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Global Product Solutions

Software Upgrade Procedure

EAGLE Releases 35.x, 36.x, 37.x, 38.x, and 39.x

CAUTION: Use only the Upgrade procedure included in the Upgrade Kit.
Before upgrading any system, please access Tekelec's Customer Support site and review any Technical Service Bulletins (TSBs) that relate to this upgrade.
Refer to Appendix E for instructions on accessing this site.

Contact the Tekelec Customer Care Center and inform them of your upgrade plans prior to beginning this or any upgrade procedure.

Phone: 1-888-FOR-TKLC (1-888-367-8552) or 919-460-2150 (international)
FAX: 919-460-2126
EMAIL: support@tekelec.com

909-0118-01 Revision H, July 2008 Version 6.9

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1. INTRODUCTION

1.1 Purpose and Scope

This document describes methods utilized and procedures executed to perform a software upgrade on an in-service EAGLE®-based STP to EAGLE® Software Release 35.0, 36.0, 37.0, 38.0, or 39.0 aswell as any future 35.x, 36.x, 37.x, 38.x, or 39.x point release. The audience for this document includes Tekelec customers as well as these EAGLE® NSG groups: Software Development, Product Verification, Technical Communications, and Customer Service including Software Operations and First Office Application. This document provides step-by-step instructions to execute any Release 35.x, 36.x, 37.x, 38.x, or 39.x upgrade.

With the introduction of the EAGLE Remote Download / Remote Backup feature set (features 117323, 114828, & 114145) in EAGLE Release 39.2, a new upgrade execution method is available on the system. However, that method is out of the scope of this document.

See appropriate upgrade kit instructions/references for the software upgrade of peripheral equipment.

1.2 References

1.2.1 External

[1] *EAGLE5 ISS 31.6 and above Health Check Procedure*, 909-0656-001, latest revision, Tekelec

[2] *EAGLE 5 ISS 35.0 Maintenance Manual*, 910-0338-001, latest revision, Tekelec
EAGLE 5 ISS 35.1 Maintenance Manual, 910-4495-001, latest revision, Tekelec
EAGLE 5 ISS 36.0 Maintenance Manual, 910-4530-001, latest revision, Tekelec
EAGLE 5 ISS 37.0 Maintenance Manual, 910-4920-001, latest revision, Tekelec
EAGLE 5 ISS 37.5 Maintenance Manual, 910-5055-001, latest revision, Tekelec
EAGLE 5 ISS 38.0 Maintenance Manual, 910-5272-001, latest revision, Tekelec
EAGLE 5 ISS 39.0 Maintenance Manual, TBD, latest revision, Tekelec

1.2.2 Internal (Tekelec)

The following are references internal to Tekelec. They are provided here to capture the source material used to create this document. Internal references are only available to Tekelec personnel.

[1] *EAGLE Hardware Field Baseline*, 820-2410-01, Tekelec.
[2] *TEKELEC Acronym Guide*, MS005077.doc, current revision
[3] Tekelec Eagle - Eng Release Mapping web page, http://devtools.nc.tekelec.com/cgi-bin/eng_eag.cgi, Tekelec, Published
[4] Tekelec CSR-PR Reports By Build, http://devtools.nc.tekelec.com/cgi-bin/release_desc.cgi
[5] *EAGLE Upgrade Command Specification*, CS000120, rev. 5.4, Tekelec, April 2004.
[6] *EAGLE 35.0 Product Functional Specification*, PF005265, latest version, Tekelec.
[7] *EAGLE 35.1 Product Functional Specification*, PF005290, latest version, Tekelec.
[8] *EAGLE 36.0 Product Functional Specification*, PF005285, latest version, Tekelec.
[9] *EAGLE 37.0 Product Functional Specification, PF005354, latest version Tekelec.*
[10] *EAGLE 37.2 Product Functional Specification, PF005370, latest version Tekelec.*
[11] *EAGLE 37.5 Product Functional Specification, PF005375, latest version Tekelec.*
[12] *EAGLE 37.6 Product Functional Specification, PF005380, latest version Tekelec.*
[13] *EAGLE 37.7 Product Functional Specification, PF005381, latest version Tekelec.*
[14] *EAGLE 37.10 Product Functional Specification, PF005398, latest version Tekelec.*
[15] *EAGLE 37.11 Product Functional Specification, TBD, latest version Tekelec.*
[16] *EAGLE 38.0 Product Functional Specification, PF005379, latest version Tekelec.*
[17] *EAGLE 39.0 Product Functional Specification, PF005397, latest version Tekelec.*
[18] Tekelec Tekpedia web page, http://nsdsolaris2.nc.tekelec.com/tekpedia/index.php/Methods_to_correct_distributed_network_database_(DDB)_inconsistencies, Tekelec, Published.

1.3 GPL Version Numbers

To determine the correct GPL version numbers for the EAGLE® applications, refer to the appropriate internal release-mapping web tool or to the *Release Notice* located on the Customer Support web site. Appendix E describes how to access the Customer Support web site. For FOA releases or Engineering prototype releases, refer to internal references [3] in section 1.2.2.

1.4 Database Version Number

To determine the correct database version numbers for the EAGLE® release, refer to the appropriate internal release-mapping web tool or to the *Release Notice* located on the Customer Support web site. Appendix E describes how to access the Customer Support web site. For FOA releases or Engineering prototype releases, refer to internal references [3] in section 1.2.2.

If the database version is the same for both the source and target release, the upgrade phase indictor is not displayed when the system is initialized onto the target release (procedure 7, step 9) but is displayed after the upgrade command is executed (Procedure 9, step 1). Most examples of this are maintenance release upgrades such as between release 34.0.1 and 34.0.6.

1.5 Acronyms

Table 1. Acronyms

AWA	Alternate Work Area
DDB	Dynamic Database
DDL	Dynamic Data Load
EOAM	Enhanced OAM
FAK	Feature Access Key
FOA	First Office Application
GA	General Availability
GLS	Generic Loading Service
GPL	Generic Program Load
GPSM	General Purpose Service Module
IMT	Interprocessor Message Transport
IS-NR	In Service - Normal
IS-ANR	In Service - Abnormal
KSR	Keyboard Send & Receive
LA	Limited Availability
LIM	Link Interface Module
LNP	Local Number Portability
LSMS	Local Service Management System
MAS	Maintenance and Administration Subsystem
MCPM	Measurement Collection and Polling Module
MDAL	Maintenance Disk and Alarm Card
MO	Magneto Optical (removable disk cartridge)
MOP	Method Of Procedure
MPS	Multi Purpose Server
OAM	Operations Administration and Maintenance
OAP	Operations, Administration and Maintenance Applications Processor
OOS-MT	Out Of Service - Maintenance
SEAS	Signaling Engineering and Administration System
STP	Signal Transfer Point
TDM	Terminal Disk Module
TPS	Transactions Per Second (feature)
TSM	Translation Services Module
UHC	Upgrade Health Check

1.6 Terminology

Table 2 provides a list of terms and their definitions used in this document.

Table 2. Terminology

Backout (abort)	The process to take a system back to a Source Release prior to completion of upgrade to Target release. Includes preservation of databases and system configuration.
Fixed disk based upgrade	An upgrade that uses the inactive partitions of the fixed disks as the workspaces to covert the data. With 9Gb and bigger hard drives, this is the expected method. .
Incremental upgrade	**EAGLE:** Upgrade to a maintenance release (external customers) or upgrade to a new build (Tekelec labs), i.e., 37.5.0 to 37.5.4. Note: there will be no database table changes in this type of upgrade
Intra-release upgrade	Any upgrade within a release; this includes incremental as well as full function upgrades where only the minor database version changes. Note: Intra-release upgrades are not covered by this document; a MOP is required in order to perform them.
Non-preserving upgrade	"Upgrade" that does not adhere to the standard goals of software upgrade methodology. The outcome of the execution is that the system is running on the Target Release; however, the Source Release database is **not** preserved.
Removable disk based upgrade	An upgrade that uses the removable disk as the work space to covert the data. This is not the normal method since TDM have 9Gb and bigger hard drives.
Rollback	The process to take a recently upgraded system from the Target Release back to the Source Release including preservation of the source-release databases and system configuration. The rollback would occur during the soak period prior to any new provisioning if an issue occurs, which facilitates a need to return to the source release. Note: Rollback occurring after new provisioning is outside the scope of this document and requires a MOP.
Source release	The software release from which the EAGLE® is upgraded. In this document, examples of source releases are EAGLE® 31.x and 34.x. Refer to the Upgrade section of References [6] thru [16] for valid source releases supported by this document
Target release	The software release to which the EAGLE® is upgraded. In this document, the target release is release 35.x, 36.x, 37.x, 38.x, or 39.x.

1.7 Recommendations

1. It is recommended that command input and command-line/scroll-area output be captured during the execution of this upgrade. The preferred method is the use of two serial terminals; one used to enter commands and to echo to the second, which is set to capture all output except for traffic-related unsolicited messages. These terminals should be of the KSR type. Another acceptable method is the use of one serial terminal, which has a terminal-emulation application that supports input/output capture. This terminal should be set to the KSR type. The least preferred method is for the user terminal to echo to a configured printer. It is unacceptable to use a telnet terminal since it does not support the echo capability. Serial terminal are designated ports 1 – 16 and telnet terminal are designed ports 17 and above.
2. It is recommended that measurement collection be retrieved prior to upgrade execution because, depending on source release, the data collected may not be persistent across the upgrade. Inhibiting measurements does NOT stop collection that is already in progress. OAM based measurements are inhibited on the next cycle. It is recommended that time should be given to allow the current cycle to complete. Those procedures that inhibit measurements manually contain steps to ensure that current collection is complete.
3. It is recommended that the OAP terminals be turned down for non MPS LNP systems and others with high OAP traffic. If OAP terminals are not inhibited, any database updates successfully entered during the period between the last database backup and Upgrade Phase 0 are lost if it becomes necessary to fall back to the source release.
4. It is recommended that the Measurements Platform NOT be shut down and the Measurement Collection and Polling Module (MCPM) cards NOT be inhibited.
5. It is recommended to issue the command in **Procedure 9, Step 1** with **XX** equal to 75. In some circumstances, such as for a large system, it may be necessary to reduce this value. A system is considered a large system if it has at least 50 LIM cards running applications (SS7ANSI, CCS7ITU, ATMANSI, or SS7GX25). The threshold parameter is specified at 75 to ensure that 75% of links remain in service during the network conversion of the upgrade execution. This value allows for an expedited network upgrade while minimizing any risk to service interruption.

   If the system being upgraded meets this criteria, then issue the following command in **Procedure 9, Step 1**:

   ```
   ACT-UPGRADE:ACTION=CONVERTSTP:THRES=75
   ```

   It is not recommended to specify a threshold value other than what is stated above. Contact Tekelec Technical Services for verification, if any other threshold is desired service.
6. The upgrade procedure automatically determines whether to convert the OAM using the removable disk as the workspace for table conversion, or whether to use the inactive partitions of the TDM fixed disks as this workspace. This decision is based on disk capacity and source release version. In general, fixed-disk conversion occurs for upgrades to release 30.0 or greater when both TDMs have capacity greater than 8GB. The user can force the use of the removable disk by specifying the parameter “disk=remove” in the act-upgrade command, consult the reference [5].
7. Release 29 and above supports an IP user interface telnet terminal. However, this terminal does not support echo and capture mode. Without this support the IP telnet terminal should not be used in the execution of this upgrade procedure. Any application connected via a Telnet session through an IPSM card, should be shutdown. The application’s shutdown procedure needs to be provided in the MOP.
8. The following commands obtain the current system status. It is recommended that the following commands be run in order to obtain the current system status in the following situations: 1) prior to executing the upgrade, 2) the upgrade terminates prior to successful completion and 3) before re-starting the upgrade. The commands should be issued in addition to the diagnosis of the any terminating condition. This status is not complete and inclusive, additional commands, which are deemed relevant, can be run at this time.

   ```
   REPT-STAT-SYS
   REPT-STAT-GPL:DISPLAY=ALL
   REPT-STAT-CARD
   REPT-STAT-SLK
   REPT-STAT-TRBL
   ACT-UPGRADE:ACTION=DBSTATUS
   ```

2. GENERAL DESCRIPTION

This document defines the step-by-step actions performed to execute a software upgrade of an in-service EAGLE® STP from the source release to the target release.

Refer to the specific target release's PFS for the description of its upgrade paths ([6] - [17])

Figure 1 shows the general steps for all processes of performing a software upgrade, from hardware inventory to final upgrade health check.

Contact Tekelec Customer Care Center at 1-888-FOR-TKLC (1-888-367-8552); or 1-919-460-2150 (international) for time estimates for each portion of the upgrade process.

Figure 1. Upgrade Process

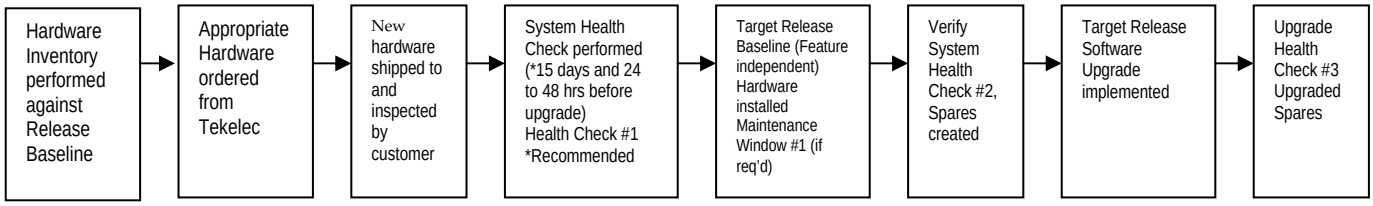

Table 3 contains a checklist of the steps required to successfully complete the upgrade process.

Upgrade Process Task	Date completed
Hardware Inventory	
Hardware Ordered	
New Hardware received	
System Health Check #1 performed	
System Health Check #1 output verified	
Target Release Baseline Hardware installed	
System Health Check #2 performed	
System Health Check #2 verified	
Software Upgrade Session 1 completed	
Health Check #3 performed	
Software Upgrade Session 2 completed	

Table 3: Upgrade Tasks to be completed

During the software upgrade execution, phase flags are displayed in the output messages to indicate upgrade progress. The output messages shown in this document are for example purposes only and do not display upgrade phase values unless a specific request to verify the phase is given, i.e., Procedure 7, step 9. The goal in doing this is to make this document describe the generic upgrade procedure.

Table 4 shows the phase flags displayed during the upgrade process. These flags are used to indicate the progress made by the upgrade function. The internal upgrade processing, which is initiated by the activate-upgrade command, controls these flags.

Table 4. Phases of Upgrade Execution

Release Displayed	Phase Indicator[1]	Conversion	Software Running	Database Configuration
Source			Source	Source
Source	Phase 0	Database	Target	Source
Target	Phase 2	Database	Target	Target
Target	Phase 3	Network	Target	Target
Target			Target	Target

[1] Over the evolution of the upgrade process, Phase 1 is considered an error state.

3. UPGRADE OVERVIEW

This section provides a brief overview of the recommended method for upgrading the source release software that is installed and running on an EAGLE® STP to the Target Release software. The basic upgrade process and approximate time required is outlined in Table 5, Table 6, and Table 7 with the backout procedure shown in Table 8.

It is assumed that upgrade of peripheral(s) is coordinated with and executed in parallel with the EAGLE upgrade to ensure that all work is performed within the four-hour maintenance window. Note that several variables affect the upgrade times shown in the tables – the timing values shown are estimates only.

The EAGLE has no restriction that would prevent the upgrading of any peripheral in parallel with it.

3.1 Required Materials

- One (1) source release system removable cartridge.
- Two (2) target-release system removable cartridges at database level 1.
- A valid EAGLE login ID and password with all user privileges enabled.
- One (1) spare TDM at the source release: required in the event of recovery.
- Capability to capture data via a printer, PC, or modem to allow remote access for Tekelec TAC personnel.
- List of GPLs from section 1.3 to keep on hand for reference throughout the upgrade. If accessing the *Release Notice*, you will need the web site token card. Refer to Appendix E.

3.2 Pre-Upgrade Overview

The pre-upgrade procedures shown in Table 5 may be executed outside of the maintenance window if desired.

Table 5. Pre-Upgrade Overview

Phase	Elapsed Time (Hours: Minutes)		Downtime (Hours: Minutes)		Activity	Impact
X	This Step	Cum.	This Step	Cum.	Software Upgrade Execution	
NA	00:02	00:02	NA	NA	Verifying Pre-Upgrade Requirements and Capturing Upgrade Data	None
NA	00:03	00:05	NA	NA	Determining OAP Status	None
NA	00:02	00:07			Retrieve System's Node-Level Processing Option Indicators	
NA	00:49	00:56	NA	NA	Backing Up the Database	None
NA	00:30	01:26	NA	NA	Updating the Source-Release Spare TDM	None
NA	00:03	01:29	NA	NA	Verifying All Databases	None
NA	00:01	01:30	NA	NA	Inserting Target-Release Upgrade System Cartridge	None

3.3 Upgrade Execution Overview

The procedures shown in Table 6 are executed in the maintenance window.

Table 6. Upgrade Execution Overview

Phase	Elapsed Time (Hours: Minutes)		Downtime (Hours: Minutes)		Activity	Impact
X	This Step	Cum.	This Step	Cum.	Software Upgrade Execution	
NA	00:03	00:03	NA	NA	Retrieve measurements data reports	None
0	00:03	00:06	NA	NA	Initializing MASPs to Run on Target-Release GPLs	Provisioning/maintenance prohibited.
0					OAM Conversion	
0	00:01	00:07	NA	NA	Verifying all Databases	None
0-2[2]	01:30	01:37	NA	NA	OAM Conversion	None
3[3]	____	____	NA	NA	Network Conversion	None

3.4 Post Upgrade Overview

The procedures shown in Table 7 are executed in the maintenance window.

Table 7. Post Upgrade Overview

Phase	Elapsed Time (Hours: Minutes)		Downtime (Hours: Minutes)		Activity	Impact
X	This Step	Cum.	This Step	Cum.	Completion of Session 1	
0-3	00:01	00:01	NA	NA	Force the Download of the TDMs	
0-3	00:02	00:03	NA	NA	Completing Upgrade/Return to Full-Function Mode	
NA	00:15	00:18	NA	NA	Reprovisioning OAP Links	
NA	00:15	00:33	NA	NA	Backing up Converted Database	
NA	00:05	00:38	NA	NA	Restoring OAP Links	
NA	00:04	00:42	NA	NA	Upgrading Removable Cartridges	
NA	00:07	00:49	NA	NA	Backing Up Fixed Disk	
NA	00:07	01:56	NA	NA	Upgrading Spare Fixed Disks	
NA	00:05	01:01	NA	NA	Verifying All Databases	

[2] Time shown is average time for database conversion
[3] See EAGLE System Health Check Appendix-A Reference [1] to calculate time estimate for Network Conversion phase

3.5 Backout Procedure Overview

The procedures shown in Table 8 are executed in the maintenance window.

Table 8. Backout Procedure Overview

Phase	Elapsed Time (Hours or Minutes)		Downtime (Minutes)		Activity	Impact
x	This Step	Cum.	This Step	Cum.	Backout Setup Procedures	
NA	00:01	00:01	NA	NA	Load and Run Source OAM	
NA	00:35	00:36	NA	NA	Full Fallback using Removable Disk as OAM conversion workspace Or Full Fallback using Fixed Disk as OAM conversion workspace – Case 1 Or Full Fallback using Fixed Disk as OAM conversion workspace – Case 2 Or Full Fallback using Fixed Disk as OAM conversion workspace – Case 3	
NA	00:50	01:26	NA	NA	Fall Back Procedure for Network Cards	
NA	00:15	01:41	NA	NA	Restoring Prom-Based Service Cards	
NA	00:15	01:56	NA	NA	Restoring Flash-Based Service Cards	
NA	00:15	02:11	NA	NA	Restoring Prom-Based Link Cards	
NA	00:15	02:26	NA	NA	Restoring Flash-Based Link Cards	
NA	00:10	02:36	NA	NA	Restoring Mux Cards	
NA	00:15	03:16	NA	NA	Flashing Inactive Cards	

4. UPGRADE PREPARATION

- Perform hardware inventory to identify any hardware not supported by the target release baseline.
- Bring all non-supported hardware up to baseline (to be coordinated with TAC personnel).
- Perform pre-upgrade system health checks to establish that the system is fit to upgrade.

4.1 Hardware Upgrade Preparation

Before the upgrade execution, the customer site should have three source-release TDMs (fixed disks) and at least one source release removable cartridge. Two target-release system removable cartridges are shipped to site before the upgrade. Before the target release installation, the spare equipment inventory should be as shown in Table 9.

Table 9. Equipment Inventory before Upgrade

Equipment	In-service	Spare	Upgrade	Totals:
Source-release TDM	2	1	0	3
Source-release cartridge	1	0	0	1
Target-release TDM	0	0	0	0
Target-release cartridge	0	0	2	2

During the procedure, both the active and standby in-service source-release TDMs are converted to the target release and the spare is reserved in case a fallback to the source release is required. Upon completion of the procedure, the spare equipment should be as shown in Table 10. Note, the spare TDM and source-release cartridges are upgraded to the target release in the second session. This allows a soak period for the target release and the possibility to fallback to the source release.

Table 10. Spare Equipment after Upgrade

Equipment	In-service	Spare	Upgrade	Totals:
Source-release TDM	0	0	1	1
Source-release cartridge	0	0	1	1
Target-release TDM	2	0	0	2
Target-release cartridge	1	1	0	2

4.2 Software Upgrade Preparation

The EAGLE provides an upgrade methodology that utilizes an alternate work area (AWA) on the TDM hard drives. The AWA provides the work area for the database conversion process when both TDM disks have a storage capacity of 8GB or greater. The primary benefits of using the AWA during an upgrade are enhanced reliability with reduced upgrade time.

Although this document has been created to ensure simple, concise instructions, it is important that the person executing the procedures is familiar with the document and has a clear understanding of each operation being performed. There are several methods available for individuals to gain the needed experience with the document prior to execution on a live site.

5. SOFTWARE UPGRADE PROCEDURE

Call the Tekelec Customer Care Center at 1-888-FOR-TKLC (1-888-367-8552); or 1-919-460-2150 (international) prior to executing this upgrade to ensure that the proper media are available for use.

Before upgrade, users must perform the EAGLE system health check [1]. This check ensures that the system to be upgraded is in an upgrade-ready state. Performing the system health check determines which alarms are present in the system and if upgrade can proceed with alarms.

****** WARNING *******

If there are cards in the system, which are not in IS-NR state, these cards should be brought to the IS-NR before the upgrade process is started. If it is not possible to bring the cards IS-NR contact Tekelec Technical Services. If any card cannot be brought in-service or out-of-service, isolated, the card should be inhibited in Phase 2 (procedure 10). If any GLS card is in OOS-MT or IS-ANR state, none of the SCCP or LIM cards will load. If any LIM card is in OOS-MT state, this will prohibit the GX25 and STPLAN cards from loading. The sequence of upgrade is such that cards providing support services to other cards will be upgraded first.

****** WARNING *******

Do not start the upgrade process without the required spare equipment; without spare equipment, recovery procedures cannot be executed!

Please read the following notes on upgrade procedures:

1. Procedure completion times shown here are estimates. Times may vary due to differences in database size, user experience, and user preparation.
2. Command steps that require user entry are indicated with white-on-black step numbers.
3. The shaded area within response steps must be verified in order to successfully complete that step.
4. Where possible, EXACT command response outputs are shown. EXCEPTIONS are as follows:
   - Banner information is displayed in a format form only.
   - System-specific configuration information such as ***card location***, ***terminal port # assignments,*** and ***system features.***
   - ANY information marked with "***XXXX***" or ***"YYYY."*** Where appropriate, instructions are provided to determine what output should be expected in place of "***XXXX*** or ***YYYY***"
5. After completing each step and at each point where data is recorded from the screen, a check box should be provided.
6. Captured data is required for future support reference if Tekelec Technical Services is not present during the upgrade.

5.1 Software Upgrade Execution – Session 1

Procedure 1. Verifying Pre-Upgrade Requirements and Capturing Upgrade Data

S T E P #	This procedure verifies that all pre-upgrade requirements have been met. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. Should THIS PROCEDURE FAIL, Contact TEKELEC technical services AND **ASK FOR UPGRADE ASSISTANCE**.	
1 ☐	Complete pre-upgrade tasks	All tasks in Table 11 must be completed before continuing.

Table 11. Pre-Upgrade Requirements

√	Tasks to be completed prior to upgrade execution
	Perform hardware inventory.
	Verify that all target-release baseline hardware has been installed. And any obsolete hardware has been replaced.
	Verify that a full complement of EAGLE® spares is available, including a source-release TDM. Note: This TDM's database should have been repaired in Upgrade Health Check [1].
	Verify that you have at least one source-release system removable cartridge with an up-to-date database. Note: This cartridge's database should have been backed up in Upgrade Health Check [1].
	Verify that you have two target-release system cartridges provided by Tekelec for upgrade.
	Verify that you have a copy of the Target Release's System Release Notes (see section 1.3.)
	Verify that an EAGLE system health check has been performed and the output capture file has been validated by Technical Services.
	Perform upgrade time calculations to ensure that the upgrade can be completed within the window.
	Collect all measurement reports.
	Verify that all required documentation is included in the upgrade kit. This should include the MOP with the necessary FAK and part number. [See section 4.2]

Procedure 1. Verifying Pre-Upgrade Requirements and Capturing Upgrade Data

2 ☐

Issue the command to display terminal status.

```
rtrv-trm
```

3 ☐

Response to retrieve terminal command is displayed.

Record the terminals in the TRM column that have TYPE of PRINTER[4] or OAP. Also record any terminals being used to enter commands (the user terminal)[5] Or terminals used by external applications that issue commands to the Eagle. In this example, terminal 12 is a printer, terminal 10 is the user terminal, terminals 1 and 9 are the OAP terminals, and terminal 2 is KSR.

☐ Capture _____[4]

_____

☐ OAP _____

_____

☐ USER _____[5]

☐ Ext. Application:

_____[6]

See recommendation #1 & #7 in section 1.7

☐ If **not** echoing to the printer or KSR, go to step 8.

Record the initial output group configuration for the user's and capture terminals. Also, record the user's TMOUT value.

```
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    rtrv-trm
    Command entered at terminal #10.
;
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    TRM  TYPE    COMM         FC    TMOUT MXINV DURAL
    1    OAP    19200 -7-E-1 SW    30    5     00:01:00
    2    KSR     9600 -7-E-1 SW    30    5     00:01:00
    3    NONE    9600 -7-E-1 SW    30    5     00:01:00
    4    NONE    9600 -7-E-1 SW    30    5     00:01:00
    5    NONE    9600 -7-E-1 SW    30    5     00:01:00
    6    NONE    9600 -7-E-1 SW    30    5     00:01:00
    7    NONE    9600 -7-E-1 SW    30    5     00:01:00
    8    NONE    9600 -7-E-1 SW    30    5     00:01:00
    9    OAP    19200 -7-E-1 SW    30    5     00:01:00
    10   KSR     9600 -7-E-1 SW    30    5     00:01:00
    11   NONE    9600 -7-E-1 SW    30    5     00:01:00
    12   PRINTER 9600 -7-E-1 SW    30    5     00:01:00
    13   VT320   9600 -7-E-1 SW    30    5     00:01:00
    14   NONE    9600 -7-E-1 SW    30    5     00:01:00
    15   NONE    9600 -7-E-1 SW    30    5     00:01:00
    16   NONE    9600 -7-E-1 SW    30    5     00:01:00

    TRM  TRAF LINK SA  SYS PU  DB
    1    YES  YES  YES YES YES YES
    2    NO   NO   NO  NO  NO  NO
    3    NO   NO   NO  NO  NO  NO
    4    NO   NO   NO  NO  NO  NO
    5    NO   NO   NO  NO  NO  NO
    6    NO   NO   NO  NO  NO  NO
    7    NO   NO   NO  NO  NO  NO
    8    NO   NO   NO  NO  NO  NO
    9    YES  YES  YES YES YES YES
    10   YES  YES  YES YES YES YES
    11   NO   NO   NO  NO  NO  NO
    12   YES  YES  YES YES YES YES
    13   YES  YES  YES YES YES YES
    14   NO   NO   NO  NO  NO  NO
    15   NO   NO   NO  NO  NO  NO
    16   NO   NO   NO  NO  NO  NO
;

USER      ___  ___  ___ ___ ___ ___

     TMOUT  ___

CAP       ___  ___  ___ ___ ___ ___
```

4 ☐

Echo command input to capture terminal.

If the capture terminal is the user terminal go to step 8.

```
act-echo:trm=P
```
(Where the value for ***P*** is one of the printer/KSR terminal port numbers recorded in Step 3)

5 ☐

Response to activate command is displayed.

```
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    act-echo:trm=P
    Command entered at terminal #10.
;
```

[4] Record terminal that has type of KSR in addition to printers that are configured. Terminal being used to capture cannot be a Telnet terminal, see recommendation #7 in section 1.7

[5] The user terminal cannot be a Telnet terminal, see recommendation #7 in section 1.7

[6] If an external application is connected via a Telnet terminal on an IPSM card, see recommendation #7 in section 1.7.

Procedure 1. Verifying Pre-Upgrade Requirements and Capturing Upgrade Data

6 ☐	If capture terminal's output groups are not all set to YES, issue the change terminal command.	**chg-trm:trm=*P*:all=yes**[7] (***P*** is the terminal port that is specified in step 4)
7 ☐	Response to change terminal command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y chg-trm:trm=P:all=yes Command entered at terminal #10. ;
8 ☐	If the output group and timeout on the user terminal are not set correctly, issue the command to change terminal timeout and display groups.	**chg-trm:trm=USER:sa=yes:sys=yes:db=yes:tmout=0** (Where the value of *USER* is the user terminal number shown in Step3)
9 ☐	Response to change terminal command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y chg-trm:trm=USER:sa=yes:sys=yes:db=yes:tmout=0 Command entered at terminal #10. ;
10 ☐	Issue the command to display the system features	**rtrv-feat**
11 ☐	Response to retrieve features command is displayed. Record the value of the SEAS feature for use in Procedure 14. SEAS _____	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y EAGLE FEATURE LIST GTT = on GWS = off X25G = off LAN = off CRMD = off SEAS = off LFS = off MTPRS = off FAN = off DSTN4000 = off WNP = off CNCF = off TLNP = off SCCPCNV = off TCAPCNV = off X252000 = off ;
12 ☐	Issue the command to display the feature key controlled features.	**rtrv-ctrl-feat**
13 ☐	Response to retrieve command is displayed. Record the TPS shown in the response. TPS _____	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y rtrv-ctrl-feat Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y The following features have been permanently enabled: Feature Name Partnum Status Quantity TPS XXXXXXXXX on 100
14 ☐	Issue the command to display the system serial number.	**rtrv-serial-num**

[7] If the system displays continuous UAMs and the source of the UAMs are known issues, turn off the associated output groups to limit the information sent to printer\KSR terminal port.

Procedure 1. Verifying Pre-Upgrade Requirements and Capturing Upgrade Data

15 ☐	Response to retrieve command is displayed.
	
	Record the system serial number as shown:
	
	SN: _____
	
	Record serial number in Appendix D.
		`rtrv-serial-num`
		`Command entered at terminal #4.`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`System serial number = nt00002658`
		
		`System serial number is locked.`

16 ☐	Issue the command to retrieve records from the event log.	**`rtrv-log:dir=bkwd:edate=YYMMDD:etime=HHMM:snum=XXXX:enum=YYYY:num=NNN`** (Where *YYMMDD* is today's date and *HHMM* is one hour ago.) (Where *XXXX*, *YYYY*, and *NNN* are the values listed in Table 12.)

17 ☐
 	
☐
	Response to retrieve command is displayed.
	
	Determine if the report termination reason meets the pass/fail criteria in Table 13.
	
	Repeat steps 16 – 17 for all sets of UAMs listed in Table 12.
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`Card 1113; SYS REL= 35.1.0-56.31.0; STP CLLI= tklc1190601; Timezone= EST`
		
		`****06-09-19 10:49:46****`
		`1426.0311 DPC 012-095-015 DPC is allowed`
		`****06-09-19 10:49:45****`
		`1424.0314 DPC 012-095-015 Route is allowed`
		`****06-09-19 10:46:33****`
		`0667.0312 * DPC 012-095-015 DPC is restricted`
		`****06-09-19 10:46:33****`
		`0665.0312 * DPC 012-095-015 DPC is restricted`
		`****06-09-19 10:32:19****`
		`3100.0311 DPC 012-079-001 DPC is allowed`
		`****06-09-19 10:32:18****`
		`3098.0314 DPC 012-079-001 Route is allowed`
		`****06-09-19 10:30:41****`
		`2828.0312 * DPC 012-079-001 DPC is restricted`
		`****06-09-19 10:30:41****`
		`2827.0316 DPC 012-079-001 Route is prohibited`
		`****06-09-19 10:30:41****`
		`2825.0312 * DPC 012-086-004 DPC is restricted`
		`UAM Report terminated - max. or num= count reached`
		`END OF LOG REPORT.`
		`;`

Table 12: DDL-Hunt-related UAM ranges.

	SNUM	ENUM	NUM	UAM Text*
	Start UAM	*End UAM*	*Maximum Events*	
☐	200	200	15	`RCVRY-LFK: link available`
☐	236	236	15	`REPT-LFK: not aligned`

☐	264	275	50	`REPT-LINK-CGST:congestion level X to Y`
				`RCVRY-LINK-CGST:congestion has cleared`
				`REPT-LINK-CGST:discard level X to Y`
				`RVCRY-LINK-CGST:discard has cleared`

☐	311	313	50	`DPC is prohibited`
				`DPC is restricted`
				`DPC is allowed`

☐	314	316	50	`Route is prohibited`
				`Route is restricted`
				`Route is allowed`

*** - For the description of these UAMs, see External Reference [2]**

Table 13: Retrieve Log Termination Pass/Fail Criteria:

Termination Reason	Pass/Fail	
`- no records found within specified range`	Pass	
`- end of log reached`	Pass	
`- max. or num= count reached`	*Further Analysis Required*	See Section 6.4B.3

Procedure 2: Determining OAP Status

S T E P #	This procedure determines the status of OAP terminals in order to restore them after the upgrade. Prior to inhibiting OAP ports the status of SEAS is displayed and recorded for use after re-allowing of OAP ports. See recommendation 3 in section 1.7 for systems with high OAP traffic. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE**.	
1 ☐	If SEAS was on in Procedure 1 Step 11, issue the command to display SEAS status.	**rept-stat-seas**
2 ☐ ☐	Response to command is displayed. Record all non-IS-NR SEAS status Ex. X25 Link A2 OOS-MT Fault _____ _____ _____	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y GPL PST SST AST --- SEAS SYSTEM OOS-MT Fault ----- TDM TRM 1 OOS-MT Fault ----- TDM TRM 2 IS-NR Active ----- OAP A ----------- OOS-MT Isolated ----- X25 Link A1 OOS-MT Fault ----- X25 Link A2 OOS-MT Fault ----- SEAS SYSTEM ALARM STATUS = *C 0349 SEAS unavailable OAP A ALARM STATUS = ** 0341 OAP unavailable X25 Link A1 ALARM STATUS = ** 0343 SEAS X.25 Link unavailable X25 Link A2 ALARM STATUS = ** 0343 SEAS X.25 Link unavailable X25 A1 PVCs IS-NR = --- X25 A1 PVCs OOS-MT = --- X25 A2 PVCs IS-NR = --- X25 A2 PVCs OOS-MT = --- Command Completed. ;
3 ☐	Inhibit OAP terminal. (See recommendation 3 in section 1.7.)	**inh-trm:trm=*XX*:force=yes** (where *XX* is the one of the OAP terminal ports recorded in Procedure 1, Step 3)
4 ☐	Response to inhibit command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y inh-trm:trm=XX Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Inhibit message sent to terminal ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Command Completed.
5 ☐	Change terminal port to type=NONE.	**chg-trm:type=none:trm=*XX*** (where ***XX*** is the terminal port used in Step 5)
6	Response to change command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y chg-trm:trm=XX:type=none Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y CHG-TRM: MASP A - COMPLTD ;
7 ☐	Issue the command to retrieve terminal status.	**rtrv-trm:trm=*XX*** (where ***XX*** is the terminal port used in Step 7)

Procedure 2: Determining OAP Status

8 ☐	Response to retrieve command is displayed. Verify ports that were type=OAP are now type=NONE.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y rtrv-trm:trm=XX Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y TRM TYPE COMM FC TMOUT MXINV DURAL 2 NONE 19200-7-E-1 SW 30 5 00:01:00 LNP LNP TRM TRAF LINK SA SYS PU DB UIMRD DB SUB 2 YES YES YES YES YES YES YES NO NO ;
9 ☐	Repeat steps 5-10 for second OAP terminal.	The second OAP terminal was recorded in Procedure 1, Step 3.

Procedure 3: Backing Up the Database

STEP #		
	This procedure backs up the database to the fixed disk and the removable cartridge. This procedure is required to retain changes made by this upgrade process and match the distributed network database. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	Issue the command to display database status.	`rept-stat-db`

2 ☐	Response from the command is displayed.
	
	Look in the columns labeled 'C' and 'LEVEL' output by this command.
	
	Verify entries in column 'C' show 'Y' which indicates coherence.
	
	Verify both 'FD CRNT' Levels are equal.
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`rept-stat-db`
		`Command entered at terminal #10.`
		`;`
		
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`DATABASE STATUS: >> OK <<`
		`TDM 1114 ( ACTV ) TDM 1116 ( STDBY)`
		`C LEVEL TIME LAST BACKUP C LEVEL TIME LAST BACKUP`
		`- ------- ---------- - ------- ----------`
		`FD BKUP Y XXX YY-MM-DD hh:mm:ss TTTT Y XXX YY-MM-DD hh:mm:ss TTTT`
		`FD CRNT Y XXX Y XXX`
		`MDAL 1117`
		`- -------`
		`RD BKUP Y ------- -------- --:--:-- ----`
		
		`;`

3 ☐	Issue the command to back up the database.	`chg-db:action=backup`

4 ☐ ☐	Response to backup command is displayed.
	
	Command execution time: approximately 4 – 20 minutes, longer for large databases.
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`chg-db:action=backup`
		`Command entered at terminal #10.`
		`;`
		
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`5042.1114 CARD 1115 Database BACKUP started`
		`Report Date:YY-MM-DD Time:hh:mm:ss`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`BACKUP (FIXED): MASP B - Backup starts on active MASP.`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`BACKUP (FIXED): MASP B - Backup on active MASP to fixed disk complete.`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`BACKUP (FIXED): MASP B - Backup starts on standby MASP.`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`5045.1116 CARD 1115 Database action ended - OK`
		`Report Date:YY-MM-DD Time:hh:mm:ss`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`BACKUP (FIXED): MASP B - Backup on standby MASP to fixed disk complete.`
		`;`

5 ☐	Visually inspect the removable cartridge to verify that it is labeled with the source release.	
6 ☐	Insert the source-release cartridge into the MDAL.	Wait for the cartridge to spin up.

Procedure 3: Backing Up the Database

7 ☐ Issue the command to retrieve GPL versions.

```
rtrv-gpl
```

8 ☐ Response from the retrieve command is displayed.

☐ Verify correct source release levels.[8]

```
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    GPL Auditing  ON

    APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
    EOAM      1114  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  -----------
    EOAM      1116  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  xxx-xxx-xxx
    SS7ANSI   1114  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  -----------
    SS7ANSI   1116  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  xxx-xxx-xxx
    SCCP      1114  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  -----------
    SCCP      1116  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  xxx-xxx-xxx
    GLS       1114  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  -----------
    GLS       1116  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  xxx-xxx-xxx
    CDU       1114  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  -----------
    CDU       1116  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  xxx-xxx-xxx
    CCS7ITU   1114  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  -----------
    CCS7ITU   1116  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  xxx-xxx-xxx
    SS7GX25   1114  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  -----------
    SS7GX25   1116  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  xxx-xxx-xxx
    STPLAN    1114  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  -----------
    STPLAN    1116  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  xxx-xxx-xxx
    IMT       1114  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  -----------
    IMT       1116  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  xxx-xxx-xxx
    ATMANSI   1114  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  -----------
    ATMANSI   1116  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  xxx-xxx-xxx
    BPHCAP    1114  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  -----------
    BPHCAP    1116  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  xxx-xxx-xxx
    BPDCM     1114  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  -----------
    BPDCM     1116  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  xxx-xxx-xxx
    EMDC      1114  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  -----------
    EMDC      1116  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  xxx-xxx-xxx
    EBDABLM   1114  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  -----------
    EBDABLM   1116  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  xxx-xxx-xxx
    VXWSLAN   1114  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  -----------
    VXWSLAN   1116  xxx-xxx-xxx  xxx-xxx-xxx      xxx-xxx-xxx  xxx-xxx-xxx
```

9 ☐ Issue the command to back up the database to removable cartridge.

```
chg-db:action=backup:dest=remove
```

10 ☐ Response to backup command is displayed.

Note that this command requires about 4 - 20 minutes, longer for large databases.

```
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    chg-db:action=backup:dest=remove
    Command entered at terminal #10.
;
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    BACKUP (REMOVABLE): MASP A - Backup starts on active MASP
;
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    BACKUP (REMOVABLE): MASP A - Backup to removable cartridge complete
;
```

11 ☐ Issue the command to copy the GPLs to removable cartridge.

```
copy-gpl
```

12 ☐ Response to copy command is displayed.

```
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    copy-gpl
    Command entered at terminal #10.
;
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    COPY GPL: MASP A - COPY STARTS ON ACTIVE MASP
    COPY GPL: MASP A - COPY TO REMOVABLE CARTRIDGE COMPLETE
;
```

13 ☐ Eject the Source-Release removable cartridge.

The cartridge should be stored in a safe location.

[8] If GPL versions that are displayed are for a maintenance release for the same release, then step 11 should correct the problem. If the GPL versions are for another release, step 11 may fail.

Procedure 4: Updating the Source-Release Spare TDM

S T E P #	This procedure backs up the database to the spare TDM to ensure that a valid recovery spare is available. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE**.	
1 ☐	Issue the report card status command.	**rept-stat-card**
2 ☐ ☐	Response to the card status command is displayed. Record the card locations of both sets of GPSMs and TDMs as well as the part number of the TDMs: Act GPSM _____ Active TDM _____ p/n _____ Stby GPSM ____ Standby TDM _____ p/n _____ For this sample output, 1113/1114 are active and 1115/1116 are standby.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y CARD VERSION TYPE APPL PST SST AST 1101 XXX-XXX-XXX TSM SCCP IS-NR Active ----- 1102 XXX-XXX-XXX TSM SCCP IS-NR Active ----- 1103 XXX-XXX-XXX TSM GLS XXXXX Fault ----- 1104 XXX-XXX-XXX TSM GLS XXXXX Fault ----- 1105 XXX-XXX-XXX LIMDS0 SS7GX25 IS-NR Active ----- 1111 XXX-XXX-XXX ACMENET STPLAN IS-ANR Active ----- 1113 XXX-XXX-XXX GPSM EOAM IS-NR Active ----- 1114 ---------- TDM ------- IS-NR Active ----- 1115 XXX-XXX-XXX GPSM EOAM IS-NR Standby ----- 1116 ---------- TDM ------- IS-NR Active ----- 1117 ---------- MDAL ------- IS-NR Active ----- 1201 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1202 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1203 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1204 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1205 XXX-XXX-XXX LIMDS0 CCS7ITU IS-NR Active ----- 1206 XXX-XXX-XXX DCM SS7IPGW IS-NR Active ----- 1207 XXX-XXX-XXX DCM IPGWI IS-NR Active ----- 1218 XXX-XXX-XXX TSM GLS IS-NR Active ----- Command Completed. ;
3 ☐	Place spare TDM in system. [9] Record the part number for the spare TDM: p/n _____	☐ Unseat the standby GPSM card determined in step 2. ☐ Remove the standby TDM card determined in step 2. ☐ Insert the spare TDM card. ☐ Re-seat the standby GPSM card. Note: UAMs are generated during this step. An audible alarm is generated. Wait for the standby GPSM/spare TDM to come up in standby mode and system returns to duplex mode.
4 ☐	Issue the report status command for the standby GPSM.	**rept-stat-card:loc=*xxxx*** (Where *xxxx* is the STBY GPSM slot from step 2 above)
5 ☐	Verify that the backup goes to IS-NR	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y rept-stat-card:loc=xxxx Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y CARD VERSION TYPE APPL PST SST AST xxxx xxx-xxx-xxx GPSM EOAM IS-NR Standby DB-DIFF ALARM STATUS = No Alarms. BPDCM GPL version = XXX-XXX-XXX IMT BUS A = Conn IMT BUS B = Conn Command Completed. ;
6 ☐	Issue the command to retrieve GPL versions.	**rtrv-gpl**

[9] The spare TDM should be the one verified by upgrade Health Check #2, see section 1.2.2 ref [1].

Procedure 4: Updating the Source-Release Spare TDM

7 ☐ ☐

Response from the retrieve command is displayed.

Verify correct source release levels.

If any of the standby TDM gpls show an ALM indication it is possible that the TDM has not gone through session 2 of the previous upgrade. Stop the procedure and contact Tekelec Technical Services.

```
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    GPL Auditing  ON

    APPL      CARD  RELEASE      APPROVED          TRIAL        REMOVE TRIAL
    EOAM      1114  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    EOAM      1116  xxx-xxx-xxx  xxx-xxx-xxx ALM   xxx-xxx-xxx  -----------
    SS7ANSI   1114  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    SS7ANSI   1116  xxx-xxx-xxx  xxx-xxx-xxx ALM   xxx-xxx-xxx  -----------
    SCCP      1114  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    SCCP      1116  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    GLS       1114  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    GLS       1116  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    CDU       1114  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    CDU       1116  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    CCS7ITU   1114  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    CCS7ITU   1116  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    SS7GX25   1114  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    SS7GX25   1116  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    STPLAN    1114  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    STPLAN    1116  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    IMT       1114  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    IMT       1116  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    ATMANSI   1114  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    ATMANSI   1116  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    BPHCAP    1114  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    BPHCAP    1116  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    BPDCM     1114  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    BPDCM     1116  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    EMDC      1114  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    EMDC      1116  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    EBDABLM   1114  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    EBDABLM   1116  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    VXWSLAN   1114  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
    VXWSLAN   1116  xxx-xxx-xxx  xxx-xxx-xxx       xxx-xxx-xxx  -----------
```

8 ■

Issue the command to repair the standby TDM's database.

```
chg-db:action=repair
```

NOTE: The system will need approximately 2 minutes after step 5 to acquire duplex mode. As a result, the system will reject the chg-db command until it is back in duplex mode.

9 ☐ ☐

Response to the repair command is displayed.

Command execution time: between 20 and 41 minutes

Wait for the 'repair complete' message to display and the MASP returns to in-service.

```
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    chg-db:action=repair
    Command entered at terminal #10.
;

    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    REPAIR: MASP A - Repair starts on standby MASP.
;

    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    REPAIR: MASP A - Repair from fixed disk complete.
;
```

Procedure 5: Verifying All Databases

S T E P #	This procedure verifies that all databases are coherent and at the same level, which includes current and backup partitions on both fixed disks. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**

1 ☐ Issue the command to display database information.

```
rept-stat-db:display=all
```

2 ☐ Response to the command is displayed.

☐ Look in the columns labeled 'C,' 'T', and 'LEVEL' output by this command.

☐ Verify entries in column 'C' show 'Y', which indicates coherence.

☐ Verify entries in column 'T' show 'N'. (except the MDAL), which indicates that the database is not in transition.

☐ Verify all entries in the database LEVEL column are the same.
LEVEL is a value, which varies depending on the system.

☐ If the STDBY databases are not coherent or at the correct level, repeat Procedure 4, step 8.

☐ Verify that the MPS databases are coherent.

```
   tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
   DATABASE STATUS: >> OK <<
           TDM 1114 ( ACTV )                 TDM 1116 ( STDBY)
           C    LEVEL    TIME LAST BACKUP    C    LEVEL    TIME LAST BACKUP
           - -------- -------------------- - -------- --------------------
   FD BKUP Y      YYY YY-MM-DD hh:mm:ss TTTT Y      YYY YY-MM-DD hh:mm:ss TTTT
   FD CRNT Y      XXX                        Y      XXX
           MDAL 1117
           - --------
   RD BKUP Y -------- -------- --:--:-- ----

   CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
   ---------  ----  -  -  ----------  -----------------  --------------
   SS7ANSI    1101  Y  N  XXX         06-04-19 12:13:02       -
   SS7ANSI    1103  Y  N  XXX         06-04-19 12:13:02       -
   GLS        1104  Y  N  XXX         06-04-19 12:13:02       -
   SS7ANSI    1105  Y  N  XXX         06-04-19 12:13:02       -
   SS7ANSI    1106  Y  N  XXX         06-04-19 12:13:02       -
   VSCCP      1107  Y  N  XXX         06-04-19 12:13:02       -
   VSCCP      1111  Y  N  XXX         06-04-19 12:13:02       -
   TDM-CRNT   1114  Y  N  XXX         06-04-19 12:13:02       -
   TDM-BKUP   1114  Y  -  YYY         06-04-18 16:11:18  DIFF LEVEL
   TDM-CRNT   1116  Y  N  XXX         06-04-19 12:13:02       -
   TDM-BKUP   1116  Y  -  YYY         06-04-18 16:11:18  DIFF LEVEL
   MDAL       1117  Y  -  -           -        -              -

                    EPAP A  ( ACTV )
                     C  BIRTHDATE          LEVEL       EXCEPTION
                     -  -----------------  ----------  -------------
   PDB                  03-09-04 15:09:38   418231879       -
   RTDB                 03-09-04 15:09:38   418231879       -
   RTDB-EAGLE           06-02-06 22:13:06   418231879       -

                    EPAP B ( STDBY )
                     C  BIRTHDATE          LEVEL       EXCEPTION
                     -  -----------------  ----------  -------------
   PDB                  03-09-04 15:09:38   418231879       -
   RTDB                 03-09-04 15:09:38   418231879       -
   RTDB-EAGLE           06-02-06 22:13:06   418231879       -

                    EAGLE RTDB REPORT
   CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
   ---------  ----  -  -----------------  ----------  -----------  -----------
   VSCCP      1107  Y  06-02-06 22:13:06   418231879       -       0d  4h 33m
   VSCCP      1111  Y  06-02-06 22:13:06   418231879       -       0d  4h 33m

;
```

Procedure 6: Inserting Target-Release Upgrade System Cartridge

S T E P #	This procedure ensures that the target-release removable cartridge is inserted into the MDAL. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	Visually inspect the target-release removable cartridge.	The label on the removable cartridge should have the target release printed on it.
2 ☐	Insert the cartridge into the MDAL.	Allow for the cartridge to spin up.
3 ☐	Issue the command to retrieve GPL versions.	`rtrv-gpl`

4 ☐	Response from the retrieve command is displayed. (If no data is displayed, allow more time for step 2, then repeat step 3.)
	
	Verify that the GPL versions that are displayed in the "REMOVE TRIAL" are correct; see Section 1.3.
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y`
		`GPL Auditing  ON`
		
		APPL CARD RELEASE APPROVED TRIAL REMOVE TRIAL
		EOAM 1114 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx ----------
		EOAM 1116 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx
		SS7ANSI 1114 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx ----------
		SS7ANSI 1116 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx
		SCCP 1114 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx ----------
		SCCP 1116 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx
		GLS 1114 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx ----------
		GLS 1116 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx
		CDU 1114 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx ----------
		CDU 1116 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx
		CCS7ITU 1114 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx ----------
		CCS7ITU 1116 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx
		SS7GX25 1114 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx ----------
		SS7GX25 1116 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx
		STPLAN 1114 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx ----------
		STPLAN 1116 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx
		IMT 1114 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx ----------
		IMT 1116 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx
		ATMANSI 1114 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx ----------
		ATMANSI 1116 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx
		BPHCAP 1114 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx ----------
		BPHCAP 1116 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx
		BPDCM 1114 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx ----------
		BPDCM 1116 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx
		EMDC 1114 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx ----------
		EMDC 1116 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx
		EBDABLM 1114 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx ----------
		EBDABLM 1116 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx
		VXWSLAN 1114 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx ----------
		VXWSLAN 1116 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx

5 ☐	If GPLs are not correct, do the following until successful:	1. Eject the cartridge and repeat Steps 1-4. 2. Eject the first target-release cartridge and repeat Steps 1-4 with the second target-release cartridge. 3. Contact technical services.
6 ☐	Establish system status	See recommendation # 8 in Section 1.7

Procedure 7: Initializing MASPs to Run on Target-Release GPLs

S T E P #	This procedure loads the target-release GPL from the removable cartridge to both GPSMs. This procedure requires that both GPSMs be rebooted (one at a time) and verified as running the target-release GPLs. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	Issue the initialize card command for the standby GPSM.	**init-card:loc=*XXXX*** (Where ***XXXX*** is the location of the standby GPSM slot recorded in Procedure 4, Step 2)
2 ☐	Response to initialize command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y init-card:loc=XXXX Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y * 0261.0013 * CARD XXXX EOAM Card is isolated from the system ASSY SN: xxxxxxxx ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y 5038.0014 CARD XXXX EOAM Card is present ASSY SN: xxxxxxxx ;
3 ☐	After the standby GPSM is available, issue the card status command to verify the standby GPSM.	**rept-stat-gpl:appl=eoam** (running 32.0 or earlier) **or** **rept-stat-gpl:gpl=eoam** (running 33.0 or later)
4 ☐ 5 ☐	Response from the status command is displayed. Verify that the GPL versions that are displayed in the "RUNNING" column are correct; see Section 1.3. If slot 1113 or 1115 is not running the EOAM GPL (GPSM present) stop the upgrade and contact Tekelec Technical Services.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y rept-stat-gpl:gpl=eoam Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y GPL Auditing ON APPL CARD RUNNING APPROVED TRIAL EOAM 1113 YYY-YYY-YYY YYY-YYY-YYY ---------- 10 EOAM 1115 XXX-XXX-XXX ALM YYY-YYY-YYY ---------- Command Completed. ;
5 ☐	If the GPLs are not correct, do the following until successful:	1. Eject cartridge, re-insert cartridge, and repeat Steps 1-4. 2. Eject first target-release cartridge, insert the second target-release cartridge, and repeat Steps 1-4. 3. Contact Tekelec Technical Services.
6 ☐	Issue the initialize card command for the *active* GPSM.	**init-card:loc=*XXXX*** (Where ***XXXX*** is the location of the active GPSM slot recorded in Procedure 4, Step 2)
7 ☐	Response to the initialize command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y * 0261.0013 * CARD XXXX EOAM Card is isolated from the system ASSY SN: xxxxxxxx ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y 5038.0014 CARD XXXX EOAM Card is present ASSY SN: xxxxxxxx ;

[10] Dashes are displayed until GPL auditing has initialized after the activity has been switched, which may take up to two minutes.

Procedure 7: Initializing MASPs to Run on Target-Release GPLs

8 ☐	Issue the command to log back in to the system.	**login:uid=*XXXXXX*** (Where ***XXXXXX*** is a valid login ID)
9 ☐ ☐	Response to login command is displayed. Ignore any login failure message. Verify the Upgrade Phase in Banner[11].	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Upg Phase 0 User logged in on terminal 10. ; ? Login failures since last successful LOGIN Last successful LOGIN was on port ? on ??-??-?? @ ??:??:??
10 ☐	Echo command input to capture terminal. If the capture terminal is the user terminal go to step 12.	**act-echo:trm=*P*** (Where ***P*** is the terminal port number specified in Procedure 1, Step 3)
11 ☐	Response to print capture command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Upg Phase x Scroll Area Output will be echoed to Port P. ;
12 ☐	Issue the command to display the status of the EOAM GPL	**rept-stat-gpl:gpl=eoam**
13 ☐ ☐	Response from the retrieve command is displayed. Verify that the GPL versions that are displayed in the "RUNNING" column are correct; see section 1.3.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Upg Phase x rept-stat-gpl:gpl=eoam Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y GPL Auditing ON APPL CARD RUNNING APPROVED TRIAL EOAM 1113 XXX-XXX-XXX ALM YYY-YYY-YYY XXX-XXX-XXX * EOAM 1115 XXX-XXX-XXX ALM YYY-YYY-YYY XXX-XXX-XXX * Command Completed. ;
14 ☐	If GPLs are not correct, do the following until successful:	1. Eject cartridge, re-insert cartridge, and repeat Steps 6-13 of this procedure. 2. If 1st retry attempt fails, eject first target-release cartridge, insert the second target-release cartridge, and repeat Steps 6-13 of this procedure. 3. If 2nd retry attempt fails, contact Tekelec Technical Services.
15 ☐	Issue the command to display the status of the BPDCM GPL.	**rept-stat-gpl:gpl=bpdcm**
16 ☐ ☐	Response from the retrieve command is displayed. Record version of BPDCM running on cards 1113 and 1115. BPDCM: _____	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Upg Phase x rept-stat-gpl:gpl=bpdcm Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y GPL Auditing ON APPL CARD RUNNING APPROVED TRIAL BPDCM 1101 YYY-YYY-YYY YYY-YYY-YYY YYY-YYY-YYY BPDCM 1113 YYY-YYY-YYY YYY-YYY-YYY YYY-YYY-YYY BPDCM 1115 YYY-YYY-YYY YYY-YYY-YYY YYY-YYY-YYY Command Completed. ;

[11] Phase number is not displayed at this point for incremental upgrades and certain upgrades between point releases. See section 1.6 for a definition of incremental upgrade and section 1.4 for a definition of database versioning. Database versioning between releases is determined in Procedure 8, step 2.

5.2 OAM Conversion

Procedure 8: Verifying all Databases

S T E P #	This procedure verifies that all of the fixed disk's database partitions have not been converted and are still coherent and at the same level. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	Issue the command to display database status during upgrades.	**act-upgrade:action=dbstatus**
2	Response to the command is displayed. Look in the columns labeled 'C', 'T', and 'LEVEL' output by this command. ☐ Verify entries in column 'C' show 'Y', which indicates coherence. ☐ Verify column 'T' shows 'N' for both CRNT databases, which indicates that those databases are not in transition ☐ Verify the MDAL database level is "1." ☐ Verify all entries in the database 'Level' column are the same. LEVEL varies depending on the system. ☐ Verify that the version numbers displayed are correct;[12]	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Upg Phase 0 DATABASE STATUS: >> OK << TDM 1114 (ACTV) TDM 1116 (STDBY) C LEVEL TIME LAST BACKUP C LEVEL TIME LAST BACKUP - ------- ------------------- - ------- ---------------- FD BKUP Y XXX YY-MM-DD hh:mm:ss TTTT Y XXX YY-MM-DD hh:mm:ss TTTT FD CRNT Y XXX Y XXX MDAL 1117 - ------- RD BKUP Y 1 - - CARD/APPL LOC C T LEVEL TIME LAST UPDATE VERSION STATUS --------- ---- - - ---------- ---------- ---------- ------ TDM-CRNT 1114 Y N XXX YY-MM-DD hh:mm:ss XXX-XXX-XXX NORMAL TDM-BKUP 1114 Y - XXX YY-MM-DD hh:mm:ss XXX-XXX-XXX NORMAL TDM-CRNT 1116 Y N XXX YY-MM-DD hh:mm:ss XXX-XXX-XXX NORMAL TDM-BKUP 1116 Y - XXX YY-MM-DD hh:mm:ss XXX-XXX-XXX NORMAL MDAL 1117 Y - 1 - - YYY-YYY-YYY NORMAL INACTIVE PARTITION GROUP CARD/APPL LOC C T LEVEL TIME LAST UPDATE VERSION STATUS --------- ---- - - ---------- ---------- ---------- ------ TDM-CRNT 1114 Y - ZZZ YY-MM-DD hh:mm:ss ZZZ-ZZZ-ZZZ NORMAL TDM-BKUP 1114 Y - ZZZ YY-MM-DD hh:mm:ss ZZZ-ZZZ-ZZZ NORMAL TDM-CRNT 1116 Y - ZZZ YY-MM-DD hh:mm:ss ZZZ-ZZZ-ZZZ NORMAL TDM-BKUP 1116 Y - ZZZ YY-MM-DD hh:mm:ss ZZZ-ZZZ-ZZZ NORMAL ;

[12] See section 1.4 to verify the database versions. If the database versions are the same for the TDMs as well as the MDAL, the phase indicator is not displayed until after Procedure 9, step 1.

Procedure 9: STP Conversion

S T E P #	This begins the actual STP conversion process. This procedure begins during Upgrade Phase 0 and ends as part of Upgrade Phase 3. **For large systems, see recommendation #5 in section 1.7 before executing this procedure.** Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. **If the upgrade execute terminates before successfully completing, see recommendation #8 in Section 1.7** SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	Issue the command to begin database conversion. Note that the duration of this command is dependent on the size of the database and the size of the network configuration.[13] Table 14. Act Upgrade Command Actions lists the actions completed by the command, based on which workspace was selected by the upgrade process. Refer to recommendation #6 in section 1.7 for more details on this workspace selection. Appendix B contains messages illustrative of the output of upgrade during this series of operations.	`act-upgrade:action=convertstp:thres=`***XX*** (Where *XX* is determined by recommendation #5 in section 1.7.)

Table 14. Act Upgrade Command Actions

	Fixed workspace	Removable workspace
A	OAM based measurements are inhibited.	OAM based measurements are inhibited.
B	N/A	The existing database is converted onto the removable cartridge, upgrading the existing EAGLE® source-releases tables to target-release tables.
C	The standby disk is formatted based on the cartridge configuration table.	The standby disk is formatted based on the cartridge configuration table.
D	The GPLs are copied from the removable cartridge onto the standby TDM.	The GPLs are copied from the removable cartridge onto the standby TDM.
E	The existing database is converted onto the standby disk, upgrading the existing EAGLE source-release tables to target-release tables.	The standby database partitions are restored from the removable cartridge.
F	The standby GPSM boots automatically.	The standby GPSM boots automatically.
G	The active GPSM then boots allowing the standby to resume the active role.[14]	The active GPSM then boots allowing the standby to resume the active role.[11]
H	The standby disk is formatted based on the cartridge configuration table.	The standby disk is formatted based on the cartridge configuration table.
I	The existing database is converted onto the standby disk, upgrading the existing EAGLE source-release tables to target-release tables.	The standby database partitions are restored from the removable cartridge.
J	The GPLs are copied from the removable cartridge onto the standby TDM.	The GPLs are copied from the removable cartridge onto the standby TDM.
K	The standby GPSM boots automatically.	The standby GPSM boots automatically.
L	Initialization of Network cards.	Initialization of Network cards.

[13] Typical full conversion time may range from 30 to 60 minutes. Time for incremental upgrades is reduced since only items D, J & L are performed.
[14] Proceed to step 3 to log back into the system and restart output capture.

Procedure 9: STP Conversion

2 ☐	Command is displayed.
	
	Note the banners transitions from Phase 0 to Phase 3.
	
	For incremental upgrade, see footnote [15]
	
	Record the conversion workspace selection by checking one of the following:
	
	_____ FIXED
	
	_____REMOVABLE
	
	Completion notice of successful upgrade.
	If upgrade does not complete successfully, see recommendation # 8 in section 1.7
		`tekelecstp YY-MM-DD hh:mm:ss EST Rel XX.x.x-XX.x.x Upg Phase 0`
		`act-upgrade:action=convertstp:thres=`***XX***
		`Command entered at terminal #10.`
		`;`
		NOTICE: One of the following messages will be output at the start of the upgrade process to indicate which workspace (fixed or removable) has been selected by the system for OAM conversion:
		
		`tekelecstp YY-MM-DD hh:mm:ss EST Rel XX.x.x-XX.x.x Upg Phase 0`
		
		`Using inactive standby partitions for OAM conversion (disk=`***dddd***`)`
		`;`
		(Where ***dddd*** defines conversion workspace)
		
		NOTICE: See Appendix B (B.1) for samples of output messages.
		
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase 3`
		
		`Command Complete : Upgrade action completed successfully`
		`;`
		NOTE: If upgrade terminates abnormally in phase 3 due to cards being in IS-ANR|DDL Hunt, contact Tekelec Technical Services for assistance in executing Appendix B (B.2).

3 ☐	After item G in step 1, issue the command to log back in to the system.	**`Login:uid=`*****XXXXXX*** (Where ***XXXXXX*** is a valid login ID)

4 ☐	Response to login command is displayed.
	
	Ignore any login failure message.
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase x`
		`User logged in on terminal 10.`
		`;`
		
		`? Login failures since last successful LOGIN`
		`Last successful LOGIN was on port ? on ??-??-?? @ ??:??:??`

5 ☐	Issue the command to reactivate printer capture of upgrade process.	**`act-echo:trm=`*****P*** (Where ***P*** is the terminal port number specified in Procedure 1, Step 3)

6 ☐	Response to print capture command is displayed.	`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase x`
		`Scroll Area Output will be echoed to Port P.`
		`;`

[15] Software troubles from the DMS_LOCK.C module may be generated, for incremental upgrade only, while GPLs are being copied. These troubles are not expected but, if they occur in this circumstance, they are not service affecting.

Procedure 9: STP Conversion

7 ☐ Issue the command to display database status during upgrades.

```
act-upgrade:action=dbstatus
```

8 ☐ Response from the command is displayed.

☐ Look in the columns labeled 'C', 'LEVEL' and 'VERSION STATUS' output by this command.

☐ Verify entries in column 'C' show 'Y' which indicates coherence.

☐ Verify both 'FD CRNT' Levels are equal.

☐ Verify 'VERSION STATUS' shows NORMAL in the active partition group. NOTE: this will not occur until step 2 above is completed.

```
   tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase x
   DATABASE STATUS: >> OK <<
           TDM 1114 ( STDBY)                TDM 1116 ( ACTV )
           C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
            - -------- --------------------  - -------- --------------------
   FD BKUP  Y       XXX      -         -      Y       XXX      -         -
   FD CRNT  Y       XXX                     Y       XXX
           MDAL 1117
            - --------
   RD BKUP  Y        1[16]    -         -

   CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   VERSION STATUS
   ---------  ----  -  -  ----------  -----------------  ------------------
    TDM-CRNT   1114  Y  N  xxx         YY-MM-DD hh:mm:ss  xxx-xxx-xxx  NORMAL
    TDM-BKUP   1114  Y  -  xxx         YY-MM-DD hh:mm:ss  xxx-xxx-xxx  NORMAL
    TDM-CRNT   1116  Y  N  xxx         YY-MM-DD hh:mm:ss  xxx-xxx-xxx  NORMAL
    TDM-BKUP   1116  Y  -  xxx         YY-MM-DD hh:mm:ss  xxx-xxx-xxx  NORMAL
    MDAL       1117  Y  -  1           YY-MM-DD hh:mm:ss  xxx-xxx-xxx  NORMAL

    INACTIVE PARTITION GROUP
    CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   VERSION STATUS
    ---------  ----  -  -  ----------  -----------------  -------------------
    TDM-CRNT   1114  Y  -  ZZZ         YY-MM-DD hh:mm:ss  ZZZ-ZZZ-ZZZ  UPG 3
    TDM-BKUP   1114  Y  -  ZZZ         YY-MM-DD hh:mm:ss  ZZZ-ZZZ-ZZZ  UPG 3
    TDM-CRNT   1116  Y  -  ZZZ         YY-MM-DD hh:mm:ss  ZZZ-ZZZ-ZZZ  UPG 3
    TDM-BKUP   1116  Y  -  ZZZ         YY-MM-DD hh:mm:ss  ZZZ-ZZZ-ZZZ  UPG 3
;
```

9 ☐ Issue the report card status command to verify network cards.

```
rept-stat-card
```

10 ☐ Response to the card status command is displayed.

☐ Verify that the cards are IS-NR, OOS-MT | Isolated or OOS-MT-DSBLD.

☐ Verify that the GPL versions that are displayed in the "VERSION" column are correct; see Section 1.3.

```
    tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase x
    CARD   VERSION      TYPE    APPL       PST          SST         AST
    1101   XXX-XXX-XXX  TSM     SCCP       IS-NR        Active      -----
    1102   XXX-XXX-XXX  TSM     SCCP       IS-NR        Active      -----
    1103   XXX-XXX-XXX  TSM     GLS        IS-NR        Active      -----
    1104   XXX-XXX-XXX  TSM     GLS        IS-NR        Active      -----
    1105   XXX-XXX-XXX  LIMDS0  SS7GX25     IS-NR        Active      -----
    1111   XXX-XXX-XXX  ACMENET STPLAN     OOS-MT       Isolated    -----
    1113   XXX-XXX-XXX  GPSM    EOAM       IS-NR        Active      -----
    1114   -----------  TDM     -------    IS-NR        Active      -----
    1115   XXX-XXX-XXX  GPSM    EOAM       IS-NR        Standby     -----
    1116   -----------  TDM     -------    IS-NR        Active      -----
    1117   -----------  MDAL    -------    IS-NR        Active      -----
    1201   XXX-XXX-XXX  LIMDS0  SS7ANSI    IS-NR        Active      -----
    1202   XXX-XXX-XXX  LIMDS0  SS7ANSI    IS-NR        Active      -----
    1203   XXX-XXX-XXX  LIMDS0  SS7ANSI    IS-NR        Active      -----
    1204   XXX-XXX-XXX  LIMDS0  SS7ANSI    IS-NR        Active      -----
    1205   XXX-XXX-XXX  DCM     SS7IPGW    IS-NR        Active      -----
    1207   XXX-XXX-XXX  DCM     IPGWI      IS-NR        Active      -----
    1211   XXX-XXX-XXX  LIMDS0  CCS7ITU    IS-NR        Active      -----
    1215   xxx-xxx-xxx  DSM     VSCCP      IS-NR        Active      -----
    1217   xxx-xxx-xxx  DSM     VSCCP      IS-NR        Active      -----
    3101   xxx-xxx-xxx  LIMATM  ATMANSI    IS-NR        Active      -----
    3102   xxx-xxx-xxx  LIMATM  ATMANSI    IS-NR        Active      -----
    Command Completed.
;
```

[16] If removable disk conversion area (non-AWA) used , the level of the database on the removable drive will be the same as the hard drives, xxx.

Procedure 9: STP Conversion

11 ☐ Issue the command to display GPL status.

```
rtrv-gpl
```

12 ☐ Response to GPL status command is displayed.

Verify that the GPL versions that are displayed in the "RELEASE" column are correct; see Section 1.3.

```
    tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y
    GPL Auditing  ON

    APPL      CARD  RELEASE      APPROVED         TRIAL         REMOVE TRIAL
    EOAM      1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    EOAM      1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    SS7ANSI   1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    SS7ANSI   1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    SCCP      1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    SCCP      1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    GLS       1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    GLS       1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    CDU       1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    CDU       1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    CCS7ITU   1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    CCS7ITU   1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    SS7GX25   1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    SS7GX25   1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    STPLAN    1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    STPLAN    1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    IMT       1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    IMT       1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    ATMANSI   1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    ATMANSI   1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    BPHCAP    1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    BPHCAP    1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    BPDCM     1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    BPDCM     1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    EMDC      1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    EMDC      1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    EBDABLM   1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    EBDABLM   1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    EBDADCM   1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    EBDADCM   1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    VXWSLAN   1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    VXWSLAN   1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    IPLIM     1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    IPLIM     1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    IPLIMI    1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    IPLIMI    1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    SS7IPGW   1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    SS7IPGW   1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    VSCCP     1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    VSCCP     1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------
    VXUTIL    1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   XXX-XXX-XXX
    VXUTIL    1116  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX   -----------

;
```

5.3 Completion of Session 1

Procedure 10: Force Download of TDMs

S T E P #	This procedure reseats the TDMs. Only execute this procedure if the GPSMs in slots 1113 and 1115 were flashed in Procedure 9, step 2. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**

1 ☐	Eject the removable cartridge.	
2 ☐	Compare TDM part numbers recorded in procedure 4, steps 2 & 3 with 870-0774-15. If recorded part numbers are greater then or equal to 870-0774-15 go to the next procedure, else continue to step 3.	If the system is running TDM-GTI (p/n 870-0774-15 or higher) this procedure is not applicable.
3 ☐	Issue the command to display version of BPDCM GPL running on cards.	**rept-stat-gpl:gpl=bpdcm**
4 ☐ ☐	Response from the retrieve command is displayed. If either slot 1113 or 1115 is alarmed then stop upgrade and contact Tekelec Technical Services. Compare version of BPDCM running on 1113 and 1115 with version recorded in Procedure 7 Step 16, if version numbers match then go to the next procedure, else continue next step.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Upg Phase x rept-stat-gpl:gpl=bpdcm Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y GPL Auditing ON APPL CARD RUNNING APPROVED TRIAL BPDCM 1101 XXX-XXX-XXX YYY-YYY-YYY XXX-XXX-XXX BPDCM 1113 XXX-XXX-XXX YYY-YYY-YYY XXX-XXX-XXX BPDCM 1115 XXX-XXX-XXX YYY-YYY-YYY XXX-XXX-XXX Command Completed. ;
5 ☐	Issue command to inhibit standby MASP	**inh-card:loc=*XXXX*** (Where *XXXX* is the location of the Standby GPSM)
6 ☐	Response to inhibit card command is displayed	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase x ** 5045.0514 ** CARD XXXX EOAM Standby MASP is inhibited ;
7 ☐	Unplugged and re-insert the standby MASP.	☐ Unseat the standby GPSM ☐ Unseat the card in the standby TDM slot. ☐ Re-seat the card in the TDM slot. ☐ Re-seat the standby GPSM. **Note:** UAMs are generated during this step. An audible alarm is generated. Wait for the standby GPSM / TDM to come up in standby mode.
8 ☐	Issue the command to allow the standby OAM.	**alw-card:loc=*XXXX*** (Where *XXXX* is the location of the Standby GPSM)

Procedure 10: Force Download of TDMs

9 ☐	Response to allow card command is displayed. If this is the second time performing this step, go to next procedure. Otherwise continue.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase x Card has been allowed. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase x Command Completed. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase x 5046.0515 CARD XXXX EOAM Standby MASP is allowed ;
10 ☐	Issue the command to initialize the active OAM.	**init-card:loc=*YYYY*** (Where *YYYY* is the location of the ACTIVE GPSM)
11 ☐	Response to initialize card command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase x ** 5001.0008 ** CARD YYYY EOAM Active MASP has become isolated ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 5003.0009 CARD XXXX EOAM MASP became active
12 ☐	Issue the command to log back in to the system.	**login:uid=*XXXXXX*** (Where ***XXXXXX*** is a valid login ID)
13 ☐	Response to login command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y User logged in on terminal 10. ;
14 ☐	Issue the command to reactivate printer capture.	**act-echo:trm=*P*** (Where ***P*** is the terminal port number specified in Procedure 1, Step 4)
15 ☐	Response to printer capture command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y act-echo:trm=P Command entered at terminal #10. ;
16 ☐	Repeat steps 5 through 9.	Perform Step 5 through Step 9 on TDM of the other MASP. **Note**: If executing this Procedure as part of Recovery Procedure C, upon completion return to Procedure 29 step 14.

Procedure 11: Completing Upgrade/Return to Full-Function Mode

S T E P #	This procedure completes the upgrade and returns the system to full-function mode. Verification of the GPL distribution is also performed. If Procedure 10 has been executed, go to step 7. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND ASK FOR UPGRADE ASSISTANCE.	
1 ☐	Issue the command to initialize both MASPs.	**init-card:appl=oam**
2 ☐	Response to the init command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upgrade Phase x init-card:appl=oam Command entered at terminal #10. ;
☐	Verify the banner display full-function mode after the MASPs boot.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 0002.0009 CARD 1113 EOAM MASP became active ;
3 ☐	Issue the command to log back in to the system.	**login:uid=*XXXXXX*** (Where ***XXXXXX*** is a valid login ID)
4 ☐	Response to login command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y User logged in on terminal 10. ;
5 ☐	Issue the command to reactivate printer capture.	**act-echo:trm=*P*** (Where ***P*** is the terminal port number specified in Procedure 1, Step 4)
6 ☐	Response to printer capture command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y act-echo:trm=X Command entered at terminal #10. ;
7 ☐	Issue the command to display card status.	**rept-stat-gpl:display=all**
8 ☐	Response to GPL status command is displayed. Verify that no "ALM" indicator is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y GPL Auditing ON GPL CARD RUNNING APPROVED TRIAL EOAM 1113 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX * BPDCM XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX EOAM 1115 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX * BPDCM XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX SS7ANSI 1201 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX IMT XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX SS7ANSI 1202 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX IMT XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX SCCP 1111 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX IMT XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX GLS 1213 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX IMT XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX GLS 1214 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX IMT XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX CCS7ITU 1301 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX IMT XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX CCS7ITU 1302 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX IMT XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX VSCCP 1107 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX BPDCM XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX SS7ML 1205 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX BPMPL XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX BPHMUX 1109 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX BPHMUX 1110 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX BPHMUX 1209 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX BPHMUX 1210 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX HIPR 1309 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX HIPR 1310 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX Command Completed. ;
9 ☐	Establish system status	See recommendation # 8 in Section 1.7

Procedure 12: Reprovisioning OAP Links

S T E P #	This procedure verifies the status of the OAP terminal(s). Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	If Procedure 2: Determining OAP Status was executed, issue command to change terminal port type. Otherwise, go to next procedure.	**chg-trm:type=oap:trm=*XX*** (where ***XX*** is the one of the OAP terminal ports recorded in Procedure 1, Step 3)
2 ☐	Response to change command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y chg-trm:trm=XX:type=OAP Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y CHG-TRM: MASP A – COMPLTD ;
3 ☐	Issue the command to retrieve terminal status.	**rtrv-trm:trm=*XX*** (where ***XX*** is the terminal port specified in Step 1)
4 ☐ ☐	Response to retrieve command is displayed. Verify the terminal type is now OAP.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rtrv-trm:trm=XX Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y TRM TYPE COMM FC TMOUT MXINV DURAL XX OAP 19200-7-E-1 SW 30 5 00:01:00 LNP LNP TRM TRAF LINK SA SYS PU DB UIMRD DB SUB XX YES YES YES YES YES YES YES NO NO ;
5 ☐	Repeat Steps 1-4 for second OAP terminal port	The second OAP terminal port was recorded in Procedure 1, Step 3.

Procedure 13: Backing up Converted Database

S T E P #	This procedure backs up the converted Target-Release database to the fixed disk and to the removable cartridge. Verification of the converted database is also done. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	Insert the target-release removable cartridge.	Wait for the cartridge to spin up.
2 ☐	Issue the command to report database status.	**rept-stat-db**
3 ☐ ☐ ☐	Response to database status command is displayed. Check entries in 'C' should be coherent, which is indicated by a 'Y'. If all TDM entries in column 'LEVEL' are the same value, go to Step 13.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-db Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y DATABASE STATUS: >> OK << TDM 1114 (STDBY) TDM 1116 (ACTV) C LEVEL TIME LAST BACKUP C LEVEL TIME LAST BACKUP - -------- ---------- - -------- ---------- FD BKUP Y XXX - - Y XXX - - FD CRNT Y XXX Y XXX MDAL 1117 - RD BKUP Y 1[17] - - ; **Chg-db:action=backup**
4 ☐	Issue the database command to backup the fixed disks; this will put a time stamp in the database.	
5 ☐ ☐	Response and progress of back up command are displayed. Command execution time: approximately 4 – 20 minutes, longer for large databases.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 5028.1114 CARD 1115 Database BACKUP started Report Date:YY-MM-DD Time:hh:mm:ss ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y BACKUP (FIXED): MASP A - Backup starts on active MASP. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y BACKUP (FIXED): MASP A - Backup on active MASP to fixed disk complete. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y BACKUP (FIXED): MASP A - Backup starts on standby MASP. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 5031.1116 CARD 1115 Database action ended - OK Report Date:YY-MM-DD Time:hh:mm:ss ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y BACKUP (FIXED): MASP A - Backup on standby MASP to fixed disk complete ;
6 ☐	Issue the command to report database status.	**rept-stat-db**

[17] In the non-typical scenario, if the removable was used for AWA, DB level on removable should be equal to the TDMs' versions. The AWA version was recorded in procedure 9, step 2.

Procedure 13: Backing up Converted Database

7 ☐	Response to database status command is displayed. Check: entries in 'C' should be coherent, which is indicated by a 'Y'. Verify both 'FD CRNT' and 'FD BKUP' Levels are equal.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-db Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y DATABASE STATUS: >> OK << TDM 1114 (STDBY) TDM 1116 (ACTV) C LEVEL TIME LAST BACKUP C LEVEL TIME LAST BACKUP - -------- ---------- - -------- ---------- FD BKUP Y XXX - - Y XXX - - FD CRNT Y XXX Y XXX MDAL 1117 - RD BKUP Y 1 - - ; **chg-db:action=backup:dest=remove**
8 ☐	Issue the database command to back up to the removable cartridge.	
9 ☐	Response to backup command is displayed. **Command Execution Time: Approximately 4 – 20 minutes**, longer for large databases.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 5035.1114 CARD 1115 Database BACKUP started Report Date:YY-MM-DD Time:hh:mm:ss tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y BACKUP (REMOVABLE): MASP B - Backup starts on active MASP. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y BACKUP (REMOVABLE): MASP B - Backup to removable cartridge complete. ;
10 ☐	Issue the command to report database status.	**rept-stat-db**
11 ☐	Response to database status command is displayed. Verify all entries in 'C' should be coherent, which is indicated by a 'Y'. Verify all entries in column 'LEVEL' are the same value.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-db Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y DATABASE STATUS: >> OK << TDM 1114 (ACTV) TDM 1116 (STDBY) C LEVEL TIME LAST BACKUP C LEVEL TIME LAST BACKUP - ------- ---------- - ------- ---------- FD BKUP Y XXX YY-MM-DD hh:mm:ss TTTT Y XXX YY-MM-DD hh:mm:ss TTTT FD CRNT Y XXX Y XXX MDAL 1117 - ------- RD BKUP Y XXX YY-MM-DD hh:mm:ss TTTT ;
12 ☐	Eject the removable cartridge from the MDAL.	**The cartridge should be stored in a safe location.**
13 ☐	Insert the second target-release cartridge and repeat the steps 6 to 12.	If both cartridges fail, contact Tekelec Technical Services.

Procedure 14: Restoring OAP Links

S T E P #	This procedure restarts OAP terminal(s). Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	Issue command to allow the OAP terminal port.	**alw-trm:trm=*XX*** (Where ***XX*** is the first terminal port recorded in Procedure 1, Step 3)
2 ☐	Response to allow command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Allow message sent to terminal ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed.
3 ☐	Repeat Steps 1-2 for second OAP terminal port	The second OAP terminal port was recorded in Procedure 1, Step 3.
4 ☐	IF SEAS = on then issue this command. (SEAS was recorded in Procedure 1, Step 11.)	**rept-stat-seas**
5 ☐ ☐	Response to command is displayed. Verify the TDM TRMs return to the same status recorded in Procedure 2: Determining OAP Status, Step2. Note: OAP A and B may be out-of-service unless the OAP upgrade has been performed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y GPL PST SST AST --- SEAS SYSTEM OOS-MT Fault ----- TDM TRM 1 IS-NR Active ----- TDM TRM 2 IS-NR Active ----- OAP A 026-001-000 IS-NR Active ----- OAP B ---------- OOS-MT Isolated ----- X25 Link A1 OOS-MT Fault ----- X25 Link A2 OOS-MT Fault ----- SEAS SYSTEM ALARM STATUS = *C 0349 SEAS unavailable OAP A ALARM STATUS = ** 0341 OAP unavailable X25 Link A1 ALARM STATUS = ** 0343 SEAS X.25 Link unavailable X25 Link A2 ALARM STATUS = ** 0343 SEAS X.25 Link unavailable X25 A1 PVCs IS-NR = --- X25 A1 PVCs OOS-MT = --- X25 A2 PVCs IS-NR = --- X25 A2 PVCs OOS-MT = --- Command Completed. ;

→ This concludes SESSION ONE ←

5.4 Upgrade Session 2

Procedure 15. Verifying Upgrade Session 2 Requirements

S T E P #	This procedure verifies that all upgrade session 2 requirements have been met. This procedure assumes an acceptable amount of soak time has occurred since the end of session #1. The expected norm for soak time is 48 hours. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE**.	
1 ☐	Complete pre-upgrade session 2 tasks	All tasks in Table 11 must be completed before continuing.

Table 15. Pre-Upgrade Requirements

√	Tasks to be completed prior to upgrade session 2 execution
	Verify that an EAGLE system health check 3 has been performed.

Procedure 16: Upgrading Removable Cartridges

S T E P #	This procedure describes how to update source-release removable cartridges to the target release. See recommendation #2 in section 1.7. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	Echo command input to capture terminal. See recommendation #1 & #7 in section 1.7	**act-echo:trm=*P*** (Where the value for ***P*** is one of the printer/KSR terminal port numbers recorded in Procedure 1, Step 3)
2 ☐	Response to activate command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y act-echo:trm=P Command entered at terminal #XX. ;
3 ☐	If capture terminal's output groups are not all set to YES, issue the change terminal command.	**chg-trm:trm=*P*:all=yes** (***P*** is the terminal port that is specified in step 1)
4 ☐	Response to change terminal command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y chg-trm:trm=P:all=yes Command entered at terminal #XX. ;
5 ☐	If the measurements platform is enabled go to step 9. Else, issue the command to retrieve measurement status.	**rtrv-meas-sched**
6 ☐	Response to retrieve command is displayed. Record if collection is on or off: _____ Record if system configuration requires measurements to be on or off: _____ If COLLECT=ON, continue to next step. Otherwise, go to Step 9.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y COLLECT = off SYSTOT-STP = (off) SYSTOT-TT = (off) SYSTOT-STPLAN = (off) COMP-LNKSET = (off) COMP-LINK = (off) MTCD-STP = (on) MTCD-LINK = (on) MTCD-STPLAN = (on) MTCD-LNKSET = (on) ;
7 ☐	Issue the command to turn off measurement collection.	**chg-meas:collect=off**
8 ☐ ☐	Response to the change command is displayed. If no source cartridges need upgrading, go to next procedure.	tekelecstp YY-MM-DD hh:mm:ss zzzz PPP XX.x.x-YY.y.y chg-meas:collect=off Command entered at terminal #XX. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y CHG-MEAS: MASP A – COMPLTD ;

Procedure 16: Upgrading Removable Cartridges

9 ☐	Issue measurement report command..	**rept-meas:type=systot:enttype=stp**
10 ☐ ☐	Response to the command is displayed. If command fails, reattempt in five minutes until it completes, See Table 16.	E2278 Cmd Rej: 30-minute measurement collection in progress tekelecstp YY-MM-DD hh:mm:ss zzzz PPP XX.x.x-YY.y.y rept-meas:type=systot:enttype=stp Command entered at terminal #XX. ;
11 ☐	Issue measurement report command..	**rept-meas:type=mtcd:enttype=lnp**
12 ☐ ☐	Response to the command is displayed. If command fails, reattempt in five minutes until it completes, See Table 16.	E2277 Cmd Rej: Daily measurement collection in progress tekelecstp YY-MM-DD hh:mm:ss zzzz PPP XX.x.x-YY.y.y rept-meas:type=mtcd:enttype=lnp Command entered at terminal #XX. ;
13 ☐	Issue measurement report command..	**rept-meas:type=mtcdth:enttype=stp**
14 ☐ ☐	Response to the command is displayed. If command fails, reattempt in five minutes until it completes, See Table 16.	E2276 Cmd Rej: Day-to-hour measurement collection in progress tekelecstp YY-MM-DD hh:mm:ss zzzz PPP XX.x.x-YY.y.y rept-meas:type= mtcdth:enttype=stp Command entered at terminal #XX. ;
15 ☐	Insert the source removable cartridge to be upgraded into the MDAL.	Wait for the cartridge to spin up.
16 ☐	Issue the command to format the cartridge.	**format-disk:type=system:force=yes**
17 ☐ ☐	Response to format command is displayed. **If the format should fail, first repeat Step 16, then contact Tekelec Technical Services.**	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y format-disk:type=system:force=yes Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Format-disk of system removable cartridge started. Extended processing required, please wait. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Format-disk of system removable cartridge completed. ;

Table 16. MTT errors generated when measurement collection is in progress.

Response ID Code:	Command Reject Text for MTT error:
E2276	Day-to-hour measurement collection in progress
E2277	Daily measurement collection in progress
E2278	30-minute measurement collection in progress
E2279	5-minute measurement collection in progress
E2290	Hourly measurement collection in progress
E3688	15-minute measurement collection in progress

Procedure 16: Upgrading Removable Cartridges

18 ☐	Issue the command to copy the GPLs to the cartridge.	**copy-gpl**
19 ☐	Response to copy command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y copy-gpl Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y COPY-GPL: MASP A - COPY STARTS ON ACTIVE MASP ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y COPY-GPL: MASP A - COPY COMPLETED ON ACTIVE MASP ;
20 ☐	Issue the command to backup the target-release database to the cartridge.	**chg-db:action=backup:dest=remove**
21 ☐	Response to backup command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 5035.1114 CARD 1115 Database BACKUP started Report Date:YY-MM-DD Time:hh:mm:ss ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y BACKUP (REMOVABLE): MASP B - Backup starts on active MASP. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y BACKUP (REMOVABLE): MASP B - Backup to removable cartridge complete. ;
22 ☐	Eject the removable cartridge from the MDAL and store it in a safe place.	
23 ☐	If upgrading more cartridges, repeat step 15-22.	

Procedure 17: Backing Up Fixed Disk

STEP #		
	This procedure backs up the converted target-release database to the fixed disk. This is done to ensure a recent database backup has been performed. Verification of the converted database is also done. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	Issue the command to backup the database to the fixed disks.	`chg-db:action=backup`

2 ☐ ☐	Response and progress of the back up command are displayed.
	
	Command Execution Time: Approximately 4 – 20 minutes, longer for large databases.
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`5028.1114 CARD 1115 Database BACKUP started`
		`Report Date:YY-MM-DD Time:hh:mm:ss`
		`;`
		
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`BACKUP (FIXED): MASP A - Backup starts on active MASP.`
		`;`
		
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`BACKUP (FIXED): MASP A - Backup on active MASP to fixed disk complete.`
		`;`
		
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`BACKUP (FIXED): MASP A - Backup starts on standby MASP.`
		`;`
		
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`5031.1116 CARD 1115 Database action ended - OK`
		`Report Date:YY-MM-DD Time:hh:mm:ss`
		`;`
		
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`BACKUP (FIXED): MASP A - Backup on standby MASP to fixed disk complete.`
		`;`

3 ☐	See Recommendation #3 in section 1.7. If turning down the OAPs is necessary, execute Procedure 2: Determining OAP Status.	Upon completion of Procedure 2: Determining OAP Status, continue with Upgrade Session 2, Procedure 18: Upgrading Spare Fixed Disks

Procedure 18: Upgrading Spare Fixed Disks

S T E P #	This procedure describes how to upgrade your spare TDMs to the target release. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE**.	
1 ☐	Issue the command to display card status.	**rept-stat-card**
2 ☐ ☐	Response to the card status command is displayed. Determine MASP activity. Note which GPSM is active and standby. Record the card locations of both sets of GPSMs and TDMs: Act GPSM ____ Active TDM _____ Stby GPSM____ Standby TDM _____ For this sample output, 1113/1114 are active and 1115/1116 are standby.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y CARD VERSION TYPE APPL PST SST AST 1101 XXX-XXX-XXX TSM SCCP IS-NR Active ----- 1102 XXX-XXX-XXX TSM SCCP IS-NR Active ----- 1103 XXX-XXX-XXX TSM GLS XXXXX Fault ----- 1104 XXX-XXX-XXX TSM GLS XXXXX Fault ----- 1105 XXX-XXX-XXX LIMDS0 SS7GX25 IS-NR Active ----- 1109 XXX-XXX-XXX HMUX BPHMUX IS-NR Active ----- 1110 XXX-XXX-XXX HMUX BPHMUX IS-NR Active ----- 1111 XXX-XXX-XXX ACMENET STPLAN IS-ANR Active ----- 1113 XXX-XXX-XXX GPSM EOAM IS-NR Active ----- 1114 ---------- TDM ------- IS-NR Active ----- 1115 XXX-XXX-XXX GPSM EOAM IS-NR Standby ----- 1116 ---------- TDM ------- IS-NR Active ----- 1117 ---------- MDAL ------- IS-NR Active ----- 1201 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1202 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1203 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1204 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1209 XXX-XXX-XXX HIPR HIPR IS-NR Active ----- 1210 XXX-XXX-XXX HIPR HIPR IS-NR Active ----- 1211 XXX-XXX-XXX LIMDS0 CCS7ITU IS-NR Active ----- 1218 XXX-XXX-XXX TSM GLS IS-NR Active ----- Command Completed. ;
3 ☐	Insert target-release cartridge into the MDAL and wait for the cartridge to "spin up."	
4 ☐	Place spare TDM in system.	☐ Unseat the card in the standby GPSM slot determined in step 2. ☐ Remove the standby TDM card determined in step 2. ☐ Insert the spare TDM card. ☐ Re-seat the card in the GPSM slot. **Note:** UAMs are generated during this step. An audible alarm is generated. Wait for the standby GPSM/spare TDM to come up in standby mode.
5 ☐	Issue the command to display security log status.	**rept-stat-seculog**
6 ☐ ☐	Response to the command is displayed. If the ENTRIES column displays any value other than 0 for the Standby ROLE, proceed to the next step. Otherwise, go ahead to step 14.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-seculog Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y -- SINCE LAST UPLOAD -- OLDEST NEWEST LAST LOC ROLE ENTRIES %FULL OFLO FAIL RECORD RECORD UPLOAD 1114 Active 19 1 No No 99-01-01 99-01-01 00-00-00 13:43:37 14:08:12 00:00:00 1116 Standby 0 0 No No 99-01-01 99-01-01 99-01-01 13:39:39 13:43:10 14:07:59 ;

Procedure 18: Upgrading Spare Fixed Disks

7 ☐	Issue the command to copy the security log from the standby disk.	**copy-seculog:slog=stb:dfile=upgXX.spr**
8 ☐ ☐	Response to copy seculog command is displayed. If this command fails, proceed to next step. Otherwise, go to step 14.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Security log on TDM 111X copied to file upg25.spare on TDM 111Y ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 0468.0177 SECULOG 111X Security log exception cleared ;
9 ☐	Issue the command to display the FTA directory.	**disp-fta-dir**
10 ☐ ☐	Response to display directory command is displayed. If there are any files that need to be saved, they need to be removed via a file transfer. If this is necessary, contact TEKELEC Technical Services for further information.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y File Transfer Area Directory of fixed disk 111Y FILENAME LENGTH LAST MODIFIED LBA YYMMDDs.log 2560256 99-01-03 10:18:44 388769 YYMMDDa.log 2560256 99-01-03 10:19:20 393770 m60_lnp.csv 0 99-01-03 13:10:38 398771 3 File(s) 21093376 bytes free ;
11 ☐	Issue the command to delete ALL files in the transfer area.	**dlt-fta:all=yes**
12 ☐	Response to the delete command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y dlt-fta:all=yes Command entered at terminal #10. ;
13 ☐	Repeat Steps 7 – 8 if those steps previously failed.	
14 ☐	Issue the command to copy to the standby disk.	**copy-disk:dloc=*XXXX*:force=yes:format=yes** (Where *XXXX* is the location of the STANDBY TDM recorded in Step 2)
15 ☐ ☐	Response to the copy-disk command is displayed. **Command Execution Time: Between 35 and 120 minutes** Note: user terminal port may be automatically logged out. Wait for the card reload to complete.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Copy-disk (fixed): from active (YYYY) to standby (XXXX) started. Extended processing required, please wait. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Copy-disk (fixed): from active (XXXX) to standby (XXXX) complete. Measurements may be allowed now if desired. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 0485.0014 CARD 1115 EOAM Card is present ;
16 ☐	If the disk copy fails, do the following:	1. Repeat Steps 14-15. 2. If second attempt fails, contact Tekelec Technical Services.

Procedure 19: Upgrading Spare MUX cards

S T E P #	This procedure describes how to upgrade your spare HMUX cards. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.** Spare HMUX cards need to be downloaded with latest flash gpl. Due to changes incorporated in the new flash gpl if an HMUX card running a down level flash version is inserted into the system the card will steam errors to the screen.	
1 ☐	If Source Release is 32.0 or earlier, issue the change command to set the SYS terminal output group to NO. Otherwise, go to step 3.	**chg-trm:trm=*U*:sys=no** (Where *U* = is the terminal in use.) NOTE: HMUX cards loaded with source-release BPHMUX flash stream SEV 1 troubles to screen until the cards are loaded with target-release BPHMUX.
2 ☐	Response to change terminal command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y chg-trm:trm=U:sys=no Command entered at terminal #10. ;
3 ☐	Issue the command to display imt bus status.	**rept-stat-mux**
4 ☐ ☐	Response to the MUX status command is displayed. Record the types of MUX cards present: HMUX: YES / NO HIPR: YES / NO	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-mux Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y CARD TYPE PST SST AST 1109 HMUX IS-NR Active ----- 1110 HMUX IS-NR Active ----- 1209 HMUX IS-NR Active ----- 1210 HMUX IS-NR Active ----- 1309 HIPR IS-NR Active ----- 1310 HIPR IS-NR Active ----- Command Completed. ;
5 ☐	Issue the command to display imt bus status.	**rept-stat-imt**
6 ☐ ☐	Response to the card status command is displayed. Verify that both imt buses are IS-NR. If either bus is not IS-NR Exit from procedure and call TAC	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-imt Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y IMT PST SST AST A IS-NR Active ----- ALARM STATUS = No Alarms. IMT PST SST AST B IS-NR Active ----- ALARM STATUS = No Alarms. Command Completed. ;
7 ☐	Issue the command to inhibit IMT bus-A.	**inh-imt:bus=a**
8 ☐	Response to the command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Inhibit IMT Bus A command issued ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 8687.0098 IMT BUS A IMT inhibited ;
9 ☐	Swap spare MUX cards with those on the IMT A-bus. (i.e. location 1109, 1209)	Note: swap cards of like types (using the output from step 4, a HMUX can be placed in 1109 or 1209, while a HIPR can be placed in 1309.)

Procedure 19: Upgrading Spare MUX cards

10 ☐	Issue the command to allow IMT bus-A.	**alw-imt:bus=a**
11 ☐	Response to the command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Allow IMT Bus A command issued ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 8712.0097 IMT BUS A IMT allowed ;
12 ☐	Issue the card status command to identify the HMUX cards in the system.	**rept-stat-gpl:gpl=*XXXX*** (Where *XXXX* = is bphmux for HMUX cards or hipr for HIPR cards.)
13 ☐	Response to the command is displayed. Record the CARD locations for all MUX cards in the system not running the APPROVED version of the GPL.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y GPL Auditing ON APPL CARD RUNNING APPROVED TRIAL BPHMUX XX09 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX BPHMUX XX10 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX BPHMUX XX09 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX BPHMUX XX10 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX BPHMUX XX09 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX BPHMUX XX10 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX BPHMUX XX09 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX BPHMUX XX10 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX Command Completed. ;
14 ☐	Enter the command to initialize the FLASH on the next MUX card on the A-bus.	**init-flash:loc=*XX*09:code=appr** (Where *XX* = is a shelf number.)
15 ☐	Response to the flash initialization is shown.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y init-flash:loc=XX09:code=appr Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y FLASH Memory Download for card XX09 Started. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y FLASH Memory Download for card XX09 Completed. ;
16 ☐	Repeat steps 14-15 for each card recorded in step 13.	
17 ☐	Enter the command to initialize the current bus.	**init-mux:bus=a**
18 ☐	Response to the initialization command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 5080.0014 CARD XX09 BPHMUX Card is present ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 5081.0014 CARD YY09 BPHMUX Card is present ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y * 5082.0004 * GPL SYSTEM BPHMUX Card is running non-activated GPL
19 ☐	Issue the command to activate the flash on the first MUX card flashed in step 14.	**act-flash:loc=*XX*09** (Where *XX* = is a shelf number.)
20 ☐	Response to the activate command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y FLASH Memory Activation for card 1209 Started. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y FLASH Activation for card 1209 Completed. ;
21 ☐	Repeat steps 19-20 for each MUX card recorded in step 13.	

Procedure 19: Upgrading Spare MUX cards

22 ☐	Issue the command to display the MUX card GPL status.	`rept-stat-gpl:gpl==`*`XXXX`* (Where *XXXX* = is bphmux for HMUX cards or hipr for HIPR cards.)

23 ☐	Verify that all MUX cards are running the approved GPL.	<pre>tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y
		GPL Auditing ON
		
		APPL CARD RUNNING APPROVED TRIAL
		BPHMUX XX09 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX
		BPHMUX XX10 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX
		BPHMUX XX09 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX
		BPHMUX XX10 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX
		BPHMUX XX09 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX
		BPHMUX XX10 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX
		BPHMUX XX09 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX
		BPHMUX XX10 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX
		Command Completed.
		;</pre>

24 ☐	Repeat steps 12-23 for MUX cards of the other type.	
25 ☐	Repeat steps 5-24 until all spare MUX cards have been flashed.	
26 ☐	Return terminal to the original settings.	`chg-trm:trm=`*`U`*`:sys=no` (Where U = is the terminal in use.)

27 ☐	Response to change terminal command is displayed.	<pre>tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y
		chg-trm:trm=U:sys=yes
		Command entered at terminal #10.
		;</pre>

Procedure 20: Verifying All Databases

S T E P #	This procedure verifies the databases on the fixed disk and the removable cartridge. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. Should THIS PROCEDURE FAIL, Contact TEKELEC technical services for assistance AND **ASK FOR UPGRADE ASSISTANCE**.	
1 ☐	Issue the command to display database information.	`rept-stat-db:display=all`
2 ☐	Response to the command is displayed. Look in the columns labeled 'C,' 'T', and 'LEVEL' output by this command. Verify entries in column 'C' show 'Y', which indicates coherence. Verify entries in column 'T' show 'N'. (except the MDAL), which indicates that the database is not in transition. Verify all entries in the database LEVEL column are the same. LEVEL is a value, which varies depending on the system. If the STDBY databases are not coherent or at the correct level, repeat Procedure 4, step 8. Verify that the MPS databases are coherent.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y DATABASE STATUS: >> OK << TDM 1114 (ACTV) TDM 1116 (STDBY) C LEVEL TIME LAST BACKUP C LEVEL TIME LAST BACKUP - -------- ---------- - -------- ---------- FD BKUP Y YYY YY-MM-DD hh:mm:ss TTTT Y YYY YY-MM-DD hh:mm:ss TTTT FD CRNT Y XXX Y XXX MDAL 1117 - -------- RD BKUP Y -------- -------- --:--:-- ---- CARD/APPL LOC C T LEVEL TIME LAST UPDATE EXCEPTION --------- ---- - - ---------- ---------- ---------- SS7ANSI 1101 Y N XXX 06-04-19 12:13:02 - SS7ANSI 1103 Y N XXX 06-04-19 12:13:02 - GLS 1104 Y N XXX 06-04-19 12:13:02 - SS7ANSI 1105 Y N XXX 06-04-19 12:13:02 - SS7ANSI 1106 Y N XXX 06-04-19 12:13:02 - VSCCP 1107 Y N XXX 06-04-19 12:13:02 - VSCCP 1111 Y N XXX 06-04-19 12:13:02 - TDM-CRNT 1114 Y N XXX 06-04-19 12:13:02 - TDM-BKUP 1114 Y - YYY 06-04-18 16:11:18 DIFF LEVEL TDM-CRNT 1116 Y N XXX 06-04-19 12:13:02 - TDM-BKUP 1116 Y - YYY 06-04-18 16:11:18 DIFF LEVEL MDAL 1117 Y - - - - - EPAP A (ACTV) C BIRTHDATE LEVEL EXCEPTION - ---------- ---------- ---------- PDB 03-09-04 15:09:38 418231879 - RTDB Y 03-09-04 15:09:38 418231879 - RTDB-EAGLE 06-02-06 22:13:06 418231879 - EPAP B (STDBY) C BIRTHDATE LEVEL EXCEPTION - ---------- ---------- ---------- PDB 03-09-04 15:09:38 418231879 - RTDB Y 03-09-04 15:09:38 418231879 - RTDB-EAGLE 06-02-06 22:13:06 418231879 - EAGLE RTDB REPORT CARD/APPL LOC C BIRTHDATE LEVEL EXCEPTION IN-SRVC --------- ---- - ---------- ---------- ---------- ---------- VSCCP 1107 Y 06-02-06 22:13:06 418231879 - 0d 4h 33m VSCCP 1111 Y 06-02-06 22:13:06 418231879 - 0d 4h 33m ;
3 ☐	When the command completes, remove the system cartridge from the MDAL.	**The cartridge should be stored in a safe location.**
4 ☐	If Procedure 17, Step 3 (turning down the OAPs) was executed, execute Procedure 12 and Procedure 14.	**Upon completion of Procedure 12 and Procedure 14, continue with Procedure 21.**

Procedure 21: Session 2 Completion

S T E P #	This procedure resumes measurement collection. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	If the measurements platform is enabled then go to step 3. Else, if Procedure 16 Steps 3 & 4 were executed, issue the command to turn the measurements collection on.	`chg-meas:collect=on`

2 ☐	Response to change measurement command is displayed.	`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`chg-meas:collect=on`
		`Command entered at terminal #10.`
		`;`
		
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`CHG-MEAS: MASP A - COMPLTD`
		`;`

3 ☐	Issue status command for troubles.	`rept-stat-trbl`

4 ☐
 	
☐
 	
☐
	Response to command is displayed.
	
	If UAM 0002 is present where ***XXXX*** is a boot-prom GPL (i.e. BPHCAP or BPDCM), record it below:
	
	_____
	
	_____
	
	If any GPL is recorded above report the GPL(s) to Tekelec Technical Services.
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`SEQN UAM  AL DEVICE   ELEMENT      TROUBLE TEXT`
		`0329.0048  * TERMINAL   15         Terminal failed`
		`0330.0048  * TERMINAL   16         Terminal failed`
		`0006.0002  * GPL SYSTEM XXXX       Card is not running approved GPL`
		`0331.0176  * SECULOG 1116          Stdby security log–upload required`
		`0332.0308 *C SYSTEM                Node isolated due to SLK failures`
		`Command Completed.`
		`;`

→ This concludes SESSION TWO ←

6. RECOVERY PROCEDURES

Upgrade procedure recovery issues should be directed to the Tekelec Customer Care Center. Before executing any of these procedures, contact the Tekelec Customer Care Center at 1-888-FOR-TKLC (1-888-367-8552); or 1-919-460-2150 (international). In the event that other platforms are being upgraded in parallel, a determination whether recovery action is required on those platforms is required. Persons performing the upgrade should be familiar with these upgrade documents.

6.1 Backout Setup Procedures

Execute this section only if there is a problem and it is desired to revert back to the pre-upgrade version of the software.

Warning

Do not attempt to perform these backout procedures without first contacting the Tekelec Customer Care Center at 1-888-FOR-TKLC (1-888-367-8552); or 1-919-460-2150 (international)

6.2 Recovery Procedure A

Procedure 22: Load and Run Source OAM

S T E P #	Perform this Recovery Procedure if upgrading with removable cartridge and a failure occurs in Procedure 7 through Procedure 9, Step 1. This procedure ensures that the source EOAM GPL is loaded from the fixed disk by removing the target-release cartridge from the MDAL and rebooting the GPSMs. Note: This procedure also needs to be executed in order to copy the IMT, BPDCM, and BPDCM2 GPLs from the source after performing procedures 24, 25, or 26 when upgrading with the fixed workspace. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE**.
	When directed to by Tekelec Technical Services, execute this procedure: If **removable-based upgrade** and failure occurred between Procedure 7 and Procedure 9, Step 1, Table 14, Item B. If **fixed-based upgrade** and after the completion of Procedure 24, 25, and 26 (but not 27).

1 ☐	If not already removed, remove the target-release cartridge from the MDAL.	
2 ☐	Insert source release MO.	Wait for the cartridge to spin up
3 ☐	Issue the command to retrieve IMT application data.	**rtrv-gpl:appl=imt** (running 32.0 or earlier) or **rtrv-gpl:gpl=imt** (running 33.0 or later)
4 ☐	Response to rtrv-gpl command is displayed. Record the "REMOVE TRIAL" version: _____	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y GPL Auditing ON GPL CARD RELEASE APPROVED TRIAL REMOVE TRIAL IMT 1114 126-010-000 126-010-000... 126-010-000 ---------- IMT 1116 126-010-000 126-010-000... 126-010-000 **xxx-xxx-xxx**
5 ☐	Issue the command to change the gpl.	**chg-gpl:appl=imt:ver=xxx-xxx-xxx** (running 32.0 or earlier) or **chg-gpl:gpl=imt:ver=xxx-xxx-xxx** (running 33.0 or later) ***(Where xxx-xxx-xxx is the GPL version recorded in the previous step)***

Procedure 22: Load and Run Source OAM

6 ☐	Response to chg-gpl command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y chg-gpl:gpl=imt:ver=xxx-xxx-xxx Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y IMT upload to 1116 completed IMT upload to 1114 completed System Release ID table uploaded to 1116 completed System Release ID table uploaded to 1114 completed ;
7 ☐	Issue the activate GPL command.	**act-gpl:appl=imt:ver=xxx-xxx-xxx** (running 32.0 or earlier) **or** **act-gpl:gpl=imt:ver=xxx-xxx-xxx** (running 33.0 or later) ***(Where xxx-xxx-xxx is the GPL version used in step 5.)***
8 ☐	Response to act-gpl command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y act-gpl:gpl=imt:ver=xxx-xxx-xxx Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y IMT activate on 1116 completed IMT activate on 1114 completed ;
9 ☐	Issue the command to change the gpl.	**chg-gpl:appl=imt:ver=xxx-xxx-xxx** (running 32.0 or earlier) **or** **chg-gpl:gpl=imt:ver=xxx-xxx-xxx** (running 33.0 or later) ***(Where xxx-xxx-xxx is the GPL version used in step 5.)***
10 ☐	Response to chg-gpl command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y chg-gpl:gpl=imt:ver=xxx-xxx-xxx Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y IMT upload to 1116 completed IMT upload to 1114 completed System Release ID table upload to 1116 completed System Release ID table upload to 1114 completed ;
11 ☐	Issue the command to retrieve BPDCM application data.	**rtrv-gpl:appl=bpdcm** (running 32.0 or earlier) **or** **rtrv-gpl:gpl=bpdcm** (running 33.0 or later)
12 ☐	Response to rtrv-gpl command is displayed. Record the "REMOVE TRIAL" version: _____	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rtrv-gpl:gpl=bpdcm Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y GPL Auditing ON GPL CARD RELEASE APPROVED TRIAL REMOVE TRIAL BPDCM 1114 **xxx-xxx-xxx** 126-010-000 ALM 126-010-000 ----------- BPDCM 1116 **xxx-xxx-xxx** 126-010-000 ALM 126-010-000 **xxx-xxx-xxx** ;
13 ☐	Issue the command to change the gpl.	**chg-gpl:appl=bpdcm:ver=xxx-xxx-xxx** (running 32.0 or earlier) **or** **chg-gpl:gpl=bpdcm:ver=xxx-xxx-xxx** (running 33.0 or later) ***(Where xxx-xxx-xxx is the GPL version recorded in the previous step)***
14 ☐	Response to chg-gpl command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y chg-gpl:gpl=bpdcm:ver=xxx-xxx-xxx Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y BPDCM upload to 1116 completed BPDCM upload to 1114 completed System Release ID table upload to 1116 completed System Release ID table upload to 1114 completed ;

Procedure 22: Load and Run Source OAM

15 ☐	Issue the command to activate the gpl Note: The BPDCM version shown here is only for example purposes.	**act-gpl:appl=bpdcm:ver=xxx-xxx-xxx** (running 32.0 or earlier) **or** **act-gpl:gpl=bpdcm:ver=xxx-xxx-xxx** (running 33.0 or later) ***(Where xxx-xxx-xxx is the GPL version used in step 13.)***
16 ☐	Response to act-gpl command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y act-gpl:gpl=bpdcm:ver=xxx-xxx-xxx Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y BPDCM activate on 1116 completed BPDCM activate on 1114 completed ;
17 ☐	Issue the command to change the gpl	**chg-gpl:appl=bpdcm:ver=xxx-xxx-xxx** (running 32.0 or earlier) **or** **chg-gpl:gpl=bpdcm:ver=xxx-xxx-xxx** (running 33.0 or later) ***(Where xxx-xxx-xxx is the GPL version used in step 13.)***
18 ☐	Response to chg-gpl command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y chg-gpl:gpl=bpdcm:ver=xxx-xxx-xxx Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y BPDCM upload to 1116 completed BPDCM upload to 1114 completed System Release ID table upload to 1116 completed System Release ID table upload to 1114 completed ;
19 ☐	If source release is 38.0, issue the command to retrieve BPDCM2 application data.[18]	**rtrv-gpl:gpl=bpdcm2**
20 ☐	Response to rtrv-gpl command is displayed. Record the "REMOVE TRIAL" version: _____	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y GPL Auditing ON GPL CARD RELEASE APPROVED TRIAL REMOVE TRIAL BPDCM2 1114 **xxx-xxx-xxx** yyy-yyy-yyy ALM yyy-yyyy-yyy ---------- BPDCM2 1116 **xxx-xxx-xxx** yyy-yyy-yyy ALM yyy-yyy-yyy **xxx-xxx-xxx** ;
21 ☐	Issue the command to change the gpl.	**chg-gpl:gpl=bpdcm2:ver=xxx-xxx-xxx** ***(Where xxx-xxx-xxx is the GPL version recorded in the previous step)***
22 ☐	Response to chg-gpl command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y BPDCM2 upload to 1116 completed BPDCM2 upload to 1114 completed System Release ID table upload to 1116 completed System Release ID table upload to 1114 completed ;

[18] If unsure whether to execute this step, issue the command and if MTT "E2238 Cmd Rej: The GPL type entered is not currently supported" is displayed, skip to Step 23.

Procedure 22: Load and Run Source OAM

23 ☐	Issue the report card status command.	**rept-stat-card:appl=oam**
24 ☐ ☐	Response to the card status command is displayed. Record which GPSM is Active and Standby. Record the card locations of the GPSMs: Act GPSM _____ Stby GPSM ____[19]	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y CARD VERSION TYPE APPL PST SST AST 1113 XXX-XXX-XXX GPSM EOAM IS-NR Active ----- 1115 XXX-XXX-XXX GPSM EOAM IS-NR Standby ----- Command Completed. ;
25 ☐	Issue the command to inhibit standby GPSM.	**inh-card:loc=*XXXX*** Where *XXXX* is the location for the Standby GPSM.
26 ☐	Response to the command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Card has been inhibited. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;
27 ☐	Issue the command to initialize the flash memory.	**init-flash:code=appr:loc=*XXXX*** Where *XXXX* is the location for the Standby GPSM. **NOTE:** This command causes the card to boot.
28 ☐	Response to the init flash command is displayed. Wait for the downloading to complete.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y FLASH Memory Download for card XXXX Started. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y FLASH Memory Download for card XXXX Completed. ;
29 ☐	Issue the command to activate the flash memory.	**act-flash:loc=*XXXX*** Where ***XXXX*** is the location for the Standby GPSM.
30 ☐	Response to the command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y FLASH Memory Activation for card XXXX Started. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y FLASH Activation for card XXXX Completed. ;
31 ☐	Unplug and re-insert the standby MASP.	☐ Unseat the standby GPSM recorded in step 24. ☐ Unseat the card in the standby TDM slot. ☐ Re-seat the card in the TDM slot. ☐ Re-seat the standby GPSM. Note: UAMs are generated during this step. An audible alarm is generated,
32 ☐	Issue the command to allow card.	**alw-card:loc=*XXXX*** Where *XXXX* is the location for the Standby GPSM.

[19] The Standby GPSM may report IS-ANR (and the Standby TDM may report 00S-MT|Isolated.) If so, check LEDs on the card. If LEDs are green, it is OK to proceed. This condition will clear after step 37.

Procedure 22: Load and Run Source OAM

33 ☐	Response to the command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Card has been allowed. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;
34 ☐	Issue the report card status command.	**rept-stat-card:appl=oam**
35 ☐	Response to the card status command is displayed. [20]	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y CARD VERSION TYPE APPL PST SST AST 1113 XXX-XXX-XXX GPSM EOAM IS-NR Active ----- 1115 XXX-XXX-XXX GPSM EOAM IS-NR Standby ----- Command Completed. ;
36 ☐	Repeat step 34 until the standby location is IS-NR	
37 ☐	Force a switchover by issuing initialize-card command.	**init-card:loc=*YYYY*** **Where *YYYY* is the active GPSM location recorded in step 24.**
38 ☐	Repeat steps 23 through 36 for the new standby – card location YYYY as reported in step 20. Then proceed with step 39.	
39 ☐	Issue the command to initialize both GPSM cards.	**init-card:appl=oam**
40 ☐ ☐	Response to initialize command is displayed. Ensure that the release shown in the banner is the source release after the MASP becomes active again.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y init-card:appl=oam Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y * 0261.0013 * CARD 111X EOAM Card is isolated from the system ASSY SN: xxxxxxxx ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y 5001.0009 CARD 111X EOAM MASP became active ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y 5038.0014 CARD XXXX EOAM Card is present ASSY SN: xxxxxxxx ;
41 ☐	If this completes the recovery, verify the system with the EAGLE health check [1]. Otherwise continue with Recovery Procedure C[21]	

[20] The Standby GPSM may report IS-ANR. If so, check LEDs on the card. If LEDs are green, it is OK to proceed. This condition will clear after step 37.

[21] Command REPT-STAT-GPL:DISPLAY=ALL can be used to verify this step.

6.3 Recovery Procedure B

Procedure 23: Full Fallback using Removable Disk as OAM conversion workspace

S T E P #	Perform the recovery procedure if directed to do so by TEKELEC TECHNICAL SERVICES when failure occurs in Procedure 9, Step 1, Item C through Procedure 14 using the remove workspace conversion method. This procedure is a full fallback to the source-release on the spare TDM. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**
	When directed to by Tekelec Technical Services, execute this procedure: If **removable-based upgrade** and failure occurred between Procedure 9, Step 1, Table 14, Item C and Procedure 14 [end of session 1].

1 ☐	If upgrade using the fixed disk method, go to Procedure 24.	Refer to Procedure 9, Step 2, 4th Checkbox, where workspace conversion type was recorded. If remove was selected, continue to next step. If fixed was selected, skip to Procedures 24.
2 ☐	Issue the report card status command.	**rept-stat-card**
3 ☐ ☐	Response to the card status command is displayed. Determine MASP activity. Record which GPSM is Active and Standby. Record the card locations of both sets of GPSMs and TDMs: Act GPSM _____ Active TDM _____ Stby GPSM _____ Standby TDM _____ For this sample output, 1113/1114 are active and 1115/1116 are standby.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y CARD VERSION TYPE APPL PST SST AST 1101 XXX-XXX-XXX TSM SCCP IS-NR Active ----- 1102 XXX-XXX-XXX TSM SCCP IS-NR Active ----- 1103 XXX-XXX-XXX TSM GLS XXXXX Fault ----- 1104 XXX-XXX-XXX TSM GLS XXXXX Fault ----- 1105 XXX-XXX-XXX LIMDS0 SS7GX25 IS-NR Active ----- 1111 XXX-XXX-XXX ACMENET STPLAN IS-ANR Active ----- 1113 XXX-XXX-XXX GPSM EOAM IS-NR Active ----- 1114 ---------- TDM ------- IS-NR Active ----- 1115 XXX-XXX-XXX GPSM EOAM IS-NR Standby ----- 1116 ---------- TDM ------- IS-NR Active ----- 1117 ---------- MDAL ------- IS-NR Active ----- 1201 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1202 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1203 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1204 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1205 XXX-XXX-XXX LIMDS0 CCS7ITU IS-NR Active ----- 1206 XXX-XXX-XXX DCM SS7IPGW IS-NR Active ----- 1207 XXX-XXX-XXX DCM IPGWI IS-NR Active ----- 1218 XXX-XXX-XXX TSM GLS IS-NR Active ----- Command Completed. ;
4 ☐	***** ATTENTION ***** **If the SOURCE release is below 33.0, send TVG SNM backout message.**	**send-msg:loc=*XXXX*:f=20:ds=1:da=h'a6** (Where *XXXX* is location of active GPSM)
5 ☐	Response to send-msg command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y send-msg:loc=xxxx:f=20:ds=1:da=h'a6 Command entered at terminal #3. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y System Buffer sent has following attributes : Msg Length = H'0010 Dest Card = H'00fb Orig Subsys = H'0001 Dest Subsys = H'0001 Orig Appl ID = H'0030 Dest Appl ID = H'00a6 Func ID = H'0014 Bus/Ret/Sut = H'0002 Violation Ind = H'0000 User Message sent to location xxxx. ;

Procedure 23: Full Fallback using Removable Disk as OAM conversion workspace

6 ☐	***** ATTENTION ***** **If the SOURCE release is 34.1 or less, issue send-message command to initiate the rollback. Else, go to step 8.** ************************	**send-msg:ds=1:da=h'1d:oa=h'4d:f=h'cf:loc=**XXXX (Where XXXX is the location of the ACTIVE GPSM slot recorded in step 3)
7 ☐	Response to send-msg command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y send-msg:ds=1:da=h'1d:oa=h'4d:f=h'cf:loc=XXXX Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y System Buffer sent has following attributes : Msg Length = H'0010 Dest Card = H'00fb Orig Subsys = H'0001 Dest Subsys = H'0001 Orig Appl ID = H'004d Dest Appl ID = H'001d Func ID = H'00cf Bus/Ret/Sut = H'0002 Violation Ind = H'0000 User Message sent to location XXXX. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y PREP_BACKOUT function ID has been sent to all cards
8 ☐	Remove the target-release cartridge from the MDAL.	
9 ☐	Place spare TDM in system.	☐ Unseat the card in the standby GPSM slot determined in step 2. ☐ Remove the standby TDM card determined in step 2. ☐ Insert the spare TDM card. ☐ Re-seat the card in the GPSM slot. Note: UAMs are generated during this step. An audible alarm is generated. Wait for the standby GPSM/spare TDM to come up in standby mode.
10 ☐	Insert the source-release cartridge into the MDAL.	Wait for the cartridge to spin up
11 ☐	After the standby GPSM is available, issue the command to initialize the *active* GPSM.	**init-card:loc=*XXXX*** (Where ***XXXX*** is the location of the ACTIVE GPSM slot)
12 ☐	Response to command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y init-card:loc=XXXX Command entered at terminal #10. ; tekelecstp 99-01-02 08:28:34 EST Rel XX.x.x-XX.x.x * 0261.0013 * CARD XXXX EOAM Card is isolated from the system ASSY SN: xxxxxxxx ; 5038.0014 CARD XXXX EOAM Card is present ASSY SN: xxxxxxxx ;
13 ☐	Issue the command to log in to the system.	**login:uid=*XXXXXX*** (Where *XXXXXX* is a valid login ID)
14 ☐	Response to login command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y User logged in on terminal X
15 ☐	Make spare TDM active OAM.	☐ Unseat the card in the standby GPSM slot (upgraded TDM) ☐ Init-card:loc=XXXX (Where XXXX is the location of the ACTIVE GPSM slot) ☐ Wait for the active OAM to return to service and enter simplex mode.

Procedure 23: Full Fallback using Removable Disk as OAM conversion workspace

16 ☐ Issue the retrieve GPL command to verify source-release GPLs.

```
rtrv-gpl
```

17 ☐ Response to the retrieve command is displayed.

☐ Verify that the GPL versions in REMOVE TRIAL column and RELEASE column match those in Section 1.3 for "Source- Release GPLs."

Example here has location 1114 as the Active GPSM slot.

```
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    GPL Auditing  OFF

    APPL      CARD  RELEASE      APPROVED         TRIAL        REMOVE TRIAL
    EOAM      1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX  XXX-XXX-XXX
    EOAM      1116  XXX-XXX-XXX  XXX-XXX-XXX ALM  XXX-XXX-XXX  -----------
    CDU       1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX  XXX-XXX-XXX
    CDU       1116  XXX-XXX-XXX  XXX-XXX-XXX ALM  XXX-XXX-XXX  -----------
    GLS       1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX  XXX-XXX-XXX
    GLS       1116  XXX-XXX-XXX  XXX-XXX-XXX ALM  XXX-XXX-XXX  -----------
    SCCP      1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX  XXX-XXX-XXX
    SCCP      1116  XXX-XXX-XXX  XXX-XXX-XXX ALM  XXX-XXX-XXX  -----------
    SS7ANSI   1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX  XXX-XXX-XXX
    SS7ANSI   1116  XXX-XXX-XXX  XXX-XXX-XXX ALM  XXX-XXX-XXX  -----------
    ATMANSI   1114  XXX-XXX-XXX  -----------      -----------  XXX-XXX-XXX
    ATMANSI   1116  XXX-XXX-XXX  ----------- ALM  -----------  -----------
    CCS7ITU   1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX  XXX-XXX-XXX
    CCS7ITU   1116  XXX-XXX-XXX  XXX-XXX-XXX ALM  XXX-XXX-XXX  -----------
    SS7GX25   1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX  XXX-XXX-XXX
    SS7GX25   1116  XXX-XXX-XXX  XXX-XXX-XXX ALM  XXX-XXX-XXX  -----------
    STPLAN    1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX  XXX-XXX-XXX
    STPLAN    1116  XXX-XXX-XXX  XXX-XXX-XXX ALM  XXX-XXX-XXX  -----------
    IMT       1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX  XXX-XXX-XXX
    IMT       1116  XXX-XXX-XXX  XXX-XXX-XXX ALM  XXX-XXX-XXX  -----------
    BPHCAP    1114  XXX-XXX-XXX  -----------      -----------  XXX-XXX-XXX
    BPHCAP    1116  XXX-XXX-XXX  ----------- ALM  -----------  -----------
;
```

18 ☐ Issue the command to retrieve measurement setup.

```
rtrv-meas-sched
```

19 ☐ Response to retrieve command is displayed.

Record if collection is on or off:

_____

If COLLECT=ON, continue to next step. Otherwise, go to Step 22.

```
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    COLLECT        = off
    SYSTOT-STP     = (off)
    SYSTOT-TT      = (off)
    SYSTOT-STPLAN  = (off)
    COMP-LNKSET    = (off)
    COMP-LINK      = (off)
    MTCD-STP       = (on)
    MTCD-LINK      = (on)
    MTCD-STPLAN    = (on)
    MTCD-LNKSET    = (on)
;
```

20 ☐ Issue the command to turn off measurement collection.[22]

```
chg-meas:collect=off
```

21 ☐ Response to the change command is displayed.

```
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    chg-meas:collect=off
    Command entered at terminal #10.
;
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    CHG-MEAS: MASP A – COMPLTD
;
```

22 ☐ Re-seat the card in the standby GPSM slot.

```
Allow the card time to initialize.
```

23 ☐ Issue the command to display security log status.

```
rept-stat-seculog
```

[22] If executed, this step causes the database level to increment.

Procedure 23: Full Fallback using Removable Disk as OAM conversion workspace

24 ☐ ☐	Response to the command is displayed. If the ENTRIES column displays any value other than 0 for the Standby ROLE, proceed to the next step. Otherwise, go to step 32.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y rept-stat-seculog Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y -- SINCE LAST UPLOAD -- OLDEST NEWEST LAST LOC ROLE ENTRIES %FULL OFLO FAIL RECORD RECORD UPLOAD 1114 Active 19 1 No No 99-01-01 99-01-01 00-00-00 13:43:37 14:08:12 00:00:00 1116 Standby 0 0 No No 99-01-01 99-01-01 99-01-01 13:39:39 13:43:10 14:07:59 ;
25 ☐	Issue the command to copy the security log from the standby disk.	**copy-seculog:slog=stb:dfile=upg.procC**
26 ☐ ☐	Response to the copy security log command is displayed. If this command fails, proceed to next step. Otherwise, go to Step 32.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Security log on TDM 111X copied to file upg28.procC on TDM 111Y ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y 0468.0177 SECULOG 111X Security log exception cleared ;
27 ☐	Issue the command to display the FTA directory.	**disp-fta-dir**
28 ☐ ☐	Response to the command is displayed. If there are any files that need to be saved, they need to be removed via a file transfer. If this is necessary, contact technical services for further information.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y File Transfer Area Directory of fixed disk 1114 FILENAME LENGTH LAST MODIFIED LBA YYMMDDs.log 2560256 99-01-03 10:18:44 388769 YYMMDDa.log 2560256 99-01-03 10:19:20 393770 m60_lnp.csv 0 99-01-03 13:10:38 398771 3 File(s) 21093376 bytes free ;
29 ☐	Issue the command to delete ALL files in the transfer area.	**dlt-fta:all=yes**
30 ☐	Response to the delete command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y dlt-fta:all=yes:loc=XXXX Command entered at terminal #10. ;
31 ☐	Repeat Steps 23-24.	
32 ☐	Issue the command to copy to the standby disk.	**copy-disk:dloc=*XXXX*:force=yes:format=yes** (Where *XXXX* is the location of the STANDBY TDM recorded in Step 2)
33 ☐ ☐	Response to the copy-disk command is displayed. **Note: This command may require between 35 and 120 minutes to produce a response.** **As a result, the user terminal port may automatically log out.** Wait for the card reload to complete. If this is the second time performing this step, go to Step 38. Otherwise continue.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Copy-disk (fixed): from active (YYYY) to standby (XXXX) started. Extended processing required, please wait. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Copy-disk (fixed): from active (XXXX) to standby (XXXX) complete. Measurements may be allowed now if desired. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y 0485.0014 CARD 1115 EOAM Card is present ;

Procedure 23: Full Fallback using Removable Disk as OAM conversion workspace

34 ☐ Issue the command to display card status.

```
rept-stat-card
```

35 ☐ Response to the card status command is displayed.

☐ Verify that the GPL versions that are displayed in the "VERSION" column are correct; see Section 1.3

☐ Note: the network card applications that are not running the source-release GPL versions need to be initialized using Recovery Procedure C.

☐ Record the Standby GPSM and TDM:
GPSM _____
TDM: _____

```
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    rept-stat-card
    Command entered at terminal #10.
;
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    CARD   VERSION      TYPE    APPL       EST            SST        AST
    1101   XXX-XXX-XXX  TSM     SCCP       IS-NR          Active     -----
    1102   XXX-XXX-XXX  TSM     SCCP       IS-NR          Active     -----
    1103   XXX-XXX-XXX  TSM     GLS        IS-NR          Active     -----
    1104   XXX-XXX-XXX  TSM     GLS        IS-NR          Active     -----
    1105   XXX-XXX-XXX  LIMDS0  SS7GX25    IS-NR          Active     -----
    1111   XXX-XXX-XXX  ACMENET STPLAN     IS-NR          Active     -----
    1113   XXX-XXX-XXX  GPSM    EOAM       IS-NR          Active     -----
    1114   -----------  TDM     -------    IS-NR          Active     -----
    1115   XXX-XXX-XXX  GPSM    EOAM       IS-NR          Standby    -----
    1116   -----------  TDM     -------    IS-NR          Active     -----
    1117   -----------  MDAL    -------    IS-NR          Active     -----
    1201   XXX-XXX-XXX  LIMDS0  SS7ANSI    IS-NR          Active     -----
    1202   XXX-XXX-XXX  LIMDS0  SS7ANSI    IS-NR          Active     -----
    1203   XXX-XXX-XXX  LIMDS0  SS7ANSI    IS-NR          Active     -----
    1204   XXX-XXX-XXX  LIMDS0  SS7ANSI    IS-NR          Active     -----
    1211   XXX-XXX-XXX  LIMDS0  CCS7ITU    IS-NR          Active     -----
    1218   XXX-XXX-XXX  TSM     GLS        IS-NR          Active     -----
    Command Completed.
;
```

36 ☐ Replace the standby TDM with the TDM removed in Step 9.

☐ Unseat the card in the standby GPSM slot.

☐ Remove the standby TDM card.

☐ Insert the spare TDM card.

☐ Re-seat the card in the GPSM slot.
Note: UAMs are generated during this step. An audible alarm is generated. Wait for the standby GPSM/spare TDM to come up in standby mode.

37 ☐ Repeat steps 22 - 33.

After completing Step 33 the second time, continue to Step 38.

38 ☐ If steps 20 & 21 were executed, issue the command to turn the measurements collection on.

```
chg-meas:collect=on
```

39 ☐ Response to change measurement command is displayed.

```
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    chg-meas:collect=on
    Command entered at terminal #10.
;
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    CHG-MEAS: MASP A - COMPLTD
;
```

40 ☐ Execute Procedure 22.

41 ☐ If this completes the recovery, verify the system with the EAGLE health check [1]. Otherwise continue with Recovery Procedure C

If failure occurred prior to entering Phase 3, recovery is complete.

Procedure 24: Full Fallback using Fixed Disk as OAM conversion workspace – Case 1

S T E P #	Perform the recovery procedure if directed to do so by TEKELEC TECHNICAL SERVICES when failure occurs in Procedure 7 through Procedure 9, Step 1. Note, this procedure is done in lieu of Procedure 23 for the case where a removable disk was NOT used as the workspace for the OAM conversion. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**
	When directed to by Tekelec Technical Services, execute this procedure: If **fixed-based upgrade** and failure occurred between Procedure 7 and Procedure 9, Step 1, Table 14, Item E.

1 ☐	If upgrade using removable method, go to Procedure 23.	Refer to Procedure 9, Step 2, 4th Checkbox, where workspace conversion type was recorded. If fixed was selected, continue to next step. If removed was selected, go back to Procedures 23.
2 ☐	If present, remove the target-release cartridge from the MDAL.	
3 ☐	Issue the command to initialize both GPSM cards.	**init-card:appl=oam**
4 ☐	Response to initialize command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y init-card:appl=oam Command entered at terminal #10. ;
☐	Ensure that the release shown in the banner is the source release after the MASP becomes active again.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y * 0261.0013 * CARD 111X EOAM Card is isolated from the system ASSY SN: xxxxxxxx ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y 5001.0009 CARD 111X EOAM MASP became active ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y 5038.0014 CARD XXXX EOAM Card is present ASSY SN: xxxxxxxx ;
5 ☐	Execute Procedure 22.	**Proceed to Procedure 22 to complete the recovery.**

Procedure 25: Full Fallback using Fixed Disk as OAM conversion workspace – Case 2

S T E P #	Perform the recovery procedure if directed to do so by TEKELEC TECHNICAL SERVICES when failure occurs in Procedure 9, Step 1, Item F through Item I. This procedure makes the partition with the source GPLs active on the Standby TDM. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**
	When directed to by Tekelec Technical Services, execute this procedure: If **fixed-based upgrade** and failure occurred between Procedure 9, Step 1, Table 14, Item F and Procedure 9, Step 1, Table 14, Item I.

1 ☐	Issue the command to display database status during upgrades.	`act-upgrade:action=dbstatus`

2 ☐	Response to the command is displayed.
	
	Look at the status field and determine the loc of the TDM marked "UPG 2".
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y Upg Phase X`
		`DATABASE STATUS: >> OK <<`
		`TDM 1114 ( ACTV )  TDM 1116 ( STDBY)`
		`C LEVEL TIME LAST BACKUP  C LEVEL TIME LAST BACKUP`
		`- ------- --------------------  - ------- ----------------`
		`FD BKUP Y XXX YY-MM-DD hh:mm:ss TTTT Y XXX YY-MM-DD hh:mm:ss TTTT`
		`FD CRNT Y XXX  Y XXX`
		`MDAL 1117`
		`- -------`
		`RD BKUP Y 1 - -`
		
		`CARD/APPL LOC C T LEVEL TIME LAST UPDATE VERSION STATUS`
		`--------- ---- - - ---------- ----------------- ------------------`
		`TDM-CRNT 1114 Y N XXX YY-MM-DD hh:mm:ss XXX-XXX-XXX NORMAL`
		`TDM-BKUP 1114 Y - XXX YY-MM-DD hh:mm:ss XXX-XXX-XXX NORMAL`
		`TDM-CRNT 1116 Y N XXX YY-MM-DD hh:mm:ss XXX-XXX-XXX UPG 2`
		`TDM-BKUP 1116 Y - XXX YY-MM-DD hh:mm:ss XXX-XXX-XXX UPG 2`
		`MDAL 1117 Y - 1 - - YYY-YYY-YYY NORMAL`
		
		`INACTIVE PARTITION GROUP`
		`CARD/APPL LOC C T LEVEL TIME LAST UPDATE VERSION STATUS`
		`--------- ---- - - ---------- ----------------- ------------------`
		`TDM-CRNT 1114 Y - ZZZ YY-MM-DD hh:mm:ss ZZZ-ZZZ-ZZZ NORMAL`
		`TDM-BKUP 1114 Y - ZZZ YY-MM-DD hh:mm:ss ZZZ-ZZZ-ZZZ NORMAL`
		`TDM-CRNT 1116 Y - ZZZ YY-MM-DD hh:mm:ss ZZZ-ZZZ-ZZZ NORMAL`
		`TDM-BKUP 1116 Y - ZZZ YY-MM-DD hh:mm:ss ZZZ-ZZZ-ZZZ NORMAL`
		
		`;`

3 ☐	If the TDM marked in "UPG 2" is the active MASP issue the command to initialize the active location. Else go to step 4.	`init-card:loc=`***`XXXX`*** `(Where` *`XXXX`* `is location of active GPSM)`

4 ☐	Response to initialize command is displayed.	`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y`
		`*  0261.0013  * CARD XXXX EOAM  Card is isolated from the system`
		`ASSY SN:  xxxxxxxx`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y`
		`5038.0014  CARD XXXX EOAM  Card is present`
		`ASSY SN: xxxxxxxx`
		`;`

5 ☐	Issue the command to display active/inactive disk partitions.	`send-msg:ds=1:da=h'5d:f=h'47:loc=`***`YYYY`*** (Where *YYYY* is location of active GPSM)

Procedure 25: Full Fallback using Fixed Disk as OAM conversion workspace – Case 2

6 ☐	Response to command. Note: Look for the command response on a terminal with all output display groups set to yes (printer/ksr terminal port specified in Procedure 1, Step 6)	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upgrade Phase x System Buffer sent has following attributes : Msg Length = H'0010 Dest Card = H'00fb Orig Subsys = H'0001 Dest Subsys = H'0001 Orig Appl ID = H'0030 Dest Appl ID = H'005d Func ID = H'0047 Bus/Ret/Sut = H'0002 Violation Ind = H'0000 User Message sent to location YYYY. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upgrade Phase x ACTIVE OAM Partition Grp Info: num_group = 2 num_partitions_per_group = 2 active_partitions[] = 0 1 inactive_partitions[] = 2 3 ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upgrade Phase x STANDBY OAM Partition Grp Info: num_group = 2 num_partitions_per_group = 2 active_partitions[] = 2 3 inactive_partitions[] = 0 1 ;
7 ☐	Issue the command to swap active/inactive disk partitions.	**send-msg:ds=1:da=h'5d:f=h'48:loc=*YYYY*** (Where *YYYY* is location of active GPSM)
8 ☐ ☐	Response to command. Note: Look for the command response on a terminal with all output display groups set to yes (printer/ksr terminal port specified in Procedure 1, Step 6) Compare the values for the active_partitions and inactive_partitions with those in **step 6**. For the STANDBY OAM, the values for the active_partitions shown should equal those for the inactive_partitions shown in **step 6**, and vice-versa. For the ACTIVE OAM, both sets of values should be identical.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y System Buffer sent has following attributes : Msg Length = H'0010 Dest Card = H'00fb Orig Subsys = H'0001 Dest Subsys = H'0001 Orig Appl ID = H'0030 Dest Appl ID = H'005d Func ID = H'0048 Bus/Ret/Sut = H'0002 Violation Ind = H'0000 User Message sent to location YYYY. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Partition switch PASSED ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y ACTIVE OAM Partition Grp Info: num_group = 2 num_partitions_per_group = 2 active_partitions[] = 0 1 inactive_partitions[] = 2 3 ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y STANDBY OAM Partition Grp Info: num_group = 2 num_partitions_per_group = 2 active_partitions[] = 0 1 inactive_partitions[] = 2 3 ;
9 ☐	Eject target release MO from MDAL.	
10 ☐	Issue the command to init standby location.	**init-card:loc=*XXXX*** (Where *XXXX* is location of standby GPSM)
11 ☐	Response to initialize command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y * 0261.0013 * CARD XXXX EOAM Card is isolated from the system ASSY SN: xxxxxxxx ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y 5038.0014 CARD XXXX EOAM Card is present ASSY SN: xxxxxxxx ;
12 ☐	Execute Procedure 22.	**Proceed to Procedure 22 to complete the recovery.**

Procedure 26: Full Fallback using Fixed Disk as OAM conversion workspace – Case 3

S T E P #	Perform the recovery procedure if directed to do so by TEKELEC TECHNICAL SERVICES when failure occurs at Procedure 9, Step 1 or after. This procedure makes the partition with the source GPLs active on both TDMs. Check off (√) each step as it is completed. Boxes have been provided for this purpose under each step number. SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC TECHNICAL SERVICES AND **ASK FOR UPGRADE ASSISTANCE.**
	When directed to by Tekelec Technical Services, execute this procedure: If **fixed-based upgrade** and failure occurred between Procedure 9, Step 1, Table 14, Item J and Procedure 14 [End of Session 1].

1 ☐	***** ATTENTION ***** **If the SOURCE release is 34.1 or less, issue send-message command to initiate the rollback. Else, go to step 3.** ************************	**send-msg:ds=1:da=h'1d:oa=h'4d:f=h'cf:loc=**XXXX **(Where *XXXX* is location of active GPSM)**

2 ☐	Response to send-msg command is displayed.	`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`send-msg:ds=1:da=h'1d:oa=h'4d:f=h'cf:loc=XXXX`
		`Command entered at terminal #10.`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`System Buffer sent has following attributes :`
		`Msg Length = H'0010`
		`Dest Card = H'00fb`
		`Orig Subsys = H'0001 Dest Subsys = H'0001`
		`Orig Appl ID = H'004d Dest Appl ID = H'001d`
		`Func ID = H'00cf Bus/Ret/Sut = H'0002`
		`Violation Ind = H'0000`
		`User Message sent to location XXXX.`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`PREP_BACKOUT function ID has been sent to all cards`

3 ☐ ☐	***** ATTENTION ***** **If this is an incremental upgrade (i.e. the SOURCE release equals the TARGET release, go to Procedure 5, Step 1**. Is a level-1 cartridge available for the SOURCE release? ___YES | NO __. If yes, go to Procedure 5. If no, contact Tekelec. ************************	Complete all steps from Procedure 5 to the end of Session 1 (Procedure 14). Note: When executing Procedure 5 through Procedure 14 in the recovery scenario, the terminology of source and target are reversed. Target release becomes the software load that is being recovered to (35.0.0) and the source release becomes the software load that was upgraded to (35.0.1).
4 ☐	***** ATTENTION ***** **If the SOURCE release is 35.0 and the TARGET release is 35.1, follow directions in step 3 above. Otherwise continue with step 5.** ************************	Note: When executing Procedure 5 through Procedure 14 in the recovery scenario, the terminology of source and target are reversed. Target release becomes the software load that is being recovered to (35.0) and the source release becomes the software load that was upgraded to (35.1).

Procedure 26: Full Fallback using Fixed Disk as OAM conversion workspace – Case 3

5 ☐	Remove the target-release cartridge from the MDAL.	
6 ☐	Insert source release MO. If the target release is 37.5, 37.6, 37.13, 38.0, or 39.0[23], skip to Step 15. Otherwise, continue to next step.	Wait for the cartridge to spin up
7 ☐	Issue copy-tbl command.	**copy-tbl:stbl=147:dtbl=146:sloc=1117:dloc=1114:dprtngrp=inactive**
8 ☐	Response to copy-tbl command.	Command Accepted - Processing tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y copy-tbl:stbl=147:dtbl=146:sloc=1117:dloc=1114 Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y OAM/TCM: Table copy command complete. ;
9 ☐	Issue copy-tbl command.	**copy-tbl:stbl=147:dtbl=146:sloc=1117:dloc=1116:dprtngrp=inactive**
10 ☐	Response to copy-tbl command.	Command Accepted - Processing tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y copy-tbl:stbl=147:dtbl=146:sloc=1117:dloc=1116 Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y OAM/TCM: Table copy command complete. ;
11 ☐	Issue copy-tbl command.	**copy-tbl:stbl=147:dtbl=146:sloc=1117:dloc=1114:dprtngrp=active**
12 ☐	Response to copy-tbl command.	Command Accepted - Processing tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y copy-tbl:stbl=147:dtbl=146:sloc=1117:dloc=1114 Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y OAM/TCM: Table copy command complete. ;
13 ☐	Issue copy-tbl command.	**copy-tbl:stbl=147:dtbl=146:sloc=1117:dloc=1116:dprtngrp=active**
14 ☐	Response to copy-tbl command.	Command Accepted - Processing tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y copy-tbl:stbl=147:dtbl=146:sloc=1117:dloc=1116 Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y OAM/TCM: Table copy command complete. ;
15 ☐	Issue the command to display active/inactive disk partitions.	**send-msg:ds=1:da=h'5d:f=h'47:loc=*XXXX*** **(Where *XXXX* is location of active GPSM)**

[23] The size of the EOAM GPL has increased from 6 Mb to 10 Mb in 37.5, 37.6, 37.13, 38.0 and 39.0.

Procedure 26: Full Fallback using Fixed Disk as OAM conversion workspace – Case 3

16 ☐	Response to command. Note: Look for the command response on a terminal with all output display groups set to yes (printer\ksr terminal port specified in Procedure 1, Step 6)	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upgrade Phase x System Buffer sent has following attributes : Msg Length = H'0010 Dest Card = H'00fb Orig Subsys = H'0001 Dest Subsys = H'0001 Orig Appl ID = H'0030 Dest Appl ID = H'005d Func ID = H'0047 Bus/Ret/Sut = H'0002 Violation Ind = H'0000 User Message sent to location XXXX. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upgrade Phase x ACTIVE OAM Partition Grp Info: num_group = 2 num_partitions_per_group = 2 active_partitions[] = 2 3 inactive_partitions[] = 0 1 ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upgrade Phase x STANDBY OAM Partition Grp Info: num_group = 2 num_partitions_per_group = 2 active_partitions[] = 2 3 inactive_partitions[] = 0 1 ;
17 ☐	Issue the command to swap active/inactive disk partitions.	**send-msg:ds=1:da=h'5d:f=h'48:loc=*XXXX*** **(Where *XXXX* is location of active GPSM)**
18 ☐	Response to command. Note: Look for the command response on a terminal with all output display groups set to yes (printer\ksr terminal port specified in Procedure 1, Step 6)	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y System Buffer sent has following attributes : Msg Length = H'0010 Dest Card = H'00fb Orig Subsys = H'0001 Dest Subsys = H'0001 Orig Appl ID = H'0030 Dest Appl ID = H'005d Func ID = H'0048 Bus/Ret/Sut = H'0002 Violation Ind = H'0000 User Message sent to location XXXX. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Partition switch PASSED ;
☐	Compare the values for the active_partitions and inactive_partitions with those in **step 16**. For the STANDBY OAM, the values for the active_partitions shown should equal those for the inactive_partitions shown in **step 16**, and vice-versa. For the ACTIVE OAM, both sets of values should be identical.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y ACTIVE OAM Partition Grp Info: num_group = 2 num_partitions_per_group = 2 active_partitions[] = 2 3 inactive_partitions[] = 0 1 ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y STANDBY OAM Partition Grp Info: num_group = 2 num_partitions_per_group = 2 active_partitions[] = 0 1 inactive_partitions[] = 2 3 ;
19 ☐	Remove the source-release cartridge from the MDAL.	
20 ☐	Re-insert target release MO.	Wait for the cartridge to spin up
21 ☐	Issue the command to init standby location.	**init-card:loc=*YYYY*** **(Where *YYYY* is location of standby GPSM)**

Procedure 26: Full Fallback using Fixed Disk as OAM conversion workspace – Case 3

22 ☐	Response to initialize command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y init-card:loc=YYYY Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y * 0261.0013 * CARD YYYY EOAM Card is isolated from the system ASSY SN: xxxxxxxx ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 5038.0014 CARD YYYY EOAM Card is present ASSY SN: xxxxxxxx ;
23 ☐	Issue the command to init active location.	**init-card:loc=*XXXX*** **(Where *XXXX* is location of active GPSM)**
24 ☐	Response to initialize command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y * 0261.0013 * CARD XXXX EOAM Card is isolated from the system ASSY SN: xxxxxxxx ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 5038.0014 CARD XXXX EOAM Card is present ASSY SN: xxxxxxxx ;
25 ☐	Issue the command to display active/inactive disk partitions.	**send-msg:ds=1:da=h'5d:f=h'47:loc=*YYYY*** **(Where *YYYY* is location of active GPSM)**
26 ☐	Response to command. Note: Look for the command response on a terminal with all output display groups set to yes (printer\ksr terminal port specified in Procedure 1, Step 6)	Command Accepted - Processing tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upgrade Phase x System Buffer sent has following attributes : Msg Length = H'0010 Dest Card = H'00fb Orig Subsys = H'0001 Dest Subsys = H'0001 Orig Appl ID = H'0030 Dest Appl ID = H'005d Func ID = H'0047 Bus/Ret/Sut = H'0002 Violation Ind = H'0000 User Message sent to location YYYY. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upgrade Phase x ACTIVE OAM Partition Grp Info: num_group = 2 num_partitions_per_group = 2 active_partitions[] = 0 1 inactive_partitions[] = 2 3 ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upgrade Phase x STANDBY OAM Partition Grp Info: num_group = 2 num_partitions_per_group = 2 active_partitions[] = 2 3 inactive_partitions[] = 0 1 ;
27 ☐	Issue the command to swap active/inactive disk partitions.	**send-msg:ds=1:da=h'5d:f=h'48:loc=*YYYY*** **(Where *YYYY* is location of active GPSM)**

Procedure 26: Full Fallback using Fixed Disk as OAM conversion workspace – Case 3

28 ☐	Response to command. Note: Look for the command response on a terminal with all output display groups set to yes (printer\ksr terminal port specified in Procedure 1, Step 6)	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y System Buffer sent has following attributes : Msg Length = H'0010 Dest Card = H'00fb Orig Subsys = H'0001 Dest Subsys = H'0001 Orig Appl ID = H'0030 Dest Appl ID = H'005d Func ID = H'0048 Bus/Ret/Sut = H'0002 Violation Ind = H'0000 User Message sent to location YYYY. ;
☐		tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Partition switch PASSED ;
☐	Compare the values for the active_partitions and inactive_partitions with those in **step 26**. For the STANDBY OAM, the values for the active_partitions shown should equal those for the inactive_partitions shown in **step 26**, and vice-versa. For the ACTIVE OAM, both sets of values should be identical.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y ACTIVE OAM Partition Grp Info: num_group = 2 num_partitions_per_group = 2 active_partitions[] = 0 1 inactive_partitions[] = 2 3 ;
		tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y STANDBY OAM Partition Grp Info: num_group = 2 num_partitions_per_group = 2 active_partitions[] = 0 1 inactive_partitions[] = 2 3 ;
29 ☐	Eject target release MO from MDAL.	
30 ☐	Issue the command to initialize the MASPs.	**init-card:appl=oam**
31 ☐	Response to initialize command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y init-card:appl=oam Command entered at terminal #10.
32 ☐	Execute Procedure 22.	**Proceed to Procedure 22 to complete the recovery.**

6.4 Recovery Procedure C

Procedure 27: Fall Back Procedure for Network Cards

STEP #		
	This procedure captures the card and link status data required when performing a manual fallback of the network cards back to the source-release GPLs.	
1 ☐	Issue the command to report card status.	**rept-stat-card**
2 ☐	Response to the card status command is displayed. Record all network card applications present for future reference within the procedure.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y CARD VERSION TYPE APPL EST SST AST 1101 XXX-XXX-XXX TSM SCCP IS-NR Active ----- 1103 XXX-XXX-XXX TSM GLS IS-NR Fault ----- 1105 XXX-XXX-XXX LIMDS0 SS7GX25 IS-NR Active ----- 1109 XXX-XXX-XXX HMUX BPHMUX IS-NR Active ----- 1110 XXX-XXX-XXX HMUX BPHMUX IS-NR Active ----- 1111 XXX-XXX-XXX ACMENET STPLAN IS-ANR Active ----- 1113 XXX-XXX-XXX GPSM EOAM IS-NR Active ----- 1114 ---------- TDM ------- IS-NR Active ----- 1115 XXX-XXX-XXX GPSM EOAM IS-NR Standby ----- 1116 ---------- TDM ------- IS-NR Active ----- 1117 ---------- MDAL ------- IS-NR Active ----- 1201 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1202 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1209 XXX-XXX-XXX HMUX BPHMUX IS-NR Active ----- 1210 XXX-XXX-XXX HMUX BPHMUX IS-NR Active ----- 1211 XXX-XXX-XXX LIMDS0 CCS7ITU IS-NR Active ----- 1218 XXX-XXX-XXX TSM GLS IS-NR Active ----- Command Completed. ;
3 ☐	If target release is 36.0 or greater, continue to the next step. Otherwise, then perform Procedure 28 through Procedure 33, as needed.	
4 ☐	Issue the card status command.	**rept-stat-card:appl=mcp**
5 ☐	Response to the card status command is displayed. If any MCPM cards are displayed, continue to next step. Otherwise, skip to Step 8.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y CARD VERSION TYPE GPL PST SST AST 1108 128-020-051 EDSM MCP IS-NR Active ----- 5313 128-020-051 EDSM MCP IS-NR Active ----- Command Completed. ;
6 ☐	Issue the send message command. Repeat for each MCPM card.	**send-msg:ds=8:da=h'17:f=22:loc=*XXXX*** **(Where *XXXX* is location of the MCPM cards display in previous step.)** **NOTE: This command causes the MCP card to boot with an OBIT indicating a "USER INITIATED COLD RESTART". All Measurements data not sent to an FTP server is lost. Waiting for the next scheduled Measurement FTP transfer and use of the rept-ftp-meas command to save desired measurements can minimize these losses before proceeding with this step.**
7 ☐	Response to the send message command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y System Buffer sent has following attributes : Msg Length = H'0010 Dest Card = H'00f7 Orig Subsys = H'0001 Dest Subsys = H'0001 Orig Appl ID = H'004d Dest Appl ID = H'001d Func ID = H'0016 Bus/Ret/Sut = H'0002 Violation Ind = H'0000 User Message sent to location XXXX. Command Completed. ;

Procedure 27: Fall Back Procedure for Network Cards

8 ☐	Issue the upgrade activation command.	`act-upgrade:action=convertstp:thres=XX` **(Where *XX* is was the value used in procedure 9 step 1.)**

9 ☐ ☐	Response to the upgrade command is displayed.
	
	Completion notice of successful upgrade.
	If upgrade does not complete successfully, see recommendation # 8 in section 1.7
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase 3`
		`Hardware Validation Test Started`
		`[ASM Obsolescence Test for all applications.]`
		`[DSM Obsolescence Test for MCP application.]`
		
		`Hardware Validation Test Completed Successfully.`
		`;`
		
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase 3`
		
		`Starting network conversion...`
		`;`
		
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase 3`
		`Upgrading MUX card 1109`
		`;`
		
		Output continues until the following is displayed:
		
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase 3`
		
		`Command Complete : Upgrade action completed successfully`
		`;`

10 ☐	Go to Procedure 9, Step 7.	Complete all steps from Procedure 9, Step 7 to the end of Session 1 (Procedure 14 Step 5).

Procedure 28: Restoring Prom-Based Service Cards

STEP #		
	This procedure restores Service Cards that are prom-based. This group includes GLS and SCCP cards. This procedure updates each card with the source release GPLs. **Note that Steps 3 - 4 are to be repeated for EACH service card group in the system.**	
1 ☐	Issue the command to display the GPL status.	**rept-stat-gpl:appl=*YYYY*** (running 32.0 or earlier) **or** **rept-stat-gpl:gpl=*YYYY*** (running 33.0 or later) (Where *YYYY* is one of the service card types listed above.)
2 ☐ ☐	Response to the command is displayed. Record the CARD locations for all cards that have alarms: _____ _____ _____	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-gpl:gpl=YYYY Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y GPL Auditing ON APPL CARD RUNNING APPROVED TRIAL YYYYY 1101 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX YYYYY 1103 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX Command Completed. ;
3 ☐	Issue the command to initialize the service cards.	**init-card:appl=*YYYY*:serial=yes** (Where *YYYY* is one of the service card types listed above.)
4 ☐	Command response.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Initializing 1 of 3 YYYY cards [1201] ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y ** 0092.0013 ** CARD 1201 YYYY Card is isolated from the system ASSY SN: 6050434 ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 0093.0014 CARD 1201 YYYY Card is present ASSY SN: 6050434 ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 0095.0096 CARD 1201 YYYY Card has been reloaded ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Initializing 2 of 3 YYYY cards [1202] ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y ** 0096.0013 ** CARD 1202 YYYY Card is isolated from the system ASSY SN: 10200011236 ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 0100.0014 CARD 1202 YYYY Card is present ASSY SN: 10200011236 ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 0104.0096 CARD 1202 YYYY Card has been reloaded ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Initializing 3 of 3 YYYY cards [1203] ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y ** 0105.0013 ** CARD 1203 YYYY Card is isolated from the system ASSY SN: 97012662 ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 0106.0014 CARD 1203 YYYY Card is present ASSY SN: 97012662

Procedure 28: Restoring Prom-Based Service Cards

		;
5 ☐	Repeat steps 1-4 for each of the application types in this group.	
6 ☐	Issue the command to display card status.	`rept-stat-card`
7 ☐ ☐	Response to the card status command is displayed. Verify all Prom-Based service cards are in IS-NR state and running the Source-Release service GPLs; see Section 1.3.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y CARD VERSION TYPE APPL EST SST AST 1101 XXX-XXX-XXX TSM SCCP IS-NR Active ----- 1102 XXX-XXX-XXX TSM SCCP IS-NR Active ----- 1103 XXX-XXX-XXX TSM GLS IS-NR Active ----- 1104 XXX-XXX-XXX TSM EBDABLM IS-NR Active ----- 1105 XXX-XXX-XXX LIMDS0 SS7GX25 IS-NR Active ----- 1111 XXX-XXX-XXX ACMENET STPLAN IS-NR Active ----- 1113 XXX-XXX-XXX GPSM EOAM IS-NR Active ----- 1114 ---------- TDM ------- IS-NR Active ----- 1115 XXX-XXX-XXX GPSM EOAM IS-NR Standby ----- 1116 ---------- TDM ------- IS-NR Active ----- 1117 ---------- MDAL ------- IS-NR Active ----- 1201 XXX-XXX-XXX LIMDS0 YYYY IS-NR Active ----- 1202 XXX-XXX-XXX LIMDS0 YYYY IS-NR Active ----- 1203 XXX-XXX-XXX LIMDS0 YYYY IS-NR Active ----- 1204 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- Command Completed. ;

Procedure 29: Restoring Flash-Based Service Cards

S T E P #	This procedure restores Service Cards that are flash based. This group includes IPS, MCP, EROUTE, and VSCCP cards. This procedure updates each card with the source release GPLs. **Note: Steps 3 through 10 are to be repeated for EACH card in the system.**	
1 ☐	Issue the command to display the GPL status.	**rept-stat-gpl:appl=*YYYY*** (running 32.0 or earlier) **or** **rept-stat-gpl:gpl=*YYYY*** (running 33.0 or later) (Where ***YYYY*** is one of the Flash-Based service card types listed above.)
2 ☐	Response to the command is displayed. Record the CARD locations for all cards that have alarms:	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-gpl:gpl=YYYY Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y GPL Auditing ON APPL CARD RUNNING APPROVED TRIAL YYYYY 1101 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX YYYYY 1103 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX Command Completed. ;
3 ☐	Issue the command to inhibit the card if the card is provisioned.	**inh-card:loc=*XXXX*** (Where ***XXXX*** is the card location of the cards determined in Step 2)
4 ☐	Response to the inhibit command is displayed. Wait for the "Command completed" response before proceeding.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Card has been inhibited. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;
5 ☐	Issue the command to initialize the flash memory.	**init-flash:code=appr:loc=XXXX** **NOTE**: this command causes the card to boot.
6 ☐	Response to the init flash command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y FLASH Memory Download for card XXXX Started. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y FLASH Memory Download for card XXXX Completed. ;
7 ☐	Issue the command to allow the card[24] if the card is provisioned.	**alw-card:loc=*XXXX*** (Where ***XXXX*** is the card location of the cards determined in Step2) **NOTE: if card is VSCCP, use alw-card:loc=xxxx:data=persist** **NOTE: If card is MCP, it may boot with an Obit for Module EMM_MCP.C Class 0001. This is expected behavior and is not service affecting.**
8 ☐	Response to the allow command is displayed. Wait for the card to finish loading before proceeding (approximately 30 seconds).	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y alw-card:loc=1201 Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Card has been allowed. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;

[24] Specifying the DATA=PERSIST parameter for VSCCP allows for warm restart if possible.

Procedure 29: Restoring Flash-Based Service Cards

9 ☐ Issue the command to activate the flash memory.

```
act-flash:loc=XXXX
```

10 ☐ Response to the command is displayed.

```
    tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y
    act-flash:loc=XXXX
    Command entered at terminal #10.
;
    tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y
    FLASH Memory Activation for card XXXX Started.
;
    tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y
    FLASH Activation for card XXXX Completed.
;
```

11 ☐ Repeat Steps 3 – 10 for each card in the current group.

12 ☐ Repeat steps 1-11 for each group of cards (VSCCP, ISP, MCP, EROUTE.)

13 ☐ Issue the command to display the card status.

```
rept-stat-card
```

14 ☐ Response to the command is displayed.

☐ Verify that all Flash-Based Service cards are IS-NR and are running the Source-Release GPL versions, as per your reference list of GPLs

☐ For any such card that is not IS-NR or running the correct GPL, repeat Steps 3-10.

```
    tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y
    rept-stat-card
    Command entered at terminal #10.
;
    tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y
    CARD   VERSION      TYPE    APPL       EST            SST        AST
    1101   XXX-XXX-XXX  TSM     VSCCP      IS-NR          Active     -----
    1102   XXX-XXX-XXX  TSM     VSCCP      IS-NR          Active     -----
    1103   XXX-XXX-XXX  TSM     EMDC       IS-NR          Active     -----
    1104   XXX-XXX-XXX  TSM     EBDADCM    IS-NR          Active     -----
    1105   XXX-XXX-XXX  LIMDS0  SS7GX25    IS-NR          Active     -----
    1111   XXX-XXX-XXX  ACMENET STPLAN     IS-NR          Active     -----
    1113   XXX-XXX-XXX  GPSM    EOAM       IS-NR          Active     -----
    1114   -----------  TDM     -------    IS-NR          Active     -----
    1115   XXX-XXX-XXX  GPSM    EOAM       IS-NR          Standby    -----
    1116   -----------  TDM     -------    IS-NR          Active     -----
    1117   -----------  MDAL    -------    IS-NR          Active     -----
    1201   XXX-XXX-XXX  LIMDS0  SS7ANSI    IS-NR          Active     -----
    1202   XXX-XXX-XXX  LIMDS0  SS7ANSI    IS-NR          Active     -----
    1203   XXX-XXX-XXX  LIMDS0  SS7ANSI    IS-NR          Active     -----
    1204   XXX-XXX-XXX  LIMDS0  SS7ANSI    IS-NR          Active     -----
    Command Completed.
;
```

Procedure 30: Restoring Prom-Based Link Cards

STEP #		
	This procedure updates the Prom-based Link cards with the source release GPLs. Cards in this group include SS7ANSI, CCS7ITU, SS7GX25, and STPLAN cards. This procedure updates each card with the source release GPLs. **Note: Steps 3 through 16 are to be repeated for EACH low speed link card in the system.**	
1 ☐	Issue the command to display the GPL status.	**rept-stat-gpl:appl=*YYYY*** (running 32.0 or earlier) **or** **rept-stat-gpl:gpl=*YYYY*** (running 33.0 or later) (Where ***YYYY*** is one of the PROM-based link card types listed above.)
2 ☐ ☐	Response to the command is displayed. Record the CARD locations for all cards which have alarms: _____ _____ _____ _____ _____ _____ _____	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-gpl:gpl=YYYY Command entered at terminal #10. ; GPL Auditing ON APPL CARD RUNNING APPROVED TRIAL XXXXXXX 1201 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX XXXXXXX 1202 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX XXXXXXX 1203 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX XXXXXXX 1204 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX Command Completed. ;
3 ☐	Issue command to display provisioned links.	**rept-stat-card:loc=*XXXX*** (Where *XXXX* is a card in alarm from Step 2.)
4 ☐ ☐	Response displayed. Note whether links A and B are IS-NR for the current card.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-card:loc=XXXX Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y CARD VERSION TYPE APPL PST SST AST XXXX XXX-XXX-XXX XXXXXX XXXXXX IS-NR Active XXXXX ALARM STATUS = ** 0228 REPT-E1F:FAC-E1 Port 1 LOS failure IMT VERSION = XXX-XXX-XXX PROM VERSION = XXX-XXX-XXX IMT BUS A = Conn IMT BUS B = Conn SLK A PST = IS-NR LS=XXXX CLLI=---------- SLK B PST = OOS-MT LS=XXXX CLLI=---------- Command Completed. ;
5 ☐	Issue the command to cancel the port A link to the low speed link card if the link is IS-NR.	**canc-slk:loc=*XXXX*:port=a** (Where ***XXXX*** is the card location of a Low Speed Link card determined in, Step 2) **NOTE**: Use canc-dlk:loc=*XXXX* for STPLAN cards
6 ☐	Response to cancel link command is displayed. Wait for the "Command completed" response before proceeding.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y canc-slk:loc=XXXX:port=a Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Deactivate Link message sent to card ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;

Procedure 30: Restoring Prom-Based Link Cards

7 ☐	For cards with signaling links, repeat steps 5-6 for port B of the same card if it is IS-NR.	*(Port B status was noted in Step4 above.)*
8 ☐	Issue the command to inhibit the card.	**inh-card:loc=*XXXX*** (Where ***XXXX*** is the card location of the cards determined in Step 2)
9 ☐	Response to the inhibit command is displayed. Wait for the "Command completed" response before proceeding.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y inh-card:loc=XXXX Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Card has been inhibited. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;
10 ☐	Issue the command to allow the card.	**alw-card:loc=*XXXX*** (Where ***XXXX*** is the card location of the cards determined in Step2)
11 ☐	Response to the allow command is displayed. Wait for the card to finish loading before proceeding (approximately 30 seconds).	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y alw-card:loc=1201 Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Card has been allowed. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;
12 ☐	Issue the command to activate the card's link if it was IS-NR in Step 4.	**act-slk:loc=*XXXX*:port=a** (Where ***XXXX*** is the card location of the cards determined in Step2) **NOTE**: Use act-dlk:loc=*XXXX* for STPLAN cards.
13 ☐	Response to the activate-link command is displayed. Wait for the "Command completed" response before proceeding.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y act-slk:loc=XXXX:port=a Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Activate Link message sent to card ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;
14 ☐	Repeat Step 12 – 13 for port B of the same card if it was IS-NR in Step 4.	
15 ☐	Issue command to display provisioned links.	**rept-stat-card:loc=XXXX**
16 ☐ ☐	Response displayed. Verify that the links that were IS-NR in Step 4 are IS-NR now.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-card:loc=XXXX Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y CARD VERSION TYPE APPL PST SST AST XXXX XXX-XXX-XXX XXXXXX XXXXXX IS-NR Active XXXXX ALARM STATUS = ** 0228 REPT-E1F:FAC-E1 Port 1 LOS failure IMT VERSION = XXX-XXX-XXX PROM VERSION = XXX-XXX-XXX IMT BUS A = Conn IMT BUS B = Conn SLK A PST = IS-NR LS=XXXX CLLI=---------- SLK B PST = OOS-MT LS=XXXX CLLI=---------- Command Completed. ;

Procedure 30: Restoring Prom-Based Link Cards

17 ☐	Repeat Steps 3 - 16 for each card in the group from Step 2 that has an alarm.	
18 ☐	Repeat Steps 1-17 for each Prom-Based Link card group (SS7ANSI, CCS7ITU, SS7GX25, STPLAN.)	
19 ☐	Issue the command to display the GPL status.	**rept-stat-card**
20 ☐ ☐ ☐	Response to the command is displayed. Verify that all Prom-Based Link cards are IS-NR and are running the Source-Release GPL versions, as per your reference list of GPLs For any card that is not IS-NR or running the correct GPL, repeat Steps 3-16.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-card Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y CARD VERSION TYPE APPL EST SST AST 1101 XXX-XXX-XXX TSM SCCP IS-NR Active ----- 1102 XXX-XXX-XXX TSM SCCP IS-NR Active ----- 1103 XXX-XXX-XXX TSM GLS IS-NR Active ----- 1104 XXX-XXX-XXX TSM GLS IS-NR Active ----- 1105 XXX-XXX-XXX LIMDS0 SS7GX25 IS-NR Active ----- 1111 XXX-XXX-XXX ACMENET STPLAN IS-NR Active ----- 1113 XXX-XXX-XXX GPSM EOAM IS-NR Active ----- 1114 ---------- TDM ------- IS-NR Active ----- 1115 XXX-XXX-XXX GPSM EOAM IS-NR Standby ----- 1116 ---------- TDM ------- IS-NR Active ----- 1117 ---------- MDAL ------- IS-NR Active ----- 1201 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1202 XXX-XXX-XXX LIMDS0 CCS7ITU IS-NR Active ----- 1203 XXX-XXX-XXX LIMDS0 SS7GX25 IS-NR Active ----- 1204 XXX-XXX-XXX LIMDS0 STPLAN IS-NR Active ----- Command Completed. ;

Procedure 31: Restoring Flash-Based Link Cards

S T E P #		
	Link cards include ATMANSI, IPLIM, IPLIMI, SS7IPGW, SS7ML (MPL/MIM/MPLT), IPGWI, ATMITU, and VXWSLAN cards. This procedure updates each card with the source release GPLs. **Note: Steps 3 through 20 are to be repeated for EACH Link card in the system.**	
1 ☐	Issue the command to display the GPL status.	**rept-stat-gpl:appl=*YYYY*** (running 32.0 or earlier) **or** **rept-stat-gpl:gpl=*YYYY*** (running 33.0 or later) (Where ***YYYY*** is one of the Flash-Based Link card types listed above.)
2 ☐	Response to the command is displayed. Record the CARD locations for all cards which have alarms: _____ _____ _____ _____ _____ _____ _____	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-gpl:gpl=YYYY Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y GPL Auditing ON APPL CARD RUNNING APPROVED TRIAL XXXXXXX 1201 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX XXXXXXX 1202 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX XXXXXXX 1205 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX XXXXXXX 1207 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX XXXXXXX 1209 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX XXXXXXX 1211 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX Command Completed. ;
3 ☐	Issue command to display provisioned links.	**rept-stat-card:loc=*XXXX*** (Where *XXXX* is a card in alarm from Step 2.)
4 ☐ ☐	Response displayed. Note which links are IS-NR for this card.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-card:loc=XXXX Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y CARD VERSION TYPE APPL PST SST AST XXXX XXX-XXX-XXX XXXXXX XXXXXX IS-NR Active ----- ALARM STATUS = * 0021 Clock A for card failed, Clock B normal XXXXXX GPL version = XXX-XXX-XXX IMT BUS A = Conn IMT BUS B = Conn SLK A PST = IS-NR LS=XXXX CLLI=----------- SLK B PST = IS-NR LS=XXXX CLLI=----------- SLK A1 PST = OOS-MT LS=XXXX CLLI=----------- SLK B1 PST = IS-NR LS=XXXX CLLI=----------- SLK A2 PST = IS-NR LS=XXXX CLLI=----------- SLK B2 PST = IS-NR LS=XXXX CLLI=----------- SLK A3 PST = IS-NR LS=XXXX CLLI=----------- SLK B3 PST = IS-NR LS=XXXX CLLI=----------- Command Completed. ;
5 ☐	Issue the command to cancel the next link to the card.	**canc-slk:loc=*XXXX*:port=a** (Where ***XXXX*** is the card location of a Link card determined in, Step 2) **NOTE**: use canc-dlk:loc=XXXX for VXWSLAN cards.

Procedure 31: Restoring Flash-Based Link Cards

6 ☐	Response to cancel link command is displayed. Wait for the "Command completed" response before proceeding.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y canc-slk:loc=XXXX:port=a Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Deactivate Link message sent to card ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;
7 ☐	For cards with signaling links, repeat Steps 5 and 6 for each port of the same card that was IS-NR in Step 4.	
8 ☐	Issue the command to inhibit the card.	**inh-card:loc=*XXXX*** (Where ***XXXX*** is the card location of the cards determined in Step 2)
9 ☐	Response to the inhibit command is displayed. Wait for the "Command completed" response before proceeding. NOTE: wait an additional 20 seconds before proceeding to allow the card to reboot.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y inh-card:loc=XXXX Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Card has been inhibited. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;
10 ☐	Issue the command to initialize the flash memory.	**init-flash:code=appr:loc=xxxx** NOTE: this command causes the card to boot
11 ☐	Response to the init flash command is displayed. Wait for the "Command completed" response before proceeding (Approximately 60 seconds).	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y init-flash:code=appr:loc=xxxx Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Flash Memory Download for card XXXX Started ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Flash Memory Download for card XXXX Completed. ;
12 ☐	Issue the command to allow the card.	**alw-card:loc=*XXXX*** (Where **XXXX** is the card location of the cards determined in Step2)
13 ☐	Response to the allow command is displayed. Wait for the card to finish loading before proceeding (approximately 30 seconds).	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Card has been allowed. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;
14 ☐	Issue the command to activate the card's link if it was IS-NR in Step 4.	**act-slk:loc=*XXXX*:port=a** (Where **XXXX** is the card location of the cards determined in Step2) NOTE: Use act-dlk:loc=XXXX for STPLAN cards.
15 ☐	Response to the activate link command is displayed. Wait for the "Command completed" response before proceeding.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y act-slk:loc=XXXX:port=a Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Activate Link message sent to card ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;
16 ☐	Repeat Step 14 – 15 for port of the same card if it was IS-NR in Step 4.	

Procedure 31: Restoring Flash-Based Link Cards

17 ☐ Issue the command to activate the flash memory.

```
act-flash:loc=xxxx
```

18 ☐ Response to the activate flash command is displayed.

```
    tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y
    act-flash:loc=xxxx
    Command entered at terminal #10.
;
    tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y
    Flash Memory Activation for card XXXX Started
;
    tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y
    Flash Memory Activation for card XXXX Completed.
;
```

19 ☐ Issue command to display provisioned links.

```
rept-stat-card:loc=XXXX
```

20 ☐ Response displayed.

☐ Verify that the links that were IS-NR in Step 4 are IS-NR now.

```
    tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y
    rept-stat-card:loc=XXXX
    Command entered at terminal #10.
;

    tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y
    CARD   VERSION      TYPE      APPL       PST          SST        AST
    XXXX   XXX-XXX-XXX  XXXXXX    XXXXXX     IS-NR        Active     XXXXX
      ALARM STATUS       = **  0228 REPT-E1F:FAC-E1 Port 1 LOS failure
      IMT    VERSION     = XXX-XXX-XXX
      PROM   VERSION     = XXX-XXX-XXX
      IMT BUS A          = Conn
      IMT BUS B          = Conn
      SLK A   PST        = IS-NR          LS=XXXX       CLLI=-----------
      SLK B   PST        = OOS-MT         LS=XXXX       CLLI=-----------
    Command Completed.
;
```

21 ☐ Repeat Steps 3 - 20 for each card in the group from Step 2 that has an alarm.

22 ☐ Repeat Steps 1-21 for each Flash-Based Link card group (ATMANSI, IPLIM, IPLIMI, SS7IPGW, SS7ML (MPL\MIM\MPLT), IPGWI and VXWSLAN.)

23 ☐ Issue the command to display the GPL status.

```
rept-stat-card
```

24 ☐ Response to the command is displayed.

☐ Verify that all Flash-Based Link cards are IS-NR and are running the Source-Release GPL versions, as per your reference list of GPLs

☐ For any card that is not IS-NR or running the correct GPL, repeat Steps 3-20.

```
    tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y
    rept-stat-card
    Command entered at terminal #10.
;
    tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y
    CARD   VERSION      TYPE    APPL       EST          SST        AST
    1101   XXX-XXX-XXX  ASM     SCCP       IS-NR        Active     -----
    1102   XXX-XXX-XXX  ASM     SCCP       IS-NR        Active     -----
    1103   XXX-XXX-XXX  ASM     GLS        IS-NR        Active     -----
    1104   XXX-XXX-XXX  ASM     GLS        IS-NR        Active     -----
    1105   XXX-XXX-XXX  LIMDS0  SS7GX25    IS-NR        Active     -----
    1111   XXX-XXX-XXX  ACMENET STPLAN     IS-NR        Active     -----
    1113   XXX-XXX-XXX  GPSM    EOAM       IS-NR        Active     -----
    1114   -----------  TDM     -------    IS-NR        Active     -----
    1115   XXX-XXX-XXX  GPSM    EOAM       IS-NR        Standby    -----
    1116   -----------  TDM     -------    IS-NR        Active     -----
    1117   -----------  MDAL    -------    IS-NR        Active     -----
    1201   XXX-XXX-XXX  LIMDS0  SS7ANSI    IS-NR        Active     -----
    1202   XXX-XXX-XXX  LIMDS0  CCS7ITU    IS-NR        Active     -----
    1203   XXX-XXX-XXX  LIMDS0  SS7GX25    IS-NR        Active     -----
    1204   XXX-XXX-XXX  LIMDS0  STPLAN     IS-NR        Active     -----
    Command Completed.
;
```

Procedure 32: Restoring Flash-Based Link Cards that support multiple flash GPLs

S T E P #	Link cards that support multiple flash GPLs include SS7HC, SS7EPM, IPLHC, and IPGHC. This procedure updates each card with the source release GPLs.	
1 ☐	Issue the command to display the GPL status.	**rept-stat-gpl:gpl=*YYYY*** (Where ***YYYY*** is one of the Flash-Based High Speed Link card types listed above.)
2 ☐	Response to the command is displayed. Record the CARD locations for all cards which have alarms: _____ _____ _____ _____ _____ _____	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-gpl:gpl=YYYY Command entered at terminal #10. ; GPL Auditing ON APPL CARD RUNNING APPROVED TRIAL XXXXXXX 1201 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX XXXXXXX 1202 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX XXXXXXX 1205 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX XXXXXXX 1207 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX XXXXXXX 1209 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX XXXXXXX 1211 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX Command Completed. ;
3 ☐	Issue command to display provisioned links.	**rept-stat-card:loc=*XXXX*** (Where *XXXX* is a card in alarm from Step 2.)
4 ☐ ☐	Response displayed. Note which links are IS-NR for this card.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-card:loc=XXXX Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y CARD VERSION TYPE APPL PST SST AST XXXX XXX-XXX-XXX XXXXXX XXXXXX IS-NR Active ----- ALARM STATUS = * 0021 Clock A for card failed, Clock B normal XXXXXX GPL version = XXX-XXX-XXX IMT BUS A = Conn IMT BUS B = Conn SLK A PST = IS-NR LS=XXXX CLLI=----------- SLK B PST = IS-NR LS=XXXX CLLI=----------- SLK A1 PST = OOS-MT LS=XXXX CLLI=----------- SLK B1 PST = IS-NR LS=XXXX CLLI=----------- SLK A2 PST = IS-NR LS=XXXX CLLI=----------- SLK B2 PST = IS-NR LS=XXXX CLLI=----------- SLK A3 PST = IS-NR LS=XXXX CLLI=----------- SLK B3 PST = IS-NR LS=XXXX CLLI=----------- Command Completed. ;
5 ☐	Issue the command to initialize the flash memory.	**flash-card:code=appr:force=yes:loc=*XXXX*** NOTE: this command causes the card to boot.
6 ☐ ☐	Response to the init flash command is displayed. Wait for command complete to indicate that the card is finished loading before proceeding.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y flash-card:code=appr:force=yes:loc=XXXX Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;
7	Issue command to display provisioned links.	**rept-stat-card:loc=XXXX**

Procedure 32: Restoring Flash-Based Link Cards that support multiple flash GPLs

☐		
8 ☐ ☐	Response displayed. Verify that the ports that were IS-NR for this card in Step 4 are IS-NR now.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y CARD VERSION TYPE APPL PST SST AST XXXX XXX-XXX-XXX XXXXXX XXXXXX IS-NR Active ----- ALARM STATUS = * 0021 Clock A for card failed, Clock B normal XXXXXX GPL version = XXX-XXX-XXX IMT BUS A = Conn IMT BUS B = Conn SLK A PST = IS-NR LS=XXXX CLLI=----------- SLK B PST = IS-NR LS=XXXX CLLI=----------- SLK A1 PST = OOS-MT LS=XXXX CLLI=----------- SLK B1 PST = IS-NR LS=XXXX CLLI=----------- SLK A2 PST = IS-NR LS=XXXX CLLI=----------- SLK B2 PST = IS-NR LS=XXXX CLLI=----------- SLK A3 PST = IS-NR LS=XXXX CLLI=----------- SLK B3 PST = IS-NR LS=XXXX CLLI=----------- Command Completed. ;
9 ☐	Repeat Steps 3 - 8 for each card in the system.	
10 ☐	Repeat Steps 1 - 9 for each Multi-Flash-Based Link card group (SS7HC, SS7EPM, IPLHC, or IPGHC)	
11 ☐	Issue the command to display the card status.	**rept-stat-card**
12 ☐ ☐ ☐	Response to the command is displayed. Verify that all Multi-Flash-Based cards are IS-NR and are running the Source-Release GPL versions, as per your reference list of GPLs. For any card that is not IS-NR or running the correct GPL, repeat Steps 3-11.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-card Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y CARD VERSION TYPE APPL EST SST AST 1101 XXX-XXX-XXX TSM ATMANSI IS-NR Active ----- 1102 XXX-XXX-XXX TSM IPLIM IS-NR Active ----- 1103 XXX-XXX-XXX TSM SS7ML IS-NR Active ----- 1104 XXX-XXX-XXX TSM VXWSLAN IS-NR Active ----- 1105 XXX-XXX-XXX LIMDS0 SS7GX25 IS-NR Active ----- 1111 XXX-XXX-XXX ACMENET STPLAN IS-NR Active ----- 1113 XXX-XXX-XXX GPSM EOAM IS-NR Active ----- 1114 ----------- TDM ------- IS-NR Active ----- 1115 XXX-XXX-XXX GPSM EOAM IS-NR Standby ----- 1116 ----------- TDM ------- IS-NR Active ----- 1117 ----------- MDAL ------- IS-NR Active ----- 1201 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1202 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1203 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- 1204 XXX-XXX-XXX LIMDS0 SS7ANSI IS-NR Active ----- Command Completed. ;

Procedure 33: Restoring Mux Cards

STEP #		
	This procedure updates each card with the source release GPLs. Mux cards include HMUX and HIPR cards, which run BPHMUX and HIPR GPLs respectively.	
1 ☐	Issue the card status command to identify the MUX cards in the system.	**rept-stat-gpl:appl=*YYYY*** (running 32.0 or earlier) **or** **rept-stat-gpl:gpl=*YYYY*** (running 33.0 or later) (Where ***YYYY*** is one of the Flash-Based Mux card types listed above.)
2 ☐	Response to the command is displayed. Record the CARD locations for all Mux cards in the system: _____ _____ _____ _____ _____ _____ _____	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-gpl:gpl=YYYY Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y GPL Auditing ON APPL CARD RUNNING APPROVED TRIAL YYYY XX09 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX YYYY XX10 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX YYYY XX09 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX YYYY XX10 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX YYYY XX09 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX YYYY XX10 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX YYYY XX09 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX YYYY XX10 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX Command Completed. ;
3 ☐	Enter the command to initialize the FLASH on the next Mux card on the current bus.	**init-flash:loc=*XXZZ*:code=appr** (Where *XX* = is a shelf number and, *ZZ* depends on which bus is being flashed. 09 is bus a; 10 is bus b.)
4 ☐	Response to the flash initialization is shown.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y init-flash:loc=XX09:code=appr Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y FLASH Memory Download for card XX09 Started. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y FLASH Memory Download for card XX09 Completed. ;
5 ☐	Repeat steps 1-4 for each Mux card type on the current bus. (BPHMUX an HIPR)	**NOTE**: Steps 1-4 must be performed for all Mux card types on one bus before performing these steps for any Mux card types on the other bus.
6 ☐	Enter the command to initialize the current bus.	**init-mux:bus=*x*[25]** (Where *x* = a or b, depending on current bus: xx09 is bus a; xx10 is bus b.)

[25] Warning: Do not use the FORCE= parameter. Use of this parameter may result in network outage. Analysis of the alternate bus is required.

Procedure 33: Restoring Mux Cards

7 ☐	Response to the initialization command is displayed.	`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`init-mux:bus=a`
		`Command entered at terminal #10.`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`5080.0014    CARD XX09 YYYY          Card is present`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`5081.0014    CARD YY09 YYYY          Card is present`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`*   5082.0004  * GPL SYSTEM YYYY          Card is running non-activated GPL`

8 ☐	Issue the command to activate the flash on the next Mux card on the current bus.	`act-flash:loc=`*`XXZZ`* (Where *XX* = is a shelf number and, *ZZ* depends on which bus is being flashed. 09 is bus a; 10 is bus b.)

9 ☐	Response to the activate command is displayed.	`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`act-flash:loc=XX09`
		`Command entered at terminal #10.`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`FLASH Memory Activation for card 1209 Started.`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`FLASH Activation for card 1209 Completed.`
		`;`

10 ☐	Repeat steps 8-9 for each Mux card on the current bus (a or b.)	
11 ☐	Repeat steps 3-10 for the second bus (a or b.)	

12 ☐	Issue the command to display the Mux card GPL status.	`rept-stat-gpl:appl=`*`YYYY`* `(running 32.0 or earlier)`
		`or`
		`rept-stat-gpl:gpl=`*`YYYY`* `(running 33.0 or later)`
		(Where ***YYYY*** is one of the Flash-Based Mux card types listed above.)

13 ☐	Verify that all MUX card types are running the approved GPL.	`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`rept-stat-gpl:gpl=YYYY`
		`Command entered at terminal #10.`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`GPL Auditing  ON`
		
		`APPL    CARD    RUNNING        APPROVED      TRIAL`
		`YYYY    XX09    XXX-XXX-XXX    XXX-XXX-XXX   XXX-XXX-XXX`
		`YYYY    XX10    XXX-XXX-XXX    XXX-XXX-XXX   XXX-XXX-XXX`
		`YYYY    XX09    XXX-XXX-XXX    XXX-XXX-XXX   XXX-XXX-XXX`
		`YYYY    XX10    XXX-XXX-XXX    XXX-XXX-XXX   XXX-XXX-XXX`
		`YYYY    XX09    XXX-XXX-XXX    XXX-XXX-XXX   XXX-XXX-XXX`
		`YYYY    XX10    XXX-XXX-XXX    XXX-XXX-XXX   XXX-XXX-XXX`
		`YYYY    XX09    XXX-XXX-XXX    XXX-XXX-XXX   XXX-XXX-XXX`
		`YYYY    XX10    XXX-XXX-XXX    XXX-XXX-XXX   XXX-XXX-XXX`
		`Command Completed.`
		`;`

APPENDIX A. UPGRADING BOOT-PROM GPL ON NON-IN-SERVICE AND UNPROVISIONED NETWORK CARDS.

Procedure 34: Flashing Inactive Cards

STEP #		
	This procedure determines any BPHCAP, BPHCAPT, BPDCM, BPMPL, BPMPLT, or IMTPCI cards that are inhibited, and updates each card with its target release GPLs.	
1 ☐	Issue the command to display the GPL status.	**rept-stat-gpl:appl=*XXXX*** (running 32.0 or earlier) **or** **rept-stat-gpl:gpl=*XXXX*** (running 33.0 or later) (Where ***XXXX*** is the GPL listed in the header of the procedure,)
2 ☐ ☐	Response to the command is displayed. Record any card which shows an alarm: _____ _____ _____	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y rept-stat-gpl:gpl=xxxx Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y GPL Auditing ON APPL CARD RUNNING APPROVED TRIAL XXXXXX 1101 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx XXXXXX 1103 xxx-xxx-xxx xxx-xxx-xxx xxx-xxx-xxx XXXXXX 1111 xxx-xxx-xxx ALM xxx-xxx-xxx xxx-xxx-xxx Command Completed. ;
3 ☐	Issue the status command for specific card	**rept-stat-card:loc=*XXXX*** (Where ***XXXX*** is the card location recorded in the previous step.)
4 ☐	Response to the command is displayed. If the PST for the card is OOS-MT-DSBLD or the command is rejected with MTT error E2144[26], go to step 7.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y CARD VERSION TYPE APPL PST SST AST 1111 ---------- DSM VSCCP OOS-MT-DSBLD Manual --- ALARM STATUS = No Alarms. BPDCM GPL version = 002-115-000 IMT BUS A = ----- IMT BUS B = ----- SCCP % OCCUP = 0% Command Completed.
5 ☐	Issue the command to inhibit card.	**inh-card:loc=*XXXX***
6 ☐	Response to the command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Card has been inhibited. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;
7 ☐	Issue the command to flash all GPLs on the card.	**flash-card:code=appr:loc=*XXXX*** **NOTE**: this command causes the card to boot.
8 ☐	Response to the flash command is displayed. Wait for the card to finish loading before proceeding.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y flash-card:code=appr:loc=XXXX Command entered at terminal #10. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;

[26] E2144 Cmd Rej: Location invalid for hardware configuration

Procedure 34: Flashing Inactive Cards

9 ■	If steps 5 & 6 were executed, issue the command to allow card.	`alw-card:loc=`*`XXXX`*

10 ☐	Response to the command is displayed.	`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`Card has been allowed.`
		`;`
		
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`Command Completed.`
		`;`

11 ☐	Repeat Steps 3 – 10 for all cards recorded in step 2.	
12 ☐	Repeat Steps 1 – 11 for each group of Flash-Based cards (BPHCAP, BPHCAPT, BPDCM, BPMPL, BPMPLT, and IMTPCI)	

APPENDIX B. SUPPLEMENTAL INFORMATION FOR PROCEDURE 9, STEP 2

B.1 Samples of message output by upgrade during Procedure 9, step 2

The following are illustrative of the messages displayed on the user terminal during the semantic check of the upgrade command in Procedure 9, step 2. Headers have been removed for brevity.

```
    IMT Bus Check Started

    IMT Bus Check Completed Successfully.
;
    Hardware Validation Test Started

    Hardware Validation Test Completed Successfully.
;
    IP Route Conflict Validation Report

    No conflicts with Eagle PVN found

    End IP Route Conflict Validation Report.
;
    Using inactive standby partitions for OAM conversion (disk=xxxxx)
```

The following are illustrative of the messages to be seen on the console during Procedure 9, step 2 of the upgrade procedure if the **fixed disk** is used for OAM conversion workspace. Headers and messages not directly output by upgrade have been omitted.

```
    Using inactive standby partitions for OAM conversion (dest=fixed)
;
    ACT-UPGRADE: MASP A - IMT GPL processing.
;
    ACT-UPGRADE: MASP A - GPL uploaded.
;
    ACT-UPGRADE: MASP A - BPDCM GPL processing.
;
    ACT-UPGRADE: MASP A - GPL uploaded.
;
    Starting to format the Standby TDM...
;
    Format-disk of standby fixed disk complete.
;
    Starting to copy GPLs to Standby TDM from removable...
;
    NOTICE: Converting XXXX.TBL
;
    Starting to copy system tables to Standby TDM from Active TDM...
;
    Converting  Standby OAM System partition.

    Preserving the source-release DB version.

    Conversion of Standby TDM has completed
;
    Marking Standby TDM Upgrade Phase = 2...
;
    Swapping Active and Inactive partition on Standby...
;
    Standby MASP has not finished initializing - please wait...
;
    Starting to backup Standby TDM...
;
    ACT-UPGRADE: MASP B - Active MASP will reboot and be converted for upgrade.
;
    Starting to format the Standby TDM...
;
    Format disk in progress
;
    Format-disk of standby fixed disk complete.
;
    Starting to copy GPLs to Standby TDM from removable...
;
    NOTICE: Converting XXXX.TBL
;
    Starting to copy system tables to Standby TDM from Active TDM...
;
    Converting  Standby OAM System partition.
```

```
    Preserving the source-release DB version.
    Conversion of Standby TDM has completed
;
    Marking Standby TDM Upgrade Phase = 2...
;
    Swapping Active and Inactive partition on Standby...
;
    Standby MASP has not finished initializing - please wait...
;
    Starting to backup Standby TDM...
;
    ACT-UPGRADE: OAM upgrade complete
    ACT-UPGRADE: prepare to initialize network cards
;
    Starting network conversion...
;
    Upgrading n of m <APPL> cards [XXXX]
;
    Command in Progress : Network conversion in progress
;
    ACT-UPGRADE: Network conversion complete
;
    ACT-UPGRADE: Network upgrade complete
;
    Command Complete : Upgrade action completed successfully
;
    INFO: Provisioning subsystem is in duplex mode.
;
```

The following are illustrative of the messages to be seen on the console during Procedure 9, step 2 of the upgrade procedure if the **removable disk** is used for OAM conversion workspace. Headers and messages not directly output by upgrade have been omitted.

```
    Using removable cartridge for OAM conversion (dest=remove)
;
    ACT-UPGRADE: MASP A - IMT GPL processing.
;
    ACT-UPGRADE: MASP A - GPL uploaded.
;
    ACT-UPGRADE: MASP A - BPDCM GPL processing.
;
    ACT-UPGRADE: MASP A - GPL uploaded.
;
    Conversion of Removable Cartridge has started...
;
    NOTICE: Converting XXXX.TBL
;
    Conversion of Removable Cartridge complete
    Marking Removable Upgrade Phase = 2...
;
    Starting to format the Standby TDM...
;
    Format-disk of standby fixed disk complete.
;
    Starting to copy GPLs to Standby TDM from removable...
;
    Starting Standby TDM restoration from removable...
;
    Starting to backup Standby TDM...
;
    Starting to copy system tables to Standby TDM from Active TDM...
;
    Converting  Standby OAM System partition.
    Preserving the source-release DB version.
    Marking Standby TDM Upgrade Phase = 2...
;
    Conversion of Standby TDM has completed
;
    Booting the Standby...
;
    ACT-UPGRADE: MASP A - Active MASP will reboot and be converted for upgrade.
;
    Standby MASP has not finished initializing - please wait...
;
```

```
    Starting to format the Standby TDM...
;
    Format disk in progress
;
    Format-disk of standby fixed disk complete.
;
    Starting to copy GPLs to Standby TDM from removable...
;
    Starting Standby TDM restoration from removable...
;
    Starting to backup Standby TDM...
;
    Starting to copy system tables to Standby TDM from Active TDM...
;
    Converting  Standby OAM System partition.
    Preserving the source-release DB version.
    Marking Standby TDM Upgrade Phase = 2...
;
    Conversion of Standby TDM has completed
;
    Booting the Standby...
;
    Standby MASP has not finished initializing - please wait...
;
    ACT-UPGRADE: OAM upgrade complete
    ACT-UPGRADE: prepare to initialize network cards
;
    Starting network conversion...
;
    Upgrading n of m <APPL> cards [XXXX]
;
    Command in Progress : Network conversion in progress
;
    ACT-UPGRADE: Network conversion complete
;
    ACT-UPGRADE: Network upgrade complete
;
    Command Complete : Upgrade action completed successfully
;
    INFO: Provisioning subsystem is in duplex mode.
;
```

B.2 Samples of error message output by upgrade during Procedure 9, step 2

The following are illustrative of the messages that may be seen on the console during Procedure 9, step 2 of the upgrade procedure if the cards exhibit the behavior of PR 112604 (no CSR #). It may be observed during the upgrade to Eagle release 35.1 until the new gpl versions are downloaded to the card. The upgrade continues unless the card is to remain inhibited. If the upgrade terminates verify if the card needs to be inhibited per the warning in section 5 and reissue the upgrade command.

```
    Network Conversion: Inhibiting card 1201.
    Network Conversion: Inhibiting card 1203.

;

    Network Conversion: Inhibiting card 1201 (Retry).
    Network Conversion: Inhibiting card 1203 (Retry).

;

    Card Error: Card 1201 was not inhibited.
    Card Error: Card 1203 was not inhibited.

;

    Recovery Required: Manually inhibit card 1201
```

B.3 Determination and Recovery of DDL Hunt during Upgrade

NOTE: The following section should be completed with the assistance of Tekelec Technical Services.

After loading its GPL and database tables, the last step required by an MTP card is to crossload its dynamic database (DDB) from adjacent cards. The DDB contains the status of all routes, linksets, and links provisioned in the system. The Dynamic Data Load (DDL) is the process where a loading MTP card obtains the current view of the network via downloading it from an already IS-NR network card. In order for a network card to download a proper view of the network status, the network must remain quiescent during the download. If an update to the DDB occurs, then the download aborts and restarts. Depending on the size of the network, it may take as long as 4 seconds to complete this process. Please note that the network must remain stable (no changes) during this phase for the download to complete successfully.

The card reports its PST as IS-ANR and its SST as DDL Hunt:

```
Card Failure: Card 1101 did not return to IS-NR.
Status of card 1101:  PST:  IS-ANR         SST:  DDL Hunt   AST:  -----
```

Please note this appendix addresses DDL during Upgrade. Refer to external reference [2] in section 1.2.1 for recovery in full function mode.

A system is considered unstable when provisioned and configured devices are cycling from an alarmed state to a clear state. Bouncing links, link congestion and discard, and DPC|Route transition have the most impact on the DDL Hunt state. Table 17 lists these conditions by UAM number and describes the recovery steps.

The guideline to determine if DDL Hunt is possible when a card boots and tries to reload is based on the number of DDB events, which causes network management messages to be generated. An event is one cycle of alarming and clearing:

```
1237.0236 ** SLK 1201,A1  tklclset   REPT-LKF: not aligned
1240.0200    SLK 1201,A1             RCVRY-LKF: link available
```

1 event consists of 2 transactions, which generates 2 network management messages. 8 events in 1 minute causes 16 messages which averages to a stability period of less then 4 seconds. This can range from 8 events per 1 device to 1 event per 8 devices.

Table 17. Recovery from DDL Hunt by UAM.

UAM	Device	Condition	Recovery
0236|0200	SLK	Bouncing Link	A) Issue DDB checksum SEND-MSG per internal Ref. [17] B) Issue CANC-SLK to deactivate the affected link
0264 – 0269	SLK	Link Congestion	A) Issue DDB checksum SEND-MSG per internal Ref. [17] B) Investigate the far-end and fix the far-end C) Issue CANC-SLK to deactivate the affected link
0270 – 0275	SLK	Link Discard	A) Issue DDB checksum SEND-MSG per internal Ref. [17] B) Investigate the far-end and fix the far-end C) Issue CANC-SLK to deactivate the affected link
0311 – 0313	Route	DPC Transition	A) Issue DDB checksum SEND-MSG per internal Ref. [17] B) Investigate the far-end and fix the far-end C) Issue CANC-SLK to deactivate the affected link
0314 – 0316	Route	Route Transition	A) Issue DDB checksum SEND-MSG per internal Ref. [17] B) Investigate the far-end and fix the far-end C) Issue CANC-SLK to deactivate the affected link

Note: If the front-end switches activity, device may return to previous state.

APPENDIX C. SWOPS SIGN OFF

Discrepancy List

Date	Test Case	Description of Failures and/or Issues. Any CSR's / RMA's issued during Acceptance. Discrepancy	Resolution and SWOPS Engineer Responsible	Resolution Date:

APPENDIX D. CUSTOMER SIGN OFF

Sign-Off Record

*** **Please review this entire document**. ***

This is to certify that all steps required for the upgrade successfully completed without failure.

Sign your name, showing approval of this procedure, and fax this page and the discrepancy list to Tekelec, FAX # 919-460-3669.

Customer: Company Name:_____ Date: _____

Site Location:_____

Serial Number: _____

Customer:(Print)_____ Phone: _____

Fax: _____

Start Date: _____ Completion Date: _____

This procedure has been approved by the undersigned. Any deviations from this procedure must be approved by both Tekelec and the customer representative. A copy of this page should be given to the customer for their records. The SWOPS supervisor will also maintain a signed copy of this completion for future reference.

Tekelec Signature: _____ Date: _____

Customer Signature: _____ Date: _____

APPENDIX E. ACCESSING TEKELEC'S CUSTOMER SUPPORT SITE

Access to Tekelec's Customer Support area is restricted to current Tekelec customers only. This section describes how to log into Tekelec's Customer Support site and how to locate upgrade procedures. Viewing these files requires Adobe Acrobat Reader.

1. Go to Tekelec's Customer Support login page at https://support.tekelec.com/index.asp
2. Enter your assigned username and chosen password and click **Login.**

   Or, if you do not have access to the Customer Support site, click **Need an Account?**
   Follow instructions on the screen.

   Note: After 20 minutes of inactivity, you will be logged off, and you must repeat this step to regain access.

3. After successful login, select a product from the Product Support drop-down menu.
4. Select a release number from the Product Support Release drop-down menu.
5. Locate the Upgrade Procedures section.
6. To open the procedure in the same window, click the procedure name. To open the procedure in a new window, right-click the procedure name and select **Open in New Window**.
7. To download the procedure, right-click the procedure name and select **Save Target As**.