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PROCESSOR TAPE-HANDLING PROCEDURES

NO. 3 ELECTRONIC SWITCHING SYSTEM

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tape is faulty, paging requests are handled by the backup tape in TDC-1.

1.04 At least one spare tape (four are recommended) is kept in the office to be used if both TDC-0 and TDC-1 tapes fail (refer to paragraph 2.10).

2. TAPE CARTRIDGE MAINTENANCE

MINIRECORDER MAINTENANCE

2.01 Before a tape cartridge is inserted in a minirecorder, the minirecorder should be cleaned per TOP 233-142-100. When a FATLREAD or FATLWRIT error occurs, the minirecorder should be cleaned before tape replacement is considered.

TAPE ADMINISTRATION

A. Tape Storage

2.02 Office tapes used for rotation should be stored in individually sealed packages in a file cabinet readily accessible to the craft persons who have a need to use them.

Caution: Spare tape cartridges should not be stored on or in the maintenance frame or any of its units.

2.03 If stand-alone tapes (refer to paragraph 3.06) are to be stored at the No. 3 ESS, they must not be stored with the regular tapes.

B. Tape Reliability and Hashsum Check

2.04 Incorrect tape-handling operations may cause mutilation of data resulting in long service interruptions due to the inability of backup tapes to perform a memory reload.

2.05 The off-line boot procedure tests the ability of the system to bootstrap (reliability) and

1. GENERAL

1.01 This section describes the handling procedures (ordering, administration, and disposition) for maintaining current office tapes used in the No. 3 Electronic Switching System (ESS).

1.02 Whenever this section is reissued, the reason(s) for reissue will be listed in this paragraph.

1.03 The master tape is located in tape data controller (TDC) 0 and is used for all paging requests. When TDC-0 is out-of-service or the

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validates the main store (MAS) data found on the tape cartridge (hashsum check). This is done per TOP 233-142-100 by booting into the off-line store and running hashsums. This procedure may be run on systems with SO-2 Issue 4A.3. Off-line bootstrap is run automatically as part of the nightly routine in offices with 3E3, Issue 2 generic. **All hashsum differences must be resolved when they are encountered.**

2.06 The off-line bootstrap procedure must be performed after any of the following changes:

- Office Data Administration (ODA) Update
- Generic Update
- Several Recent Change (RC) Updates
- Reallocation of Translations
- Producing Backup Tapes.

The off-line boot and hashsum validation **must be performed at least once every two weeks** to insure that the tapes are bootable and the generic reasonably current and error-free.

C. Update Translation Files

2.07 There are three translation files on tape, one with current translations and two with old translations. When the tape is updated using OP:DATA;CURR! message, the MAS translations are placed in the current translations tape file (TRNSLN). When OP:DATA;OLD! is used, current MAS translations are placed in the older of the two files containing old translations (BACKDT1 or BACKDT2). **Whenever BACKDT1 or BACKDT2 is updated, the associated line class code table must also be updated** using COPY:LCCTBL CURR:OLD! message.

2.08 File TRNSLN is automatically updated once every 24 hours with MAS translations during the nightly routine. Past office data files are not automatically updated.

2.09 Translation files should be updated at least every two weeks or more frequently if there is a large amount of service order activity. Refer to TOP 233-142-100 for tape updating procedure.

D. Tape Rotation

2.10 Normally, a tape cartridge should last 90 days depending on the number of tape operations. All offices must have at least six tapes at all times. These are:

1-Master tape in TDC-0

1-Backup tape in TDC-1

2-Spare translation tape in cabinet

2-Replacement tapes stored separately in cabinet.

All tapes should be marked with current generic, last overwrite applied, and date of last update. A Broadcast Warning Message (BWM) log should be kept identifying the BWMs on each tape.

2.10 The tape in TDC-0 should remain in place until it wears out (FATLREAD or FATLWRIT).

Do not rotate tapes between TDC units. Since TDC-0 is normally used the most, its tape will wear faster than TDC-1 tapes. This minimizes the possibility of duplicate unit failures.

2.12 Initially all six tapes should be updated to List 1 status (updated generic and translation files). After the initial update two tapes are stored separately (replacement tapes) while the other tapes are rotated routinely through TDC-1. **All tapes must be of the same generic point issue.**

2.13 When TDC-0 tape replacement is needed, the following general procedure is used.

- (1) Remove TDC-0 tape
- (2) Install one of the rotational tapes
- (3) Update TDC-0 tape from TDC-1 tape (AUDIT: TAPE 1,0, TRK 2: CORR!) The cartridges should be labeled showing update. **The minirecorder should be cleaned before any tape is inserted. (see paragraph 2.01).** Refer to TOP 233-143-100 for procedure to use when tape fault occurs.

2.14 Normal tape rotation is through TDC-1. The following is a brief outline of the procedure for rotating tapes. Refer to TOP 233-142-100 for more detailed procedures.

- (1) Perform off-line bootstrap procedure
- (2) Remove TDC-1 tape and clean minirecorder
- (3) Install replacement tape in TDC-1 and restore to service
- (4) Diagnose TDC units to insure TDC and rotated tapes are operational
- (5) Copy TDC-1 tape from TDC-0 tape
- (6) Repeat from Step 3 for other tapes.

Tape rotation should take place once every two weeks or whenever a tape fault occurs.

3. TAPE DISPOSITION

ORDERING REPLACEMENT TAPES

3.01 As replacement tapes are required, the operating telephone companies must order them through the Western Electric Company (WE) Regional Centers. Tapes can be ordered on a furnish-only basis.

3.02 The proper J-Spec drawing number and list number(s) must be specified. The ordering information for replacement tapes are:

SO-2 Generic—J3H001S-1, L-2

3E3 Generic—J3H001T-1, L-1 E/W L-M2T

In all cases, the specific issue and point issue desired must be specified.

3.03 Operating companies should keep in mind that **the overall interval from the time the order is received by WE to tape cartridge delivery is three to six weeks.**

3.04 Emergencies will be acted upon within 24 hours from receipt of phoned-in orders. List-2 (generic only) tapes will be sent from Warrentville Data Center and will have to be audit-corrected to List-1 status.

3.05 If a replacement tape is ordered as soon as a tape becomes defective, emergency situations will be kept to a minimum.

STAND-ALONE TAPES

3.06 The Switching Control Center (SCC) should have at least two stand-alone tapes per generic issue (List-2). Where the distance between the SCC and No. 3 ESS is great, the stand-alone tapes may be kept at the No. 3 ESS. These tapes should be available at all times in case of emergency. **Stand-alone tapes must not be used on an in-service office without the direct assistance of Electronic Systems Assistance Center (ESAC), WE Product Engineering Control Center (PECC), or Bell Telephone Laboratories (BTL).** Stand-alone tapes should not be stored with regular office tapes. Stand-alone tapes should be updated in the assigned office once every three months.

DISPOSITION OF USED TAPES

3.07 Tape cartridges will become unusable due to either wear or generic restarts and retrofits. Used tape may not be used to record new generic or ODAs. Used tapes may serve to furnish WE with office data dumps.

3.08 Damaged tapes should be disposed of locally after stored data has been destroyed. Destruction of data can be accomplished by erasure or cutting of the tape locally. Obsolete tapes in good condition should be erased and used for office data dumps.

4. REFERENCES

4.01 The following documents are of use to craft persons dealing with No. 3 ESS tape operations.

DOCUMENT	SUBJECT
79-0148	No. 3 ESS Broadcast Warning Message, Availability of Prepatched Cartridges for No. 3 ESS
79-0149	No. 3 ESS Broadcast Warning Message Periodic Tape Maintenance Procedures
233-152-130	Tape Operations, Software Subsystem Description
254-300-170	Tape Data Controller Description and Theory, Common Systems

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233-142-100	No. 3 ESS Office Equipment (TOP)	IM-3H300	No. 3 ESS Input Message Manual
233-143-100	No. 3 ESS System Trouble Clearing (TOP)	OM-3H300	No. 3 ESS Output Message Manual