Oracle® Communications EAGLE

Software Upgrade Procedure

Release 45.X & 46.X

909-2268-001 Revision C

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ORACLE®

Oracle Communications EAGLE Software Upgrade Procedure, Release 45.X & 46.X

CAUTION: Use only the Upgrade procedure included in the Upgrade Kit.

Before upgrading any system, please access Oracle's Tekelec Customer Support site and review any Technical Service Bulletins (TSBs) that relate to this upgrade.

Refer to Appendix F for instructions on accessing this site.

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

Phone: 1-888-367-8552 or 919-460-2150 (international)
FAX: 919-460-2126

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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 any in-service EAGLE®-based STP to EAGLE® Software Release 45.0 or 45.1 as well as any future maintenance releases. The audience for this document includes Tekelec customers as well as these EAGLE® GPS groups: Software Development, Product Verification, Technical Communications, and Customer Service including the Upgrade Center and New Product Engineering. This document provides step-by-step instructions to execute any upgrade to Release 45.0 or 45.1.

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

1.2 References

1.2.1 External

[1] *EAGLE5 ISS 45.0 and above Health Check Procedure*, 909-2256-001, latest revision, Tekelec

[2] *EAGLE 5 45.0 Maintenance Manual*, 910-6666-001, latest revision, Tekelec

[3] *EAGLE 5 45.0 Database Administration – System Management*, 910-6665-001, 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.

[4] EAGLE Hardware Field Baseline, 820-2410-01, latest revision, Tekelec.

[5] *TEKELEC Acronym Guide*, MS005077.doc, current revision

[6] Tekelec Eagle - Eng Release Mapping web page, http://devtools.nc.tekelec.com/cgi-bin/eng_eag.cgi, Tekelec.

[7] Tekelec CSR-PR Reports By Build, http://devtools.nc.tekelec.com/cgi-bin/release_desc.cgi

[8] Tekelec Tekpedia web page, http://nsdsolaris2.nc.tekelec.com/tekpedia/index.php/Methods_to_correct_distributed_network_database_(DDB)_inconsistencies, Tekelec.

[9] EAGLE 45.0 Product Functional Specification PF005994, latest version Tekelec.

1.3 Software Release Numbering

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 F describes how to access the Customer Support web site. For FOA releases or Engineering prototype releases, refer to internal references [6] in section 1.2.2.

Note: verifying the correct GPL versions, ensures that the system is being upgraded to the correct target software release.

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. Appendix F describes how to access the Customer Support web site. For FOA releases or Engineering prototype releases, refer to internal references [6] in section 1.2.2.

1.5 Acronyms

Table 1. Acronyms

AWA	Alternate Work Area
DDB	Dynamic Database
DDL	Dynamic Data Load
E5-OAM	Eagle 5 Operation, Admission, & Maintenance.
EOAM	Legacy Enhanced Operation, Admission, & Maintenance.
FAK	Feature Access Key
FOA	First Office Application
GA	General Availability
GLS	Generic Loading Service
GPL	Generic Program Load
GPSM	Legacy 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	Legacy Magneto Optical (removable disk cartridge)
MOP	Method Of Procedure
MPS	Multi Purpose Server
MSD	Media Software Delivery
OAM	Operations Administration and Maintenance
OAP	Operations, Administration and Maintenance Applications Processor
OOS-MT	Out Of Service - Maintenance
RMD	Removable Media Drive/Disk
SAK	Software Access Key
SATA	Serial ATA
SEAS	Signaling Engineering and Administration System
SSD	Server Software Delivery
STP	Signal Transfer Point

TDM	Terminal Disk Module
TPS	Transactions Per Second (feature)
TSM	Translation Services Module
UHC	Upgrade Health Check

For additional Acronyms; refer to internal references [5] in section 1.2.2.

Terminology

Table 2. Terminology

Backout (abort)	The process to take a system back to a Source Release prior to completion of upgrade and commitment to Target release. Includes restoration of source databases and system configuration.
DDay	Date of the start of the maintenance window of the upgrade execution.
E5-OAM system	An EAGLE running with E5-MCAP & E5-MDAL cards for front-end hardware.
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.
HHour	Hour at which the system enters upgrade phase 0 during upgrade execution.
Incremental upgrade	**EAGLE:** Upgrade to a maintenance release (external customers) or upgrade to a new build (internal test labs).
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.
Intrusive Operation	Operation that impacts the redundancy of the system by isolation of the duplicate component.
Legacy system	An EAGLE running with GPSMII, TDM, & MDAL cards for front-end hardware. This hardware is obsolete beginning in Release 45.0.
Non-intrusive Operation	Operation that collects data and does not impact the redundancy of the system.
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 was **not** preserved.
Rollback	The process to take a system from a Target Release back to a Source Release including preservation of databases and system configuration.
Session 0	This is a new set of tasks required in the Upgrade Health Check #2 timeframe. The work needs to be accomplished successfully prior to the execution of the upgrade.
Source release	Software release from which the system is upgraded.
Target release	Software release to which the system is upgraded.
Upgrade Media	The USB thumb drives for E5-MCAP systems

Table 3 Generic VS. E5-OAM Terminology

Generic Term	E5-OAM Term
Drive Slot	Thumb Drive on the E5-MCAP
Fixed Disk	Sata Drive
MASP	E5-MCAP
Removable media	Removable media
RMD	USB Thumb Drive
Upgrade media	USB Thumb Drive

1.6 Recommendations

1. It is recommended that command input and command-line/scroll-area output be captured during the execution of an 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 configured as 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. It is unacceptable to use a telnet terminal since it does not support the echo capability. Serial terminals 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, if the MCPM or Intergrated Measurements features are not enabled, the data collected will 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 SEAS-enabled 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 using the spare E5-MASP.
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 8**,** Step 1 with the **thres** parameter equal to 75. The threshold parameter is specified at 75 to ensure that 75% of same type of links remains in service during the network conversion of the upgrade execution. The following command is issued in Procedure 8**,** Step 1:

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

   Based on a system's configuration and customer objectives, the thres parameter may be adjusted or the parameter may be applied to the total number of links configured on the system. If the network conversion phase of the upgrade is pushing the execution of the upgrade outside the maintenance window applying the threshold value on a system basis will help expedite the upgrade execution. Please contact Tekelec Customer Care Center to determine the recommended course of action.
6. Although an IP telnet terminal may be configured, the terminal is not recommended for use in the upgrade process because it does not support echo and capture mode. Any application connected via a Telnet session through an IPSM card, should be configured for interruption during the upgrade. That application's configuration procedure needs to be provided by the application's manufacturer.
7. 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 that time.

   ```
   REPT-STAT-SYS
   REPT-STAT-GPL:DISPLAY=ALL
   REPT-STAT-CARD
   REPT-STAT-SLK
   REPT-STAT-TRBL
   RTRV-TRBL:NUM=25:LOC=<1113|1115>
   RTRV-STP
   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.

Figure 1 - Upgrade Process 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

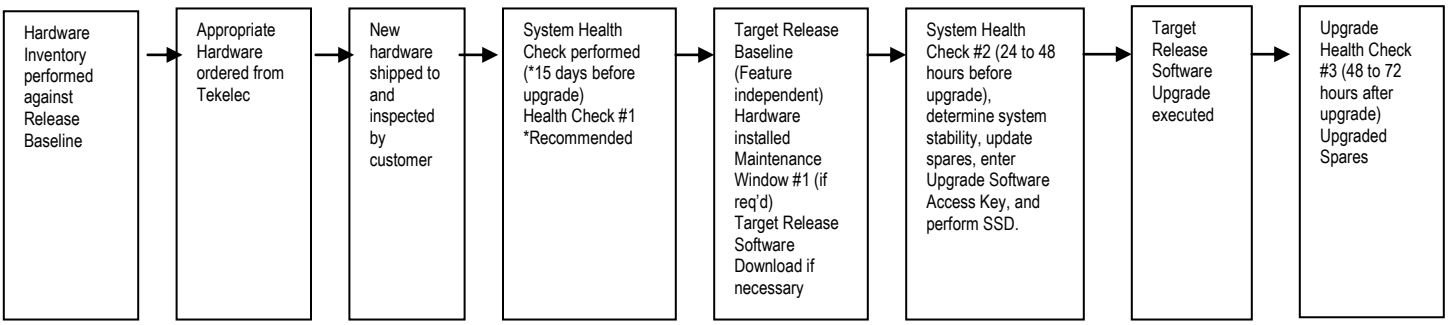

Table 4 contains a checklist of the steps required to successfully complete the upgrade process.

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	
New Software Release downloaded if necessary (E5-MASP) or capability available (Electronic Software Distribution).	
System Health Check #2 performed	
Enter Upgrade Software Access Key	
System Health Check #2 verified	
Software Upgrade Session 1 completed	
Health Check #3 performed	
Software Upgrade Session 2 completed	

Table 4: 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 6, step 15. The goal in doing this is to make this document describe the generic upgrade procedure.

Table 5: Phases of Upgrade Execution 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 5: 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 frame is outlined in Table 6: Upgrade Readiness Activities, Table 7: Pre-Upgrade Execution Activities, Table 8: Upgrade Execution Overview and Table 9: Post Upgrade Overview with the backout procedure shown in Table 10: Backout Procedure Overview.

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 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 known restriction that would prevent the upgrading of any peripheral in parallel with it.

3.1 Required Materials

1. One (1) source release system removable media.
2. One (1) target-release upgrade media for MSD or FTP server for remote download.
3. A valid EAGLE login ID and password with all user privileges enabled.
4. One (1) spare fixed disk at the source release: required in the event of recovery.
5. Capability to capture data via a printer, PC, or modem to allow remote access for Tekelec Customer Care Center personnel.
6. List of GPLs from section 1.3 should be kept on hand for reference throughout the upgrade or refer to Appendix F to locate the Release Notice on the Customer Support Center web site
7. The Software Access Key (SAK) must be available and entered (this activity should be done during the same maintenance window as the upgrade health check #2.)

3.2 Upgrade Preparation Overview

The activities listed in Table 6 need to be accomplished successfully prior to the maintenance window in which the upgrade is to be executed in. A day is equivalent to the period of time between scheduled maintenance windows.

Session / Phase	Time Frame	Activity	Impact
UHC #1	Dday – 7	Upgrade Health Check # 1	Non-intrusive
Session 0	Dday – 2	Target Release Software Download	Intrusive (format-disk, OAM boot)
UHC #2	Dday – 2	Upgrade Health Check # 2	Intrusive (H/W swap, IMT bus)
Session 0	Dday – 2	Entering Upgrade Software Access Key	Non-intrusive

Table 6: Upgrade Readiness Activities

3.3 Pre-Upgrade Overview

The pre-upgrade procedures, shown in Table 7, may be optionally executed prior to entering the maintenance window. All of these activities are completed during Session 1.

Session / Phase	Time Frame	Activity	Impact
Pre-Phase 0	Hhour – 2	Verify Pre-Upgrade Requirements and Capturing Upgrade Data	Non-intrusive
Pre-Phase 0	Hhour – 2	Retrieve System's Node-Level Processing Option Indicators	Non-intrusive
Pre-Phase 0	Hhour – 2	Backing Up the Database	Non-intrusive
Pre-Phase 0	Hhour – 1	Updating the Source Release Spare E5-MASP	Non-intrusive
Pre-Phase 0	Hhour – 1	Verifying All Database	Non-intrusive
Pre-Phase 0	Hhour	Inserting Target Release System Removable Media.	Non-intrusive

Table 7: Pre-Upgrade Execution Activities

3.4 Upgrade Execution Overview

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

Session / Phase	Time Frame	Activity	Impact
Pre-Phase 0	Hhour	Retrieve measurements data reports	Non-intrusive
Phase 0	Hhour	Initializing Front-End to Run in the Target Release.	Intrusive
Phase 0	Hhour	Verifying all Databases	Non-intrusive
Phase 0 & 2	Hhour	OAM Conversion	Intrusive
Phase 3	Hhour	Network Conversion	Intrusive

Table 8: Upgrade Execution Overview

The procedures, shown in Table 9: Post Upgrade Overview

, are executed in the maintenance window.

Session / Phase	Time Frame	Activity	Impact
Phase 3	Hhour + 3	Completing Upgrade/Return to Full Function Mode.	Non-intrusive
Post-upgrade	Hhour + 3	Backing Up Converted Database	Non-intrusive
Session 2	Dday + 2	Upgrading Removable Media	Non-intrusive
Session 2	Dday + 2	Backing Up Fixed Disk	Non-intrusive
Session 2	Dday + 2	Upgrade Spare Fixed Disk.	Intrusive
Session 2	Dday + 2	Verifying All Databases.	Non-intrusive

Table 9: Post Upgrade Overview

3.5 Backout Procedure Overview

The procedures, shown in Table 10: Backout Procedure Overview, are executed in the maintenance window.

Session / Phase	Time Frame	Activity	Impact
Phase 0 - 3	Hhour	Load and Run Source OAM	Non-intrusive
Phase 0 - 3	Hhour	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	Intrusive
Phase 0 - 3	Hhour	Network Conversion to Source Release	Intrusive

Table 10: Backout Procedure Overview

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 Customer Care Center personnel).
- Perform pre-upgrade system health checks to establish that the system is fit to upgrade.
- Download target release software if necessary (E5-MASP) or capability available.
- Enter upgrade Software Access Key (SAK).

4.1 Hardware Upgrade Preparation

Before the upgrade execution, the customer site should have three source-release fixed drives (E5-TDMs \ Sata fixed drives) and at least one source-release removable media (two if using SSD). If MSD, a target-release upgrade media drive (USB drives for E5-MASP systems) is shipped to site before the upgrade. Before the target release installation, the spare equipment inventory should be as shown in Table 11 and Table 12.

Table 11. Equipment Inventory before Upgrade if media software delivery (MSD)

Equipment	In-service	Spare	Upgrade	Totals:
Source-release fixed drives	2	1	0	3
Source-release removable media	1	0	0	1
Target-release fixed drives	0	0	0	0
Target-release upgrade media	0	0	1	1

Table 12. Equipment Inventory before Upgrade if server software delivery (SSD)

Equipment	In-service	Spare	Upgrade	Totals:
Source-release fixed drives	2	1	0	3
Source-release removable media	2	0	0	2
Target-release fixed drives	0	0	0	0
Target-release upgrade media	0	0	0	0

During the procedure, both the active and standby in-service source-release E5-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 13 and Table 14. **NOTE:** the spare E5-TDM and source-release RMDs 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 13. Spare Equipment after Upgrade if media software delivery (MSD)

Equipment	In-service	Spare	Upgrade	Totals:
Source-release fixed drives	0	0	1	1
Source-release removable media	0	0	1	1
Target-release fixed drives	2	0	0	2
Target-release upgrade media	1	0	0	1

Table 14. Spare Equipment after Upgrade if server software delivery (SSD)

Equipment	In-service	Spare	Upgrade	Totals:
Source-release fixed drives	0	0	1	1
Source-release removable media	0	0	1	1
Target-release fixed drives	2	0	0	2
Target-release upgrade media	1	0	0	1

4.2 Software Upgrade Preparation

It is necessary for the customer to obtain a Software access Key (SAK) from Tekelec to perform the upgrade; the SAK should be entered during System Health Check #2 (see 6.4Appendix C). The SAK is used in the validation of the target release software. Also, the target release software may need to be loaded onto the inactive partition of the E5-TDMs (see 6.4Appendix C).. This is required for the E5-MASP platform. The release can either be downloaded from the E5-MASP upgrade media (USB drive) or via an FTP server. In order to utilize this software download capability via an FTP server, the EAGLE must have an E5-IPSM installed in the system. See General Description section for general steps and timeline associated with the upgrade process.

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 these 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 Customer Care Center. If any card cannot be brought in-service or out-of-service, isolated, the card should be inhibited after entering Phase 2 (during procedure 8). 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 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 Customer Care Center is not present during the upgrade.
7. Each procedural step is numbered chronologically within each procedure.

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 Customer Care Center AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	Complete pre-upgrade tasks	`All tasks in Table 15 must be completed before continuing.`

Table 15. 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 fixed disk. **Note**: This fixed disk's database should have been repaired in Upgrade Health Check [1].
	Verify that you have at least one source-release RMD with an up-to-date database. **Note**: This drive's database should have been backed up in Upgrade Health Check [1].
	Verify that you have one target-release upgrade media drives provided by Tekelec for upgrade **Or** Target-Release software has been downloaded to the inactive disk partitions (see section 4.2)
	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 Tekelec Customer Care Center.
	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. [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[2]. Also record the terminal being used to enter commands (the user terminal)[3] 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, and terminal 2 is KSR.

☐ Capture _____[2]

_____

☐ USER _____[3]

☐ Ext. Application: _____[4]

☐ **See recommendation #1 & #6 in section 1.6**

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.
;
```

6 ☐ 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 4)[5]

[2] Terminals with type equal to KSR as well as type equal to printer, which are configured, need to be recorded. Terminal being used to capture cannot be a Telnet terminal, see recommendation #6 in section 1.6

[3] The user terminal cannot be a Telnet terminal, see recommendation #6 in section 1.6.

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

[5] 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

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:all=no: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.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y EAGLE FEATURE LIST GTT = on GWS = on NRT = off X25G = off LAN = on CRMD = off SEAS = off LFS = off MTPRS = off FAN = on DSTN5000 = off WNP = off CNCF = off TLNP = off SCCPCNV = off TCAPCNV = off IPISUP = off X252000 = off PLNP = off NCR = off ITUMTPRS = on SLSOCB = off EGTT = on VGTT = on MPC = on ITUDUPPC = on MEASPLAT = on TSCSYNC = off E5IS = off ;
12 ☐	Issue the command to display the FAK features.	**rtrv-ctrl-feat**
13 ☐	Response to retrieve command is displayed.	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 The following features have been permanently enabled: Feature Name Partnum Status Quantity *FEATURE_A* *XXXXXXXXX* on ---- *FEATURE_B* *XXXXXXXXX* on *nn* The following features have been temporarily enabled: Feature Name Partnum Status Quantity Trial Period Left Zero entries found. The following features have expired temporary keys: Feature Name Partnum Zero entries found.
14 ☐	Issue the command to display the system serial number.	**rtrv-serial-num**
15 ☐ ☐ ☐	Response to retrieve command is displayed. Record the system serial number as shown: SN: _____ Additionally, record in Appendix E. Verify the serial number is locked.	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 = nt00009999 System serial number is locked.

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

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

17 ☐ ☐	Response to retrieve command is displayed.
	
	Determine if the report termination reason meets the pass/fail criteria in Table 17.
		`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.`
		`;`

18 ☐	Repeat steps 16-17 for all sets of UAMs listed in Table 16.	

Table 16: 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 17: Retrieve Log Termination Pass/Fail Criteria:

Termination Reason	Pass/Fail	Comment
`- no records found within specified range`	Pass	
`- X records displayed (where x is less then NUM.)`	Pass	
`- max. or num= count reached`	*Further Analysis Required*	See Appendix, D.2

Procedure 2: Backing Up the Database

STEP #	This procedure backs up the active current database to the fixed disk and the removable media. 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 CUSTOMER CARE CENTER 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.
		<pre> tekelecstp YY-MM-DD hh:mm:ss TTTT 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 XXXX YY-MM-DD HH:MM:SS TTTT Y XXXX YY-MM-DD HH:MM:SS TTTT
		     FD CRNT Y XXXX Y XXXX
		             MCAP 1113 MCAP 1115
		             - -------- - --------
		     RD BKUP Y XXXX YY-MM-DD HH:MM:SS TTTT Y XXXX YY-MM-DD HH:MM:SS TTTT
		     USB BKP - - - - - - - -
		;</pre>

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.
		<pre> 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.
		;</pre>

5 ☐	Visually inspect the RMD to verify that it is labeled with the source release.	
6 ☐	Insert the source-release RMD into the drive slot.	Wait for the RMD to be detected by the system.

Procedure 2: Backing Up the Database

7 ☐	Issue the Change-Database command to back up the database to RMD.	`chg-db:action=backup:dest=remove`

8 ☐	Response to backup command is displayed.	`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 device complete`
		`;`

9 ☐	Issue the command to copy the GPLs to RMD.	`copy-gpl`

10 ☐	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`
		`;`

11 ☐	Remove the Source-Release RMD.	**Store the RMD in a safe location**.

Procedure 3: Updating the Source-Release Spare Fixed Disk

S T E P #	This procedure backs up the active current database to the spare fixed disk 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 CUSTOMER CARE CENTER AND **ASK FOR UPGRADE ASSISTANCE**.	
1 ☐	Issue the report card status command.	`rept-stat-card:appl=oam`

2 ☐ ☐	Response to the card status command is displayed.
	
	Record the card locations of both MASPs as well as the part number of the E5-MASP:
	
	Act E5-MASP _____
	
	p/n _____
	
	Stby E5-MASP _____
	
	p/n _____
		`CARD VERSION TYPE GPL PST SST AST`
		`1113 XXX-XXX-XXX E5MCAP OAMHC IS-NR Standby -----`
		`1115 XXX-XXX-XXX E5MCAP OAMHC IS-NR Active -----`
		
		`Command Completed.`
		`;`

3 ☐	Place spare E5-MASP in system. [6] Record the part number for the spare E5-TDM: p/n _____	☐ Slide the MASP H/S switch (SW3) on the standby MASP up to the unlocked position (Wait for all drive LEDs to transition to a steady blue). ☐ Remove the standby E5-MASP card determined in step 2. ☐ Insert the spare E5-MASP card. ☐ Slide the MASP H/S switch (SW3) on the new standby MASP down to the locked position (Wait for the MASP H/S LED to transition from blinking blue to off and the MASP to come up in standby mode). Note: UAMs are generated during this step. An audible alarm is generated. Wait for the new standby MASP to come up in standby mode and system returns to duplex mode.
4 ☐	Issue the report status command for the standby MASP.	`rept-stat-card:loc=`*`xxxx`*`:mode=full` (Where *xxxx* is the STBY MASP 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`
		`CARD VERSION TYPE GPL PST SST AST`
		`xxxx xxx-xxx-xxx` `E5MCAP OAMHC IS-NR Standby DB-DIFF`
		`ALARM STATUS = No Alarms.`
		`BLMCAP` `GPL version = XXX-XXX-XXX`
		`IMT BUS A = Conn`
		`IMT BUS B = Conn`
		`MBD BIP STATUS = Valid`
		`MOTHER BOARD ID = E5-MCAP`
		`DBD STATUS = Valid`
		`DBD TYPE = 1G ENET`
		`DBD MEMORY SIZE = 4096M`
		`HW VERIFICATION CODE = ----`
		`CURRENT TEMPERATURE = 33C ( 92F)`
		`PEAK TEMPERATURE: = 37C ( 99F) [13-05-19 08:02]`
		`TROUBLE TEXT VER. = ----`
		`IPLNK STATUS`
		`IPLNK IPADDR STATUS PST`
		`A 192.168.53.89 UP IS-NR`
		`Command Completed.`
		`;`

[6] The spare E5-MASP should be the one verified by upgrade Health Check #2, see section 1.2.1 ref [1].

Procedure 3: Updating the Source-Release Spare Fixed Disk

6 ☐ Issue the command to retrieve GPL versions.

```
rtrv-gpl
```

7 ☐ Response from the retrieve command is displayed.

☐ Verify correct source release levels.

☐ If any of the standby E5-MASP GPLs indicate ALM, it is possible that the fixed disk has not gone through session 2 of the previous upgrade. **Stop** the procedure and contact Tekelec Customer Care Center.

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

    GPL       CARD  RELEASE      APPROVED          TRIAL         REMOVE TRIAL
    GGGGGG1   1114  XXX-XXX-XXX  XXX-XXX-XXX       XXX-XXX-XXX   -----------
    GGGGGG1   1116  XXX-XXX-XXX  XXX-XXX-XXX ALM   XXX-XXX-XXX   -----------
    GGGGGG1   1113  -----------  -----------       -----------   -----------
    GGGGGG2   1114  XXX-XXX-XXX  XXX-XXX-XXX       XXX-XXX-XXX   -----------
    GGGGGG2   1116  XXX-XXX-XXX  XXX-XXX-XXX ALM   XXX-XXX-XXX   -----------
    GGGGGG2   1113  -----------  -----------       -----------   -----------
    GGGGGG3   1114  XXX-XXX-XXX  XXX-XXX-XXX       XXX-XXX-XXX   -----------
    GGGGGG3   1116  XXX-XXX-XXX  XXX-XXX-XXX ALM   XXX-XXX-XXX   -----------
    GGGGGG3   1113  -----------  -----------       -----------   -----------
    OAMHC     1114  XXX-XXX-XXX  XXX-XXX-XXX       -----------   -----------
    OAMHC     1116  XXX-XXX-XXX  XXX-XXX-XXX       -----------   -----------
    OAMHC     1113  -----------  -----------       -----------   -----------
    GGGGGG4   1114  XXX-XXX-XXX  XXX-XXX-XXX       XXX-XXX-XXX   -----------
    GGGGGG4   1116  XXX-XXX-XXX  XXX-XXX-XXX       XXX-XXX-XXX   -----------
    GGGGGG4   1113  -----------  -----------       -----------   -----------
    GGGGGG5   1114  XXX-XXX-XXX  XXX-XXX-XXX       XXX-XXX-XXX   -----------
    GGGGGG5   1116  XXX-XXX-XXX  XXX-XXX-XXX       XXX-XXX-XXX   -----------
    GGGGGG5   1113  -----------  -----------       -----------   -----------
    GGGGGG6   1114  XXX-XXX-XXX  XXX-XXX-XXX       XXX-XXX-XXX   -----------
    GGGGGG6   1116  XXX-XXX-XXX  XXX-XXX-XXX       XXX-XXX-XXX   -----------
    GGGGGG6   1113  -----------  -----------       -----------   -----------

;
```

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.

☐ 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.
;
```

10 ☐ Place original standby E5-MASP in system.

☐ Slide the MASP H/S switch (SW3) on the standby MASP up to the unlocked position (Wait for all drive LEDs to transition to a steady blue).

☐ Remove the standby E5-MASP card determined in step 2.

☐ Insert the original standby E5-MASP card.

☐ Slide the MASP H/S switch (SW3) on the original standby MASP down to the locked position (Wait for the MASP H/S LED to transition from blinking blue to off and the MASP to come up in standby mode).

Note: UAMs are generated during this step. An audible alarm is generated.
Wait for the original standby E5-MASP to come up in standby mode and system returns to duplex mode.

Procedure 4: 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 CUSTOMER CARE CENTER 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' (backup and RMD may show a dash), 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 3, 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 ( STDBY)                TDM 1116 ( ACTV )
           C   LEVEL    TIME LAST BACKUP     C   LEVEL    TIME LAST BACKUP
           - -------- ---------------------- - -------- ----------------------
   FD BKUP Y      YYY YY-MM-DD hh:mm:ss TTTT Y        1     -        -
   FD CRNT Y      XXX                        Y      XXX
           MCAP 1113                         MCAP 1115
           - --------                        - --------
   RD BKUP -    -         -        -         Y        1     -        -
   USB BKP -    -         -        -         -    -         -        -

   CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   EXCEPTION
   ---------  ----  -  -  ----------  -----------------  --------------
   SS7HC      1101  Y  N  XXX         YY-MM-DD HH:MM:SS       -
   IPLHC      1103  Y  N  XXX         YY-MM-DD HH:MM:SS       -
   VSCCP      1104  Y  N  XXX         YY-MM-DD HH:MM:SS       -
   ERTHC      1105  Y  N  XXX         YY-MM-DD HH:MM:SS       -
   MCP        1107  Y  N  XXX         YY-MM-DD HH:MM:SS       -
   GLS        1108  Y  N  XXX         YY-MM-DD HH:MM:SS       -
   IPSHC      1111  Y  N  XXX         YY-MM-DD HH:MM:SS       -
   OAM-RMV    1113  -  -     -          -        -            -
   TDM-CRNT   1114  Y  N  XXX         YY-MM-DD hh:mm:ss       -
   TDM-BKUP   1114  Y  -  YYY         YY-MM-DD hh:mm:ss       -
   OAM-RMV    1115  Y  -  1           00-00-00 00:00:00  DIFF LEVEL
   OAM-USB    1115  -  -     -          -        -            -
   TDM-CRNT   1116  Y  N  XXX         YY-MM-DD hh:mm:ss       -
   TDM-BKUP   1116  Y  -  YYY         YY-MM-DD hh:mm:ss       -

                  ELAP A ( STDBY )
                   C  BIRTHDATE          LEVEL       EXCEPTION
                   -  -----------------  ----------  --------------
   RTDB            Y  YY-MM-DD hh:mm:ss     ZZZZZZZ        -
   RTDB-EAGLE         YY-MM-DD hh:mm:ss     ZZZZZZZ        -

                  ELAP B  ( ACTV )
                   C  BIRTHDATE          LEVEL       EXCEPTION
                   -  -----------------  ----------  --------------
   RTDB            Y  YY-MM-DD hh:mm:ss     ZZZZZZZ        -
   RTDB-EAGLE         YY-MM-DD hh:mm:ss     ZZZZZZZ        -

                  EAGLE RTDB REPORT
   CARD/APPL  LOC   C  BIRTHDATE          LEVEL       EXCEPTION    IN-SRVC
   ---------  ----  -  -----------------  ----------  ------------ ------------
   VSCCP      1104  Y  YY-MM-DD hh:mm:ss     ZZZZZZZ        -      DDd HHh MMm
;
```

Procedure 5: Verifying the Target Release and Software Access Key

S T E P #	This procedure verifies that the Upgrade Software Access Key has been entered. 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 CUSTOMER CARE CENTER AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	Validate the Software Access Key with the upgrade target release.	`ACT-UPGRADE:ACTION=CHKREL:SRC=FIXED`

2 ☐	Response from the validation.	`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`act-upgrade:action=chkrel:src=zzzz`
		`Command entered at terminal #10.`
		`;`

☐	Verify the Upgrade target release is correct and the Software Access Key is valid.
	
	If either the upgrade target release is incorrect or the Software Access Key is invalid **STOP** the upgrade and contact Tekelec Customer Care Center.
		`Upgrade target: EAGLE XX.x.x-YY.y.y`
		
		`Software Access Key valid for target release`
		
		`Command Complete : Upgrade action completed successfully`
		`;`

Procedure 6: Initializing MASPs to Run on Target-Release GPLs

S T E P #	This procedure loads the target-release GPL to both MASPs. This procedure requires that both MASPs 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 CUSTOMER CARE CENTER AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	Remove the USB flash drives from E5-MASPs.	Note: the target-release is assumed to have been downloaded to the inactive partition prior to the execution of this procedure (see section 4.2.)
2 ☐	Inhibit the standby MASP	**INH-CARD:LOC=XXXX** (Where ***XXXX*** is the location of the standby MASP slot recorded in Procedure 3, Step 2)
3 ☐ ☐	Response to the inhibit command is displayed Verify UAM 514 is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Card is inhibited. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase x ** 5045.0514 ** CARD XXXX OAMHC Standby MASP is inhibited ; **Note**: Wait for the card to boot and return to the IMT bus.
4 ☐	Download target-release flash to the standby MASP.	**INIT-FLASH:LOC=XXXX:CODE=TRIAL** (Where ***XXXX*** is the location used in the previous command)
5 ☐ ☐	Response to flash initialization is shown. Verify UAM 0004 is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y FLASH Memory Download for card xxxx started. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y FLASH Memory Download for card xxxx completed. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y * 8003.0004 * GPL SYSTEM BLMCAP Card is running non-activated GPL ; **Note:** Wait for card to boot and return to the IMT bus.
6 ☐	Retrieve the GPLs running on the card location.	**REPT-STAT-GPL:LOC=XXXX** (Where ***XXXX*** is the location used in the previous command)
7 ☐	Response to the card status command is displayed. The card should be running the trial version of the GPL. If the approved and trial versions are the same no ALM will be present.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y GPL CARD RUNNING APPROVED TRIAL OAMHC 1113 ---------- ---------- ---------- FFFFF **YYY-YYY-YYY** ALM+ XXX-XXX-XXX **YYY-YYY-YYY** Command Completed. ;
8 ☐	Run the target-release GPL on the standby MASP	**ALW-CARD:LOC=XXXX:CODE=INACTIVEPRTN** (target release on the inactive partition) (Where *XXXX* is the location of the standby MASP used in the previous command)
9 ☐	Response to allow-card command is shown.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Card has been allowed. ;
10 ☐	Retrieve status of the MASPs	**REPT-STAT-GPL:GPL=OAMHC**

Procedure 6: Initializing MASPs to Run on Target-Release GPLs

11 ☐	Verify standby MASP running target release GPL. The standby MASP will display ALM to indicate that the card is not running the approved version GPL.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y GPL Auditing ON GPL CARD RUNNING APPROVED TRIAL OAMHC 1113 XXX-XXX-XXX XXX-XXX-XXX OAMHC 1115 YYY-YYY-YYY ALM XXX-XXX-XXX Command Completed. ;
12 ☐	Perform an OAM role change by booting the active MASP.	**INIT-CARD:LOC=XXXX** (Where ***XXXX*** is the location of the active MASP recorded in Procedure 3, Step 2)
13 ☐	Response to card initialization is shown.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Init Card command issued to card xxxx ;
14 ☐	Issue the command to log back in to the system.	**LOGIN:UID=*XXXXXX*** (Where ***XXXXXX*** is a valid login ID)
15 ☐ ☐	Response to login command is displayed. Ignore any login failure message. Verify the Upgrade Phase in Banner[7].	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Upg Phase 0 User logged in on terminal *UU*. ; ? Login failures since last successful LOGIN Last successful LOGIN was on port ? on ??-??-?? @ ??:??:??
16 ☐	Echo command input to capture terminal.	**ACT-ECHO:TRM=*P*** (Where ***P*** is the terminal port number specified in Procedure 1, Step 3)
17 ☐	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*. ;
18 ☐	Issue the card status to verify the location of the active MASP slot	**REPT-STAT-CARD:APPL=OAM**
19 ☐ ☐	Response to the card status command is displayed. Circle the status of both E5-MASPs: **1113:** Active or Standby **1115:** Active or Standby For this sample output, 1113 is active and 1115 is standby.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y CARD VERSION TYPE GPL PST SST AST 1113 XXX-XXX-XXX E5MCAP OAMHC IS-NR Active ----- 1115 XXX-XXX-XXX E5MCAP OAMHC IS-NR Standby ----- Command Completed. ;
20 ☐	Inhibit the standby MASP	**INH-CARD:LOC=XXXX** (Where ***XXXX*** is the location of the standby MASP identified in the previous command)

[7] Phase number is not displayed at this point for incremental upgrades. See section 0 for a definition of incremental upgrade and section 1.4 for a definition of database versioning. Database versioning between releases is determined in Procedure 7, step 2.

Procedure 6: Initializing MASPs to Run on Target-Release GPLs

21 ☐ ☐	Response to the inhibit command is displayed Verify UAM 514 is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Card is inhibited. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase x ** 5045.0514 ** CARD XXXX OAMHC Standby MASP is inhibited ; **Note**: Wait for the card to boot and return to the IMT bus.
22 ☐	Download target release flash to the standby MASP.	**INIT-FLASH:LOC=XXXX:CODE=TRIAL** (Where ***XXXX*** is the location of the standby MASP used in the previous command)
23 ☐ ☐	Response to flash initialization is shown. Verify UAM 0004 is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y FLASH Memory Download for card xxxx started. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y FLASH Memory Download for card xxxx completed. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y * 8003.0004 * GPL SYSTEM BLMCAP Card is running non-activated GPL ; **Note:** Wait for card to boot and return to the IMT bus.
24 ☐	Retrieve the GPLs running on the card location.	**REPT-STAT-GPL:LOC=XXXX** (Where ***XXXX*** is the location of the standby MASP slot used in the previous command)
25 ☐	Response to the card status command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y GPL CARD RUNNING APPROVED TRIAL OAMHC 1115 ---------- ---------- ---------- BLMCAP YYY-YYY-YYY ALM+ XXX-XXX-XXX XXX-XXX-XXX Command Completed. ;
26 ☐	Run the target release GPL on the standby MASP	**ALW-CARD:LOC=XXXX:CODE=INACTIVEPRTN** (target release on the inactive partition) (Where *XXXX* is the location of the standby MASP used in the previous command)
27 ☐	Response to allow card command is shown.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Card has been allowed. ;
28 ☐	Issue the command to display the status of the MASPs' GPL	**REPT-STAT-GPL:GPL=OAMHC**
29 ☐ ☐	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 GPL Auditing ON APPL CARD RUNNING APPROVED TRIAL OAMHC 1113 XXX-XXX-XXX ALM YYY-YYY-YYY XXX-XXX-XXX * OAMHC 1115 XXX-XXX-XXX ALM YYY-YYY-YYY XXX-XXX-XXX * Command Completed. ;
30 ☐	If GPLs are not correct, do the following:	1. Repeat Step 2 - 29. 2. Contact Tekelec Customer Care Center.

Procedure 6: Initializing MASPs to Run on Target-Release GPLs

31 ☐	Issue the command to display the version of the Flash GPL running on card 1113.	`REPT-STAT-CARD:LOC=1113:MODE=FULL`
32 ☐ ☐	Response from the retrieve command is displayed. Record version of BLMCAP running on E5-MASP. GPL Version: _____ GPL Version: _____	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y CARD VERSION TYPE GPL PST SST AST 1113 XXX-XXX-XXX E5MCAP OAMHC IS-NR Standby ----- ALARM STATUS = No Alarms. BLMCAP GPL version = YYY-YYY-YYY IMT BUS A = Conn IMT BUS B = Conn CLOCK A = Active CLOCK B = Idle CLOCK I = Idle MBD BIP STATUS = Valid MOTHER BOARD ID = E5-MCAP DBD STATUS = Valid DBD TYPE = 1G ENET DBD MEMORY SIZE = 4096M HW VERIFICATION CODE = ---- TROUBLE TEXT VER. = ---- IPLNK STATUS IPLNK IPADDR STATUS PST A 192.168.53.89 UP IS-NR Command Completed. ;
33 ☐	Repeat steps 31 – 32, for location 1115.	

5.2 OAM Conversion

Procedure 7: 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 CUSTOMER CARE CENTER 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 or '-'. ☐ Verify column 'T' shows 'N' for both CRNT databases, which indicates that those databases are not in transition ☐ Or if target release is on the inactive partition, the database level is "1". ☐ Verify all entries in the database 'Level' column marked as 'XXX' are the same. ☐ Verify that the version numbers displayed are correct.[8]	DATABASE STATUS: >> OK << TDM 1114 (STDBY) TDM 1116 (ACTV) 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 YY-MM-DD hh:mm:ss TTTT Y XXX YY-MM-DD hh:mm:ss TTTT MCAP 1113 MCAP 1115 - -------- - -------- RD BKUP - - - - - - - - USB BKP - - - - - - - - CARD/APPL LOC C T LEVEL TIME LAST UPDATE VERSION STATUS --------- ---- - - ---------- ---------- ---------- ---------- OAM-RMV 1113 - - - - - - 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 OAM-RMV 1115 - - - - - - OAM-USB 1115 - - - - - - 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 INACTIVE PARTITION GROUP CARD/APPL LOC C T LEVEL TIME LAST UPDATE VERSION STATUS --------- ---- - - ---------- ---------- ---------- ---------- TDM-CRNT 1114 Y - 1 YY-MM-DD hh:mm:ss ZZZ-ZZZ-ZZZ NORMAL TDM-BKUP 1114 Y - 1 YY-MM-DD hh:mm:ss ZZZ-ZZZ-ZZZ NORMAL TDM-CRNT 1116 - - - - - - TDM-BKUP 1116 - - - - - - ;

[8] See section 1.4 to verify the database versions. If the database versions are the same for the TDMs as well as the RMD, the phase indicator is not displayed until after Procedure 8, step 1.

Procedure 8: 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. **See recommendation #5 in section 1.6 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 execution terminates before successfully completing, see recommendation #7 in 1.6** SHOULD THIS PROCEDURE FAIL, CONTACT TEKELEC CUSTOMER CARE CENTER 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. Table 18. Act Upgrade Command Actions lists the actions completed by the command. Appendix D contains messages illustrative of the output of upgrade during this series of operations.	`ACT-UPGRADE:ACTION=CONVERTSTP:SRC=FIXED:THRES=`*`75`* (target release is contained on the inactive partition) (If another thres value is to be used see recommendation #5 in section 1.6)

Table 18. Act Upgrade Command Actions

Fixed workspace	
A	OAM based measurements are inhibited.
B	N/A
C	The standby disk is formatted based on the target release configuration table.
D	The target release GPLs are copied 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.
F	The standby MASP boots automatically.
G	The active MASP then boots allowing the standby to resume the active role.[9]
H	The standby disk is formatted based on the target release configuration table.
I	The target release GPLs are copied onto the standby TDM.
J	The existing database is converted onto the standby disk, upgrading the existing EAGLE source-release tables to target-release tables.
K	The standby MASP boots automatically.
L	Initialization of Network cards.

[9] Proceed to step 3 to log back into the system and restart output capture.

Procedure 8: STP Conversion

2 ☐ ☐ ☐ ☐	Command is displayed. Note the banners transitions from Phase 0 to Phase 3. For incremental upgrade, see footnote [10] Completion notice of successful upgrade. If upgrade does not complete successfully, see recommendation # 7 in section 1.6	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 D (D.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 Customer Care Center for assistance in executing Appendix D (D.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. ;

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

Procedure 8: 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 or '-'.

☐ 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 YY-MM-DD hh:mm:ss TTTT Y      XXX YY-MM-DD hh:mm:ss TTTT
    FD CRNT Y      XXX YY-MM-DD hh:mm:ss TTTT Y      XXX YY-MM-DD hh:mm:ss TTTT
            MCAP 1113                          MCAP 1115
            - --------                         - --------
    RD BKUP -    -         -        -         -    -         -        -
    USB BKP -    -         -        -         -    -         -        -

    CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   VERSION      STATUS
    ---------  ----  -  -  ----------  -----------------  -------------------
    OAM-RMV    1113  -  -      -          -        -         -
    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
    OAM-RMV    1115  -  -      -          -        -         -
    OAM-USB    1115  -  -      -          -        -         -
    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

    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  DSM     SCCPHC    IS-NR         Active     -----
    1102   XXX-XXX-XXX  DSM     SCCPHC    IS-NR         Active     -----
    1103   XXX-XXX-XXX  TSM     GLSHC     IS-NR         Active     -----
    1104   XXX-XXX-XXX  TSM     GLSHC     IS-NR         Active     -----
    1105   XXX-XXX-XXX  LIMDS0  SS7ML     IS-NR         Active     -----
    1111   XXX-XXX-XXX  IPSM    IPSHC     OOS-MT        Isolated   -----
    1113   XXX-XXX-XXX  E5MCAP  OAMHC     IS-NR         Active     -----
    1114   -----------  E5TDM   -------   IS-NR         Active     -----
    1115   XXX-XXX-XXX  E5MCAP  OAMHC     IS-NR         Standby    -----
    1116   -----------  E5TDM   -------   IS-NR         Active     -----
    1117   -----------  E5MDAL  -------   IS-NR         Active     -----
    1201   XXX-XXX-XXX  LIMDS0  SS7ML     IS-NR         Active     -----
    1202   XXX-XXX-XXX  LIMDS0  SS7ML     IS-NR         Active     -----
    1203   XXX-XXX-XXX  LIMT1   SS7ML     IS-NR         Active     -----
    1204   XXX-XXX-XXX  LIMT1   SS7HC     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  MPLGA     IS-NR         Active     -----
    1215   xxx-xxx-xxx  DSM     SCCPHC    IS-NR         Active     -----
    1217   xxx-xxx-xxx  DSM     SCCPHC    IS-NR         Active     -----
    3101   xxx-xxx-xxx  LIMATM  ATMANSI   IS-NR         Active     -----
    3102   xxx-xxx-xxx  LIMATM  ATMANSI   IS-NR         Active     -----
    Command Completed.
;
```

Procedure 8: STP Conversion

11 ☐	Issue the command to display GPL status.	**RTRV-GPL**
12 ☐ ☐	Response from the retrieve 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 TTTT PPP XX.x.x-YY.y.y GPL Auditing ON GPL CARD RELEASE APPROVED TRIAL REMOVE TRIAL GGGGGG1 1114 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX ---------- GGGGGG1 1116 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX ---------- GGGGGG1 1113 ---------- ---------- ---------- ---------- GGGGGG2 1114 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX ---------- GGGGGG2 1116 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX ---------- GGGGGG2 1113 ---------- ---------- ---------- ---------- GGGGGG3 1114 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX ---------- GGGGGG3 1116 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX ---------- GGGGGG3 1113 ---------- ---------- ---------- ---------- OAMHC 1114 XXX-XXX-XXX XXX-XXX-XXX ---------- ---------- OAMHC 1116 XXX-XXX-XXX XXX-XXX-XXX ---------- ---------- OAMHC 1113 ---------- ---------- ---------- ---------- GGGGGG4 1114 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX ---------- GGGGGG4 1116 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX ---------- GGGGGG4 1113 ---------- ---------- ---------- ---------- GGGGGG5 1114 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX ---------- GGGGGG5 1116 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX ---------- GGGGGG5 1113 ---------- ---------- ---------- ---------- GGGGGG6 1114 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX ---------- GGGGGG6 1116 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX ---------- GGGGGG6 1113 ---------- ---------- ---------- ---------- ;

5.3 Completion of Session 1

Procedure 9: 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. 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 CUSTOMER CARE CENTER 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 OAMHC 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.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y GPL Auditing ON GPL CARD RUNNING APPROVED TRIAL OAMHC 1113 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX * BLMCAP XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX OAMHC 1115 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX * BLMCAP 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 GLSHC 1213 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX BLIXP XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX GLSHC 1214 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX BLIXP 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 HIPR 1109 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX HIPR 1110 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX Command Completed. ;
☐	Verify that no "ALM" indicator is displayed.	
13 ☐	Establish system status	See recommendation # 7 in Section 1.6

Procedure 10: Backing up Converted Database

S T E P #	This procedure backs up the converted Target-Release database to the fixed disk and to either the removable media or the DB FTP server if provisioned. 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 CUSTOMER CARE CENTER AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	If the target release was on the RMD, insert the target-release RMD. Then go to step 10 If a source-release RMD is available and the target release was on the inactive partition, insert the RMD[11], and continue Otherwise go to step 21.	Once inserted, allow time for the RMD to be detected by the system. RMD is inserted in the latched USB port on the active E5-MASP.
2 ☐	Issue the command to retrieve measurement status.	`rtrv-meas-sched`
3 ☐	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 6.	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) ;
4 ☐	Issue the command to turn off measurement collection.	`chg-meas:collect=off`
5 ☐	Response to the change command is displayed.	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 ;
6 ☐	Issue the command to format the RMD.	`FORMAT-DISK:TYPE=SYSTEM:FORCE=YES`
7 ☐ ☐	Response to format command is displayed. **If the format fails, first repeat the previous step, and then contact Tekelec Customer Care Center.**	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. ;

[11] DO NOT use the source release RMD created in Procedure 2.

Procedure 10: Backing up Converted Database

8 ☐	Issue the command to copy the GPLs to the RMD.	**COPY-GPL**
9 ☐	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 ;
10 ☐	Issue the command to report database status.	**REPT-STAT-DB**
11 ☐ ☐ ☐	Response to database status command is displayed. Check entries in 'C' should be coherent, which is indicated by a 'Y'. If all FD BKUP & FD CRNT entries in column 'LEVEL' are the same, go to step 16.	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 YY-MM-DD hh:mm:ss TTTT Y XXX YY-MM-DD hh:mm:ss TTTT FD CRNT Y XXX YY-MM-DD hh:mm:ss TTTT Y XXX YY-MM-DD hh:mm:ss TTTT MCAP 1113 MCAP 1115 - -------- - -------- RD BKUP - - - - N 1 - - USB BKP - - - - - - - -
12 ☐	Issue the database command to backup the fixed disks.	**CHG-DB:ACTION=BACKUP**
13 ☐	Response and progress of back up command are displayed.	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 ;

Procedure 10: Backing up Converted Database

14 ☐	Issue the command to report database status.	**rept-stat-db**
15 ☐ ☐ ☐	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 TTTT 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 YY-MM-DD hh:mm:ss TTTT Y XXX - - FD CRNT Y XXX Y XXX MCAP 1113 MCAP 1115 RD BKUP - - - - Y 1 - - USB BKP - - - - - - - - ;
16 ☐	Issue the database command to back up to the target-release RMD.	**chg-db:action=backup:dest=remove**
17 ☐	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. ;
18 ☐	Issue the command to report database status.	**rept-stat-db**
19 ☐ ☐	Response to database status command is displayed. Check entries in 'C' should be coherent, which is indicated by a 'Y'.	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 YY-MM-DD hh:mm:ss TTTT Y XXX YY-MM-DD hh:mm:ss TTTT FD CRNT Y XXX YY-MM-DD hh:mm:ss TTTT Y XXX YY-MM-DD hh:mm:ss TTTT MCAP 1113 MCAP 1115 RD BKUP - - - - Y XXX - - USB BKP - - - - - - - -
20 ☐	Remove the target-release RMD from the drive slot.	**Store the RMD in a safe location.**
21 ☐	If the system is configured for remote backups, issue the database command to backup to remote FTP server. Otherwise, go to step 23.	**chg-db:action=backup:dest=server**
22 ☐	Response to backup command is displayed. If backup fails, contact Tekelec Customer Care Center.	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 (SERVER): MASP B - Backup starts on active MASP. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y BACKUP (SERVER): MASP B - Backup to server complete. ;

Procedure 10: Backing up Converted Database

23 ☐	If steps 4 & 5 were executed, issue the command to turn the measurements collection on.	`chg-meas:collect=on`

24 ☐	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`
		`;`

→ This concludes SESSION ONE ←

5.4 Upgrade Session 2

Procedure 11. 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 CUSTOMER CARE CENTER AND **ASK FOR UPGRADE ASSISTANCE**.	
1 ☐	Complete pre-upgrade session 2 tasks	All tasks in Table 19 must be completed before continuing.

Table 19. Upgrade Session 2 Requirements

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

Procedure 12: Upgrading Removable medias

S T E P #	This procedure describes how to update source-release removable media to the target release. See recommendation #2 in section 1.6. 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 CUSTOMER CARE CENTER AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	Echo command input to capture terminal. See recommendation #1 & #6 in section 1.6	**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[12] go to step 9. Otherwise, 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.	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 ;

[12] If enabled, the measurements platform feature is displayed in Procedure 1, Step 11.

Procedure 12: Upgrading Removable medias

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 20.	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 ☐	If LNP feature on, 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 20.	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 20. If no source cartridges need upgrading, go to next procedure.	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-release RMD to be upgraded into the drive slot on the active MASP.	Once inserted, allow time for the RMD to be detected by the system. For E5-OAM systems, RMD is inserted in the latched USB port on the active E5-MASP.
16 ☐	Issue the command to format the RMD.	**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 Customer Care Center.**	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 20. 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 12: Upgrading Removable medias

18 ☐	Issue the command to copy the GPLs to the target-release RMD.	`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 RMD.	`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 ☐	Remove the target-release RMD from the drive slot and store it in a safe place.	
23 ☐	If upgrading more RMDs, repeat step 15-22.	

Procedure 13: Backing Up Fixed Disk

S T E P #	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 CUSTOMER CARE CENTER 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 backup command are displayed.	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. ;

Procedure 14: Upgrading Spare Fixed Disks

S T E P #	This procedure describes how to upgrade your spare fixed disks 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 CUSTOMER CARE CENTER AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	Issue the command to display card status.	`rept-stat-card:appl=oam`

2 ☐ ☐	Response to the card status command is displayed.
	
	Determine MASP activity.
	
	Act MASP _____
	
	Stby MASP _____
		`CARD VERSION TYPE GPL PST SST AST`
		`1113 XXX-XXX-XXX E5MCAP OAMHC IS-NR Standby -----`
		`1115 XXX-XXX-XXX E5MCAP OAMHC IS-NR Active -----`
		
		`Command Completed.`
		`;`

3 ☐	Insert target-release RMD into the drive slot on the Active E5MASP.	`Once inserted, allow time for the RMD to be detected by the system.`
4 ☐	Issue the command to inhibit standby MASP.	`inh-card:loc=`***`XXXX`*** Where *XXXX* is the location for the Standby MASP in Step 2.

5 ☐	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.`
		`;`

6 ☐	Place spare E5-MASP in system.	☐ Slide the MASP H/S switch (SW3) on the standby MASP up to the unlocked position (Wait for all drive LEDs to transition to a steady blue). ☐ Remove the standby E5-MASP card determined in step 2. ☐ Insert the spare E5-MASP card. ☐ Slide the MASP H/S switch (SW3) on the new standby MASP down to the locked position (Wait for the MASP H/S LED to transition from blinking blue to off and the MASP to come up in standby mode). Note: UAMs are generated during this step. An audible alarm is generated. Wait for the new standby MASP to come up in standby mode and system returns to duplex mode.
7 ☐	Retrieve the GPLs running on the card location.	`REPT-STAT-GPL:LOC=XXXX` Where *XXXX* is the location for the Standby MASP specified Step 4.

8 ☐	Response to the card status command is displayed.
	If ***ALM*** is displayed after the running version of the flash GPL, continue to next step.
	
	Otherwise, continue to step 11
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`GPL CARD RUNNING APPROVED TRIAL`
		`GGGGG XXXX ---------- ---------- ----------`
		`BLMCAP YYY-YYY-YYY ALM XXX-XXX-XXX YYY-YYY-YYY`
		
		`Command Completed.`
		`;`

9 ☐	Issue the command to initialize the flash memory.	`FLASH-CARD:CODE=APPR:LOC=`***`XXXX`*** Where *XXXX* is the location for the Standby MASP in Step 2. NOTE: this command causes the card to boot.

Procedure 14: Upgrading Spare Fixed Disks

10 ☐ ☐	Response to the flash card 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:loc=XXXX Command entered at terminal #nn. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;
11 ☐	Insert target-release USB into the drive slot on the standby E5-MASP.	Once inserted, allow time for the RMD to be detected by the system.
12 ☐	Issue the command to allow card.	**ALW-CARD:LOC=*XXXX*** Where *XXXX* is the location for the Standby MASP.
13 ☐	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. ;
14 ☐	Issue the command to display MASP status.	**REPT-STAT-CARD:APPL=OAM**
15 ☐ ☐	Response to the card status command is displayed. Verify the MASP cards are running the same version of the OAM application GPL.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y CARD VERSION TYPE GPL PST SST AST 1113 XXX-XXX-XXX *TTTTT* *GGGG* IS-NR ACTIVE ---- 1115 XXX-XXX-XXX *TTTTT* *GGGG* IS-NR STANDBY ---- Command Completed. ;
16 ☐	Issue the command to display security log status.	**REPT-STAT-SECULOG**
17 ☐ ☐	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 25.	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 ;
18 ☐	Issue the command to copy the security log from the standby disk to FTA area.	**COPY-SECULOG:SLOG=STB:DFILE=UPGP15.SPR**
19 ☐ ☐	Response to copy seculog command is displayed. If this command fails, proceed to next step. Otherwise, go to step 25.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Security log on TDM 111X copied to file upgP15.spr 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 ;
20 ☐	Issue the command to display the FTA directory.	**DISP-FTA-DIR**

Procedure 14: Upgrading Spare Fixed Disks

21 ☐ ☐	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 Customer Care Center 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 ;
22 ☐	Issue the command to delete ALL files in the transfer area.	**DLT-FTA:ALL=YES**
23 ☐	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 #nn. ;
24 ☐	Repeat Steps 18 – 19.	
25 ☐	Issue the command to copy the active MASP image to the standby disk.	**COPY-DISK:DLOC=*XXXX*:FORCE=YES:FORMAT=YES** (Where *XXXX* is the location of the STANDBY E5-TDM recorded in Step 2)
26 ☐	Response to the copy-disk command is displayed. 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 OAMHC Card is present ;
27 ☐	If the disk copy fails repeat steps 25 - 26.	1. Repeat Steps 25-26. 2. If second attempt fails, contact Tekelec Customer Care Center.

Procedure 15: Upgrading Spare MUX cards

S T E P #	This procedure describes how to upgrade your spare MUX 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 CUSTOMER CARE CENTER 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 ☐	Issue the command to display imt bus status.	**rept-stat-mux**
2 ☐ ☐	Response to the MUX status command is displayed. Record the types of MUX cards present: HMUX / HIPR / HIPR2	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y CARD TYPE PST SST AST 1109 HIPR IS-NR Active ----- 1110 HIPR IS-NR Active ----- 1209 HIPR2 IS-NR Active ----- 1210 HIPR2 IS-NR Active ----- 1309 HMUX IS-NR Active ----- 1310 HMUX IS-NR Active ----- Command Completed. ;
3 ☐	Issue the command to display imt bus status.	**rept-stat-imt**
4 ☐ ☐	Response to the card status command is displayed. Verify that both imt buses are IS-NR. If either bus is not IS-NR Stop this procedure and call Tekelec Customer Care Center.	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. ;
5 ☐	Issue the command to inhibit IMT bus-A.	**inh-imt:bus=a**
6 ☐	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 ;
7 ☐	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 2, a HMUX can be placed in 1109, while a HIPR can be placed in 1309.)
8 ☐	Issue the command to allow IMT bus-A.	**alw-imt:bus=a**
9 ☐	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 ;

Procedure 15: Upgrading Spare MUX cards

10 ☐	Issue the card status command to identify the MUX cards in the system.	**rept-stat-gpl:gpl=*XXXX*** (Where *XXXX* = is bphmux for HMUX, hipr for HIPR, or hipr2 for HIPR2 cards.)
11 ☐	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 HIPR2 XX09 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX HIPR2 XX10 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX HIPR2 XX09 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX HIPR2 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 HIPR XX09 XXX-XXX-XXX ALM XXX-XXX-XXX XXX-XXX-XXX HIPR XX10 XXX-XXX-XXX XXX-XXX-XXX XXX-XXX-XXX Command Completed. ;
12 ☐	Enter the command to initialize the FLASH on a MUX card on the A-bus that is not running the APPROVED version of the GPL.	**init-flash:loc=*XX*09:code=appr** (Where *XX* = is a shelf number.)
13 ☐	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. ;
14 ☐	Repeat steps 12-13 for each card recorded in step 11.	
15 ☐	Enter the command to initialize the current bus.	**init-mux:bus=a**
16 ☐	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
17 ☐	Issue the command to activate the flash on a MUX card flashed in step 12.	**act-flash:loc=*XX*09** (Where *XX* = is a shelf number.)
18 ☐	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. ;
19 ☐	Repeat steps 17-18 for each MUX card recorded in step 11.	
20 ☐	Issue the command to display the MUX card GPL status.	**rept-stat-gpl:gpl==*XXXX*** (Where *XXXX* = is bphmux for HMUX cards, hipr for HIPR cards, or hipr2 for HIPR2 cards.)

Procedure 15: Upgrading Spare MUX cards

21 ☐ Verify that all MUX cards are running the approved GPL.

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

    APPL        CARD      RUNNING            APPROVED      TRIAL
    HIPR2       XX09      XXX-XXX-XXX        XXX-XXX-XXX   XXX-XXX-XXX
    HIPR2       XX10      XXX-XXX-XXX        XXX-XXX-XXX   XXX-XXX-XXX
    HIPR2       XX09      XXX-XXX-XXX        XXX-XXX-XXX   XXX-XXX-XXX
    HIPR2       XX10      XXX-XXX-XXX        XXX-XXX-XXX   XXX-XXX-XXX
    HIPR2       XX09      XXX-XXX-XXX        XXX-XXX-XXX   XXX-XXX-XXX
    HIPR2       XX10      XXX-XXX-XXX        XXX-XXX-XXX   XXX-XXX-XXX
    HIPR2       XX09      XXX-XXX-XXX        XXX-XXX-XXX   XXX-XXX-XXX
    HIPR2       XX10      XXX-XXX-XXX        XXX-XXX-XXX   XXX-XXX-XXX
    Command Completed.
;
```

22 ☐	Repeat steps 10-21 for all MUX card types.	
23 ☐	Repeat steps 3-22 until all spare MUX cards have been flashed.	

Procedure 16: Verifying All Databases

S T E P #	This procedure verifies the databases on the fixed disk and the removable media. 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 Customer Care Center 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 3, 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 YYY YY-MM-DD hh:mm:ss TTTT 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 E5MDAL 1117 Y - YYY 06-04-18 16:11:18 DIFF LEVEL 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 target-release RMD from the drive slot.	**Store the RMD in a safe location.**

Procedure 17: 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 CUSTOMER CARE CENTER AND **ASK FOR UPGRADE ASSISTANCE**.	
1 ☐	If the measurements platform is enabled then go to step 3. Otherwise, if Procedure 12 Steps 7 & 8 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 flash GPL (i.e. BLMCAP or BLIXP), record it below: _____ _____ If any GPL is recorded contact Tekelec Customer Care Center and report the GPL alarm.	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 18: Load and Run Source OAM

S T E P #	Perform this Recovery Procedure if upgrading with removable media and a failure occurs in Procedure 6 through Procedure 8, Step 1. Note: This procedure also needs to be executed in order to copy the BLMCAP GPLs from the source after performing procedures 19, 20, 21, or 22 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 CUSTOMER CARE CENTER AND **ASK FOR UPGRADE ASSISTANCE.**
	When directed to by Tekelec Customer Care Center, execute this procedure: If failure occurred between Procedure 6 and Procedure 8, Step 1, Table 18, Item B. Or if after the completion of Procedure 19, 20, 21, and 22 (but not 23).

1 ☐	If a USB drive is present in the system, remove it.	
2 ☐	Insert source release media.	Once inserted, allow time for the source-release RMD to be detected by the system.
3 ☐	Issue the command to retrieve BLMCAP application data.	`rtrv-gpl:gpl=blmcap`

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`
		`BLMCAP 1114 xxx-xxx-xxx xxx-xxx-xxx yyy-yyy-yyy ----------`
		`BLMCAP 1116 xxx-xxx-xxx xxx-xxx-xxx yyy-yyy-yyy xxx-xxx-xxx`
		`;`

5 ☐	Issue the command to change the gpl.	`chg-gpl:gpl=blmcap:ver=xxx-xxx-xxx` *(Where xxx-xxx-xxx is the GPL version recorded in the previous step)*

Procedure 18: 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 BLMCAP upload to 1116 completed BLMCAP upload to 1114 completed System Release ID table upload to 1116 completed System Release ID table upload to 1114 completed ;
7 ☐	Issue the report card status command.	**rept-stat-card:appl=oam**
8 ☐ ☐	Response to the card status command is displayed. Record which MASP is Active and Standby. Record the card locations of the MASPs: Act MASP _____ Stby MASP _____[13]	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y CARD VERSION TYPE GPL PST SST AST 1113 XXX-XXX-XXX E5MCAP OAMHC IS-NR Active ----- 1115 XXX-XXX-XXX E5MCAP OAMHC IS-NR Standby ----- Command Completed. ;
9 ☐	Issue the command to inhibit standby MASP.	**inh-card:loc=*XXXX*** Where *XXXX* is the location for the Standby MASP.
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 inhibited. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;
11 ☐	Unplug and re-insert the standby E5-MASP.	☐ Slide the MASP H/S switch (SW3) on the standby MASP up to the unlocked position (Wait for all drive LEDs to transition to a steady blue). ☐ Unseat the standby E5-MASP card determined in step 8. ☐ Re-seat the standby E5-MASP card. ☐ Slide the MASP H/S switch (SW3) on the standby MASP down to the locked position (Wait for the MASP H/S LED to transition from blinking blue to off and the MASP to come up in standby mode). Note: UAMs are generated during this step. An audible alarm is generated.
12 ☐	Issue the command to allow card.	**alw-card:loc=*XXXX*** Where *XXXX* is the location for the Standby MASP.
13 ☐	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. ;
14 ☐	Issue the report card status command.	**rept-stat-card:appl=oam**

[13] The Standby MASP 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 19.

Procedure 18: Load and Run Source OAM

15 ☐	Response to the card status command is displayed. [14]	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y CARD VERSION TYPE GPL PST SST AST 1113 XXX-XXX-XXX E5MCAP OAMHC IS-NR Active ----- 1115 XXX-XXX-XXX E5MCAP OAMHC IS-NR Standby ----- Command Completed. ;
16 ☐	Repeat step 14 until the standby location is IS-NR in step 15	
17 ☐	Force a switchover by issuing initialize-card command.	**init-card:loc=*YYYY*** **Where *YYYY* is the active MASP location recorded in step 16.**
18 ☐	Issue the command to log in to the system.	**login:uid=*XXXXXX*** (Where *XXXXXX* is a valid login ID)
19 ☐	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
20 ☐	Repeat steps 9 through 16 for the standby – card location YYYY as reported in step 8. Then proceed with step 21.	
21 ☐	Issue the command to initialize both MASP cards.	**init-card:appl=oam**
22 ☐	Response to initialize command is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y * 0261.0013 * CARD 111X OAMHC Card is isolated from the system ASSY SN: xxxxxxxx ;
☐	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 TTTT PPP XX.x.x-YY.y.y 5001.0009 CARD 111X OAMHC MASP became active ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y 5038.0014 CARD XXXX OAMHC Card is present ASSY SN: xxxxxxxx ;
23 ☐	Continue to procedure C if directed by the Tekelec Customer Care Center. Otherwise verify the system with the EAGLE health check [1]. [15]	

[14] The Standby MASP 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 27.

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

6.3 Recovery Procedure B

Procedure 19: Full Fallback using Spare E5-MASP

S T E P #	Perform the recovery procedure if directed to do so by TEKELEC CUSTOMER CARE CENTER when failure occurs in Procedure 8, Step 1, Item C through Procedure 10. This procedure is a full fallback to the source-release on the spare E5-MASP. 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 CUSTOMER CARE CENTER AND **ASK FOR UPGRADE ASSISTANCE.**
	When directed to by Tekelec Customer Care Center, execute this procedure.

1 ☐	If upgrade using the fixed disk method, use Procedure 20.	Only perform this procedure if directed by Tekelec Customer Care Center.	
2 ☐	Issue the report card status command.	`rept-stat-card:appl=oam`	

3 ☐ ☐	Response to the card status command is displayed.
	
	Determine MASP activity. Record which MASP is Active and Standby.
	
	Record the card locations of both sets of MASPs:
	
	Act MASP _____
	
	Stby MASP _____
	
	For this sample output, 1113 is active and 1115 is standby.
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`CARD VERSION TYPE GPL PST SST AST`
		`1113 XXX-XXX-XXX E5MCAP OAMHC IS-NR Active -----`
		`1115 XXX-XXX-XXX E5MCAP OAMHC IS-NR Standby -----`
		`;`	

4 ☐	Remove USB drive from system if present.		
5 ☐	Place spare E5-MASP in system.	☐	Slide the MASP H/S switch (SW3) on the standby MASP up to the unlocked position (Wait for all drive LEDs to transition to a steady blue).
		☐	Remove the standby E5-MASP card determined in step 2.
		☐	Insert the spare E5-MASP card.
		☐	Slide the MASP H/S switch (SW3) on the new standby MASP down to the locked position (Wait for the MASP H/S LED to transition from blinking blue to off and the MASP to come up in standby mode). Note: UAMs are generated during this step. An audible alarm is generated. Wait for the new standby E5-MASP to come up in standby mode and system returns to duplex mode.
6 ☐	Insert the source-release media into the system.	An source-release USB drive in the active E5-MASP. Once inserted, allow time for the source-release RMD to be detected by the system	
7 ☐	After the standby MASP is available, issue the command to initialize the *active* MASP.	`init-card:loc=`***`XXXX`*** (Where ***XXXX*** is the location of the ACTIVE MASP slot)	

Procedure 19: Full Fallback using Spare E5-MASP

8 ☐ 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 OAMHC       Card is isolated from the system
                 ASSY SN: xxxxxxxx
;
    5038.0014    CARD XXXX OAMHC       Card is present
                 ASSY SN: xxxxxxxx
;
```

9 ☐ Issue the command to log in to the system.

login:uid=*XXXXXX*

(Where *XXXXXX* is a valid login ID)

10 ☐ 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
```

11 ☐ Inhibit the standby MASP.

INH-CARD:LOC=*XXXX*

(Where *XXXX* is location of standby MASP)

12 ☐ 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.
;
```

13 ☐ Put the E5-MASP system in simplex mode.

☐ Slide the MASP H/S switch (SW3) on the standby MASP up to the unlocked position (Wait for all drive LEDs to transition to a steady blue).

☐ Init-card:loc=XXXX
(Where XXXX is the location of the ACTIVE MASP slot)

☐ Wait for the active OAM to return to service and enter simplex mode.

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

rtrv-gpl

15 ☐ 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 MASP 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
    SS7ANSI   1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX  XXX-XXX-XXX
    SS7ANSI   1116  -----------  -----------      -----------  -----------
    ATMANSI   1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX  XXX-XXX-XXX
    ATMANSI   1116  -----------  -----------      -----------  -----------
    CCS7ITU   1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX  XXX-XXX-XXX
    CCS7ITU   1116  -----------  -----------      -----------  -----------
    SS7GX25   1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX  XXX-XXX-XXX
    SS7GX25   1116  -----------  -----------      -----------  -----------
    STPLAN    1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX  XXX-XXX-XXX
    STPLAN    1116  -----------  -----------      -----------  -----------
    IMT       1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX  XXX-XXX-XXX
    IMT       1116  -----------  -----------      -----------  -----------
    BPHCAP    1114  XXX-XXX-XXX  XXX-XXX-XXX      XXX-XXX-XXX  XXX-XXX-XXX
    BPHCAP    1116  -----------  -----------      -----------  -----------
;
```

16 ☐ Issue the command to retrieve measurement setup.

rtrv-meas-sched

Procedure 19: Full Fallback using Spare E5-MASP

17 ☐	Response to retrieve command is displayed. Record if collection is on or off: _____ If COLLECT=ON, continue to next step. Otherwise, go to Step 20.	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) ;
18 ☐	Issue the command to turn off measurement collection.[16]	**chg-meas:collect=off**
19 ☐	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 ;
20 ☐	Inhibit the standby MASP.	**inh-card:loc=*XXXX*** (Where *XXXX* is location of standby MASP)
21 ☐	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. ;
22 ☐	Bring the standby E5-MASP system back on the bus.	☐ Slide the E5-MASP H/S switch (SW3) on the standby MASP down to the locked position (Wait for E5MASP H/S LED to transition from blinking blue to a steady blue and the card to return to the IMT bus.)
23 ☐	Issue the command to initialize the flash memory.	**init-flash:code=appr:loc=*XXXX*** Where *XXXX* is the location for the Standby MASP.
24 ☐	Response to the init flash command is displayed. Wait for the downloading to complete.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y FLASH Memory Download for card xxxx started. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y FLASH Memory Download for card xxxx completed. ;
25 ☐	Issue the command to allow card.	**alw-card:loc=*XXXX*** Where *XXXX* is the location for the Standby MASP.
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 allowed. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Command Completed. ;
27 ☐	Issue the report card status command.	**rept-stat-card:appl=oam**

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

Procedure 19: Full Fallback using Spare E5-MASP

28 ☐ ☐	Response from the retrieve command is displayed. Verify that the standby MASP is running the upgrade source release GPL.	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 E5MCAP OAMHC IS-NR Active ----- 1115 XXX-XXX-XXX E5MCAP OAMHC IS-NR Standby ----- Command Completed. ;
29 ☐	Issue the command to activate the flash on the standby MASP.	**act-flash:loc=*XXXX*** (**Where *XXXX* is the location for the Standby MASP .**)
30 ☐	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=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. ;
31 ☐	Issue the command to display security log status.	**rept-stat-seculog**
32 ☐ ☐	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 40	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 ;
33 ☐	Issue the command to copy the security log from the standby disk.	**copy-seculog:slog=stb:dfile=upg.procC**
34 ☐ ☐	Response to the copy security log command is displayed. If this command fails, proceed to next step. Otherwise, go to Step 40.	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 ;
35 ☐	Issue the command to display the FTA directory.	**disp-fta-dir**
36 ☐ ☐	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 Tekelec Customer Care Center 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 ;
37 ☐	Issue the command to delete ALL files in the transfer area.	**dlt-fta:all=yes**
38 ☐	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 #nn. ;
39 ☐	Repeat Steps 31-34	

Procedure 19: Full Fallback using Spare E5-MASP

40 ☐ 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)

41 ☐ Response to the copy-disk command is displayed.

```
    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 OAMHC       Card is present
;
```

☐ Wait for the card reload to complete.

If this is the second time performing this step, go to Step 49. Otherwise continue.

42 ☐ Issue the command to display card status.

```
rept-stat-card
```

43 ☐ Response to the card status command is displayed.

```
    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   DSM     SCCPHC     IS-NR          Active      -----
    1102   XXX-XXX-XXX   DSM     SCCPHC     IS-NR          Active      -----
    1103   XXX-XXX-XXX   TSM     GLSHC      IS-NR          Active      -----
    1104   XXX-XXX-XXX   TSM     GLSHC      IS-NR          Active      -----
    1105   XXX-XXX-XXX   LIMDS0  SS7ML      IS-NR          Active      -----
    1111   XXX-XXX-XXX   IPSM    IPSHC      IS-NR          Active      -----
    1113   XXX-XXX-XXX   E5MCAP  OAMHC      IS-NR          Active      -----
    1114   -----------   E5TDM   -------    IS-NR          Active      -----
    1115   XXX-XXX-XXX   E5MCAP  OAMHC      IS-NR          Standby     -----
    1116   -----------   E5TDM   -------    IS-NR          Active      -----
    1117   -----------   E5MDAL  -------    IS-NR          Active      -----
    1201   XXX-XXX-XXX   LIMDS0  SS7ML      IS-NR          Active      -----
    1202   XXX-XXX-XXX   LIMDS0  SS7ML      IS-NR          Active      -----
    1203   XXX-XXX-XXX   DCM     IPLHC      IS-NR          Active      -----
    1204   XXX-XXX-XXX   DCM     IPLHC      IS-NR          Active      -----
    1211   XXX-XXX-XXX   DCM     IPGHC      IS-NR          Active      -----
    1218   XXX-XXX-XXX   TSM     GLSHC      IS-NR          Active      -----
    Command Completed.
;
```

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

☐ Record the location of the Standby MASP:

MASP _____

44 ☐ Inhibit the standby MASP.

```
inh-card:loc=XXXX
```

(Where *XXXX* is location of standby MASP)

45 ☐ 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.
;
```

46 ☐ Replace the standby E5-MASP with the E5-MASP removed in step 5.

☐ Slide the MASP H/S switch (SW3) on the standby MASP up to the unlocked position (Wait for all drive LEDs to transition to a steady blue).

☐ Remove the standby E5-MASP card.

☐ Insert the spare E5-MASP card.

☐ Slide the MASP H/S switch (SW3) on the new standby MASP down to the locked position (Wait for the MASP H/S LED to transition from blinking blue to off and the MASP to come up in standby mode).

Note: UAMs are generated during this step. An audible alarm is generated.
Wait for the new standby E5-MASP to come up in standby mode and system returns to duplex mode.

Procedure 19: Full Fallback using Spare E5-MASP

47 ☐	Insert the source-release media into the system.	Insert an USB drive in the standby E5-MCAPs. Once inserted, allow time for the source-release RMD to be detected by the system
48 ☐	Repeat steps 23 - 41.	After completing Step 41 the second time, continue to Step 49.
49 ☐	If steps 18 & 19 were executed, issue the command to turn the measurements collection on.	`chg-meas:collect=on`

50 ☐	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`
		`;`

51 ☐	Execute Procedure 18.	
52 ☐	If this completes the recovery as directed by the Tekelec Customer Care Center, 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 20: 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 CUSTOMER CARE CENTER when failure occurs in Procedure 6 through Procedure 8, Step 1. Note, this procedure is done in lieu of Procedure 18 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 CUSTOMER CARE CENTER AND **ASK FOR UPGRADE ASSISTANCE.**
	When directed to by Tekelec Customer Care Center, execute this procedure: If failure occurred between Procedure 6 and Procedure 8, Step 1, Table 18, Item E.

1 ☐	Only perform this procedure if directed by Tekelec Customer Care Center.	
2 ☐	If present, remove the target-release media from the system.	
3 ☐	Issue the command to initialize both MASP 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`
		`* 0261.0013 * CARD 111X EOAM Card is isolated from the system`
		`ASSY SN: xxxxxxxx`
		`;`

☐	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 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 18.	`Proceed to Recovery Procedure A to complete the recovery.`

Procedure 21: 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 CUSTOMER CARE CENTER when failure occurs in Procedure 8, 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 CUSTOMER CARE CENTER AND **ASK FOR UPGRADE ASSISTANCE.**
	When directed to by Tekelec Customer Care Center, execute this procedure: If failure occurred between Procedure 8, Step 1, Table 18, Item F and Procedure 8, Step 1, Table 18, Item I.

1 ☐	Remove USB drive from system if present.	
2 ☐	Issue the command to display database status during upgrades.	`act-upgrade:action=dbstatus`

3 ☐	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: >> NOT OK (DMS) <<`
		`TDM 1114 ( STDBY) TDM 1116 ( ACTV )`
		`C LEVEL TIME LAST BACKUP C LEVEL TIME LAST BACKUP`
		`- -------- ---------- - -------- ----------`
		`FD BKUP Y nnnnnn - - Y nnnnnn YY-MM-DD hh:mm:ss zzz`
		`FD CRNT Y nnnnnn Y nnnnnn`
		`MCAP 1113 MCAP 1115`
		`- -------- - --------`
		`RD BKUP - - - - - - - -`
		`USB BKP - - - - - - - -`
		
		`CARD/APPL LOC C T LEVEL TIME LAST UPDATE VERSION STATUS`
		`OAM-RMV 1113 - - - - - -`
		`TDM-CRNT 1114 Y N nnnnnn YY-MM-DD hh:mm:ss ZZZ-ZZZ-ZZZ UPG 2`
		`TDM-BKUP 1114 Y - nnnnnn YY-MM-DD hh:mm:ss ZZZ-ZZZ-ZZZ UPG 2`
		`OAM-RMV 1115 - - - - - -`
		`OAM-USB 1115 - - - - - -`
		`TDM-CRNT 1116 Y N nnnnnn YY-MM-DD hh:mm:ss XXX-XXX-XXX NORMAL`
		`TDM-BKUP 1116 Y - nnnnnn 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 - nnnnnn YY-MM-DD hh:mm:ss XXX-XXX-XXX NORMAL`
		`TDM-BKUP 1114 Y - nnnnnn YY-MM-DD hh:mm:ss XXX-XXX-XXX NORMAL`
		`TDM-CRNT 1116 N - 1 00-00-00 00:00:00 ZZZ-ZZZ-ZZZ NORMAL`
		`TDM-BKUP 1116 N - 1 00-00-00 00:00:00 ZZZ-ZZZ-ZZZ NORMAL`

4 ☐	If the TDM marked in "UPG 2" is the active MASP continue. Otherwise go to step 9.	
5 ☐	Issue the command to init active location.	`init-card:loc=`*`YYYY`* (Where *YYYY* is location of active MASP)

6 ☐	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 OAMHC 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 OAMHC Card is present`
		`ASSY SN: xxxxxxxx`
		`;`

Procedure 21: Full Fallback using Fixed Disk as OAM conversion workspace – Case 2

7 ☐	Issue the command to log back in to the system.	**login:uid=*XXXXXX*** (Where *XXXXXX* is a valid login ID)
8 ☐	Response to login command is displayed. Ignore any login failure message.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y User logged in on terminal 10. ; ? Login failures since last successful LOGIN Last successful LOGIN was on port ? on ??-??-?? @ ??:??:??
9 ☐	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 MASP)
10 ☐	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 ;
11 ☐	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 MASP)
12 ☐ ☐	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 10**. For the STANDBY OAM, the values for the active_partitions shown should equal those for the inactive_partitions shown in **step 10**, 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 ;
13 ☐	Inhibit the standby MASP.	**inh-card:loc=*XXXX*** (Where *XXXX* is the location for the Standby MASP.)

Procedure 21: Full Fallback using Fixed Disk as OAM conversion workspace – Case 2

14 ☐ ☐	Response to the inhibit command is displayed Verify UAM 514 is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Card is inhibited. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase x ** 5045.0514 ** CARD XXXX OAMHC Standby MASP is inhibited ; **Note**: Wait for the card to boot and return to the IMT bus.
15 ☐	Issue the command to initialize the flash memory on the standby MASP.[17]	`init-flash:code=appr:loc=`***XXXX*** (**Where *XXXX* is the location for the Standby MASP**.)
16 ☐ ☐	Response to flash initialization is shown. Verify UAM 0004 is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y FLASH Memory Download for card xxxx started. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y FLASH Memory Download for card xxxx completed. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y * 8003.0004 * GPL SYSTEM BLMCAP Card is running non-activated GPL ; **Note:** Wait for card to boot and return to the IMT bus.
17 ☐	Issue the command to allow card.	`alw-card:loc=`***XXXX*** (**Where *XXXX* is the location for the Standby MASP**.)
18 ☐	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. ;
19 ☐	Determine the status of the GPLs running on the card location.	`rept-stat-gpl:loc=`***XXXX*** (**Where *XXXX* is the location for the Standby MASP**.)
20 ☐ ☐	Response from the status command is displayed. Verify the standby MASP is running the upgrade source release GPLs. Verify that no "ALM" indicator is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y GPL Auditing ON GPL CARD RUNNING APPROVED TRIAL OAMHC 1115 134-074-000 ----------- ----------- BLMCAP 134-070-000 + 134-070-000 134-070-000 Command Completed. ;
21 ☐	Issue the command to activate the flash on the standby MASP.	`act-flash:loc=`***XXXX*** (**Where *XXXX* is the location for the Standby MASP .**)
22 ☐	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=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. ;

[17] The approved flash GPL is the source version.

Procedure 21: Full Fallback using Fixed Disk as OAM conversion workspace – Case 2

23 ☐	If the active MASP is not running the upgrade source release GPL continue. Otherwise go to step 37.	`init-card:loc=XXXX` (Where *XXXX* is location of active MASP)

24 ☐	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`
		`;`

25 ☐	Issue the command to log back in to the system.	`login:uid=XXXXXX` (Where ***XXXXXX*** is a valid login ID)

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

27 ☐	Inhibit the standby MASP.	`inh-card:loc=XXXX` (Where *XXXX* is the location for the Standby MASP.)

28 ☐ ☐	Response to the inhibit command is displayed
	
	Verify UAM 514 is displayed.
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`Card is inhibited.`
		`;`
		
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase x`
		`** 5045.0514 ** CARD XXXX OAMHC Standby MASP is inhibited`
		`;`
		
		Note: Wait for the card to boot and return to the IMT bus.

29 ☐	Issue the command to initialize the flash memory on the standby MASP.	`init-flash:code=appr:loc=XXXX` (**Where *XXXX* is the location for the Standby MASP**.)

30 ☐ ☐	Response to flash initialization is shown.
	
	Verify UAM 0004 is displayed.
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`FLASH Memory Download for card xxxx started.`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`FLASH Memory Download for card xxxx completed.`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`* 8003.0004 * GPL SYSTEM BLMCAP Card is running non-activated GPL`
		`;`
		
		Note: Wait for card to boot and return to the IMT bus.

31 ☐	Issue the command to allow card.	`alw-card:loc=XXXX` (**Where *XXXX* is the location for the Standby MASP.**)

32 ☐	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.`
		`;`

33 ☐	Determine the status of the GPLs running on the card location.	`rept-stat-gpl:loc=XXXX` (**Where *XXXX* is the location for the Standby MASP**.)

Procedure 21: Full Fallback using Fixed Disk as OAM conversion workspace – Case 2

34 ☐ ☐	Response from the status command is displayed. Verify that the standby MASP is running the upgrade source release GPLs. Verify that no "ALM" indicator is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y GPL Auditing ON GPL CARD RUNNING APPROVED TRIAL OAMHC 1115 134-074-000 ----------- ----------- BLMCAP 134-070-000 + 134-070-000 134-070-000 Command Completed. ;
35 ☐	Issue the command to activate the flash on the standby MASP.	**act-flash:loc=*XXXX*** (Where *XXXX* is the location for the Standby MASP.)
36 ☐	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=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. ;
37 ☐	Execute Procedure 18.	**Proceed to Recovery Procedure A to complete the recovery.**

Procedure 22: Full Fallback using Fixed Disk as OAM conversion workspace – Case 3

S T E P #	Perform this recovery procedure if directed to do so by TEKELEC CUSTOMER CARE CENTER when failure occurs at Procedure 8, Step 1 or completion of the session. This procedure makes the partition with the source GPLs active on both TDMs. NOTE: If the database level in the target release is different from the last database level of the source release, this procedure CANNOT BE USED; contact TEKELEC CUSTOMER CARE CENTER. 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 CUSTOMER CARE CENTER AND **ASK FOR UPGRADE ASSISTANCE.**
	When directed to by Tekelec Customer Care Center, execute this procedure: If failure occurred between Procedure 8, Step 1, Table 18, Item J and Procedure 10 [End of Session 1].

1 ☐	***** ATTENTION ***** **If this is an incremental upgrade (i.e. the SOURCE release equals the TARGET release, go to Procedure 4, Step 1**. ************************	Complete all steps from Procedure 4 to the end of Session 1 (Procedure 10). Note: When executing Procedure 4 through Procedure 10 in the recovery scenario, the terminology of source and target are reversed. Target release becomes the software load that is being recovered to (45.0.0) and the source release becomes the software load that was upgraded to (45.0.1).
2 ☐	Remove USB drive from system if present.	
3 ☐	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 MASP)**
4 ☐	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 ;
5 ☐	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 MASP)**

Procedure 22: Full Fallback using Fixed Disk as OAM conversion workspace – Case 3

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) Compare the values for the active_partitions and inactive_partitions with those in **step 4**. For the STANDBY OAM, the values for the active_partitions shown should equal those for the inactive_partitions shown in **step 4**, 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 XXXX. ; 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[] = 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 ;
7 ☐	Inhibit the standby MASP.	**inh-card:loc=*XXXX*** **(Where *XXXX* is the location for the Standby MASP.)**
8 ☐ ☐	Response to the inhibit command is displayed Verify UAM 514 is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Card is inhibited. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase x ** 5045.0514 ** CARD XXXX OAMHC Standby MASP is inhibited ; **Note**: Wait for the card to boot and return to the IMT bus.
9 ☐	Issue the command to initialize the flash memory on the standby MASP.	**init-flash:code=trial:loc=*XXXX*** (Where *XXXX* is the location for the Standby MASP.)
10 ☐ ☐	Response to flash initialization is shown. Verify UAM 0004 is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y FLASH Memory Download for card xxxx started. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y FLASH Memory Download for card xxxx completed. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y * 8003.0004 * GPL SYSTEM BLMCAP Card is running non-activated GPL ; **Note:** Wait for card to boot and return to the IMT bus.
11 ☐	Issue the command to allow card.	**alw-card:loc=*XXXX*** (Where *XXXX* is the location for the Standby MASP.)
12 ☐	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. ;
13 ☐	Determine the status of the GPLs running on the card location.	**rept-stat-gpl:loc=*XXXX*** **(Where *XXXX* is the location for the Standby MASP.)**

Procedure 22: Full Fallback using Fixed Disk as OAM conversion workspace – Case 3

14 ☐ ☐	Response from the status command is displayed. Verify that the standby MASP is running the upgrade source release GPLs. Verify that no "ALM" indicator is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y GPL Auditing ON GPL CARD RUNNING APPROVED TRIAL OAMHC 1115 134-074-000 ---------- ---------- BLMCAP 134-070-000 + 134-070-000 134-070-000 Command Completed. ;
15 ☐	Issue the command to activate the flash on the standby MASP.	**act-flash:loc=*XXXX*** (Where *XXXX* is the location for the Standby MASP.)
16 ☐	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=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. ;
17 ☐	Issue the command to init active location.	**init-card:loc=*YYYY*** (Where *YYYY* is location of active MASP)
18 ☐	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 OAMHC 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 OAMHC Card is present ASSY SN: xxxxxxxx ;
19 ☐	Issue the command to log back in to the system.	**login:uid=*XXXXXX*** (Where *XXXXXX* is a valid login ID)
20 ☐	Response to login command is displayed. Ignore any login failure message.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y User logged in on terminal nn. ; ? Login failures since last successful LOGIN Last successful LOGIN was on port ? on ??-??-?? @ ??:??:??
21 ☐	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 newly active MASP)**
22 ☐	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 ;

Procedure 22: Full Fallback using Fixed Disk as OAM conversion workspace – Case 3

23 ☐	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 MASP)
24 ☐	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. ;
☐	Compare the values for the active_partitions and inactive_partitions with those in **step 22**. For the STANDBY OAM, the values for the active_partitions shown should equal those for the inactive_partitions shown in **step 22**, 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 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 ;
25 ☐	Inhibit the standby MASP.	**inh-card:loc=*YYYY*** (**Where *YYYY* is the location for the Standby MASP**.)
26 ☐	Response to the inhibit command is displayed	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Card is inhibited. ;
☐	Verify UAM 514 is displayed.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y Upg Phase x ** 5045.0514 ** CARD XXXX OAMHC Standby MASP is inhibited ; **Note**: Wait for the card to boot and return to the IMT bus.
27 ☐	Issue the command to initialize the flash memory on the standby MASP.	**init-flash:code=appr:loc=*YYYY*** (Where *YYYY* is the location for the Standby MASP.)
28 ☐	Response to flash initialization is shown.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y FLASH Memory Download for card xxxx started. ;
☐	Verify UAM 0004 is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y FLASH Memory Download for card xxxx completed. ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y * 8003.0004 * GPL SYSTEM BLMCAP Card is running non-activated GPL ; **Note:** Wait for card to boot and return to the IMT bus.
29 ☐	Issue the command to allow card.	**alw-card:loc=*YYYY*** **(Where *YYYY* is the location for the Standby MASP.)**
30 ☐	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. ;

Procedure 22: Full Fallback using Fixed Disk as OAM conversion workspace – Case 3

31 ☐	Determine the status of the GPLs running on the card location.	`rept-stat-gpl:loc=`***XXXX*** (**Where *XXXX* is the location for the Standby MASP**.)

32 ☐ ☐	Response from the retrieve command is displayed.
	
	Verify that the both MASP are running the upgrade source release GPLs. Verify that no "ALM" indicator is displayed.
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y`
		`GPL Auditing ON`
		
		`GPL CARD RUNNING APPROVED TRIAL`
		`OAMHC 1115 134-074-000 ---------- ----------`
		`BLMCAP 134-070-000 + 134-070-000 134-070-000`
		
		`Command Completed.`
		`;`

33 ☐	Issue the command to activate the flash on the standby MASP.	`act-flash:loc=`***YYYY*** (Where *YYYY* is the location for the Standby MASP.)

34 ☐	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 XXXX Started.`
		`;`
		`tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y`
		`FLASH Activation for card XXXX Completed.`
		`;`

35 ☐	Execute Procedure 18.	`Proceed to Recovery Procedure A to complete the recovery.`

6.4 Recovery Procedure C

Procedure 23: 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 GPL PST SST AST 1101 XXX-XXX-XXX DSM SCCPHC IS-NR Active ----- 1102 XXX-XXX-XXX DCM IPLHC IS-NR Active ----- 1103 XXX-XXX-XXX TSM GLSHC IS-NR Fault ----- 1105 XXX-XXX-XXX DCM IPGHC IS-NR Active ----- 1109 XXX-XXX-XXX HIPR HIPR IS-NR Active ----- 1110 XXX-XXX-XXX HIPR HIPR IS-NR Active ----- 1111 XXX-XXX-XXX MCPM MCPHC IS-ANR Active ----- 1113 XXX-XXX-XXX E5MCAP OAMHC IS-NR Active ----- 1114 ---------- E5TDM ------- IS-NR Active ----- 1115 XXX-XXX-XXX E5MCAP OAMHC IS-NR Standby ----- 1116 ---------- E5TDM ------- IS-NR Active ----- 1117 ---------- E5MDAL ------- IS-NR Active ----- 1201 XXX-XXX-XXX LIMT1 SS7HC IS-NR Active ----- 1202 XXX-XXX-XXX LIMT1 SS7HC IS-NR Active ----- 1209 XXX-XXX-XXX HIPR2 HIPR2 IS-NR Active ----- 1210 XXX-XXX-XXX HIPR2 HIPR2 IS-NR Active ----- 1211 XXX-XXX-XXX DCM IPGHC IS-NR Active ----- 1217 XXX-XXX-XXX TSM GLSHC IS-NR Active ----- 1218 XXX-XXX-XXX IPSM IPSHC IS-NR Active ----- Command Completed. ;
3 ☐	Issue the card status command.	**rept-stat-card:appl=mcp**
4 ☐	Response to the card status command is displayed. If any MCPM cards are displayed, continue to next step. Otherwise, go to Step 7.	tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y CARD VERSION TYPE GPL PST SST AST 1111 134-064-000 MCPM MCPHC IS-NR Active ----- 1112 134-064-000 MCPM MCPHC IS-NR Active ----- Command Completed. ;
5 ☐	Issue the send message command. Repeat for each MCPM card.	**NOTE: This command causes the MCPM 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.** **send-msg:ds=8:da=h'17:f=22:loc=*XXXX*** **(Where *XXXX* is location of the MCPM cards display in previous step.)**
6 ☐	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 23: Fall Back Procedure for Network Cards

7 ☐	Issue the upgrade activation command.	**ACT-UPGRADE:ACTION=CONVERTSTP:SRC=FIXED:THRES=*75*** (target release is contained on the inactive partition) (If another thres value is to be used see recommendation #5 in section 1.6)
8 ☐ ☐	Response to the upgrade command is displayed. Completion notice of successful upgrade. If upgrade does not complete successfully, see recommendation # 7 in section 1.6	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 ;
9 ☐	Go to Procedure 8, Step 7.	Complete all steps from Procedure 8, Step 7 to the end of Procedure 9.

Procedure 24: Restoring Flash-Based Service Cards

S T E P #	This procedure restores Service Cards that are flash based. This group includes IPS, MCP, EROUTE, VSCCP, SCCPHC, IPSHC ERTHC, and SIPHC cards. 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 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.	**flash-card:code=appr:force=yes:loc=*XXXX*** NOTE: this command causes the card to boot.
6 ☐ ☐	Response to the flash card 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 the command to allow the card[18] if the card is provisioned.	**alw-card:loc=*XXXX*** (Where ***XXXX*** is the card location of the cards determined in Step2) OR **alw-card:loc=*XXXX*:data=persist** (Where *XXXX* is the location of an SCCP card determined in Step2)
8 ☐	Response to the allow command is displayed.[19] 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. ;

[18] Specifying the DATA=PERSIST parameter for SCCP application cards allows for warm restart if possible.

Procedure 24: Restoring Flash-Based Service Cards

9 ☐	Repeat Steps 3 – 8 for each card in the current group that has an alarm.	
10 ☐	Repeat steps 1-9 for each group of cards (VSCCP, ISP, MCP, EROUTE, SCCPHC, IPSHC, ERTHC, and SIPHC)	
11 ☐	Issue the command to display the card status.	`rept-stat-card`

12 ☐ ☐ ☐	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 3-4.
		`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 GPL PST SST AST`
		`1101 XXX-XXX-XXX DSM VSCCP IS-NR Active -----`
		`1102 XXX-XXX-XXX DSM VSCCP IS-NR Active -----`
		`1103 XXX-XXX-XXX TSM GLSHC IS-NR Active -----`
		`1104 XXX-XXX-XXX TSM GLSHC IS-NR Active -----`
		`1105 XXX-XXX-XXX LIMDS0 SS7ML IS-NR Active -----`
		`1109 XXX-XXX-XXX HIPR HIPR IS-NR Active -----`
		`1110 XXX-XXX-XXX HIPR HIPR IS-NR Active -----`
		`1111 XXX-XXX-XXX LIMT1 SS7HC IS-NR Active -----`
		`1113 XXX-XXX-XXX E5MCAP OAMHC IS-NR Active -----`
		`1114 ---------- E5TDM ------- IS-NR Active -----`
		`1115 XXX-XXX-XXX E5MCAP OAMHC IS-NR Standby -----`
		`1116 ---------- E5TDM ------- IS-NR Active -----`
		`1117 ---------- E5MDAL ------- IS-NR Active -----`
		`1201 XXX-XXX-XXX LIMDS0 SS7ML IS-NR Active -----`
		`1202 XXX-XXX-XXX LIMDS0 SS7ML IS-NR Active -----`
		`1203 XXX-XXX-XXX LIMDS0 SS7ML IS-NR Active -----`
		`1204 XXX-XXX-XXX LIMDS0 SS7ML IS-NR Active -----`
		`Command Completed.`
		`;`

[19] If card is MCPM, it may boot with an Obit for Module EMM_MCP.C Class 0001. This is expected behavior and is not service affecting.

Procedure 25: Restoring Flash-Based Link Cards

S T E P #	Link cards include ATMANSI, IPLIM, IPLIMI, SS7IPGW, SS7ML (MPL/MIM/MPLT), IPGWI, ATMITU, VXWSLAN, SS7HC, SS7EPM, IPLHC, IPGHC, ATMHC and SLANHC cards. This procedure updates each card with the source release GPLs. **Note: Steps 3 through 8 are to be repeated for EACH Link card in the system.**	
1 ☐	Issue the command to display the GPL status.	rept-stat-gpl:gpl=*YYYY* (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 initialize the flash memory.	flash-card:code=appr:force=yes:loc=*XXXX* NOTE: this command causes the card to boot.

Procedure 25: Restoring Flash-Based Link Cards

6 ☐

Response to the flash card command is displayed.

```
    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.
;
```

☐

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
    Command Completed.
;
```

7 ☐

Issue command to display provisioned links.

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

8 ☐

Response displayed.

```
    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.
;
```

☐

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
    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.
;
```

9 ☐

Repeat Steps 3 - 8 for each card in the group from Step 2 that has an alarm.

10 ☐

Repeat Steps 1-9 for each Flash-Based Link card group (Refer to 1.3 Software Release Numbering to see list of GPLs.)

11 ☐

Issue the command to display the GPL status.

```
rept-stat-card
```

12 ☐

Response to the command is displayed.

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

☐

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 3-8.

```
    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  DSM     SCCPHC     IS-NR        Active     -----
    1102   XXX-XXX-XXX  DSM     SCCPHC     IS-NR        Active     -----
    1103   XXX-XXX-XXX  TSM     GLSHC      IS-NR        Active     -----
    1104   XXX-XXX-XXX  TSM     GLSHC      IS-NR        Active     -----
    1105   XXX-XXX-XXX  DCM     IPGHC      IS-NR        Active     -----
    1111   XXX-XXX-XXX  IPSM    IPSHC      IS-NR        Active     -----
    1113   XXX-XXX-XXX  E5MCAP  OAMHC      IS-NR        Active     -----
    1114   -----------  E5TDM   -------     IS-NR        Active     -----
    1115   XXX-XXX-XXX  E5MCAP  OAMHC      IS-NR        Standby    -----
    1116   -----------  E5TDM   -------     IS-NR        Active     -----
    1117   -----------  E5MDAL  -------     IS-NR        Active     -----
    1201   XXX-XXX-XXX  LIMDS0  SS7ML       IS-NR        Active     -----
    1202   XXX-XXX-XXX  LIMDS0  SS7ML       IS-NR        Active     -----
    1203   XXX-XXX-XXX  LIMATM  ATMANSI     IS-NR        Active     -----
    1204   XXX-XXX-XXX  IPSM    IPSHC       IS-NR        Active     -----
    Command Completed.
;
```

Procedure 26: Restoring Mux Cards

S T E P #		
	This procedure updates each card with the source release GPLs. Mux cards include HMUX, HIPR, and HIPR2 cards, which run BPHMUX, HIPR, and HIPR2 GPLs respectively.	
1 ☐	Issue the card status command to identify the MUX cards in the system.	**rept-stat-gpl:gpl=*YYYY*** (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 XXZZ Started. ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y FLASH Memory Download for card XXZZ Completed. ;
5 ☐	Repeat steps 1-4 for each Mux card type on the current bus.	**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*[20]** (Where *x* = A or B, depending on current bus: xx09 is bus A; xx10 is bus B.)
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 XXZZ YYYY Card is present ; tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y 5081.0014 CARD XXZZ 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

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

Procedure 26: Restoring Mux Cards

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=XXZZ
    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 XXZZ Started.
;
    tekelecstp YY-MM-DD hh:mm:ss EST PPP XX.x.x-YY.y.y
    FLASH Activation for card XXZZ 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:gpl=YYYY` (Where ***YYYY*** is bphmux for HMUX cards, hipr for HIPR cards, or hipr2 for HIPR2 cards.)
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.
;
```

14 ☐	Repeat steps 12-13 for all MUX card types.	

Appendix A. Upgrading flash-based GPL on non-in-service and unprovisioned network cards.

Procedure 27: Flashing Inactive Cards

S T E P #	This procedure determines any BPHCAP, BPHCAPT, BPDCM, BPMPL, BPMPLT, BLIXP, or BLMCAP cards that are inhibited, and updates each card with its target release GPLs. (See section 1.3 for complete list of flash GPLs.)	
1 ☐	Issue the command to display the GPL status.	**rept-stat-gpl:gpl=*XXXX*** (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[21], 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. ;

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

Procedure 27: 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 (see section 1.3.)	

Appendix B. Target Release Software Download

The following procedure is a reference for the commands that will download an Eagle software release to the inactive partition group of the TDM from either a remote FTP server or from the thumb drive containing the upgrade target release for the E5-MASP. This procedure assumes that Tekelec has completed the rollout of the Server Software Delivery (SSD) solution for the Eagle product.

The following items are required before the release can be downloaded to the Eagle from a FTP server:

- E5-IPSM card defined, configured, and IS-NR
- DIST application FTP server provisioned
- DIST application FTP server downloaded with target release software

Procedure 28: Download Target Release to Inactive Partition

S T E P #	This procedure downloads the target release to inactive partition of the 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 CUSTOMER CARE CENTER AND **ASK FOR UPGRADE ASSISTANCE.**	
1 ☐	If system is running the E5-OAM platform, remove the thumb drives from the E5-MASPs.	
2 ☐	If downloading the upgrade target release from an FTP server, continue, otherwise go to step 5.	
3 ☐	Issue the command to display the status of the IPSM cards.	`rept-stat-card:appl=ips`

4 ☐
 	
☐
	Response from the command is displayed.
	
	Verify there is an IPSM card running the IPSHC gpl and that the card is IS-NR. If no such card present in the system this procedure cannot be executed.
		`tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y`
		`CARD  VERSION  TYPE  GPL  PST  SST  AST`
		`1101  XXX-XXX-XXX  IPSM  IPSHC  IS-NR  Active  -----`
		`;`

5 ☐	Issue the command to display database status of both TDM partitions.	`act-upgrade:action=dbstatus`

Procedure 28: Download Target Release to Inactive Partition

6 ☐

Response to the command is displayed.

Record the card locations of the MASPs:

Act MASP _____

Stby MASP ____

Verify if either of the inactive partitions has not been formatted. Mark below. Example shows that inactive partition of 1116 not formatted.

If a database LEVEL, VERSION or STATUS is displayed the inactive partition has been formatted.

Disk formatted.

1114 _____

1116 _____

```
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 YY-MM-DD hh:mm:ss TTTT Y      XXX YY-MM-DD hh:mm:ss TTTT
FD CRNT Y      XXX YY-MM-DD hh:mm:ss TTTT Y      XXX YY-MM-DD hh:mm:ss TTTT
        MCAP 1113                        MCAP 1115
        - --------                       - --------
RD BKUP -    -         -        -        -    -         -        -
USB BKP -    -         -        -        -    -         -        -

CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   VERSION      STATUS
---------  ----  -  -  ----------  -----------------  -------------------
OAM-RMV    1113  -  -      -          -        -         -
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
OAM-RMV    1115  -  -      -          -        -         -
OAM-USB    1115  -  -      -          -        -         -
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

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  -  -      -          -        -         -
TDM-BKUP   1116  -  -      -          -        -         -

;
```

7 ☐

If either of the inactive partitions has not been formatted continue, otherwise go to Step 31.

8 ☐

Issue the command to retrieve measurement setup.

```
rtrv-meas-sched
```

9 ☐

Response to retrieve command is displayed.

Record if collection is on or off:

_____

If COLLECT=ON, continue to next step. Otherwise, go to Step 12.

```
    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)
;
```

10 ☐

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

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

11 ☐

Response to the change command is displayed.

```
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
    CHG-MEAS: MASP A - COMPLTD
;
```

12 ☐

If the inactive partition of the standby MASP has not been formatted continue, otherwise go to Step 26.

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

Procedure 28: Download Target Release to Inactive Partition

13 ☐	Issue the command to display security log status.	**rept-stat-seculog**
14 ☐ ☐	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 21	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 -- LOC ROLE ENTRIES %FULL OFLO FAIL OLDEST RECORD NEWEST RECORD LAST UPLOAD 1114 Active 19 1 No No 99-01-01 13:43:37 99-01-01 14:08:12 00-00-00 1116 Standby 0 0 No No 99-01-01 13:39:39 99-01-01 13:43:10 99-01-01 14:07:59 ;
15 ☐	Issue the command to copy the security log from the standby disk.	**copy-seculog:slog=stb:dfile=upg.appB**
16 ☐ ☐	Response to the copy security log command is displayed. If this command fails, proceed to next step. Otherwise, go to Step 21.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Security log on TDM 111X copied to file upg.appB 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 ;
17 ☐	Issue the command to display the FTA directory.	**disp-fta-dir**
18 ☐ ☐	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 Tekelec Customer Care Center 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 ;
19 ☐	Issue the command to delete ALL files in the transfer area.	**dlt-fta:all=yes**
20 ☐	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. ;
21 ☐	Issue the command to format the inactive partition of the standby MASP.	**format-disk:prtngrp=inactive:type=fixed:force=yes:low=no**
22 ☐	Response from the format disk command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Format-disk of system fixed disk started. Extended processing required, please wait. tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Format-disk of system fixed disk complete. ;
23 ☐	Issue the command to display database status of both TDM partitions.	**act-upgrade:action=dbstatus**

Procedure 28: Download Target Release to Inactive Partition

24 ☐

Response to the command is displayed.

Verify the inactive partition of the standby has been formatted. And the active partition is valid.

If a database LEVEL, VERSION or STATUS is displayed the inactive partition has been formatted.

If the database LEVEL of the active partition of the active and standby are not the same stop the procedure and contact Tekelec Customer Care Center.

```
    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 YY-MM-DD hh:mm:ss TTTT Y       XXX YY-MM-DD hh:mm:ss TTTT
    FD CRNT Y       XXX YY-MM-DD hh:mm:ss TTTT Y       XXX YY-MM-DD hh:mm:ss TTTT
            MCAP 1113                         MCAP 1115
            - --------                        - --------
    RD BKUP -     -         -         -       -     -         -         -
    USB BKP -     -         -         -       -     -         -         -

    CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   VERSION       STATUS
    ---------  ----  -  -  ----------  -----------------  ------------------
    OAM-RMV    1113  -  -      -         -         -         -
    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
    OAM-RMV    1115  -  -      -         -         -         -
    OAM-USB    1115  -  -      -         -         -         -
    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

    INACTIVE PARTITION GROUP
    CARD/APPL  LOC   C  T  LEVEL       TIME LAST UPDATE   VERSION       STATUS
    ---------  ----  -  -  ----------  -----------------  ------------------
    TDM-CRNT   1114  N  -  1           YY-MM-DD hh:mm:ss  ZZZ-ZZZ-ZZZ   NORMAL
    TDM-BKUP   1114  N  -  1           YY-MM-DD hh:mm:ss  ZZZ-ZZZ-ZZZ   NORMAL
    TDM-CRNT   1116  -  -   -             -         -         -
    TDM-BKUP   1116  -  -   -             -         -         -

;
```

25 ☐

If the inactive partition of the active MASP has not been formatted continue, otherwise go to Step 31.

26 ☐

Issue the command to boot the Active MASP recorded in Step 6.

`init-card:loc=`***`XXXX`***

(Where the XXXX is the location of the active MASP record in a previous)

27 ☐

Response to init card command is displayed.

```
    tekelecstp YY-MM-DD hh:mm:ss TTTT 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
;
```

28 ☐

Issue the command to log back in to the system.

`login:uid=`***`XXXXXX`***

(Where ***XXXXXX*** is a valid login ID)

29 ☐

Response to login command is displayed.

Ignore any login failure message.

```
    tekelecstp YY-MM-DD hh:mm:ss TTTT PPP  XX.x.x-YY.y.y
        User logged in on terminal 10.
;

? Login failures since last successful LOGIN
Last successful LOGIN was on port ? on ??-??-?? @ ??:??:??
```

30 ☐

Repeat step 13 – 25.

31 ☐

If downloading the upgrade target release from an FTP server, continue,

Otherwise, insert upgrade media into drive slot and go to step 34.

Once inserted, allow time for the upgrade media to be detected by the system.

For E5-MASP systems, the USB drive is inserted in the flush mounted USB port on the active E5-MASP.

Procedure 28: Download Target Release to Inactive Partition

32 ☐	Issue command to retrieve the FTP servers provisioned on the system.	**rtrv-ftp-serv**
33 ☐	Response to the command is displayed. Verify that a software distribution, DIST, application server has been provisioned. If the DIST has not been provisioned, contact Tekelec Customer Care Center for assistance.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y APP IPADDR LOGIN PRIO PATH -------- --------------- ---------- ---- ---- DIST XXX.XX.X.XX aaaaaa Z aaaaaaaaaaaaaaaaaaa No entries found ; ;
34 ☐	Issue command to retrieve the EAGLE target release software.	**act-upgrade:action=getrel:release="*xxx-xxxx-4xx_REVxx.tar.gz*" *:src=server*** **(downloading from the FTP server)** (Where xxx-xxxx-4xx_REVxx.tar.gz is the name of the tar file that contains the upgrade target release software) or **act-upgrade:action=getrel:release="xx.xx.xx-yy.yy.yy*.tar.gz*" *:*src=usb** **(downloading from upgrade media)** (Where the xx.xx.xx-yy.yy.yy is the release-build number of the upgrade target load (ex. 42.0.0-63.11.0.tar.gz).
35 ☐ ☐ ☐	Response to the command is displayed. Command execution time: approximately 20 – 30 minutes. If the software release has been downloaded from the USB drive, disconnect the drive from the E5-MASP.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Download release from zzzzzzz ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Validate database release xx.xx.xx-yy.yy.yy.tar ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Copy database release to inactive partition ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Eagle Release successfully downloaded ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Command Complete : Upgrade action completed successfully ;
36 ☐	If step 10 was executed, issue the command to turn the measurements collection on. Otherwise go to the end of the procedure.	**chg-meas:collect=on**
37 ☐	Response to the change command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y CHG-MEAS: MASP A – COMPLTD ;

Appendix C. Entering upgrade software access key

Procedure 29: Validate Upgrade Software Access Key

S T E P #	This procedure will validate the Upgrade Software Access Key against the upgrade 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 CUSTOMER CARE CENTER AND **ASK FOR <u>UPGRADE ASSISTANCE</u>.**	
1 ☐	If a USB drive is present, remove it.	**If server software delivery (SSD): no RMD should be inserted in drive slot.**
2 ☐	Issue the command to validate the Upgrade Software Access Key.[23]	**chg-upgrade-config:sak=*XXXXXXXXXXXX*:src=fixed** (Where XXXXXXXXXXXX is the Software Access Key.)
3 ☐	Response to command is displayed.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y chg-upgrade-config:key=XXXXXXXXXXXX:src=zzzzz Command entered at terminal #6. ;
☐	Verify the correct Upgrade target release is in the output.	tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Upgrade target: EAGLE XX.x.x-YY.y.y ; tekelecstp YY-MM-DD hh:mm:ss TTTT PPP XX.x.x-YY.y.y Command Completed. ;

[23] If SAK unavailable, contact Tekelec Customer Care Center.

Appendix D. Supplemental information for Procedure 8, Step 2

D.1 Samples of message from convertstp action for act-upgrade command

The following are illustrative of the messages displayed on the user terminal during the semantic check of the upgrade command in Procedure 8, 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 and FCN 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 8, 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 - BLIXP 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...
;
    GPLs copy completed.
;
    Tables conversion started...
;
    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...
;
    SYSTEM TREE REBALANCING STARTED
;
    Table xxxxxxx.tbl: REBALANCING COMPLETED
;
    Table yyyyyyy.tbl: REBALANCING COMPLETED
;
    12576  OF 12576  TREES  REBALANCED
    13     OF 13     TABLES REBALANCED
    SYSTEM TREE REBALANCING COMPLETED
;
    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.
;
```

D.2 Determination and Recovery of DDL Hunt during Upgrade

NOTE: The following section should be completed with the assistance of Tekelec Customer Care Center.

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 [8] 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 21 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
```

One event consists of two transactions, which generates two network management messages. Eight events in one minute causes sixteen messages which averages to a stability period of less than four seconds. This can range from eight events per one device to one event per eight devices.

Table 21. Recovery from DDL Hunt by UAM.

UAM	Device	Condition	Recovery
0236|0200	SLK	Bouncing Link	A) Issue DDB checksum SEND-MSG per internal Ref. [8] B) Issue CANC-SLK to deactivate the affected link
0264 – 0269	SLK	Link Congestion	A) Issue DDB checksum SEND-MSG per internal Ref. [8] 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. [8] 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. [8] 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. [8] 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.

SWOPS Sign Off.

Discrepancy List

Date	Test Case	Description of Failures and/or Issues. Any CSRs / RMAs issued during Acceptance. Discrepancy	Resolution and Upgrade Center Engineer Responsible	Resolution Date:

Appendix E. 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 above completed matrix to Tekelec, FAX # 919-460-3669.

Customer: Company Name: _____ Date: _____

Site: Location: _____
[Include serial number, which was recorded in Procedure 1, Step15.]

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 will 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 F. Accessing Tekelec's Customer Support Site

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

1. Log into the Tekelec new Customer Support site at support.tekelec.com.
   Note: If you have not registered for this new site, click the **Register Here** link. Have your customer number available. The response time for registration requests is 24 to 48 hours.
2. Click the **Product Support** tab.
3. Use the Search field to locate a document by its part number, release number, document name, or document type. The Search field accepts both full and partial entries.
4. Click a subject folder to browse through a list of related files.
5. To download a file to your location, right-click the file name and select **Save Target As**.