Use Default>             <F2> or <Esc>-<2>
Verify your selections                                 <F2> or <Esc>-<2>


The system will now complete the boot process.
```

3. The system now prompts you for the root password:

```
Root password: <root password>       <ENTER>

Re-enter root password: <root password><ENTER>
```

4. After the processing of the System Identification Procedure has completed, the system completes the boot process and return to the console login prompt.

NOTE: The X.25 and OSI license daemons will fail to find valid license keys. They will be configured in the next step.

5. Log in as root; enter these commands:

```
Console login: root

Password: <root password>
```

---

6. Start the clone configuration script:

```
# /scripts/CloneConfig.sh
```

The Clone Configuration Menu appears:

```
>>>>>>>>>>>>>EOAP Platform Installation Menu<<<<<<<<<<<<<
/=======================================================\
| 1  | Full Clone Configuration                          |
|---+---------------------------------------------------|
| 2 | Configure Modem                                    |
|---+---------------------------------------------------|
| 3 | Final Configurations                               |
|---+---------------------------------------------------|
| 4 | Exit                                               |
\---------------------------------------------------------/
```

---

7. In the Option field, type **1** and press ENTER.

---

8. Load the driver for the type of serial port installed. Follow the instructions on the screen. For an Artecon driver, perform step a; for an Aurora driver, perform step b:

a For an Artecon driver, perform these steps:

At the following prompt, enter **all**:

```
Select package(s) you wish to process (or 'all' to process
all packages.)  (default: all) [?,??,q]:  all
```

Answer "yes" or "y" to all questions and accept the default directory locations when prompted.

Answer the configuration questions as follows:

```
Enter the number of ArtePort boards [1] > 1
Type? > 4s1p
Do you want to continue with the installation of this package? [y,n,?} y
```

NOTE: Ignore any warnings that occur during the ARTEport driver installation

Select 'q' when the installation is complete:

```
Select package(s) you wish to process (or 'all' to process
all packages.)  (default: all) [?,??,q]:  q
Installation of ARTEport Complete!!
```

Continue with step 9.

b. For AURAacs, AURAacsa, and AURAacss drivers, perform these steps:

At the following prompt, enter **all**:

```
Select package(s) you wish to process (or 'all' to process
all packages.)  (default: all) [?,??,q]:  all
```

Answer "yes" or "y" to all questions and accept the default directory locations when prompted.

Answer the configuration questions as follows:

```
Installation of <AURAacss> was successful.
```

Continue with step 9.

---

9. When the script completes the system configuration, you will be returned to the configuration menu. Enter "**4**" to return to the shell prompt:

```
#
```

---

10. Gracefully reboot the newly configured EOAP.

a Shut down the OAP application first using the following command:

```
% ccsmr all.down
```

b. Shut down the running processes and the database using the following command:

```
# /usr/sbin/init 6
```

The EOAP automatically reboots after this command. The reboot process is completed when your screen shows `The system is ready` and returns you to a login prompt.

Installing UAL Software (Eagle Releases 27.2 and Earlier)

The *CloneCheck.sh* script will perform a full system checkout to ensure that all the software was entered and configured correctly. If all checks pass, the UAL software can then be installed and the default instance created.

Procedure

1. Log in as root; enter these commands:

```
Console login: root

Password: <root password>
```

2. Insert the UAL software CD in the CD-ROM drive of the EOAP.

3. Start the *CloneCheck.sh* script; enter this command:

```
# /scripts/CloneCheck.sh
```

The following menu appears:

```
/-------------------------------------\
|        OAP Operational Checkout     |
|-------------------------------------|
| The following items will be checked |
| for proper operational capabilities:|
|    -Host Name                       |
|    -Host ID                         |
|    -OSI Version                     |
|    -X.25 Version                    |
|    -DSET Version                    |
|    -OSI, X.25 and DSET license keys |
|    -Available Drive Space           |
|    -Operational OSI and X.25 daemons|
|    -Commented "Autopush" statement  |
|                                     |
| A status report will be displayed   |
| upon completion of the checkout.    |
|-------------------------------------|
```

4. In the `Option` field, type **`1`** and press ENTER.

After approximately 1 minute, a status report is generated indicating which tests passed and which tests failed. Depending on the outcome of the tests, complete one of the following steps:

- If any failures were detected, call Tekelec Technical Services.

- If no errors were detected during the check, the UAL installation begins by asking for the type of media used (*1* for tape and *2* for CD). Type *2* and press ENTER to continue installing the UAL software.

---

5. Once the UAL installation completes, the default instance will be created (ignore any messages about failing to kill processes). A message will appear indicating the instance was created successfully, then the shell prompt will appear.

---

6. Type the following command to determine the X25CONFIG setting:

```
# more /ccsosmr/MR.os54/DEFAULTS
```

The default setting for X25CONFIG is L1P3 (dual EOAP configuration) as shown in the following output. If you are configuring a dual configuration EOAP, go to step 9. If you are configuring a single configuration EOAP, continue with step 7.

```
#########################################################################
# This shell is the configuration file to set up a OAP instance
# Please do not change any thing other than the customizable
# parameters:   STPclliCode=  SEASclliCod=  X25CONFIG=
#               DsetDirectory= mgr_psel= mgr_ssel= mgr_nsap=
#########################################################################
#  The following parameters should not be changed
#########################################################################
export STPclliCode SEASclliCod X25CONFIG    HOSTNAME
HOSTNAME=`uname -n`
DsetDirectory=/usr/local/Dset/2.4
mgr_tsel=
agent_tsel=
agent_nsap=rk6
agent_psel=sup
agent_ssel=agt
#########################################################################
#  STPclliCode=   is the 11-bytes CLLI code that EAGLE/OAP uses
#  SEASclliCod=   is the 11-bytes CLLI code that SEAS/MF/CCSOSMR uses
#  X25CONFIG=     is the X.25 link and PVC configuration
#       L2P3 <= (2 link, 3 PVC each), L2P5  <= (2 link, 5  PVC each)
#       L1P3 <= (1 link, 3 PVC),      L1P10 <= (1 link, 10 PVC)
#       L1P6 <= (1 link, 6 PVC)
#  mgr_psel= is the OSI presentation selector for the LSMS supagent
#                                which this EMS will bind.
#  mgr_ssel= is the OSI session selector for the LSMS supagent to
#                                which this EMS will bind.for the LSMS manager
#         Note: The mgr_psel and mgr_ssel must match the EMS_PSEL
#               and EMS_SSEL specified in the LSMS configuration in
#               the config/supported.cfg configuration file. The
#               agent_psel and agent_ssel above should NOT be changed.
#  mgr_nsap= is the OSI network layer service access point
#               Use the IP address of the machine(server) running the
#               LSMS supagent in hex.
#  class_tt     Translation type used for CLASS messages obtained from Eagle
#  lidb_tt      Translation type used for LIDB messages obtained from Eagle
#  cnam_tt      Translation type used for CNAM messages obtained from Eagle
#  isvm_tt      Translation type used for ISVM messages obtained from Eagle
#########################################################################
# The following parameters MUST be customized for each OAP
```

```
########################################################################
STPclliCode=NBWKNJNB01W
SEASclliCod=SEASNJPYRRC
X25CONFIG=L1P3                    <-- Change to L1P3 for dual configuration
DsetDirectory=/usr/local/Dset/2.4
mgr_psel=xyz
mgr_ssel=abc
mgr_nsap=0x12121212
class_tt=0
lidb_tt=0
cnam_tt=0
isvm_tt=0
########################################################################
```

7. Make sure the X25CONFIG parameter is set to **`L1P3`** for a dual configuration or to **`L2P3`** for a single configuration. If the X25CONFIG parameter is not correct, use the *vi* editor and change it in the **`/ccsosmr/MR.os54/DEFAULTS`** file. Save the file.

8. Eject the UAL software CD.

   ```
   # eject
   ```

9. Gracefully reboot the EOAP to activate the new instance.

   a Shut down the OAP application first using the following command:

   ```
   % ccsmr all.down
   ```

   b. Shut down the running processes and the database using the following command:

   ```
   # /usr/sbin/init 6
   ```

   The EOAP automatically reboots after this command. The reboot process is completed when your screen shows `The system is ready` and returns you to a login prompt.

10. Log into the EOAP as **ccsproj**:

```
Console login: ccsproj
New password: <ccsproj password>
Confirm password: <ccsproj password>
```

The system displays output similar to the following:

```
Last login: Mon Aug 25 11:21:14 from 198.89.40.248
Sun Microsystems Inc.   SunOS 5.4       Generic July 1994
You have new mail.
tekelec-27:ccsproj:200->
```

NOTE: Some of the example output may vary from one installation to another.

11. Verify the EOAP is running the expected processes; enter these commands:

```
% cd /ccsosmr/<instance>/bin
```

where <*instance*> is the name of the default instance created in step 5.

```
% ccsmr all.status
```

The system displays output similar to the following:

```
********** System (msDI) registration report starts *****
********** date/time==> Wed May 29 14:29:35 2000
* Process=(msDI00), Host(apg3)/PID=(870): IPC directory daemon
* Process=(ysT300), Host(apg3)/PID=(915):
* Process=(ysA201), Host(apg3)/PID=(920): UAL Timeout/PVC state cntl daemon
* Process=(ysA301), Host(apg3)/PID=(938): UAL Multi-Seg. Re-assembly daemon
* Process=(ysA401), Host(apg3)/PID=(954): UAL conf. fail/clear daemon
* Process=(ysAO01), Host(apg3)/PID=(970): OS Contract OS to NE daemon
* Process=(ysT100), Host(apg3)/PID=(989):
* Process=(ysAD01), Host(apg3)/PID=(1012): UAL test msg echo daemon
* Process=(ysT200), Host(apg3)/PID=(1001):
! Process=(ysA101), Host(apg3)/PID=(1037): UAL/X.25 PVC daemon
! Process=(ysA102), Host(apg3)/PID=(1053): UAL/X.25 PVC daemon
! Process=(ysA103), Host(apg3)/PID=(1069): UAL/X.25 PVC daemon
* Process=(ysTT00), Host(apg3)/PID=(1130):
* Process=(emsAgent), Host(apg3)/PID=(611): EmsAgent
* Process=(emsStatusUpdate), Host(ralph)/PID=(12144): EMS Agent Status
```

NOTE: Only applicable processes are listed. The host and PID output will vary. The processes marked with "!" will vary depending on the X.25 configuration in the DEFAULTS file. In a single EOAP configuration, six X.25 processes are listed. In a dual EOAP configuration, only three X.25 processes are listed.

12. Perform this step at the Eagle STP terminal to activate the configuration:

Update EOAP-A by entering this command:

act-oap-config:oap=a:force=yes

After successful completion of this command, the system returns the following output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
ACT-OAP-CONFIG: MASP A - COMPLTD
```

---

13. For a SEAS-only configuration, execute the seasOnly.sh script to configure the **all.up** script in the instance directory for SEAS ONLY operation (this step will disable LNP functionality; if LNP functionality must be restored, a new instance must be created).

As "root" at the EOAP terminal, enter this command:

 # /scripts/seasOnly.sh

---

14. Make a backup copy of the LNP version of the **all.up** script. Enter these commands:

 # cd /ccsosmr/modelSTP/shell

 # cp -p all.up all.up.lnp

---

15. Put the permanent copy of the the SEAS-only version of the **all.up** script into place; enter this command:

 # cp -p ../../<instance_name>/shell/all.up .

NOTE: The final character of this command is a dot. There is a space between the word all.up and the final dot of the command.

---

16. Check that the SEAS-only version of the **all.up** script is in place. If the SEAS-only version is in place, the root prompt will return with no output as shown below.

```
#  grep ems all.up
#
```

NOTE: If the LNP version is still in place, the screen output will show commands for starting the emsAgent and emsStatusUpdate. If this happens, repeat this fix from the beginning.

---

17. Make a backup copy of the LNP version of the emsAgent.status file; enter these commands:

 # cd /ccsosmr/modelSTP/work

 # cp -p emsAgent.status emsAgent.status.lnp

---

18. Put the permanent copy of the the SEAS-only version of the aemsAgent.status script into place; enter this command:

```
# cp ../../<instance_name>/work/emsAgent.status .
```

NOTE: The final character of this command is a dot. There is a space between the word `all.up` and the final dot of the command.

---

19. Check that the SEAS-only version of the emsAgent.status script is in place. Your output should match the example output exactly.

```
#  cat emsAgent.status
123.123.123.123 1 1
```

NOTE: If the LNP version is still in place, the screen output will show the following: 123.123.123.123 0 0

If your output shows that the LNP version is still in place, repeat steps 14 through 19.

---

20. Gracefully reboot the EOAP.

a Shut down the OAP application first using the following command:

```
% ccsmr all.down
```

b. Shut down the running processes and the database using the following command:

```
# /usr/sbin/init 6
```

The EOAP automatically reboots after this command. The reboot process is completed when your screen shows `The system is ready` and returns you to a login prompt.

---

21. Log into the EOAP as **`ccsproj`**:

```
Console login: ccsproj
New password: <ccsproj password>
Confirm password: <ccsproj password>
```

The system displays output similar to the following:

```
Last login: Mon Aug 25 11:21:14 from 198.89.40.248
Sun Microsystems Inc.   SunOS 5.4       Generic July 1994
You have new mail.
tekelec-27:ccsproj:200->
```

NOTE: Some of the example output may vary from one installation to another.

---

22. Verify the EOAP is running the expected processes; enter these commands:

```
% cd /ccsosmr/<instance>/bin
```

where <*instance*> is the name of the default instance created in step 5.

```
% ccsmr all.status
```

The system displays output similar to the following:

```
********** System (msDI) registration report starts *****
********** date/time==> Wed May 29 14:29:35 2000
* Process=(msDI00), Host(apg3)/PID=(870): IPC directory daemon
* Process=(ysT300), Host(apg3)/PID=(915):
* Process=(ysA201), Host(apg3)/PID=(920): UAL Timeout/PVC state cntl daemon
* Process=(ysA301), Host(apg3)/PID=(938): UAL Multi-Seg. Re-assembly daemon
* Process=(ysA401), Host(apg3)/PID=(954): UAL conf. fail/clear daemon
* Process=(ysAO01), Host(apg3)/PID=(970): OS Contract OS to NE daemon
* Process=(ysT100), Host(apg3)/PID=(989):
* Process=(ysAD01), Host(apg3)/PID=(1012): UAL test msg echo daemon
* Process=(ysT200), Host(apg3)/PID=(1001):
! Process=(ysA101), Host(apg3)/PID=(1037): UAL/X.25 PVC daemon
! Process=(ysA102), Host(apg3)/PID=(1053): UAL/X.25 PVC daemon
! Process=(ysA103), Host(apg3)/PID=(1069): UAL/X.25 PVC daemon
* Process=(ysTT00), Host(apg3)/PID=(1130):
* Process=(emsAgent), Host(apg3)/PID=(611): EmsAgent
* Process=(emsStatusUpdate), Host(ralph)/PID=(12144): EMS Agent Status
```

NOTE: Only applicable processes are listed. The host and PID output will vary. The processes marked with "!" will vary depending on the X.25 configuration in the DEFAULTS file. In a single EOAP configuration, six X.25 processes are listed. In a dual EOAP configuration, only three X.25 processes are listed.

Perform the next procedure at the Eagle STP terminal.

Configuring the OAP Port at the Eagle STP

Use this procedure to configure the ports on the Terminal Disk Module (TDM) that are used to provide the links to the Embedded Operations System Support Applications Processor (EOAP) or the Texas Micro OAP for the SEAS or Local Number Portability (LNP) feature using the **chg-trm** command.

The **chg-trm** command uses these parameters:

:trm – Serial port number

:type – The type of device being connected (**type=oap**).

To configure the OAP port, either the SEAS feature must be on or the LNP feature must be enabled for a quantity of 2 to 12 million numbers. If the SEAS feature is on, the entry **SEAS = on** is shown in the **rtrv-feat** command output. If the SEAS feature is off, enter the **chg-feat:seas=on** command to turn the SEAS feature on. If the LNP enabled for a quantity of 2 to 12 million numbers, the entry **LNP TNs** is shown in the **rtrv-ctrl-feat** command output with a quantity of 2 to 12 million numbers. If the LNP feature is not enabled, go to the "Enabling the LNP Feature for 2 to 12 Million Numbers" procedure in the *Database Administration Manual - LNP* and enable the LNP feature. If the ELAP Configuration feature is enabled and activated, the OAP port can be configured only if the SEAS feature is on.

NOTE: Once the SEAS feature is turned on on with the chg-feat command, or the LNP feature is enabled with the enable-ctrl-feat command, they cannot be turned off or disabled.

Before executing this procedure, make sure you have purchased the SEAS or LNP features. If you are not sure if you have purchased the SEAS or LNP features, contact your Tekelec Sales Representative or Account Representative.

Only two OAP ports can be configured. The number of OAPs, thus OAP ports, required depends on the features the OAPs are to be used with. Table A-1 shows the OAP feature requirements.

Table A-1. OAP Feature Requriements

Feature	Number of OAPs Required
SEAS only	1
LNP only *	2
SEAS and LNP *	2
* The LNP feature can be enabled only for 2 to 12 million numbers.	

When the **type=oap** parameter is specified with the **chg-trm** command, none of the communication attribute parameters, **baud** (the baud rate of the terminal port), **prty** (the parity of the terminal port), **sb** (the number of stop bits for the terminal port's RS-232 connection), and **fc** (the type of flow control for the terminal port's RS-232 connection), can be specified. These parameters are defaulted to these values:

```
baud = 19200     sb = 1
prty = even      fc = sw
```

The **chg-trm** command contains other optional parameters that can be used when configuring an OAP port. These parameters are not shown here because they are not required for configuring an OAP port. These parameters are explained in more detail in the "Changing Terminal Characteristics" procedure on page 4-51, or in the **chg-trm** command descriptions in the *Commands Manual*.

The total value of the terminals' baud rate cannot be greater than 172,032. If the total baud rate of the terminals (including the two OAP ports) exceeds 172,032, go to the "Changing Terminal Characteristics" procedure on page 4-51 and change the baud rates of the other terminals so that the total baud rate is not greater than 172,032.

The system 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 the OAP terminal type (**type=oap**), if the change would leave the system 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 **oap**, go to the "Changing Terminal Command Class Assignments" procedure on page 4-73 and make sure that the command class assignment for the terminal port being changed does not have the Security Administration command class assigned to it, or change the command class assisignment of another terminal to include the Security Administration command class.

Procedure

1. Verify that the SEAS feature is on (**SEAS = on**) using the **rtrv-feat** command.

   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 OAP is not to be used for the SEAS feature, or the SEAS feature is on, skip step 2 and go to step 3.

2. Turn the SEAS feature on by entering this command.

   chg-feat:seas=on

   NOTE: Once the SEAS feature is turned on with the chg-feat command, it cannot be turned off.

   The SEAS feature must be purchased before you turn the feature on with the chg-feat command. If you are not sure if you have purchased the SEAS feature, contact your Tekelec Sales Representative or Account Representative.

   When this command has successfully completed, this message should appear.

   ```
   rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
   CHG-FEAT: MASP A - COMPLD
   ```

   NOTE: If the OAP will not be used with the LNP feature, skip this step and go to step 4.

3. Verify that the LNP feature is enabled for a quantity of 2 to 12 million numbers, by entering the **rtrv-ctrl-feat** command. If the LNP feature is enabled for a quantity of 2 to 12 million numbers, the quantity shown in the **LNP TNs** field should be 2 to 12 million numbers.

   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 for a quantity of 2 to 12 million numbers, go to step 4.

   If the LNP feature is not enabled, go to the "Enabling the LNP Feature for 2 to 12 Million Numbers" procedure in the *Database Administration Manual - LNP* and enable the LNP feature.

   If the ELAP Configuration feature is enabled and activated, the OAP port can be configured only if the SEAS feature is on.

4. Display the values of all terminals using the **rtrv-trm** command. This is an example of the possible output:

```
rlghncxa03w 05-03-01 00:57:31 GMT EAGLE5 32.0.0
TRM  TYPE    COMM         FC    TMOUT MXINV DURAL
1    VT320    9600-7-E-1 SW    60    5     99:59:59
2    KSR      9600-7-E-1 HW    30    5     INDEF
3    KSR      9600-7-E-1 SW    60    0     00:00:00
4    VT320    2400-7-E-1 BOTH  60    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    4800-7-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

                                      LNP LNP
TRM  TRAF LINK SA  SYS PU  DB  DB  SUB  UIMRD
1    NO   YES  NO  YES NO  YES YES YES  YES
2    NO   NO   NO  NO  NO  NO  NO  NO   NO
3    YES  YES  YES YES YES YES NO  NO   YES
4    YES  NO   NO  NO  NO  NO  NO  NO   NO
5    NO   YES  NO  NO  NO  NO  YES NO   YES
6    NO   NO   YES NO  NO  NO  YES YES  NO
7    YES  YES  YES YES YES YES YES YES  YES
8    NO   NO   NO  NO  YES NO  NO  NO   NO
9    NO   YES  NO  NO  NO  YES YES YES  YES
10   NO   NO   NO  NO  NO  YES NO  NO   NO
11   YES  YES  YES YES YES YES YES YES  YES
12   YES  YES  YES YES YES YES YES NO   NO
13   NO   YES  NO  NO  NO  NO  YES YES  YES
14   NO   NO   YES NO  NO  NO  NO  YES  NO
15   YES  YES  YES NO  YES YES YES YES  YES
16   NO   NO   NO  NO  YES NO  YES 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
```

The first part of the output displays the communication security attributes of the terminal port. The communication attributes of the terminal port, **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 port may receive.

---

5. Place the terminal you wish to change out of service using the **rmv-trm** command and specifying the ports you wish to place out of service. For the configuration example of this procedure, enter these commands:

   rmv-trm:trm=4

   rmv-trm:trm=10

   After successful completion of each command, the system returns the following output:

```
rlghncxa03w 05-03-01 00:57:31 GMT EAGLE5 32.0.0
Inhibit message sent to terminal

rlghncxa03w 05-03-01 00:57:31 GMT EAGLE5 32.0.0
Command Completed.
```

---

6. Verify that the terminal that was placed out of service in step 5 is in the OOS-MT-DSBLD state by entering the **rept-stat-trm** command. This is an example of the possible output:

```
rlghncxa03w 05-03-01 00:57:31 GMT EAGLE5 32.0.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     OOS-MT-DSBLD  Manual        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    OOS-MT-DSBLD  Manual        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
Command Completed.
```

---

7. Display the command class values of all terminals using the **rtrv-secu-trm** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 12:31:04 GMT EAGLE5 32.0.0
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
```

NOTE: If the terminal type is being changed to either printer or none, make sure the system 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 system with only one terminal assigned to the Security Administration command class, go to the "Changing Terminal Command Class Assignments" procedure on page 4-73 and change the command class assignment of another terminal to include the Security Administration command class.

---

8. Change the terminal characteristics using the **chg-trm** command. For this example enter these commands:

chg-trm:trm=4:type=oap

chg-trm:trm=10:type=oap

After successful completion of each command, the system returns the following output:

```
rlghncxa03w 05-03-01 00:57:31 GMT EAGLE5 32.0.0
CHG-TRM: MASP A - COMPLTD
```

---

9. Verify the changes made in step 8 by using the **rtrv-trm** command with the port number specified in step 8. Enter these commands:

rtrv-trm:trm=4

rtrv-trm:trm=10

These are examples of the possible output:

rtrv-trm:trm=4

```
rlghncxa03w 05-03-01 00:57:31 GMT EAGLE5 32.0.0
TRM  TYPE    COMM        FC    TMOUT MXINV DURAL
4    OAP     19200-7-E-1 SW    30    5     00:30:00

                               LNP LNP
TRM  TRAF LINK SA  SYS PU  DB  DB  SUB  UIMRD
4    NO   NO   NO  NO  NO  NO  NO  NO   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=10

```
rlghncxa03w 05-03-01 00:57:31 GMT EAGLE5 32.0.0
TRM  TYPE    COMM        FC    TMOUT MXINV DURAL
10   OAP     19200-7-E-1 SW    30    5     00:30:00

                               LNP LNP
TRM  TRAF LINK SA  SYS PU  DB  DB  SUB  UIMRD
10   NO   NO   NO  NO  NO  NO  NO  NO   NO

     APP  APP
TRM  SERV SS  CARD CLK DBG GTT GWS MEAS MON MPS SEAS SLAN
10   YES  YES YES  YES YES YES YES YES  YES YES YES  YES
```

10. Return the terminals to service that were taken out of service in step 5 using the **rst-trm** command. For this example, enter these commands:

rst-trm:trm=4

rst-trm:trm=10

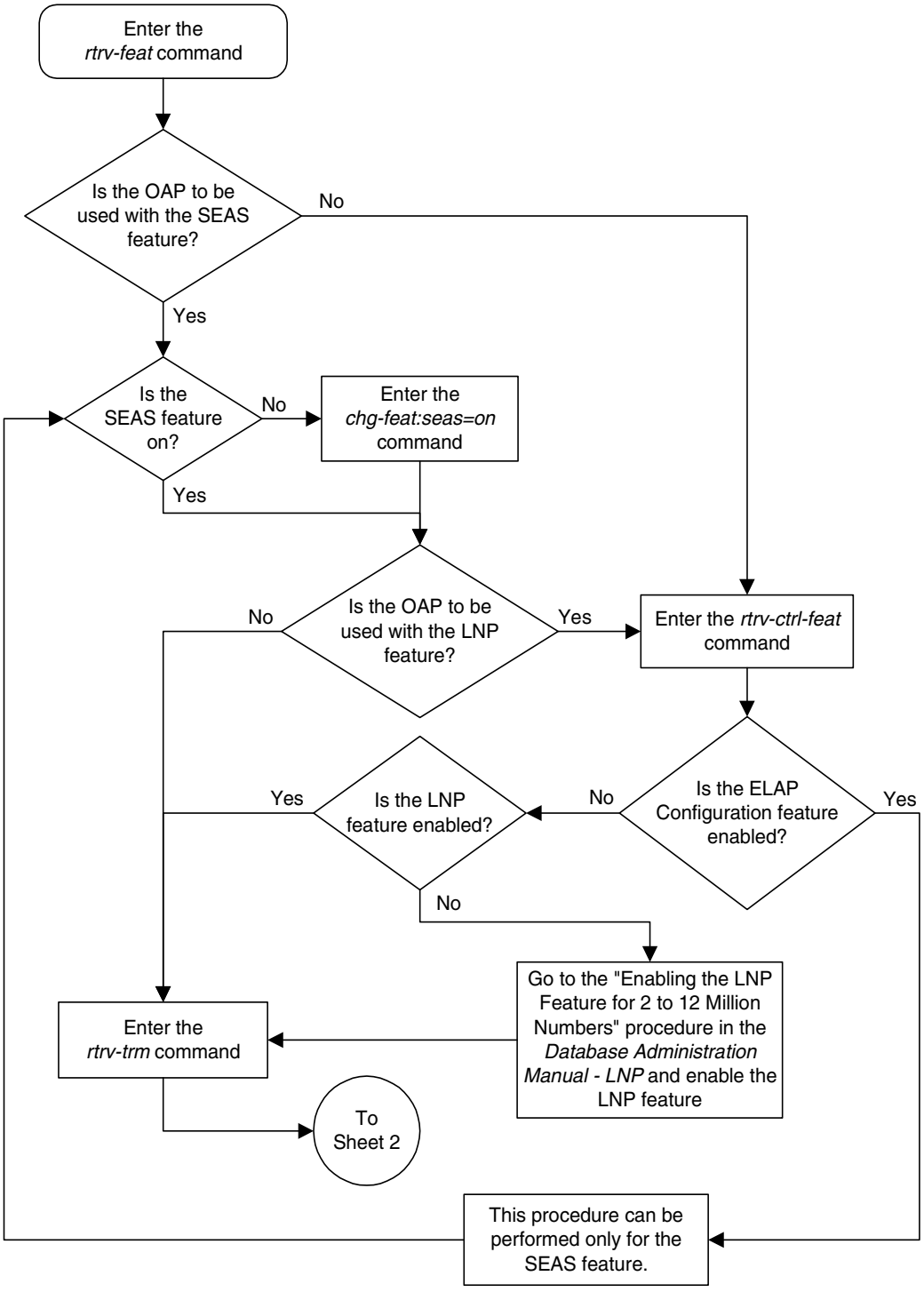
After successful completion of each command, the system returns the following output:

```
rlghncxa03w 05-03-01 00:57:31 GMT EAGLE5 32.0.0
Allow message sent to terminal

rlghncxa03w 05-03-01 00:57:31 GMT EAGLE5 32.0.0
Command Completed.
```

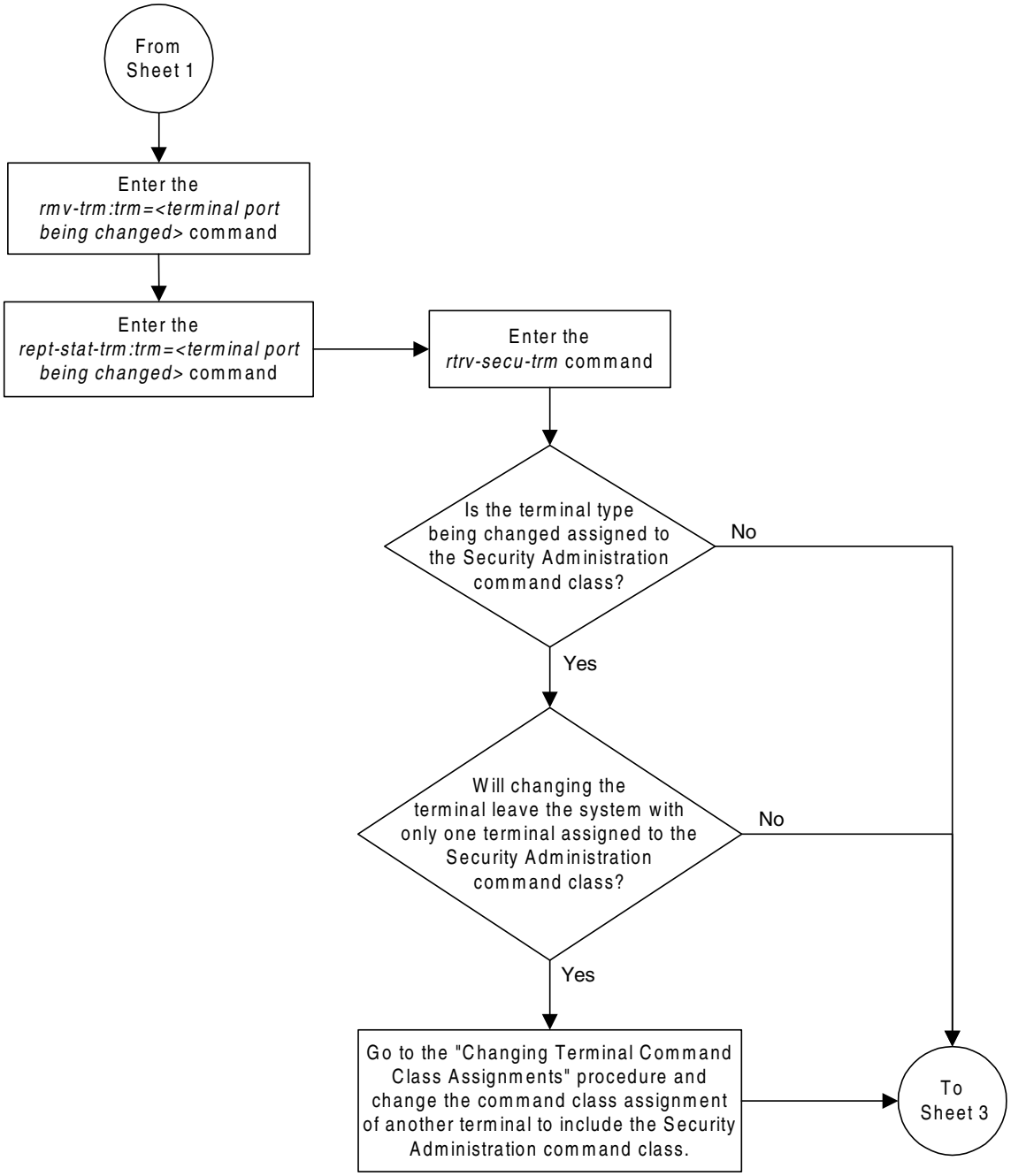
11. Back up the changes using the **chg-db:action=backup:dest=fixed** command. The following messages appear; the active Maintenance and Administration Subsystem Processor (MASP) message appears first:

```
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.
```

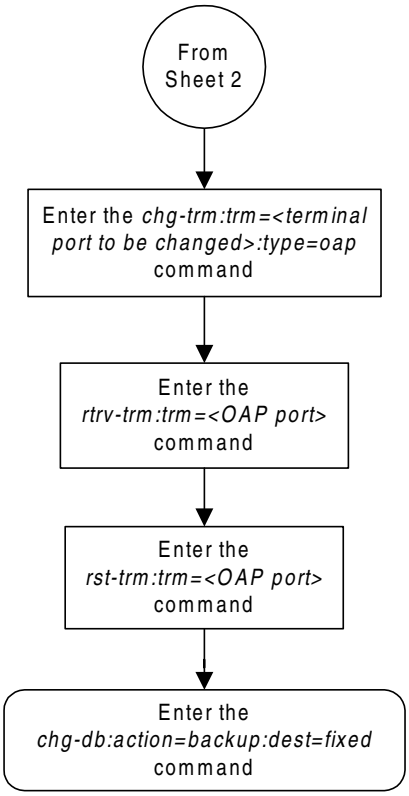
Flowchart A-1. Configuring the OAP Port (Sheet 1 of 3)



Flowchart A-1. Configuring the OAP Port (Sheet 2 of 3)



Flowchart A-1. Configuring the OAP Port (Sheet 3 of 3)



Configuring the OAP from the Eagle STP Terminal

This procedure is used to configure the OAP for the SEAS or LNP features using these commands:

- **chg-oap-config**
- **act-oap-config**

NOTE: These commands enable you to configure the OAP from the Eagle STP terminal. After the initial configuration is performed, you should no longer perform OAP configuration from a terminal directly connected to the OAP.

This procedure can be used to configure the Texas Micro OAPs or the Embedded OAPs (EOAPs). This procedure cannot be used to upgrade the EOAP software. Upgrading the EOAP software is covered in the EOAP Upgrade Procedures in the *Release Documentation* manual and is beyond the scope of this procedure.

Configuring the Eagle STP Database

Use the **chg-oap-config** command to configure the database with the OAP configuration information. The system updates the OAP by sending the information to the specified OAP with the **act-oap-config** command.

The **chg-oap-config** command uses these parameters:

:aname – The name assigned to OAP A consisting of one alphabetic character followed by 1 to 13 alphanumeric characters. The value of the **aname** parameter must be enclosed in double quotes.

:bname – The name assigned to OAP B consisting of one alphabetic character followed by 1 to 13 alphanumeric characters. The value of the **bname** parameter must be enclosed in double quotes.

:aipaddr – The IP address of OAP-A

:bipaddr – The IP address of OAP-B

:anmask – The netmask of OAP-A

:bnmask – The netmask of OAP-B

:arouter – The IP address of the default router assigned to OAP-A

:brouter – The IP address of the default router assigned to OAP-B

:cfg – The number of OAPs being configured, either a single OAP (**sngl**) or both OAPs (**dual**).

:lsms – The LSMS system identified as the current LSMS to associate the OAP with, either the main LSMS (**main**) or the shadow LSMS (**shadow**).

:mnsap – The IP address of the main LSMS

:mssel – The session selector of the main LSMS

:mpsel – The presentation selector of the main LSMS

:snsap – The IP address of the shadow LSMS

:sssel – The session selector of the shadow LSMS

:spsel – The presentation selector of the shadow LSMS

:seaclli – The common language location identifier (CLLI) of the SEAC the OAP is connecting to.

:x25ps – The X.25 package size for the link to the SEAC, either **7** or **8**.

:x25mode – The mode of the X.25 link to the SEAC, either **DCE** or **DTE**.

NOTE: The chg-oap-config command allows you to change the parameters one at a time or several at a time (in no specific order).

Refer to the *Eagle STP Commands Manual* for additional information on the **chg-oap-config** command.

Updating the OAP

CAUTION: Before an OAP can be updated with the act-oap-config command, the OAP configuration data must be configured in the database as shown in Table A-4 on page A-30 and Table A-5 on page A-31 or the specified OAP may lose SEAS and LNP connectivity.

Use the **act-oap-config** command to update the OAPs with the configuration data entered into the database.

The **act-oap-config** command uses these parameters:

:oap – The OAP being updated, OAP A (**a**), OAP B (**b**), or both OAPs (**all**). Because the **act-oap-config** command may take the OAP out of service, it is highly recommended that only one OAP be updated at a time (so do not use the "all" parameter). A more detailed explanation of this recommendation is given below. If only a single OAP was specified with the **cfg=sngl** parameter of **chg-oap-config** command, the **oap=all** only updates OAP A.

:force – Force the system to update only one OAP in a dual configuration, **yes** or **no**.

Refer to the *Eagle STP Commands Manual* for additional information on the **act-oap-config** command.

OAPs are named and addressed according to their MMI port number on the Eagle STP backplane. OAP-A can use any MMI port, as long as OAP-B is assigned to a higher-numbered MMI port. The **act-oap-config** command will send the configuration information to the corresponding OAP. Depending on the differences in configuration, outages are possible.

On the EOAP hardware platform, when facing the front of the EOAP chassis, OAP-A is on the left side and OAP-B the right side. For the Texas Micro OAP, the designation of OAP A and OAP-B is soley dependent of the MMI port they are connected to.

When the OAPs are updated with the **act-oap-config** command, the configuration data for OAP A, as configured by the **chg-oap-config** command, is delivered to OAP B and the configuration data for OAP B is delivered to OAP A. Depending on how the OAPs are configured in the database, this can present problems for the OAPs including both OAPs going out of service because the configuration information for the OAPs is not correct. Update only one OAP at a time.

In addition, although the **act-oap-config** command completes immediately, processing on the OAP may take over 10 minutes depending on which parameters changed and which OAP hardware is installed. Also, whenever parameters are changed, the OAP reboots to use the new data. The reboot interrupts the connection between that OAP and the SEAC or LSMS. By updating only one OAP at a time, the system and the SEAC or LSMS will not be isolated, as one OAP is always connected to the SEAC or LSMS. Table A-2 shows the action and approximate completion time that you can expect after updating a group of OAP parameters. You do not need to perform the actions manually; they are all automatic when the **act-oap-config** command is executed.

Table A-2. Performance Impact of **act-oap-config** Parameters

Configured Parameter Group	OAP Action					
	Restart LSMS Links	Restart LSMS and SEAS Links	Bring Down, Rebuild, Bring Up LSMS and SEAS Links	Bring Down LSMS and SEAS Links; Reboot OAP	Bring Down and Rebuild LSMS and SEAS Links; Reboot OAP	Total Time Required (in seconds)
Group A **mpsel/spsel** **mssel/sssel** **mnsap/snsap** serv	X					≤ 65
Group B **x25ps**, **x25mode**		X				≤ 260
Group C clli, seacclli			X			≤ 320

Table A-2. Performance Impact of **act-oap-config** Parameters (Continued)

Configured Parameter Group	OAP Action					
	Restart LSMS Links	Restart LSMS and SEAS Links	Bring Down, Rebuild, Bring Up LSMS and SEAS Links	Bring Down LSMS and SEAS Links; Reboot OAP	Bring Down and Rebuild LSMS and SEAS Links; Reboot OAP	Total Time Required (in seconds)
Group D **aname/bname** **aipaddr/bipaddr** **anmask**, **bnmask** **arouter/brouter**				X		≤ 560
Group A and B		X				≤ 260
Groups A and C			X			≤ 320
Groups A and D				X		≤ 560
Group A, B, and C			X			≤ 320
Group A, B, and D				X		≤ 560
Groups A, C, and D			X	X		≤ 620
Group B and C			X			≤ 320
Group B and D			X	X		≤ 620
Group B, C, and D			X	X		≤ 620
Groups C and D					X	≤ 620

Before the **oap=a**, **oap=b**, or **oap=all** parameters are specified using the **act-oap-config** command, the link from the system to the specified OAP must be in service. The status of the terminal ports assigned to the **OAP** terminal type can be verified with the **rept-stat-trm** command. The entry **IS-NR** (in-service normal) must appear in the **PST** field of the **rept-stat-trm** command output for the **act-oap-config** command to be successfully executed.

The **force=yes** parameter must be specified with the **oap=a** or **oap=b** parameters.

OAP Checksums and Alarms

The **chg-oap-config** command allows you to enter one or several parameters at a time. If the required information for a feature has already been configured in the database, you do not have to re-enter all the parameters for that feature when you make a change. It is mandatory, however, that the configuration data in the system database and the OAP database match.

Table A-3 shows the fields of the **rtrv-oap-config** command output that must be configured depending on which feature is on. Table A-4 also shows the parameters of the **chg-oap-config** command that are used to configure the OAP configuration data.

Table A-3. Fields Displayed for the **RTRV-OAP-CONFIG** Command

Feature	Fields Displayed	Required Entry before Configuration can be sent to the OAP	CHG-OAP-CONFIG Parameter
SEAS	SEAC CLLI	An entry is required if the SEAS feature is on.	**seacclli**
	X25 Packet Size	An entry is required if the SEAS feature is on.	**x25ps**
	X25 Mode	An entry is required if the SEAS feature is on.	**x25mode**
LNP *	Active LSMS	An entry is required if the LNP feature is enabled*.	**lsms**
	Main LSMS NSAP	An entry is required if the **lsms=main** parameter is specified.	**mnsap**
	Main LSMS SSEL	An entry is required if the **lsms=main** parameter is specified.	**mpsel**
	Main LSMS PSEL	An entry is required if the **lsms=main** parameter is specified.	**mssel**
	Shadow LSMS NSAP	An entry is required if the **lsms=shadow** parameter is specified.	**snsap**
	Shadow LSMS SSEL	An entry is required if the **lsms=shadow** parameter is specified.	**spsel**
	Shadow LSMS PSEL	An entry is required if the **lsms=shadow** parameter is specified.	**sssel**

Table A-3. Fields Displayed for the **RTRV-OAP-CONFIG** Command

Feature	Fields Displayed	Required Entry before Configuration can be sent to the OAP	CHG-OAP-CONFIG Parameter
Either SEAS or LNP feature*	Hostname	An entry is required.	**aname** and **bname**
	IP Address	An entry is required if the LNP feature is enabled.*	**aipaddr** and **bipaddr**
	IP Netmask	An entry may be required depending on the network configuration.	**anmask** and **bnmask**
	Default Router	An entry may be required depending on the network configuration.	**arouter** and **brouter**
	Config	An entry is required.	**cfg**
* The LNP feature can be enabled only for a quantity of 2 to 12 million numbers.			

Table A-4 shows other data not shown in the **rtrv-oap-config** command output that must be provisioned in the database before the OAP configuration can be updated.

Table A-4. Other Data Required for Updating the OAP Configuration

Feature	Data Required Before an OAP can be Updated
Either SEAS or LNP features*	System CLLI - configured with the **clli** parameter of the **chg-sid** command
LNP*	The LNP services **class**, **lidb**, **cnam**, and **isvm** configured with the **serv** parameter of either the **ent-lnp-serv** or **chg-lnp-serv** command
* The LNP feature can be enabled only for a quantity of 2 to 12 million numbers.	

To keep OAP parameters in sync with the Eagle STP system, a checksum is created using all of the OAP configuration data stored on the system (shown in Tables A-5 and A-6). The OAP also calculates this checksum based on the data it has. The OAP returns this checksum with every maintenance poll. The Eagle STP system compares the checksums, and generates the following alarm (UAM 0364) within ten seconds of any mismatch:

```
    rlghncxa03w  05-03-01  11:11:28 GMT  EAGLE5 32.0.0
*   1501.0364  *      OAP A         Configuration data checksum mismatch
```

The alarm is cleared when a maintenance poll returns a checksum that matches the Eagle STP system's checksum, indicating that the databases are back in sync. The system clears the alarm within five seconds. The following UAM (UAM 0365) clears the alarm:

```
rlghncxa03w  05-03-01  11:11:28 GMT  EAGLE5 32.0.0
1502.0365         OAP A     Configuration data checksum alarm cleared
```

CAUTION: If any of the data shown in Table A-3 on page A-29 is not properly configured when the OAP configuration data is sent to the OAP, the OAP may go out of service.

Example OAP Initial Configuration

The examples in this procedure are used to initially configure a dual-configuration OAP with the settings shown in Table A-5. For a single configuration OAP, configure OAP-A only.

Table A-5. Example OAP Initial Configuration

Description	Parameter	OAP A	OAP B
Hostname	**:aname** **:bname**	tekelec-12	tekelec-13
IP Address	**:aipaddr** **:bipaddr**	192.106.175.025	192.106.175.026
IP Netmask	**:anmask** **:bnmask**	255.255.255.000	255.255.255.000
Default Router	**:arouter** **:brouter**	128.132.064.001	128.132.064.001
Configuration	**:cfg**	dual	dual
SEAC CLLI	**:seacclli**	RLGHNCXB14Y	RLGHNCXB14Y
X.25 Packet Size	**:x25ps**	8	8
X.25 Mode	**:x25mode**	DTE	DTE
Active LSMS	**:lsms**	main	main
Main LSMS NSAP	**:mnsap**	198.102.115.125	198.102.115.125
Main LSMS SSEL	**:sssel**	emss	emss
Main LSMS PSEL	**:spsel**	emsp	emsp

Procedure

1. Verify that the SEAS feature is on (**SEAS = on**) using the **rtrv-feat** command.

   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 OAP is not to be used for the SEAS feature, or the SEAS feature is on, skip step 2 and go to step 3.

2. Turn on the SEAS feature by entering this command:

   ```
   chg-feat:seas=on
   ```

   NOTE: Once the SEAS feature is turned on with the chg-feat command, it cannot be turned off. The SEAS feature is optional and must be purchased before you turn on the feature with the chg-feat command. If you are not sure whether you have purchased the SEAS feature, contact your Tekelec Sales Representative or Account Representative.

   After successful completion of this command, the system returns the following output:

   ```
   rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
   CHG-FEAT: MASP A - COMPLD
   ```

   NOTE: If the OAP will not be used with the LNP feature, skip this step and go to step 4.

3. Verify that the LNP feature is enabled for a quantity of 2 to 12 million numbers, by entering the **rtrv-ctrl-feat** command. If the LNP feature is enabled for a quantity of 2 to 12 million numbers, the quantity shown in the **LNP TNs** field should be 2 to 12 million numbers.

   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 for a quantity of 2 to 12 million numbers, go to step 4.

   If the LNP feature is not enabled, go to the "Enabling the LNP Feature for 2 to 12 Million Numbers" procedure in the *Database Administration Manual - LNP* and enable the LNP feature.

   If the ELAP Configuration feature is enabled and activated, the OAP port can be configured only if the SEAS feature is on.

4. For the OAPs to be configured by the **chg-oap-config** command, the OAP ports must be out of service. To find which terminal ports are the OAP ports, display the terminal configuration in the database using the **rtrv-trm** command. The OAP ports are shown by the entry **OAP** in the **TYPE** field, as shown in bold in the example **rtrv-trm** output. This is an example of the possible output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
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    OAP     19200-7-E-1 SW    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   OAP     19200-7-E-1 SW    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  YES NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
3    YES  YES  YES NO  YES YES YES
4    NO   NO   NO  NO  NO  NO  YES
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   YES  YES  YES YES YES YES 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   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
```

---

5. Verify the status of the OAP ports displayed in step 4. An out-of-service OAP port is shown by the entry **OOS-MT-DSBLD** in the **PST** field. This is an example of the possible output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
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        -----
Command Completed.
```

If either OAP terminal is not out-of-service, go to step 6. If both OAP terminals are out-of-service, go to step 8.

---

6. Place the OAP terminal out of service using the **rmv-trm** command and specifying the ports. Enter these commands:

```
rmv-trm:trm=4

rmv-trm:trm=10
```

After successful completion of each command, the system returns the following output:

```
rlghncxa03w 05-03-01 00:57:31 GMT EAGLE5 32.0.0
Inhibit message sent to terminal

rlghncxa03w 05-03-01 00:57:31 GMT EAGLE5 32.0.0
Command Completed.
```

---

7. Verify that the OAP ports that was placed out of service in step 6 is in the OOS-MT-DSBLD state by entering the **rept-stat-trm** command. This is an example of the possible output:

```
rlghncxa03w 05-03-01 00:57:31 GMT EAGLE5 32.0.0
TRM    PST           SST           AST
1      IS-NR         Active        -----
2      IS-NR         Active        -----
3      IS-NR         Active        -----
4      OOS-MT-DSBLD  Manual        -----
5      IS-NR         Active        -----
6      IS-NR         Active        -----
7      IS-NR         Active        -----
8      IS-NR         Active        -----
9      IS-NR         Active        -----
10     OOS-MT-DSBLD  Manual        -----
11     IS-NR         Active        -----
12     IS-NR         Active        -----
13     IS-NR         Active        -----
14     IS-NR         Active        -----
15     IS-NR         Active        -----
16     IS-NR         Active        -----
Command Completed.
```

8. Display the current OAP configuration by entering the **rtrv-oap-config** command. The output will show the EOAPs not configured. This is an example of the possible output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
OAP CONFIGURATION REPORT

DATA                  OAP A                 OAP B
Hostname              <Not configured>      <Not configured>
IP Address            <Not configured>      <Not configured>
IP Netmask            <Not configured>      <Not configured>
Default Router        <Not configured>      <Not configured>
Config                <Not configured>      <Not configured>
SEAC CLLI             <Not configured>      <Not configured>
X25 Packet Size       <Not configured>      <Not configured>
X25 Mode              <Not configured>      <Not configured>
Active LSMS           <Not configured>      <Not configured>
Main LSMS NSAP        <Not configured>      <Not configured>
Main LSMS SSEL        <Not configured>      <Not configured>
Main LSMS PSEL        <Not configured>      <Not configured>
Shadow LSMS NSAP      <Not configured>      <Not configured>
Shadow LSMS SSEL      <Not configured>      <Not configured>
Shadow LSMS PSEL      <Not configured>      <Not configured>
```

When both the SEAS and LNP features are on, all the fields of the **rtrv-oap-config** output are displayed. This output example shows all the fields of the **rtrv-oap-config** output. If only the SEAS or LNP feature is on, then only fields related to the feature that is on are displayed. Table A-3 on page A-29 shows the fields that are displayed when the SEAS and LNP features are on.

Before the OAP configuration can be sent to the specified OAP with the **act-oap-config** command, certain fields of the **rtrv-oap-config** command output must be correctly configured depending on whether the SEAS or LNP features are on or not. If these fields do contain incorrect entries and the OAP

configuration is sent to the specified OAP, the specified OAP may go out of service. Table A-3 on page A-29 also shows the fields that must be correctly configured before the OAP configuration is sent to the specified OAP.

---

9. Make sure that there are no alarms for either OAP. If only the SEAS feature is on, enter the **rept-stat-seas** command. If only the LNP feature is on, enter the **rept-stat-lsms** command. If both the SEAS and LNP features are on, enter both the **rept-stat-seas** and **rept-stat-lsms** commands.

The following are examples of the possible output:

rept-stat-seas

```
rlghncxa03w 05-03-01 15:59:06 GMT EAGLE5 32.0.0
SEAS Subsystem Report      IS-NR     Active   --------
SEAS Interfaces Configured = 2  Interfaces IS-NR = 2

                          GPL        PST         SST           AST
------------------------------------------------------------------------
SEAS SYSTEM                          IS-NR       Active        -----
TDM Port           4                 IS-NR       Active        -----
TDM Port          10                 IS-NR       Active        -----
OAP               A    026-001-000   IS-NR       Active        -----
OAP               B    026-001-000   IS-NR       Active        -----
X.25 Link         A1                 IS-NR       Active        -----
X.25 Link         B1                 IS-NR       Active        -----

SEAS SYSTEM  ALARM STATUS = No Alarms.
OAP A        ALARM STATUS = No Alarms.
OAP B        ALARM STATUS = No Alarms.
X25 Link  A1 ALARM STATUS = No Alarms.
X25 Link  A2 ALARM STATUS = No Alarms.
X25 Link  B1 ALARM STATUS = No Alarms.
X25 Link  B2 ALARM STATUS = No Alarms.

X25 A1 PVCs IS-NR    = 1,2,3
X25 A1 PVCs OOS-MT   = ---
X25 B1 PVCs IS-NR    = 1,2,3
X25 B1 PVCs OOS-MT   = ---

X25 A2 PVCs IS-NR    = 1,2,3
X25 A2 PVCs OOS-MT   = ---
X25 B2 PVCs IS-NR    = 1,2,3
X25 B2 PVCs OOS-MT   = ---
Command Completed.
```

rept-stat-lsms

```
rlghncxa03w 05-03-01 14:59:11 GMT  Release 31.6.0
                         GPL        PST         SST           AST
------------------------------------------------------------------------
LSMS SYSTEM                         IS-NR       Active        -----
TDM Port          4                 IS-NR       Active        -----
TDM Port         10                 IS-NR       Active        -----
OAP              A    026-001-000   IS-NR       Active        -----
OAP              B    026-001-000   IS-NR       Active        -----
LSMS Conn        A1                 IS-NR       Active        -----
LSMS Conn        B1                 IS-NR       Active        -----

LSMS SYSTEM  ALARM STATUS = No Alarms.
OAP A        ALARM STATUS = No Alarms.
OAP B        ALARM STATUS = No Alarms.
LSMS Conn A1 ALARM STATUS = No Alarms.
LSMS Conn B1 ALARM STATUS = No Alarms.

Command Completed.
```

If alarms are shown for the OAPs in either the **rept-stat-seas** or **rept-stat-lsms** outputs, contact the Tekelec Technical Services department (see "Tekelec Technical Services" on page 1-6.

NOTE: When steps 9 though 13 are performed, UAM 0364 will be generated indicating that the OAP configuration data on the OAP and the Eagle STP do not match.

10. If you upgraded from a single-configuration to OAP to a dual-configuration OAP, configure the Eagle STP database with the new number of OAPs:

chg-oap-config:config=dual

After successful completion of this command, the system returns the following output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
CHG-OAP-CONFIG: MASP A - COMPLTD
```

---

11. Configure the new hostname:

chg-oap-config:aname="tekelec-12"

chg-oap-config:bname="tekelec-13"

where:

:aname is a 14-character (1 alphabetic character followed by 1 to 13 alphanumeric characters) hostname for OAP-A. The value must be enclosed in quotes ("").

:bname is a 14-character (1 alphabetic character followed by 1 to 13 alphanumeric characters) hostname for OAP-B. The value must be enclosed in quotes ("").

After successful completion of each command, the system returns the following output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
CHG-OAP-CONFIG: MASP A - COMPLTD
```

---

12. Configure the IP network for the LNP feature, and optionally, for the SEAS feature. Enter the following command and parameter required:

chg-oap-config:aipaddr=192.106.175.025

chg-oap-config:bipaddr=192.106.175.026

where:

:aipaddr is the OAP-A IP address (network service access point).

:bipaddr is the OAP-B IP address (network service access point).

The following parameters may or may not be required for both LNP and SEAS features depending on your network configuration:

:amask or **:bmask** is the the netmask for OAP-A or OAP-B. If you are unsure as to whether your network requires this configuration, check with your Information Services department.

:arouter or **:brouter** is the IP address of the default router assigned to OAP-A or OAP-B. If you are unsure as to whether your network requires this configuration, check with your Information Services department.

After successful completion of this command, the system returns the following output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
CHG-OAP-CONFIG: MASP A - COMPLTD
```

---

13. Configure the SEAS network. Enter the following command with these three required parameters:

chg-oap-config:seacclli="rlghncxb14y":x25ps=8:x25mode=dte

where:

:seacclli is the 11-character (1 alphabetic character followed by 1 to 10 alphanumeric characters) common language location identifier (CLLI) of the SEAC that the OAP is connecting to. The value must be enclosed in quotes ("").

:x25ps is the x.25 package size for the link to the SEAC. The value is either 7 or 8.

:x25mode is the mode of the X.25 link to the SEAC.

After successful completion of this command, the system returns the following output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
CHG-OAP-CONFIG: MASP A - COMPLTD
```

14. Configure the LNP LSMS network. Enter the following command with these required parameters:

chg-oap-config:lsms=main:mnsap=198.102.115.125:mpsel=emsp:mssel=emss

where:

:mnsap is the IP address (network service access point) of the main LSMS.

:mpsel is the 1 to 4 alphanumeric character presentation selector of the main LSMS.

:mssel is the 1 to 4 alphanumeric character session selector of the main LSMS.

If a shadow LSMS exists, the following parameters are also required:

:snsap is the IP address of the shadow LSMS

:spsel is the 1 to 4 alphanumeric character presentation selector of the shadow LSMS

:sssel is the 1 to 4 alphanumeric character session selector of the shadow LSMS

After successful completion of this command, the system returns the following output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
CHG-OAP-CONFIG: MASP A - COMPLTD
```

15. Verify the changes in the database using the **rtrv-oap-config** command. This is an example of the possible output. The fields that have changed in this example are shown in bold.

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
OAP CONFIGURATION REPORT

DATA                 OAP A                OAP B
Hostname             tekelec-12           tekelec-13
IP Address           192.106.175.025      192.106.175.026
IP Netmask           255.255.255.000      255.255.255.000
Default Router       128.132.064.001      128.132.064.001
Config               dual                 dual
SEAC CLLI            RLGHNCXB14Y          RLGHNCXB14Y
X25 Packet Size      8                    8
X25 Mode             DTE                  DTE
Active LSMS          main                 main
Main LSMS NSAP       198.102.115.125      198.102.115.125
Main LSMS SSEL       emss                 emss
Main LSMS PSEL       emsp                 emsp
Shadow LSMS NSAP     <Not configured>     <Not configured>
Shadow LSMS SSEL     <Not configured>     <Not configured>
Shadow LSMS PSEL     <Not configured>     <Not configured>
```

16. For the OAPs to be updated by the **act-oap-config** command, the OAP ports must be in service. Return the OAP ports to service that were inhibited in step 6. Use the **rst-trm** command. For this example, enter these commands:

rst-trm:trm=4

rst-trm:trm=10

After successful completion of this command, the system returns the following output:

```
rlghncxa03w 05-03-01 15:08:45 EDT EAGLE5 32.0.0
Allow message sent to terminal
```

17. Verify that the OAP ports are returned to service by entering the **rept-stat-trm** command.

This is an example of the possible output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
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        -----
Command Completed.
```

If the entry **IS-NR** is not shown in the **PST** field of the **rept-stat-trm** output, the OAP port has not been returned to service. Contact the Tekelec Technical Services department (see "Tekelec Technical Services" on page 1-6).

---

18. If the LNP feature is on, display the LNP services in the database with the **rtrv-lnp-serv** command. Before the OAP configuration can be updated with the **act-oap-config** command, the LNP translation type services CLASS, LIDB, CNAM, and ISVM must be defined in the database. This is an example of the possible output; the required LNP services contained in the output example are shown in bold:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
SERV       TT    TTN        DV      ALIAS
AIN        15    AINGTE     TCAP    235
                                     236
                                     240
IN         30    INGTE      TCAP    150
                                     175
LIDB       20    LIDB       SCCP    80
CLASS      25    CLASSGTE   SCCP    ---
UDF1       201   UDF1       SCCP    ---
UFD3       100   UFD3       SCCP    40
                                     45
WNP        50    WNP50      TCAP    ---

TT-SERV TABLE IS (12 of 256) 5% FULL
```

If the LNP translation type services CLASS, LIDB, CNAM, and ISVM are not shown in the output of the **rtrv-lnp-serv** command, go to procedure "Adding an LNP Service" in the *Eagle STP Database Administration Manual - LNP* and add the required translation types to the database. In this output example, the ISVM and CNAM LNP translation type services are not in the database.

NOTE: Performing step 18 clears the alarm condition indicated by UAM 0364 and generates UAM 0365 indicating that the OAP configuration data on the OAP and the Eagle STP match.

19. Send the OAP configuration data to the OAP using the **act-oap-config** command. If only one OAP is being updated, the **force=yes** parameter must be specified with the **act-oap-config** command, unless the **cfg=sngl** parameter was specified with the **chg-oap-config** command. If only one OAP is being updated, perform steps a and b in Method A for the specific OAP.

If the **cfg=dual** parameter was specified with the **chg-oap-config** command, both OAPs must be updated. Use one of the following methods:

Method A updates one OAP at a time using the **force=yes** parameter. This method allows SEAS and LNP traffic to continue being sent to the system while the OAP configuration is being updated. It can take up to 15 minutes to update the configuration of the OAP, during which time the OAP being updated will be out of service.

Method B updates both OAPs at the same time using the **oap=all** parameter. This method will take both OAPs out of service and may interrupt all SEAS and LNP traffic to the system. This is NOT recommended. **Method A is the preferred method.**

Method A: Perform steps a through d in this method for each OAP, one OAP at a time.

a Update OAP A by entering this command:

```
act-oap-config:oap=a:force=yes
```

After successful completion of this command, the system returns the following output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
ACT-OAP-CONFIG: MASP A - COMPLTD
```

b. Wait 15 minutes, then enter either the **rept-stat-seas** (if only the SEAS feature is on) or **rept-stat-lsms** (if only the LNP feature is on) commands to make sure that there are no alarms for OAP A. If both the SEAS and LNP features are on, then enter both commands to verify that there are no alarms for OAP A.

These are examples of the possible output:

rept-stat-seas

```
rlghncxa03w 05-03-01 15:59:06 GMT EAGLE5 32.0.0
SEAS Subsystem Report      IS-NR     Active   --------
SEAS Interfaces Configured = 2  Interfaces IS-NR = 2

                         GPL        PST         SST           AST
------------------------------------------------------------------------
SEAS SYSTEM                         IS-NR       Active        -----
TDM Port          4                 IS-NR       Active        -----
TDM Port         10                 IS-NR       Active        -----
OAP              A    026-001-000   IS-NR       Active        -----
OAP              B    026-001-000   IS-NR       Active        -----
X.25 Link        A1                 IS-NR       Active        -----
X.25 Link        B1                 IS-NR       Active        -----

SEAS SYSTEM  ALARM STATUS = No Alarms.
OAP A        ALARM STATUS = No Alarms.
OAP B        ALARM STATUS = No Alarms.
X25 Link  A1 ALARM STATUS = No Alarms.
X25 Link  A2 ALARM STATUS = No Alarms.
X25 Link  B1 ALARM STATUS = No Alarms.
X25 Link  B2 ALARM STATUS = No Alarms.

X25 A1 PVCs IS-NR    = 1,2,3
X25 A1 PVCs OOS-MT   = ---
X25 B1 PVCs IS-NR    = 1,2,3
X25 B1 PVCs OOS-MT   = ---

X25 A2 PVCs IS-NR    = 1,2,3
X25 A2 PVCs OOS-MT   = ---
X25 B2 PVCs IS-NR    = 1,2,3
X25 B2 PVCs OOS-MT   = ---
Command Completed.
```

rept-stat-lsms

```
rlghncxa03w 05-03-01 14:59:11 GMT  Release 31.6.0
                         GPL        PST         SST           AST
------------------------------------------------------------------------
LSMS SYSTEM                         IS-NR       Active        -----
TDM Port          4                 IS-NR       Active        -----
TDM Port         10                 IS-NR       Active        -----
OAP              A    026-001-000   IS-NR       Active        -----
OAP              B    026-001-000   IS-NR       Active        -----
LSMS Conn        A1                 IS-NR       Active        -----
LSMS Conn        B1                 IS-NR       Active        -----

LSMS SYSTEM  ALARM STATUS = No Alarms.
OAP A        ALARM STATUS = No Alarms.
OAP B        ALARM STATUS = No Alarms.
LSMS Conn A1 ALARM STATUS = No Alarms.
LSMS Conn B1 ALARM STATUS = No Alarms.

Command Completed.
```

c. Update OAP B by entering this command.

act-oap-config:oap=b:force=yes

After successful completion of this command, the system returns the following output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
ACT-OAP-CONFIG: MASP A - COMPLTD
```

d. Wait 15 minutes, then enter either the **rept-stat-seas** (if only the SEAS feature is on) or **rept-stat-lsms** (if only the LNP feature is on) commands to make sure that there are no alarms for OAP B. If both the SEAS and LNP features are on, then enter both commands to verify that there are no alarms for OAP B.

These are examples of the possible output:

rept-stat-seas

```
rlghncxa03w 05-03-01 15:59:06 GMT EAGLE5 32.0.0
SEAS Subsystem Report      IS-NR     Active   --------
SEAS Interfaces Configured = 2  Interfaces IS-NR = 2

                          GPL        PST         SST           AST
------------------------------------------------------------------------
SEAS SYSTEM                          IS-NR       Active        -----
TDM Port           4                 IS-NR       Active        -----
TDM Port          10                 IS-NR       Active        -----
OAP               A    026-001-000   IS-NR       Active        -----
OAP               B    026-001-000   IS-NR       Active        -----
X.25 Link         A1                 IS-NR       Active        -----
X.25 Link         B1                 IS-NR       Active        -----

SEAS SYSTEM  ALARM STATUS = No Alarms.
OAP A        ALARM STATUS = No Alarms.
OAP B        ALARM STATUS = No Alarms.
X25 Link  A1 ALARM STATUS = No Alarms.
X25 Link  A2 ALARM STATUS = No Alarms.
X25 Link  B1 ALARM STATUS = No Alarms.
X25 Link  B2 ALARM STATUS = No Alarms.

X25 A1 PVCs IS-NR    = 1,2,3
X25 A1 PVCs OOS-MT   = ---
X25 B1 PVCs IS-NR    = 1,2,3
X25 B1 PVCs OOS-MT   = ---

X25 A2 PVCs IS-NR    = 1,2,3
X25 A2 PVCs OOS-MT   = ---
X25 B2 PVCs IS-NR    = 1,2,3
X25 B2 PVCs OOS-MT   = ---
Command Completed.
```

rept-stat-lsms

```
rlghncxa03w 05-03-01 14:59:11 GMT  Release 31.6.0
                         GPL        PST         SST           AST
------------------------------------------------------------------------
LSMS SYSTEM                         IS-NR       Active        -----
TDM Port          4                 IS-NR       Active        -----
TDM Port         10                 IS-NR       Active        -----
OAP              A    026-001-000   IS-NR       Active        -----
OAP              B    026-001-000   IS-NR       Active        -----
LSMS Conn        A1                 IS-NR       Active        -----
LSMS Conn        B1                 IS-NR       Active        -----

LSMS SYSTEM  ALARM STATUS = No Alarms.
OAP A        ALARM STATUS = No Alarms.
OAP B        ALARM STATUS = No Alarms.
LSMS Conn A1 ALARM STATUS = No Alarms.
LSMS Conn B1 ALARM STATUS = No Alarms.

Command Completed.
```

If alarms are shown for the OAPs in either the **rept-stat-seas** or **rept-stat-lsms** outputs, contact the Tekelec Technical Services department (see "Tekelec Technical Services" on page 1-6).

Method B: Perform steps a through d to update both OAPs at the same time. This method is NOT recommended.

a Enter the following command:

act-oap-config:oap=all

After successful completion of this command, the system returns the following output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
ACT-OAP-CONFIG: MASP A - COMPLTD
```

b. Wait 15 minutes, then enter either the **rept-stat-seas** (if only the SEAS feature is on) or **rept-stat-lsms** (if only the LNP feature is on) commands to make sure that there are no alarms for the OAPs. If both the SEAS and LNP features are on, then enter both commands to verify that there are no alarms for the OAPs. This is an example of the possible output:

rept-stat-seas

```
rlghncxa03w 05-03-01 15:59:06 GMT EAGLE5 32.0.0
SEAS Subsystem Report      IS-NR     Active   --------
SEAS Interfaces Configured = 2  Interfaces IS-NR = 2

                        GPL        PST         SST           AST
------------------------------------------------------------------------
SEAS SYSTEM                        IS-NR       Active        -----
TDM Port          4                IS-NR       Active        -----
TDM Port         10                IS-NR       Active        -----
OAP              A    026-001-000   IS-NR       Active        -----
OAP              B    026-001-000   IS-NR       Active        -----
X.25 Link        A1                IS-NR       Active        -----
X.25 Link        B1                IS-NR       Active        -----

SEAS SYSTEM  ALARM STATUS = No Alarms.
OAP A        ALARM STATUS = No Alarms.
OAP B        ALARM STATUS = No Alarms.
X25 Link  A1 ALARM STATUS = No Alarms.
X25 Link  A2 ALARM STATUS = No Alarms.
X25 Link  B1 ALARM STATUS = No Alarms.
X25 Link  B2 ALARM STATUS = No Alarms.

X25 A1 PVCs IS-NR    = 1,2,3
X25 A1 PVCs OOS-MT   = ---
X25 B1 PVCs IS-NR    = 1,2,3
X25 B1 PVCs OOS-MT   = ---

X25 A2 PVCs IS-NR    = 1,2,3
X25 A2 PVCs OOS-MT   = ---
X25 B2 PVCs IS-NR    = 1,2,3
X25 B2 PVCs OOS-MT   = ---
Command Completed.
```

rept-stat-lsms

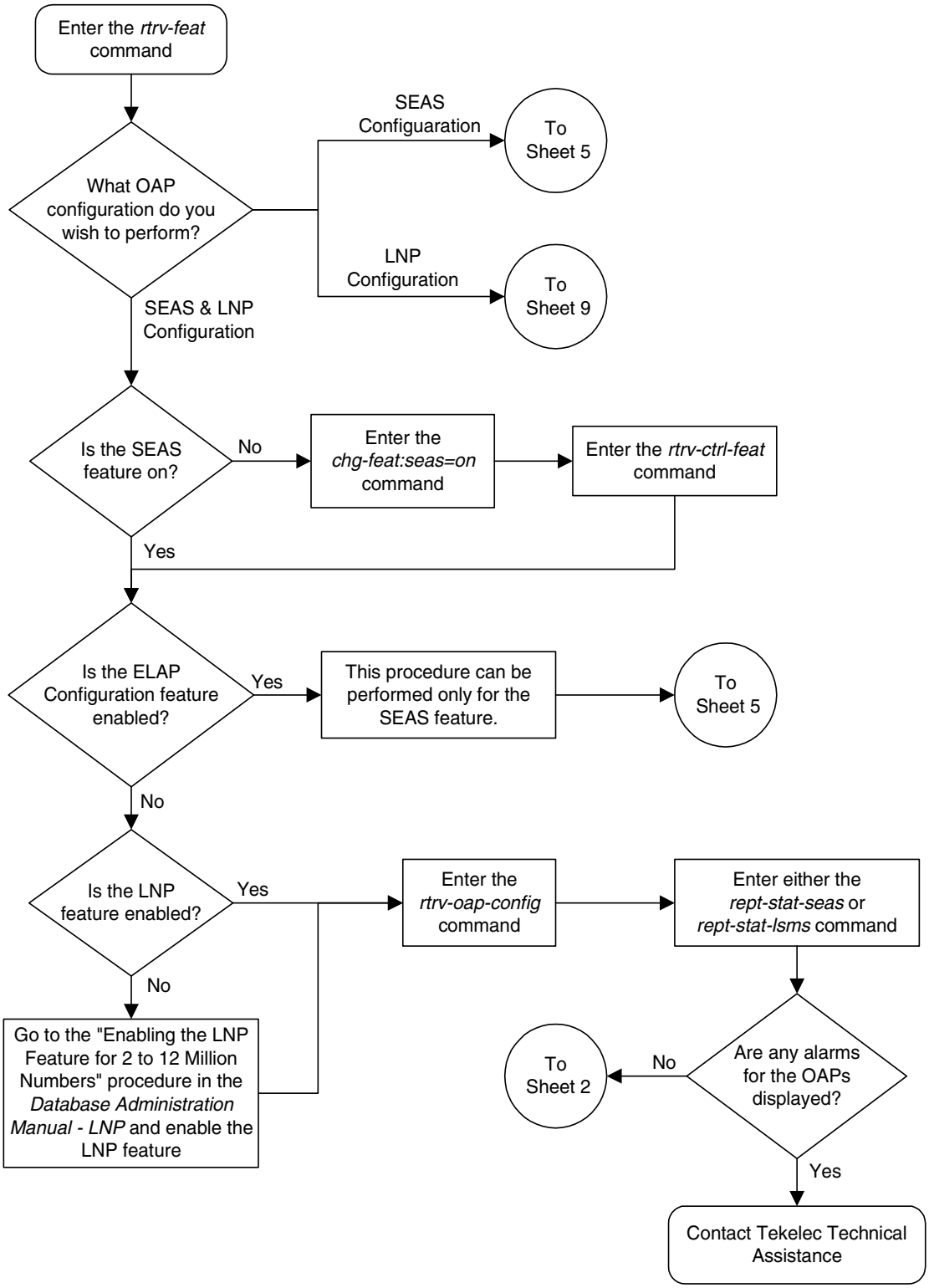
```
rlghncxa03w 05-03-01 14:59:11 GMT  Release 31.6.0
                        GPL        PST         SST           AST
------------------------------------------------------------------------
LSMS SYSTEM                        IS-NR       Active        -----
TDM Port          4                IS-NR       Active        -----
TDM Port         10                IS-NR       Active        -----
OAP              A    026-001-000   IS-NR       Active        -----
OAP              B    026-001-000   IS-NR       Active        -----
LSMS Conn        A1                IS-NR       Active        -----
LSMS Conn        B1                IS-NR       Active        -----

LSMS SYSTEM  ALARM STATUS = No Alarms.
OAP A        ALARM STATUS = No Alarms.
OAP B        ALARM STATUS = No Alarms.
LSMS Conn A1 ALARM STATUS = No Alarms.
LSMS Conn B1 ALARM STATUS = No Alarms.

Command Completed.
```

If alarms are shown for the OAPs in either the **rept-stat-seas** or **rept-stat-lsms** outputs, contact the Tekelec Technical Services department (see "Tekelec Technical Services" on page 1-6).

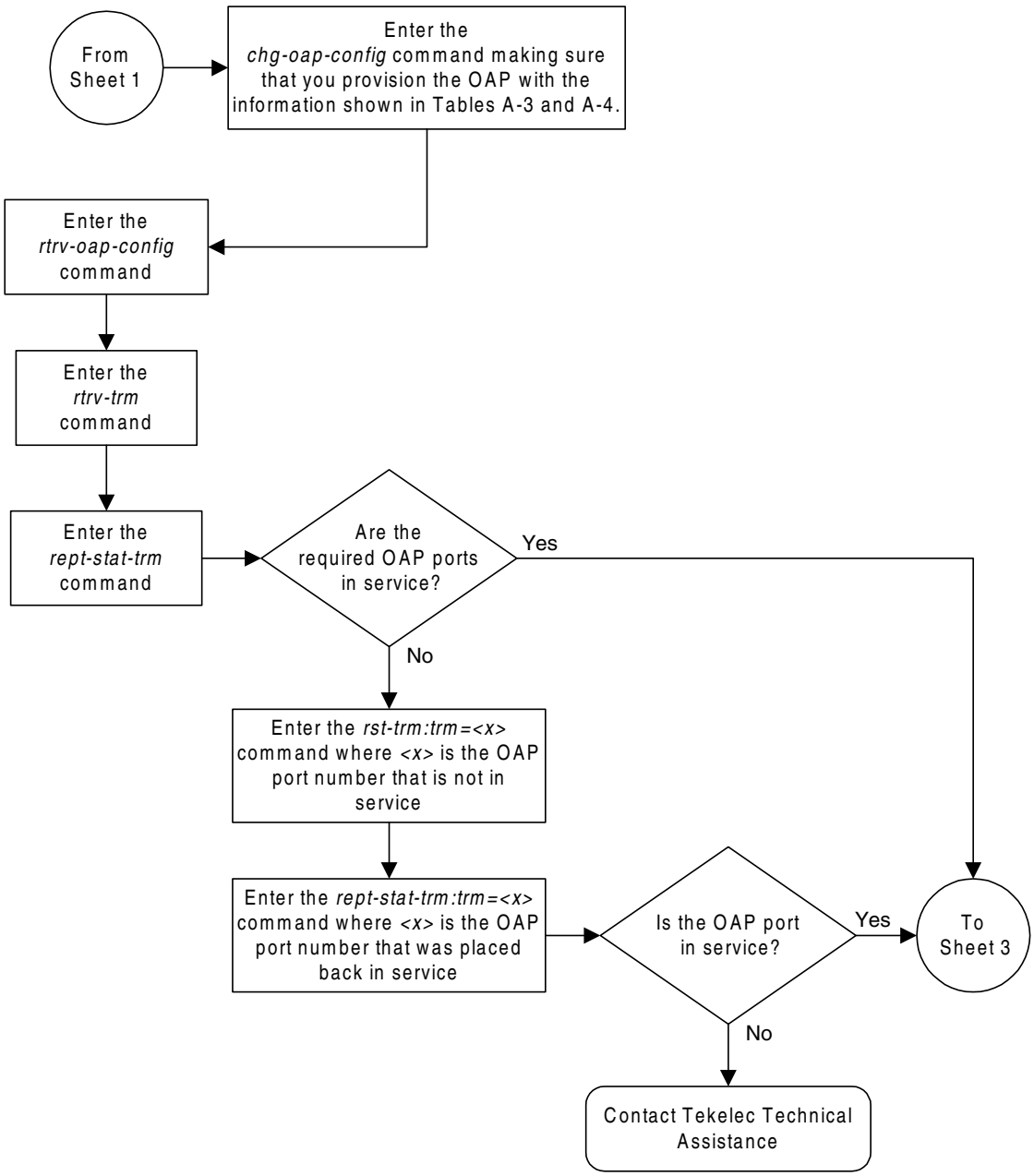
20. Back up the changes using the **chg-db:action=backup:dest=fixed** command. These messages appear; the active Maintenance and Administration Subsystem Processor (MASP) message appears first:

```
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.
```

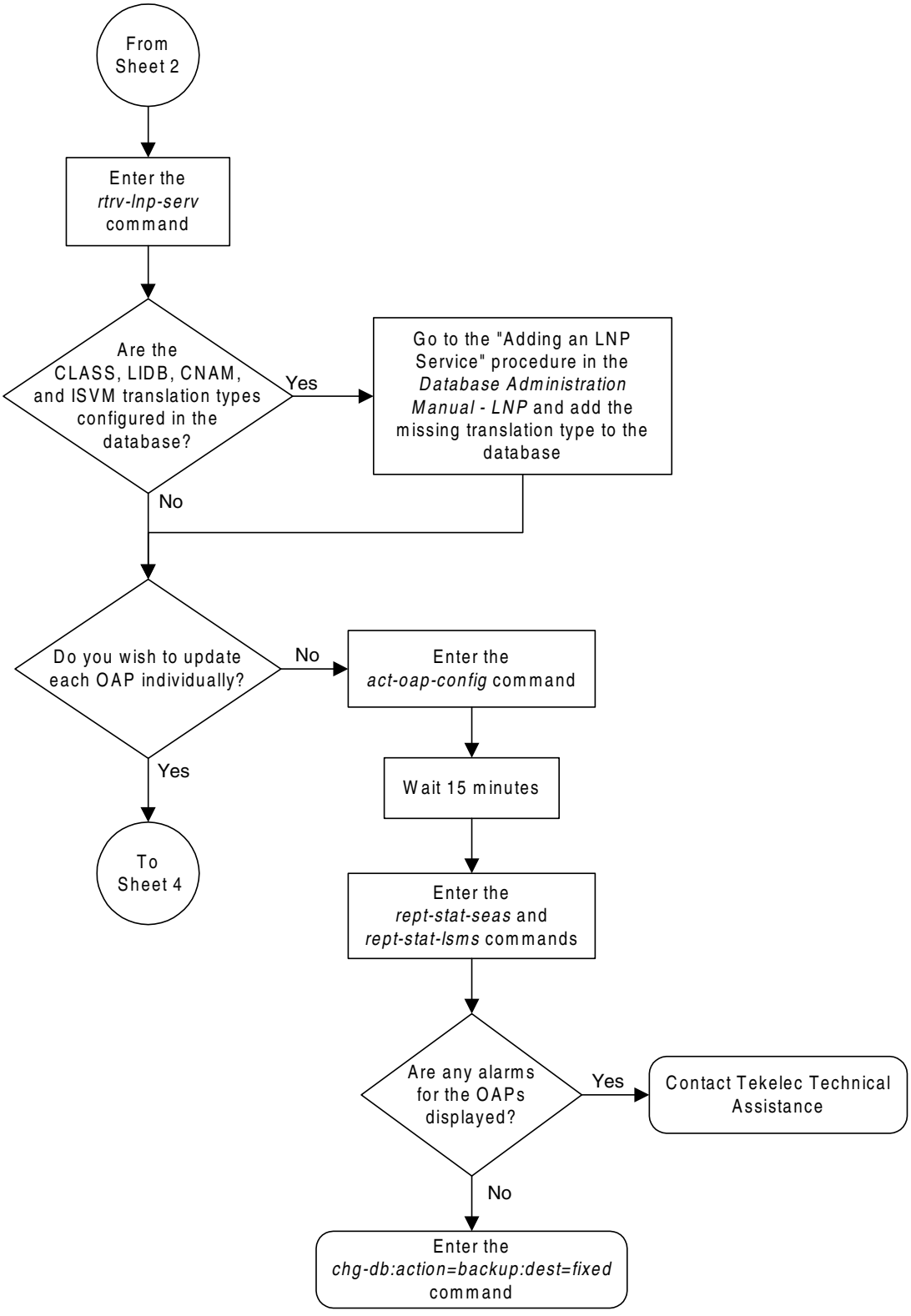
Flowchart A-2. Configuring the OAP from the Eagle STP (Sheet 1 of 12)



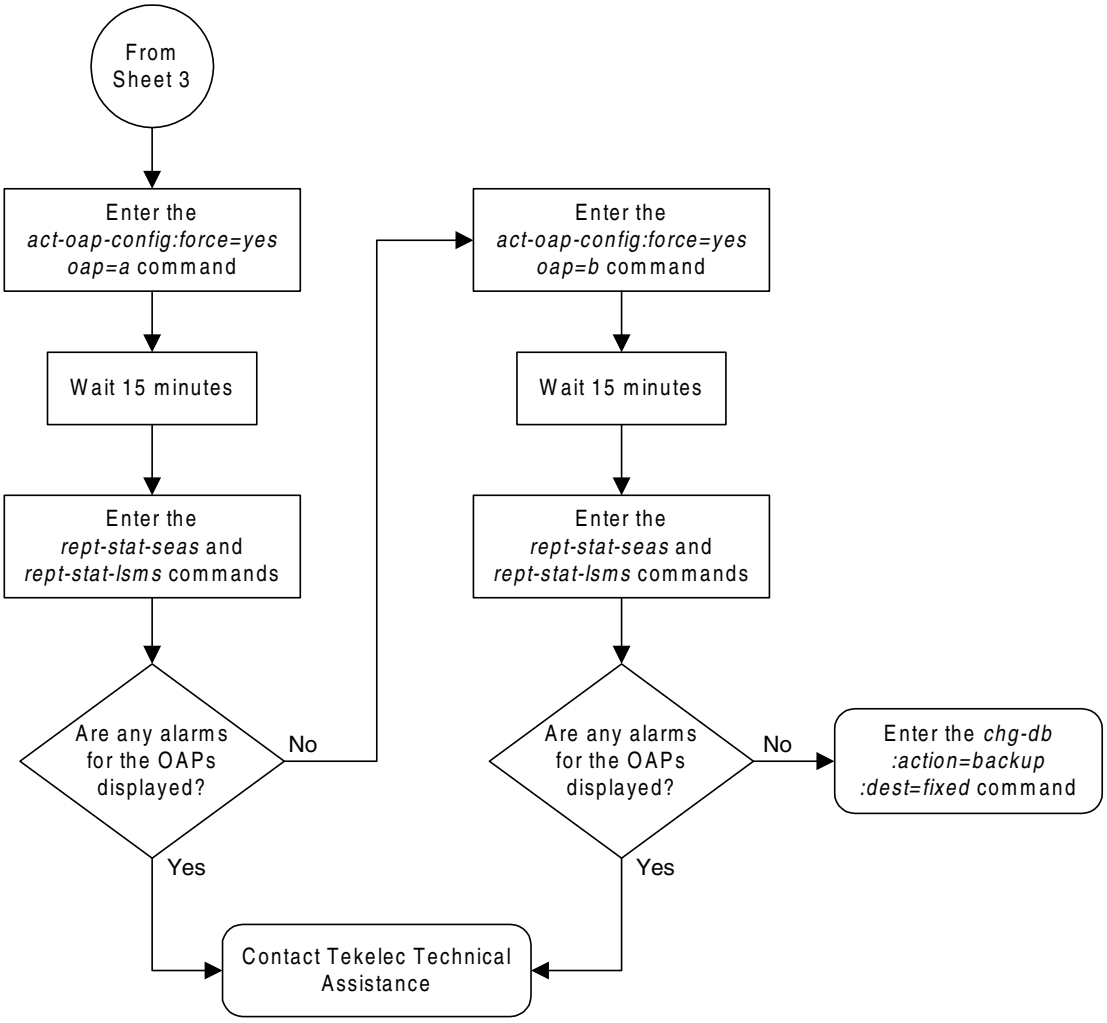
Flowchart A-2. Configuring the OAP from the Eagle STP (Sheet 2 of 12)



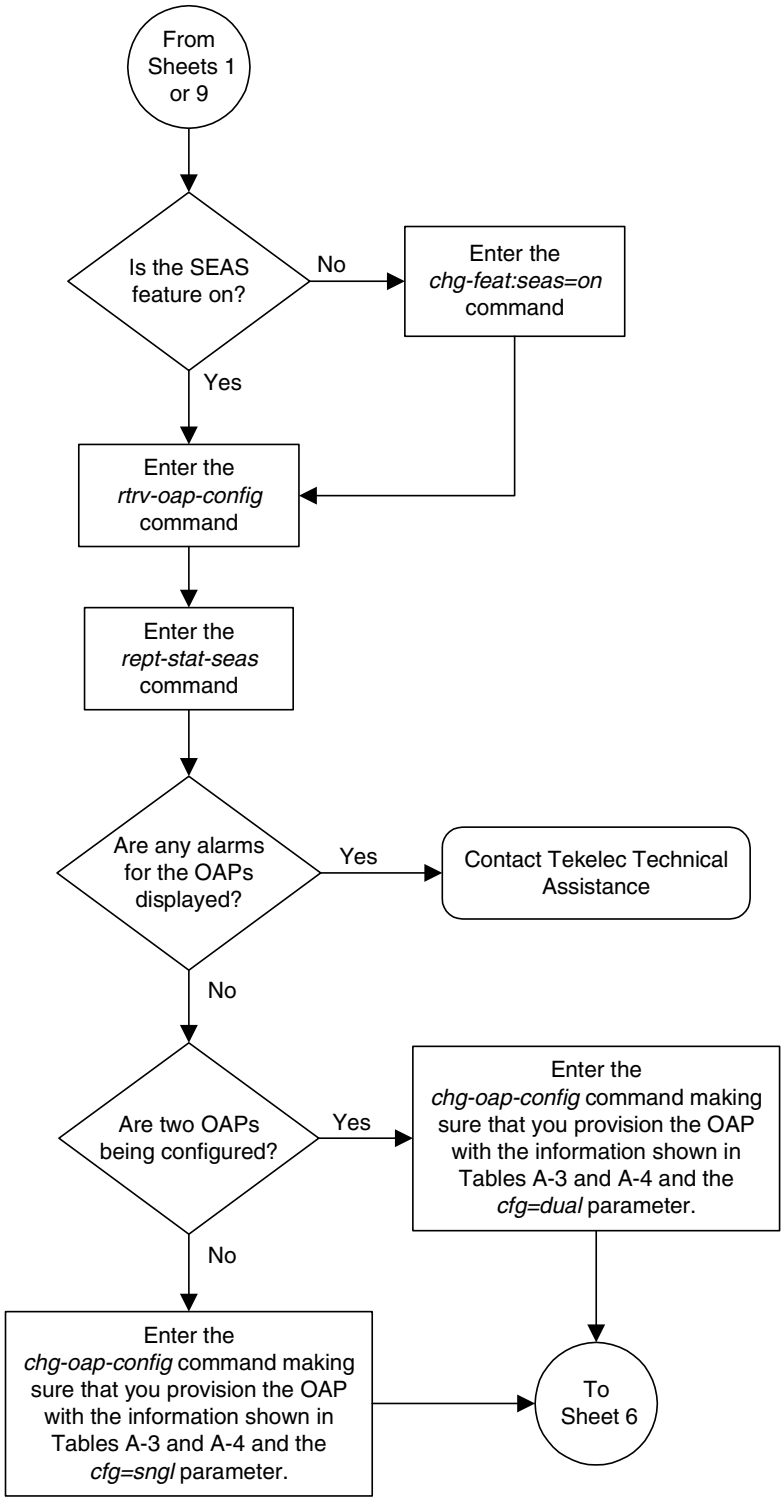
Flowchart A-2. Configuring the OAP from the Eagle STP (Sheet 3 of 12)



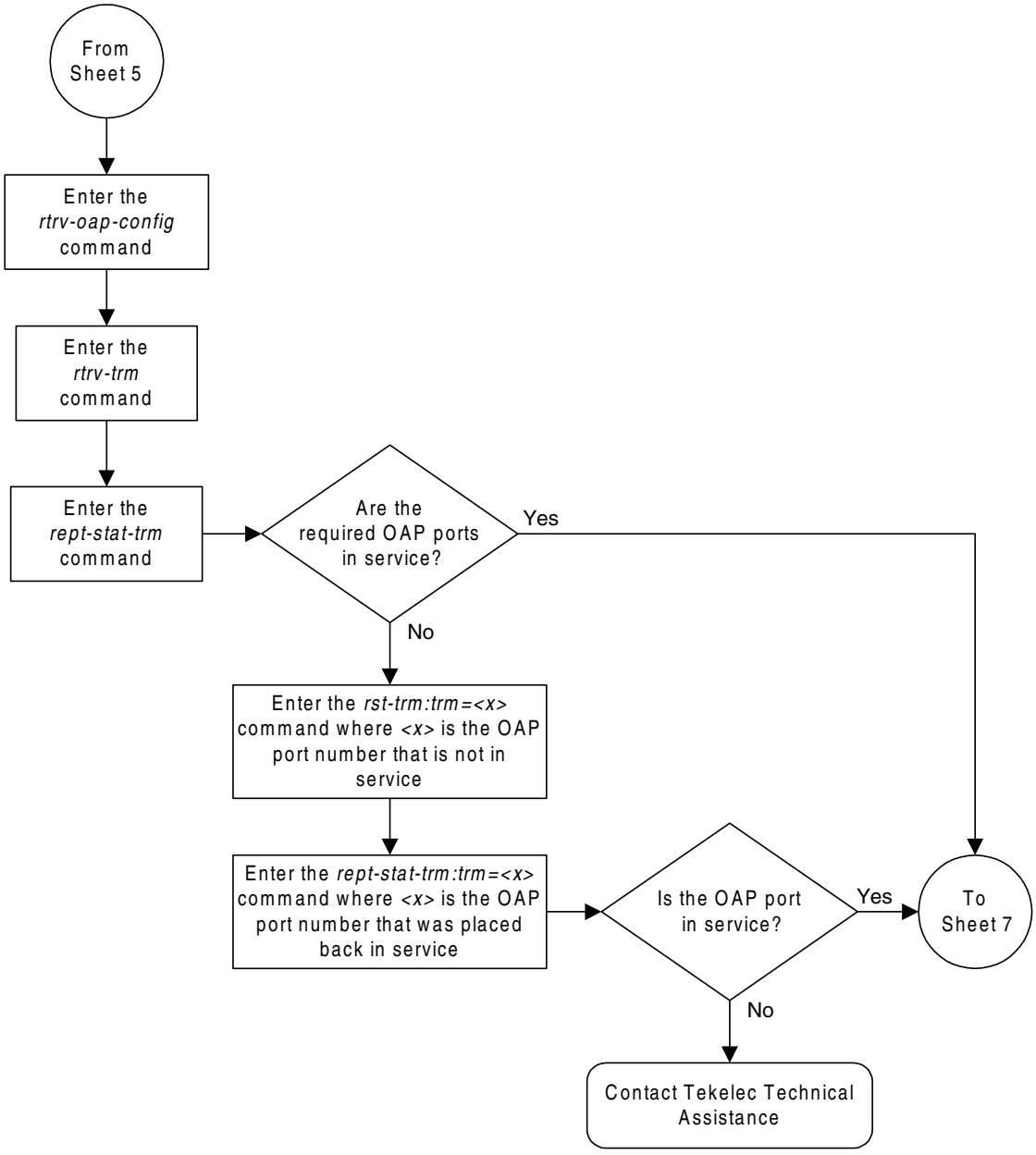
Flowchart A-2. Configuring the OAP from the Eagle STP (Sheet 4 of 12)



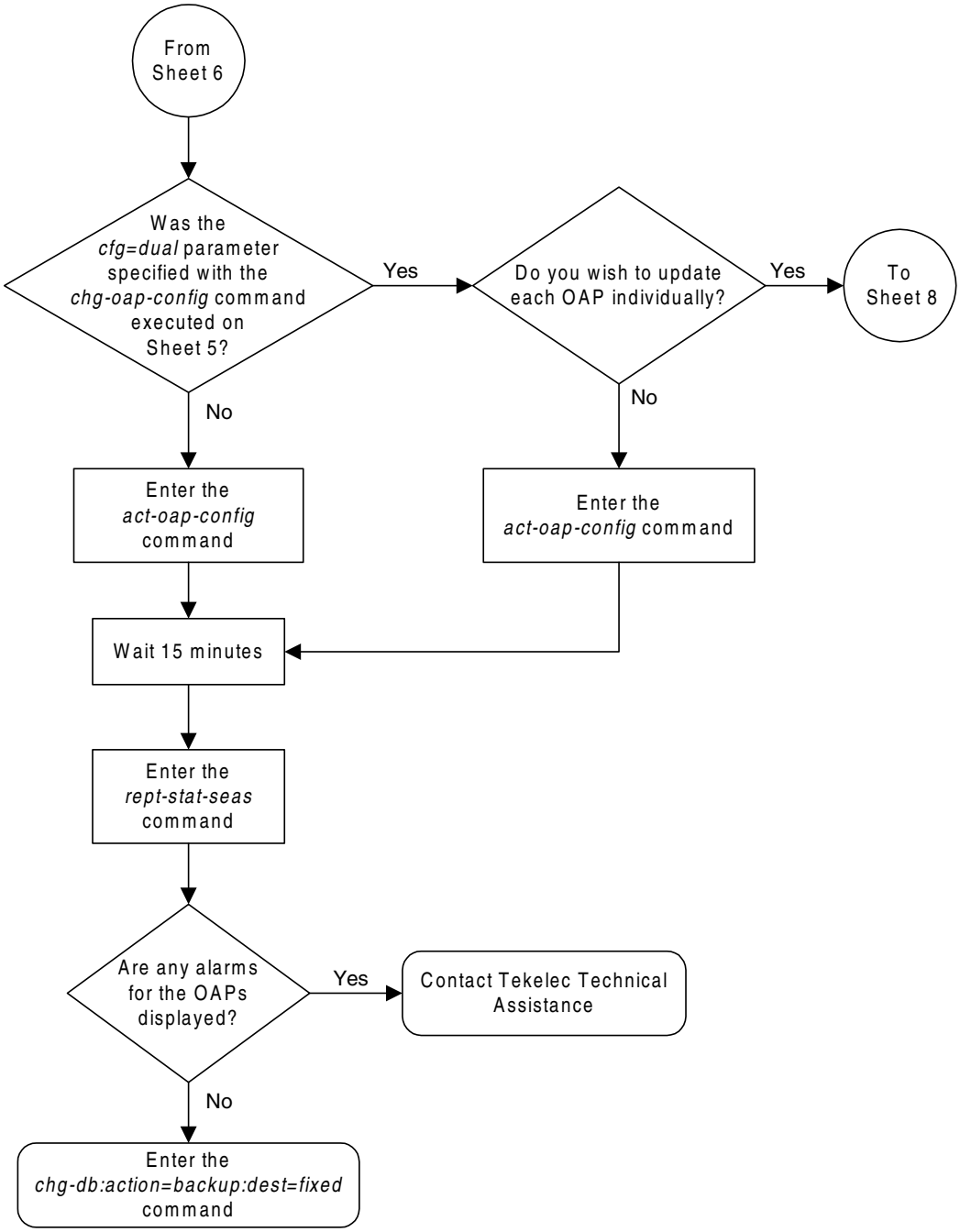
Flowchart A-2. Configuring the OAP from the Eagle STP (Sheet 5 of 12)



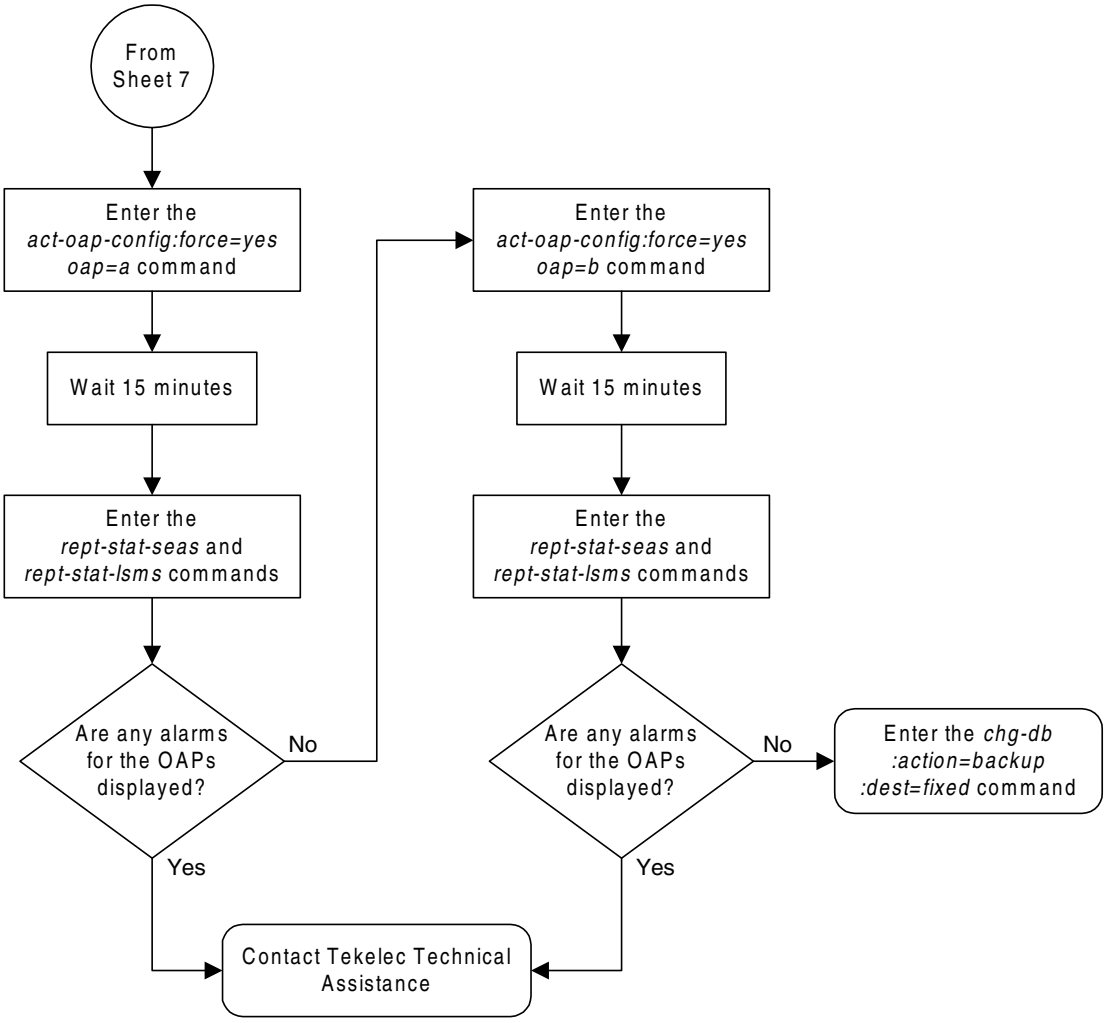
Flowchart A-2. Configuring the OAP from the Eagle STP (Sheet 6 of 12)



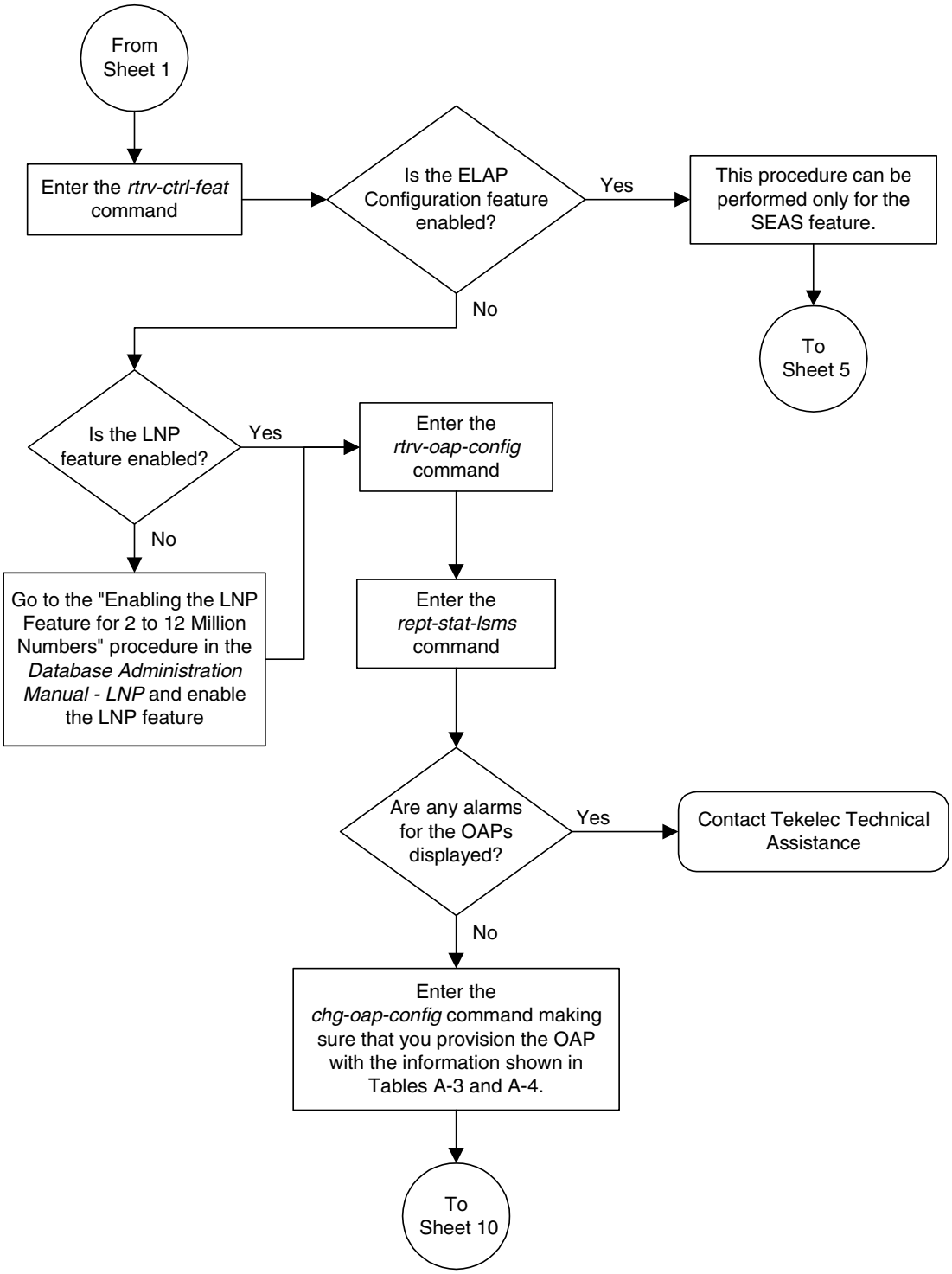
Flowchart A-2. Configuring the OAP from the Eagle STP (Sheet 7 of 12)



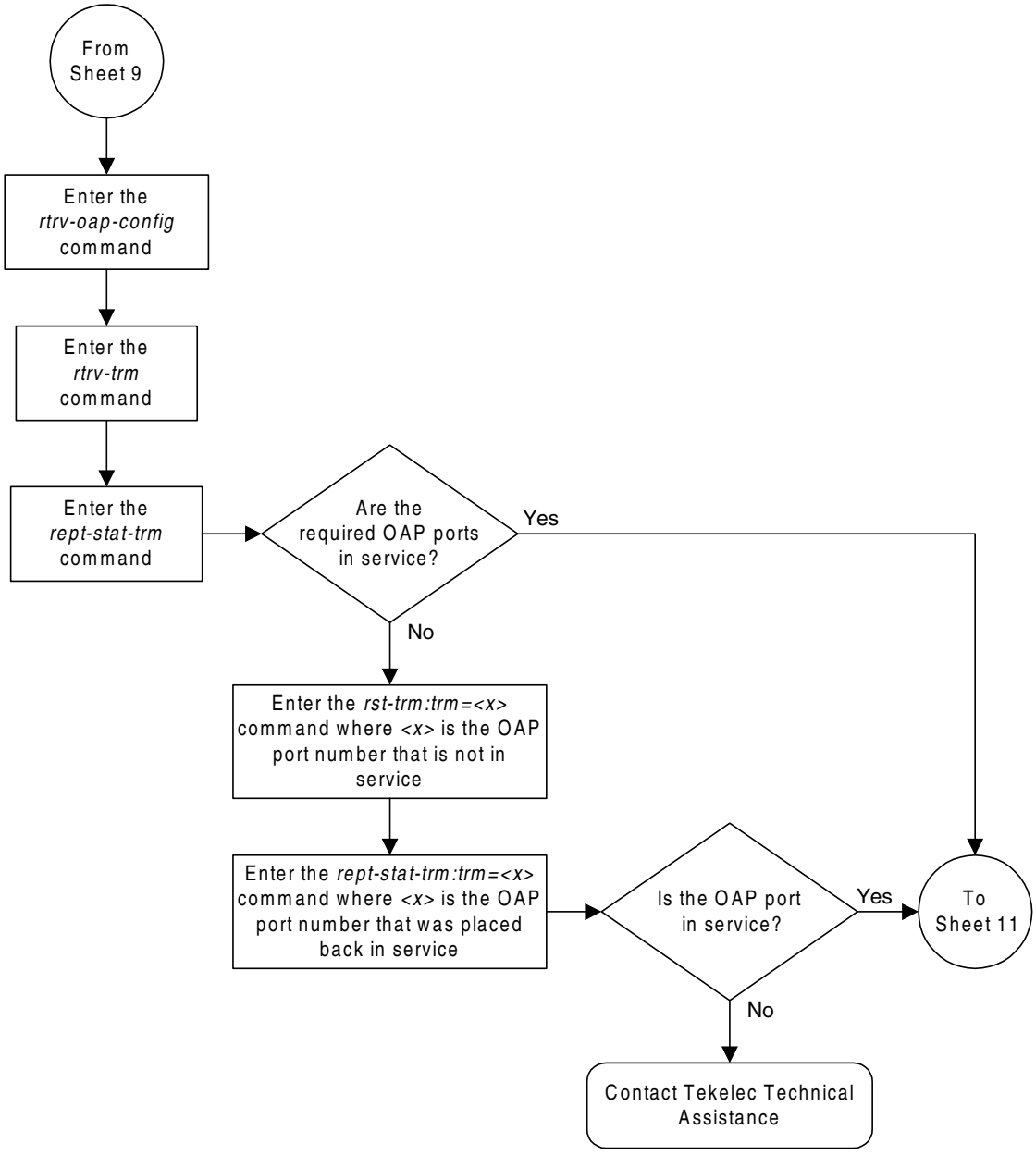
Flowchart A-2. Configuring the OAP from the Eagle STP (Sheet 8 of 12)



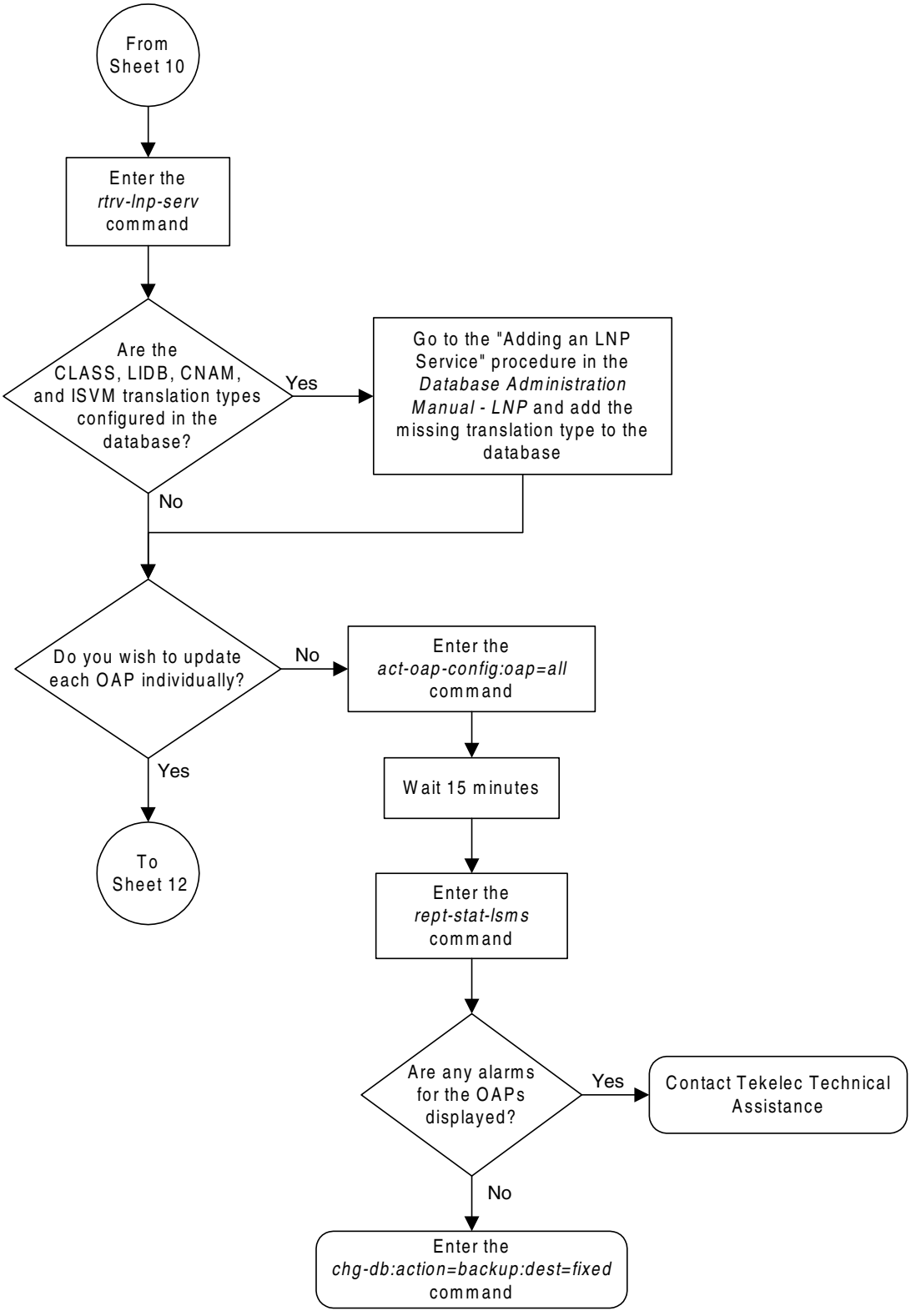
Flowchart A-2. Configuring the OAP from the Eagle STP (Sheet 9 of 12)



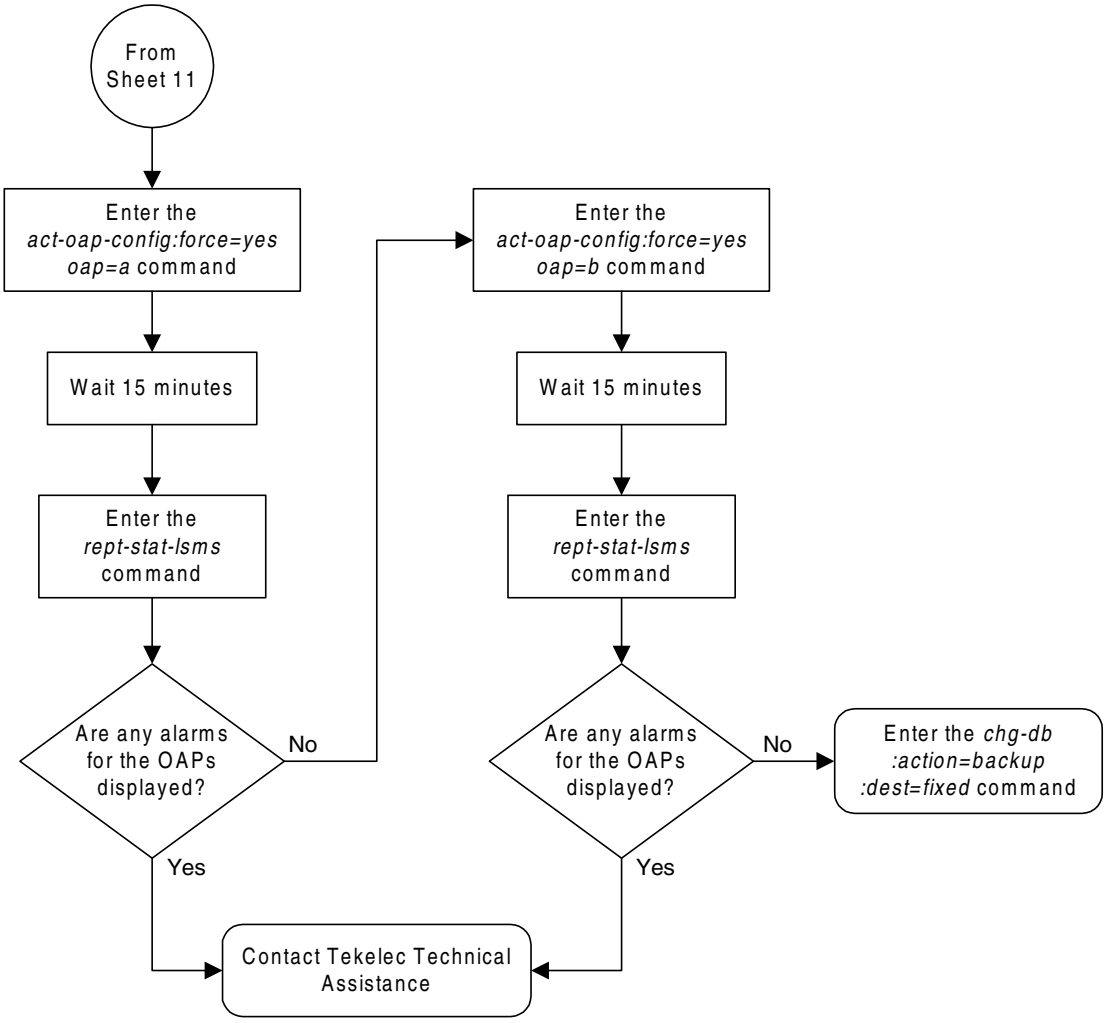
Flowchart A-2. Configuring the OAP from the Eagle STP (Sheet 10 of 12)



Flowchart A-2. Configuring the OAP from the Eagle STP (Sheet 11 of 12)



Flowchart A-2. Configuring the OAP from the Eagle STP (Sheet 12 of 12)



Reprovisioning

Changing the OAP Configuration from the Eagle STP Terminal

Use this procedure if you need to change OAP settings, for example, the number of OAPs after you have upgraded to a dual configuration, the host ID, or the IP address. Skip the steps that do not apply to your configuration.

NOTE: The `chg-oap-config` command is valid only if either the SEAS or the LNP feature is turned on.

Example of OAP Configuration Changes

The examples in this procedure are used to change a dual-configuration OAP with the settings shown in Table A-6. For a single configuration OAP, configure OAP-A only.

Table A-6. Example OAP Initial Configuration

Description	Parameter	OAP A	OAP B
Hostname	`:aname` `:bname`	tekelec-22	tekelec-23
IP Address	`:aipaddr` `:bipaddr`	192.106.175.005	192.106.175.006
IP Netmask	`:anmask` `:bnmask`	255.255.255.001	255.255.255.001
Default Router	`:arouter` `:brouter`	128.132.064.005	128.132.064.005
Configuration	`:cfg`	dual	dual
SEAC CLLI	`:seacclli`	RLGHNCXB18Y	RLGHNCXB18Y
X.25 Packet Size	`:x25ps`	7	7
X.25 Mode	`:x25mode`	DCE	DCE
Shadow LSMS	`:lsms`	shadow	shadow
Shadow LSMS NSAP	`:mnsap`	198.102.115.105	198.102.115.105
Shadow LSMS SSEL	`:sssel`	shws	shws
Shadow LSMS PSEL	`:spsel`	shwp	shwp

When configuring the OAP, the system generates a UAM 0364 because the OAP configuration in the database does not match the OAP configuration on the OAP:

```
    rlghncxa03w  05-03-01  11:11:28 GMT  EAGLE5 32.0.0
*   1501.0364  *      OAP A         Configuration data checksum mismatch
```

The alarm is cleared when a maintenance poll returns a checksum that matches the Eagle STP's checksum, indicating that the databases are synchronized. TheEagle STP clears the alarm within five seconds. The following UAM clears the alarm:

```
RLGHNCXA03W 00-03-07 11:11:28 GMT EAGLE5 32.0.0
nnnn.0365 OAP A Configuration data checksum alarm cleared
```

Procedure

1. For the OAPs to be configured by the **chg-oap-config** command, the OAP ports must be out of service. To find which terminal ports are the OAP ports, display the terminal configuration in the database using the **rtrv-trm** command. The OAP ports are shown by the entry **OAP** in the **TYPE** field, as shown in bold in the example **rtrv-trm** output. This is an example of the possible output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
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    OAP     19200-7-E-1 SW    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   OAP     19200-7-E-1 SW    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  YES NO  YES YES
2    NO   NO   NO  NO  NO  NO  NO
3    YES  YES  YES NO  YES YES YES
4    NO   NO   NO  NO  NO  NO  YES
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   YES  YES  YES YES YES YES 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   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
```

2. Verify the status of the OAP port(s) to be inhibited. For a dual-configuration OAP, both OAP ports must be out of service. This is an example of the possible output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
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        -----
Command Completed.
```

If the OAP port is not out-of-service, go to step 3. If the OAP port is out-of-service, go to step 5.

3. Place the OAP port(s) out of service using the **rmv-trm** command and specifying the ports. Enter these commands:

```
rmv-trm:trm=4
```

```
rmv-trm:trm=10
```

After successful completion of each command, the system returns the following output:

```
rlghncxa03w 05-03-01 00:57:31 GMT EAGLE5 32.0.0
Inhibit message sent to terminal

rlghncxa03w 05-03-01 00:57:31 GMT EAGLE5 32.0.0
Command Completed.
```

4. Verify that the OAP port that was taken out of service in step 3 is in the OOS-MT-DSBLD state by entering the **rept-stat-trm** command. This is an example of the possible output:

```
rlghncxa03w 05-03-01 00:57:31 GMT EAGLE5 32.0.0
TRM   PST           SST           AST
1     IS-NR         Active        -----
2     IS-NR         Active        -----
3     IS-NR         Active        -----
4     OOS-MT-DSBLD  Manual        -----
5     IS-NR         Active        -----
6     IS-NR         Active        -----
7     IS-NR         Active        -----
8     IS-NR         Active        -----
9     IS-NR         Active        -----
10    OOS-MT-DSBLD  Manual        -----
11    IS-NR         Active        -----
12    IS-NR         Active        -----
13    IS-NR         Active        -----
14    IS-NR         Active        -----
15    IS-NR         Active        -----
16    IS-NR         Active        -----
Command Completed.
```

5. Display the current OAP configuration by entering the **rtrv-oap-config** command. This is an example of the possible output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
OAP CONFIGURATION REPORT

DATA                    OAP A                   OAP B
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
OAP CONFIGURATION REPORT

DATA                    OAP A                   OAP B
Hostname                tekelec-12              tekelec-13
IP Address              192.106.175.025         192.106.175.026
IP Netmask              255.255.255.000         255.255.255.000
Default Router          128.132.064.001         128.132.064.001
Config                  dual                    dual
SEAC CLLI               RLGHNCXB14Y             RLGHNCXB14Y
X25 Packet Size         8                       8
X25 Mode                DTE                     DTE
Active LSMS             main                    main
Main LSMS NSAP          198.102.115.125         198.102.115.125
Main LSMS SSEL          emss                    emss
Main LSMS PSEL          emsp                    emsp
Shadow LSMS NSAP        <Not configured>        <Not configured>
Shadow LSMS SSEL        <Not configured>        <Not configured>
Shadow LSMS PSEL        <Not configured>        <Not configured>
```

When both the SEAS and LNP features are on, all the fields of the **rtrv-oap-config** output are displayed. This output example shows all the fields of the **rtrv-oap-config** output. If only the SEAS or LNP feature is on, then only fields related to the feature that is on are displayed. Table A-3 on page A-29 shows the fields that are displayed when the SEAS and LNP features are on.

Before the OAP configuration can be sent to the specified OAP with the **act-oap-config** command, certain fields of the **rtrv-oap-config** command output must be correctly configured depending on whether the SEAS or LNP features are on or not. If these fields do contain incorrect entries and the OAP configuration is sent to the specified OAP, the specified OAP may go out of service. Table A-3 on page A-29 also shows the fields that must be correctly configured before the OAP configuration is sent to the specified OAP.

---

6. Make sure that there are no alarms for either OAP. If only the SEAS feature is on, enter the **rept-stat-seas** command. If only the LNP feature is on, enter the **rept-stat-lsms** command. If both the SEAS and LNP features are on, enter both the **rept-stat-seas** and **rept-stat-lsms** commands.

   The following are examples of the possible output:

   rept-stat-seas

```
rlghncxa03w 05-03-01 15:59:06 GMT EAGLE5 32.0.0
SEAS Subsystem Report      IS-NR     Active   --------
SEAS Interfaces Configured = 2  Interfaces IS-NR = 2

                         GPL        PST         SST           AST
------------------------------------------------------------------------
SEAS SYSTEM                         IS-NR       Active        -----
TDM Port          4                 IS-NR       Active        -----
TDM Port         10                 IS-NR       Active        -----
OAP              A    026-001-000   IS-NR       Active        -----
OAP              B    026-001-000   IS-NR       Active        -----
X.25 Link        A1                 IS-NR       Active        -----
X.25 Link        B1                 IS-NR       Active        -----

SEAS SYSTEM  ALARM STATUS = No Alarms.
OAP A        ALARM STATUS = No Alarms.
OAP B        ALARM STATUS = No Alarms.
X25 Link  A1 ALARM STATUS = No Alarms.
X25 Link  A2 ALARM STATUS = No Alarms.
X25 Link  B1 ALARM STATUS = No Alarms.
X25 Link  B2 ALARM STATUS = No Alarms.

X25 A1 PVCs IS-NR    = 1,2,3
X25 A1 PVCs OOS-MT   = ---
X25 B1 PVCs IS-NR    = 1,2,3
X25 B1 PVCs OOS-MT   = ---

X25 A2 PVCs IS-NR    = 1,2,3
X25 A2 PVCs OOS-MT   = ---
X25 B2 PVCs IS-NR    = 1,2,3
X25 B2 PVCs OOS-MT   = ---
Command Completed.
```

rept-stat-lsms

```
rlghncxa03w 05-03-01 14:59:11 GMT  Release 31.6.0
                         GPL        PST         SST           AST
------------------------------------------------------------------------
LSMS SYSTEM                         IS-NR       Active        -----
TDM Port          4                 IS-NR       Active        -----
TDM Port         10                 IS-NR       Active        -----
OAP              A    026-001-000   IS-NR       Active        -----
OAP              B    026-001-000   IS-NR       Active        -----
LSMS Conn        A1                 IS-NR       Active        -----
LSMS Conn        B1                 IS-NR       Active        -----

LSMS SYSTEM  ALARM STATUS = No Alarms.
OAP A        ALARM STATUS = No Alarms.
OAP B        ALARM STATUS = No Alarms.
LSMS Conn A1 ALARM STATUS = No Alarms.
LSMS Conn B1 ALARM STATUS = No Alarms.

Command Completed.
```

If alarms are shown for the OAPs in either the **rept-stat-seas** or **rept-stat-lsms** outputs, contact the Tekelec Technical Services department (see "Tekelec Technical Services" on page 1-6).

NOTE: When steps 7 though 11 are performed, UAM 0364 will be generated indicating that the OAP configuration data on the OAP and the Eagle STP do not match.

7. If you upgraded from a single-configuration OAP to a dual-configuration OAP, configure the Eagle STP database with the new number of OAPs:

   chg-oap-config:config=dual

   After successful completion of this command, the system returns the following output:

   ```
   rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
   CHG-OAP-CONFIG: MASP A - COMPLTD
   ```

---

8. Configure the new hostname; for example, enter these commands:

   chg-oap-config:aname="tekelec-22"

   chg-oap-config:bname="tekelec-23"

   where:

   :aname is a 14-character (1 alphabetic character followed by 1 to 13 alphanumeric characters) hostname for OAP-A. The value must be enclosed in quotes ("").

   :bname is a 14-character (1 alphabetic character followed by 1 to 13 alphanumeric characters) hostname for OAP-B. The value must be enclosed in quotes ("").

   After successful completion of each command, the system returns the following output:

   ```
   rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
   CHG-OAP-CONFIG: MASP A - COMPLTD
   ```

---

9. Configure the IP network for the LNP feature, and optionally, for the SEAS feature. For example, enter these commands:

chg-oap-config:aipaddr=192.106.175.005

chg-oap-config:bipaddr=192.106.175.006

where:

:aipaddr is the OAP-A IP address (network service access point).

:bipaddr is the OAP-B IP address (network service access point).

The following parameters may or may not be required for both LNP and SEAS features depending on your network configuration:

:amask or **:bmask** is the the netmask for OAP-A or OAP-B. If you are unsure as to whether your network requires this configuration, check with your Information Services department.

:arouter or **:brouter** is the IP address of the default router assigned to OAP-A or OAP-B. If you are unsure as to whether your network requires this configuration, check with your Information Services department.

After successful completion of this command, the system returns the following output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
CHG-OAP-CONFIG: MASP A - COMPLTD
```

---

10. Configure the SEAS network. For example, enter these commands:

chg-oap-config:seacclli="rlghncxb18y":x25ps=7:x25mode=dce

where:

:seacclli is the 11-character (1 alphabetic character followed by 1 to 10 alphanumeric characters) common language location identifier (CLLI) of the SEAC that the OAP is connecting to. The value must be enclosed in quotes ("").

:x25ps is the x.25 package size for the link to the SEAC. The value is either 7 or 8.

:x25mode is the mode of the X.25 link to the SEAC.

After successful completion of this command, the system returns the following output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
CHG-OAP-CONFIG: MASP A - COMPLTD
```

---

11. Configure the LNP LSMS network. Enter the following command with these required parameters:

chg-oap-config:lsms=shadow:snsap=198.102.115.105 :spsel=shwp:sssel=shws

where:

:snsap is the IP address of the shadow LSMS

:spsel is the 1 to 4 alphanumeric character presentation selector of the shadow LSMS

:sssel is the 1 to 4 alphanumeric character session selector of the shadow LSMS

After successful completion of this command, the system returns the following output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
CHG-OAP-CONFIG: MASP A - COMPLTD
```

12. Verify the changes in the database using the **rtrv-oap-config** command. Confirm the correctness of all settings before continuing to the next step. This is an example of the possible output. The fields that have changed in this example are shown in bold.

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
OAP CONFIGURATION REPORT

DATA                 OAP A                OAP B
Hostname             tekelec-22           tekelec-23
IP Address           192.106.175.005      192.106.175.006
IP Netmask           255.255.255.001      255.255.255.001
Default Router       128.132.064.005      128.132.064.005
Config               dual                 dual
SEAC CLLI            RLGHNCXB18Y          RLGHNCXB18Y
X25 Packet Size      7                    7
X25 Mode             DCE                  DCE
Active LSMS          main                 main
Main LSMS NSAP       198.102.115.125      198.102.115.125
Main LSMS SSEL       emss                 emss
Main LSMS PSEL       emsp                 emsp
Shadow LSMS NSAP     198.102.115.105      198.102.115.105
Shadow LSMS SSEL     shws                 shws
Shadow LSMS PSEL     shws                 shws
```

13. For the OAPs to be updated by the **act-oap-config** command, the OAP ports must be in service. Return the OAP ports to service that were inhibited in step 6. Use the **rst-trm** command. For this example, enter these commands:

rst-trm:trm=4

rst-trm:trm=10

After successful completion of this command, the system returns the following output:

```
rlghncxa03w 05-03-01 15:08:45 EDT EAGLE5 32.0.0
Allow message sent to terminal
```

14. Verify that the OAP ports are returned to service by entering the **rept-stat-trm** command.

This is an example of the possible output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
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        -----
Command Completed.
```

If the entry **IS-NR** is not shown in the **PST** field of the **rept-stat-trm** output, the OAP port has not been returned to service. Contact the Tekelec Technical Services department (see "Tekelec Technical Services" on page 1-6).

---

15. If the LNP feature is on, display the LNP services in the database with the **rtrv-lnp-serv** command. Before the OAP configuration can be updated with the **act-oap-config** command, the LNP translation type services CLASS, LIDB, CNAM, and ISVM must be defined in the database. This is an example of the possible output; the required LNP services contained in the output example are shown in bold:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
SERV       TT    TTN        DV      ALIAS
AIN        15    AINGTE     TCAP    235
                                     236
                                     240
IN         30    INGTE      TCAP    150
                                     175
LIDB       20    LIDB       SCCP    80
CLASS      25    CLASSGTE   SCCP    ---
UDF1       201   UDF1       SCCP    ---
UFD3       100   UFD3       SCCP    40
                                     45
WNP        50    WNP50      TCAP    ---

TT-SERV TABLE IS (12 of 256) 5% FULL
```

If the LNP translation type services CLASS, LIDB, CNAM, and ISVM are not shown in the output of the **rtrv-lnp-serv** command, go to procedure "Adding an LNP Service" in the *Eagle STP Database Administration Manual - LNP* and add the required translation types to the database. In this output example, the ISVM and CNAM LNP translation type services are not in the database.

NOTE: Performing step 16 clears the alarm condition indicated by UAM 0364 and generate UAM 0365 indicating that the OAP configuration data on the OAP and the Eagle STP match.

16. Send the OAP configuration data to the OAP using the **act-oap-config** command. If only one OAP is being updated, the **force=yes** parameter must be specified with the **act-oap-config** command, unless the **cfg=sngl** parameter was specified with the **chg-oap-config** command. If only one OAP is being updated, perform steps a and b in Method A for the specific OAP.

If the **cfg=dual** parameter was specified with the **chg-oap-config** command, both OAPs must be updated. Use one of the following methods:

Method A updates one OAP at a time using the **force=yes** parameter. This method allows SEAS and LNP traffic to continue being sent to the system while the OAP configuration is being updated. It can take up to 15 minutes to update the configuration of the OAP, during which time the OAP being updated will be out of service.

Method B updates both OAPs at the same time using the **oap=all** parameter. This method will take both OAPs out of service and may interrupt all SEAS and LNP traffic to the system. This is not recommended. **Method A is the preferred method.**

Method A: Perform steps a through d in this method for each OAP, one OAP at a time.

a Update OAP A by entering this command:

```
act-oap-config:oap=a:force=yes
```

After successful completion of this command, the system returns the following output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
ACT-OAP-CONFIG: MASP A - COMPLTD
```

b. Wait 15 minutes, then enter either the **rept-stat-seas** (if only the SEAS feature is on) or **rept-stat-lsms** (if only the LNP feature is on) commands to make sure that there are no alarms for OAP A. If both the SEAS and LNP features are on, then enter both commands to verify that there are no alarms for OAP A.

These are examples of the possible output:

rept-stat-seas

```
rlghncxa03w 05-03-01 15:59:06 GMT EAGLE5 32.0.0
SEAS Subsystem Report      IS-NR     Active   --------
SEAS Interfaces Configured = 2  Interfaces IS-NR = 2

                         GPL        PST         SST           AST
------------------------------------------------------------------------
SEAS SYSTEM                         IS-NR       Active        -----
TDM Port          4                 IS-NR       Active        -----
TDM Port         10                 IS-NR       Active        -----
OAP              A    026-001-000   IS-NR       Active        -----
OAP              B    026-001-000   IS-NR       Active        -----
X.25 Link        A1                 IS-NR       Active        -----
X.25 Link        B1                 IS-NR       Active        -----

SEAS SYSTEM  ALARM STATUS = No Alarms.
OAP A        ALARM STATUS = No Alarms.
OAP B        ALARM STATUS = No Alarms.
X25 Link  A1 ALARM STATUS = No Alarms.
X25 Link  A2 ALARM STATUS = No Alarms.
X25 Link  B1 ALARM STATUS = No Alarms.
X25 Link  B2 ALARM STATUS = No Alarms.

X25 A1 PVCs IS-NR    = 1,2,3
X25 A1 PVCs OOS-MT   = ---
X25 B1 PVCs IS-NR    = 1,2,3
X25 B1 PVCs OOS-MT   = ---

X25 A2 PVCs IS-NR    = 1,2,3
X25 A2 PVCs OOS-MT   = ---
X25 B2 PVCs IS-NR    = 1,2,3
X25 B2 PVCs OOS-MT   = ---
Command Completed.
```

rept-stat-lsms

```
rlghncxa03w 05-03-01 14:59:11 GMT  Release 31.6.0
                         GPL        PST         SST           AST
------------------------------------------------------------------------
LSMS SYSTEM                         IS-NR       Active        -----
TDM Port          4                 IS-NR       Active        -----
TDM Port         10                 IS-NR       Active        -----
OAP              A    026-001-000   IS-NR       Active        -----
OAP              B    026-001-000   IS-NR       Active        -----
LSMS Conn        A1                 IS-NR       Active        -----
LSMS Conn        B1                 IS-NR       Active        -----

LSMS SYSTEM  ALARM STATUS = No Alarms.
OAP A        ALARM STATUS = No Alarms.
OAP B        ALARM STATUS = No Alarms.
LSMS Conn A1 ALARM STATUS = No Alarms.
LSMS Conn B1 ALARM STATUS = No Alarms.

Command Completed.
```

c. Update OAP B by entering this command.

act-oap-config:oap=b:force=yes

After successful completion of this command, the system returns the following output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
ACT-OAP-CONFIG: MASP A - COMPLTD
```

d. Wait 15 minutes, then enter either the **rept-stat-seas** (if only the SEAS feature is on) or **rept-stat-lsms** (if only the LNP feature is on) commands to make sure that there are no alarms for OAP B. If both the SEAS and LNP features are on, then enter both commands to verify that there are no alarms for OAP B.

These are examples of the possible output:

rept-stat-seas

```
rlghncxa03w 05-03-01 15:59:06 GMT EAGLE5 32.0.0
SEAS Subsystem Report      IS-NR     Active   --------
SEAS Interfaces Configured = 2  Interfaces IS-NR = 2

                         GPL        PST         SST           AST
------------------------------------------------------------------------
SEAS SYSTEM                         IS-NR       Active        -----
TDM Port          4                 IS-NR       Active        -----
TDM Port         10                 IS-NR       Active        -----
OAP              A    026-001-000   IS-NR       Active        -----
OAP              B    026-001-000   IS-NR       Active        -----
X.25 Link        A1                 IS-NR       Active        -----
X.25 Link        B1                 IS-NR       Active        -----

SEAS SYSTEM  ALARM STATUS = No Alarms.
OAP A        ALARM STATUS = No Alarms.
OAP B        ALARM STATUS = No Alarms.
X25 Link  A1 ALARM STATUS = No Alarms.
X25 Link  A2 ALARM STATUS = No Alarms.
X25 Link  B1 ALARM STATUS = No Alarms.
X25 Link  B2 ALARM STATUS = No Alarms.

X25 A1 PVCs IS-NR    = 1,2,3
X25 A1 PVCs OOS-MT   = ---
X25 B1 PVCs IS-NR    = 1,2,3
X25 B1 PVCs OOS-MT   = ---

X25 A2 PVCs IS-NR    = 1,2,3
X25 A2 PVCs OOS-MT   = ---
X25 B2 PVCs IS-NR    = 1,2,3
X25 B2 PVCs OOS-MT   = ---
Command Completed.
```

rept-stat-lsms

```
rlghncxa03w 05-03-01 14:59:11 GMT  Release 31.6.0
                         GPL        PST         SST           AST
------------------------------------------------------------------------
LSMS SYSTEM                         IS-NR       Active        -----
TDM Port          4                 IS-NR       Active        -----
TDM Port         10                 IS-NR       Active        -----
OAP              A    026-001-000   IS-NR       Active        -----
OAP              B    026-001-000   IS-NR       Active        -----
LSMS Conn        A1                 IS-NR       Active        -----
LSMS Conn        B1                 IS-NR       Active        -----

LSMS SYSTEM  ALARM STATUS = No Alarms.
OAP A        ALARM STATUS = No Alarms.
OAP B        ALARM STATUS = No Alarms.
LSMS Conn A1 ALARM STATUS = No Alarms.
LSMS Conn B1 ALARM STATUS = No Alarms.

Command Completed.
```

If alarms are shown for the OAPs in either the **rept-stat-seas** or **rept-stat-lsms** outputs, contact the Tekelec Technical Services department (see "Tekelec Technical Services" on page 1-6).

Method B: Perform steps a through d to update both OAPs at the same time. This method is NOT recommended.

a Enter the following command:

act-oap-config:oap=all

After successful completion of this command, the system returns the following output:

```
rlghncxa03w 05-03-01 11:34:04  GMT  EAGLE5 32.0.0
ACT-OAP-CONFIG: MASP A - COMPLTD
```

b. Wait 15 minutes, then enter either the **rept-stat-seas** (if only the SEAS feature is on) or **rept-stat-lsms** (if only the LNP feature is on) commands to make sure that there are no alarms for the OAPs. If both the SEAS and LNP features are on, then enter both commands to verify that there are no alarms for the OAPs. This is an example of the possible output:

rept-stat-seas

```
rlghncxa03w 05-03-01 15:59:06 GMT EAGLE5 32.0.0
SEAS Subsystem Report      IS-NR     Active   --------
SEAS Interfaces Configured = 2  Interfaces IS-NR = 2

                          GPL         PST         SST           AST
------------------------------------------------------------------------
SEAS SYSTEM                           IS-NR       Active        -----
TDM Port           4                  IS-NR       Active        -----
TDM Port          10                  IS-NR       Active        -----
OAP               A    026-001-000    IS-NR       Active        -----
OAP               B    026-001-000    IS-NR       Active        -----
X.25 Link         A1                  IS-NR       Active        -----
X.25 Link         B1                  IS-NR       Active        -----

SEAS SYSTEM  ALARM STATUS = No Alarms.
OAP A        ALARM STATUS = No Alarms.
OAP B        ALARM STATUS = No Alarms.
X25 Link  A1 ALARM STATUS = No Alarms.
X25 Link  A2 ALARM STATUS = No Alarms.
X25 Link  B1 ALARM STATUS = No Alarms.
X25 Link  B2 ALARM STATUS = No Alarms.

X25 A1 PVCs IS-NR    = 1,2,3
X25 A1 PVCs OOS-MT   = ---
X25 B1 PVCs IS-NR    = 1,2,3
X25 B1 PVCs OOS-MT   = ---

X25 A2 PVCs IS-NR    = 1,2,3
X25 A2 PVCs OOS-MT   = ---
X25 B2 PVCs IS-NR    = 1,2,3
X25 B2 PVCs OOS-MT   = ---
Command Completed.
```

rept-stat-lsms

```
rlghncxa03w 05-03-01 14:59:11 GMT  Release 31.6.0
                         GPL        PST         SST           AST
------------------------------------------------------------------------
LSMS SYSTEM                         IS-NR       Active        -----
TDM Port          4                 IS-NR       Active        -----
TDM Port         10                 IS-NR       Active        -----
OAP              A    026-001-000   IS-NR       Active        -----
OAP              B    026-001-000   IS-NR       Active        -----
LSMS Conn        A1                 IS-NR       Active        -----
LSMS Conn        B1                 IS-NR       Active        -----

LSMS SYSTEM  ALARM STATUS = No Alarms.
OAP A        ALARM STATUS = No Alarms.
OAP B        ALARM STATUS = No Alarms.
LSMS Conn A1 ALARM STATUS = No Alarms.
LSMS Conn B1 ALARM STATUS = No Alarms.

Command Completed.
```

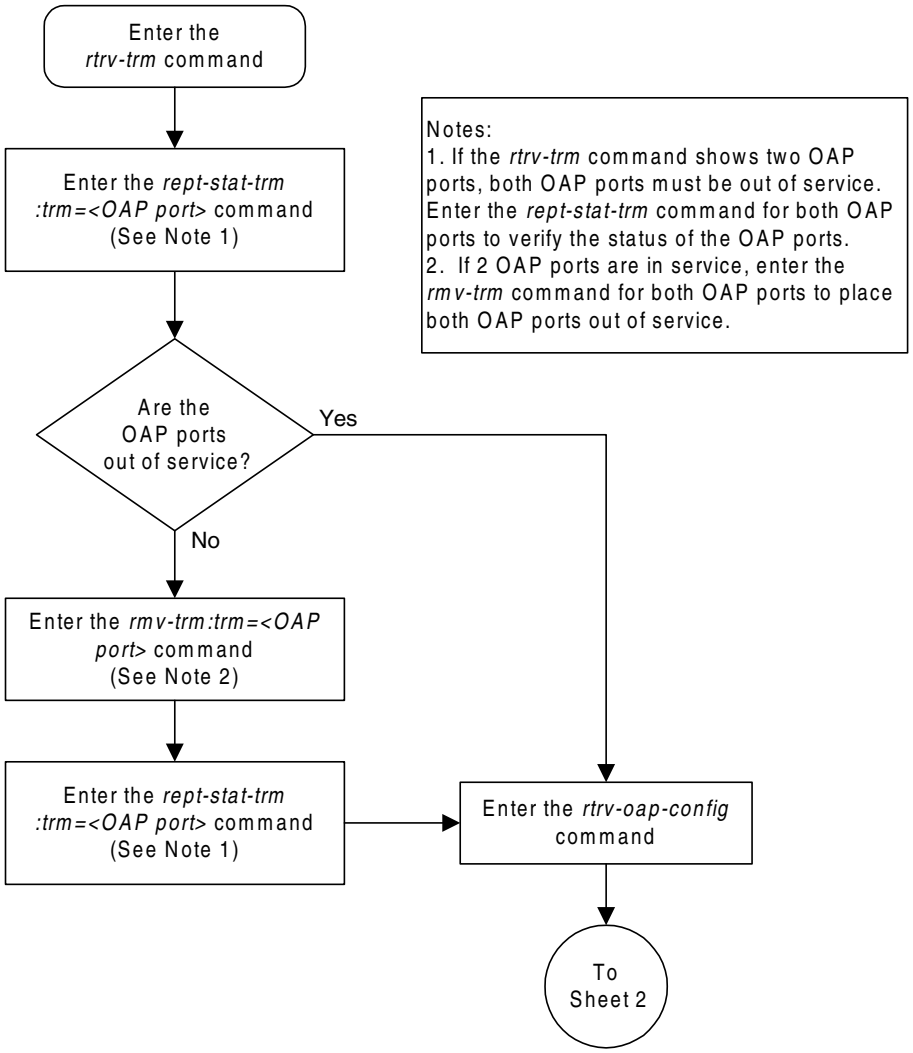
If alarms are shown for the OAPs in either the **rept-stat-seas** or **rept-stat-lsms** outputs, contact the Tekelec Technical Services department (see "Tekelec Technical Services" on page 1-6).

---

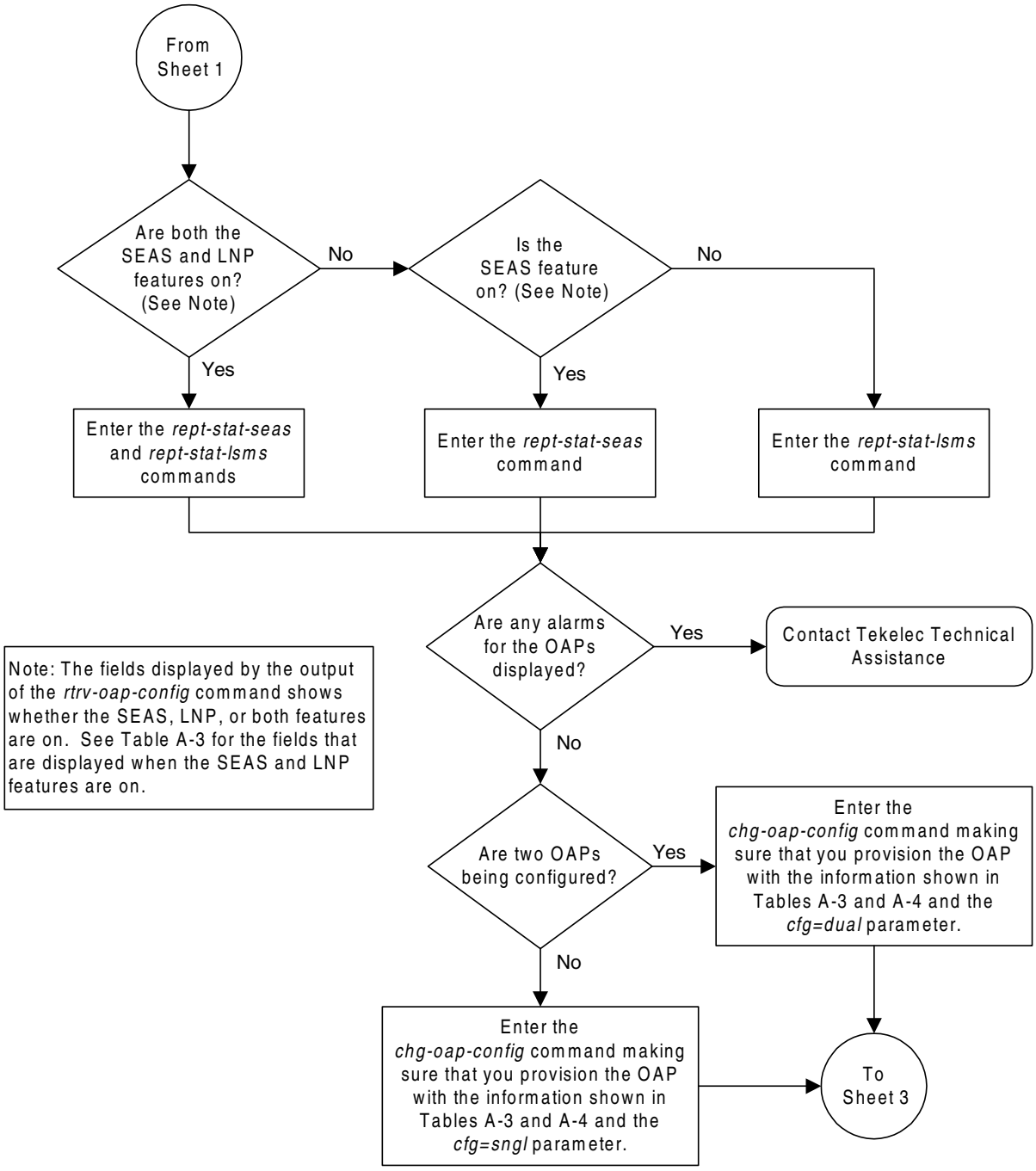
17. Back up the changes using the **chg-db:action=backup:dest=fixed** command. These messages appear; the active Maintenance and Administration Subsystem Processor (MASP) message appears first:

```
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.
```

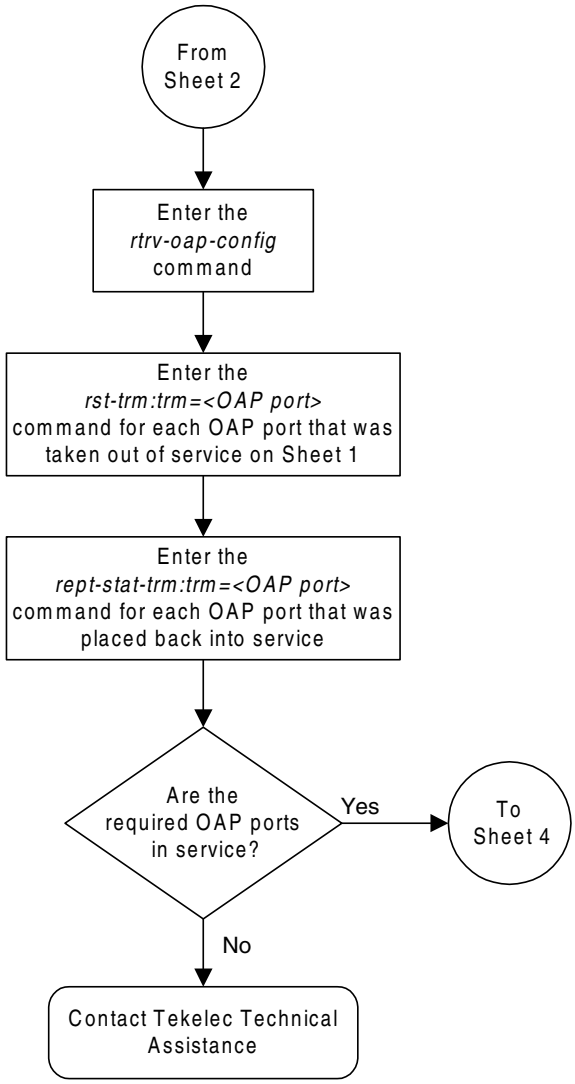
Flowchart A-3. Changing the OAP Configuration from the Eagle STP Terminal (Sheet 1 of 7)



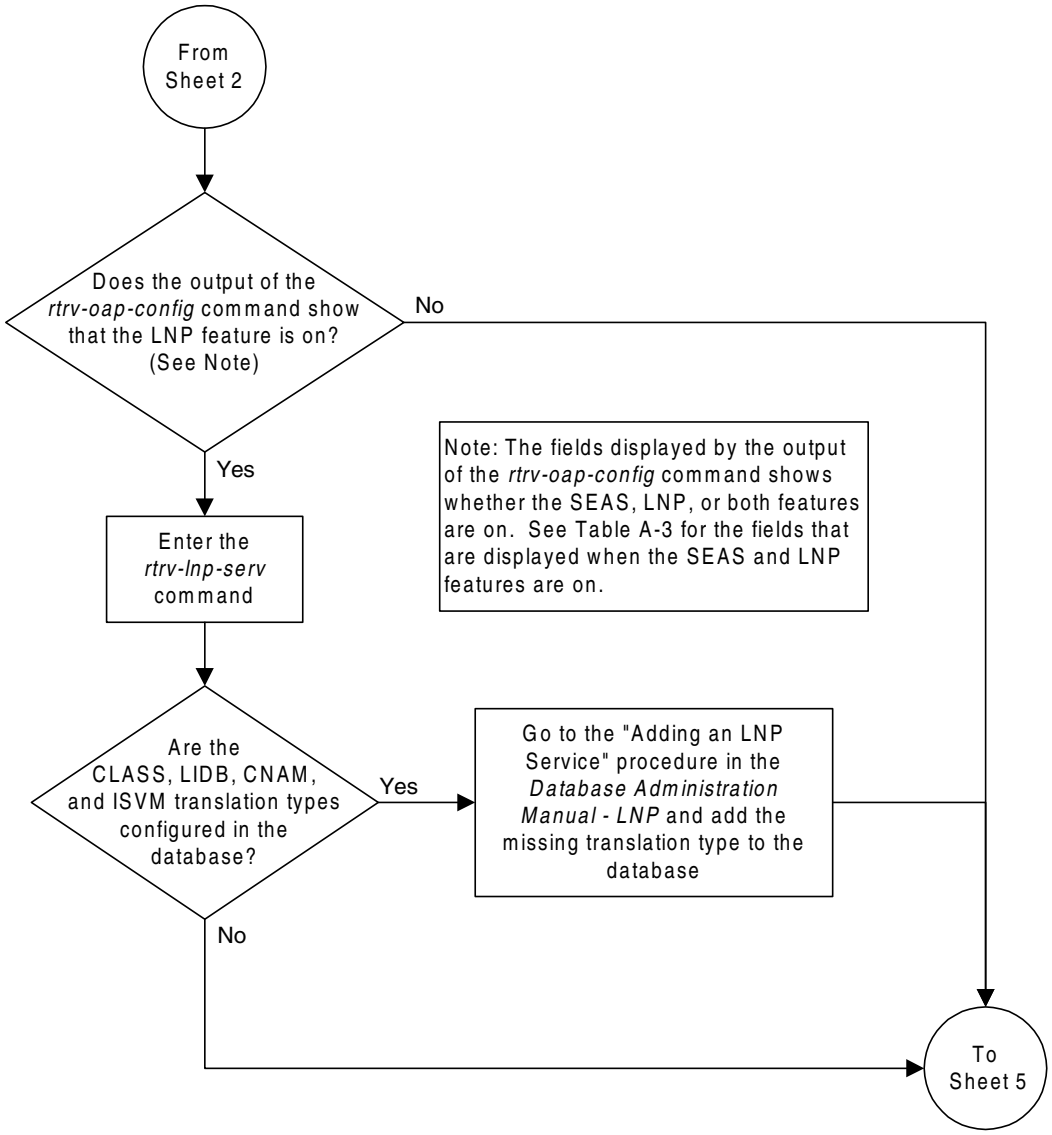
Flowchart A-3. Changing the OAP Configuration from the Eagle STP Terminal (Sheet 2 of 7)



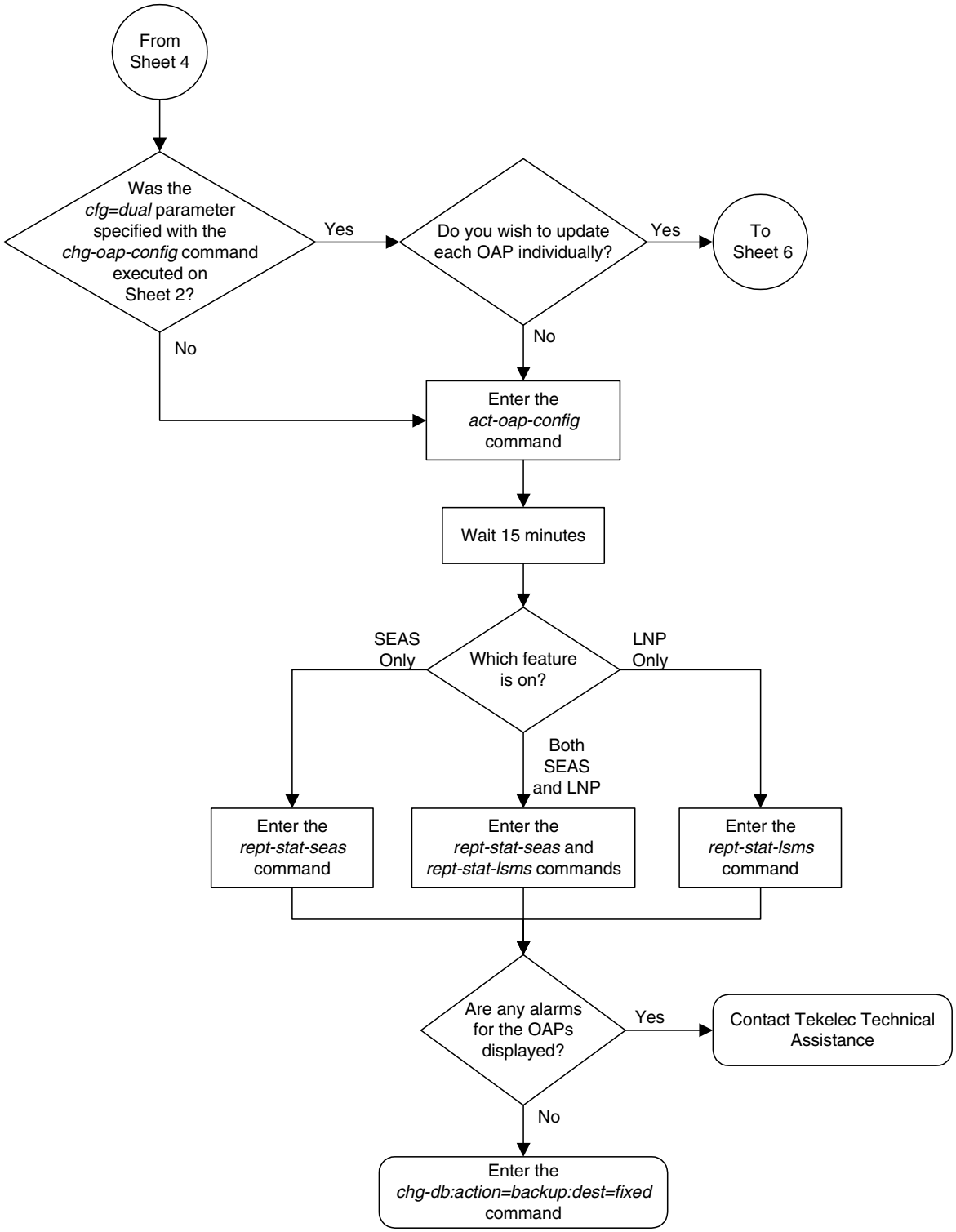
Flowchart A-3. Changing the OAP Configuration from the Eagle STP Terminal (Sheet 3 of 7)



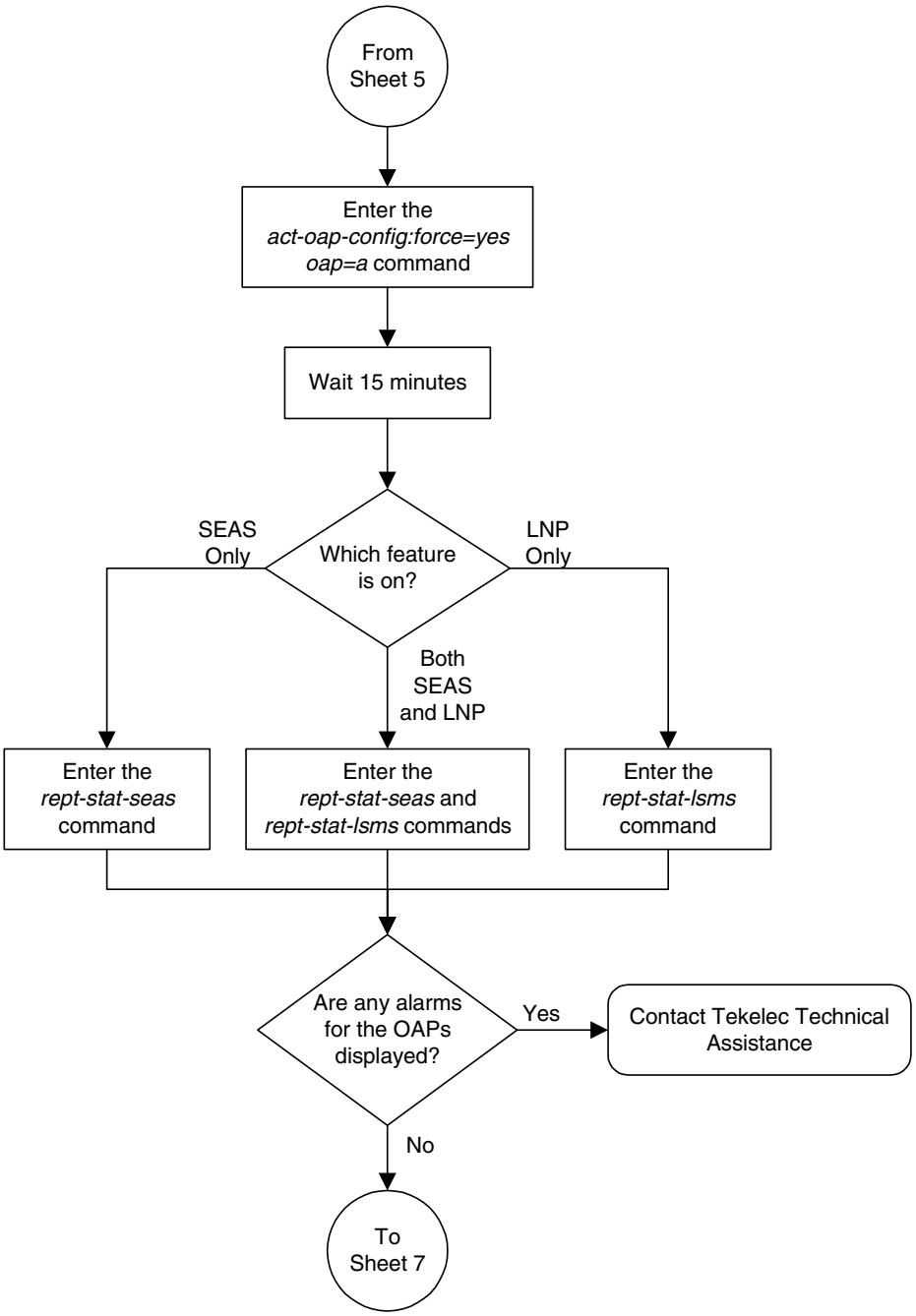
Flowchart A-3. Changing the OAP Configuration from the Eagle STP Terminal (Sheet 4 of 7)



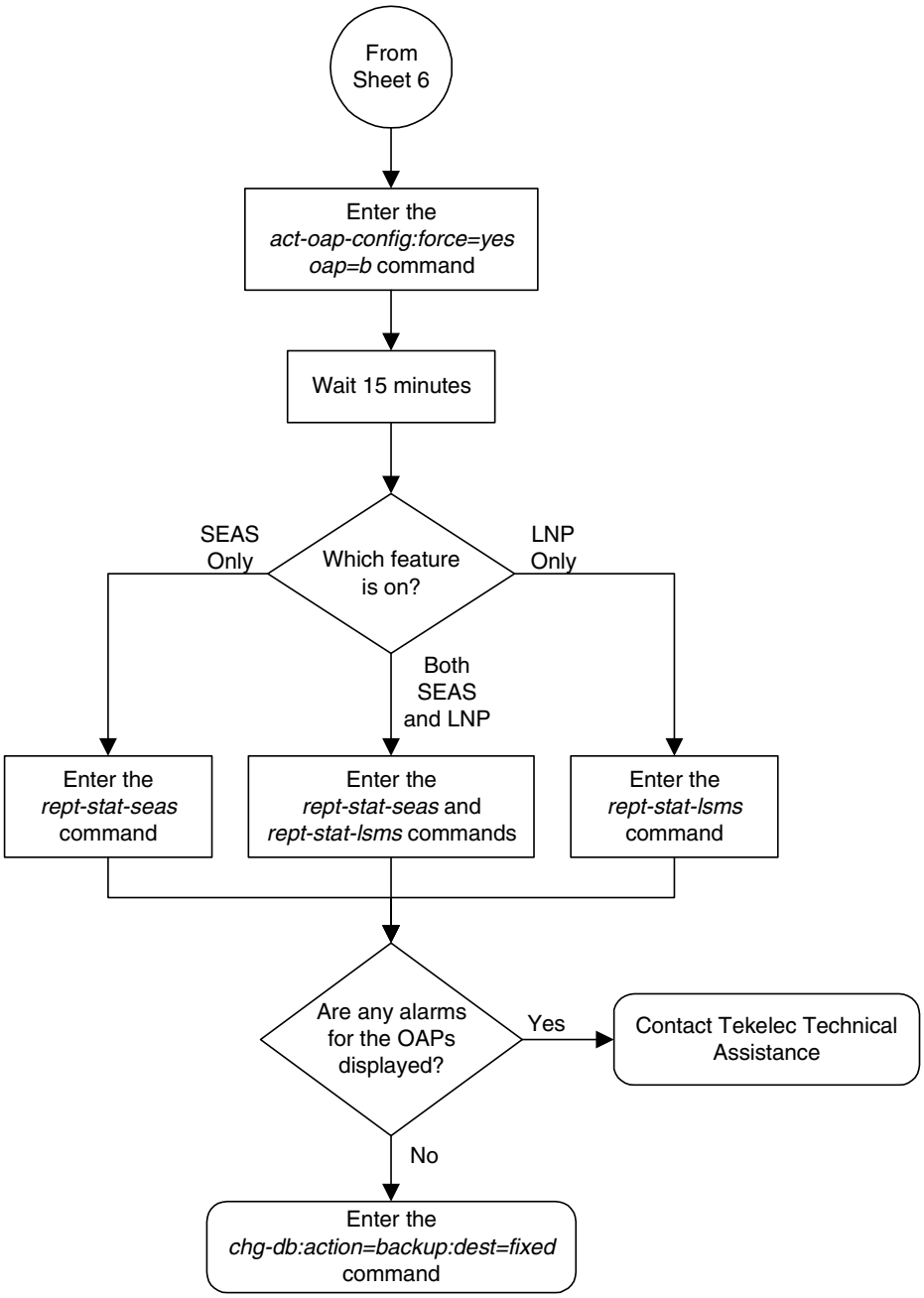
Flowchart A-3. Changing the OAP Configuration from the Eagle STP Terminal (Sheet 5 of 7)



Flowchart A-3. Changing the OAP Configuration from the Eagle STP Terminal (Sheet 6 of 7)



Flowchart A-3. Changing the OAP Configuration from the Eagle STP Terminal (Sheet 7 of 7)



VI Editor Quick Reference

Invoke *vi* by typing *vi <filename>*. *vi* begins in command mode.
Start input mode with any of the "Entering Text" commands listed below.
Return to command mode by typing the command again.
Commands with a # before them denote to repeat the command a number of times or to move to the line of the same number.

Function	Command	Description
Scrolling	CTRL-d	scroll down a half screen
	CTRL-u	scroll up a half screen
	CTRL-f	scroll forward a screen
	CTRL-b	scroll backward a screen
Cursor Positioning	<#>j	down # of lines
	<#>k	up # of lines
	<#>h	left # of spaces
	<#>l	right # of spaces
	arrow keys	replace h, j, k, and l commands
	<#>G	line # of the file
	G	last line of the file
	H	top of the screen
	M	middle of the screen
	L	last line of the screen
	0 (zero)	beginning of current line
	$	end of current line
Entering Text	a	append text after cursor
	i	insert text before cursor
	o	open a new line below the current line
	O	open a new line above the current line

Invoke *vi* by typing *vi <filename>*. *vi* begins in command mode.
Start input mode with any of the "Entering Text" commands listed below.
Return to command mode by typing the command again.
Commands with a # before them denote to repeat the command a number of times or to move to the line of the same number.

Function	Command	Description
Changing Text	<#>x	delete # of characters after and including cursor
	<#>dd	delete # of lines including current line
	D	delete remainder of line to the right of cursor
	J	join next line to the current line
	r	replace character with the next typed character
Copying Changes	<#>yy or <#>Y	yank # of lines, including current line to clipboard
	p	put line from clipboard below the current line
Undoing Changes	u	undoes last command
	U	undoes all changes made to current line before leaving line
Searching and Replacing	/pattern	search for next occurrence of pattern
	?pattern	search for preceding occurrence of pattern
	n	repeat the last search in the same direction
	n	repeat the last search in the opposite direction
Saving Text and Exiting vi	:w	write to disk and remain in vi
	:q	quit, ignoring changes since last *w*
	:q!	emphatic quit; use when *q* fails
	:wq	write to disk and quit vi
	ZZ	same as *:wq*
Miscellaneous	.	repeat last change
	u	undo last change

B

Controlled Feature Activation Procedures

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Deactivating Controlled Features.....B–39

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 system 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 system 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 system, 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 system, and that this serial number is locked. This can be verified with the **rtrv-serial-num** command. The system 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 system is on-site, with the **ent-serial-num** command. The **ent-serial-num** command uses these parameters.

:serial – The serial number assigned to the system. 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 system'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 system 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

Procedure

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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
IPGWx Signaling TPS       893012814  on      20000
ISUP Normalization        893000201  on      ----
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.

2. Display the serial number in the database with the **`rtrv-serial-num`** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
System serial number = ntxxxxxxxxxxxx

System serial number is not locked.

rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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 Tekelec Technical Services to get an incorrect and locked serial number changed. See "Tekelec Technical Services" on page 1-6. 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=<system's correct serial number>`

   When this command has successfully completed, the following message should appear.

```
rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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=<system's serial number>:lock=yes

   When this command has successfully completed, the following message should appear.

   ```
   rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
   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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
   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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
   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 05-03-01 21:16:37 GMT EAGLE5 32.0.0
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 05-03-01 21:16:37 GMT EAGLE5 32.0.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Telnet                    893005701  on      ----
```

   rtrv-ctrl-feat:partnum=893009101

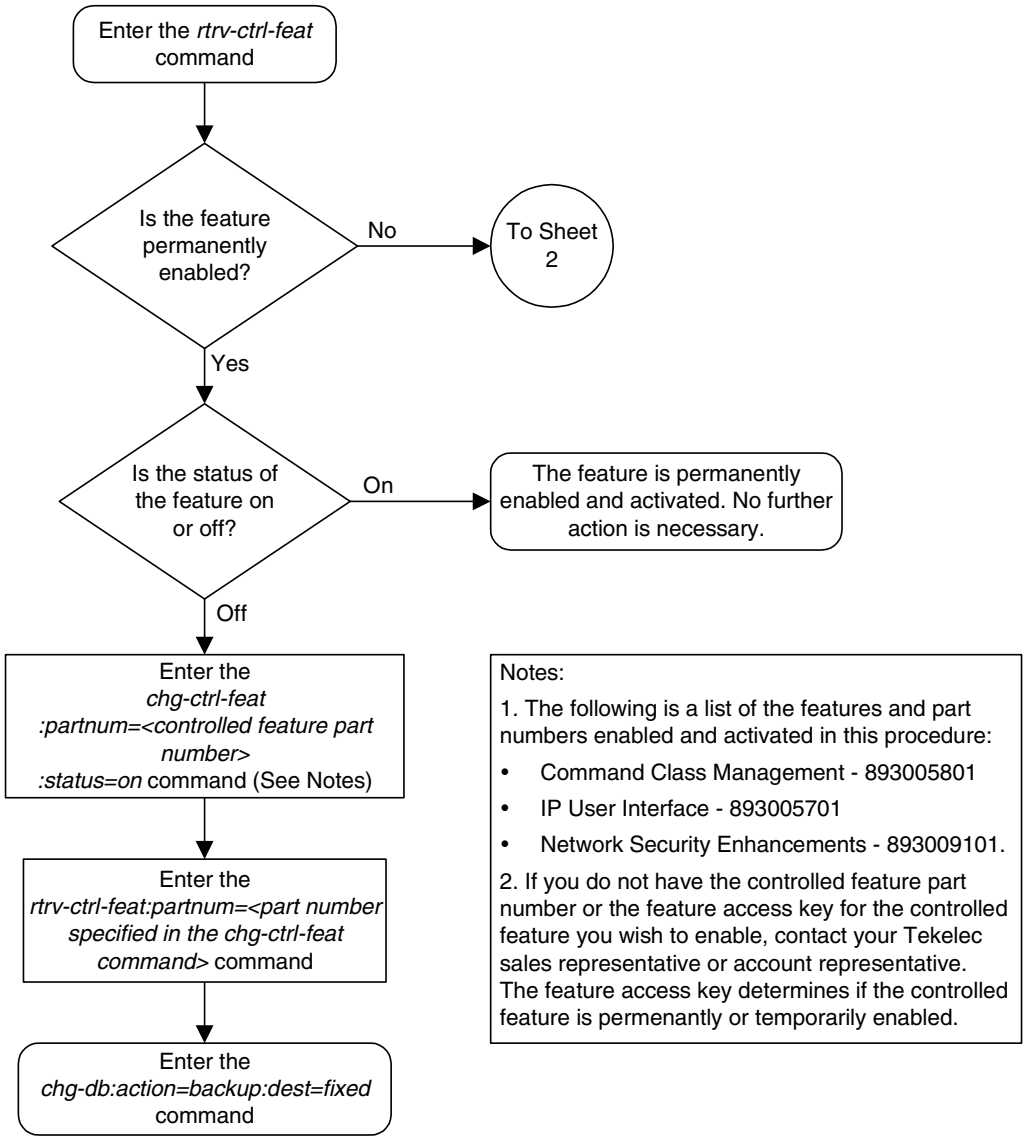
   The following is an example of the possible output.

```
rlghncxa03w 05-03-01 21:16:37 GMT EAGLE5 32.0.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Network Security Enhance  893009101  on      ----
```

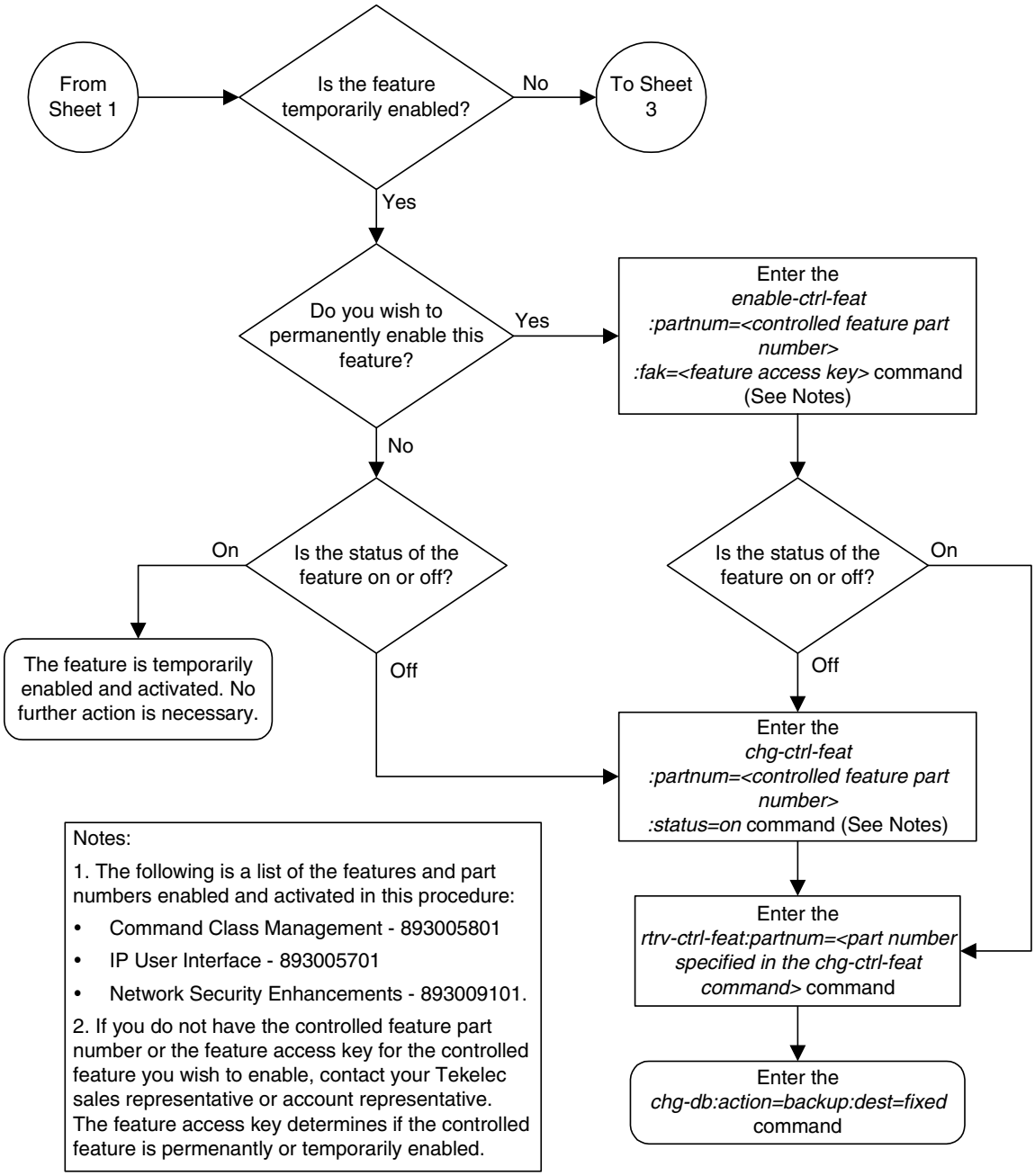
9. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

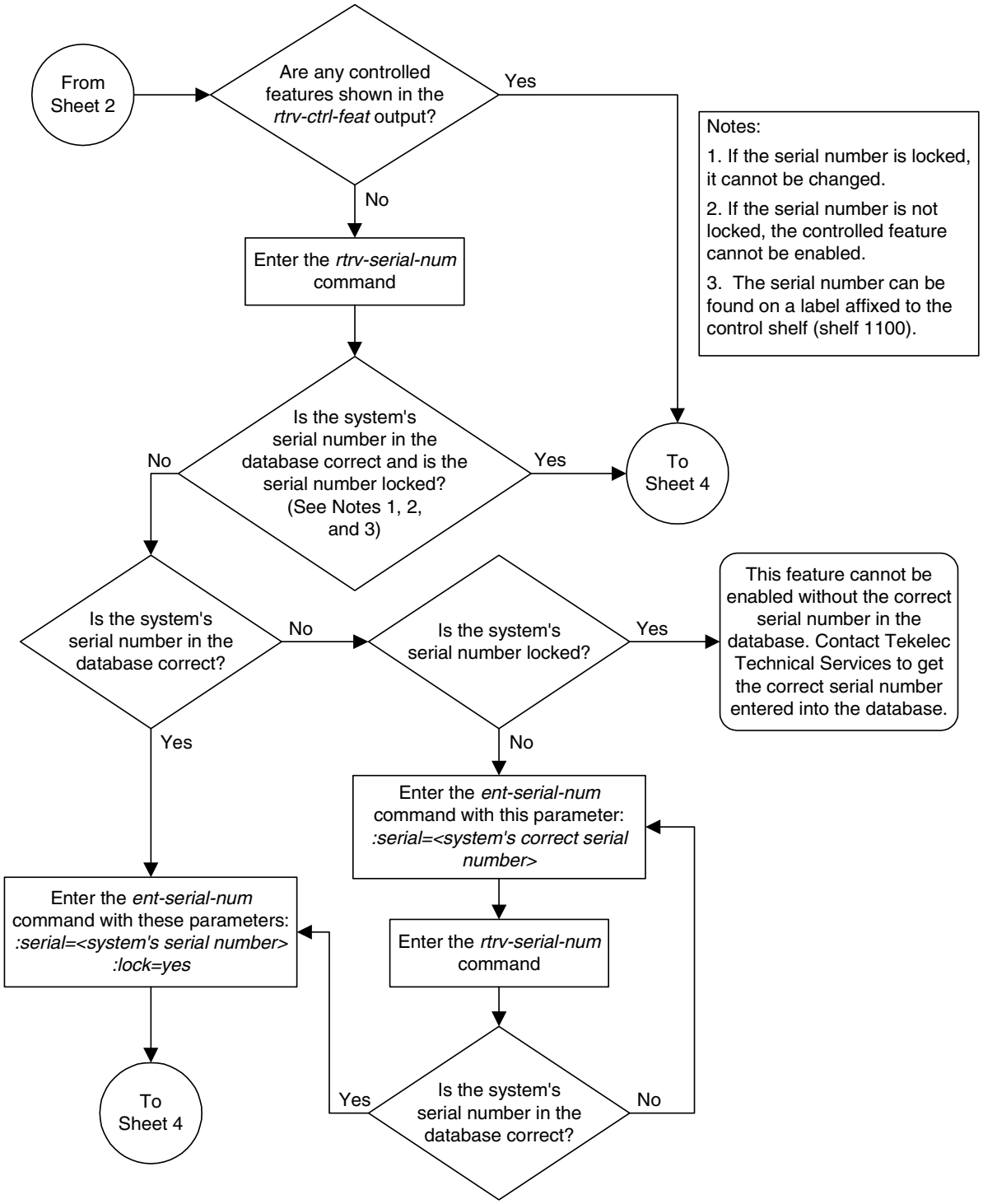
Flowchart B-1. Activating Controlled Features (Sheet 1 of 4)



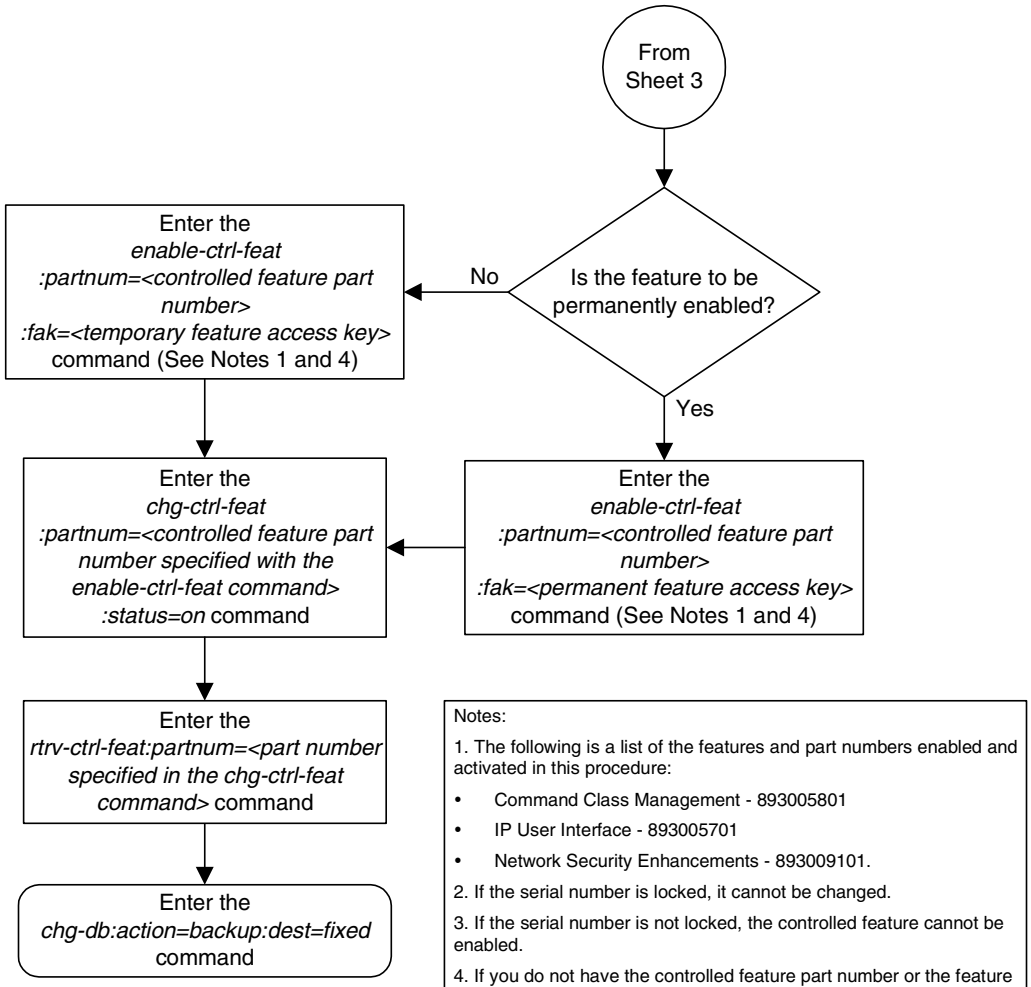
Flowchart B-1. Activating Controlled Features (Sheet 2 of 4)



Flowchart B-1. Activating Controlled Features (Sheet 3 of 4)



Flowchart B-1. Activating Controlled Features (Sheet 4 of 4)



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)FTP Retrieve and Replace features.

With the IP User Interface feature, a secure shell connection is established between the Eagle and the telnet terminals allowing passwords to be sent over the connection. This allows the system admistrator to add new users to the Eagle (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. 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" procedure on page 4-158 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" procedure on page B-3, or the *Commands Manual*.

Procedure

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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
IPGWx Signaling TPS       893012814  on      20000
ISUP Normalization        893000201  on      ----
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.

2. Display the serial number in the database with the **rtrv-serial-num** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
System serial number = ntxxxxxxxxxxxx

System serial number is not locked.

rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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 Tekelec Technical Services to get an incorrect and locked serial number changed. See "Tekelec Technical Services" on page 1-6. 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=<system's correct serial number>

   When this command has successfully completed, the following message should appear.

```
rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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=<system's serial number>:lock=yes

   When this command has successfully completed, the following message should appear.

```
rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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. 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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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  05-03-01 16:02:08 GMT EAGLE5 32.0.0
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  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 05-03-01 16:43:42 GMT  EAGLE5 32.0.0
CARD   VERSION      TYPE      APPL       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 05-03-01 16:43:42 GMT  EAGLE5 32.0.0
CARD   VERSION      TYPE      APPL       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 05-03-01 16:43:42 GMT  EAGLE5 32.0.0
CARD   VERSION      TYPE      APPL       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 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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 05-03-01 15:08:45 GMT EAGLE5 32.0.0
Inhibit message sent to terminal

rlghncxa03w 05-03-01 15:08:45 GMT EAGLE5 32.0.0
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 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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 05-03-01 21:16:37 GMT EAGLE5 32.0.0
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 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
Card has been allowed.
```

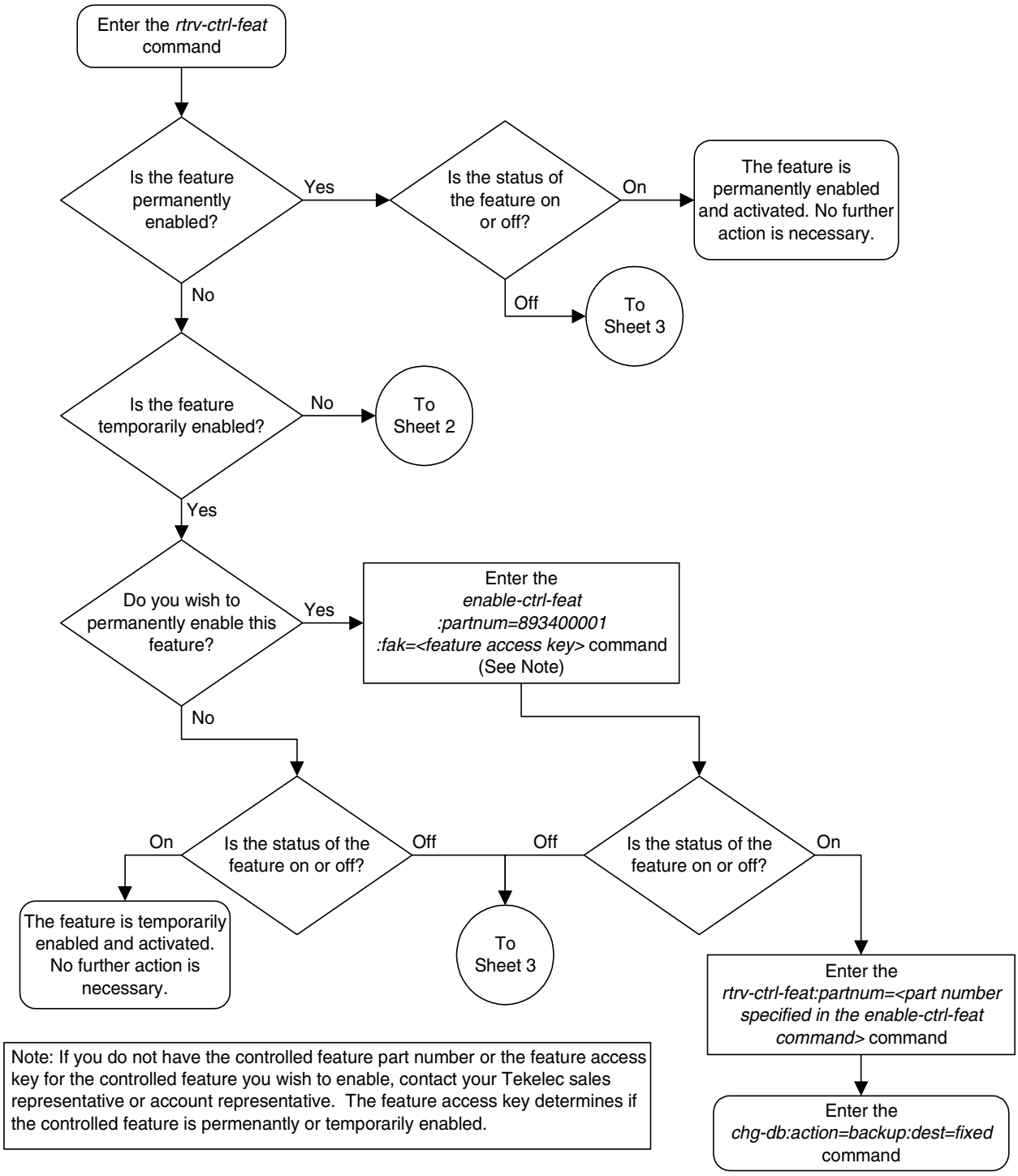
When the IPSMs are placed into service with the **rst-card** command, UIM 1494, SSH Host Keys Loaded, is displaye. UIM 1494 contains the public host key fingerprint which is used to establish a secure connection with an SSH client. If the secure connection is to be made with the FTRA, the public host 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*.

---

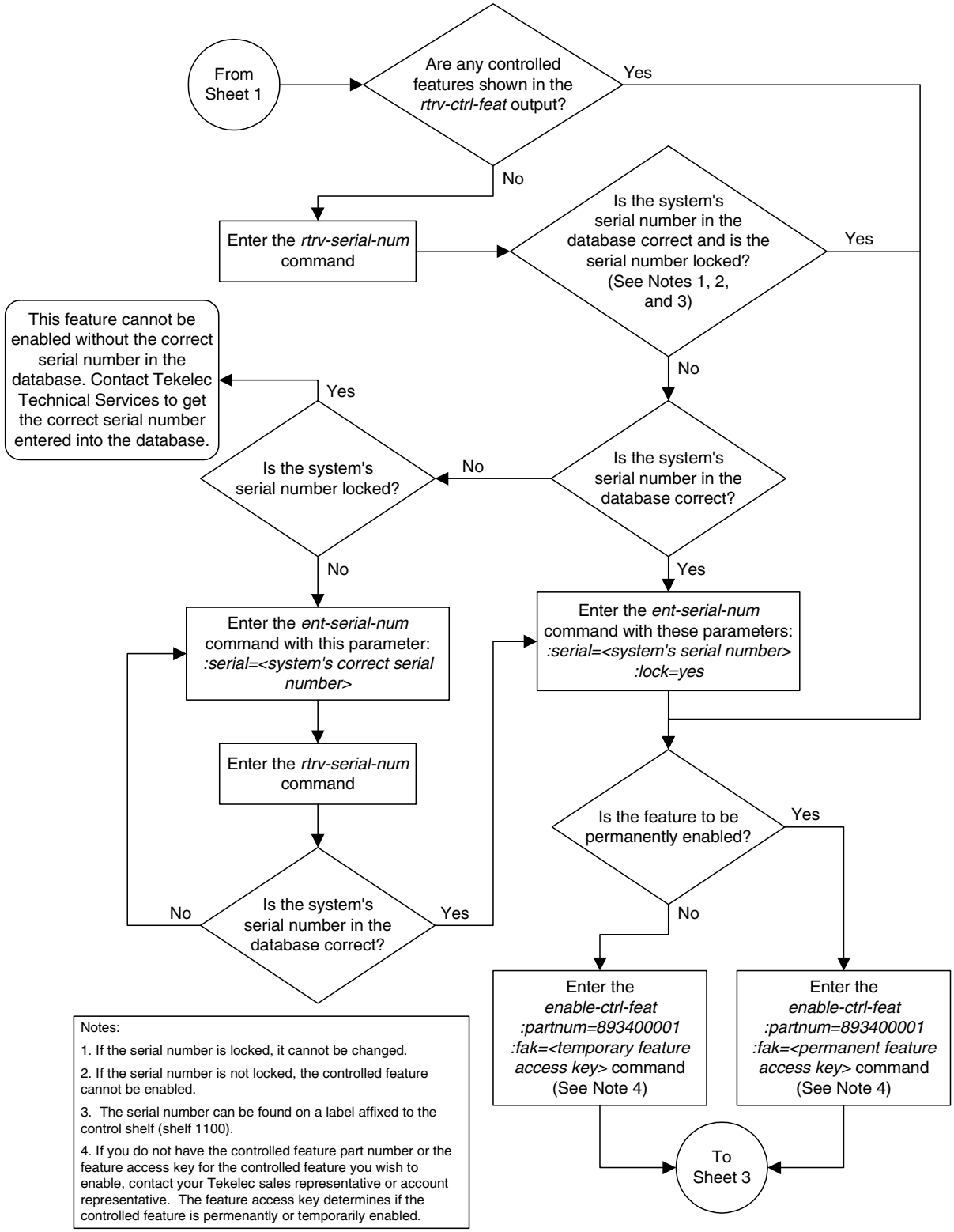
16. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

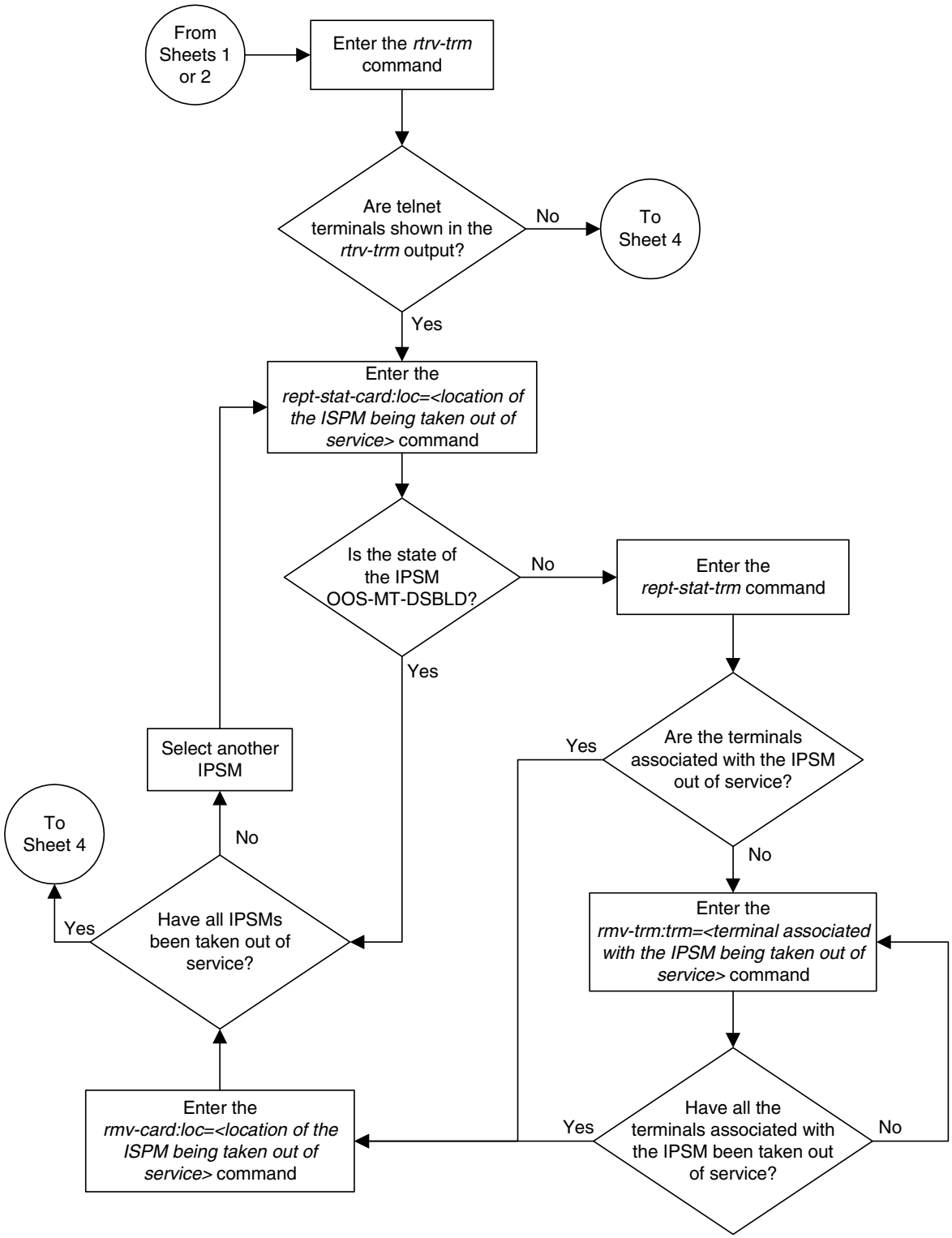
Flowchart B-2. Activating the Eagle OAM IP Security Enhancement Controlled Feature (Sheet 1 of 4)



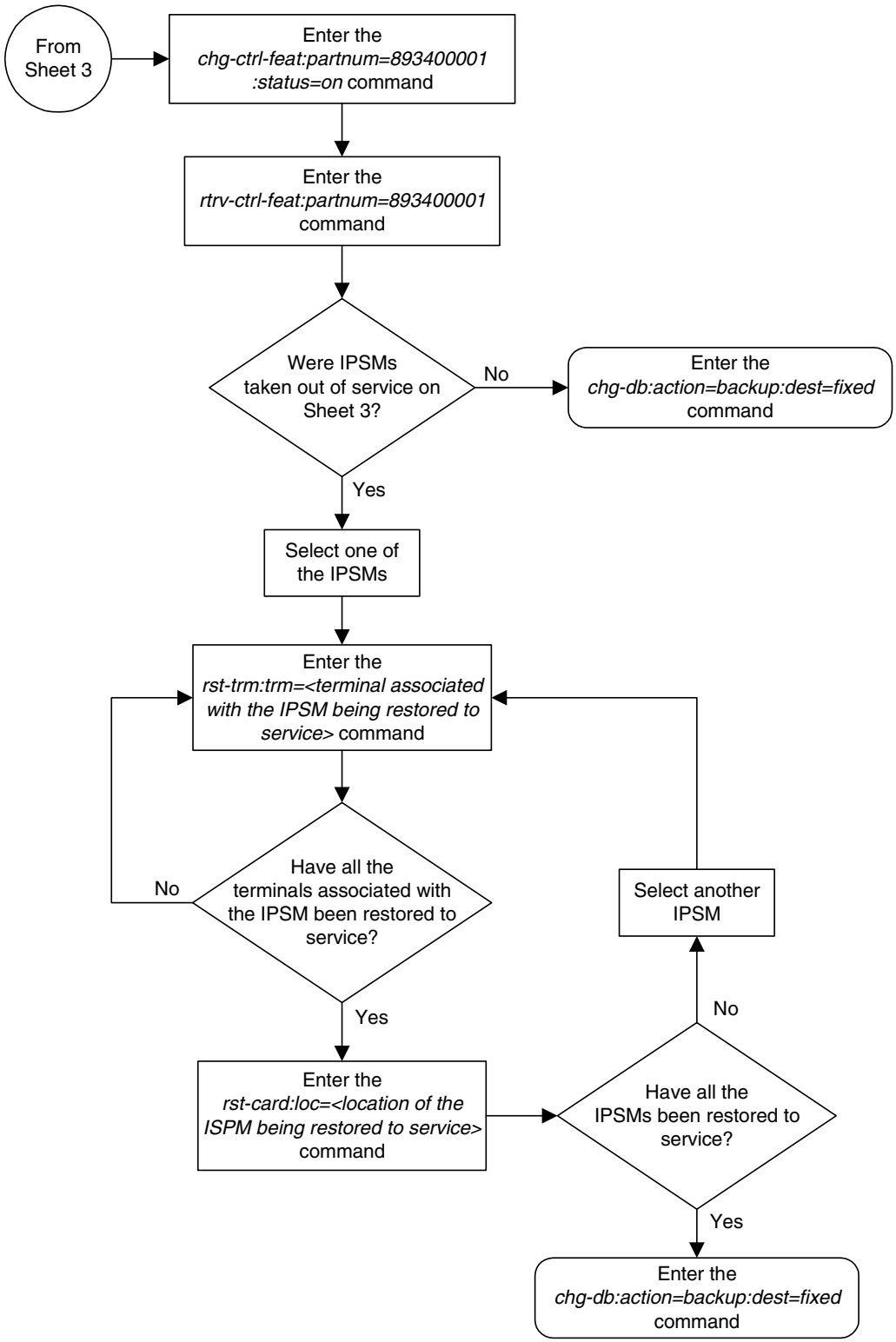
Flowchart B-2. Activating the Eagle OAM IP Security Enhancement Controlled Feature (Sheet 2 of 4)



Flowchart B-2. Activating the Eagle OAM IP Security Enhancement Controlled Feature (Sheet 3 of 4)



Flowchart B-2. Activating the Eagle OAM IP Security Enhancement Controlled Feature (Sheet 4 of 4)



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 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 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.
- No DCMs running the EMDC application (DCM-EMDC cards) can be present in the Eagle.

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" procedure on page B-3, or the *Commands Manual*.

NOTE: This feature can only be permenantly 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.

Procedure

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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
IPGWx Signaling TPS       893012814  on      20000
ISUP Normalization        893000201  on      ----
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.

2. Display the serial number in the database with the **rtrv-serial-num** command. This is an example of the possible output.

```
rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
System serial number = ntxxxxxxxxxxxx

System serial number is not locked.

rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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 Tekelec Technical Services to get an incorrect and locked serial number changed. See "Tekelec Technical Services" on page 1-6. 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=<system's correct serial number>

   When this command has successfully completed, the following message should appear.

```
rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
System serial number = nt00001231

System serial number is not locked.

rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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=<system's serial number>:lock=yes

   When this command has successfully completed, the following message should appear.

```
rlghncxa03w 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
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" procedure on page 4-141 to add the required MCPMs and to turn the Measurements Platform feature on. After the Measurements Platform is turned on, performm the "Configuring the Measurements Platform Feature" procedure on page 4-150 to configure the Measurements Paltform 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 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
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" procedure on page 4-150 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 05-03-01 16:43:42 GMT  EAGLE5 32.0.0

                     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" procedure on page 4-150 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. Enter the **rept-stat-ndc** command to verify whether or not any DCMs running the EMDC application (DCM-EMDC cards) are present in the system. This is an example of the possible output.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
CARD   VERSION      TYPE    APPL       PST            SST        AST
2205   114-2-0      DCM     EMDC       IS-NR          Active     -----
  DCM A IP CONNECTION                  IS-NR          Avail      -----
  OAP A IP CONNECTION                  IS-NR          Avail      -----
  OAP A NDC AGENT                      IS-NR          Active     -----


CARD   VERSION      TYPE    APPL       PST            SST        AST
2207   114-2-0      DCM     EMDC       IS-NR          Idle       -----
  DCM B IP CONNECTION                  IS-NR          Avail      -----
  OAP B IP CONNECTION                  IS-NR          Avail      -----
  OAP B NDC AGENT                      IS-NR          Idle       -----


  NDC Q.3 ASSOCIATION [OAP A]          IS-NR          Avail      -----
  DCM-DCM IP CONNECTION                IS-NR          Avail      -----
  OAP-OAP SERIAL CONNECTION            IS-NR          Avail      -----

ALARM STATUS:

Command Completed.
```

If the output of the **rept-stat-ndc** command shows that DCM-EMDC cards are present in the system, go to step 11.

If the output of the **rept-stat-ndc** command shows that DCM-EMDC cards are not present in the system, skip steps 11 and 12, and go to step 13.

---

11. Remove the DCM-EMDC cards shown in the **rept-stat-ndc** output in step 10 by entering the **dlt-card** command with the card location of the DCM-EMDC cards shown in step 10. For this example, enter these commands.

dlt-card:loc=2205

dlt-card:loc=2207

When this command has successfully completed, this message should appear.

```
rlghncxa03w 05-03-01 09:12:36 GMT  EAGLE5 32.0.0
DLT-CARD: MASP A - COMPLTD
```

---

12. Verify the changes using the **rtrv-card** command specifying the card that was removed in step 11. For this example, enter these commands.

rtrv-card:loc=2205

rtrv-card:loc=2207

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

```
E2144 Cmd Rej: Location invalid for hardware configuration
```

NOTE: The 15 Minute Measurements feature cannot be activated while the 30-minute measurement collection is in progress. If the 30-minute measurement collection is in progress, wait until 30-minute measurement collection has finished before performing this step.

13. 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 05-03-01 21:15:37 GMT EAGLE5 32.0.0
CHG-CTRL-FEAT: MASP B - COMPLTD
```

---

14. Verify the changes by entering the **rtrv-ctrl-feat** command with the part number specified in step 13.

rtrv-ctrl-feat:partnum=893012101

The following is an example of the possible output.

```
rlghncxa03w 05-03-01 21:16:37 GMT EAGLE5 32.0.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
15 Minute Measurements    893012101  on      ----
```

---

15. 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 05-03-01 21:16:37 GMT EAGLE5 32.0.0
CHG-MEAS-OPTS: MASP A - COMPLTD
```

---

16. 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 05-03-01 16:02:05 GMT  EAGLE5 32.0.0
EAGLE MEASUREMENT OPTIONS LIST

PLATFORMENABLE = on
COLLECT15MIN   = on
CLLIBASEDNAME  = on
-------------------------------------
SYSTOTSTP     =on
```

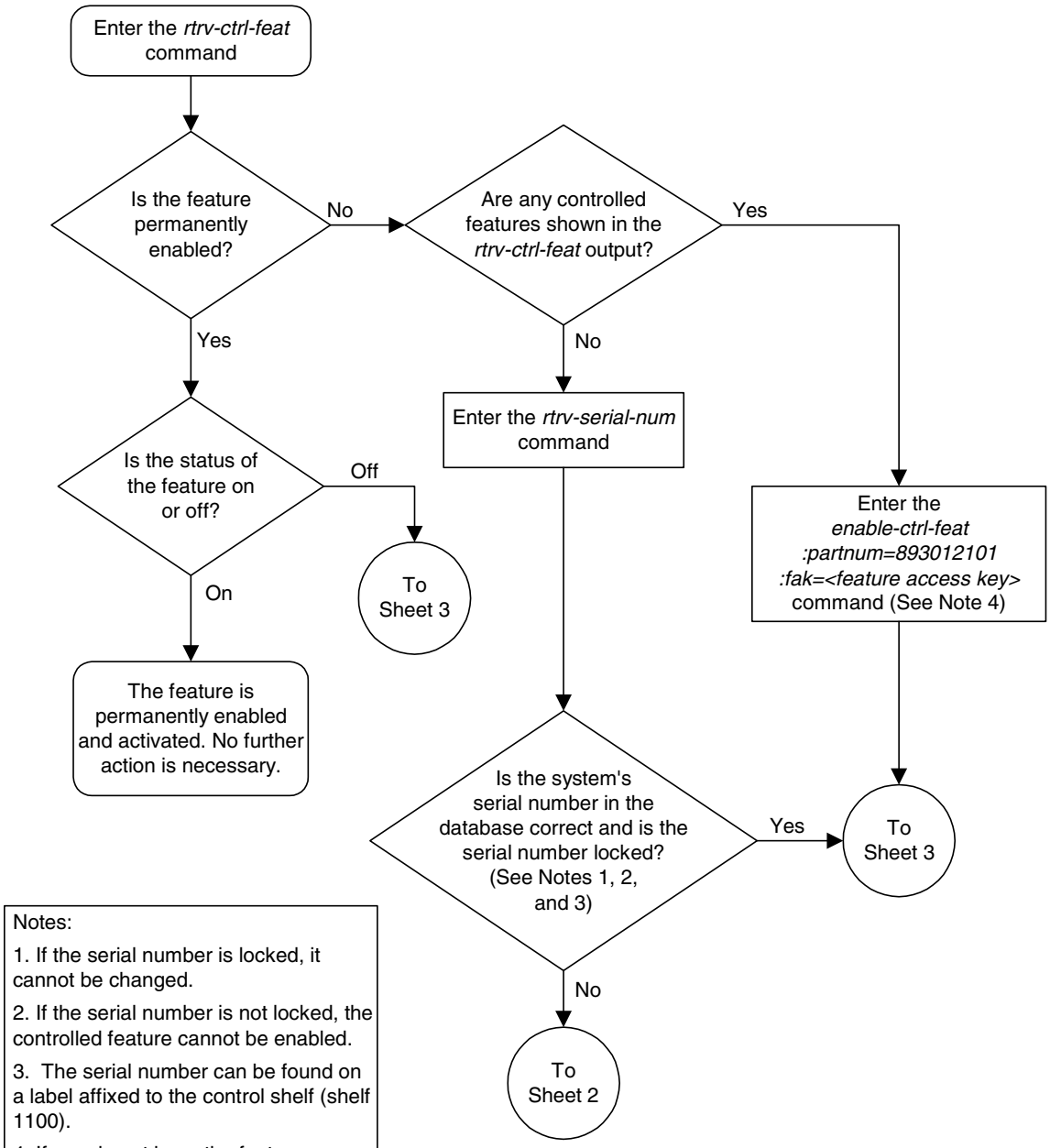
NOTE: The rtrv-measopts command output contains other fields that are not used by this procedure. If you wish to see all the fields displayed by the rtrv-measopts command, see the rtrv-measopts command description in the *Commands Manual*.

---

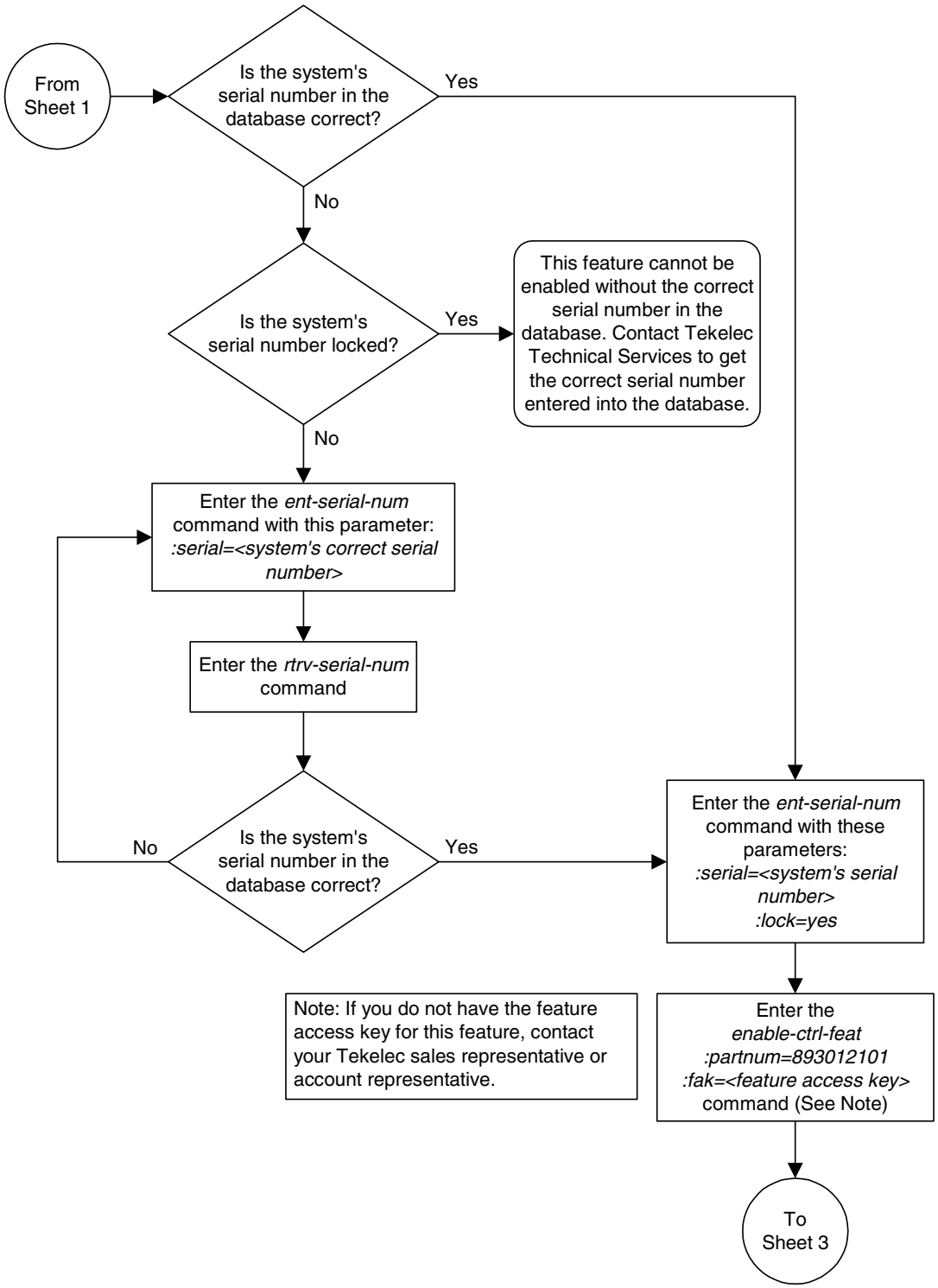
17. Backup the new changes using the **chg-db:action=backup:dest=fixed** command. These messages should appear, the active Maintenance and Administration Subsystem Processor (MASP) appears first.

```
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.
```

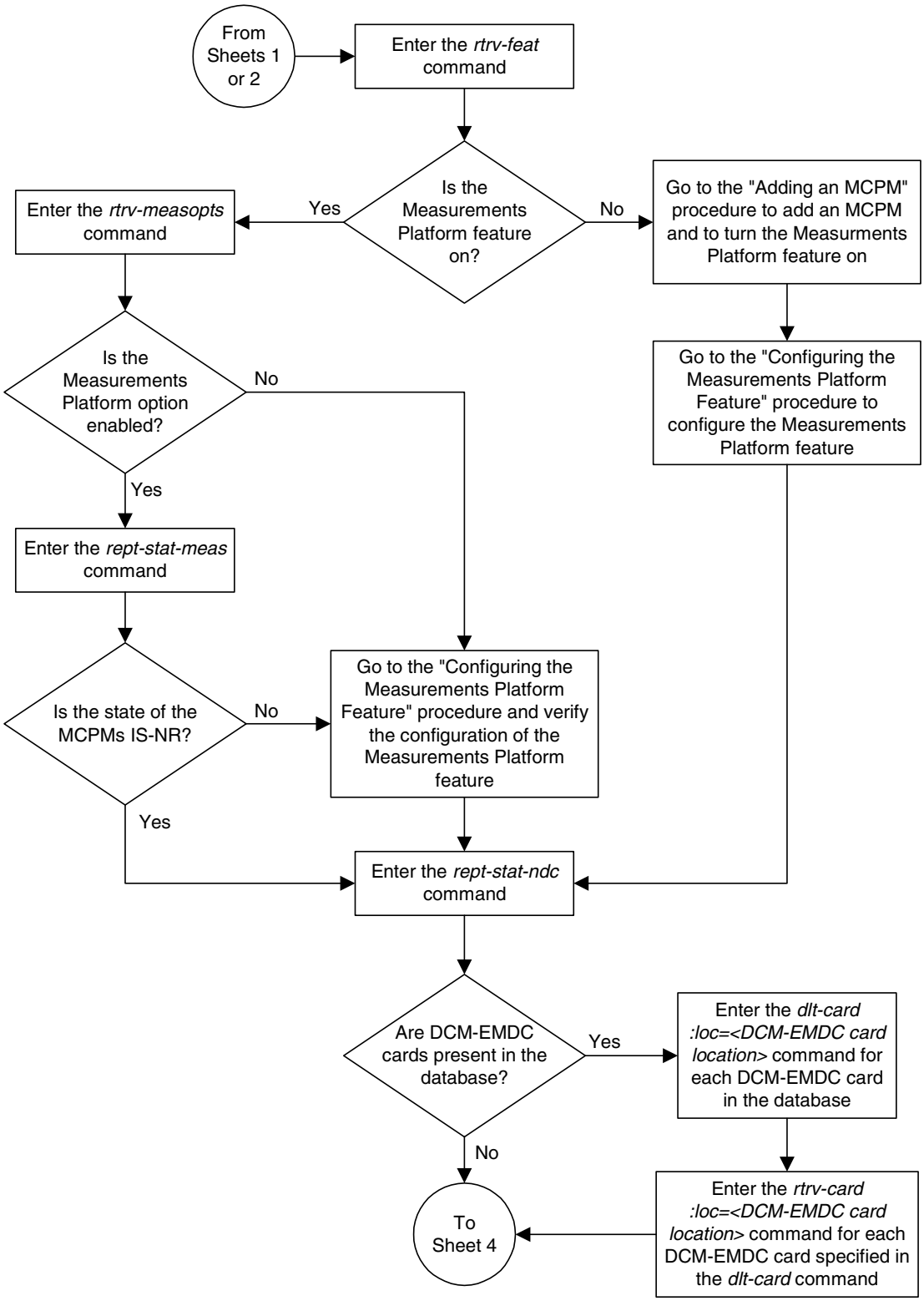
Flowchart B-3. Activating the 15 Minute Measurements Controlled Feature (Sheet 1 of 4)



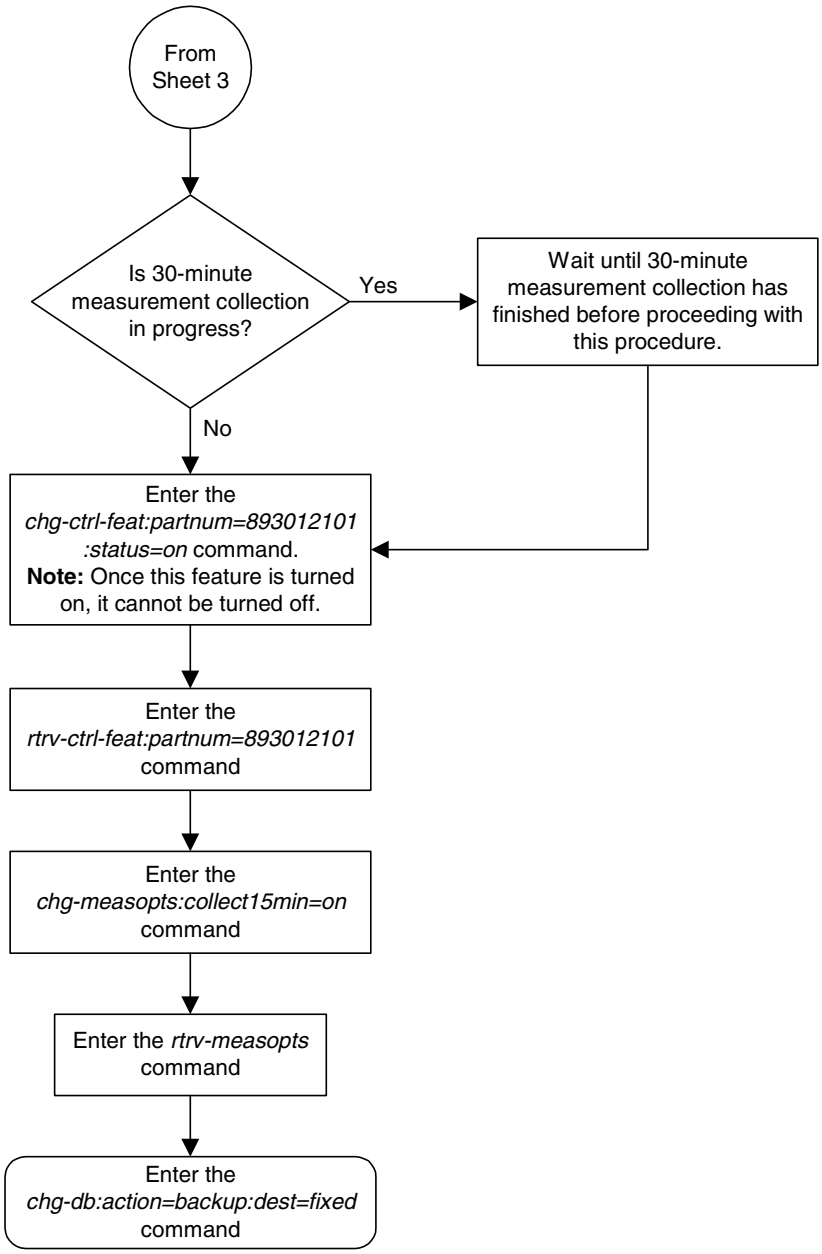
Flowchart B-3. Activating the 15 Minute Measurements Controlled Feature (Sheet 2 of 4)



Flowchart B-3. Activating the 15 Minute Measurements Controlled Feature (Sheet 3 of 4)



Flowchart B-3. Activating the 15 Minute Measurements Controlled Feature (Sheet 4 of 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.

Procedure

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 05-03-01 21:17:37 GMT EAGLE5 32.0.0
The following features have expired temporary keys:
Feature Name              Part Num
Command Class Management  893005801
```

2. Clear the system 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 05-03-01 21:16:37 GMT EAGLE5 32.0.0
CHG-CTRL-FEAT: MASP A - COMPLTD
```

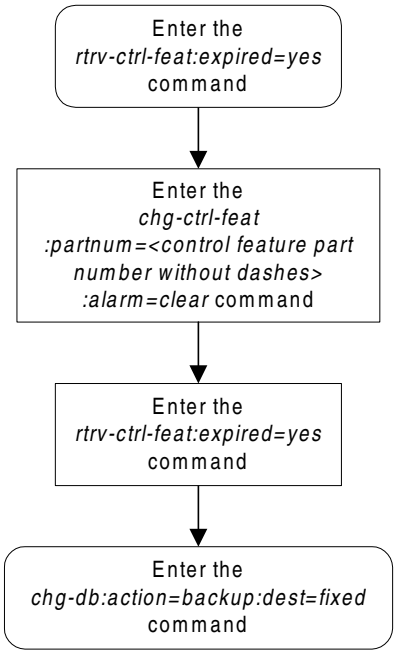
3. Verify that the alarm has cleared in the database by using the **rtrv-ctrl-feat:expired=yes** command. The following is an example of the possible output.

```
rlghncxa03w 05-03-01 21:16:37 GMT EAGLE5 32.0.0
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.
```

Flowchart B-4. 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: If the Command Class Management controlled feature is deactivated, no new user-defined command classes can be created, and the user-defined command classes cannot be assigned to user IDs or terminals.

CAUTION: If the IP User Interface 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.

Procedure

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 05-03-01 21:17:37 GMT EAGLE5 32.0.0
The following features have been permanently enabled:

Feature Name              Partnum    Status  Quantity
IPGWx Signaling TPS       893012814  on      20000
ISUP Normalization        893000201  on      ----
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.
```

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 05-03-01 21:16:37 GMT EAGLE5 32.0.0
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 05-03-01 21:16:37 GMT EAGLE5 32.0.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Command Class Management  893005801  off     ----
```

   rtrv-ctrl-feat:partnum=893005701

   The following is an example of the possible output.

```
rlghncxa03w 05-03-01 21:16:37 GMT EAGLE5 32.0.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Telnet                    893005701  off     ----
```

   rtrv-ctrl-feat:partnum=893009101

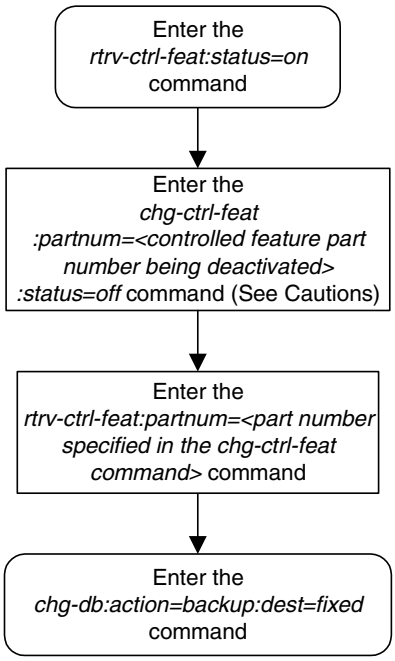
   The following is an example of the possible output.

```
rlghncxa03w 05-03-01 21:16:37 GMT EAGLE5 32.0.0
The following features have been permanently enabled:
Feature Name              Partnum    Status  Quantity
Network Security Enhance  893009101  off     ----
```

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.
```

Flowchart B-5. Deactivating Controlled Features



Caution: If the Command Class Management controlled feature is deactivated, no new user-defined command classes can be created, and the user-defined command classes cannot be assigned to user IDs or terminals.

Caution: If the IP User Interface 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.

Caution: If the Network Security Enhancements controlled feature is deactivated, the network Security Enhancement options will be disabled.

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