Switching Systems Network Elements Backup Tape Guidelines

Contents

1. General

1.1 Purpose

This practice establishes guidelines for backing up processor tapes for:

- Stored Program Control (SPC) Central Offices (CO).
- Other network elements/systems.

1.2 Filing Instructions and Supersedures

Discard all previous issues and associated addenda of this practice and file this issue numerically in your GTE Telephone Operations practices set.

This practice supersedes and cancels:

- All policies, procedures, general instructions, letters, and memoranda which address this subject.
- Any document which provides information contrary to the information contained in this practice.
- GTE Telephone Operations Practice 007-400-901 SW, Store Program Control Backup Memory Dump.
- GTE Telephone Operations Practice 220-010-900MT, Store Program Memory Dump Tape Procedures.
- SPC System Dump Tape Guidelines, GTE South (Florida).
- Administrative Instruction No. 473.01 British Columbia Telephone Company.

1.3 Reason for Reissuing

This practice has been reissued to incorporate multiple changes in the content. Read this entire practice to ensure your familiarity with the new information.

1.4 Responsibility

This practice was published by the GTE Telephone Operations Enterprise Services Department. For more information about this practice, contact the GTE Telephone Operations Headquarters Preventive Maintenance and Testing Support Department.

1.5 Disclaimer

This practice was prepared solely for the use of GTE Telephone Operations. It must be used only by its employees, customers, and end users when installing, operating, maintaining, and repairing GTE Telephone Operations' equipment, facilities, and services, Any other use of this practice is forbidden. The information contained in this practice may not be applicable in all circumstances and is subject to change without notice. By using this practice the user agrees that GTE Telephone Operations will have no liability (to the extent permitted by applicable law) for any consequential, incidental, special, or punitive damages that may result.

2. Overview

2.1 Introduction

Following these guidelines ensures that current backup tapes for all Store Program Control (SPC) switches and network elements/systems are readily available to restore call processing and all other elements/systems in the event that a reload is required.

2.2 Administration

Area Managers are responsible for the administration and compliance of this practice in their respective area (see Section 6 for details).

2.3 Definitions

The following chart provides definitions for the acronyms used in this practice.

Acronym or Term	Definition
ACD	Automatic Call Distribution
ACD/MIS	Automatic Call Distribution/Management Information System
APC	Administrative Processor Complex
ATM	Administrative Module Text
BPC	Base Processor Complex
CCTB	Custom Calling Backup Tape
CO	Central Off ice
DACS	Digital Access Cross-connect
DC	Direct Current
DCO	Digital Central Office
DMS	Digital Multiplex System
DTFR	Data Transfer Facility Release
EB	Engineering Bulletin
EPG	Enhanced Products Group
ESS	Electronic Switching System
GTD5	General Telephone Digital (System) 5
IS	Instruction Store
MCIAS	Multi-Channel Announcement
MSI	Mark Switch Interface
MTU	Magnetic Tape Unit
NPA	Numbering Plan Area
PS	Processor Store
RLU	Remote Line Unit

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2.3 Definitions, continued

Acronym or Term	Definition
RSU	Remote Switching Unit
SM	Switch Module
SPC	Store Program Control
SS7	Signaling System 7
SVR	System Version Release
TCU	Time Switch and Peripheral Control
TPC	Telephony Processor Complex
TOP	Tape Operations Procedures
VMS	Voice Messaging System
XFER	Electronic Transfer

2.4 References

The following chart provides sources of supplementary information relating to this practice. The documents could be required for performing certain tasks.

See...	For Information About...
122-741-001	Petroleum Storage Tanks Maintenance, Monitoring, and Record Keeping
205-409-001	Central Office Ampere Load Readings
743-200-070	Emergency Generators Engineering Applications

2.5 Forms

The following forms are referenced in this practice:

- System Backup Tape, Form 90002848.
- Network Elements Backup Log Sheet, 90002849.

Order these forms through normal supply channels.

3. Switching Systems Backup Guidelines

3.1 Backup Requirements

The following CO activities dictate the creation of the appropriate processor dump tape immediately after the activity:

- SVR..
- EB.
- DTFR (without a BPC disk).
- New class of service.

NOTE: A backup dump tape must be sent to the off-site location after its creation due to a new generic switch.

3.2 Backup Routines

Backing up tapes is a monthly CO routine that must be performed as specified by this practice. Backup tapes are sent/transported to the off-site location:

- Every three months.
- Upon creation due to:
  - New system version release.
  - Other significant upgrades.

3.3 Mark Switch Interface

The MSI:

- Restores 200-300 recent change orders per hour.
- Stores recent changes up to 30 days.
- Restores, upon request, recent changes into the following switching tapes:
  - GTD-5.
  - No. 1 EAX.
  - No. 2 EAX.
  - No. 5 ESS.
  - GTD-4600.
  - DMS-100.
  - DMS-10.
  - VIDAR (SVR = or > 8.1.7.8).

3.4 Switch Units with Dual Drives

Alternate the creation of backup tapes between MTU0 and MTU1 . After creating each tape, verify that the new tape is readable from the other MTU.

4. Switching Systems Specifics

4.1 Switching Systems

The following chart describes switching system specifics.

Systems	Specifics
GTD-5 With BPC Disks	• All GTD-5 switches equipped with BPC Disks perform an auto dump disk daily. • The switches require an APC tape every month.
GTD-5 Without BPC Disks	• GTD-5 systems without BPC disks must be backed up daily if more than 100 recent change orders are completed. If less than.100 service orders are completed a day, a backup tape is required weekly. • The current APC dump tape is the primary backup dump tape (son). • The previous dump tape is the secondary backup tape (father). Maintain these two tapes on site at all times. • If the CO averages more than 100 recent changes per day, the CO is required to keep seven on-site APC dump tapes. • When a new tape is created, send a dump tape no older than one month to the off-site storage location (see Section 6.2).
GTD-5 All Single Reel Backups	A backup tape of the following processors must be made using single reel backup tapes (see Section 3.1). • TPC. . TCU. . RSU. . RLU. **NOTE: Single reel tapes reload faster.**
5ESS	The 5ESS Switch: • Performs an auto dump to disk daily. • Requires a dump to tape every two weeks.
GTD-3 and GTD- 4600	• Create a dump tape weekly (see Section 3.1) for the switching systems under EAX-1 (see Section 4.4). • Unlike the GTD-5 and the No. 5ESS, that generate multi-reel tapes, the EAX-1, GTD-3, and GTD-4600 switches generate single reel tapes. **NOTE: Create a dump tape weekly (see Section 3.1) for the EAX-2 switch.**

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4. Switching Systems Specifics, continued

4.1 Switching System Specifics, continued

Systems	Specifics
EAX-2	EAX-2 generates the following dump tapes: • IS. • PS. • IS-PS. **NOTE: The combination tape can be used as the off-site location instead of individual IS and PS tapes.**
DMS-100	• Back up the switch to disk every 24 hours. • Create a CO backup tape cartridge every two weeks.
DMS-10 and VIDAR	• The switches are backed up to disk on a daily basis from remote locations. • Generate a dump tape every two weeks if the switches are backed up to disk daily. • Accomplished the task is from remote locations. • Generate a dump tape weekly if the switch is not backed up to a disk daily. **NOTE: Some DMS-10 systems also have a CCTB that is backed up and sent to an off-site location with the system tapes.**
DC0	• The switch is set to automatically dump to the DC disk every 24 hours. • Create a CO backup tape cartridge every two weeks.
Other Switching Systems	Refer to Exhibit 1 for other switching system guidelines.

5. Other Network Elements Backup Guidelines

5.1 Backup Frequency

Other systems/network elements are performed in accordance with the Network Elements Backup Table (see Exhibit 2).

6. Administration

6.1 Area Manager's Responsibility

The Area Manager is responsible for designating the off-site storage location for backup tapes generated from each CO.

6.2 Routine Maintenance

Creation of backup tapes is a part of the CO routines that must be performed as specified by this practice. Backup tapes are sent/transported to the off-site location as soon as possible. CO and/or system backup routines are included in **every CO's** routine inventory.

NOTE: Backups must be completed weekly/monthly, or as required for each element and the routine must be marked as completed in SITES.

6.3 Central Office Technician's Responsibiiity

The CO technician is responsible for:

- Creating backup tapes of all switch or other elements/systems processors.
- Storing the on-site tapes.
- Mailing/transporting backup tapes to off-site locations.
- Logging all information specified on the tape backup Log Sheet (Form 90002849, see Exhibit 3).

NOTE: Maintain backup log sheets in a binder on site. If **more than** one **processor is being backed up in the office, a separate log sheet must be used for each processor (see Exhibit 3). Use tabbed dividers to separate the sheets.**

6.4 Rotation of Off-Site Backup Tapes

The following chart describes off-site backup tape rotation_

Step	How To Rotate Off-Site Backup Tapes
1	Once a month, take the second oldest existing backup tape (grandfather) and send it to the off premises location after a new backup is created (son). This leaves the new backup tape (son) and the previous backup tape (father) on location. **NOTE: It is important to have the two most recent backup tapes in case of existing software problems.**
2	Return the existing off-site backup tape to the CO for recycling after the backup tape arrives.

7. Backup Log Sheet and Backup Label Tape

7.1 Log Sheet

The following chart describes the information used to complete Exhibits 3 and 4.

Field	Enter
Location/CO	CO location.
NPA/NXX	CO NPA and NXX codes.
Off-Site Location	Off-site locations where backup tapes are stored.
Processor Type/ Net Element/ Serial No.	Processor type or network element being backed up. Serial No. GTD-5 only, consists of processor type and the backup date (e.g., AP00820).
Date	The date the backup tape was created (i.e., month, day, year).
SVR	Current SVR level of processor.
MTU ID	The MTU used during the dump tape, if applicable.
On-Site Tape	Place a check mark to indicate that the created tape is on-site.
Off-Site Ship Date	Enter the date the backup tape is shipped or transported.
Employee Name	Emptoyee generating, storing, and shipping backup tapes.
Comments	Additional information that might be helpful in identifying the backup tape.

Switching Systems Backup

SYSTEM	AUTO BACKUP	MANUAL BACKUP	OFF-SITE FREQ	REFERENCE
#2 EAX		Daily	we&y	See Vendor Documentation
#3 EAX		Daily	Weekly	See Vendor Documentation
4600		Weekly	Monthly	See Vendor Documentation
GTD-S				
With BPC-Disk	Daily	Monthly	Monthly	GTEP 220-227-500
W/Out BPC Disk				
With > 100 Service Orders a day		Daily	Monthly	GTEP 220-227-500
With > 100 Service Orders a day		Weekly	Monthly	GTEP 220-227-500
1A ESS		Weekly	Monthly	See Vendor Documentation
4 ESS		Weekly	Monthly	See Vendor Documentation
5 ESS	Daily	Bi-Weekly	Monthly	See Vendor Documentation
D200	Daily	Weekly	Monthly	See Vendor Documentation
D10	Daily	Weekly	Monthly	See Vendor Documentation
D100	Daily	Weekly	Monthly	See Vendor Documentation
D100/200	Daily	Weekly	Monthly	See Vendor Documentation
D200/TOPS	Daily	Weekly	Monthly	See Vendor Documentation
D10T	Daily	Weekly	Monthly	See Vendor Documentation
DCO	Daily	Weekly	Monthly	See Vendor Documentation
EWSD	Daily	Weekly	Monthly	See Vendor Documentation
ITT1210	Daily		Monthly	See Vendor Documentation
VIDAR		Weekly	Monthly	See Vendor Documentation

SS7 Systems Backup

SYSTEM	Auto	BACKUP	OFF-SITE FREQ	REFERENCE
ATT-SCP	Daily	Weekly	Monthly	See Vendor Documentation
DEC-SCP	Daily	weekly	Monthly	See Vendor Documentation
DMS-STP	Daily	Weekly	Monthly	See Vendor Documentation
DSC-STP	Daily	weekly	Monthly	See Vendor Documentation

Exhibit 1 - Switching and Signaling System 7 (SS7) Systems Backup

SYSTEM	AUTO BACKUP	MANUAL BACKUP	OFF-SITE FREQ	REFERENCE
E-911	**Daily**	Daily	Weekly	HP 3000 System Admin Guide
Rockwell		**Daily**	Weekly	See Vendor Documentation
FO				
NTI/OC3 & 12	Daily	Monthly*	Monthly	NTP 323-l 11 l-304 Vol 4, 2-1
NTI/OC48	Daily	Monthly*	Monthly	NTP 323-l 201-304 Vol 4, 2-1
NTI/ Accessnode	Daily	Weekly*	Weekly	NTP 323-3001-304 Sec. 2-l
DACS				
DSC/DEXCS1,	Daily	Weekly*	Weekly	DSC Op & Maint. Manual 314-001-805
CS1L,	Daily	Weekly*	Weekly	DSC Op & Maint .**Manual** 3 14-01 l-804
ECS1		Weekly*	Weekly	DSC Op & Maint. Manual 314-001-803
TELLABS/532		Weekly*	Weekly	TELLABS Tech Manual 76.A0532/10a REV A & Bulletin NOC-TRAN 0227
ATT IV-2000	Daily	Weekly*	Weekly	ATT Op & Maint Manual
ATT DACS II	Daily	Weekly	Weekly	ATT Op & Maint Manual voll
PRISM DSS	Daily	Weekly	Weekly	See Vendor Documentation
DACS IV		Daily	Weekly	See Vendor Documentation
MCIAS				
2100/		Daily	Weekly	Cognitronics Sys Manual 412102000
VMS				
VoicePlex		Daily	Weekly	VPS Admin Guide 400-500-00 1
DSS		Daily	Weekly	DSS Univox Maint. & Admin Manual PM 5950-I 493
ACD				
ROCKWELL Galaxie 8.1		Daily	Weekly	Rockwell Practice RD220079-3
FRAME RELAY				
ATT DATAKIT		Daily*	Monthly	See Vendor Documentation
CASCADE 9000		Daily	Monthly	See Vendor Documentation
ATM				
GCNS		Daily	Monthly	See Vendor Documentation
N36150 ATM		Daily	Monthly	See Vendor Documentation
FETEX-1 SO		Daily	Monthly	See Vendor Documentation
C9000-ATM		Daily	Monthly	See Vendor Documentation
SONET				
Fiber Optic Terminals				
SLC 2000	Daily	Monthly	**Monthly**	See Vendor Documentation
DDM2000	Daily	Monthly	Monthly	See Vendor Documentation
FLM 2400	Daily	Monthly	Monthly	See Vendor Documentation
FLM 600	Daily	Monthly	Monthly	See Vendor Documentation
FLM150	Daily	**Monthly**	Monthly	See Vendor Documentation
1624	Daily	Monthly	**Monthly**	See Vendor Documentation

* Or more often if activity requires it.

Exhibit 2 - Network Elements Backup Table

NETWORK ELEMENTS BACKUP LOG SHEET
FORM 90002649 (5-96)
REF 220-227-500

Location/Central Office:				NPA/NXX:		
Off -Site Storage Location:						
Processor Type/Net. Element/Serial Number:						
		On-Site	Off-Site	Employee		
Date	SVR	MTU	Tape	Ship Date	Name	Comments

Exhibit 3 - Network Elements Backup Log Sheet, Form 90002849

SYSTEM BACKUP TAPE
FORM 90002848 (5/96)
REF 220-227-500

Central Office _____
Processor Type/Net Element _____
No. _____
Date _____
SVR Release _____ **MTU ID.** _____
Employee Name _____
Comments _____

Exhibit 4 System Backup Tape, Form 90002848