Critical Release Notice

Publication number: 297-8021-543
Publication release: Preliminary 17.01

The content of this customer NTP supports the SN09 (DMS) software release.

Bookmarks used in this NTP highlight the changes between the NA015 baseline and the current release. The bookmarks provided are color-coded to identify release-specific content changes. NTP volumes that do not contain bookmarks indicate that the NA015 baseline remains unchanged and is valid for the current release.

Bookmark Color Legend

Black: Applies to content for the NA015 baseline that is valid through the current release.

Red: Applies to new or modified content for NA017 that is valid through the current release.

Blue: Applies to new or modified content for NA018 (SN05 DMS) that is valid through the current release.

Green: Applies to new or modified content for SN06 (DMS) that is valid through the current release.

Purple: Applies to new or modified content for SN07 (DMS) that is valid through the current release.

Pink: Applies to new or modified content for SN08 (DMS) that is valid through the current release.

Orange: Applies to new or modified content for SN09 (DMS) that is valid through the current release.

Attention!
Adobe ® Acrobat ® Reader ™ 5.0 or higher is required to view bookmarks in color.

Publication History

Note: *Refer to the NA015 baseline document for Publication History prior to the NA017 release.*

September 2005

Preliminary release 17.01 or software release SN09 (DMS). Updates made for this release are shown below:

Volume 1
Corrected paragraph on page 4-36 according to CR Q01117454

Volume 2 - 4
No changes

March 2004

Standard release 16.03 for software release SN06 (DMS). Updates made for this release are shown below:

Volume 1
No changes

Volume 2
New alarm – Lns CR C critical – according to CR Q00720148.

Volume 3 - 4
No changes

September 2003

Standard release 16.02 for software release SN06 (DMS). Updates made for this release are shown below:

Volume 1 - 4
No changes

June 2003

Preliminary release 16.01 for software release SN06 (DMS). Updates for this release are shown below:

Volume 1 - 4
No changes

297-8021-543

DMS-100 Family

North American DMS-100

Alarm Clearing and Performance Monitoring Procedures

Volume 1 of 4

LET0015 and up Standard 14.02 May 2001

NORTEL NETWORKS™

DMS-100 Family

North American DMS-100

Alarm Clearing and Performance Monitoring Procedures

Volume 1 of 4

Publication number: 297-8021-543
Product release: LET0015 and up
Document release: Standard 14.02
Date: May 2001

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About this document

How to check the version and issue of this document

The version and issue of the document are indicated by numbers, for example, 01.01.

The first two digits indicate the version. The version number increases each time the document is updated to support a new software release. For example, the first release of a document is 01.01. In the next software release cycle, the first release of the same document is 02.01.

The second two digits indicate the issue. The issue number increases each time the document is revised but rereleased in the same software release cycle. For example, the second release of a document in the same software release cycle is 01.02.

To determine which version of this document applies to the software in your office and how documentation for your product is organized, check the release information in *Product Documentation Directory, 297-8991-001*.

This document is written for all DMS-100 Family offices. More than one version of this document may exist. To determine whether you have the latest version of this document and how documentation for your product is organized, check the release information in *Product Documentation Directory,* 297-8991-001.

References in this document

The following documents are referred to in this document:

- *Card Replacement Procedures*
- *Customer Data Schema Reference Manual,* 297-8021-351
- *Input/Output System Reference Manual,* 297-1001-129
- *Log Report Reference Manual*
- *Magnetic Tape Reference Manual,* 297-1001-118
- *Office Parameters Reference Manual*

- *Recovery Procedures*
- *Routine Maintenance Procedures*
- *Subscriber Carrier Module-100 Urban Maintenance Manual*, 297-8241-550
- *SuperNode Data Manager User Guide*
- *Translations Guide*, 297-8021-350
- *Trouble Locating and Clearing Procedures*

As of NA0011 (LEC and LET) and EUR010 (EUR) releases, any references to the data schema section of the Translations Guide will be mapped to the Customer Data Schema Reference Manual.

What precautionary messages mean

The types of precautionary messages used in NT documents include attention boxes and danger, warning, and caution messages.

An attention box identifies information that is necessary for the proper performance of a procedure or task or the correct interpretation of information or data. Danger, warning, and caution messages indicate possible risks.

Examples of the precautionary messages follow.

ATTENTION - Information needed to perform a task

ATTENTION

If the unused DS-3 ports are not deprovisioned before a DS-1/VT Mapper is installed, the DS-1 traffic will not be carried through the DS-1/VT Mapper, even though the DS-1/VT Mapper is properly provisioned.

DANGER - Possibility of personal injury

DANGER

Risk of electrocution

Do not open the front panel of the inverter unless fuses F1, F2, and F3 have been removed. The inverter contains high-voltage lines. Until the fuses are removed, the high-voltage lines are active, and you risk being electrocuted.

WARNING - Possibility of equipment damage

WARNING
Damage to the backplane connector pins
Align the card before seating it, to avoid bending the backplane connector pins. Use light thumb pressure to align the card with the connectors. Next, use the levers on the card to seat the card into the connectors.

CAUTION - Possibility of service interruption or degradation

CAUTION
Possible loss of service
Before continuing, confirm that you are removing the card from the inactive unit of the peripheral module. Subscriber service will be lost if you remove a card from the active unit.

How commands, parameters, and responses are represented

Commands, parameters, and responses in this document conform to the following conventions.

Input prompt (>)

An input prompt (>) indicates that the information that follows is a command:

```
>BSY
```

Commands and fixed parameters

Commands and fixed parameters that are entered at a MAP terminal are shown in uppercase letters:

```
>BSY CTRL
```

Variables

Variables are shown in lowercase letters:

```
>BSY  CTRL  ctrl_no
```

The letters or numbers that the variable represents must be entered. Each variable is explained in a list that follows the command string.

Responses

Responses correspond to the MAP display and are shown in a different type:

```
FP 3 Busy CTRL 0: Command request has been submitted.

FP 3 Busy CTRL 0: Command passed.
```

1 Procedures to clear application alarms

Introduction

This chapter provides procedures to clear application alarms. Application alarms appear under the APPL header of the alarm banner in the MAP display. All of the procedures contain the following sections:

- Alarm display
- Indication
- Meaning
- Result
- Common procedures
- Action

Alarm display

This section indicates how the alarm appears at the MAP terminal.

Indication

This section indicates:

- the location of the alarm indication
- how the system represents the alarm
- the affected subsystem
- the alarm level

Meaning

This section indicates the cause of the alarm.

Result

This section describes the results of the alarm condition.

Common procedures

This section lists common procedures used during the alarm clearing procedure. A common procedure is a series of steps repeated within maintenance procedures, for example card removal and replacement. Common procedures appear in the common procedures chapter in this NTP.

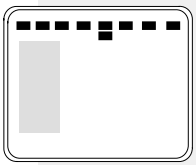
Do not use common procedures unless the step-action procedure directs you to the common procedures.

Action

This section provides a summary flowchart of the procedure and a list of steps to clear an alarm. A detailed step-action procedure follows the flowchart.

APPL CallP major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	**APPL**
.	.	.	.	.	.	.	.	.	**CallP**
									M

Indication

At the MTC level of the MAP display, CallP appears under the APPL header of the alarm banner. The CallP indicates a call processing (CallP) major alarm.

Meaning

Continuous traps occur on software for the call processing base (CallP Base) during the processing of CallP transactions. A minimum of 20 traps in a maximum of one minute cause service maintenance to raise this alarm. The service maintenance system attempts to clear the alarm automatically.

Result

The system cannot permanently deny call originations and feature activations. The service maintenance system attempts to clear the alarm. The CallP Base service is in a state of in-service trouble while the system attempts to clear the alarm.

Common procedures

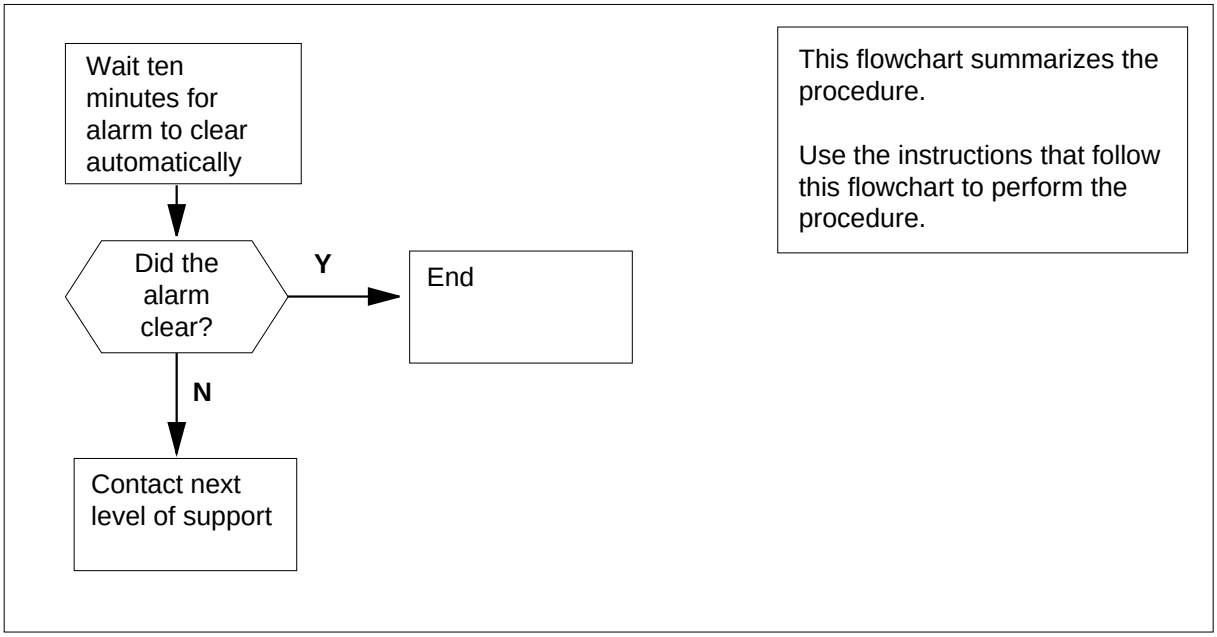
There are no common procedures.

Action

Manual action is not needed to clear the alarm. The service maintenance system responds to traps in CallP Base and attempts to clear the fault automatically. A continuous alarm indicates that call processing software traps at a low rate.

APPL CallP
major (end)

Summary of Clearing an APPL CallP major alarm



Clearing an APPL CallP major alarm

At the MAP display

1 To access the MTC level of the MAP display, type

```
> MAPCI;MTC
```

and press the Enter key.

2 Wait ten minutes for the system attempt to clear software traps of the CallP Base service.

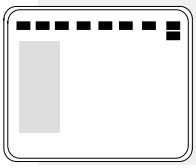
If the CallP major alarm	Do
cleared	step 4
did not clear	step 3

3 For additional help, contact the next level of support.

4 The procedure is complete.

APPL SDM critical

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
.	.	.	.		.	.	.	.	SDM *C*

Indication

SDM followed by *C* under the APPL header of the alarm banner indicates an SDM critical alarm. The preceding alarm display illustrates an alarm banner with an SDM critical alarm.

Meaning

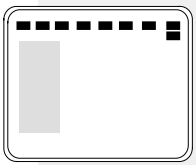
There is a critical alarm on the SDM.

Action

Refer to the alarm clearing information in the *SuperNode Data Manager User Guide* for your system.

APPL SDM minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	**APPL**
.	.	.	.		.	.	.	.	**SDM**

Indication

SDM under the APPL header of the alarm banner indicates an SDM minor alarm. The preceding alarm display illustrates an alarm banner with an SDM minor alarm.

Meaning

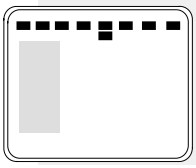
There is a minor alarm on the SDM.

Action

Refer to the alarm clearing information in the *SuperNode Data Manager User Guide* for your system.

OCDL OCSysB critical

Alarm display



CM	MS	IOD	Net	PM	**CCS**	Lns	Trks	Ext	APPL
.	.	.	.	.	.	.	.	.	**nOCSysB C**

Indication

Follow path MAPCI>MTC to the MTC level. At the MTC level under APPL, a number (n) precedes OCSysB under the OCDL header in the alarm banner. The number indicates the number of OC-IP data links that are affected. The C below the OCSysB indicates a critical alarm for an OC-IP data link.

The OCSysB alarm is visible at the MTC MAP level under APPL, at the APPL MAP level under TOPSIP, and at the TOPSIP MAP level beside OCDL.

Meaning

For a given distant OC office, no OC-IP data links to it are InSv and at least one is SysB.

This alarm is raised to indicate that a data link is in the SysB state. When this alarm is raised, a TOPS504 log is generated indicating the data link has changed state. Also, a TOPS304 log is generated indicating the data link is in the SysB state.

The alarm is lowered if there are no longer any OC-IP data links in the SysB state.

When the fault for a link is cleared, a TOPS504 log is generated indicating the data link has changed state. Also, a TOPS304 log is generated indicating the data link is no longer in the SysB state.

Result

Signaling and traffic routes on any links to the distant office are not possible.

Common procedures

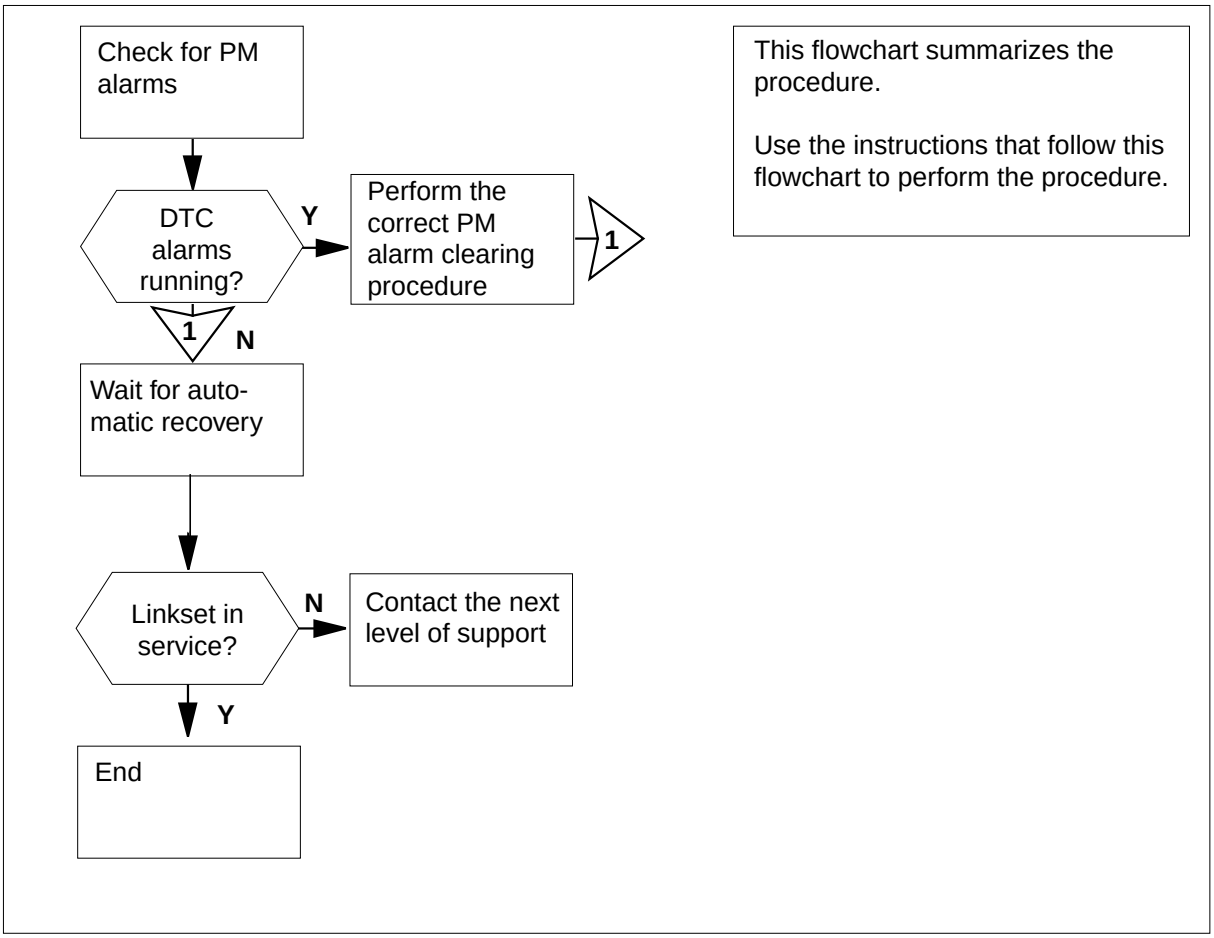
Do not go to the common procedure unless the step-action procedure directs you to go.

OCDL OCSysB
critical (continued)

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of How to clear an OCDL OCSysB critical alarm



How to clear an OCDL OCSysB critical alarm

At the MAP display

1 To access the OCDL level of the MAP display, type

```
>mapci;mtc;appl;topsip;ocdl
```

and press the Enter key.

OCDL OCSysB critical (continued)

2 Check under the PM header in the MAP display alarm banner. Determine if alarms appear for digital trunk controllers (DTCs) under the PM header in the MAP display alarm banner..

If DTC alarms	Do
appear	step 3
do not appear	step 4

3 Perform the correct procedures in this document to clear all PM DTC alarms. Complete the procedure and return to this point.

4 To post an OC-IP data link that runs an OCSysB critical alarm, type

>post s sysb

and press the Enter key.

Example of a MAP display:

```
OCDL  : OCSysB  TOPSDEV:   .

Status          Offl   ManB   SysB   InSv
OCDL               0      0     60    180

MXPIPHOST4  2 COMID   27 SysB
Size of Post set: 66
post s sysb
```

If you	Do
posted an out-of-service link	step 5
did not post an out-of-service link	step 11

5 Record the comid number.

Note: The comid number appears on the right of the Link header on the MAP display.

6 To post the out of service link, type

>post c <comid number>

and press the Enter key.

where

<comid number>
is the number of the comid from the above step

Example of a MAP display:

OCDL OCSysB
critical (end)

```
OCDL  : OCSysB  TOPSDEV:   .

Status          Offl   ManB   SysB   InSv
OCDL               0      0     60    180

MXPIPHOST1  1 COMID    2 InSv
Size of Post set: 1
post c 2
```

7 Determine from office records the far-end office that connects to the posted link.

8 Contact the far-end office to determine if the far-end office has DTC alarms.

If the far-end office	Do
has DTC alarms	step 9
does not have DTC alarms	step 10

9 When the problems at the far-end office clear, determine the state of the posted link.

>post s sysb

Note: The link state appears on the right of the link name on the MAP display.

```
OCDL  : OCSysB  TOPSDEV:   .

Status          Offl   ManB   SysB   InSv
OCDL               0      0     60    180

MXPIPHOST4  2 COMID   27 SysB
Size of Post set: 66
post s sysb
```

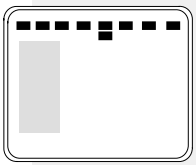
If the state of the linkset	Do
is InSv or ISTb	step 11
is ManB or SysBsy	step 10

10 For additional help, contact the next level of support.

11 The procedure is complete.

OCDL OCSysB major

Alarm display



CM	MS	IOD	Net	PM	**CCS**	Lns	Trks	Ext	APPL
.	.	.	.	.	.	.	.	.	**nOCSysB M**

Indication

Follow path MAPCI>MTC to the MTC level. At the MTC level under APPL, a number (n) precedes OCSysB under the OCDL header in the alarm banner. The number indicates the number of OC-IP data links that are affected. The M below the OCSysB indicates a major alarm for an OC-IP data link.

The OCSysB alarm is visible at the MTC MAP level under APPL, at the APPL MAP level under TOPSIP, and the TOPSIP MAP level beside OCDL.

Meaning

At least one, but not all, OC-IP data link to a distant office is SysB.

This alarm is raised to indicate that a data link is in the SysB state. When this alarm is raised, a TOPS504 log is generated indicating the data link has changed state. Also, a TOPS304 log is generated indicating the data link is in the SysB state.

The alarm is lowered if there are no longer any OC-IP data links in the SysB state.

When the fault for a link is cleared, a TOPS504 log is generated indicating the data link has changed state. Also, a TOPS304 log is generated indicating the data link is no longer in the SysB state.

Result

Signaling on the link is not possible. Traffic routes on another link to the distant office. The traffic can be at a degraded level of service.

Common procedures

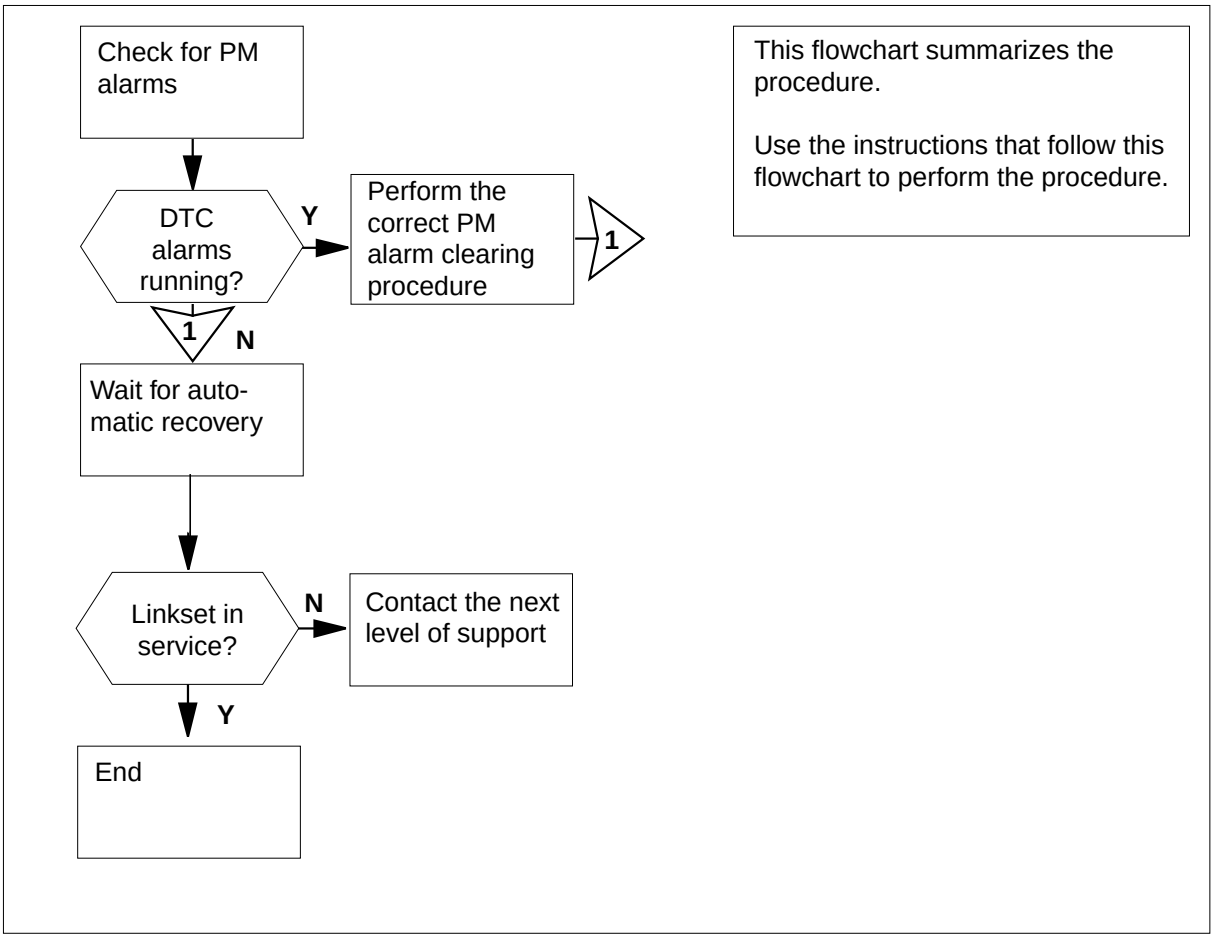
Do not go to the common procedure unless the step-action procedure directs you to go.

OCDL OCSysB
major (continued)

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of How to clear an OCDL OCSysB major alarm



How to clear an OCDL OCSysB major alarm

At the MAP display

1 To access the OCDL level of the MAP display, type

```
>MAPCI;MTC;APPL;TOPSIP
```

and press the Enter key.

OCDL OCSysB
major (continued)

2 Check under the PM header in the MAP display alarm banner. Determine if alarms appear for digital trunk controllers (DTCs) under the PM header in the MAP display alarm banner..

If DTC alarms	Do
appear	step 3
do not appear	step 4

3 Perform the correct procedures in this document to clear all PM DTC alarms. Complete the procedure and return to this point.

4 To post an OC-IP data link that runs an OCSysB major alarm, type

>POST A OCSYSB

and press the Enter key.

Example of a MAP display:

```
Linkset  SSP100_LK        SysB
   Traf Sync                                          Link
LK Stat Stat Resource  Stat Physical Access       Stat Action
0  SysB Sync LIU7 101  InSv DS0A
1  ManB Sync LIU7 103  InSv DS0A


Size of Posted Set = 2
```

If you	Do
posted an out-of-service link	step 5
did not post an out-of-service link	step 11

5 Record the link name.

Note: The link name appears on the right of the Link header on the MAP display.

6 To post the out of service link, type

>POST C link_name

and press the Enter key.

where

link_name
is the name of the link that you recorded before you started this procedure

Example of a MAP display:

OCDL OCSysB
major (end)

```
Linkset  SSP100_LK        ISTb
   Traf Sync                                          Link
LK Stat Stat Resource  Stat Physical Access       Stat Action
0  SysB Sync LIU7 101  InSv DS0A
1  ManB Sync LIU7 103  InSv DS0A


Size of Posted Set = 2
```

7 Determine from office records the far-end office that connects to the posted link.

8 Contact the far-end office to determine if the far-end office has DTC alarms.

If the far-end office	Do
has DTC alarms	step 9
does not have DTC alarms	step 10

9 When the problems at the far-end office clear, determine the state of the posted link.

Note: The link state appears on the right of the link name on the MAP display.

Example of a MAP display:

```
Linkset  SSP100_LK        SYSB
   Traf Sync                                          Link
LK Stat Stat Resource  Stat Physical Access       Stat Action
0  SysB Sync LIU7 101  InSv DS0A
1  ManB Sync LIU7 103  InSv DS0A


Size of Posted Set = 2
```

If the state of the linkset	Do
is `InSv` or `ISTb`	step 11
is `ManB` or `SysBsy`	step 10

10 For additional help, contact the next level of support.

11 The procedure is complete.

2 Common channel signaling alarm clearing procedures

Introduction

This chapter provides alarm clearing procedures for common channel signaling. The MAP display indicates alarms for common channel signaling under the CCS header of the alarm banner. Each procedure contains the following sections:

- Alarm display
- Indication
- Meaning
- Result
- Common procedures
- Action

Alarm display

This section indicates how the MAP terminal displays the alarm.

Indication

This section indicates:

- where the alarm indication appears
- how the system represents the alarm
- the affected subsystem
- the alarm level.

Meaning

This section indicates the cause of the alarm.

Result

This section describes the results of the alarm condition.

Common procedures

This section lists common procedures used during the alarm clearing procedure. A common procedure is a series of steps repeated within maintenance procedures, for example card removal and replacement. You can find common procedures in the common procedures chapter in this NTP.

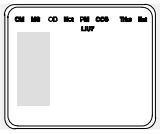
Do not use a common procedure unless the step-action procedure directs you to the common procedure.

Action

This section provides a summary flowchart and a list of steps. A detailed step-action procedure follows the flowchart.

CCS 2RS LBC SPM critical

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
.	.	.	.		2 RS	.		.	.
.		.	.		*C*	.		.	.

Indication

At the carrier level of the MAP display, an RS preceded by a number appears under the CCS header of the alarm banner and a critical alarm indicator appears beneath it.

Meaning

The DMS-Spectrum Peripheral Module (SPM) alarm system detects a threshold crossing alert (TCA) for the laser bias current (LBC) performance parameter. The metered measurement value for the LBC in the OC3 module has exceeded 150% of its original installed value. A TCA occurs when the LBC parameter count exceeds 150. The SPM clears the alarm when the parameter count is less than 125.

Logs CARR800 and CARR810 relate to the LBC alarm. Table MNHSCARR contains the datafill related to the LBC alarm.

Impact

A severe service-affecting condition exists. Immediate corrective action is required.

The LBC alarm applies to the OC3 Section carrier type.

Common procedure

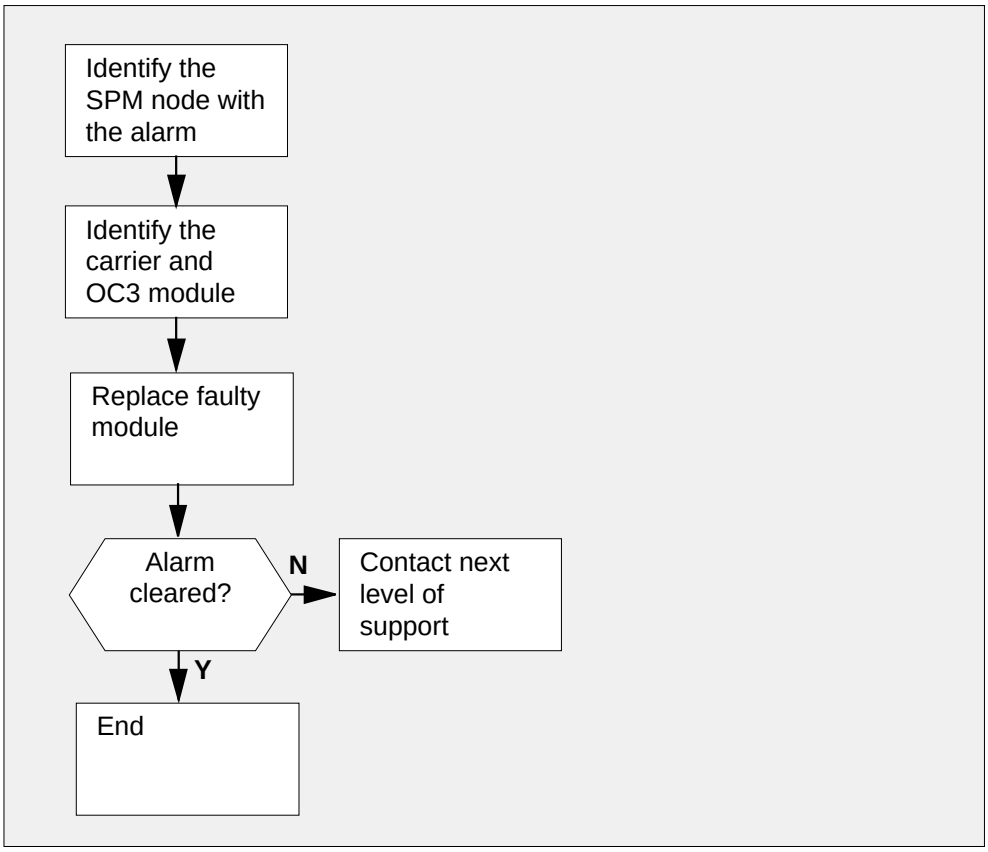
For basic information about SPM alarms, see “Accessing SPM alarms" in this document.

Action

The following flowchart is only a summary of this procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

CCS 2RS LBC SPM
critical (continued)

Summary of clearing an LBC alarm



Clearing LBC alarms

At the MAP terminal

1 Access the carrier level of the MAP screen by typing

```
> MAPCI;MTC;TRKS;CARRIER
```

and pressing the Enter key.

Example of a MAP screen:

CCS 2RS LBC SPM
critical (continued)

```
CLASS    ML   OS ALRM  SYSB  MANB UNEQ OFFL  CBSY PBSY  INSV
TRUNKS    1    0   28    28     0    0    0     0    0    50
TIMING    0    0    0     0     0    0    0     0    0     2
HSCARR    0    0    0     1     3    0    1     0    0   180

MTC:
TRKS:
CARRIER:
```

2 Display all carrier alarms by typing

>DISP ALARM

and pressing the Enter key.

Example of a MAP screen:

```
PM    NO CKT     PM    NO CKT     PM    NO CKT     PM    NO CKT
DTC    0  13     DTC    0  14     DTC    0  15     DTC    0  18
SPM   20  29     SPM   20  30     SPM   20  31     SPM   20  32


DISPLAYED BY CONDITION : ALARM
DISP:
MORE...
```

3 Record the SPM number (NO) and circuit (CKT) number combinations.

4 Post the SPM OC3 carrier circuits by typing

>POST SPM spm_no OC3S

and pressing the Enter key.

where

spm_no
is the number of the SPM (0 to 63)

Example of a MAP screen:

```
OC3S
N  CLASS  SITE SPM OC3RM  OC3S STS3L  CKT STATE  TR MA
0  HSCARR HOST  20     0     0     -    1 InSv   -- --
1  HSCARR HOST  20     1     0     -    6 InSv   -- --

SIZE OF POSTED SET  :  2                    MORE...
```

CCS 2RS LBC SPM
critical (continued)

5 List the alarms on each carrier by typing

>LISTALM carrier_no

and pressing the Enter key.

6 Identify the carrier with the LBC alarm. Identify its respective OC3 module by typing

>DETAIL carrier_no

and pressing the Enter key.

Example of a MAP screen:

```
Detail 1
SPM 0 Ckt 6 Name: SPM_0_OC3S_2
```

7 Access the PM level of the MAP screen by typing

>MAPCI;MTC;PM

and pressing the Enter key.

Example of a MAP screen:

```
     SysB    ManB    OffL    CBsy    ISTb    InSv
PM    1       1       1       3       2       12
```

8 Post the SPMs by typing

>POST SPM spm_no

and pressing the Enter key.

where

spm_no
refers to number of the SPM (0 to 63)

Example of a MAP screen:

CCS 2RS LBC SPM
critical (continued)

```
           SysB    ManB    OffL    CBsy    ISTb    InSv
   PM        7       2       2       2       9      16
  SPM        0       2       1       0       0       0

SPM   20  InSv  Loc: Site HOST Floor  1 Row A  FrPos 13

Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
-----  1 - ----  CEM 1  8 I InSv  -----  1 - ----  -----  8 - ----
-----  2 - ----  OC3 0  9 A InSv  -----  2 - ----  -----  9 - ----
DSP 3  3 I InSv  OC3 1 10 I InSv  -----  3 - ----  ----- 10 - ----
-----  4 - ----  ----- 11 - ----  -----  4 - ----  ----- 11 - ----
-----  5 - ----  DSP12 12 A InSv  -----  5 - ----  ----- 12 - ----
-----  6 - ----  DSP13 13 A InSv  -----  6 - ----  ----- 13 - ----
CEM 0  7 A InSv  ----- 14 A InSv  -----  7 - ----  ----- 14 - ----
```

9 Select the active OC3 module by typing

>SELECT OC3 module_no

and pressing the Enter key.

where

module_no
is the number of the OC3 module (0 to 1)

Example of a MAP screen:

```
 SPM 20    OC3 1      Act  InSv

 Loc : Row E  FrPos  8 ShPos 24 ShId 0 Slot 10   Prot Grp : 1
 Default Load: SPMLOAD                           Prot Role: Spare
```

10 Determine whether the alarm condition applies to the active OC3 module.

If	Do
the active OC3	step 11
the inactive OC3	step 13

11 Access the protection level of the MAP screen by typing

>PROT

and pressing the Enter key.

12 Do a manual protection switch with a module in the same protection group by typing

>MANUAL from_unit_no to_unit_no

and pressing the Enter key.

CCS 2RS LBC SPM
critical (end)

where

from_unit_no
is the number (0 to 27) of the module with the alarm

to_unit_no
is the number (0 to 27) of the inactive module in the same protection group

Example of a MAP screen:

```
SPM 20 OC3 1 Manual: Request has been submitted.
SPM 20 OC3 0 Manual: Command completed.
```

13 Replace the OC3. For detailed instructions, see the SPM section of the *Card Replacement Procedures*. When you complete the card replacement procedure, go to step 14 of this procedure.

14 Return to the carrier level of the MAP screen and list the alarms on the carrier by typing

`>LISTALM carrier_no`

and pressing the Enter key.

15 Determine whether the alarm has cleared.

If the alarm list shows	Do
LBC	step 16
the inactive OC3	step 17

16 For further assistance, contact the personnel responsible for the next level of support.

17 You have completed this procedure. Return to the CI level of the MAP screen by typing

`>QUIT ALL`

and pressing the Enter key.

CCS 2RS OPR SPM critical

Alarm display

CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
.	.	.	.		2 RS	.		.	.
.		.	.		*C*	.		.	.

Indication

At the carrier level of the MAP display, an RS preceded by a number appears under the CCS header of the alarm banner and a critical alarm indicator appears beneath it.

Meaning

The DMS-Spectrum Peripheral Module (SPM) alarm system detects a threshold crossing alert (TCA) for the optical power received (OPR) performance parameter. The metered measurement value for OPR in the OC3 module has dropped below 85% of the original calibrated value. A TCA occurs when the OPR parameter drops below 85. The SPM clears the alarm when the parameter rises above 95.

Logs CARR800 and CARR810 relate to the OPR alarm. Table MNHSCARR contains the datafill related to the OPR alarm.

Impact

A severe service-affecting condition exists. Immediate corrective action is required.

The OPR alarm applies to the OC3 Section carrier type.

Common procedure

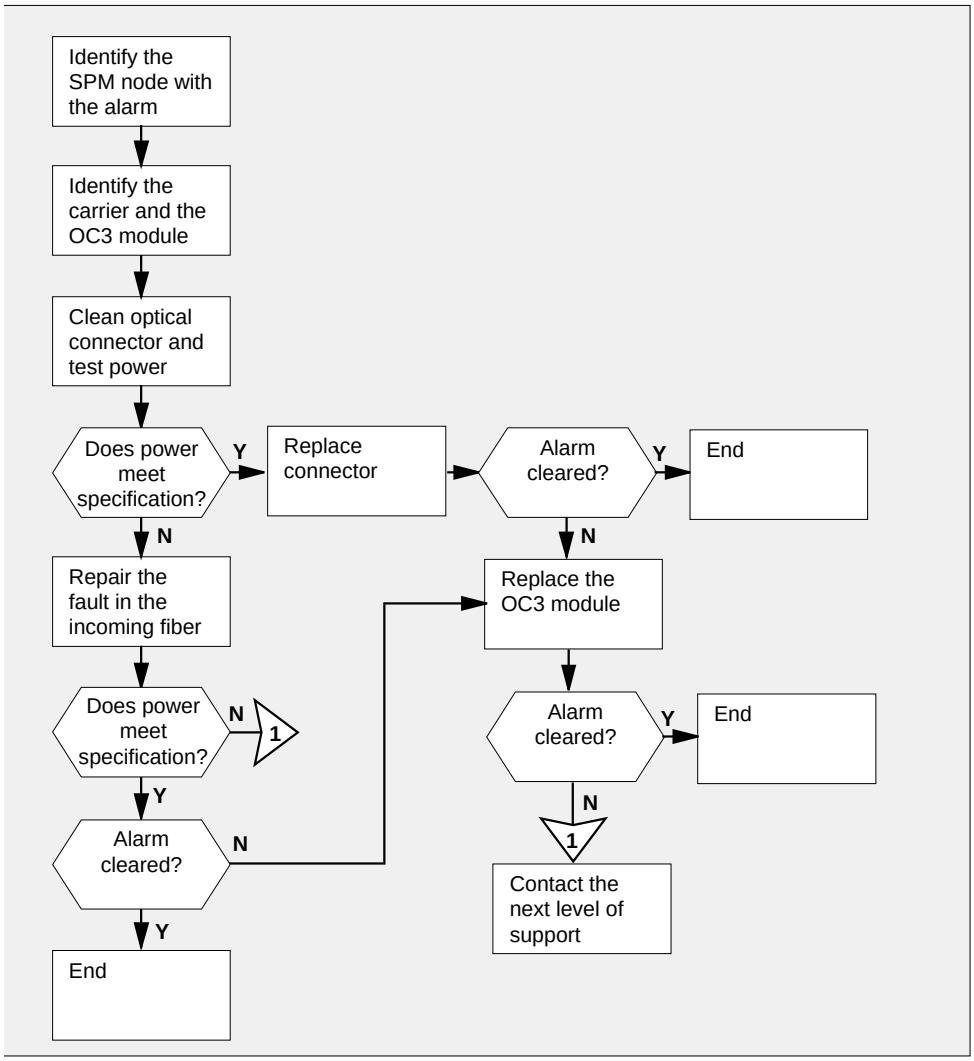
For basic information about SPM alarms, see “Accessing SPM alarms" in this document.

Action

The following flowchart is only a summary of this procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

CCS 2RS OPR SPM
critical (continued)

Summary of clearing an OPR alarm



CCS 2RS OPR SPM
critical (continued)

Clearing an OPR alarm

At the MAP terminal

1 Access the carrier level of the MAP screen by typing

> MAPCI;MTC;TRKS;CARRIER

and pressing the Enter key.

Example of a MAP screen:

```
CLASS    ML   OS ALRM  SYSB  MANB UNEQ OFFL  CBSY PBSY  INSV
TRUNKS    1    0   28    28     0    0    0     0    0    50
TIMING    0    0    0     0     0    0    0     0    0     2
HSCARR    0    0    0     1     3    0    1     0    0   180

MTC:
TRKS:
CARRIER:
```

2 Display all carrier alarms by typing

>DISP ALARM

and pressing the Enter key.

Example of a MAP screen:

```
PM    NO CKT     PM    NO CKT     PM    NO CKT     PM    NO CKT
DTC    0  13     DTC    0  14     DTC    0  15     DTC    0  18
SPM   20  29     SPM   20  30     SPM   20  31     SPM   20  32


DISPLAYED BY CONDITION : ALARM
DISP:
MORE...
```

3 Record the SPM number (NO) and circuit (CKT) number combinations.

4 Post the SPM OC3 carrier circuits by typing

>POST SPM spm_no OC3S

and pressing the Enter key.

where

spm_no
is the number of the SPM (0 to 63)

Example of a MAP screen:

CCS 2RS OPR SPM
critical (continued)

```
OC3S
N  CLASS  SITE SPM OC3RM  OC3S STS3L  CKT STATE  TR MA
0  HSCARR HOST  20     0     0     -    1 InSv   -- --
1  HSCARR HOST  20     1     0     -    6 InSv   -- --

SIZE OF POSTED SET  :  2                    MORE...
```

5 List the alarms on each carrier by typing

>LISTALM carrier_no

and pressing the Enter key.

6 Identify the carrier with the OPT alarm. Identify its respective OC3 module by typing

>DETAIL carrier_no

and pressing the Enter key.

Example of a MAP screen:

```
Detail 1
SPM 20 Ckt 6 Name: SPM_0_OC3S_2
```

7 Access the PM level of the MAP screen by typing

>MAPCI;MTC;PM

and pressing the Enter key.

Example of a MAP screen:

```
    SysB    ManB    OffL    CBsy    ISTb    InSv
PM   1       1       1       3       2      12
```

8 Post the SPMs by typing

>POST SPM spm_no

and pressing the Enter key.

where

spm_no
refers to number of the SPM (0 to 63)

Example of a MAP screen:

CCS 2RS OPR SPM
critical (continued)

```
           SysB    ManB    OffL    CBsy    ISTb    InSv
    PM       7       2       2       2       9      16
   SPM       0       2       1       0       0       0

SPM   20  InSv  Loc: Site HOST Floor  1 Row A  FrPos 13

Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
-----  1 - ----  CEM 1  8 I InSv  -----  1 - ----  -----  8 - ----
-----  2 - ----  OC3 0  9 A InSv  -----  2 - ----  -----  9 - ----
DSP 3  3 I InSv  OC3 1 10 I InSv  -----  3 - ----  ----- 10 - ----
-----  4 - ----  ----- 11 - ----  -----  4 - ----  ----- 11 - ----
-----  5 - ----  DSP12 12 A InSv  -----  5 - ----  ----- 12 - ----
-----  6 - ----  DSP13 13 A InSv  -----  6 - ----  ----- 13 - ----
CEM 0  7 A InSv  ----- 14 A InSv  -----  7 - ----  ----- 14 - ----
```

9 Select the active OC3 module by typing

>SELECT OC3 module_no

and pressing the Enter key.

where

module_no
is the number of the OC3 module (0 to 1)

Example of a MAP screen:

```
SPM 20    OC3 1      Act  InSv

Loc : Row E  FrPos  8 ShPos 24 ShId 0 Slot 10   Prot Grp : 1
Default Load: SPMLOAD                           Prot Role: Spare
```

10 Determine whether the alarm condition applies to the active OC3 module.

If the alarm applies to	Do
the active OC3	step 11
the inactive OC3	step 13

11 Access the protection level of the MAP screen by typing

>PROT

and pressing the Enter key.

12 Do a manual protection switch with a module in the same protection group by typing

>MANUAL from_unit_no to_unit_no

and pressing the Enter key.

where

CCS 2RS OPR SPM
critical (continued)

from_unit_no
is the number (0 to 27) of the module with the alarm

to_unit_no
is the number (0 to 27) of the inactive module in the same protection group

Example of a MAP screen:

```
SPM 20 OC3 1 Manual: Request has been submitted.
SPM 20 OC3 0 Manual: Command completed.
```

13 Remove the fiber connector from the receiver socket on the OC3 module. Clean the socket and the connector with compressed air. Use an optical power meter to measure the power at the receiver connector.

If the power is	Do
above -34 dBm (for example, -30 dBm)	step 14
below -34 dBm	step 15

14 Plug the fiber optic connector into the receiver socket. Return to the carrier level of the MAP terminal and check if the alarm has cleared by typing

`>LISTALM carrier_no`

and pressing the Enter key.

15 Troubleshoot the incoming fiber optic cable and the network according to your company procedures. When you have completed the procedure, return to this point.

Note: Contact you next level of support if you are not familiar with the procedures required to troubleshoot fiber optic and network connections.

16 Use an optical power meter to measure the power at the receiver connector.

If the power is	Do
above -34 dBm (for example, -30 dBm)	step 17
below -34 dBm	step 21

17 Plug the fiber optic connector into the receiver socket. Return to the carrier level of the MAP terminal and check if the alarm has cleared by typing

`>LISTALM carrier_no`

CCS 2RS OPR SPM **critical** (end)

and pressing the Enter key.

If the alarm list shows	Do
OPR	step 18
None	step 22

18 Replace the OC3 module. For detailed instructions, see the SPM section of the *Card Replacement Procedures*. When you complete the card replacement procedure, go to step 19 of this procedure.

19 Return to the carrier level of the MAP screen and list the alarms on the carrier by typing

```
>LISTALM carrier_no
```

and pressing the Enter key.

20 Determine whether the alarm has cleared.

If the alarm list shows	Do
OPT	step 21
None	step 22

21 For further assistance, contact the personnel responsible for the next level of support.

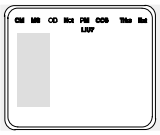
22 You have completed this procedure. Return to the CI level of the MAP screen by typing

```
>QUIT ALL
```

and pressing the Enter key.

CCS 2RS OPT SPM critical

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
.	.	.	.		2 RS	.		.	.
.		.	.		*C*	.		.	.

Indication

At the carrier level of the MAP display, an RS preceded by a number appears under the CCS header of the alarm banner and a critical alarm indicator appears beneath it.

Meaning

The DMS-Spectrum Peripheral Module (SPM) alarm system detects a threshold crossing alert (TCA) for the optical power transmitted (OPT) performance parameter. The metered measurement value for OPT in the OC3 module has dropped below 85% of its original installed value. A TCA occurs when the OPT parameter drops below 85. The SPM clears the alarm when the parameter rises above 95.

Logs CARR800 and CARR810 relate to the OPT alarm. Table MNHSCARR contains the datafill related to the OPT alarm.

Impact

A severe service-affecting condition exists. Immediate corrective action is required.

The OPT alarm applies to the OC3 Section carrier type.

Common procedures

For basic information about SPM alarms, see “Accessing SPM alarms" in this document.

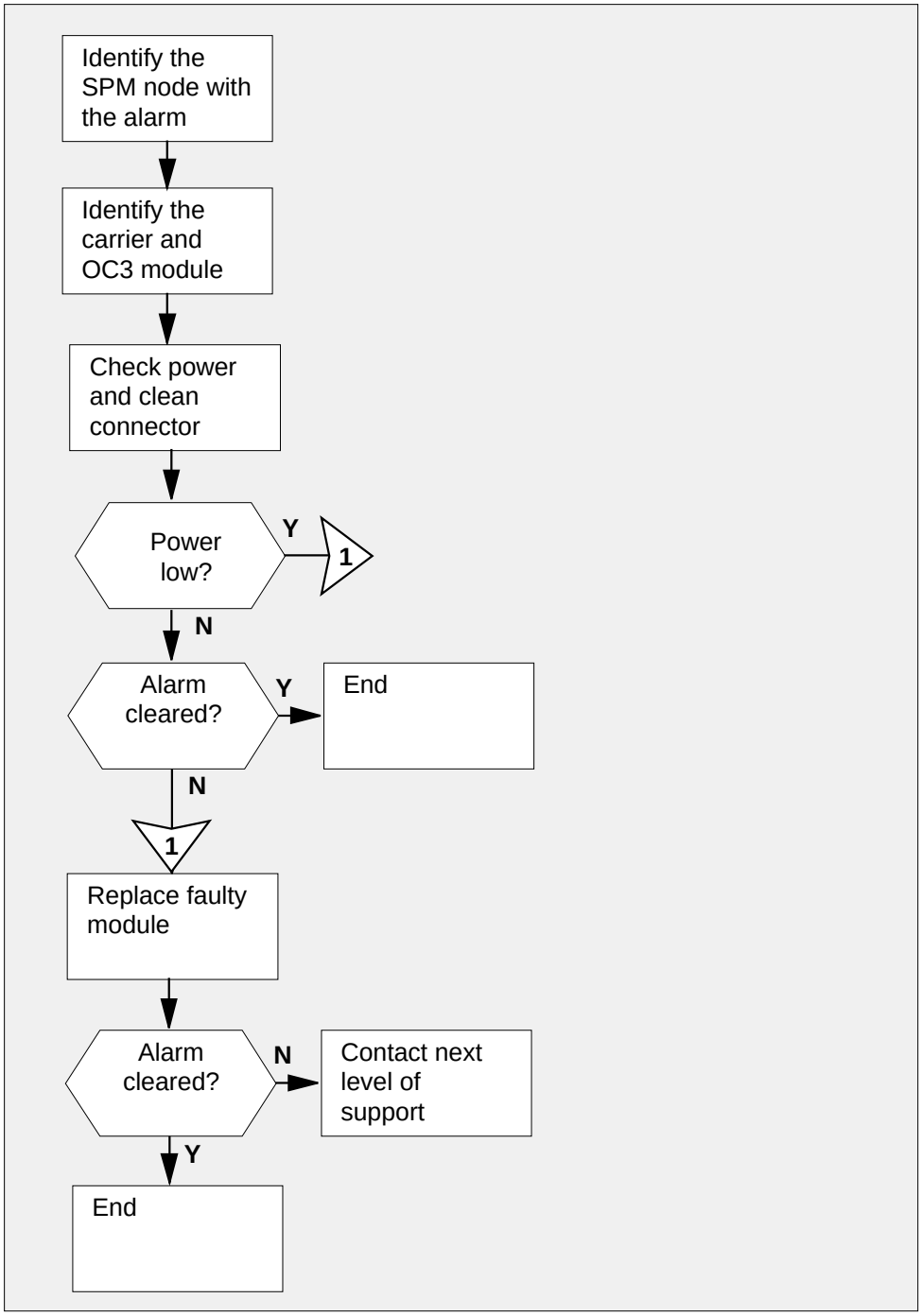
Action

The following flowchart is only a summary of this procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

CCS 2RS OPT SPM
critical (continued)

Summary of clearing an OPT alarm

CCS 2RS OPT SPM
critical (continued)



CCS 2RS OPT SPM
critical (continued)

Clearing an OPT alarm

At the MAP terminal

1 Access the carrier level of the MAP screen by typing

> MAPCI;MTC;TRKS;CARRIER

and pressing the Enter key.

Example of a MAP screen:

```
CLASS    ML   OS ALRM  SYSB  MANB UNEQ OFFL  CBSY PBSY  INSV
TRUNKS    1    0   28    28     0    0    0     0    0    50
TIMING    0    0    0     0     0    0    0     0    0     2
HSCARR    0    0    0     1     3    0    1     0    0   180

MTC:
TRKS:
CARRIER:
```

2 Display all carrier alarms by typing

>DISP ALARM

and pressing the Enter key.

Example of a MAP screen:

```
PM    NO CKT     PM    NO CKT     PM    NO CKT     PM    NO CKT
DTC    0  13     DTC    0  14     DTC    0  15     DTC    0  18
SPM   20  29     SPM   20  30     SPM   20  31     SPM   20  32


DISPLAYED BY CONDITION : ALARM
DISP:
MORE...
```

3 Record the SPM number (NO) and circuit (CKT) number combinations.

4 Post the SPM OC3 carrier circuits by typing

>POST SPM spm_no OC3S

and pressing the Enter key.

where

spm_no
is the number of the SPM (0 to 63)

Example of a MAP screen:

CCS 2RS OPT SPM
critical (continued)

```
OC3S
N  CLASS  SITE SPM OC3RM  OC3S STS3L  CKT STATE  TR MA
0  HSCARR HOST  20     0     0     –    1 InSv   -- --
1  HSCARR HOST  20     1     0     –    6 InSv   -- --

SIZE OF POSTED SET  :  2                    MORE...
```

5 List the alarms on each carrier by typing

>LISTALM carrier_no

and pressing the Enter key.

6 Identify the carrier with the OPT alarm. Identify its respective OC3 module by typing

>DETAIL carrier_no

and pressing the Enter key.

Example of a MAP screen:

```
Detail 1
SPM 0 Ckt 6 Name: SPM_0_OC3S_2
```

7 Access the PM level of the MAP screen by typing

>MAPCI;MTC;PM

and pressing the Enter key.

Example of a MAP screen:

```
    SysB    ManB    OffL    CBsy    ISTb    InSv
PM   1       1       1       3       2       12
```

8 Post the SPMs by typing

>POST SPM spm_no

and pressing the Enter key.

where

spm_no
refers to number of the SPM (0 to 63)

Example of a MAP screen:

CCS 2RS OPT SPM
critical (continued)

```
           SysB    ManB    OffL    CBsy    ISTb    InSv
   PM        7       2       2       2       9      16
  SPM        0       2       1       0       0       0

SPM   20  InSv  Loc: Site HOST Floor  1 Row A  FrPos 13

Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
-----  1 - ----  CEM 1  8 I InSv  -----  1 - ----  -----  8 - ----
-----  2 - ----  OC3 0  9 A InSv  -----  2 - ----  -----  9 - ----
DSP 3  3 I InSv  OC3 1 10 I InSv  -----  3 - ----  ----- 10 - ----
-----  4 - ----  ----- 11 - ----  -----  4 - ----  ----- 11 - ----
-----  5 - ----  DSP12 12 A InSv  -----  5 - ----  ----- 12 - ----
-----  6 - ----  DSP13 13 A InSv  -----  6 - ----  ----- 13 - ----
CEM 0  7 A InSv  ----- 14 A InSv  -----  7 - ----  ----- 14 - ----
```

9 Select the active OC3 module by typing

>SELECT OC3 module_no

and pressing the Enter key.

where

module_no
is the number of the OC3 module (0 to 1)

Example of a MAP screen:

```
SPM 20    OC3 1      Act  InSv

Loc : Row E  FrPos  8 ShPos 24 ShId 0 Slot 10   Prot Grp : 1
Default Load: SPMLOAD                           Prot Role: Spare
```

10 Determine whether the alarm condition applies to the active OC3 module.

If the alarm applies to	Do
the active OC3	step 11
the inactive OC3	step 13

11 Access the protection level of the MAP screen by typing

>PROT

and pressing the Enter key.

12 Do a manual protection switch with a module in the same protection group by typing

>MANUAL from_unit_no to_unit_no

and pressing the Enter key.

where

CCS 2RS OPT SPM
critical (continued)

from_unit_no
is the number (0 to 27) of the module with the alarm

to_unit_no
is the number (0 to 27) of the inactive module in the same protection group

Example of a MAP screen:

```
SPM 20 OC3 1 Manual: Request has been submitted.
SPM 20 OC3 0 Manual: Command completed.
```

13 Remove the fiber connector from the transmitter socket on the OC3 module. Clean the socket and the connector with compressed air. Use an optical power meter to measure the power at the transmitter socket.

If the power is	Do
above -34 dBm (for example, -30 dBm)	step 14
below -34 dBm)	step 15

14 Plug the fiber optic connector into the transmitter socket. Return to the carrier level of the MAP terminal and check if the alarm has cleared by typing

`>LISTALM carrier_no`

and pressing the Enter key.

If the alarm list shows	Do
OPT	step 15
None	step 19

15 Replace the module. For detailed instructions, see the SPM section of the *Card Replacement Procedures*. When you complete the card replacement procedure, go to 16 of this procedure.

16 Return to the carrier level of the MAP screen and list the alarms on the carrier by typing

`>LISTALM carrier_no`

and pressing the Enter key.

17 Determine whether the alarm has cleared.

If the alarm list shows	Do
OPT	step 18

CCS 2RS OPT SPM **critical** (end)

If the alarm list shows	Do
None	step 19

18 For further assistance, contact the personnel responsible for the next level of support.

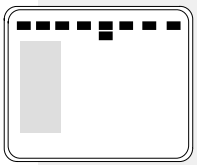
19 You have completed this procedure. Return to the CI level of the MAP screen by typing

```
>QUIT ALL
```

and pressing the Enter key.

CCS LK
minor

Alarm display



CM	MS	IOD	Net	PM	**CCS**	Lns	Trks	Ext	APPL
.	.	.	.	.	**1LK**	.	.	.	.

Indication

At the MTC level of the MAP display, a number and LK appear under the CCS header in the alarm banner. The LK indicates a minor alarm for a linkset (LK).

Meaning

A linkset is in-service trouble. Not all links in the linkset are in-service trouble or are out of service. The number of links in service is less than the required threshold number.

The number under the CCS header in the alarm banner indicates the number of linksets affected.

Result

The linkset can still carry traffic, but the traffic can be at a degraded level of service. Clear this alarm as soon as possible. If all signaling links in the in-service trouble linkset go out of service, a linkset major (LKM) alarm rises. The linkset cannot carry traffic after an LKM alarm rises.

If a total router outage (TRO) occurs, all CCS7 links are blocked (Blkd) and taken out of service. During a TRO, the system does not transmit or receive the ISDN user part (ISUP) or transaction capabilities application part (TCAP) messages. With the CCS7 links out of service, the system notifies the rest of the CCS7 network that the service switching point (SSP) office is no longer providing service.

When CCS7 links are blocked (Blkd), the system rejects commands RTS, ACT, and UNIH until the CCS7 links are unblocked.

Common procedures

This procedure refers to the *Running a C7BERT* procedure.

Do not go to the common procedure unless the step-action procedure directs you to go.

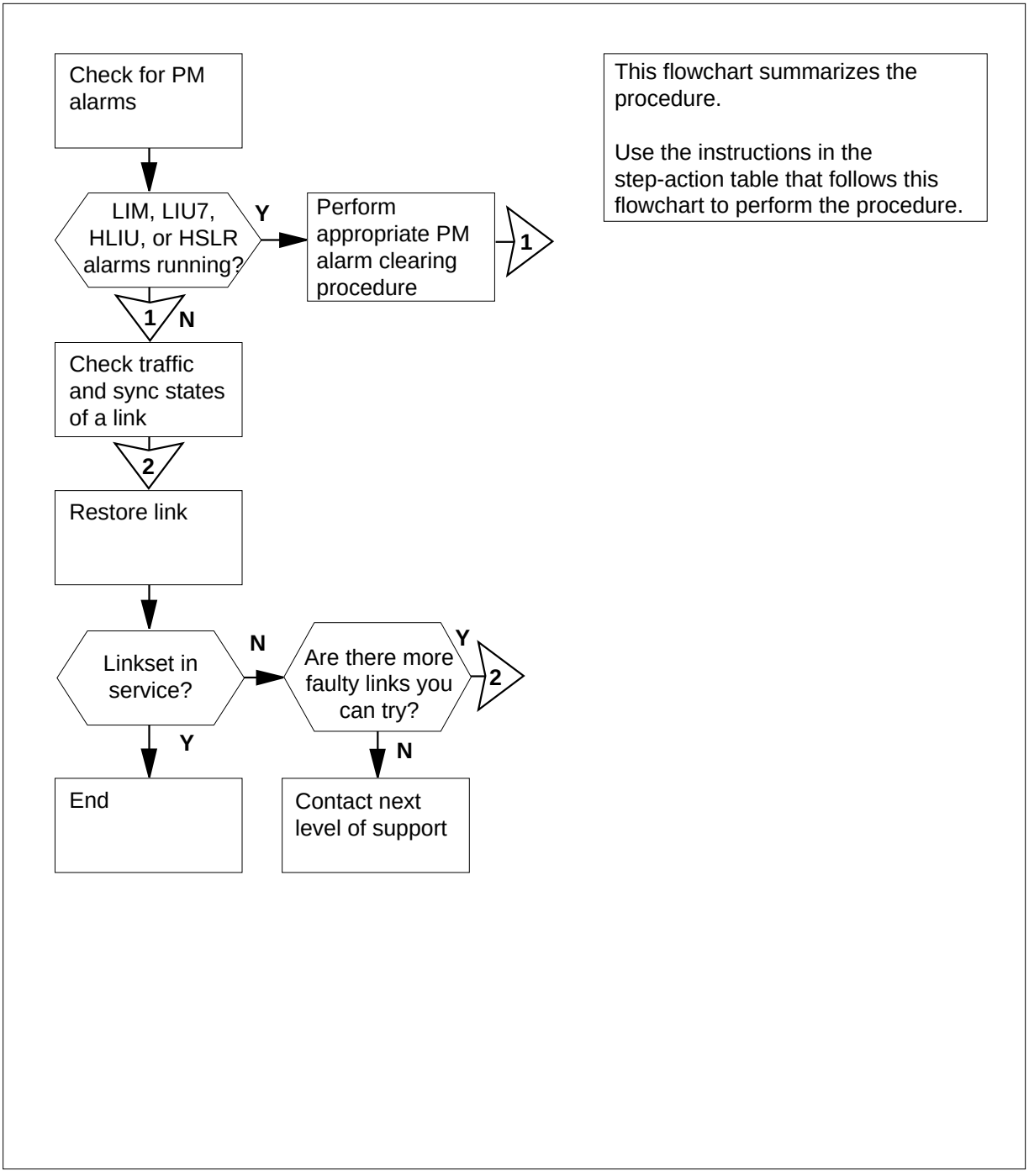
CCS LK
minor (continued)

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CCS LK
minor (continued)

Summary of Clearing a CCS LK minor alarm



CCS LK
minor (continued)

Clearing a CCS LK minor alarm

At the MAP display

1 To access the C7LKSET level of the MAP display, type

>MAPCI;MTC;CCS;CCS7;C7LKSET

and press the Enter key.

2 Determine if LIM, LIU7, HLIU, or HSLR alarms appear under the PM header in the MAP alarm banner.

If LIM, LIU7, HLIU, or HSLR alarms	Do
appear	step 3
do not appear	step 4

3 Perform the appropriate alarm clearing procedures in this document to clear all PM LIM, PM LIU7, PM HLIU, or PM HSLR alarms. When you have completed the procedures, return to this point.

4 To post a linkset that is running an LK minor alarm, type

>POST A LK

and press the Enter key.

Example of a MAP display:

```
Linkset  SSP100_LK        ISTb
   Traf Sync                                          Link
LK Stat Stat Resource  Stat Physical Access        Stat Action
0  SysB Sync LIU7 101  InSv DS0A
1  ISTb Sync LIU7 103  InSv DS0A
2  Blkd Alnd LIU7 105  InSv DS0A

Size of Posted Set = 3
```

If you	Do
posted an in-service trouble linkset	step 5
did not post an in-service trouble linkset	step 56

5 Record the linkset name.

Note: The linkset name appears on the right of the Linkset header on the MAP display.

6 Determine from office records which far-end office connects to the posted linkset.

CCS LK
minor (continued)

7 Contact the far-end office to determine if the office has LIM, LIU7, HLIU or HSLR alarms.

If the far-end office	Do
has LIM, LIU7, HLIU, or HSLR alarms	step 8
does not have LIM, LIU7, HLIU, or HSLR alarms	step 9

8 Wait until the far-end office problems clear. Check the MAP display to determine the state of the posted linkset.

Note: The linkset state appears on the right of the linkset name.

Example of a MAP display:

```
Linkset  SSP100_LK        SYSB
   Traf Sync                                          Link
LK Stat Stat Resource  Stat Physical Access        Stat Action
0  SysB Sync LIU7 101  InSv DS0A
1  ISTb Sync LIU7 103  InSv DS0A
2  Blkd Alnd LIU7 105  InSv DS0A

Size of Posted Set = 3
```

If the state of the linkset is	Do
InSv	step 56
RInh, LInh, ISTb, ManB, or SysB	step 9
is ISTb, ManB, or SysB	step 9
Blkd	step 9

9 Determine if out-of-service or in-service trouble links are in the list for the posted linkset.

Note: The link traffic state appears under the Traf Stat header in the MAP display. Four links can show at one time in the posted linkset. The word MORE appears at the bottom of the MAP display if more than four links are in the linkset.

Example of a MAP display:

CCS LK
minor (continued)

```
Linkset  SSP100_LK        SYSB
   Traf Sync                                              Link
LK Stat Stat Resource  Stat Physical Access        Stat Action
0  SysB Sync LIU7 101  InSv DS0A
1  ISTb Sync LIU7 103  InSv DS0A
1  Blkd Alnd LIU7 105  InSv DS0A
Size of Posted Set = 3
```

If	Do
out-of-service or `ISTb` links appear, and you did not work on any of these links	step 11
out-of-service or `Blkd` links appear, you worked on all of these links, and there are more links to be displayed	step 10
out-of-service or `ISTb` links appear, you worked on all of these links, and there are no more links to be displayed	step 52
all displayed links are `InSv` and there are more links to be displayed	step 10
all displayed links are `InSv` and there are no more links to be displayed	step 52

10 To display the next four links in the posted set, type

`>NEXT`

and press the Enter key.

Go to step 9.

11 To choose an out-of-service or in-service trouble link, look at the traffic state for each link.

Note: The link traffic state appears under the Traf Stat header of the MAP display.

If the traffic state for	Do
at least one link is `RInh`. and you have not worked on that link	step 14

CCS LK
minor (continued)

If the traffic state for	Do
at least one link is LInh and you have not worked on that link	step 17
at least one link is Blkd and you have not worked on that link	step 14
at least one link is ManB and you have not worked on that link	step 23
at least one link is ISTb or SysB and you have not worked on that link	step 25
all links is either RInh, LInh, ISTb, ManB, or SysB and these links have failed to return to service	step 55
a minimum of one link is ManB. You did not work on the link	step 23
a minimum of one link is ISTb or SysB. You did not work on the link	step 25
all links are ISTb, ManB, or SysB. These links failed to return to service	step 55

12 To determine the type of the faults on the link, type

>QUERYFLT link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

Example of a MAP display:

```
Linkset  COMR_COML_LKSET        SysB
   Traf Sync                                          Link
LK Stat Stat Resource  Stat Physical Access        Stat Action
2  Blkd Alnd LIU7 20  InSv DS0A

Size of Posted Set = 1
QueryFlt 0
Link in Blkd state due to unavailability of External Routing
Display CCS alarms for External Routing information
```

13 To clear the Blkd condition, display the CCS RSRC or RTRM alarms.

To clear the alarms, bring additional routers online. Use the following procedures in this document to bring the routers online:

- *Clearing an RSC alarm*
- *Clearing an RTRM alarm*.

Go to step 44.

14 Determine from office records which far-end office connects to the posted linkset.

15 Contact the far-end office to determine why the operating company personnel inhibited the link at that location.

16 Wait until the far-end office restores the link. Determine the traffic state of the remote inhibited link.

Note: The link traffic state appears under the Traf Stat header of the MAP display.

Example of a MAP display:

```
Linkset  SSP100_LK        ISTb
   Traf Sync                                          Link
LK Stat Stat Resource  Stat Physical Access        Stat Action
0  InSv Sync LIU7 101  InSv DS0A
1  ISTb Sync LIU7 103  InSv DS0A
2  InSv Sync LIU7 105  InSv DS0A
Size of Posted Set = 3
```

If the link traffic state is	Do
InSv	step 52
LInh	step 17
ManB	step 23
ISTb or SysB	step 25

17 Determine from office records or from operating company personnel why the link is inhibited locally.

CCS LK
minor (continued)

18 When you have permission to uninhibit the link, type

`>UINH link_no`

and press the Enter key.

where

link_no
is the number of the inhibited link (0 to 15)

If the UINH command	Do
passed	step 19
failed, and this is the first attempt to uninhibit the link	step 20
failed, and this is the second attempt to uninhibit the link	step 9

19 Determine the link traffic state.

Note: The link traffic state appears under the Traf Stat header on the MAP display.

Example of a MAP display:

```
Linkset  SSP100_LK        ISTb
   Traf Sync                                          Link
LK Stat Stat Resource  Stat Physical Access       Stat Action
0  InSv Sync LIU7 101  InSv DS0A
1  ISTb Sync LIU7 103  InSv DS0A

Size of Posted Set = 2
```

If the link traffic state is	Do
InSv	step 52
other than listed here	step 9

20 Contact your next level of support to determine if datafill that relates to the link changed at either end of the link.

If entries	Do
changed at either end of the link	step 21
did not change at either end of the link	step 22

21 Contact the next level of support. Follow the instructions to correct the problem.

When you correct the problem, go to step 18.

CCS LK
minor (continued)

22 Consult your next level of support to determine why the UINH command failed.

When you correct the problem, go to step 18.

23 Determine from office records or from operating company personnel why the link is manual busy.

When you have permission, continue this procedure.

24 To return the link to service, type

>RTS link_no

and press the Enter key.

where

link_no
is the number of the inhibited link (0 to 15)

If the RTS command	Do
failed	step 9
passed, but the link traffic state is RInh	step 14
passed, but the link traffic state is LInh	step 17
passed, but the link traffic state is ISTb or SysB	step 25
passed, and the link traffic state is InSv	step 52

25 Determine the link synchronization state.

Note: The link synchronization state appears under the Sync Stat header of the MAP display.

Example of a MAP display:

```
Linkset  SSP100_LK        ISTb
   Traf Sync                                          Link
LK Stat Stat Resource  Stat Physical Access       Stat Action
0  InSv Sync LIU7 101  InSv DS0A
1  ISTb Sync LIU7 103  InSv DS0A

Size of Posted Set = 2
```

If the link synchronization state is	Do
Sync or Alnd	step 42

CCS LK
minor (continued)

If the link synchronization state is	Do
other than listed here	step 26

26 To inhibit the link, type

>INH link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15) you want to inhibit

If the INH command	Do
passed	step 27
failed, and the link traffic state is SysB	step 27
failed, and the link traffic state is ISTb	step 9

27 To manually busy the link, type

>BSY link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

If the response is	Do
Link link_no:Traffic is running on that link Please confirm (“YES",“Y",“NO", or “N"):	step 28
a message not listed here, which can include the above response	step 55

28 To confirm the command, type

>YES

and press the Enter key.

Note: If the link is associated with an HLIU or HSLR, do not use the DEACT command. Go to step 31, then step 30, then continue with step 32.

CCS LK
minor (continued)

29 To deactivate the link, type

>DEACT link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

30 To activate the link, type

>ACT link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

If the ACT command	Do
passed, and the link synchronization state is Sync or Alnd	step 44
passed, and the link synchronization state is not Sync or Alnd	step 33
failed	step 33

31 To return the link to service, type

>RTS link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

32 To uninhibit the link, type

>UINH link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

If the UINH command	Do
passed, and the link synchronization state is either Sync or Alnd	step 44

CCS LK
minor (continued)

If the UINH command	Do
passed, and the link synchronization state is neither Sync or Alnd	step 33
failed	step 33

33 Wait 8 min to see if the link activates.

If the link synchronization state is	Do
Sync or Alnd	step 44
other than listed here, and you did not ask the far-end office to activate the link	step 34
other than listed here, and you asked the far-end office to activate the link	step 9

34 Tell operating company personnel at the far-end office that:

- You will busy, deactivate, return to service, and activate the link to align the link again.
- The link must activate from both ends after you busy, deactivate, and return the link to service.

Coordinate your activities with the activities of the far-end office to realign the link.

35 To inhibit the link, type

`>INH  link_no`

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

If the INH command	Do
passed	step 36
failed, and the link traffic state is SysB	step 36

CCS LK
minor (continued)

If the INH command	Do
failed, and the link traffic state is ISTb	step 9

36 To manually busy the link, type

>BSY link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

If the response is	Do
Link link_no:Traffic is running on that link Please confirm (“YES",“Y",“NO", or “N"):	step 37
other than listed here, which can include the above response	step 55

37 To confirm the command, type

>YES

and press the Enter key.

Note: If the link is associated with an HLIU or HSLR, do not use the DEACT command. Go to step 40, then step 39, then continue with step 41.

38 To deactivate the link, type

>DEACT link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

39 Tell personnel at the far-end office to activate the link on which you are working. Activate the link at your end at the same time as the far-end office activates the link. Type

>ACT link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

CCS LK
minor (continued)

40 To return the link to service, type

>RTS link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

If the ACT command	Do
passed, and the link synchronization state is Sync or Alnd	step 42
passed, and the link synchronization state is not Sync or Alnd	step 9
failed	step 9

41 To uninhibit the link, type

>UINH link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

If the UINH command	Do
passed, and the link synchronization state is Sync or Alnd	step 42
passed, and the link synchronization state is not Sync or Alnd	step 9
failed	step 9

42 Determine the traffic state of the link.

Note: The link traffic state appears under the Traf Stat header on the MAP display.

Example of a MAP display:

CCS LK
minor (continued)

```
Linkset  SSP100_LK        SYSB
   Traf Sync                                          Link
LK Stat Stat Resource  Stat Physical Access       Stat Action
0  SysB Sync LIU7 101  InSv DS0A
1  ISTb Sync LIU7 103  InSv DS0A

Size of Posted Set = 2
```

If the link traffic state is	Do
InSv	step 52
other than InSv	step 43
is other than InSv	step 44

43 To inhibit the link, type

>INH link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

If the INH command	Do
passed	step 44
failed, and the link traffic state is SysB	step 44
failed, and the link traffic state is ISTb	step 9

44 To manually busy the link, type

>BSY link_no

and press the Enter key.

where

CCS LK
minor (continued)

link_no
is the number of the link (0 to 15)

If the response is	Do
`Link link_no:Traffic is running on that link Please confirm (“YES",“Y",“NO", or “N"):`	step 45
other than listed here, which can include the above response	step 55

45 To confirm the command, type

>YES

and press the Enter key.

46 To test the link, type

>TST link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

If the TST command	Do
passed	step 48
failed, and you did not run a bit error rate test on the link	step 47
failed	step 9
failed, and you ran a bit error rate test on the link	step 9

47 Perform the procedure *Running a C7BERT* in this document. Complete the procedure and return to this point.

Note: Perform a bit error rate test on any link in the posted linkset that fails the manual test at step 46.

Go to step 50.

48 To return the link to service, type

>RTS link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

If the RTS command	Do
passed, and the link is `LInh`	step 51
passed	step 52
failed, and this is the first time you have tried the RTS command at this point	step 49
failed, and this is the second time you have tried the RTS command at this point	step 9

49 Wait 10 min.

Go to step 48.

50 Your next action depends on the results of the bit error rate test.

If during the bit error rate test the system instructed you	Do
to return the link to service	step 51
not to return the link to service	step 9

51 To uninhibit the link, type

`>UINH link_no`

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

If the UINH command	Do
passed, and the link is `InSv`	step 52
passed, and the link is not `InSv`	step 9
failed	step 9

52 Determine the linkset state.

Note: The linkset state appears on the right of the linkset name on the MAP display.

CCS LK
minor (end)

Example of a MAP display:

```
Linkset  SSP100_LK        InSv
   Traf Sync                                          Link
LK Stat Stat Resource  Stat Physical Access        Stat Action
0  InSv Sync LIU7 101  InSv DS0A
1  ISTb Sync LIU7 103  InSv DS0A


Size of Posted Set = 2
```

If the state of the linkset is	Do
InSv	step 56
ManB, ISTb, or SysB, and all links are InSv	step 53
ManB, ISTb, or SysB, none of the displayed links are InSv, and there are more links to be displayed	step 9
ManB, ISTb, or SysB, none of the displayed links are InSv., and there are no more links to be displayed	step 55

53 Determine from office records which far-end office connects to the posted linkset.

54 Tell the operating company personnel at the far-end office that you are running an LK minor alarm and that one or more associated links connected to your office are in service.

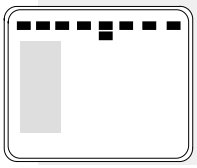
Go to step 56.

55 For additional help, contact the next level of support.

56 The procedure is complete.

CCS LK minor in a DPNSS

Alarm display



CM	MS	IOD	Net	PM	**CCS**	Lns	Trks	Ext	APPL
.	.	.	.	.	**1 LK**	.	.	.	.

Indication

At the MTC level of the MAP display, a number and LK appear under the CCS header in the alarm banner. The LK indicates minor alarm for a linkset (LK).

Meaning

The number of DPNSS links affected appears to the left of LK. These links are system busy or in service trouble.

Result

An LK alarm indicates that the linkset cannot communicate with the private branch exchange (PBX). To prevent an change in service, clear the LK alarms at the first opportunity.

Common procedures

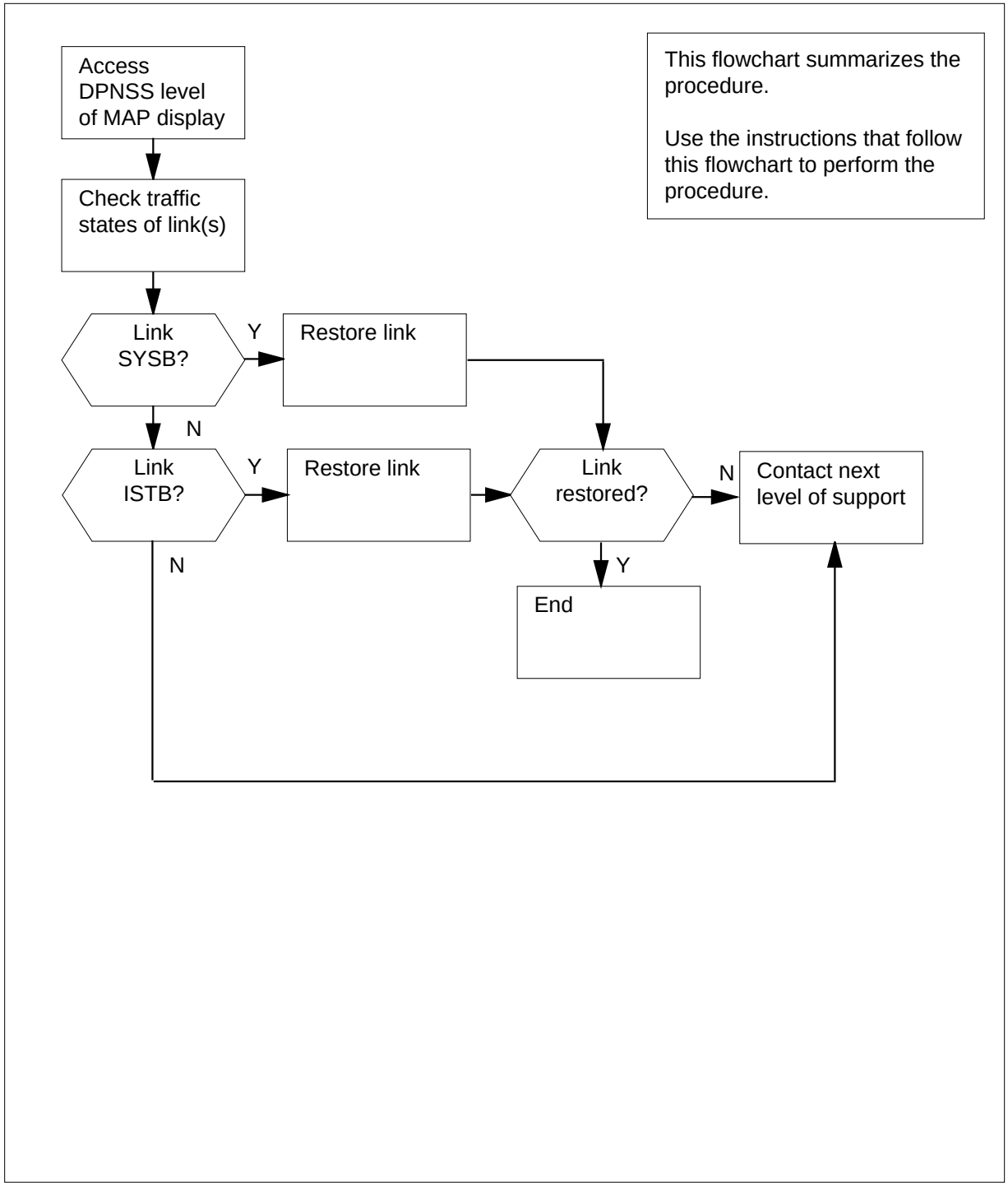
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CCS LK
minor in a DPNSS (continued)

Summary in Clearing a CCS LK alarm



CCS LK
minor in a DPNSS (continued)

Clearing a CCS LK alarm

At your current location

1 To access the DPNSS level of the MAP display, type

>MAPCI;MTC;CCS;DPNSS

and press the Enter key.

2 To post all links that have an LK minor alarm, type

>POST A

and press the Enter key.

Example of a MAP display:

```
Link name      Link      ST        Carr.   action in
 (carrier)     state  No. state    state   progress
PDTC 0 3        SYSB  108  INSV     INSV


2 links in post set,         1 after current link
```

3 Record the link name. The link name appears under the header Link name on the MAP display.

4 To display the next link, type

>NEXT

and press the Enter key.

5 Repeat steps 3 and 4 until you record the names of all links that have alarms.

6 To post a link that has an LK alarm, type

>POST L link_name

and press the Enter key.

where

link_name
is the name of the link that you recorded in step 3

7 Identify the link state of the posted link.

Example of a MAP response:

CCS LK
minor in a DPNSS (continued)

```
Link name      Link      ST        Carr.   action in
 (carrier)     state  No. state    state   progress
PDTC 0 3       SYSB   108  INSV     INSV

2 links in post set,         1 after current link
```

If the link state	Do
is SysB	step 8
is ISTb	step 22

8 To busy the link, type

>BSY

and press the Enter key.

If you	Do
can set the SysB link to busy	step 10
cannot set the SysB link to busy	step 9

9 Use the FORCE option on the link that you cannot busy. To force the command on the link, type

>BSY FORCE

and press the Enter key.

10 To return the link to service, type

>RTS

and press the Enter key.

If the RTS command	Do
passed	step 11
failed	step 12

11 Determine if other LK alarms are present.

If	Do
another LK alarm is present	step 6
another LK alarm does is not present	step 39

12 Check the state of the signaling terminal (ST).

CCS LK
minor in a DPNSS (continued)

Example of a MAP response:

```
Link name      Link      ST        Carr.   action in
 (carrier)     state  No. state    state   progress
PDTC 0 3       SYSB   108  SYSB     INSV


2 links in post set,         1 after current link
```

If the ST	Do
is SysB	step 13
is CBsy	step 13
is InSv	step 17

13 Perform the procedure *Clearing an STC alarm* in this document. Clear the alarm for the signaling terminal controller (STC) and return to this point.

14 To busy the link, type

>BSY

and press the Enter key.

If you	Do
can set the SysB link to busy	step 16
cannot set the SysB link to busy	step 15

15 Use the FORCE option on the link that you cannot busy. To force the command on the link, type

>BSY FORCE

and press the Enter key.

16 To return the link to service, type

>RTS

and press the Enter key.

If the RTS command	Do
passed	step 11
failed	step 17

17 Check the carrier state.

Example of a MAP response:

CCS LK
minor in a DPNSS (continued)

```
Link name      Link      ST        Carr.   action in
 (carrier)     state  No. state    state   progress
PDTC 0 3       SYSB   108  InSv     SysB

2 links in post set,         1 after current link
```

If the carrier state	Do
is SysB	step 18
is InSv	step 22

18 Perform the procedure *Clearing an IPML alarm* in this document. Clear the alarm for the interperipheral message link (IPML) and return to this point.

19 To busy the link, type

>BSY

and press the Enter key.

If you	Do
can set the SysB link to busy	step 21
cannot set the SysB link to busy	step 20

20 Use the FORCE option on the link that you cannot busy. To force the command on the link, type

>BSY FORCE

and press the Enter key.

21 To return the link to service, type

>RTS

and press the Enter key.

If the RTS command	Do
passed	step 11
failed	step 22

22 Check the action in progress field on the MAP display.

Example of a MAP response:

CCS LK
minor in a DPNSS (continued)

```
Link name      Link      ST        Carr.   action in
 (carrier)     state  No. state    state   progress
PDTC 0 3       SYSB   108  InSv     SysB  resetting all
                                           LAPS

2 links in post set,         1 after current link
```

If the MAP response	Do
is querying ST	step 23
is hunting flags	step 2
is resetting all LAPS	step 24
is resetting <n> LAPS	step 25
is all LAPS deactivated	step 34
is LAP(s) deactivated	step 34
is no display	step 39

23 This message appears at normal intervals. If the message does not clear in seconds, a fault is present.

Go to step 38.

24 The fault is with the other PBX.

Go to step 38.

25 This temporary state is normal while the link returns to service.

26 Use the QUERYLAP command to identify the LAPs that attempt to reset. Type

>QUERYLAP FULL

and press the Enter key.

Example of a MAP response:

```
LAP:          00000000001111111111222222222233
              01234567890123456789012345678901
Real:         -.................-.......rrrrrr
Virtual:      -.......rrrrrrr-rrrrrrrrrrrrrr
```

27 To reactivate the LAPs, type

>ACTLAP ALL

CCS LK
minor in a DPNSS (continued)

and press the Enter key.

If the LAP	Do
reactivates	step 39
does not reactivate	step 28

28 To access the trunk test position (TTP) level of the MAP display, type

>TRKS;TTP

and press the Enter key.

Example of a MAP response:

```
 POST  DELQ  BUSYQ DIG
TTP1
CKT TYPE   PM.NO     COM   LANG  STA  S  R  DOT TE RESULT
2W DP DP PDTC 1 5 17 SVNV2W  60   SB   +  .   DIG
```

If the trunks	Do
are in lock-out (LO) state	step 38
are in system-busy (SB) state	step 29

29 To post the link that is system busy, type

>POST A SB

and press the Enter key.

30 To busy the link, type

>BSY

and press the Enter key.

If you	Do
can set the SysB link to busy	step 32
cannot set the SysB link to busy	step 31

31 Use the FORCE option on the link that you cannot busy. To force the command on the link, type

>BSY FORCE

and press the Enter key.

32 To return the link to service, type

>RTS

CCS LK minor in a DPNSS (end)

and press the Enter key.

If the RTS command	Do
passed	step 33
failed	step 38

33 The LAP resets automatically.

If the LAP	Do
does reset	step 39
does not reset	step 38

34 To reactivate the LAPs, type

>ACTLAP ALL

and press the Enter key.

35 To busy the link, type

>BSY

and press the Enter key.

If you	Do
can set the SysB link to busy	step 37
cannot set the SysB link to busy	step 36

36 Use the FORCE option on the link that you cannot busy. To force the command on the link, type

>BSY FORCE

and press the Enter key.

37 To return the link to service, type

>RTS

and press the Enter key.

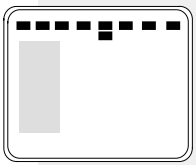
If the RTS command	Do
passed	step 11
failed	step 38

38 For additional help, contact the next level of support.

39 The procedure is complete.

CCS LKM
major

Alarm display



CM	MS	IOD	Net	PM	**CCS**	Lns	Trks	Ext	APPL
.	.	.	.	.	**1LKM**	.	.	.	.

Indication

At the MTC level of the MAP display, a number precedes LKM under the CCS header in the alarm banner. The LKM indicates a major alarm for a linkset.

Meaning

A linkset is out of service. No links in the linkset can carry traffic.

The number under the common channel signaling (CCS) header in the alarm banner indicates the number of linksets affected.

Result

Signaling on the linkset is not possible. Traffic routes to another linkset if a linkset is available. The traffic can be at a degraded level of service.

Common procedures

This procedure refers to *Running a C7BERT*.

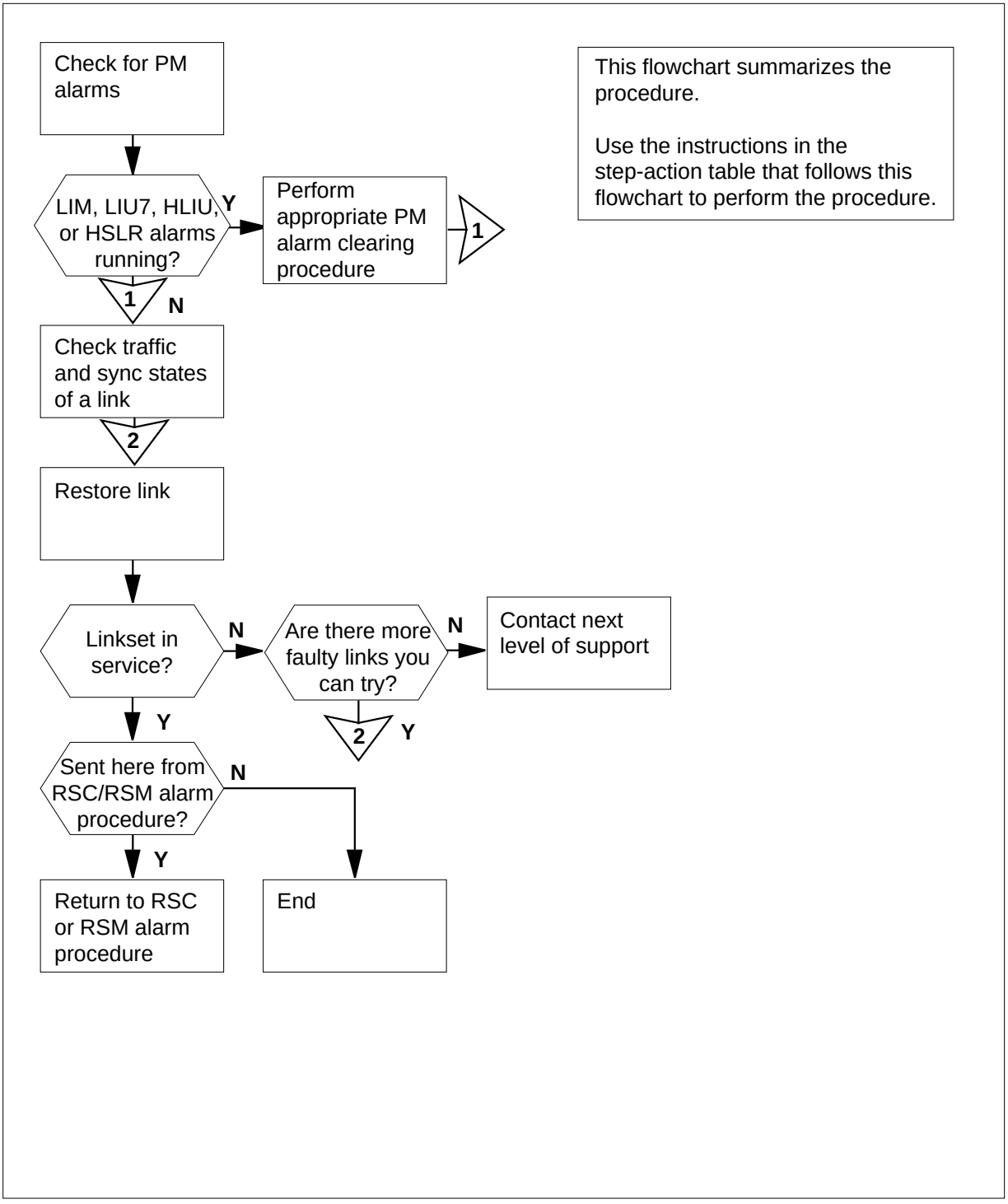
Do not go to the common procedure unless the step-action procedure directs you to go.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CCS LKM
major (continued)

Summary of How to clear a CCS LKM major alarm



CCS LKM
major (continued)

How to clear a CCS LKM major

At the MAP display

1 To access the C7LKSET level of the MAP display, type

>MAPCI;MTC;CCS;CCS7;C7LKSET

and press the Enter key.

If you	Do
come to this procedure from the RSC or the RSM alarm clearing procedure	step 6
do not come to this procedure from the RSC or the RSM alarm clearing procedure	step 2

2 Determine if LIM, LIU7, HLIU, or HSLR alarms appear under the PM header in the MAP display alarm banner.

If LIM, LIU7, HLIU, or HSLR alarms	Do
appear	step 3
do not appear	step 4

3 Perform the correct alarm clearing procedures in this document to clear all PM LIM, PM LIU7, PM HLIU, or PM HSLR alarms. Complete the procedures and return to this point.

4 To post a linkset that runs an LKM major alarm, type

>POST A LKM

and press the Enter key.

Example of a MAP display:

```
Linkset  SSP100_LK        SysB
   Traf Sync                                          Link
LK Stat Stat  Resource  Stat Physical Access       Stat Action
0  SysB Sync  LIU7 101  InSv DS0A
1  ManB alnd LIU7 103  InSv DS0A
2  ManB DAct  DLIU 300  InSv DS1

Size of Posted Set = 3
```

If you	Do
posted an out-of-service linkset	step 5
did not post an out-of-service linkset	step 57

CCS LKM
major (continued)

5 Record the linkset name.

Note: The linkset name appears on the right of the Linkset header on the MAP display.

6 To post the out of service link, type

>POST C linkset_name

and press the Enter key.

where

linkset_name
is the name of the linkset that you recorded before you started this procedure

Example of a MAP display:

```
Linkset  SSP100_LK        ISTb
   Traf Sync                                          Link
LK Stat Stat  Resource  Stat Physical Access       Stat Action
0  SysB Sync  LIU7 101  InSv DS0A
1  ManB alnd LIU7 103  InSv DS0A
2  ManB DAct  DLIU 300  InSv DS1

Size of Posted Set = 3
```

7 Determine from office records the far-end office that connects to the posted linkset.

8 Contact the far-end office to determine if it has LIM, LIU7, HLIU, or HSLR alarms.

If the far-end office	Do
has LIM, LIU7, HLIU, or HSLR alarms	step 9
does not have LIM, LIU7, HLIU, or HSLR alarms	step 10

9 When the problems at the far-end office clear, determine the state of the posted linkset.

Note: The linkset state appears on the right of the linkset name on the MAP display.

Example of a MAP display:

CCS LKM
major (continued)

```
Linkset  SSP100_LK        SYSB
   Traf Sync                                              Link
LK Stat Stat  Resource  Stat Physical Access        Stat Action
0  SysB Sync  LIU7 101  InSv DS0A
1  ManB alnd LIU7 103  InSv DS0A
2  ManB DAct  DLIU 300  InSv DS1

Size of Posted Set = 3
```

If the state of the linkset	Do
is InSv or ISTb	step 54
is RInh, LInh, ManB, or SysB	step 10
is ManB or SysBsy	step 10

10 Determine if the posted linkset contains out-of-service links.

Note: The link traffic state appears under the Traf Stat header in the MAP display. Up to four links show at one time in the posted linkset. If more than four links are in the linkset, the word “more" appears at the bottom of the MAP display.

Example of a MAP display:

```
Linkset  SSP100_LK        SYSB
   Traf Sync                                              Link
LK Stat Stat  Resource  Stat Physical Access        Stat Action
0  SysB Sync  LIU7 101  InSv DS0A
1  ManB alnd LIU7 103  InSv DS0A
2  ManB DAct  DLIU 300  InSv DS1

Size of Posted Set = 3
```

If	Do
out-of-service links are displayed and you did not work on any of these links	step 12
out-of-service or ISTb links are displayed, you worked on all of these links, and there are more links to be displayed	step 11
out-of-service or ISTb links are displayed, you worked on all of these links, and there are no more links to be displayed	step 51
all displayed links are InSv or ISTb, and there are more links to be displayed	step 11

CCS LKM
major (continued)

If	Do
all displayed links are InSv or ISTb, and there are no more links to be displayed	step 51

11 To display the next four links in the posted set, type

>NEXT

and press the Enter key.

Go to step 10.

12 To choose an out-of-service link, check the traffic state for each link.

Note: The link traffic state appears under the Traf Stat header of the MAP display.

If the traffic state for	Do
at least one link is InSv and you cannot restore any RInh, LInh, ManB, or SysB links	step 51
a minimum of one link is InSv and you cannot restore any ManB or SysBsy links	step 51
at least one link is RInh and you did not work on that link	step 13
at least one link is LInh and you did not work on that link	step 16
at least one link is ManB and you did not work on that link	step 22
at least one link is SysB and you did not work on that link	step 24
all links are RInh, LInh, ManB, or SysB and these links did not return to service	step 56
all links are ManB or SysBsy and these links did not return to service	step 56

13 Determine from office records which far-end office connects to the posted linkset.

CCS LKM
major (continued)

14 Contact the far-end office to determine why the operating company personnel inhibited the link at a remote location.

15 When the far-end office restores the link, determine the traffic state of the remotely inhibited link.

Note: The link traffic state appears under the Traf Stat header of the MAP display.

Example of a MAP display:

```
Linkset  SSP100_LK        ISTb
   Traf Sync                                          Link
LK Stat Stat  Resource  Stat Physical Access        Stat Action
0  SysB Sync  LIU7 101  InSv DS0A
1  ManB alnd LIU7 103  InSv DS0A
2  ManB DAct  DLIU 300  InSv DS1

Size of Posted Set = 3
```

If the link traffic state is	Do
InSv or ISTb	step 51
LInh	step 16
ManB	step 22
SysB	step 24

16 Determine from office records or from operating company personnel why the link was locally inhibited.

17 When you have permission, uninhibit (UINH) the link. Type

>UINH link_no

and press the Enter key.

where

link_no
is the number of the inhibited link (0 to 15)

If the UINH command	Do
passed	step 18
failed, and this is the first time you have tried to uninhibit the link	step 19
failed, and this is the second time you have tried to uninhibit the link	step 10

CCS LKM
major (continued)

18 Determine the link traffic state.

Note: The link traffic state appears under the Traf Stat header on the MAP display.

Example of a MAP display:

```
Linkset  SSP100_LK        InSv
   Traf Sync                                          Link
LK Stat Stat  Resource  Stat Physical Access       Stat Action
0  SysB Sync  LIU7 101  InSv DS0A
1  ManB alnd LIU7 103  InSv DS0A
2  ManB DAct  DLIU 300  InSv DS1

Size of Posted Set = 3
```

If the link traffic state is	Do
InSv or ISTb	step 51
other than listed here	step 10

19 Contact your next level of support to determine if datafill that relates to the link has been changed at either end of the link.

If datafill	Do
changed at either end of the link	step 20
did not change at either end of the link	step 21

20 Consult your next level of support. Follow the instructions of your next level of support to correct the problem.

When you correct the problem, go to step 17.

21 Consult your next level of support to determine why the UINH command failed.

When you correct the problem, go to step 17.

22 Determine from office records or from operating company personnel why the link is manual busy.

When you have permission, continue this procedure.

23 To return the link to service, type

`>RTS  link_no`

and press the Enter key.

where

link_no
is the number of the link (0 to 7)

CCS LKM
major (continued)

link_no
is the number of the link (0 to 15)

If the RTS command	Do
failed	step 10
passed, but the link traffic state is RInh	step 13
passed, but the link traffic state is LInh	step 16
passed, but the link traffic state is SysB	step 24
passed, and the link traffic state is InSv or ISTb	step 51

24 Determine the link synchronization state.

Note: The link synchronization state appears under the Sync Stat header of the MAP display.

Example of a MAP display:

```
Linkset  SSP100_LK        ISTb
   Traf Sync                                          Link
LK Stat Stat  Resource  Stat Physical Access       Stat Action
0  SysB Sync  LIU7 101  InSv DS0A
1  ManB alnd LIU7 103  InSv DS0A
2  ManB DAct  DLIU 300  InSv DS1

Size of Posted Set = 3
```

If the link synchronization state is	Do
Sync or Alnd	step 41
other than listed above	step 25
other than listed above	step 26

25 To inhibit the link, type

>INH link_no

and press the Enter key.

where

CCS LKM
major (continued)

link_no
is the number of the link (0 to 15)

If the INH command	Do
passed	step 26
failed, and the link traffic state is SysB	step 26
failed, and the link traffic state is ISTb	step 10

26 To manually busy the link, type

>BSY link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 7)

link_no
is the number of the link (0 to 15)

If the response is	Do
Link link_no:Traffic is running on the link Please confirm (“YES",“Y",“NO", or “N"):	step 27
other than listed here, including additional messages with above response	step 56

27 To confirm the command, type

>YES

and press the Enter key.

28 To deactivate the link, type

>DEACT link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 7)

CCS LKM
major (continued)

link_no
is the number of the link (0 to 15)

29 To activate the link, type

>ACT link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 7)

link_no
is the number of the link (0 to 15)

If the ACT command	Do
passed, and the link synchronization state is Sync or Alnd	step 41
passed, and the link synchronization state is not Sync or Alnd	step 32
failed	step 32

30 To return the link to service, type

>RTS link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 7)

link_no
is the number of the link (0 to 15)

31 To uninhibit the link, type

>UINH link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

If the UINH command	Do
passed, and the link synchronization state is Sync or Alnd	step 41

CCS LKM
major (continued)

If the UINH command	Do
passed, and the link synchronization state is not Sync or Alnd	step 32
failed	step 32

32 Wait 8 min to see if the link activates.

If the link synchronization state is	Do
Sync or Alnd	step 41
other than listed here, and you did not ask the far-end office to activate the link	step 33
other than listed here, and you asked the far-end office to activate the link	step 10

33 Contact the far-end office. Tell the personnel at that location the following information:

- You will busy, deactivate, return to service, and activate the link in order to align the link again.
- Both ends must activate the link after you busy, deactivate, and return the link to service.

Coordinate your activities with the far-end office to align the link again.

34 To inhibit the link, type

```
>INH  link_no
```

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

If the INH command	Do
passed	step 35
failed, and the link traffic state is SysB	step 35

CCS LKM
major (continued)

If the INH command	Do
failed, and the link traffic state is ISTb	step 10

35 To manually busy the link, type

>BSY link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 7)

link_no
is the number of the link (0 to 15)

If the response is	Do
Link link_no:Traffic is running on the link Please confirm (“YES",“Y",“NO", or “N"):	step 36
other than listed here, including additional messages with above response	step 56

36 To confirm the command, type

>YES

and press the Enter key.

37 To deactivate the link, type

>DEACT link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 7)

link_no
is the number of the link (0 to 15)

38 Tell the personnel at the far-end office to activate the link on which you are working. Activate the link at your end at the same time the far-end office activates the link at their end. Type

>ACT link_no

and press the Enter key.

CCS LKM
major (continued)

where

link_no
is the number of the link (0 to 7)

link_no
is the number of the link (0 to 15)

If the ACT command	Do
passed, and the link synchronization state is Sync or Alnd	step 41
passed, and the link synchronization state is not Sync or Alnd	step 10
failed	step 10

39 To return the link to service, type

>RTS link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 7)

link_no
is the number of the link (0 to 15)

40 To uninhibit the link, type

>UINH link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

If the UINH command	Do
passed, and the link synchronization state is Sync or Alnd	step 41
passed, and the link synchronization state is not Sync or Alnd	step 10
failed	step 10

CCS LKM
major (continued)

41 Determine the traffic state of the link.

Note: The link traffic state appears under the Traf Stat header on the MAP display.

Example of a MAP display:

```
Linkset  SSP100_LK        SYSB
   Traf Sync                                          Link
LK Stat Stat  Resource  Stat Physical Access       Stat Action
0  SysB Sync  LIU7 101  InSv DS0A
1  ManB alnd LIU7 103  InSv DS0A
2  ManB DAct  DLIU 300  InSv DS1

Size of Posted Set = 3
```

If the link traffic state is	Do
InSv	step 51
other than listed here	step 42
other than listed here	step 43

42 To inhibit the link, type

>INH link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

If the INH command	Do
passed	step 43
failed, and the link traffic state is SysB	step 43
failed, and the link traffic state is ISTb	step 10

43 To manually busy the link, type

>BSY link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 7)

CCS LKM
major (continued)

link_no
is the number of the link (0 to 15)

If the response is	Do
`Link link_no:Traffic is running on the link Please confirm( “YES",“Y",“NO", or “N"):`	step 44
other than listed here, including additional messages with above response	step 56

44 To confirm the command, type

>YES

and press the Enter key.

45 To test the link, type

>TST link_no

and press the Enter key.

where

link_no
is the number of the link (0 to 7)

link_no
is the number of the link (0 to 15)

If the TST command	Do
passed	step 47
failed, and you did not run a bit error rate test on the link	step 46
failed	step 10
failed, and you ran a bit error rate test on the link	step 10

46 Perform the procedure *Running a C7BERT* in this document. Complete the procedure and return to this point.

Note: Perform a bit error rate test on any link in the posted linkset that failed the manual test at step 45.

Go to step 49.

47 To return the link to service, type

>RTS link_no

CCS LKM
major (continued)

and press the Enter key.

where

link_no
is the number of the link (0 to 7)

link_no
is the number of the link (0 to 15)

If the RTS command	Do
passed, and the link is `LInh`	step 50
passed	step 51
failed, and this attempt is your first attempt with the RTS command at this point	step 48
failed, and this attempt is your second attempt with the RTS command at this point	step 10

48 Wait 10 min.

Go to step 47.

49 Your next action depends on the results of the bit error rate test.

If, during the bit error rate test, you received the instruction	Do
to return the link to service	step 50
to not return the link to service	step 10

50 To uninhibit the link, type

`>UINH link_no`

and press the Enter key.

where

link_no
is the number of the link (0 to 15)

If the UINH command	Do
passed, and the link is `InSv` or `ISTb`	step 51
passed, and the link is `ManB` or `SysB`	step 10
failed	step 10

51 Determine the linkset state.

Note: The linkset state appears on the right of the linkset name on the MAP display.

Example of a MAP display:

```
Linkset  SSP100_LK        InSv
   Traf Sync                                          Link
LK Stat Stat  Resource  Stat Physical Access       Stat Action
0  SysB Sync  LIU7 101  InSv DS0A
1  ManB alnd LIU7 103  InSv DS0A
2  ManB DAct  DLIU 300  InSv DS1

Size of Posted Set = 3
```

If the linkset state is	Do
InSv or ISTb	step 54
ManB or SysB, and at least one link is InSv or ISTb	step 52
ManB or SysB, not any of the displayed links are InSv or ISTb, and more links are present on the linkset	step 10
ManB or SysB, not any of the displayed links are InSv or ISTb, and no more links are present on the linkset	step 56

52 Determine from office records which far-end office connects to the posted linkset.

53 Contact the far-end office. Tell operating company personnel that the linkset is not in service, and that one or more associated links connected to your office are in service.

54 Your next action depends on the reason you are performing this procedure.

If you	Do
came to this procedure from the RSC or the RSM alarm clearing procedure	step 55
did not come to this procedure from the RSC alarm clearing procedure	step 57

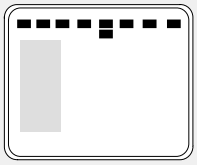
55 Return to the routeset alarm clearing procedure that sent you to this procedure. Continue as directed.

56 For additional help, contact the next level of support.

57 The procedure is complete.

CCS LSSC critical

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
.	.	.	.	.	**1LSSC**	.	.	.	.
					C				

Indication

At the MTC level of the MAP display, a number and FSP appear under the CCS header in the alarm banner. The LSSC indicates a critical alarm for a local subsystem (LSSC).

Meaning

A local subsystem is system busy or manual busy.

If all occurrences in an affected subsystem are system busy, the associated service can have had a coordinated state change. The system routes all queries to the mate service control point II (SCPII). At this time, you must correct the problem at the SCPLoc level. Subsystem occurrences are not always in a fault condition.

The number under the CCS header in the alarm banner indicates the number of subsystems affected.

Result

The affected local subsystem is out of service.

Common procedures

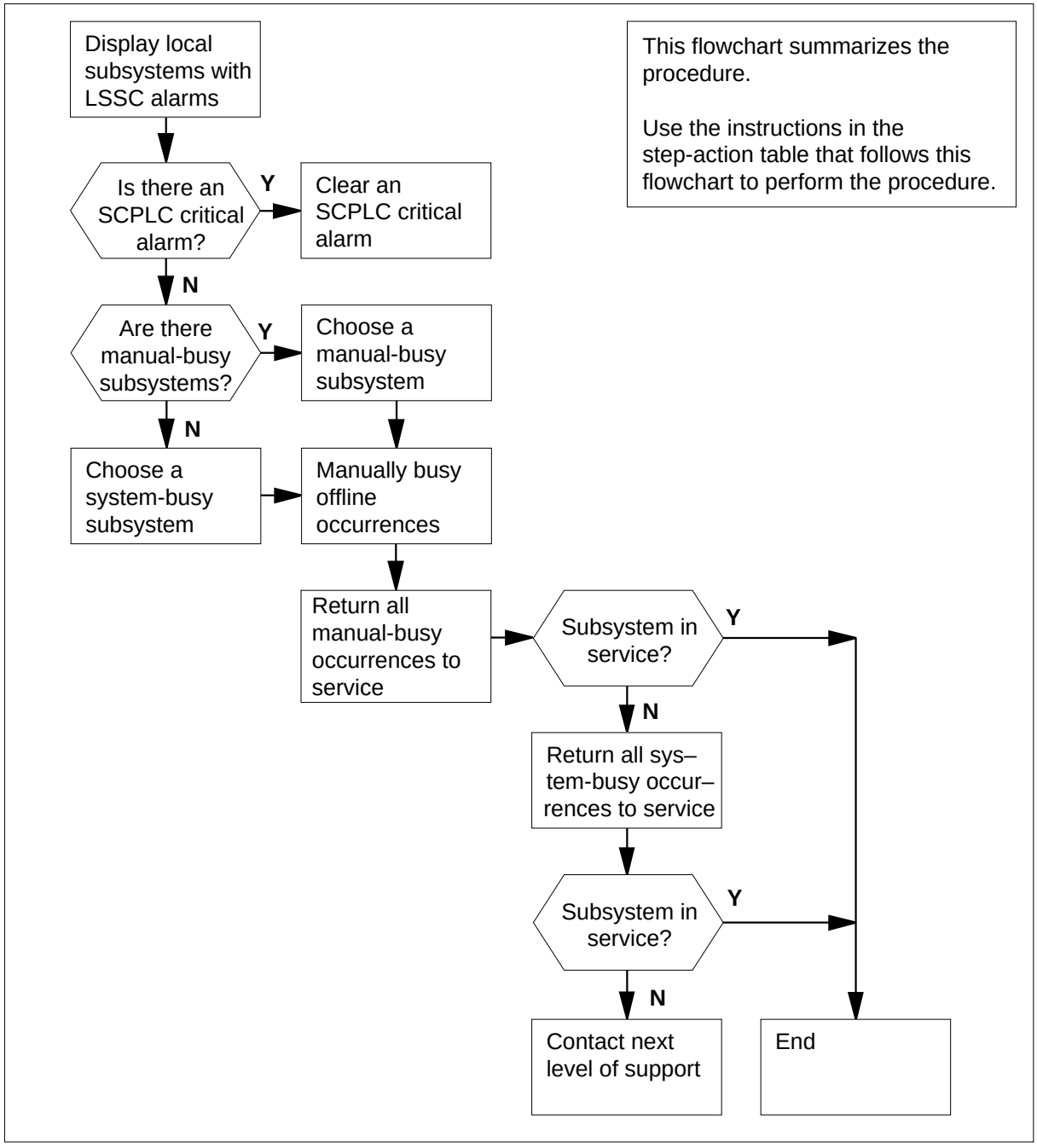
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CCS LSSC
critical (continued)

Summary of How to clear a CCS LSSC critical alarm



CCS LSSC
critical (continued)

How to clear a CCS LSSC critical alarm

At the MAP terminal

1 To access the CCS7 level of the MAP, type

>MAPCI;MTC;CCS;CCS7

and press the Enter key.

2 To display all subsystems that cause LSSC alarms, type

>DISALM LSSC

and press the Enter key.

Example of a MAP response

```
Subsystem                    Alm  Stat
              800P           SSC  SYSB
              ACCS           SSC  MANB
```

3 Choose a subsystem to work on. Choose the out-of-service local subsystem with the highest value. The MANB has a higher value than SYSB.

4 Record the name and state of the subsystem.

Note: The subsystem name appears under the subsystem header on the MAP display. The subsystem state appears under the state header.

5 To access the SCCPLOC level of the MAP display, type

>SCCPLOC

and press the Enter key.

6 To post the local subsystem, type

>POST subsystem

and press the Enter key.

where

subsystem
is the name of the local subsystem that you selected in step 3

Example of a MAP display:

```
    CCS7     SCP
  1  LSSC     .
C7 SCCP LOCAL                        111111  11112222  22222233
Subsystem          State  01234567  89012345  67890123  45678901
800P               MANB   SMMO----  --------  --------  --------
```

CCS LSSC
critical (continued)

7 Determine the state of all occurrences for the post subsystem.

If	Do
all occurrences are S (system busy)	step 8
a minimum of one occurrence is O (offline), M (manual busy), or dot (.) (in service)	step 10

8 Determine if the MAP display indicates a SCPLC critical alarm under the SCP header.

Example of a MAP display:

```
    CCS7    SCP
  1  LSSC 1 SCPLC
C7 SCCP LOCAL                          111111  11112222  22222233
Subsystem          State  01234567  89012345  67890123  45678901
800P               SYSB   SSSS----  --------  --------  --------
```

If an SCPLC alarm	Do
appears	step 9
does not appear	step 10

9 The SCPII node changed to a coordinated state. Perform the procedure *How to clear an SCPLC critical alarm*. Return to this point.

Go to step 25.

10 Choose a local subsystem occurrence to use.

If	Do
at least one subsystem occurrence is M, and you have not tried to return the subsystem to service	step 11
at least one subsystem occurrence is O, and you have not tried to return the subsystem to service	step 12
at least one subsystem occurrence is S, and you have not collected information on the occurrence that uses the LOCATE command	step 16
you tried to return all M, O, and S occurrences to service, and you cannot return the subsystem to service	step 24

CCS LSSC
critical (continued)

11 Determine from office records or from operating company personnel if you have permission to return the manual busy occurrence to service.

If you	Do
have permission to return the occurrence to service	step 14
do not have permission to return the occurrence to service	step 10

12 Determine from office records or from operating company personnel if you have permission to return the offline occurrence to service.

If you	Do
have permission to return the occurrence to service	step 13
do not have permission to return the occurrence to service	step 10

13 To manually busy the occurrence, type

`>BSY instance_no`

and press the Enter key.

where

instance_no
is the number of the occurrence (0 to 31)

14 To return the occurrence to service, type

`>RTS instance_no`

and press the Enter key.

where

occurrence_no
is the number of the occurrence (0 to 31)

If the RTS command	Do
passed, and the occurrence is dot (.) (in service)	step 15
passed, but the occurrence is S	step 10
failed	step 22

15 Determine the subsystem state.

Note: The subsystem state appears under the state header on the MAP.

Example of a MAP:

CCS LSSC
critical (continued)

```
    CCS7     SCP
  1  LSSC     .
C7 SCCP LOCAL                          111111  11112222  22222233
Subsystem          State  01234567  89012345  67890123  45678901
800P               MANB   SMMO----  --------  --------  --------
```

If the local subsystem state	Do
is InSv	step 25
is not InSv and at least one occurrence is O, M, or S	step 10
is not InSv and no occurrences are O, M, or S	step 24

16 To manually busy the system busy occurrence, type

>BSY instance_no

and press the Enter key.

where

occurrence_no
is the number of the occurrence (0 to 31)

If the BSY command	Do
passed	step 18
failed	step 17

17 To force the occurrence to busy, type

>BSY instance_no FORCE

and press the Enter key.

where

occurrence_no
is the number of the occurrence (0 to 31)

18 To return the occurrence to service, type

>RTS instance_no

and press the Enter key.

where

occurrence_no
is the number of the occurrence (0 to 31)

Example of a MAP response

CCS LSSC
critical (continued)

```
RTS Passed
The EIU peripheral is not in service
```

If the RTS command	Do
passed. The occurrence is dot (.) (in service)	step 23
passed. The occurrence remains S	step 19
failed	step 22

19 The subsystem waits for an indication from the application. Wait 1 min for the occurrence to return to service.

If the subsystem occurrence	Do
is dot (.) (in service)	step 23
is other than dot (.) (in service)	step 20

20 To learn more about the occurrence, type

`>LOCATE instance_no`

and press the Enter key.

where

occurrence_no
is the number of the occurrence (0 to 31)

Example of a MAP response

```
800P 1 is located on EIU 210 which is currently ManB.
The TCP connection to port 30808 at 47.12.0.2. is closed
```

21 Record why the occurrence returns to system busy.

22 Record the number of occurrences to report the number to your next level of support. Do not try to correct the occurrence now. Continue to work on other occurrences that you did not try.

Go to step 10.

23 Determine the subsystem state.

Note: The subsystem state appears under the state header on the MAP.

Example of a MAP:

CCS LSSC
critical (end)

```
   CCS7     SCP
 1  LSSC     .
C7 SCCP LOCAL                          111111  11112222  22222233
Subsystem          State  01234567  89012345  67890123  45678901
800P               MANB   .MMO----  --------  --------  --------
```

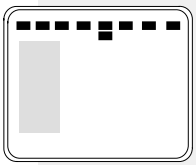
If the local subsystem state	Do
is InSv or ISTb	step 25
is not InSv or ISTb and at least one occurrence is O, M, or S	step 10
is not InSv or ISTb and no occurrences are O, M, or S	step 24

24 For additional help, contact the next level of support.

25 The procedure is complete.

CCS LSSM major

Alarm display



CM	MS	IOD	Net	PM	**CCS**	Lns	Trks	Ext	APPL
.	.	.	.	.	**1LSSM**	.	.	.	.
					M				

Indication

At the MTC level of the MAP display, a number and LSSM appear under the CCS header in the alarm banner. The LSSM indicates a major alarm for a local subsystem (LSSM). The number indicates the number of occurrences of affected local subsystems.

At the CCS;CCS7;SCCPLOC level of the MAP display, IsTb appears under the subsystem state header. The I appears under the number for a local subsystem occurrence.

Meaning

The Freephone subsystem is the only system that uses the common channel signaling (CCS) LSSM alarm.

Freephone subsystems associated with the LSSM alarm are as follows:

- E800 - toll-free number service for the United States
- 800P - toll-free number service for Canada
- E008 - toll-free number service for for Australia

Communication problems with the database for the service control point (SCP) occur on the Freephone subsystem. A minimum of two time-outs occurred during queries by the Freephone subsystem to the SCP database. Interruptions to queries to the SCP database require additional analysis. The Freephone subsystem continues to process toll-free calls.

Result

The CCS LSSM alarm monitors all occurrences of a subsystem. Occurrence 0 is the only occurrence for the Freephone subsystem. Occurrence 0 in-service trouble does not affect service. The alarm warns that problems can be present that require analysis.

CCS LSSM
major (continued)

The following logs generate when the state of the local subsystem changes to in-service troubles:

- The CCS231 indicates that communication problems with the SCP database occur on the local subsystem
- The CCS250 indicates the local subsystem state changed to in-service troubles

LINE138 log generates when a query time-out for a service control point (SCP) database occurs .

When a call times out, the system pegs Register NSCSFLTO in the number service code (NSC) in the operational measurements (OM) group.

Common procedures

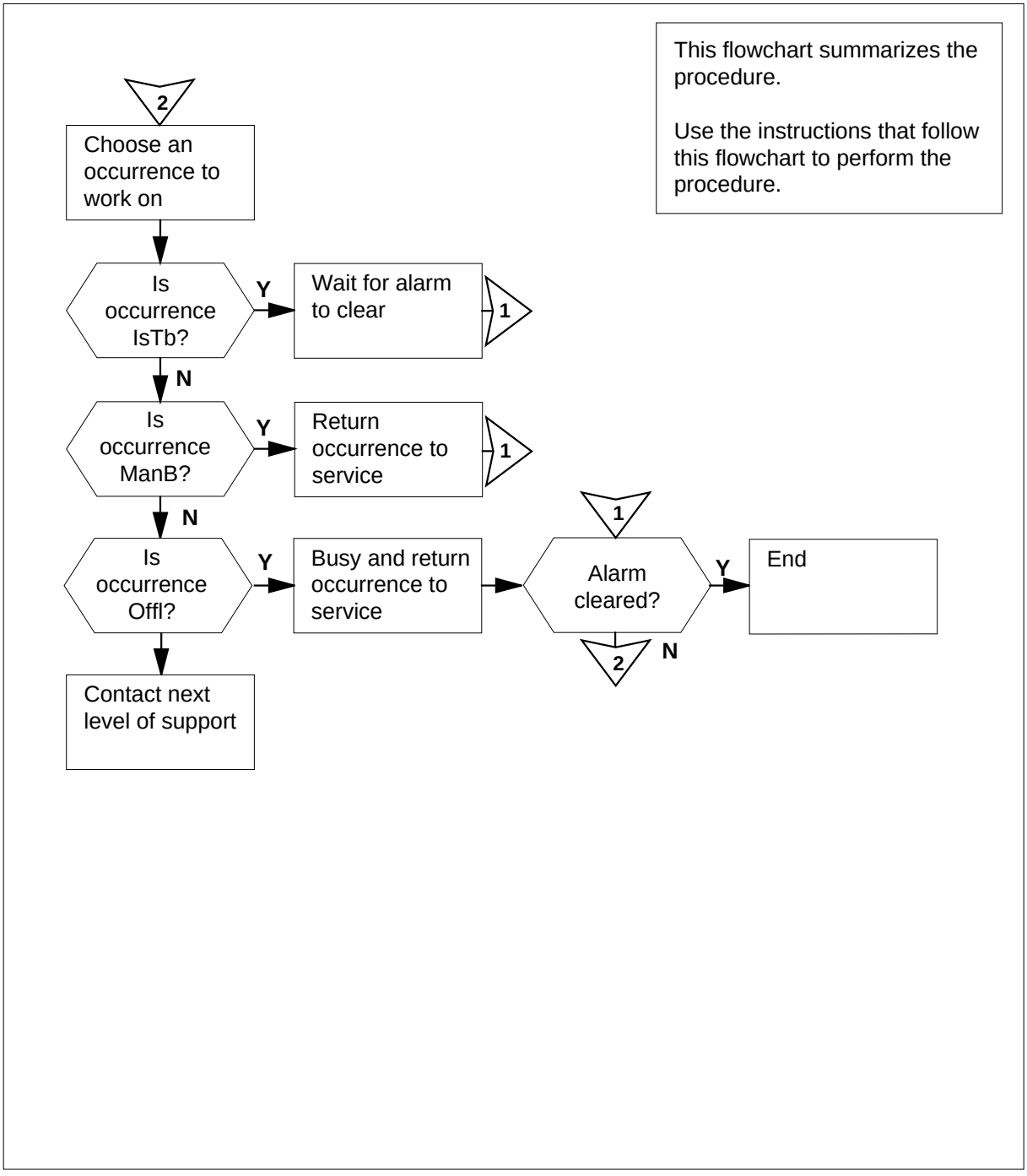
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CCS LSSM
major (continued)

Summary of How to clear a CCS LSSM major alarm



CCS LSSM
major (continued)

How to clear a CCS LSSM major alarm

At the MAP terminal

1 To access the CCS7 level of the MAP display, type

>MAPCI;MTC;CCS;CCS7

and press the Enter key.

2 To list the local subsystems with LSSM alarms, type

>DISALM LSSM

and press the Enter key.

Example of a MAP response:

```
Subsystem                    Alm  Stat
              800P           SSM  ISTB
```

3 Record the names of the local subsystems that have in-service troubles.

Note: The subsystem name appears under, on the right of the subsystem header on the MAP display. The state appears under the Stat header.

4 To access the SCCPLOC level of the MAP display, type

>SCCPLOC

and press the Enter key.

5 To post the local subsystem, type

>POST subsystem

and press the Enter key.

where

subsystem
is the name of the local subsystem that you recorded in step 3

Example of a MAP display:

```
    CCS7     SCP
  1  LSSM     .
C7 SCCP LOCAL                        111111  11112222  22222233
Subsystem          State  01234567  89012345  67890123  45678901
800P               ISTB   I-------  --------  --------  --------
```

6 Choose a local subsystem occurrence to work on.

If	Do
a minimum of one subsystem occurrence is M (manual busy) and you did not try to return the subsystem to service	step 9

CCS LSSM
major (continued)

If	Do
a minimum of one subsystem occurrence is O (offline) and you did not try to return the subsystem to service	step 10
a minimum of one subsystem occurrence is S (system busy) and you did not collect information on the occurrence through the LOCATE command	step 14
you tried to return all O, M, and S occurrences to service and you cannot return the local subsystem to service	step 22
a minimum of one subsystem occurrences is I (in-service trouble) and no O, M, or S occurrences are present	step 7

7 Wait for the alarm to clear.

Note: The alarm will automatically clear when you enter option ALARMTIM in table NSCDEFS. The alarm also clears when entry time (1 to 1441 min, default 10 min) passes without additional SCP query time-outs. If the alarm clears, the state of the freephone subsystem changes from in-service trouble to in service. The system generates a CCS220 log to indicate that the subsystem occurrence is in service. The system generates a CCS235 log to indicate that the state of the freephone subsystem changed to in service.

If the alarm	Do
clears	step 23
does not clear	step 8

Note: Use the disable procedure to clear the alarm. To disable the alarm, enter option NSCALARM in table NSCDEFS as OFF. The alarm clears within 30 s of the entry change. When the alarm clears, the state of the E800 subsystem changes from in-service trouble to in service. The system generates CCS220 and CCS235 logs to document the alarm clearance and the state change.

8

CAUTION
Loss of service
The alarm will not clear if you wait for the system to clear or disable the alarm. If the alarm occurs often, investigate the cause of the alarm.

Ask the next level of support to help you determine the cause of the alarm.

9 Determine from office records or operating company personnel if you can return the manual busy occurrence to service.

If you	Do
can return the occurrence to service	step 12
cannot return the occurrence to service	step 6

10 Determine from office records or operating company personnel if you can return the offline occurrence to service.

If you	Do
can return the occurrence to service	step 11
cannot return the occurrence to service	step 6

11 To manually busy the offline occurrence, type

>BSY occurrence_no

and press the Enter key.

where

occurrence_no
is the number of the occurrence (0 to 31)

12 To return the occurrence to service, type

>RTS occurrence_no

and press the Enter key.

where

CCS LSSM
major (continued)

occurrence_no
is the number of the occurrence (0 to 31)

If the RTS command	Do
passed. The occurrence is dot (.) (in-service)	step 13
failed. The occurrence is S	step 6
failed	step 20

13 Determine the subsystem state.

Note: The subsystem state appears under the State header on the MAP display.

Example of a MAP display:

```
   CCS7     SCP
 1  LSSM     .
C7 SCCP LOCAL                          111111  11112222  22222233
Subsystem          State  01234567  89012345  67890123  45678901
800P               ISTB   M-------  --------  --------  --------
```

If the local subsystem state	Do
is InSv	step 23
is not InSv and one or more O, M, and S occurrences are present	step 6
is not InSv and no O, M, or S occurrences are present	step 22

14 To manually busy the system-busy occurrence, type

>BSY occurrence_no

and press the Enter key.

where

occurrence_no
is the number of the occurrence (0 to 31)

If the BSY command	Do
passed	step 16
failed	step 15

15 To force the occurrence to busy, type

>BSY occurrence_no FORCE

and press the Enter key.

where

occurrence_no
is the number of the occurrence (0 to 31)

16 To return the occurrence to service, type

>RTS occurrence_no

and press the Enter key.

where

occurrence _no
is the number of the occurrence (0 to 31)

Example of a MAP response:

```
RTS Passed
The EIU peripheral is not in service
```

If the RTS command	Do
passed and the occurrence is dot (.) (in service)	step 21
failed and the occurrence is S	step 17
failed	step 20

17 The subsystem waits for an indication from the application. Wait 1 min for the occurrence to return to service.

If the subsystem occurrence	Do
is dot (.) (in service)	step 21
is other than listed here	step 18

18 To learn more about the occurrence, type

>LOCATE occurrence_no

and press the Enter key.

where

occurrence_no
is the number of the occurrence (0 to 31)

Example of a MAP response:

```
800P 1 is located on EIU 210 which is currently ManB.
The TCP connection to port 30808 at 47.12.0.2. is closed
```

19 Record why the occurrence returns to system busy.

CCS LSSM
major (end)

20 Record the number of this occurrence to report this occurrence to your next level of support. Do not restore the occurrence at this time. Work on occurrences that you did not try.

Go to step 6.

21 Determine the subsystem state.

Note: The subsystem state appears under the State header on the MAP display.

Example of a MAP display:

```
    CCS7     SCP
  1  LSSM     .
C7 SCCP LOCAL                          111111  11112222  22222233
Subsystem          State  01234567  89012345  67890123  45678901
800P               ISTB   .-------  --------  --------  --------
```

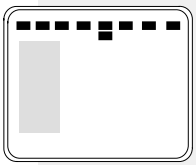
If the local subsystem state	Do
is InSv	step 23
is not InSv and one or more O, M, or S occurrences is present	step 6
is not InSv. and O, M, or S occurrences are not present	step 22

22 For additional help, contact the next level of support.

23 The procedure is complete.

CCS PC minor

Alarm display



CM	MS	IOD	Net	PM	**CCS**	Lns	Trks	Ext	APPL
.	.	.	.	.	**1PC**	.	.	.	.

Indication

At the MTC level of the MAP display, a number and PC appear under the CCS header in the alarm banner. The PC indicates an alarm for a point code (PC).

Meaning

Traffic congestion occurs on the routes between your office and the office represented by the point code.

The number under the common channel signaling (CCS) header in the alarm banner indicates the number of route and far-end office groups affected.

Result

Traffic congestion can affect service. If the congestion level is too high, the system can discard messages to the signaling point identified by the point code.

Common procedures

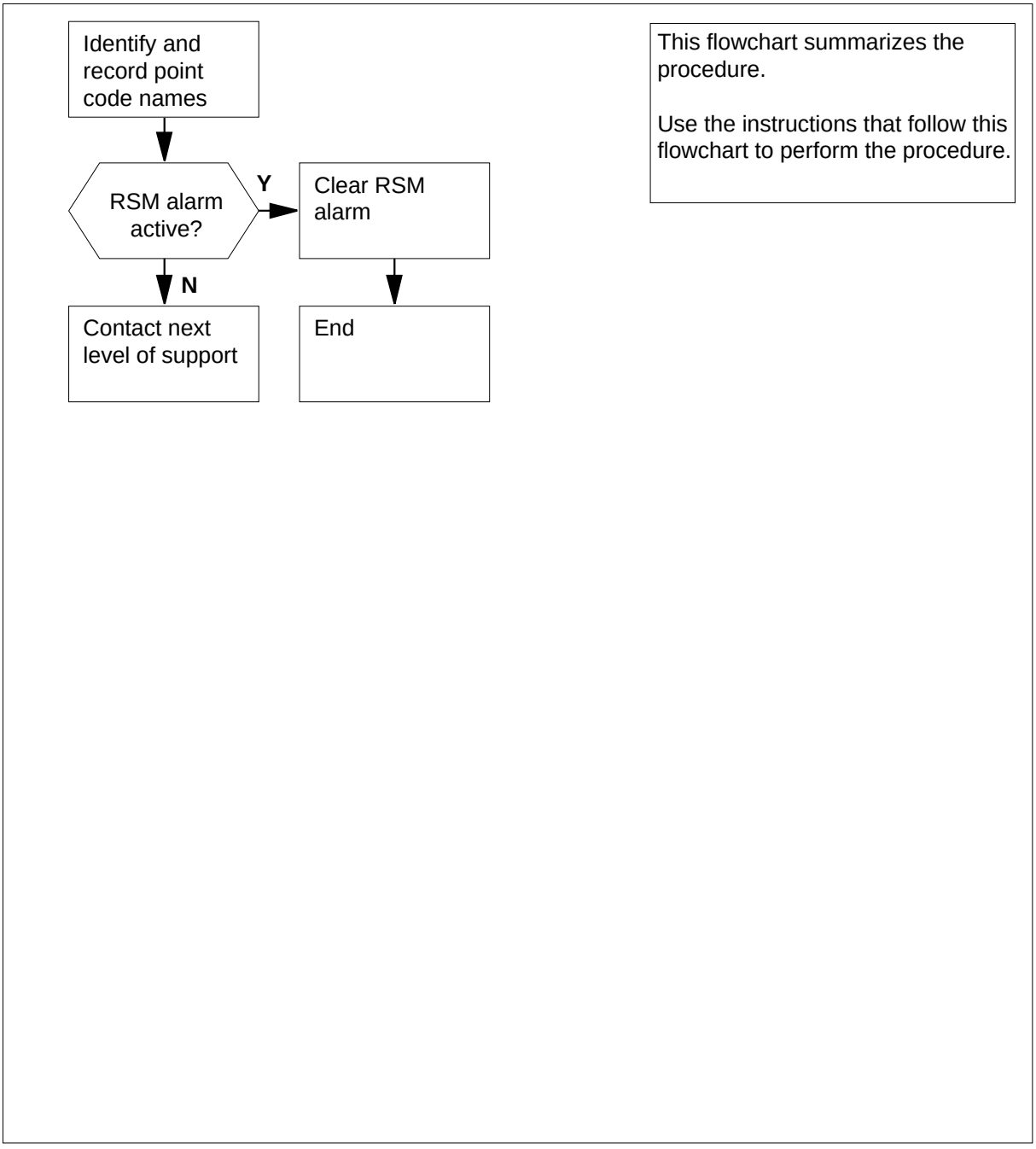
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CCS PC
minor (continued)

Summary of Clearing a CCS PC minor alarm



CCS PC
minor (continued)

Clearing a CCS PC minor alarm

At the MAP terminal

1 To access the CCS7 level of the MAP display, type

>MAPCI;MTC;CCS;CCS7

and press the Enter key.

2 To display the name of the PC that causes the PC alarm, type

>DISALM PC

and press the Enter key.

Example of a MAP display:

```
Point code          Alm     Stat
IPTRS4              PC      ISTb
```

3 Record the name of the PC.

Note: The PC name appears under the PC header on the MAP display.

4 To access the C7RTESET level of the MAP display, type

>C7RTESET

and press the Enter key.

5 To post a routeset that runs an RS major alarm, type

>POST A RSM

and press the Enter key.

Example of a MAP display:

```
C7Routeset  SSP100_RT         ISTb        Linkset  Transfer
  Rte  State  Mode Cost Linkset            State    Status
  0    SysB  Assoc 0    SSP100_LK          SysB  TFP
  1    InSv  Quasi 1    SSP101_LK          InSv  TFA
```

If you	Do
posted a routeset	step 6
did not post a routeset	step 8

6 Perform the procedure *Clearing a CCS RS major alarm* in this document. Complete the procedure and return to this point.

CCS PC
minor (end)

7 Determine if the PC minor alarm cleared.

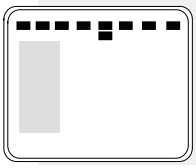
If the PC alarm	Do
cleared	step 9
did not clear	step 8

8 For additional help, contact the next level of support.

9 The procedure is complete.

CCS PCC critical

Alarm display



CM	MS	IOD	Net	PM	**CCS**	Lns	Trks	Ext	APPL
.	.	.	.	.	**1PCC**	.	.	.	.
					C				

Indication

At the MTC level of the MAP display, a number and PCC appear under the CCS header in the alarm banner. The PCC indicates a critical alarm for a point code (PCC).

Meaning

A routeset (RS) is out of service as a result of a manual busy or system busy point code.

The number under the common channel signaling (CCS) header in the alarm banner indicates the number of far-end offices affected.

Result

The signaling point that the point code identifies cannot receive signaling.

Common procedures

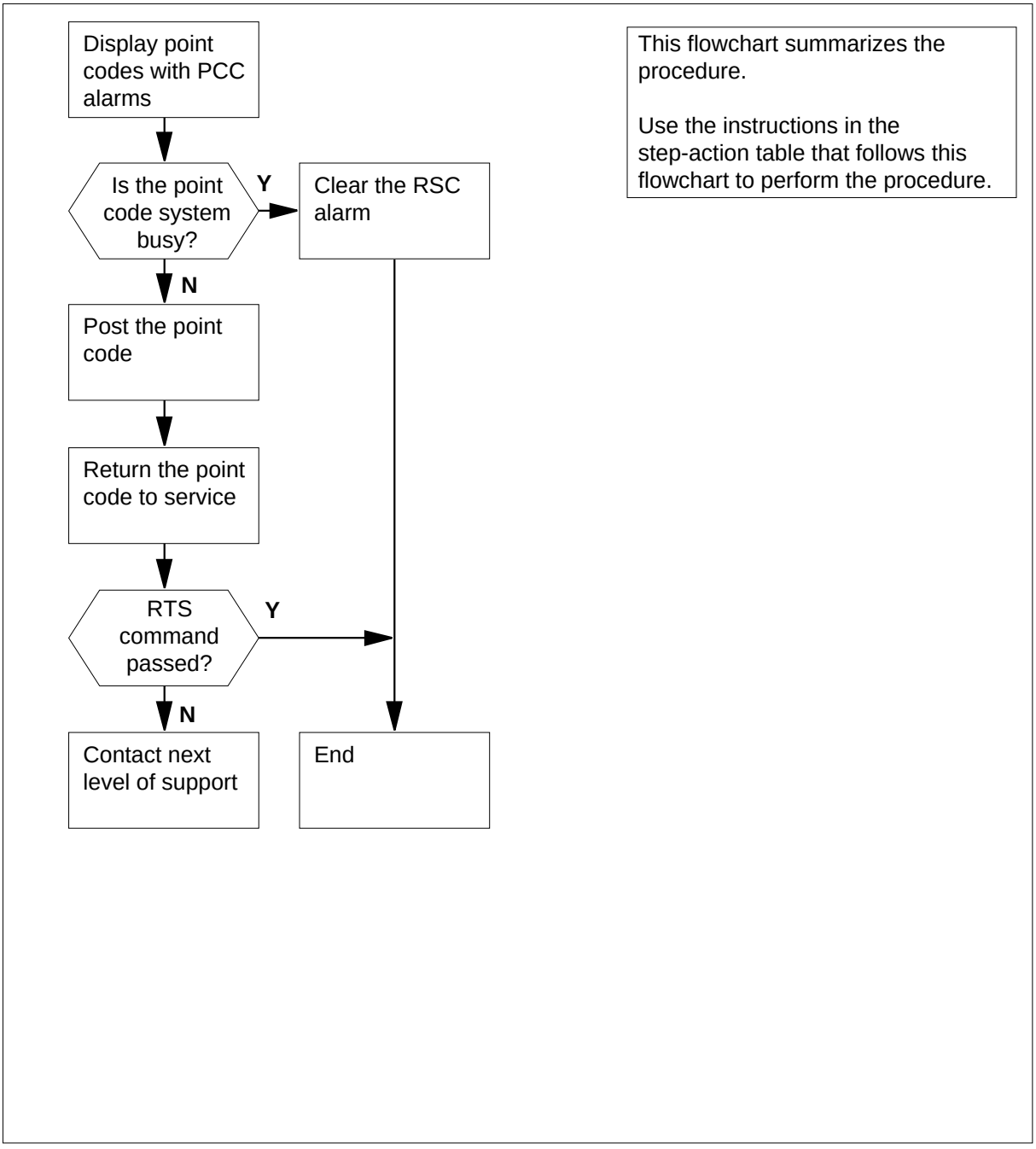
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CCS PCC
critical (continued)

Summary of Clearing a CCS PCC critical alarm



CCS PCC
critical (continued)

Clearing a CCS PCC critical alarm

At the MAP terminal

1 To access the CCS7 level of the MAP display, type

>MAPCI;MTC;CCS;CCS7

and press the Enter key.

2 To display the name of the point code that causes the PCC alarm, type

>DISALM PCC

and press the Enter key.

Example of a MAP response:

```
Point code          Alm     Stat
IPTRS4              PCC     ManB
```

3 Record the point code name and state.

Note: The point code name appears under the point code header on the MAP display. The point code state appears under the state header.

If the state of the point code	Do
is SysB	step 4
is ManB	step 8

4 To access the C7RTESET level of the MAP display, type

>C7RTESET

and press the Enter key.

5 To post an RS with an RS critical alarm, type

>POST A RSC

and press the Enter key.

Example of a MAP display:

```
C7Routeset ESTP_C200_RTESET  SysB      Linkset Transfer
Rte  State    Mode  Cost   Linkset       State   Status
 0   SysB     Assoc  0  ESTP_C200_Lkset  SysB
```

If you	Do
posted an RS	step 6
did not post an RS	step 12

CCS PCC
critical (end)

6 Perform the procedure *Clearing a CCS RS critical alarm* in this document. Clear the CCS RSC alarm and return to this point.

7 Determine if the PCC critical alarm cleared.

If the PCC alarm	Do
cleared	step 13
did not clear	step 12

8 Determine from office records or operating company personnel why a person manually busied the point code. Determine if you can return the point code to service.

When you have permission to return the point code to service, continue the procedure.

9 To access the SCCPRPC level of the MAP display, type

>SCCPRPC

and press the Enter key.

10 To post the point code that has the PCC alarm you want to clear, type

>POST point_code

and press the Enter key.

where

point_code
is the name of the point code recorded in step 3

11 To return the point code to service, type

>RTS

and press the Enter key.

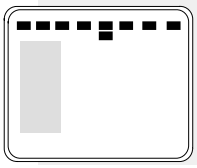
If the RTS command	Do
passed	step 13
failed	step 12

12 For additional help, contact the next level of support.

13 The procedure is complete.

CCS RS critical

Alarm display



CM	MS	IOD	Net	PM	**CCS**	Lns	Trks	Ext	APPL
.	.	.	.	.	**1RS**	.	.	.	.
					C				

Indication

At the MTC level of the MAP display, a number and RS appear under the CCS header in the alarm banner. The RS indicates a critical alarm for a routeset (RS).

Meaning

A routeset is manual busy or system busy for one of the following reasons:

- faults in the peripheral modules that associate with the linksets in the routeset
- faults on the links that associate with your office
- problems on the network

The number under the common channel signaling (CCS) header in the alarm banner indicates the number of routesets affected.

Result

Signaling on the routeset is not possible.

Common procedures

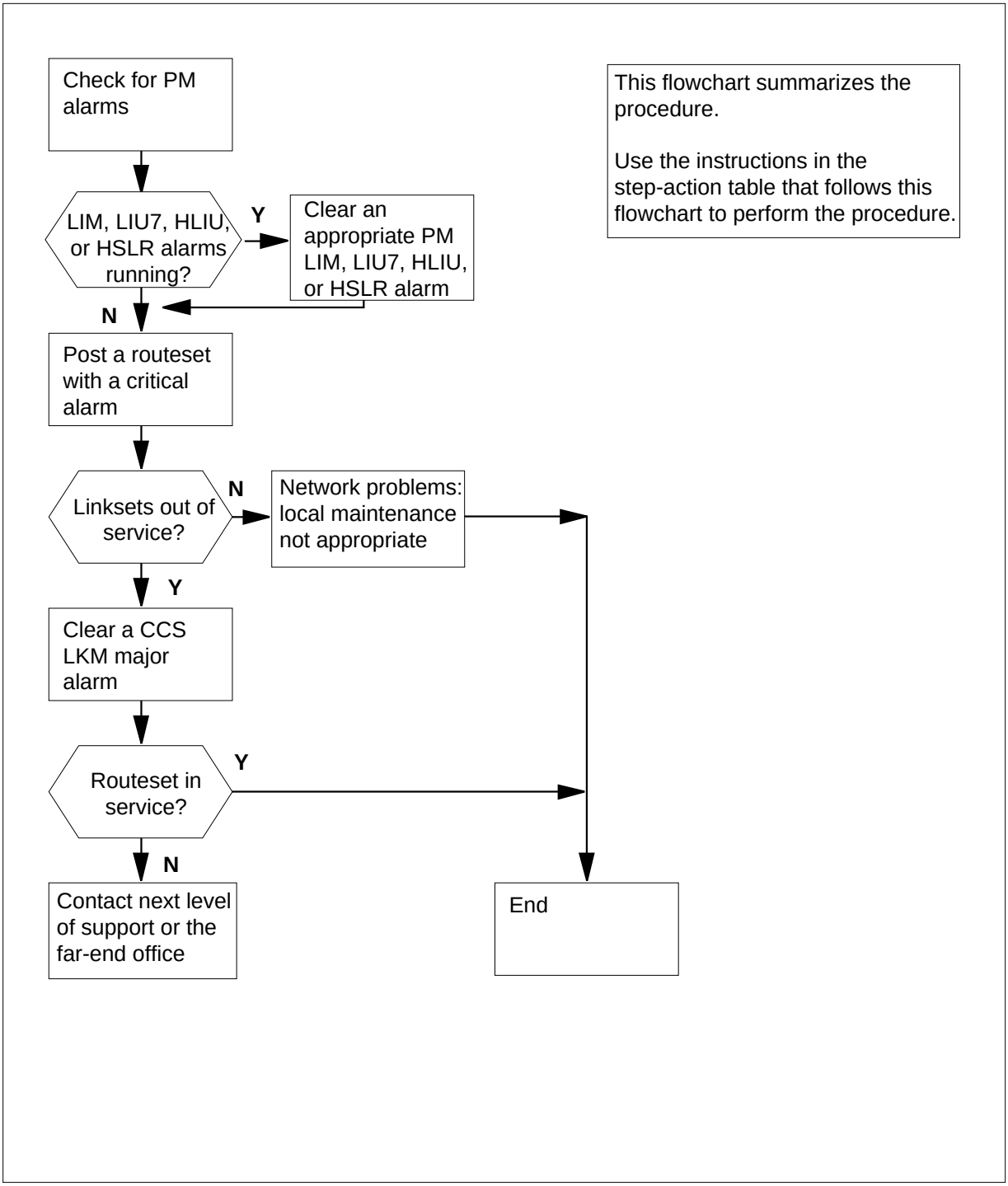
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CCS RS
critical (continued)

Summary of Clearing a CCS RS critical alarmd



CCS RS
critical (continued)

Clearing a CCS RS critical alarm

At the MAP terminal

1 To access the CCS7 level of the MAP display, type

>MAPCI;MTC;CCS;CCS7

and press the Enter key.

2 Determine if LIM, LIU7, HLIU, or HSLR alarms appear under the PM header in the MAP display alarm banner.

If LIM, LIU7, HLIU, or HSLR alarms	Do
appear	step 3
do not appear	step 4

3 Perform the appropriate alarm clearing procedures in this document to clear all PM LIM, PM LIU7, PM HLIU, or PM HSLR alarms. When you have completed the procedures, return to this point.

4 To access the C7RTESET level of the MAP display, type

>C7RTESET

and press the Enter key.

5 To post a routeset that runs an RS critical alarm, type

>POST A RSC

and press the Enter key.

Example of a MAP display:

```
Network      NATL_NET
C7Routeset   SSP100_RT          SysB         Linkset   Transfer
  Rte   State   Mode Cost Linkset             State     Status
  0     SysB   Assoc 0    SSP100_LK           SysB       TFA
  1     SysB   Quasi 1    SSP101_LK           ISTb       TFA
```

If you	Do
posted a manual busy or system busy routeset	step 6
did not post a manual busy or system busy routeset	step 20

CCS RS
critical (continued)

6 Record the routeset name and state.

Note: The routeset name appears on the right of the C7Routeset header on the MAP display. The routeset state appears on the right of the routeset name.

If the state of the routeset is	Do
ManB	step 7
SysB	step 9

7 Determine the state of the linksets in the posted routeset.

Note: The linkset state appears under the linkset state header on the MAP display.

Example of a MAP display:

```
Network     NATL_NET
C7Routeset  SSP100_RT         ManB        Linkset  Transfer
  Rte  State  Mode Cost Linkset            State    Status
  0    SysB  Assoc 0    SSP100_LK          ManB  TFP
  1    SysB  Quasi 1    SSP101_LK          SysB  TFP
```

If all linksets are	Do
InSv	step 8
RInh, LInh, ManB, or SysB	step 11
ManB or SysB	step 11

8 Determine from office records or from operating company personnel why the routeset is manually busy .

If someone	Do
manually busied the routeset from your office	step 15
did not manually busy the route-set from your office	step 17

9 To force the routeset to busy, type

>BSY FORCE

and press the Enter key.

10 Determine the state of the linksets in the posted routeset.

Note: The linkset state appears under the linkset state header on the MAP display.

CCS RS
critical (continued)

Example of a MAP display

```
Network     NATL_NET
C7Routeset  SSP100_RT         ManB        Linkset  Transfer
  Rte  State  Mode Cost Linkset            State    Status
  0    SysB  Assoc 0    SSP100_LK          SysB      TFP
  1    SysB  Quasi 1    SSP101_LK          ISTb      TFR
```

If	Do
all linksets are InSv	step 17
at least one linkset is InSv or ISTb and at least one linkset is out of service	step 17
all linksets are ManB or SysB	step 11

11 Record the name and state for each linkset for the posted routeset.

Note: The linkset name appears under the linkset header on the MAP display. The linkset state appears under the linkset state header.

12 Perform the procedure *Clearing a CCS LKM major alarm* in this document. Complete the procedure and return to this point.

13 To access the C7RTESET level of the MAP display, type

>C7RTESET

and press the Enter key.

14 To post the routeset, type

>POST C rteset_name

and press the Enter key.

where

rteset_name
is the routeset name you recorded in step 6

Example input:

>POST C SSP100_RT

Example of a MAP display:

```
C7Routeset  SSP100_RT          ManB      Linkset   Transfer
  Rte   State  Mode Cost Linkset           State    Status
  0     InSv  Assoc 0    SSP100_LK         InSv      TFA
  1     InSv  Quasi 1    SSP101_LK         InSv      TFA
```

15 When you have permission to return the routeset to service, type

>RTS

CCS RS
critical (end)

and press the Enter key.

If the RTS command	Do
passed and the routeset is InSv or ISTb	step 20
failed	step 16
passed and the routeset is SysB	step 17

16 Determine the routeset state.

Note: The routeset state appears under the state header of the MAP.

If the state of the routeset is	Do
InSv or ISTb	step 20
ManB or SysB, and at least one linkset is InSv or ISTb	step 17
ManB or SysB, and no linksets are InSv or ISTb	step 19

17 Determine from office records which far-end office connects to the posted routeset.

18 Contact the far-end office. Tell personnel there that you are running a routeset critical alarm. Tell personnel also that one or more associated linksets connected to your office are in service.

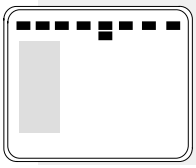
Go to step 20.

19 For additional help, contact the next level of support.

20 The procedure is complete.

CCS RS major

Alarm display



CM	MS	IOD	Net	PM	**CCS**	Lns	Trks	Ext	APPL
.	.	.	.	.	**1RS M**	.	.	.	.

Indication

At the MTC level of the MAP display, a number and RS appear under the CCS header in the alarm banner. The RS indicates a major alarm for a routeset (RS).

Meaning

A routeset has in-service trouble for the following reasons:

- faults in the peripheral modules associated with the linksets in the routeset
- faults on the links associated with your office
- problems on the network
- problems within a network cluster

The number under the common channel signaling (CCS) header in the alarm banner indicates the number of routesets affected.

Result

The routeset can carry traffic with the risk of a degraded level of service.

Common procedures

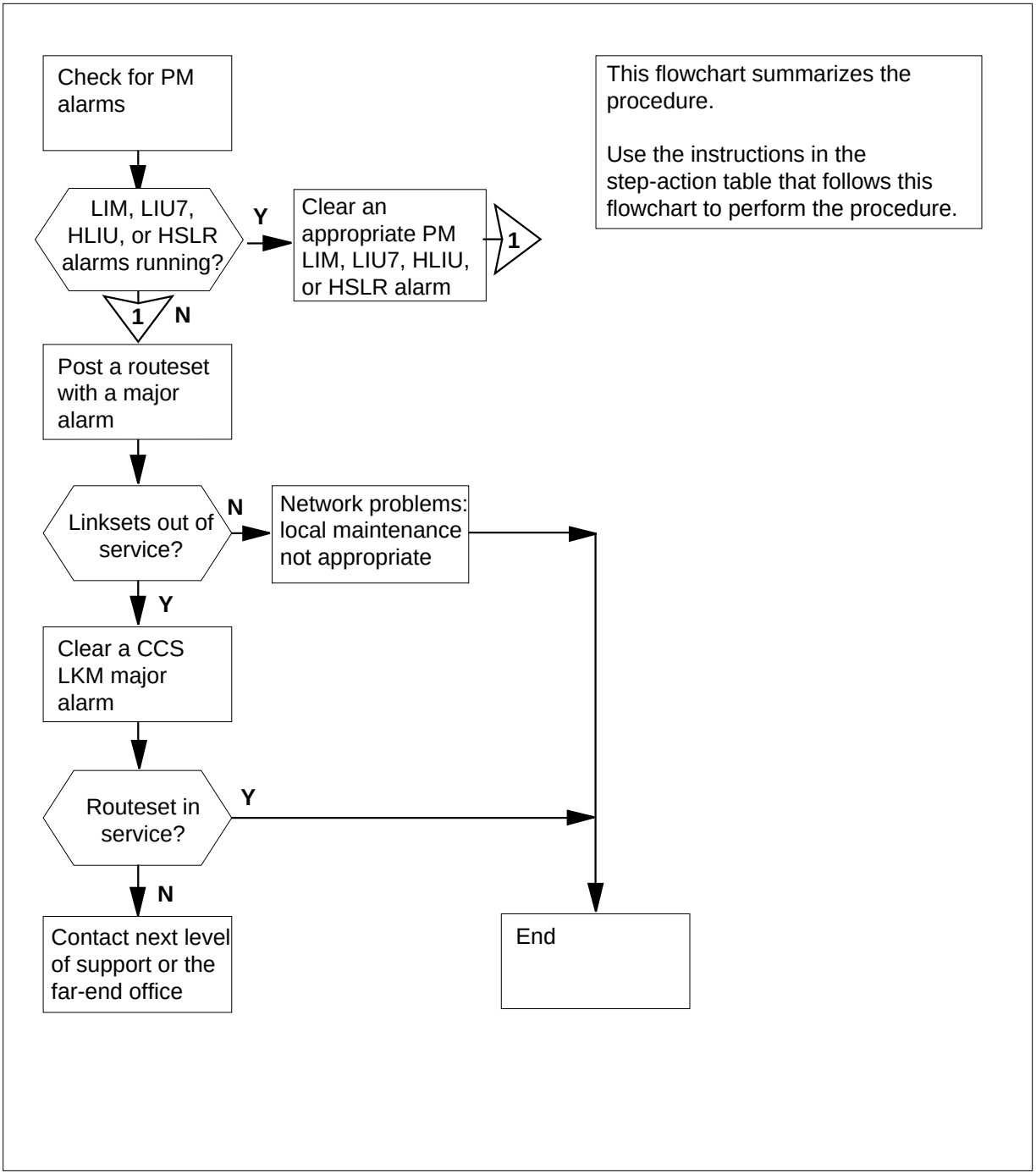
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CCS RS
major (continued)

Summary of Clearing a CCS RS major alarm



CCS RS
major (continued)

Clearing a CCS RS major alarm

At the MAP display

1 To access the CCS7 level of the MAP display, type

>MAPCI;MTC;CCS;CCS7

and press the Enter key.

2 Determine if LIM, LIU7, HLIU, or HSLR alarms appear under the PM header in the MAP display alarm banner.

If LIM, LIU7, HLIU, or HSLR alarms	Do
appear	step 3
do not appear	step 4

3 Perform the appropriate alarm clearing procedures in this document to clear all PM LIM, PM LIU7, PM HLIU, or PM HSLR alarms. Complete the procedure and return to this point.

4 To access the C7RTESET level of the MAP display, type

>C7RTESET

and press the Enter key.

5 To post an routeset that runs an RS major alarm, type

>POST A RSM

and press the Enter key.

Example of a MAP display:

```
Network     NATL_NET
C7Routeset  SSP100_RT         ISTb        Linkset  Transfer
  Rte  State  Mode Cost Linkset            State    Status
  0    SysB  Assoc 0    SSP100_LK          SysB  TFP
  1    InSv  Quasi 1    SSP101_LK          InSv  TFA
```

If you	Do
posted an in-service trouble routeset	step 6
did not post an in-service trouble routeset	step 15

CCS RS
major (continued)

6 Determine the state of the linksets in the posted routeset.

If	Do
all linksets are InSv	step 12
at least one linkset is RInh, LInh, ManB, or SysB	step 7
a minimum of one ManB or SysBsy linkset is present	step 7

7 Record the name of the routeset. Record the linkset name and state for each linkset in the posted routeset.

Note: The routeset name appears on the right of the C7Routeset header on the MAP display. The linkset name appears under the Linkset header. The linkset state appears under the Linkset State header.

8 Perform the procedure *Clearing a CCS LKM major alarm* in this document. Complete the procedure and return to this point.

9 To access the C7RTESET level of the MAP display, type

>C7RTESET

and press the Enter key.

10 To post the routeset, type

>POST C rteset_name

and press the Enter key.

where

rteset_name
is the routeset name that you recorded in step 7

Example of a MAP display:

```
Network     NATL_NET
C7Routeset  SSP100_RT          InSv      Linkset   Transfer
  Rte   State  Mode Cost Linkset           State    Status
  0     InSv  Assoc 0    SSP100_LK         InSv   TFA
  1     InSv  Quasi 1    SSP101_LK         InSv   TFA
```

11 Determine the routeset state.

Note: The routeset state appears on the right of the routeset name on the MAP display.

If the state of the routeset is	Do
InSv	step 15

CCS RS
major (end)

If the state of the routeset is	Do
ISTb and at least one linkset is RInh, LInh, ManB, or SysB	step 8
ISTb and at least one linkset is ManB or SysB	step 8
ManB or SysB and no linksets are InSv or ISTb	step 12
ManB or SysB and at least one linkset is InSv or ISTb	step 14

12 Office records will show the far-end office that connects to the posted routeset.

13 Contact the far-end office. Tell personnel there that you are running a routeset major alarm. Tell personnel also that all linksets connected to your office are in service.

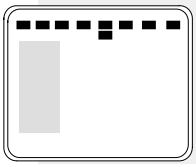
Go to step 15.

14 The alarm associated with the posted routeset upgrades from an RS major alarm to an RS critical alarm. Perform the procedure *How to clear an RS critical alarm* in this document.

15 The procedure is complete.

CCS RSSC critical

Alarm display



CM	MS	IOD	Net	PM	**CCS**	Lns	Trks	Ext	APPL
.	.	.	.	.	**1RSSC**	.	.	.	.
					C				

Indication

At the MTC level of the MAP display, a number and RSSC appear under the CCS header in the alarm banner. The RSSC indicates a critical alarm for a remote subsystem (RSSC).

Meaning

The indicated number of remote subsystems is out of service.

Result

The number shown under the common channel signaling (CCS) header of the alarm banner indicates the number of remote subsystems affected.

Common procedures

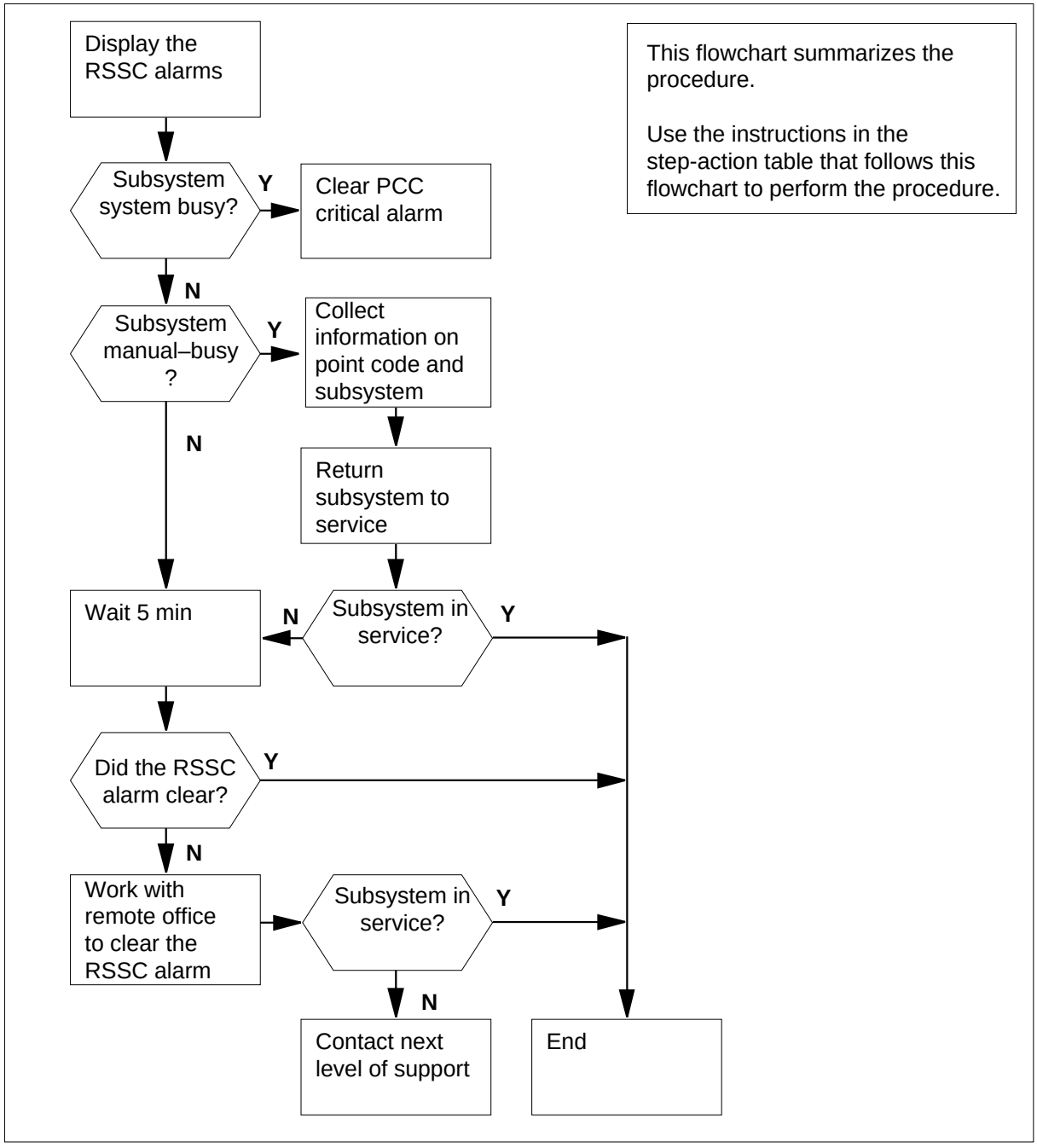
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CCS RSSC
critical (continued)

Summary of Clearing a CCS RSSC critical alarm



CCS RSSC
critical (continued)

Clearing a CCS RSSC critical alarm

At the MAP display

1 To access the CCS7 level of the MAP display, type

>MAPCI;MTC;CCS;CCS7

and press the Enter key.

2 To display the remote subsystems that run the RSSC alarm, type

>DISALM RSSC

and press the Enter key.

Example of a MAP response:

```
Subsystem                    Alm   Stat
SSP100_RT     800P           RSSC  SysB
SSP107_RT     ACCS           RSSC  ManB
```

3 Record the point code name, the subsystem name, and state for the first remote subsystem shown on the MAP display.

Note: The point code name appears under the Subsystem header on the MAP display. The remote subsystem name appears on the right of the point code name. The remote subsystem state appears under the state header.

If the state of the remote subsystem	Do
is SysB	step 4
is ManB	step 7
is INI	step 14

4 To determine if PCC critical alarms are present, type

>DISALM PCC

and press the Enter key.

Example of a MAP response:

CCS RSSC
critical (continued)

```
Point code          Alm   Stat
SSP100_RT           PCC   SysB
SSP107_RT           PCC   SysB
```

If the MAP display	Do
responds with a list of PCC alarms	step 5
responds with no PCC alarms	step 38

5 Perform the procedure *Clearing a CCS PCC critical alarm* in this document. Complete the procedure and return to this point.

6 Determine if the RSSC alarm cleared.

If the RSSC alarm	Do
cleared	step 39
did not clear	step 38

7 To access the SCCPRPC level of the MAP display, type

>SCCPRPC

and press the Enter key.

8 The remote subsystem is on a point code. To post this point code, type

>POST point_code

and press the Enter key.

where

point_code
is the point code name recorded in step 3 for the

subsystem that is in use

Example of a MAP response:

```
C7 SCCP REMOTE PC
   Point code     State   Number of SS
SSP107_RT          INSV        1
```

9 To access the SCCPRSS level of the MAP display, type

>SCCPRSS

and press the Enter key.

10 To post the remote subsystem, type

>POST subsystem

CCS RSSC
critical (continued)

and press the Enter key.

where

subsystem
is the name of the remote subsystem that you recorded in step 3

Example of a MAP response:

```
C7 SCCP REMOTE SS
Subsystem         State
800P              INSV
```

11 Determine from office records or from operating company personnel why the subsystem is manual busy.

12 When you have permission to return the subsystem to service, type

>RTS subsystem

and press the Enter key.

where

subsystem
is the name of the remote subsystem that you recorded in step 3

Example of a MAP response:

```
800P :  RTS passed
```

If the RTS command	Do
passed	step 39
failed	step 13

13 Determine the state of the remote subsystem.

If the state of the remote subsystem	Do
is INI	step 14
is other than listed here	step 38

14 Wait 5 min to see if the state of the remote subsystem changes to InSv

If the state	Do
changed to InSv	step 37
did not change to InSv	step 15

15 To return to the command interpreter (CI) level of the MAP display, type

>QUIT ALL

CCS RSSC
critical (continued)

and press the Enter key.

16 To access the C7NETSSN table, type

>TABLE C7NETSSN

and press the Enter key.

Example of a MAP response:

```
TABLE: C7NETSSN
```

17 To position on the tuple for the point code, type

>POSITION point_code

and press the Enter key.

where

point_code
is the name of the point code recorded in step 3 and posted in step 8

Example of a MAP response:

```
PCNAME                                SSNAMES
SSP107_RT   (ACCS 7)    (E800 254)$
```

18 To display table headings, type

>LIS

and press the Enter key.

Example of a MAP response:

```
PCNAME                                SSNAMES
SSP107_RT   (ACCS 7)    (E800 254)$
```

19 Record the subsystem names and numbers.

Note: The subsystem names and numbers appear in parentheses under and on the left of the header SSNAMES on the MAP display.

20 Determine which names and numbers recorded at step 19 are the names and numbers of the subsystem you are working on.

21 To quit the C7NETSSN table, type

>QUIT

and press the Enter key.

22 The office records reveal the point code that represents the far-end office. The point code is in use at this time. You must work with the operating company personnel in the far-end office for the remainder of this procedure.

CCS RSSC
critical (continued)

23 Contact the far-end office. To inform the operating company personnel to access the C7LOCSSN table, type

>TABLE C7LOCSSN

and press the Enter key.

Example of a MAP response:

```
TABLE: C7LOCSSN
```

24 To inform the operating company personnel at the far-end office to search for the subsystem in use, type

>LIST ALL (SSNUMBER EQ subsys_no)

and press the Enter key.

where

subsys_no
is the number of the subsystem recorded in step 19

Example of a MAP response:

```
SSNAME  SSNUMBER MININST REPLINFO TFMI PCNAMES
E800       254       1      N      N   SSP100_RT
```

25 Determine from the far-end office the results of the LIST command.

If the far-end office	Do
reports that a tuple appears	step 26
reports that a tuple does not appear	step 38

26 Inform operating company personnel at the far-end office to record the subsystem name.

Note: The subsystem name appears under and to the left of the header SSNAME on the MAP display.

27 To inform operating company personnel at the far-end office to quit the C7LOCSSN table, type

>QUIT

and press the Enter key.

28 To inform operating company personnel at the far-end office to access the SCCPLOC level of the MAP display, type

>MAPCI;MTC;CCS;CCS7;SCCPLOC

and press the Enter key.

29 To inform operating company personnel at the far-end office to post the subsystem in use, type

>POST subsystem

CCS RSSC
critical (continued)

and press the Enter key.

where

subsystem
is the name of the subsystem recorded in step 26.

If the subsystem	Do
runs an LSSC alarm	step 30
is OFFL	step 32

30 Inform the operating company personnel at the far-end office to perform the procedure *Clearing an LSSC critical alarm* in this document. When the operating company personnel complete the procedure, return to this point.

31 Go to step 36.

32 Contact the operating company personnel at the far-end office. Determine from office records or from operating company personnel why the subsystem is offline. When the operating company personnel have permission to perform maintenance on the offline subsystem, continue the procedure.

33 To inform operating company personnel at the far-end office to manually busy the subsystem, type

>BSY

and press the Enter key.

If the BSY command	Do
passed	step 34
failed	step 35

34 To inform operating company personnel at the far-end office to return the subsystem to service, type

>RTS

and press the Enter key.

Go to step 36.

35 Inform operating company personnel at the far-end office to contact the next level of support for help.

36 To access the CCS7 level of the MAP display, type

>MAPCI;MTC;CCS;CCS7

and press the Enter key.

37 Determine if the RSSC alarm cleared.

If the RSSC alarm	Do
cleared	step 39

CCS RSSC
critical (end)

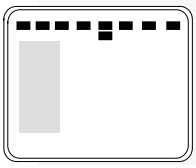
If the RSSC alarm	Do
did not clear	step 38

38 For additional help, contact the next level of support.

39 The procedure is complete.

CCS RTRC critical

Alarm display



CM	MS	IOD	Net	PM	**CCS**	Lns	Trks	Ext	APPL
.	.	.	.	.	**1RTRM *M***	.	.	.	.

Indication

At the MTC level of the MAP display, a number and RTRC appear under the CCS header in the alarm banner. The RTRC indicates a critical alarm for a C7 (RTR).

Meaning

An RTRC alarm rises if all the entered routers are not available. A router is not available if the router is SysB, ManB or Offline.

The number for the alarm indicates the number of routers that are not available. Table C7ROUTER must contain a minimum of one router. If table C7ROUTER does not contain any routers, the number associated with the alarm is one.

Result

If a total router outage (TRO) occurs, all CCS7 links in an office become blocked (Blkd). The TRO also results in the removal of the links from service. All messages for ISDN user part (ISUP) or messages for transaction capabilities applications part (TCAP) do *not* transmit. Another possibility is that messages cannot reach a specified destination during a TRO.

An RTRC alarm is more important than all types of common channel signaling (CCS) critical alarms.

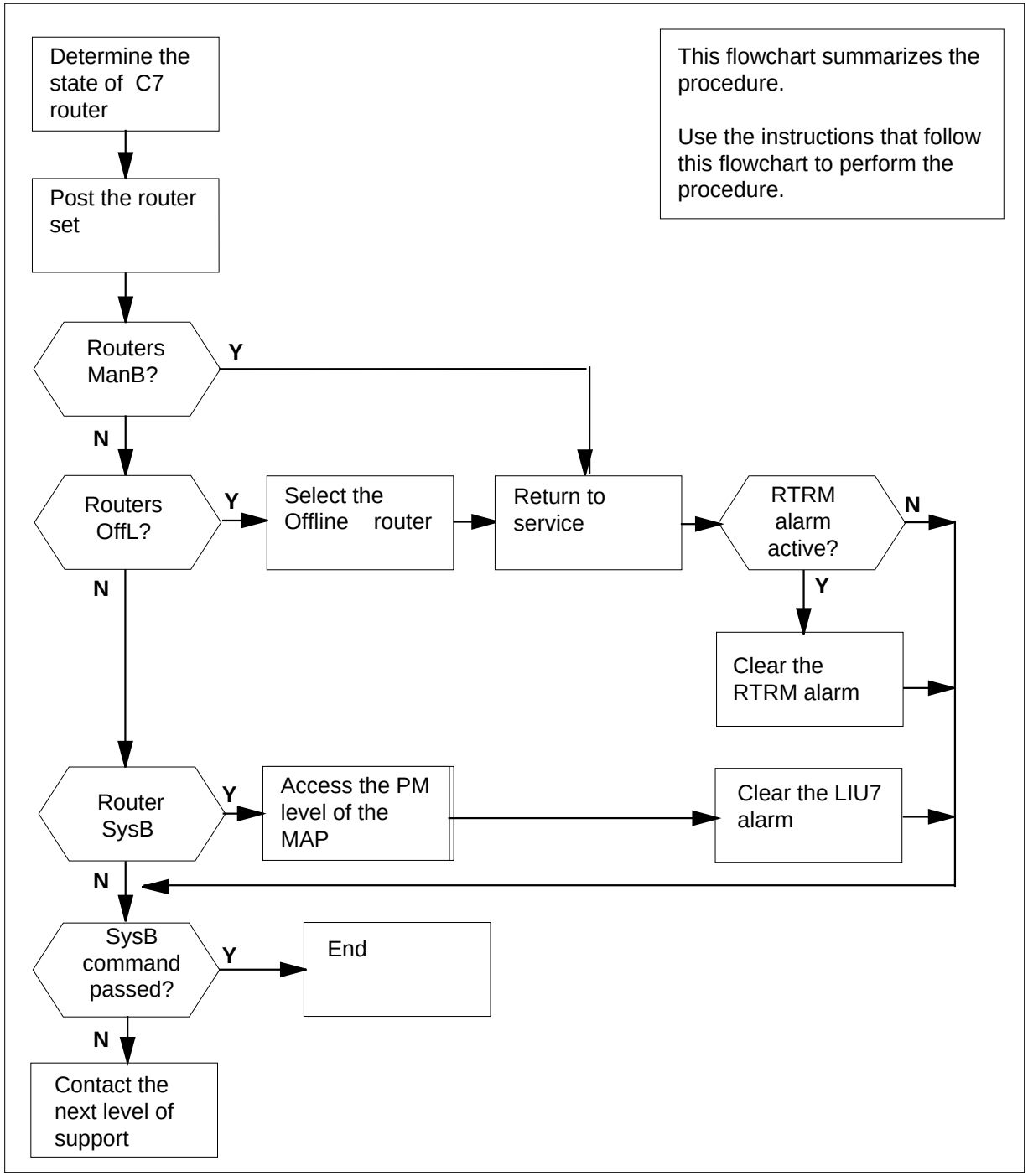
Note: The return of a router *InSv* after you clear the *RTRC* alarm can cause a *RTRM* alarm.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CCS RTRC
critical (continued)

Summary of Clearing a CCS RTRC critical alarm



CCS RTRC
critical (continued)

Clearing a CCS RTRC critical alarm

At the MAP terminal

1 To access the C7ROUTER level of the MAP display, type

>MAPCI;MTC;CCS;CCS7;C7ROUTER

and press the Enter key.

2 To display routers that have RTRC alarms, type

>DISALM RTRC

and press the Enter key.

Example of MAP display:

```
External Routing Alarm:RTRC
C7RouterResourceStatus
2LIU7102SysB
3LIU7103SysB
8LIU7108ManB
```

Note: A total router outage onset (TRO) occurs if all routers are not available or out of service.

3 To post the routers, type

>POST ALL

and press the Enter key.

4 To display status of routers, type

>QUERYRTR_ALL

and press the Enter key.

Example of MAP display:

```
External RoutingInSv
11111111112222222222333
Router12345678901234597890123456789012
OSSOOOOM----------------------

RtrStateResourcePM State
2SysB   LIU 101SysB

Size of Posted Set = 8

RtrStateResourcePM State   Congestion Level
1OffLLIU7 101OffL
2SysB  LIU7 102  SysB0
3SysB  LIU7 103  SysB0
4OffL  LIU7 104  OffL
5OffL  LIU7 105  OffL
6OffL  LIU7 106  OffL
```

CCS RTRC
critical (continued)

7OffL LIU7 107 OffL
8ManB LIU7 108 InSv0

If any routers	Do
are *ManB*	step 5
are *OFFL*	step 7
are *SysB*	step 9

5 Note the numbers of an *ManB* router and the equivalent LIU7.

6 Determine from office records why the router is *ManB*.

When you have permission, go to step 26.

7 Select an *OFFL* router and the equivalent LIU7.

If the LIU7	Do
is *InSv*	step 20
is *ISTb*	step 20
is other than listed here	step 11

8 Go to step 11.

9 Note the number of the *SysB* router and equivalent LIU7.

10 Go to step 11.

11 To access the PM level of the MAP display, type

`>MAPCI;MTC;PM`

and press the Enter key.

12 To post the LIU7 you selected, type

`>POST LIU7 liu_no`

and press the Enter key.

where

liu_no
is the number of the LIU7 (0 to 215)

If the LIU7	Do
is *ManB*	step 13
is *SysB*	step 15
is *OFFL*	step 14

CCS RTRC
critical (continued)

13 Determine from office records why the LUI7 is *ManB*.

When you have permission, go to step 16.

14 To manually busy the LIU7, type

>BSY

and press the Enter key.

If the BSY command	Do
passed	step 16
failed	step 15

15 Perform the correct procedure in this document to clear all PM LIU7 alarms. Complete the procedure and return to this point.

16 To return the LIU7 to service, type

>RTS

and press the Enter key.

If the RTS command	Do
passed	step 17
failed	step 15

17 To access the C7ROUTER level of the MAP display, type

>MAPCI;MTC;CCS;CCS7;ROUTER

and press the Enter key.

18 Select the *OFFL* router for return to service (RTS).

19 To post the router, type

>POST router_no

and press the Enter key.

where

router_no
is the number of the router

20 To busy the required posted router set, type

>BSY

and press the Enter key.

Example of MAP display:
External Routing Bsy

```
1111111111222222222333
Router12345678  90123459 7890123456789012
MSS----M-----------------------
```

CCS RTRC
critical (continued)

RtrStateResource PM State
1ManB LIU7 108InSv

Size of Posted Set = 4

Note: The preceding MAP response is for a *OFFL* router and LIU7.

If the BSY command	Do
passed	step 26
failed - no message to router management	step 25
failed - no response from router management	step 25
failed - system problems	step 21
failed - router not entered in table C7ROUTER	step 23

21 Check CCS196 log and reason for system problems.

22 Go to step 25.

23 Contact the next level of support to determine if you entered the selected router.

24 Go to step 7 and select another *OFFL* router and equivalent LIU7.

25 To busy the failed router again, type

>BSY router_no

and press the Enter key.

where

router_no
is the number of the router

Example of MAP display:

External Routing Bsy

1111111111222222222333
Router12345678 90123459 7890123456789012
MSS----M----------

RtrStateResource PM State
1ManB LIU7 101InSv

CCS RTRC
critical (continued)

Size of Posted Set = 4

If the BSY command	Do
passed	step 26
failed	step 35

26 To return the selected routeset to service, type

>RTS router_no

and press the Enter key.

where

router_no
is the number of the router

Example of MAP display:

```
External Routing
 Bsy

1111111112222222222333
Router12345678   90123459 7890123456789012
.SS----M------------------------

RtrStateResource PM State
1ManB  LIU7 101InSv

Size of Posted Set = 1
```

Note: The preceding MAP response is for a *Bsy* router and LIU7.

If the RTS command	Do
passed	step 30
passed but a RTRM alarm is active	step 27
failed - no message to router management	step 29
failed - no response from router management	step 29
failed - system problems	step 29

27 Perform the correct procedure in this document to clear the RTRM alarm. Complete the procedure and return to this point.

28 Go to step 30.

CCS RTRC
critical (continued)

29 To return the failed router set to service, type

>RTS router_no

and press the Enter key.

where

router_no
is the number of the router

Example of MAP display:

```
External Routing      Bsy

1111111111222222222333
Router12345678   90123459 7890123456789012
.SS----M-----------------------

RtrStateResource PM State
1ManB  LIU7 101InSv

Size of Posted Set = 4
```

Note: The preceding MAP response is for a *Bsy* router and LIU7.

If the RTS command	Do
passed	step 30
passed but a RTRM alarm is active	step 35
is other than listed here	step 35

30 Remove the TRO condition when one router is *InSv*.

If the TRO condition	Do
cleared	step 32
failed because of a link alarm	step 31
is other than listed here	step 35

31 Use the correct procedures in this manual to clear link alarms and clear the link problem. Complete the procedure and return to this point.

32 To check the status of the router set, type

>QUERYRTR_ALL

and press the Enter key.

Example of MAP display:

```
External RoutingInSv
```

CCS RTRC
critical (end)

```
1111111111222222222333
Router123456789012345978901234567890 12
-.----.-..------.----.---.---.-

RtrStateResourcePM State
4InSv LIU 101InSv

Size of Posted Set = 8

RtrStateResourcePM State   Congestion Level
1InSvLIU7 101InSv0
2InSv LIU7 102  InSv0
3InSv LIU7 103  InSv0
4OffL  LIU7 104  OffL
5OffL  LIU7 105  OffL
6OffL  LIU7 106  OffL
7OffL  LIU7 107  OffL
8InSv LIU7 108  InSv0
```

33 Office records will reveal the far-end office that connects to the posted linkset.

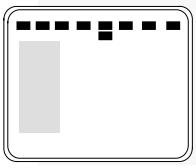
34 Contact the far-end office. Inform the operating company personnel that you activated a CCS7 critical alarm. Inform the operating company personnel that one or more associated links are now in service.

35 For additional help, contact the next level of support

36 The procedure is complete.

CCS RTRM major

Alarm display



```
CM    MS    IOD   Net   PM    CCS      Lns   Trks   Ext   APPL
.     .     .     .     .     1RTRM .        .      .     .
                            *M*
```

Indication

At the MTC level of the MAP display, a number and RTRM appear under the CCS header in the alarm banner. The RTRM indicates a major alarm for a C7 (RTR). A CCS 189 log indicates the congested router or routers and the congestion level of the routers.

Meaning

An RTRM alarm raises against a router or routers for the following reasons:

- the router or routers are in a manual busy (ManB) state
- the router or routers are in a system busy (SySb) state. This state occurs when the peripheral that matches the router is in an out-of-service state
- the router or routers are in an in-service trouble (ISTb) state. High traffic volume causes congestion. Congestion causes an ISTb in the routers

Note: One router must be available for this alarm to take effect.

Result

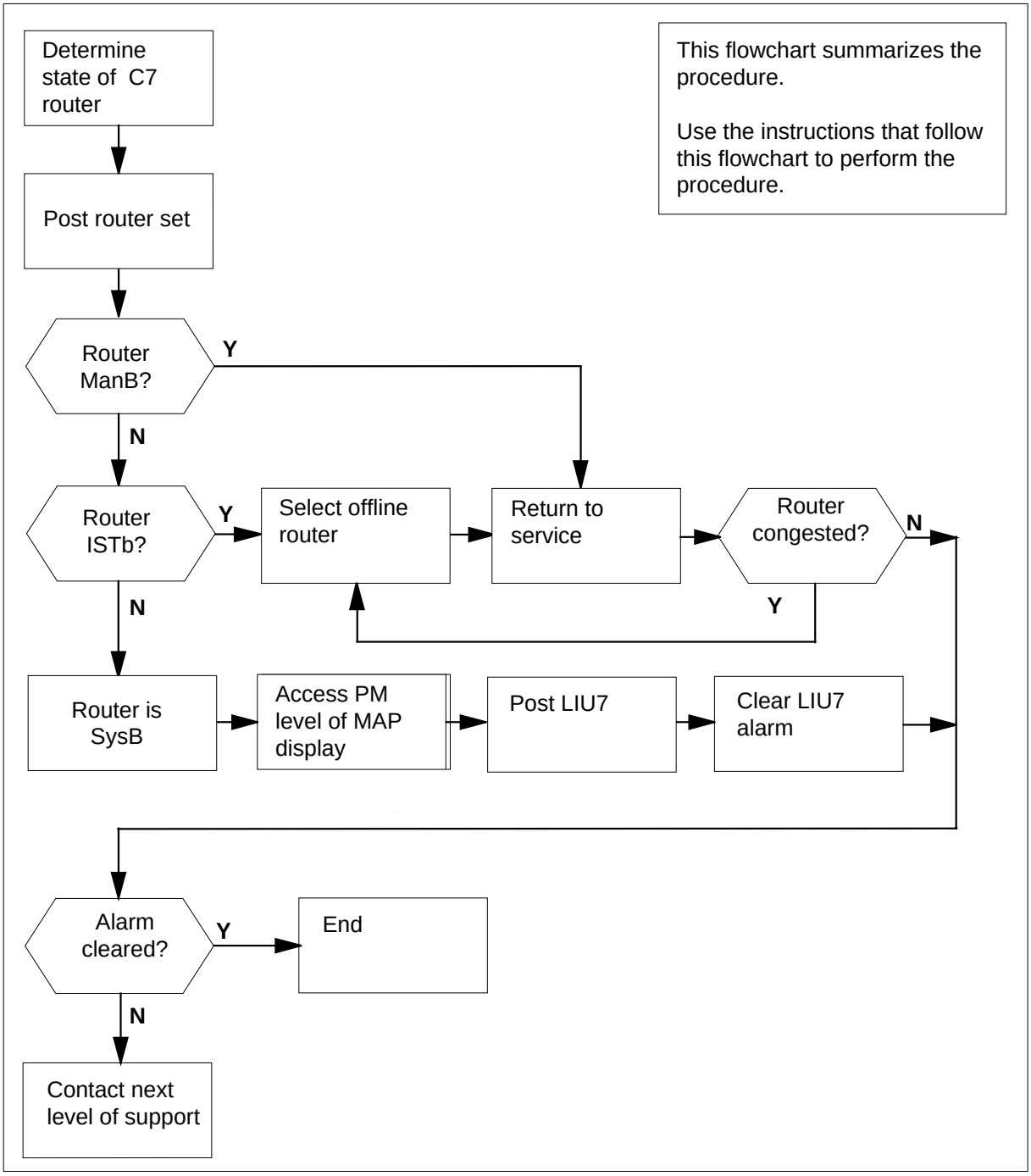
This major alarm can disappear if the last router is not available. If the last router is not available, all routers become RTRC critical alarms.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CCS RTRM
major (continued)

Summary of Clearing a CCS RTRM RTRM major alarm



CCS RTRM
major (continued)

Clearing a CCS RTRM major alarm

At the MAP display

1 To access the C7ROUTER level of the MAP display, type

>MAPCI;MTC;CCS;CCS7;C7ROUTER

and press the Enter key.

2 To display routers that have RTRM alarms, type

>DISALM RTRM

and press the Enter key.

Example of MAP display:

```
External Routing Alarm:RTRM

C7Router   Resource          Status

1          LIU7 101          ManB
2          LIU7 102          ISTb
3          LIU7 103          ISTb
5          LIU7 105          SysB
```

3 To post the router, type

>POST ALL

and press the Enter key.

4 To display status of routers, type

>QUERYRTR_ALL

and press the Enter key.

Example of MAP display:

CCS RTRM
major (continued)

```
External Routing      ISTb

                       1111111   11122222   22222333
Router    12345678   90123459   78901234   56789012
          MIIOSOOO   --------   --------   -------
Rtr       State    Resource         PM State
2         ISTb     LIU 101          InSv

Size of Posted Set = 8

Rtr       State   Resource     PM State   Congestion Level
1         ManB    LIU7 101          InSv     0
2         ISTb     LIU7 102         InSv     2
3         ISTb     LIU7 103         InSv     2
4         OffL     LIU7 104         OffL
5         SySb     LIU7 105         SysB     0
6         OffL     LIU7 106         OffL
7         OffL     LIU7 107         OffL
8         OffL     LIU7 108         OffL
```

If one or more of the routers	Do
is *ManB*	step 5
is *ISTb*	step 7
is *SySb*	step 8

5 Note the number of the *ManB* router and equivalent link interface unit for the CCS7 (LIU7).

6 Determine from office records why the router is *ManB*.

When you have permission, continue this procedure. Go to step 23.

7 Select an *OFFL* router and equivalent LIU7.

If the LIU7	Do
is *InSv*	step17
is *ISTb*	step17
is other than listed here	step 9

8 Note the number of the *SysB* router and equivalent LIU7.

9 To access the PM level of the MAP display, type

>MAPCI;MTC;PM

and press the Enter key.

10 To post the LIU7 you selected, type

>POST LIU7 liu_no

CCS RTRM
major (continued)

and press the Enter key.

where

liu_no
is the number of the LIU7 (0 to 215)

If the LIU7	Do
is *ManB*	step 13
is *OFFL*	step 11
is *SysB*	step 12

11 To manually busy the LIU7, type

>BSY

and press the Enter key.

If the BSY command	Do
passed	step 13
failed	step 12

12 Perform the appropriate alarm clearing procedures in this document to clear all PM LIU7 alarms. Complete the procedure and return to this point.

13 To return the LIU7 to service, type

>RTS

and press the Enter key.

If the RTS command	Do
passed	step 14
failed	step 12

14 To access the C7ROUTER level of the MAP display, type

>MAPCI;MTC;CCS;CCS7;C7ROUTER

and press the Enter key.

15 Select the *OFFL* router to return to service.

16 To post the router, type

>POST router_no

and press the Enter key.

where

router_no
is the number of the router

CCS RTRM
major (continued)

17 To busy the required posted router, type

>BSY

and press the Enter key.

Example of MAP display:

```
External Routing      Bsy

                       1111111   11122222   22222333
Router  12345678      90123459   78901234   56789012
         MIIMSOOO     --------   --------   ------
Rtr  State      Resource    PM State
4    ManB       LIU 104     InSv

Size of Posted Set = 1

Rtr   State     Resource   PM State   Congestion Level
1    ManB      LIU7 101      InSv      0
2    ISTb      LIU7 102      InSv      2
3    ISTb      LIU7 103      InSv      2
4    ManB      LIU7 104      InSv      1
5    SySb      LIU7 105      SysB      0
6    OffL      LIU7 106      OffL
7    OffL      LIU7 107      OffL
8    OffL      LIU7 108      OffL
```

Note: MAP response shown is for an *OFFL* router and LIU7.

If the BSY command	Do
passed	step 23
failed - no message to router management	step 22
failed - no response from router management	step 22
failed - system problem	step 18
failed - router not entered in table C7ROUTER	step 20

18 Check logs and the reason for system problems.

19 Go to step 22.

20 Contact your next level of support to determine if the selected router is not entered.

21 Go to step 7 and select another *OFFL* router and equivalent LIU7.

CCS RTRM
major (continued)

22 To busy the failed router again, type

>BSY router_no

and press the Enter key.

where

router_no
is the number of the router

Example of MAP display:

```
External Routing      Bsy

                       1111111   11122222   22222333
Router  12345678      90123459   78901234   56789012
        MIIMSOOO      --------   --------   ------
Rtr  State     Resource     PM State
4    ManB      LIU 104      InSv

Size of Posted Set = 8

Rtr   State    Resource     PM State   Congestion Level
1    ManB      LIU7 101      InSv            0
2    ISTb      LIU7 102      InSv            2
3    ISTb      LIU7 103      InSv            2
4    ManB      LIU7 104      InSv            1
5    SySb      LIU7 105       SysB           0
6    ManB      LIU7 106      InSv
7    OffL      LIU7 107      OffL
8    OffL      LIU7 108      OffL
```

Note: MAP response shown is for an *OFFL* router and LIU7.

If the RTS command	Do
passed	step 23
other than listed here	step 27

23 To return the selected router to service, type

>RTS router_no

and press the Enter key.

where

router_no
is the number of the router

Example of MAP display:

CCS RTRM
major (continued)

```
External Routing      InSv

                    1111111    11122222   22222333
Router 12345678     90123459   78901234   56789012
       ..I..OOO     --------   --------   --------

Rtr   State     Resource    PM State
4     InSv      LIU7 104    InSv
Size of Posted Set = 8
```

Note: The following MAP response covers:

- an *Offl* router and LIU7 selected in step 7
- a *ManB* router selected in step 5
- a *SySb* router and LIU7 selected in step 8

If the RTS command	Do
passed	step 25
failed - no message to router management	step 24
failed - no response from router management	step 24
failed - system problem	step 24

24 To return the failed router to service, type

>RTS router_no

and press the Enter key.

where

router_no
is the number of the router

Example of MAP display:

CCS RTRM
major (continued)

```
External Routing      InSv
1111111112222222222333
Router12345678   90123459789012345678901 2
..I..OOO   ------------------------
RtrState  ResourcePM State
6InSv  LIU7 106InSv
Size of Posted Set = 1
```

If the RTS command	Do
passed	step 25
other than listed here	step 27

25 To check the status of the routers, type

>QUERYRTR_ALL

and press the Enter key.

Example of MAP display:

```
External Routing      InSv

                     1111111    11122222   22222333
Router  12345678   90123459   78901234   56789012
        .I...OOO   --------   --------   --------
Rtr  State     Resource     PM State
1    InSv      LIU 101      InSv

Size of Posted Set = 6

Rtr   State    Resource    PM State   Congestion Level
1    InSv      LIU7 101      InSv         0
2    ISTb      LIU7 102      InSv         1
3    InSv      LIU7 103      InSv         0
4    InSv      LIU7 104      InSv         0
5    InSv      LIU7 105      InSv         0
6    OffL      LIU7 106      OffL
7    OffL      LIU7 107      OffL
8    OffL      LIU7 108      OffL
```

Note: The following MAP response covers:

- an *Offl* router and LIU7 selected in step 7
- a *ManB* router selected in step 5
- a *SySb* router and LIU7 selected in step 8

If the RTS command	Do
cleared the alarm	step 28
did not clear the alarm. Congestion continues to occur on the #2 router.	step 26

26 Go to step 7 and bring another *OFFL* router and LIU7 into service to clear the congestion level alarm.

27 For additional help, contact the next level of support

28 The procedure is complete.

3 Computing module alarm clearing procedures

Introduction

This chapter provides alarm clearing procedures for the computing module (CM). Computing module alarms appear under the CM header of the alarm banner in the MAP display. Each procedure contains the following sections:

- Alarm display
- Indication
- Meaning
- Result
- Common procedures
- Action

Alarm display

This section indicates how the alarm appears at the MAP terminal.

Indication

This section indicates the following:

- Appearance of the alarm
- Model of the alarm
- Affected subsystems
- Alarm intensity

Meaning

This section indicates the cause of the alarm.

Result

This section describes the results of the alarm condition.

Common procedures

This section lists common procedures used during the alarm clearing procedure. A common procedure consists of a series of repeated steps within maintenance procedures, for example, removal and replacement of a card. Common procedures are in the common procedures chapter in this Northern Telecom publication (NTP).

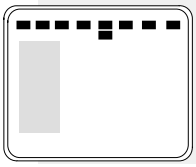
Do not go to a common procedure unless the step-action procedure directs you to go.

Action

This section provides a summary flowchart of the alarm clearing procedure. A detailed step-action procedure follows the flowchart.

CM AutoLd minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
AutoLd	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, AutoLd appears under the computing module (CM) header of the alarm banner. The AutoLd indicates a minor alarm for an automatic reload.

Meaning

A defect or error prevents the automatic reload of the switch.

Result

The problem does not affect subscriber service.

Common procedures

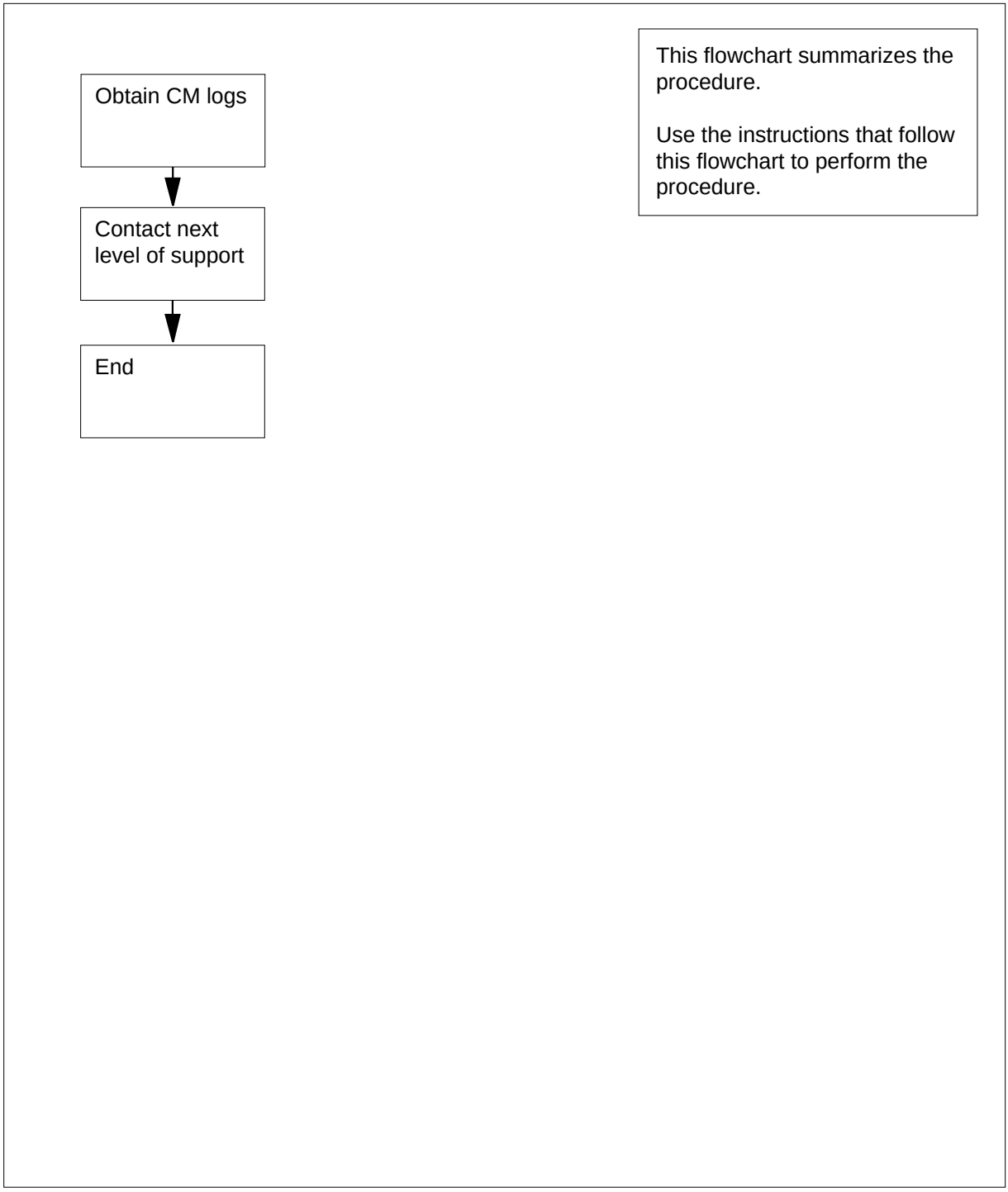
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM AutoLd
minor (continued)

Summary of Clearing a CM AutoLd minor alarm



CM AutoLd minor (end)

Clearing a CM AutoLd minor alarm

At the MAP terminal

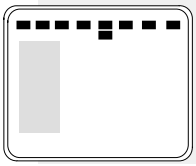
1 Obtain all recent CM logs.

2 For additional help, contact the next level of support.

3 The procedure is complete.

CM CBsyMC major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
CBsyMC M	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, CBsyMC appears under the CM header of the alarm banner. CBsyMC indicates a major alarm for a C-side busy message controller.

Meaning

The message controller (MC) is control-side (C-side) busy. The links to the message switch (MS) are system busy or manual busy.

Result

The computing module (CM) contains two MCs. If one MC is out of service, the second MC assumes the full messaging load. After the removal of the second MC, the switch cannot maintain subscriber service.

Common procedures

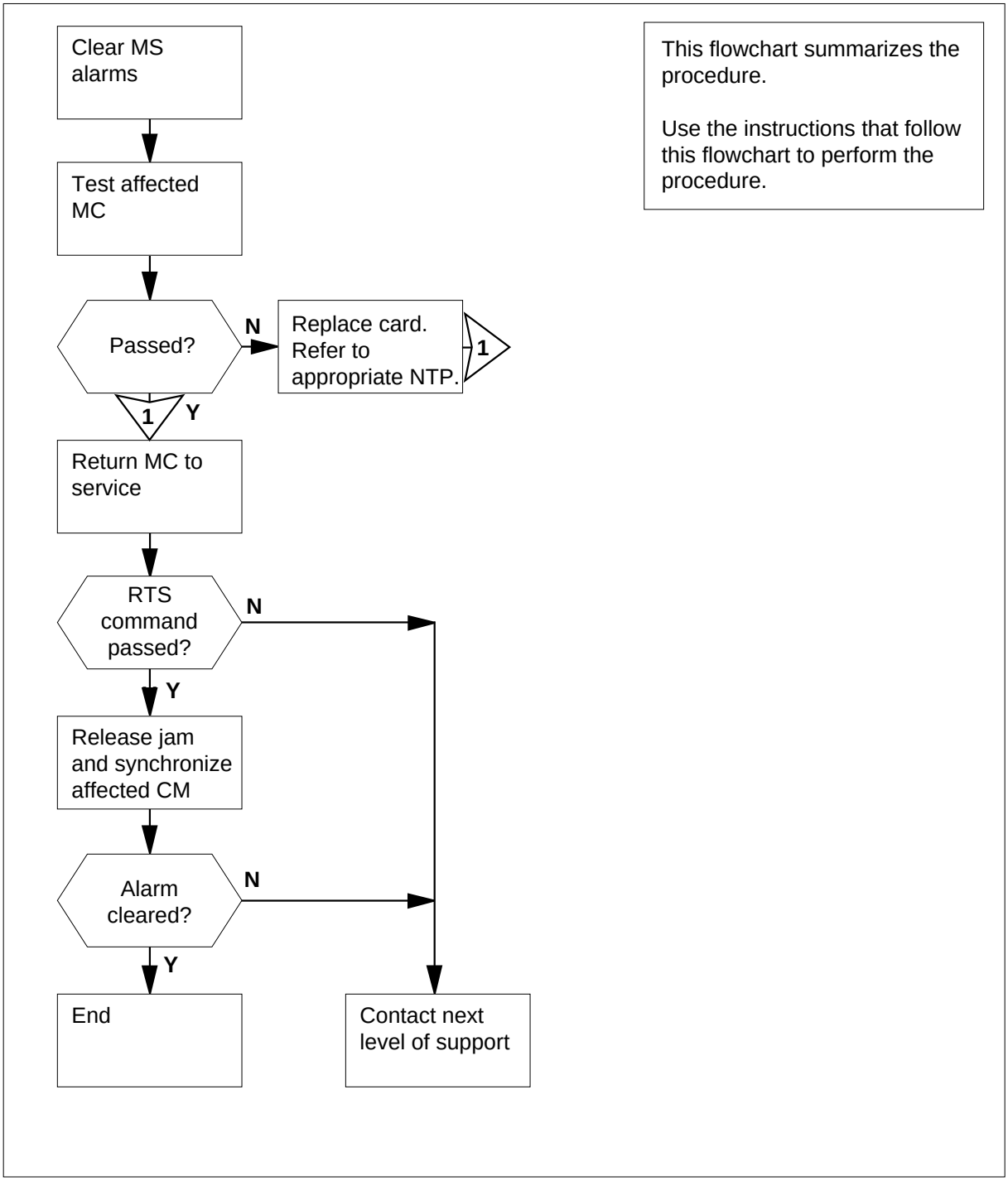
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM CBsyMC major (continued)

Summary of Clearing a CM CBsyMC major alarm



CM CBsyMC
major (continued)

Clearing a CM CBsyMC major alarm

At the MAP terminal

1 Use the correct MS alarm clearing procedures in this document to clear any MS alarms. Complete the procedures and return to this point.

2 Determine if the CBsyMC main alarm cleared.

If the alarm	Do
cleared	step 24
changed to another alarm	step 22
did not clear	step 3

3 To access the MC level of the MAP display, type

`>MAPCI;MTC;CM;MC`

and press the Enter key.

Example of a MAP display:

```
CM 0
 MC 0    MC 1
   .     cbsy
```

4 To test the affected MC, type

`>TST  mc_number`

and press the Enter key

where

mc_number is the number of the C-side busy MC (0 or 1)

Note: The state of the MCs appears under the MC 0 and MC 1 headers of the MAP display. In the example in step 3, MC 1 is C-side busy.

Example of a MAP response:

```
Maintenance action submitted.
MC test passed.
Link 0: 0 messages sent, 0 messages received
   – Possible C–side problem.
Link 1: 0 messages sent, 0 messages received
   – Possible C–side problem.
TOD 0 test passed
TOD 1 test passed
```

If the TST command	Do
passed	step 15
failed, and the system generated a card list	step 5

5 Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

6 Perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

7 To access the MC level of the MAP display, type

>CM;MC

and press the Enter key.

Example of a MAP display:

```
CM 0
 MC 0    MC 1
   .     mbsy
```

8 To test the affected MC, type

>TST mc_number

and press the Enter key

where

mc_number is the number of the affected MC (0 or 1)

If the TST command	Do
passed	step 10
failed, and you did not replaced all the cards on the list	step 9
failed, and you replaced all the cards on the list	step 23

CM CBsyMC
major (continued)

If the TST command	Do
is other than listed here	step 23

9 Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 6.

10 Determine if the affected MC is manual busy.

Note: The term mbsy under the MC0 or MC1 header on the MAP display means the MC is manual busy. In the example in step 7, MC 1 is manual busy.

If the state of the MC	Do
is mbsy	step 11
is no mbsy	step 12

11 To return the manual busy MC to service, type

`>RTS mc_number`

and press the Enter key.

where

mc_number
is the number of the manual busy MC (0 or 1)

Example of a MAP response:

```
Maintenance action submitted.
MC RTS ok.
```

If the RTS command	Do
passed	step 12
failed	step 23

12 Determine if the inactive CM surface powered down.

If the inactive CM surface	Do
powered down	step 13
did not power down	step 15

13 To test the inactive central processing unit (CPU), type

`>CM;TST`

and press the Enter key.

Example of a MAP response:

```
The test(s) listed below will destroy
the software load in inactive CPU:

    Static RAM test

Do you want to do the test(s) anyway?
Please confirm: (”YES”, ”Y”, ”NO”, or ”N”):
```

14 To confirm the command, type

>YES

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Test passed.
```

If the TST command	Do
passed	step 15
failed	step 23
is other than listed here	step 23

15 Determine if the inactive CPU jammed.

Note: The word yes under the Jam header means that the CPU jammed. The area is blank if the CPU did not jam.

If the inactive CPU	Do
jammed	step 16
did not jam	step 17

At the CM reset terminal for the inactive CPU

16 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:
JAM RELEASE DONE.

CM CBsyMC
major (continued)

At the MAP terminal

17 Determine if the CM is in sync.

Note: A dot or EccOn under the Sync header means that the CM is in sync. The word no means that the CM is not in sync.

If the CM	Do
is in sync	step 20
is not in sync	step 18

18 To synchronize the CM, type

>CM;SYNC

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command is successful	step 20
indicates the CPUs are out of sync as a result of a problem with mismatches. Analyze the mismatch logs before you synchronize the logs again. Do you wish to continue? Please confirm (yes, `Y" or no, “N") (SN/SNSE Series 70 only)	step 19
is other than listed here	step 23

19 (SN/SNSE Series 70 only)

To deny the action, type

>NO

and press the Enter key.

Go to step 23.

20 Determine if the CBsyMC main alarm cleared.

If the alarm	Do
cleared	step 24
changed to another alarm	step 22

CM CBsyMC major (end)

If the alarm	Do
did not clear	step 21

21 If a fiber link that has faults is present between the CM and MS, go to step 23.

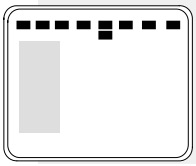
22 Perform the correct alarm clearing procedure in this document.

23 For additional help, contact the next level of support.

24 The procedure is complete.

CM ClkFlt major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
ClkFlt M	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, ClkFlt appears under the CM header of the alarm banner. The ClkFlt indicates a clock major alarm.

Meaning

One of the central processing units (CPU) has a processor clock fault.

Result

In simplex or split mode, the active CPU normally runs on the clock of the active CPU. In duplex mode, the computing module (CM) is in sync. In duplex mode, both CPUs are in sync with a common clock.

A CPU with a processor clock that has faults can operate while the CPU runs on the clock of the mate CPU.

Common procedures

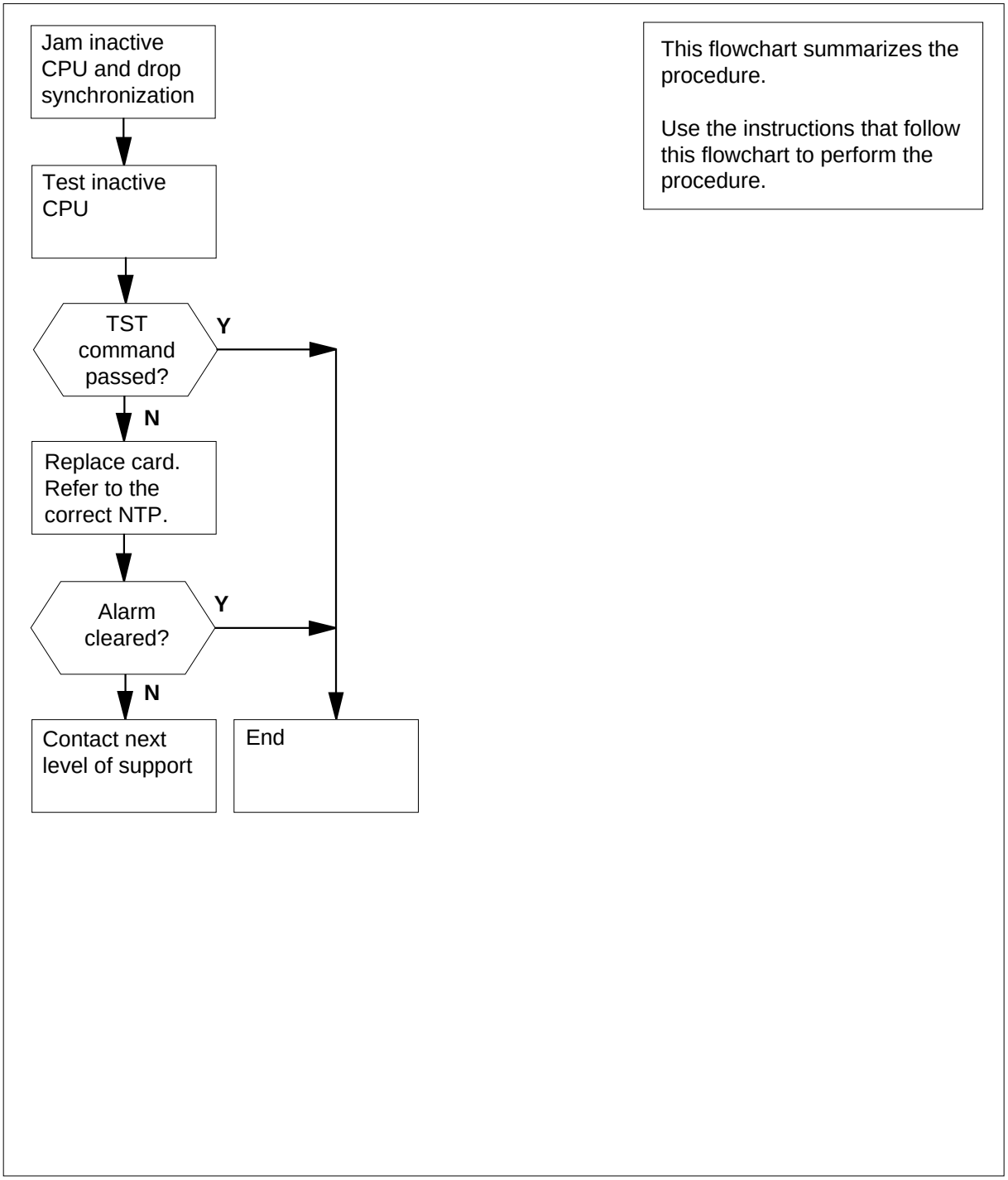
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM ClkFlt
major (continued)

Summary of Clearing a CM ClkFlt major alarm



CM ClkFlt
major (continued)

Clearing a CM ClkFlt major alarm

At the MAP terminal

1 To access the CM level of the MAP display, type

>MAPCI;MTC;CM

and press the Enter key.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   no  cpu 1 clk     .  yes    .     .     .   .
```

2 Determine if the inactive CPU jammed.

Note: The word yes under the Jam header means that the CPU jammed. The area is blank if the CPU did not jam. In the example in step 1, the inactive CPU (CPU 0) jammed.

If the inactive CPU	Do
jammed	step 5
did not jam	step 3

At the CM reset terminal for the inactive CPU

3

WARNING
Loss of service
Make sure that you do not jam the active CPU. If you jam the active CPU while the CM is out of sync, a cold restart occurs. The word Act on the top banner of the display identifies the reset terminal for the active CPU.

To jam the inactive CPU, type

>\JAM

and press the Enter key.

RTIF response:

```
Please confirm: (YES/NO)
```

4 To confirm the command, type

>YES

and press the Enter key.

RTIF response:

```
JAM DONE
```

At the MAP terminal

5 Determine that the CM is in sync.

Note: A dot or EccOn under the Sync header means that the CM is in sync. The word no means that the CM is not in sync.

If the CM	Do
is in sync	step 6
is not in sync	step 9

6 To drop synchronization, type

>DPSYNC

and press the Enter key.

If the response	Do
is About to drop sync with CPU n active. The inactive CPU JAMMED. Do you want to continue? Please confirm ("YES", "Y", "NO", or "N"):	step 7
is other than listed here	step 22

7 To confirm the command, type

>YES

and press the Enter key.

At the CM reset terminal for the inactive CPU

8 Wait until A1 flashes on the reset terminal for the inactive CPU.

Note: Wait five minutes for A1 to flash.

If A1	Do
flashes	step 9
does not flash	step 22

CM ClkFlt
major (continued)

At the MAP terminal

9 To test the inactive CPU, type

>TST

and press the Enter key.

If the response	Do
is The test(s) listed below will destroy the software load in inactive CPU:Static RAM test Do you want to do the test(s) anyway? Please confirm: ("YES", "Y", "NO", or "N"):	step 10
is other than listed here	step 22

10 To confirm the command , type

>YES

and press the Enter key.

If the TST command	Do
passed	step 17
failed, and the system generated a card list	step 11
is other than listed here	step 22

11 Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

12 Perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

At the MAP terminal

13 To access the CM level of the MAP display, type

>CM

and press the Enter key.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   no  cpu 1 clk     .  yes    .     .     .   .
```

14 To test the inactive CPU, type

>TST

and press the Enter key.

If the response	Do
is The test(s) listed below will destroy the software load in inactive CPU:Static RAM test Do you want to do the test(s) anyway? Please confirm: ("YES", "Y", "NO", or "N"):	step 15
is other than listed here	step 22

15 To confirm the command, type

>YES

and press the Enter key.

If the TST command	Do
passed	step 17
failed, and you did not replace all cards on the list	step 16
failed, and you replaced all cards on the list	step 22
is other than listed here	step 22

16 Determine the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 12.

At the CM reset terminal for the inactive CPU

17 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

```
JAM RELEASE DONE
```

At the MAP terminal

18 To synchronize the CM, type

>SYNC

and press the Enter key.

Example of a MAP response:

CM ClkFlt
major (end)

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command was successful	step 20
indicates the CPUs are out of sync as a result of a problem with mismatches. Analyze the mismatch logs before you synchronize the logs again. Do you wish to continue? Please confirm (yes, `Y" or no, "N") (SN/SNSE Series 70 only)	step 19
is other than listed here	step 22

19 (SN/SNSE Series 70 only)

To deny the action, type

>NO

and press the Enter key.

Go to step 22.

20 Determine if the ClkFlt main alarm cleared.

If the alarm	Do
cleared	step 23
changed to another alarm	step 21
did not clear	step 22

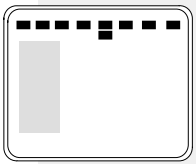
21 Perform the correct alarm clearing procedure in this document.

22 For additional help, contact the next level of support.

23 The procedure is complete.

CM CMFlt major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
CMFlt M	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, CMFlt appears under the CM header of the alarm banner. The CMFlt indicates a major alarm for a computing module (CM) fault.

Meaning

A fault is present on one of the central processing units (CPUs).

Result

When a fault occurs in one of the CPUs, CPU activity automatically switches and synchronization drops. These actions allow the fault-free CPU to take control.

Common procedures

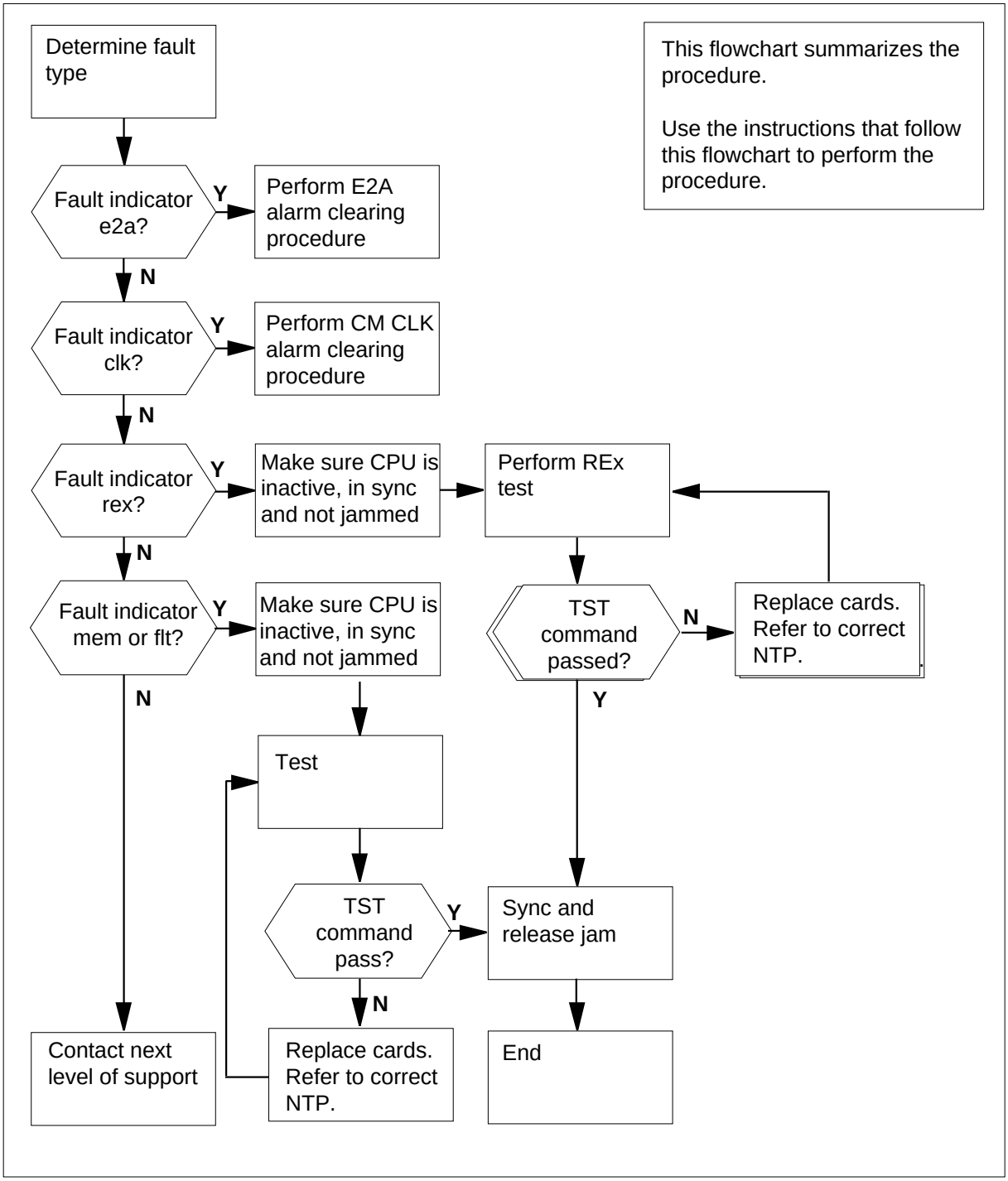
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM CMFlt
major (continued)

Summary of Clearing a CM CMFlt major alarm



Clearing a CM CMFlt major alarm

At the MAP display

1 To access the CM level of the MAP display, type

>MAPCI;MTC;CM

and press the Enter key.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   no  cpu 1 flt     .  yes   .     .     .    .
```

2 Determine the type of fault that causes the alarm.

Note: The fault indicator is under the CPU0 and CPU1 headers of the MAP display. In the example in step 1, the fault indicator for CPU 0 is flt.

If the fault indicator	Do
is clk	step 3
is e2a	step 4
is rex	step 5
is flt	step 24
is mem	step 24

3 Perform the procedure *Clearing a CM ClkFlt major alarm* in this document.

4 Perform the procedure *Clearing a CM E2A minor alarm* in this document.

5 Determine if the inactive CPU jammed.

Note: The word yes under the Jam header of the CM level MAP display means that the CPU jammed. The area is blank if the CPU did not jam.

If the inactive CPU	Do
jammed	step 6
did not jam	step 7

CM CMFlt
major (continued)

At the CM reset terminal for the inactive CPU

6 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

```
JAM RELEASE DONE
```

At the MAP display

7 Determine if the CM is in sync.

Note: A dot or EccOn under the Sync header means that the CM is in sync. The word no means that the CM is not in sync.

If the CM	Do
is in sync	step 9
is not in sync	step 8

8 To synchronize the CM, type

>SYNC

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command is successful	step 9
is other than listed here	step 50

9

CAUTION
Possible service degradation
Check with operating company personnel to make sure that a REx test can run at this time. Make sure that you initiate REx tests during a low traffic period as a result of the high level of CPU occupancy required. Synchronization automatically drops and you cannot synchronize the CM again, while the REx test runs.

CM CMFlt
major (continued)

To run a REx test on the CM , type

>REXTST

and press the Enter key.

If the response	Do
is CAUTION: CM sync and activity states will change. Please confirm ("YES", "Y", "NO", or "N"):	step 11
is CMREx test not authorized by REX controller.	step 10
is other than listed here	step 50

10 REx tests run on another node. Consult office records or operating company personnel. Determine where the REx tests run. Wait until the tests finish before you run the CM REx test. To run the test, type

>REXTST

and press the Enter key.

If the response	Do
is CAUTION: CM sync and activity states will change Please confirm ("YES", "Y", "NO", or "N"):	step 11
is other than listed here	step 50

11 To confirm the command, type

>YES

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
```

If the REXTST command	Do
passed	step 48
failed, and the system generated a card list	step 12
other than listed here	step 50

12 Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

CM CMFlt
major (continued)

13 Perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

14 Determine if the inactive CPU jammed.

Note: The word yes under the Jam header means that the CPU jammed. The area is blank if the CPU did not jam.

If the inactive CPU	Do
jammed	step 15
did not jam	step 16

At the CM reset terminal for the inactive CPU

15 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

```
RELEASE JAM DONE
```

At the MAP display

16 To make sure that the MAP display is at the CM level, type

>CM

and press the Enter key.

17 Determine if the CM is in sync.

Note: A dot or EccOn under the Sync header means that the CM is in sync. The word no means that the CM is not in sync.

If the CM	Do
is in sync	step 20
is not in sync	step 18

18 To synchronize the CM, type

>SYNC

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command is successful	step 20
is other than listed here	step 50

19 Determine if the CMFlt major alarm cleared.

If the alarm	Do
cleared	step 44
did not clear	step 20

20

DANGER
Possible service degradation
Check with operating company personnel to make sure that a REx test runs at this time. Make sure you initiate REx tests during a low traffic period, as a result of the high level of CPU occupancy required.

To run a REx test on the CM, type

>REXTST

and press the Enter key.

Example of a Map response:

```
CAUTION: CM sync and activity states will change
Please confirm (”YES”, ”Y”, ”NO”, or ”N”):
```

21 To confirm the command, type

>YES

and press the Enter key.

Example of a MAP response:

CM CMFlt
major (continued)

```
Maintenance action submitted.
```

If the REXTST command	Do
passed	step 44
failed, and you did not replace all the cards on the list	step 22
failed, and you replaced all the cards on the list	step 50
is other than listed here	step 50

22 Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 13.

23 Determine if the fault is on the inactive or active CPU.

If the fault	Do
is on the inactive CPU	step 24
is on the active CPU	step 25

24 Determine if the inactive CPU is in sync.

If the inactive CPU	Do
is in sync	step 26
is not in sync	step 37

25 Determine if the active CPU is in sync.

If the active CPU	Do
is in sync	step 36
is not in sync	step 50

26 Determine if the inactive CPU jammed.

Note: The word yes under the Jam header means that the CPU jammed. The area is blank if the CPU did not jam.

If the inactive CPU	Do
jammed	step 32
did not jam	step 27

27 To access the memory level of the MAP display, type

>MEMORY

and press the Enter key.

28 To match the memories of the CPUs, type

>MATCH ALL

and press the Enter key.

Example of a MAP response:

```
Matching memory between CPUs in
sync.
```

29 Determine if the memory match caused the following conditions to occur:

- The memory match was successful.
- The system did not generate mismatch logs, MM100 or MM101.
- The CM remained in sync, indicated by a dot or EccON under the Sync header on the MAP display.

If the conditions	Do
occurred	step 30
did not occur	step 50

At the CM reset terminal for the inactive CPU

30

DANGER
Loss of service
Make sure that you do not jam the ACTIVE CPU. If you jam the active CPU while the CM is not in sync, a cold restart occurs. The word Act on the top banner of the display identifies the reset terminal for the active CPU.

To jam the inactive CPU, type

>\JAM

press the Enter key.

RTIF response:

```
PLEASE CONFIRM (″YES″ OR ″NO″)
```

31 To confirm the response, type

>YES

CM CMFlt
major (continued)

and press the Enter key.

RTIF response:

```
JAM DONE
```

32 To drop synchronization, type

>DPSYNC

and press the Enter key.

If the response	Do
is About to drop sync with CPUn active the inactive CPU is jammed. Do you want to continue? Please confirm("YES" OR "NO")	step 33
is Drop synchronization fails.	step 50
is Cancelled. Active CPUn has a processor clock that has faults	step 35

33 To confirm the command, type

>YES

and press the Enter key.

At the CM reset terminal for the inactive CPU

34 Wait until A1 flashes or fails to flash on the RTIF for the inactive CPU.

If A1	Do
flashes	step 37
did not flash after 5 min	step 50

35 The DPSYNC command is not available as a result of the damaged clock of the active CPU. Perform the procedures in this document on how to clear a CM CLK major alarm.

36 Perform the activity switch with memory match procedure in this document. Complete the procedure and return to this point.

37 To test the inactive CPU, type

>TST

and press the Enter key.

If the response	Do
is The test(s) listed below will destroy the software load in inactive CPU: is Static RAM test is Do you want to do the test(s) anyway? Please confirm: ("YES", "Y", "NO", or "N"):	step 38
is other than listed here	step 50

38 To confirm the command, type

>YES

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
```

If the TST command	Do
passed	step 44
failed, and you did not replace all the cards on the list	step 39
failed, and you replaced all the cards on the list	step 50
is other than listed here	step 50

39 Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

40 Perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

41 To test the inactive CPU, type

>TST

and press the Enter key.

If the response	Do
s The test(s) listed below will destroy the software load in inactive CPU: Static RAM test is Do you want to do the test(s) anyway? Please confirm: ("YES", "Y", "NO", or "N"):T	step 42
is other than listed here	step 50

CM CMFlt
major (continued)

42 To confirm the command, type

>YES

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
```

If the TST command	Do
passed	step 44
failed, and did not replace all cards on the list	step 43
failed, and replaced all cards on the list	step 50
is other than listed here	step 50

43 Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 40.

44 Determine if the inactive CPU jammed.

Note: The word yes under the Jam header means that the CPU jammed. The area is blank if the CPU did not jam.

If the inactive CPU	Do
jammed	step 45
did not jam	step 46

At the CM reset terminal for the inactive CPU

45 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

```
JAM RELEASE DONE
```

At the MAP display

46 Determine if the CM is in sync.

Note: A dot or EccOn under the Sync header means that the CM is in sync. The word no means that the CM is not in sync.

If the CM	Do
is in sync	step 48
is not in sync	step 47

47 To synchronize the CM, type

>SYNC

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command is successful	step 48
is other than listed here	step 50

48 Determine if the CMFlt major alarm cleared.

If the alarm	Do
cleared	step 51
changed to another alarm	step 49
did not clear	step 50

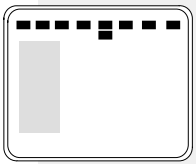
49 Perform the correct alarm clearing procedure in this document.

50 For additional help, contact the next level of support.

51 The procedure is complete.

CM CMTrap major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
CMTrap M	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, CMTrap appears under the CM header of the alarm banner. The CMTrap indicates a major alarm for the trap rate.

Meaning

The trap rate approaches a threshold that can cause a warm restart.

Result

The computing module (CM) requires more time to correct faults than the average amount of time the CM requires. Subscriber service problems can arise as a result of the slow system response time. If the trap rate exceeds the threshold, a warm restart occurs.

Common procedures

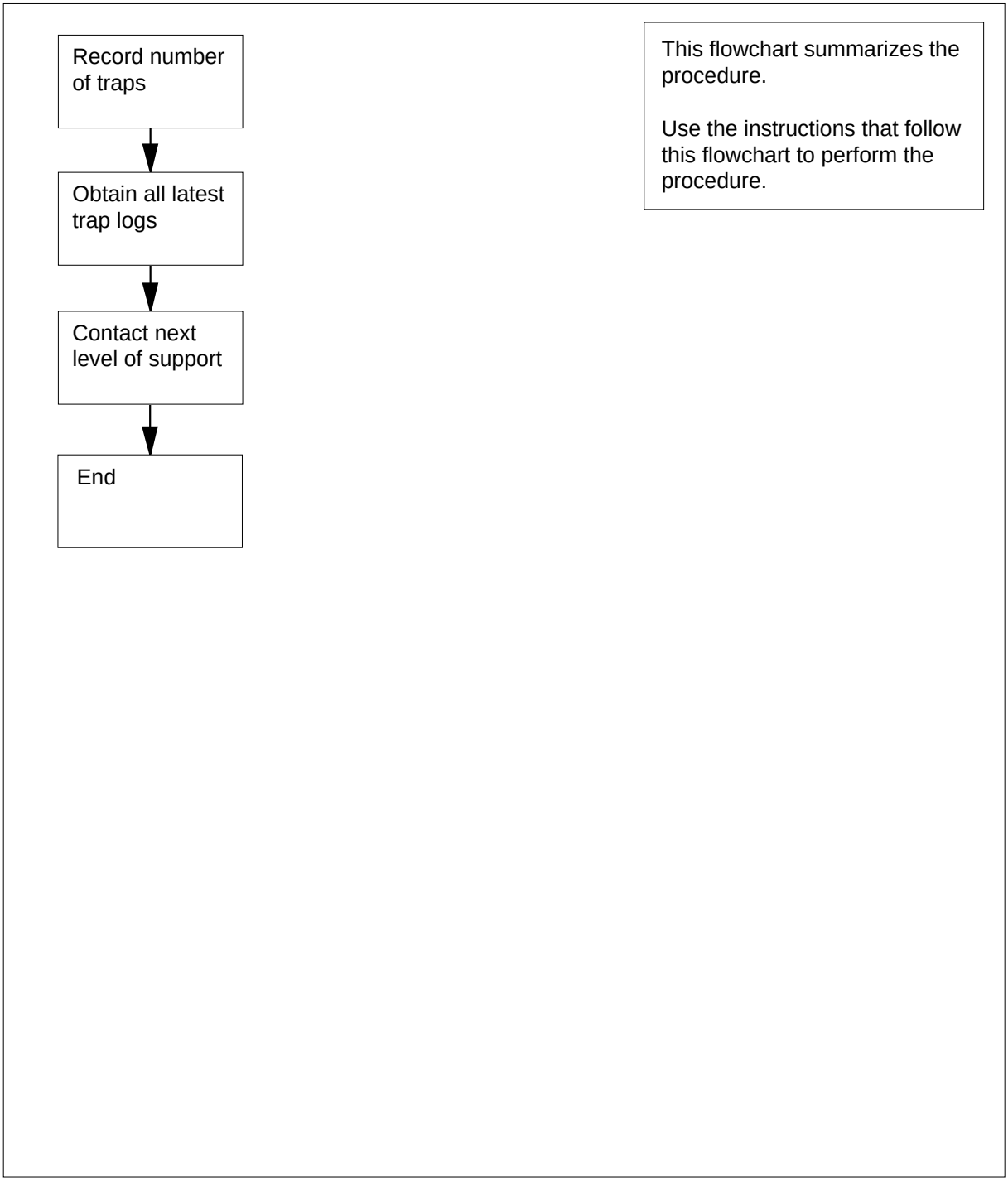
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM CMTrap major (continued)

Summary of Clearing a CM CMTrap major alarm



CM CMTrap
major (end)

Clearing a CM CMTrap major alarm

At the MAP display

1 To access the CMMNT level of the MAP display, type

>MAPCI;MTC;CM;CMMNT

and press the Enter key.

Example of a MAP response:

```
CM   Sync  Act  CPU0  CPU1  Jam  Memory  CMMnt  MC  PMC
 0    .   cpu 0  .     .          .       .    .    .

Traps:          Per minute =    108      Total =    6342

AutoLdev:     Primary = SLM 0 disk Secondary = SLM 1 DISK

Image Restartable = No image test since last restart

Next CM image test restart type=  RELOAD

Last CMREXTST executed

System memory in kbytes as of  14:39:07
Memory(kbytes):Used = 105984 Avail = 12800 Total = 118784
```

2 Record the total number of traps.

Note: The total number of traps is on the right of the Traps header in the Total field.

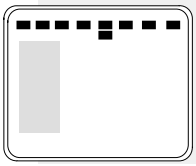
3 Obtain all current trap logs.

4 For additional help, contact the next level of support.

5 The procedure is complete.

CM E2A minor

Alarm display



	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
CM									
E2A	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, E2A appears under the computing module (CM) header of the alarm banner. The E2A indicates an E2A minor alarm.

Meaning

The E2A links are not in service. The E2A links provide remote access to the reset system of the switch.

Result

The problem does not affect subscriber service. Remote access to the reset system of the switch through one or both of the E2A links is not available.

Common procedures

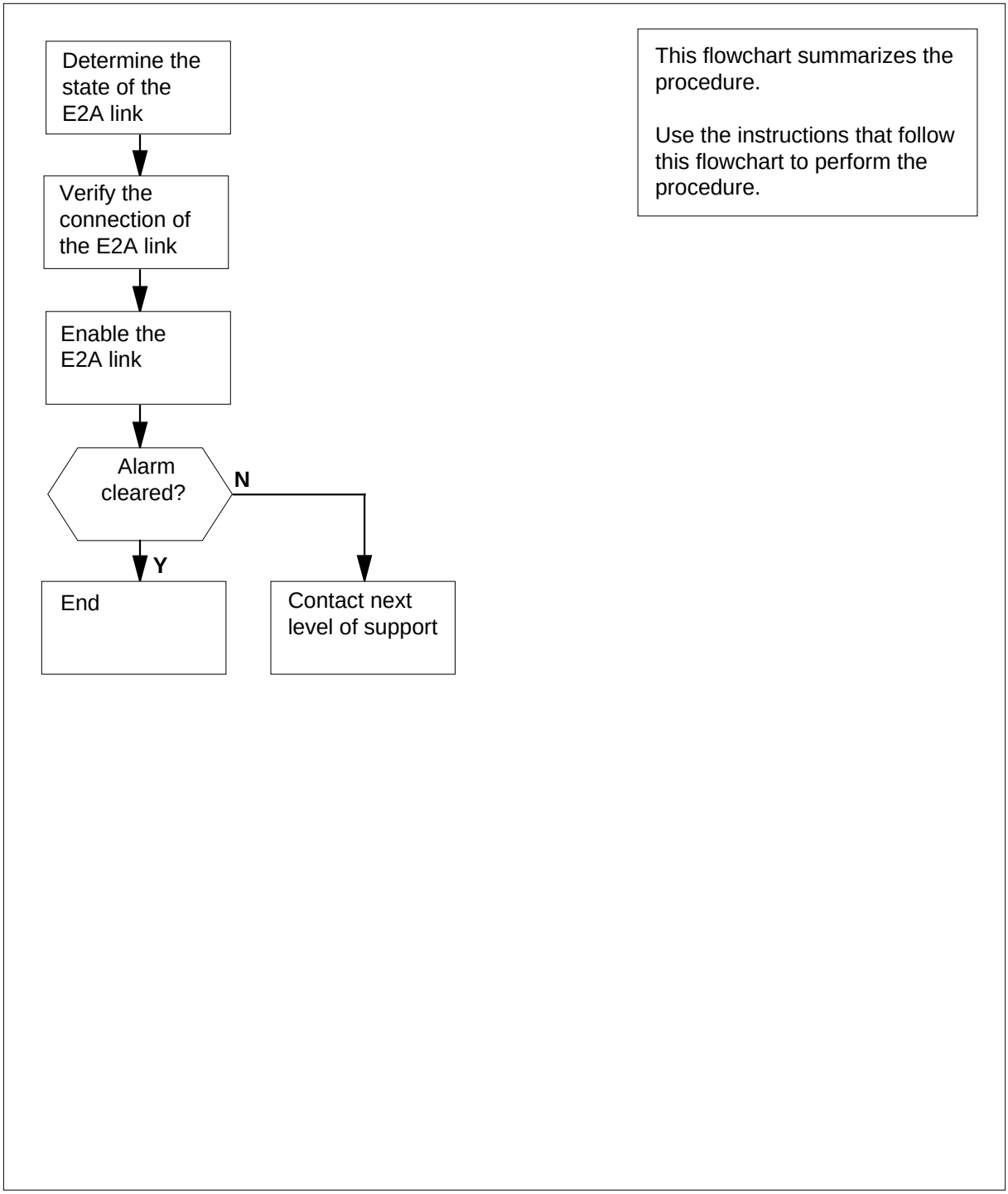
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM E2A
minor (continued)

Summary of Clearing a CM E2A minor alarm



CM E2A
minor (continued)

Clearing a CM E2A minor alarm

At the MAP terminal

1 To access the CM level of the MAP display, type

>MAPCI;MTC;CM

and press the Enter key.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   no  cpu 1 e2a    .   yes    .     .     .   .
```

2 To determine the status of the E2A links, type

>E2ALINK CHECK

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
CPU0: E2A Link is DISCONNECTED, ENABLED.
CPU1: E2A Link is DISCONNECTED, DISABLED.
```

If the response indicates that either E2A link	Do
is UNSTABLE,ENABLED or UNSTABLE,DISABLED	step 3
is DISCONNECTED,DISABLED or DISCONNECTED,ENABLED	step 3
is CONNECTED,DISABLED	step 5

At the switch

3 At the back of the switch, make sure that all connections between the NT9X26 cards and the E2A telemetry equipment are secure.

At the MAP terminal

4 To determine the status of the E2A links, type

>E2ALINK CHECK

and press the Enter key.

Example of a MAP response:

CM E2A
minor (end)

```
Maintenance action submitted.
CPU1: E2A Link is CONNECTED, ENABLED.
CPU0: E2A Link is DISCONNECTED, DISABLED.
```

If both E2A links	Do
are CONNECTED, ENABLED	step 6
are CONNECTED, DISABLED	step 5
are other than listed here	step 7

5 To enable the E2A links, type

>E2ALINK ENABLE n

and press the Enter key.

where

n
is the number of the central processing unit (CPU) with the disabled link (0 or 1)

Example of a MAP response:

```
Maintenance action submitted.
CPU1: E2A Link is CONNECTED, ENABLED.
```

6 Determine if the E2A minor alarm cleared.

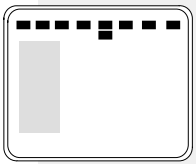
If the alarm	Do
cleared	step 8
did not clear	step 7

7 For additional help, contact the next level of support.

8 The procedure is complete.

CM EccOn minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
EccOn	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, EccOn appears under the CM header of the alarm banner. The EccOn indicates an error-checking minor alarm.

Meaning

The computing module (CM) runs in synchronization with memory error checking and correction enabled. Mismatches caused by adjustable single bit memory errors do not occur.

Result

Processor performance is slower.

Common procedures

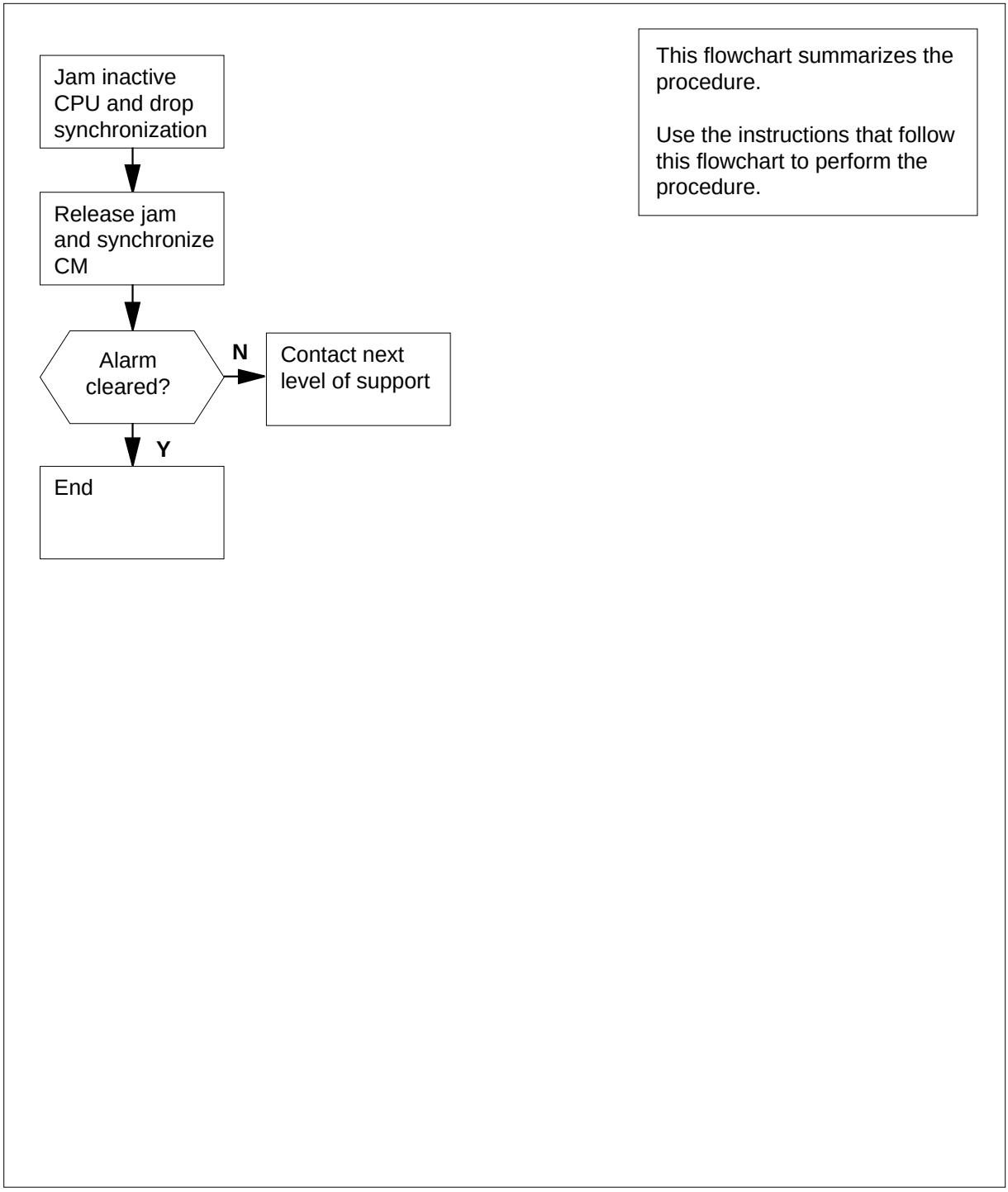
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM EccOn
minor (continued)

Summary of Clearing a CM EccOn minor alarm



CM EccOn
minor (continued)

Clearing a CM EccOn minor alarm

At your current location

1 Consult office records or operating company personnel. Determine the reason for the enabled memory checking. Determine when you can disable memory error checking and correction.

To disable memory error checking and correction, continue this procedure as permitted.

At the MAP terminal

2 To access the CM level of the MAP display, type

>MAPCI;MTC;CM

and press the Enter key.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0 Eccon cpu 1   .     .  yes    .      .    .    .
```

3 Determine if the inactive central processing unit (CPU) jammed.

Note: The word yes under the Jam header means that the inactive CPU jammed. The area is blank if the CPU did not jam.

If the inactive CPU	Do
jammed	step 6
did not jam	step 4

At the CM reset terminal for the inactive CPU

4

WARNING
Loss of service
Make sure that you do not jam the active CPU. If you jam the active CPU while the CM is not in sync, a cold restart occurs. The word Act on the top banner of the display identifies the reset terminal for the active CPU.

To jam the inactive CPU, type

>\JAM

and press the Enter key.

RTIF response:

CM EccOn
minor (continued)

```
Please confirm (YES/NO)
```

5 To confirm the command, type

>YES

and press the Enter key.

RTIF response:

```
JAM DONE
```

At the MAP terminal

6 To drop synchronization, type

>DPSYNC

and press the Enter key.

If the response	Do
is About to drop sync with CPU n active.The inactive CPU is JAMMED. Do you want to continue? Please confirm ("YES", "Y", "NO" or "N"):	step 7
is other than listed here	step 12

7 To confirm the command, type

>YES

and press the Enter key.

At the CM reset terminal for the inactive CPU

8 Wait until A1 flashes on the reset terminal for the inactive CPU.

Note: Wait 5 min for A1 to flash.

If A1	Do
flashes	step 9
does not flash	step 12

9 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

```
JAM RELEASE DONE
```

At the MAP terminal

10 To synchronize the CM, type

>SYNC

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command was successful	step 11
is other than listed here	step 12

11 Determine if the EccOn minor alarm cleared.

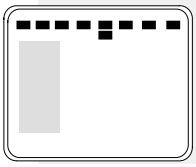
If the alarm	Do
cleared	step 13
did not clear	step 12

12 For additional help, contact the next level of support.

13 The procedure is complete.

CM IMAGE critical

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
IMAGE *C*	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, IMAGE appears under the CM header of the alarm banner. The IMAGE indicates an IMAGE critical alarm.

Meaning

The software load on the inactive central processing unit (CPU) cannot maintain a restart.

Result

The problem does not affect subscriber service. If a fault occurs on the active side, the switch cannot recover immediately.

Common procedures

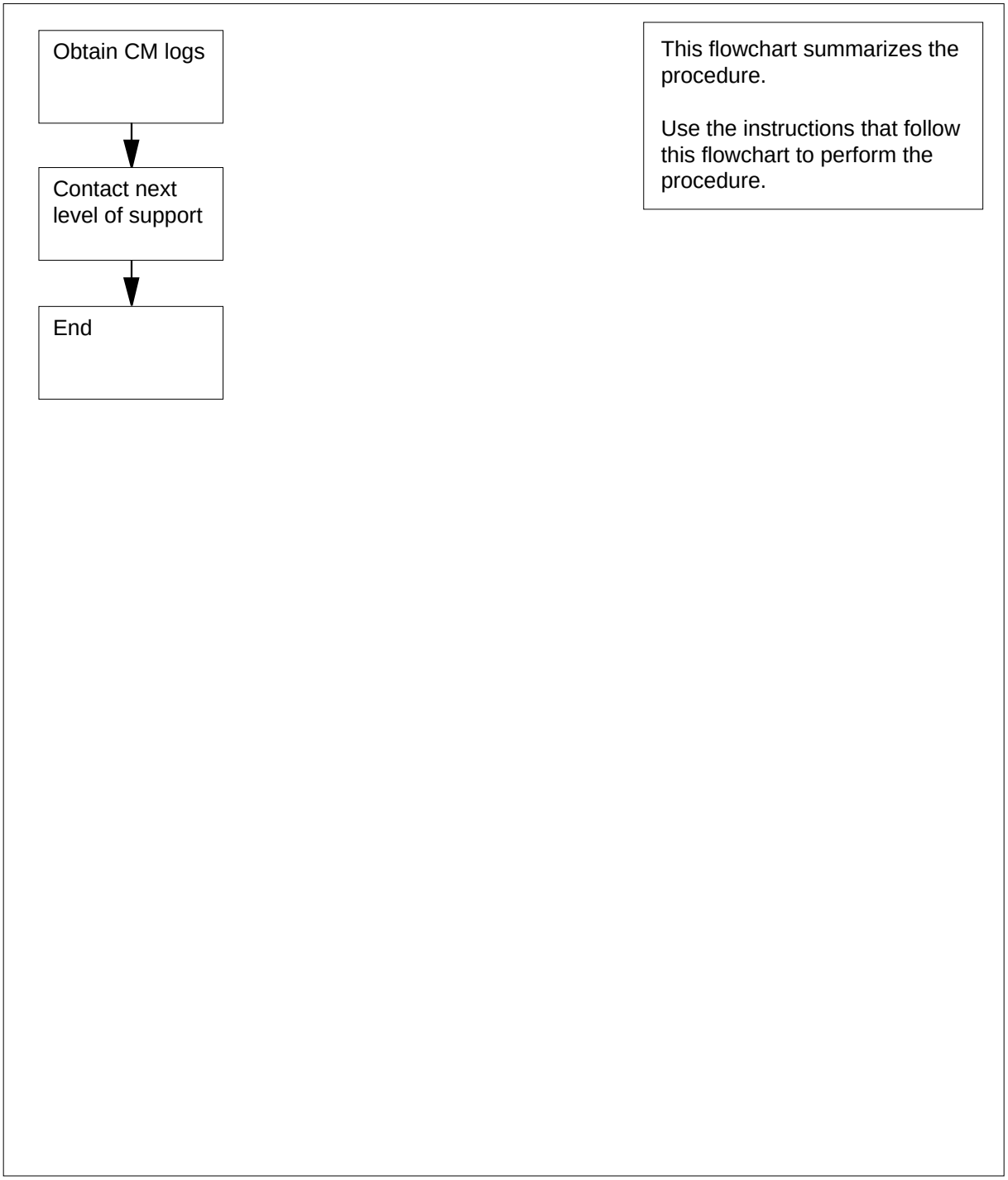
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM IMAGE
critical (continued)

Summary of Clearing a CM IMAGE critical alarm



CM IMAGE
critical (end)

Clearing a CM IMAGE critical alarm

At the MAP

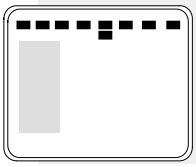
1 Obtain all the latest CM logs.

2 For additional help, contact the next level of support.

3 The procedure is complete.

CM JInact minor

Alarm display



	CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
	JInact	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, JInact appears under the computing module (CM) header of the alarm banner. The JInact indicates a jammed inactive CPU minor alarm.

Meaning

The inactive central processing unit (CPU) jammed. If the system generated the alarm, SysJam appears on the RTIF status line of the RTIF terminal. If the inactive CPU manually jammed, ManJam appears on the RTIF status line of the RTIF terminal.

Result

The problem does not affect subscriber service. Activity cannot switch with a jammed inactive CPU.

Common procedures

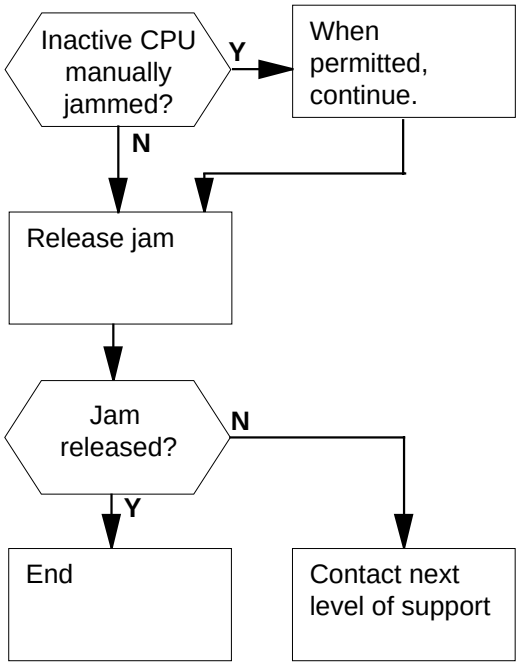
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM JInact
minor (continued)

Summary of Clearing a CM JInact minor alarm



This flowchart summarizes the procedure.

Use the instructions that follow this flowchart to perform the procedure.

CM JInact minor (end)

Clearing a CM JInact minor alarm

At the CM reset terminal for the inactive CPU

1 Determine if the inactive CPU system jammed or manually jammed.

If the inactive CPU	Do
system jammed	step 3
manually jammed	step 2

2 Maintenance personnel jammed the inactive CPU. Determine from office records or from operating company personnel why the CPU jammed.

When you have permission, continue with this procedure.

3 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

```
JAM RELEASE DONE
```

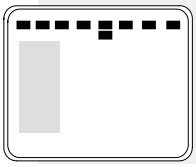
If the response	Do
is JAM RELEASE DONE	step 5
is other than listed here	step 4

4 For additional help, contact the next level of support.

5 The procedure is complete.

CM LowMem critical

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
LowMem *C*	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, LowMem appears under the CM header of the alarm banner. LowMem indicates a critical alarm for low memory.

Meaning

The computing module (CM) has no spare memory left. The CM runs low on the amount of allocated memory.

Result

The problem does not affect subscriber service. A critical switch procedure can require additional memory for any reason. If the procedure requires and cannot obtain additional memory, a warm or cold restart occurs.

Common procedures

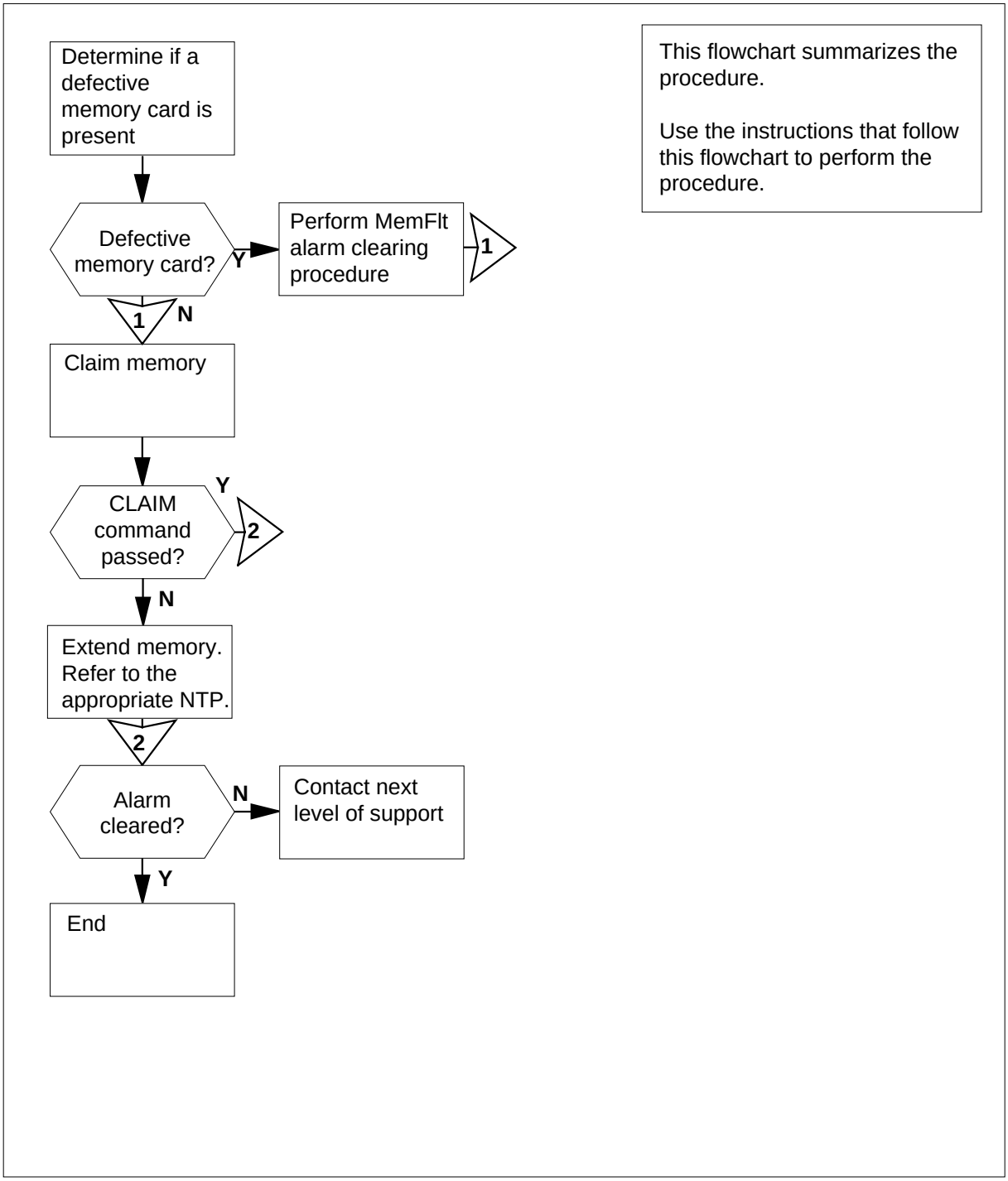
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM LowMem critical (continued)

Summary of Clearing a CM LowMem critical alarm



CM LowMem
critical (continued)

Clearing a CM LowMem critical alarm

At the MAP terminal

1 To access the memory level of the MAP display, type

>MAPCI;MTC;CM;MEMORY

and press the Enter key.

Example of a MAP display for DMS SuperNode:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0    .  cpu 1   .     .         .     .    .   .

CM 0
  1  Plane 0  C | C   Plane 1 1
  0987654321  P | P  1234567890
  .........f  U | U  ..........

MEMORY:
```

Example of a MAP display for DMS SuperNode SE:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0    .  cpu 1   .     .         .     .    .   .

CM 0
     Plane 0  C | C  Plane 1
       54321  P | P  12345
       ....f  U | U  .....

MEMORY:
```

2 Determine if a memory card that has faults exists .

Note: An f under the card number indicates that the card has faults.

If	Do
a memory card that has faults is present	step 3
a memory card that has faults is not present	step 4

3 Perform the procedure *Clearing a CM MemFlt minor alarm* in this document. Complete the procedure and return to this point.

Go to step 1.

CM LowMem critical (continued)

4 Determine if the inactive CPU jammed.

Note: The word "yes" under the Jam header means that the CPU jammed. The area is blank if the CPU did not jam.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   no   cpu 1  .     .  yes    .     .     .
```

If the CPU	Do
jammed	step 7
did not jam	step 5

At the CM reset terminal for the inactive CPU

5

WARNING
Loss of service
Make sure that you do not jam the active CPU. If you jam the active CPU while the CM is not in sync, a cold restart occurs. The word Act on the top banner of the display identifies the reset terminal for the active CPU.

To jam the inactive CPU, type

>\JAM

and press the Enter key.

RTIF response:

```
Please confirm: (YES/NO)
```

6 To confirm the command, type

>YES

and press the Enter key.

RTIF response:

```
JAM DONE
```

CM LowMem
critical (continued)

At the MAP terminal

7 Determine if the CM is in sync.

Note: A dot or EccOn under the Sync header means that the CM is in sync. The word no means that the CM is not in sync.

If the CM	Do
is in sync	step 8
is not in sync	step 12

8 To access the CM level of the MAP display, type

>CM

and press the Enter key.

9 To drop the synchronization, type

>DPSYNC

and press the Enter key.

If the response	Do
is About to drop sync with CPU n active. The inactive CPU is JAMMED. Do you want to continue? Please confirm ("YES", "Y", "NO", or "N"):	step 10
is other than listed here	step 23

10 To confirm the command, type

>YES

and press the Enter key.

At the CM reset terminal for the inactive CPU

11 Wait until A1 flashes on the reset terminal for the inactive CPU.

Note: Wait 5 min for A1 to flash.

If A1	Do
flashes	step 12
does not flash	step 23

CM LowMem critical (continued)

At the MAP terminal

12 To access the memory level of the MAP display, type

>MEMORY

and press the Enter key.

13

WARNING
Possible service degradation
The memory claim requires a high level of CPU occupancy. An attempt to reclaim additional memory while the switch runs under heavy traffic can affect call processing.

To claim additional memory, type

>CLAIM

and press the Enter key.

Example of a MAP response:

```
The reclaiming of unused Data Store and Program Store to
the Spare Pool should only be done if the switch is NOT
running under heavy traffic.
Please confirm (”YES”, ”Y”, ”NO”, or ”N”):
```

14 To confirm the command, type

>YES

and press the Enter key.

If the CLAIM command	Do
passed	step 15
failed	step 20

At the CM reset terminal for the inactive CPU

15 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

```
JAM RELEASE DONE
```

CM LowMem
critical (continued)

At the MAP terminal

16 To access the CM level of the MAP display, type

>CM

and press the Enter key.

17 To synchronize the CM, type

>SYNC

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command is successful	step 19
indicates the CPUs are not in sync as a result of a problem with mismatches. Analyze the mismatch logs before you synchronize the logs again. is Do you wish to continue? Please Confirm("YES", "Y", or "NO", "N")	step 18
is other than listed here	step 23

18 (SN/ SNSE Series 70 only)

To deny the action, type

>NO

and press the Enter key.

Go to step 23.

19 Determine if the LowMem critical alarm cleared.

If the alarm	Do
cleared	step 24
changed to another alarm	step 22
did not clear	step 20

20 To extend the memory, use the *Memory extension in the SuperNode CM* procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

CM LowMem critical (end)

21 Determine if the LowMem critical alarm cleared.

If the alarm	Do
cleared	step 24
changed to another alarm	step 22
did not clear	step 23

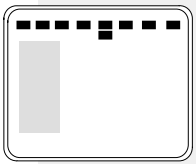
22 Perform the correct alarm clearing procedure in this document.

23 For additional help, contact the next level of support.

24 The procedure is complete.

CM LowSpr major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
LowSpr M	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, LOWSpr appears under the CM header of the alarm banner. The LOWSpr indicates a major alarm for low spare memory.

Meaning

Both central processing units (CPUs) run out of available spare memory.

Result

The problem does not immediately affect subscriber service.

If a single memory fault occurs, not enough spare memory is available for single memory fault recovery. Synchronization drops and the switch cannot recover in sync.

Common procedures

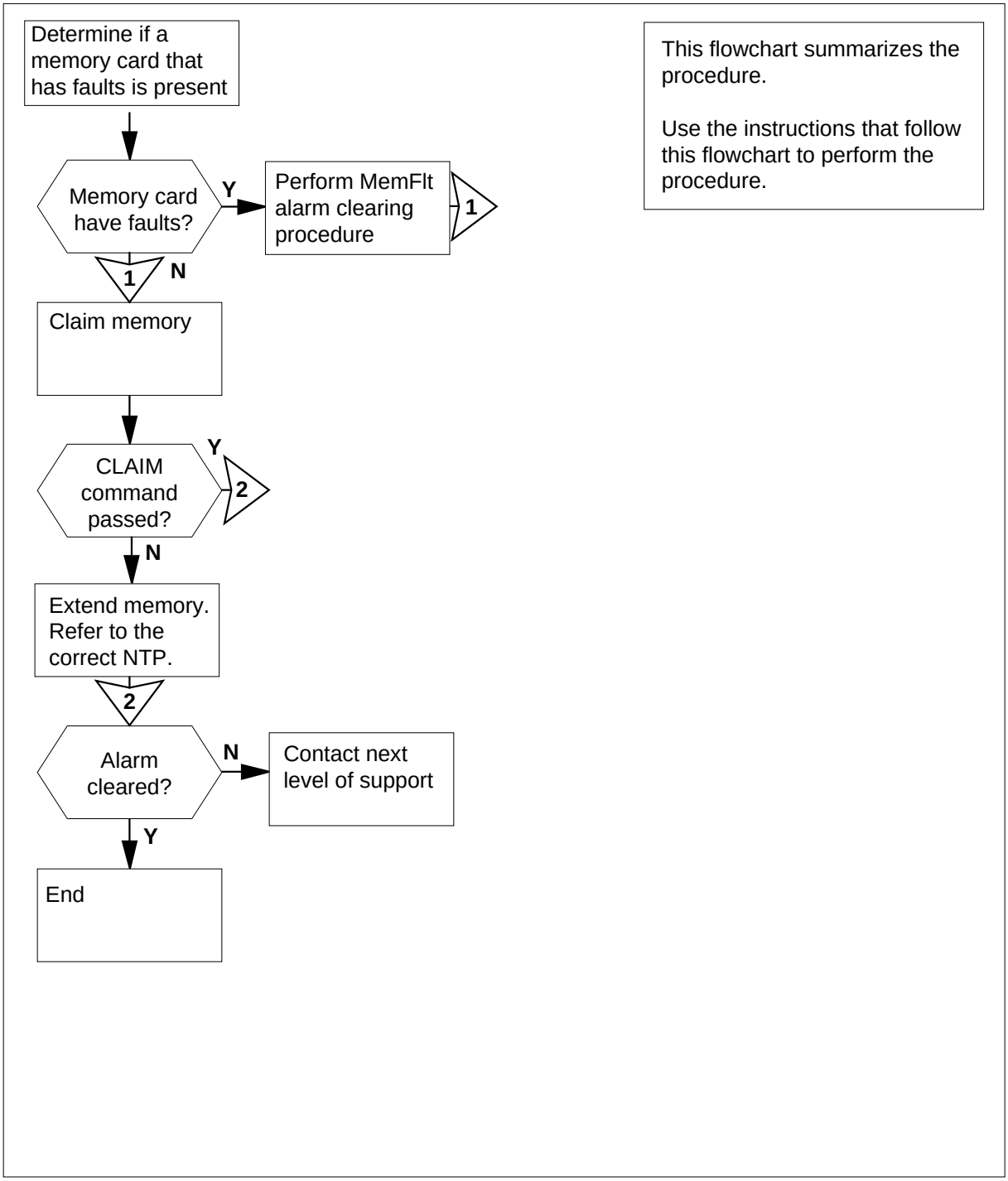
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM LowSpr major (continued)

Summary of Clearing a CM LowSpr major alarm



CM LowSpr
major (continued)

Clearing a CM LowSpr major alarm

At the MAP display

1 To access the memory level of the MAP display, type

>MAPCI;MTC;CM;MEMORY

and press the Enter key.

Example of a MAP display for DMS SuperNode:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0    .  cpu 1   .     .         .     .    .   .

CM 0
  1  Plane 0  C | C   Plane 1 1
  0987654321  P | P  1234567890
  ......f...  U | U ..........

MEMORY:
```

Example of DMS SuperNode SE MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0    .  cpu 1   .     .         .     .    .   .

CM 0
     Plane 0  C | C  Plane 1
       54321  P | P  12345
       .f...  U | U  .....

MEMORY:
```

2 Determine if a memory card that has faults is present.

Note: An f under a card number indicates that the card has defects.

If a memory card with defects	Do
is present	step 3
is not present	step 4

3 Perform the procedure *Clearing a CM MemFlt minor alarm* described in this document. Complete and return to this point.

Go to step 1.

CM LowSpr
major (continued)

4 Determine if the inactive CPU jammed.

Note: The word yes under the Jam header means that the CPU jammed. The area is blank if the CPU did not jam.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   no  cpu 1   .     .  yes    .     .     .   .
```

If the CPU	Do
jammed	step 7
did not jam	step 5

At the CM reset terminal for the inactive CPU

5

WARNING
Loss of service
Make sure that you do not jam the active CPU. If you jam the active CPU while the CM is not in sync, a cold restart occurs. The word Act on the top banner of the display identifies the reset terminal for the active CPU.

To jam the inactive CPU, type

>\JAM

and press the Enter key.

RTIF response:

```
Please confirm: (YES/NO)
```

6 To confirm the command, type

>YES

and press the Enter key.

RTIF response:

```
JAM DONE
```

CM LowSpr
major (continued)

At the MAP terminal

7 Determine if the CM is in sync.

Note: A dot or EccOn under the Sync header means that the CM is in sync. The word no means that the CM is not in sync. In the example in step 4, the CM is not in sync.

If the CM	Do
is in sync	step 8
is not in sync	step 12

8 To access the CM level of the MAP display, type

>CM

and press the Enter key.

9 To drop synchronization, type

>DPSYNC

and press the Enter key.

If the response	Do
is About to drop sync with CPU n active. The inactive CPU is JAMMED. Do you want to continue? Please confirm ("YES", "Y", "NO", or "N"):	step 10
is other than listed here	step 23

10 To confirm the command, type

>YES

and press the Enter key.

At the CM reset terminal for the inactive CPU

11 Wait until A1 flashes on the reset terminal for the inactive CPU.

Note: Wait 5 min for A1 to flash.

If A1	Do
flashes	step 12
does not flash	step 23

At the MAP display

12 To access the memory level of the MAP display, type

>MEMORY

and press the Enter key.

13

CAUTION
Possible service degradation
The memory claim requires a high level of CPU occupancy. An attempt to reclaim additional memory while the switch runs under heavy traffic can affect call processing.

To claim additional memory, type

>CLAIM

and press the Enter key.

MAP response:

```
The reclaiming of unused Data Store and Program
Store to the Spare Pool should only be done if the
switch is NOT running under heavy traffic.
Please confirm ("YES", "Y", "NO", or "N"):
```

14 To confirm the command, type

>YES

and press the Enter key.

If the CLAIM command	Do
passed	step 15
failed	step 20

At the CM reset terminal for the inactive CPU

15 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

```
JAM RELEASE DONE
```

CM LowSpr
major (continued)

At the MAP terminal

16 To access the CM level of the MAP display, type

>CM

and press the Enter key.

17 To synchronize the CM, type

>SYNC

and press the Enter key.

MAP response:

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command is successful	step 19
indicates that the logs do not match. The CPUs are out of sync. Review mismatch logs before you synchronize the CM again Do you wish to continue? Please Confirm("YES", "Y", or "NO", "N")	step 18
is other than listed here	step 23

18 (SN/SNSE Series 70 only)

To deny the action, type

>NO

and press the Enter key.

Go to step 23.

19 Determine if the LOWSpr major alarm cleared.

If the alarm	Do
cleared	step 24
changed to another alarm	step 22
did not clear	step 20

20 To extend the memory, use the *Memory extension in the SuperNode CM* procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

CM LowSpr major (end)

21 Determine if the LOWSpr major alarm cleared.

If the alarm	Do
cleared	step 24
changed to another alarm	step 22
did not clear	step 23

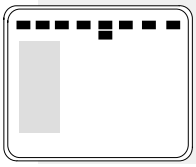
22 Perform the correct procedure in this document to clear the alarm.

23 For additional help, contact the next level of maintenance support.

24 The procedure is complete.

CM LowSpr minor

Alarm display



	CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
	LowSpr	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, LowSpr appears under the CM header of the alarm banner. The LowSpr indicates a minor alarm for low spare memory.

Meaning

The computing module (CM) runs out of available spare memory on one central processing unit (CPU).

Result

This alarm can affect handshake override capability. The handshake override increases the speed of CPU operations. The handshake override overrides the handshake synchronization of memory access between CPUs. This alarm can cause the fault tolerance capability to degrade.

Common procedures

This procedure refers to *Activity switch with memory match*.

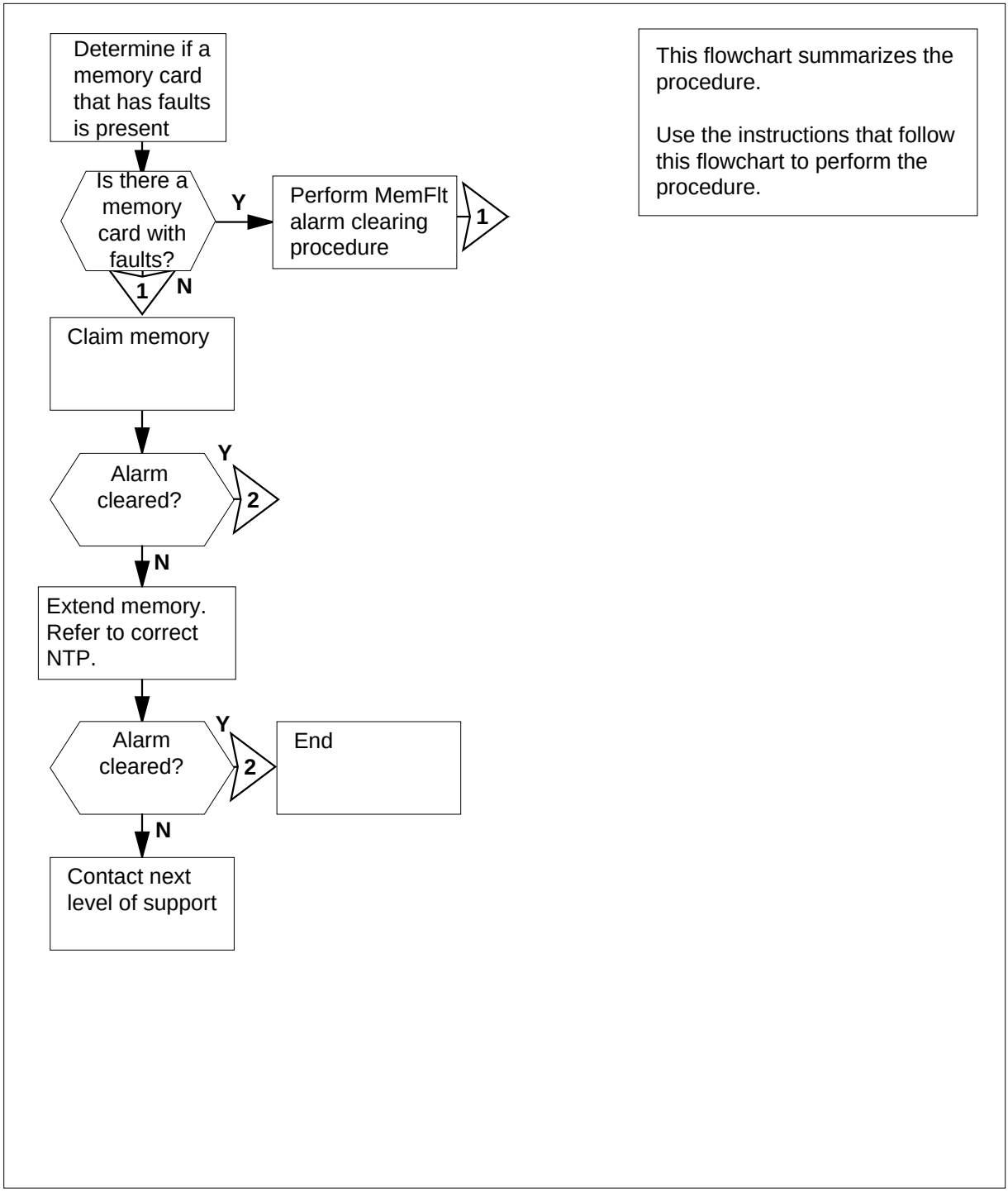
Do not go to the common procedure unless the step-action procedure directs you to go.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM LowSpr minor (continued)

Summary of Clearing a CM LowSpr minor alarm



CM LowSpr
minor (continued)

Clearing a CM LowSpr minor alarm

At the MAP terminal

1 To access the memory level of the MAP display, type

>MAPCI;MTC;CM;MEMORY

and press the Enter key.

Example of a MAP display for DMS SuperNode:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0    .  cpu 1   .     .         .     .    .   .

CM 0
  1  Plane 0  C | C   Plane 1 1
  0987654321  P | P  1234567890
  .........f  U | U  ..........

MEMORY:
```

Example of DMS SuperNode SE MAP display

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0    .  cpu 1   .     .         .     .    .   .

CM 0
     Plane 0  C | C  Plane 1
       54321  P | P  12345
       ....f  U | U  .....

MEMORY:
```

2 Determine if a memory card that has faults is present.

Note: An f under a card number indicates a card has faults.

If a defective memory card	Do
is present	step 3
is not present	step 4

3 Perform the procedure *Clearing a CM MemFlt minor alarm* in this document. Complete the procedure and return to this point.

Go to step 1.

CM LowSpr
minor (continued)

4 To determine if the low spare memory (LowSpr) condition is on the active or inactive CPU plane, type

>SPARE

and press the Enter key.

Note: The plane with the lowest number of spare memory modules has the LowSpr condition.

Example of a MAP response:

```
Plane 0 has 1 spare 8 Mbyte Modules.
The total Spare memory available is 8 Mbytes.
Plane 1 has 0 spare 8 Mbyte Modules.
The total Spare Memory available is 0 Mbytes.
```

If the LowSpr condition	Do
is on the active CPU	step 13
is on the inactive CPU	step 5

5 Determine if the inactive CPU jammed.

Note: The word yes under the Jam header at the CM level of the MAP display means that the CPU jammed. The area is blank if the CPU did not jam.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   no  cpu 1   .     .  yes    .     .     .   .
```

If the CPU	Do
jammed	step 8
did not jam	step 6

CM LowSpr
minor (continued)

At the CM reset terminal for the inactive CPU

6

WARNING
Loss of service
Make sure you do not jam the active CPU. If you jam the active CPU while the CM is not in sync, a cold restart occurs. The word Act on the top banner of the display identifies the reset terminal for the active CPU.

To jam the inactive CPU, type

>JAM

and press the Enter key.

RTIF response:

```
Please confirm: (YES/NO)
```

7 To confirm the command, type

>YES

and press the Enter key.

RTIF response:

```
JAM DONE
```

At the MAP display

8 Determine if the CM is in sync.

Note: A dot or EccOn under the Sync header means that the CM is in sync. The word "no" means that the CM is not in sync. In the example in step 5, the CM is not in sync.

If the CM	Do
is in sync	step 9
is not in sync	step 14

9 To access the CM level of the MAP display, type

>CM

and press the Enter key.

10 To drop synchronization, type

>DPSYNC

and pressing the Enter key.

If the response	Do
is About to drop sync withCPU n active.The inactive CPU is JAMMED. Do you want to continue? Please confirm ("YES", "Y", "NO", or "N"):	step 11
is other than listed here	step 25

11 To confirm the command, type

>YES

and press the Enter key.

At the CM reset terminal for the inactive CPU

12 Wait until A1 flashes on the reset terminal for the inactive CPU.

Note: Wait 5 min for A1 to flash.

If A1	Do
flashes	step 14
does not flash	step 25

13 Perform the procedure *Activity switch with memory match* in this document. Complete the procedure and return to this point.

At the MAP terminal

14 To access the memory level of the MAP display, type

>MEMORY

and press the Enter key.

15

WARNING
Possible service degradation
The memory claim requires a high level of CPU occupancy. An attempt to reclaim additional memory while the switch runs under heavy traffic can affect call processing.

To claim additional memory, type

>CLAIM

CM LowSpr
minor (continued)

and press the Enter key.

MAP response:

```
The reclaiming of unused Data Store and Program Store to
the Spare Pool should only be done if the switch is NOT
running under heavy traffic.
Please confirm (”YES”, ”Y”, ”NO”, or ”N”):
```

16 To confirm the command, type

>YES

and press the Enter key.

If the CLAIM command	Do
passed	step 17
failed	step 22

At the CM reset terminal for the inactive CPU

17 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

```
JAM RELEASE DONE
```

At the MAP terminal

18 To access the CM level of the MAP display, type

>CM

and press the Enter key.

19 To synchronize the CM, type

>SYNC

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command was successful	step 21

CM LowSpr minor (end)

If the response	Do
indicates the CPUs are not in sync as a result of a problem with mismatches. Analyze the mismatch logs before you synchronize the logs again. Do you wish to continue? Please Confirm ("YES", "Y", or "NO", "N") (SN/ SNSE series 70 only)	step 20
is other than listed here	step 25

20 (SN/SNSE Series 70 only)

To deny the action, type

>NO

Go to step 25.

21 Determine if the LowSpr minor alarm cleared.

If the alarm	Do
cleared	step 26
changed to another alarm	step 24
did not clear	step 22

22 To extend the memory, perform the *Memory extension in the SuperNode CM* procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

23 Determine if the LowSpr minor alarm cleared.

If the alarm	Do
cleared	step 26
changed to another alarm	step 24
did not clear	step 25

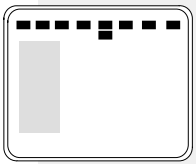
24 Perform the correct alarm clearing procedures in this document.

25 For additional help, contact the next level of support.

26 The procedure is complete.

CM MBsyMC major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
MBsyMC M	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, MBsyMC appears under the CM header of the alarm banner. The MBsyMC indicates a major alarm for a manual busy message controller.

Meaning

Maintenance personnel manually busy a message controller (MC).

Result

The problem does not affect subscriber service. Failure of the last MC results in the loss of subscriber service.

Common procedures

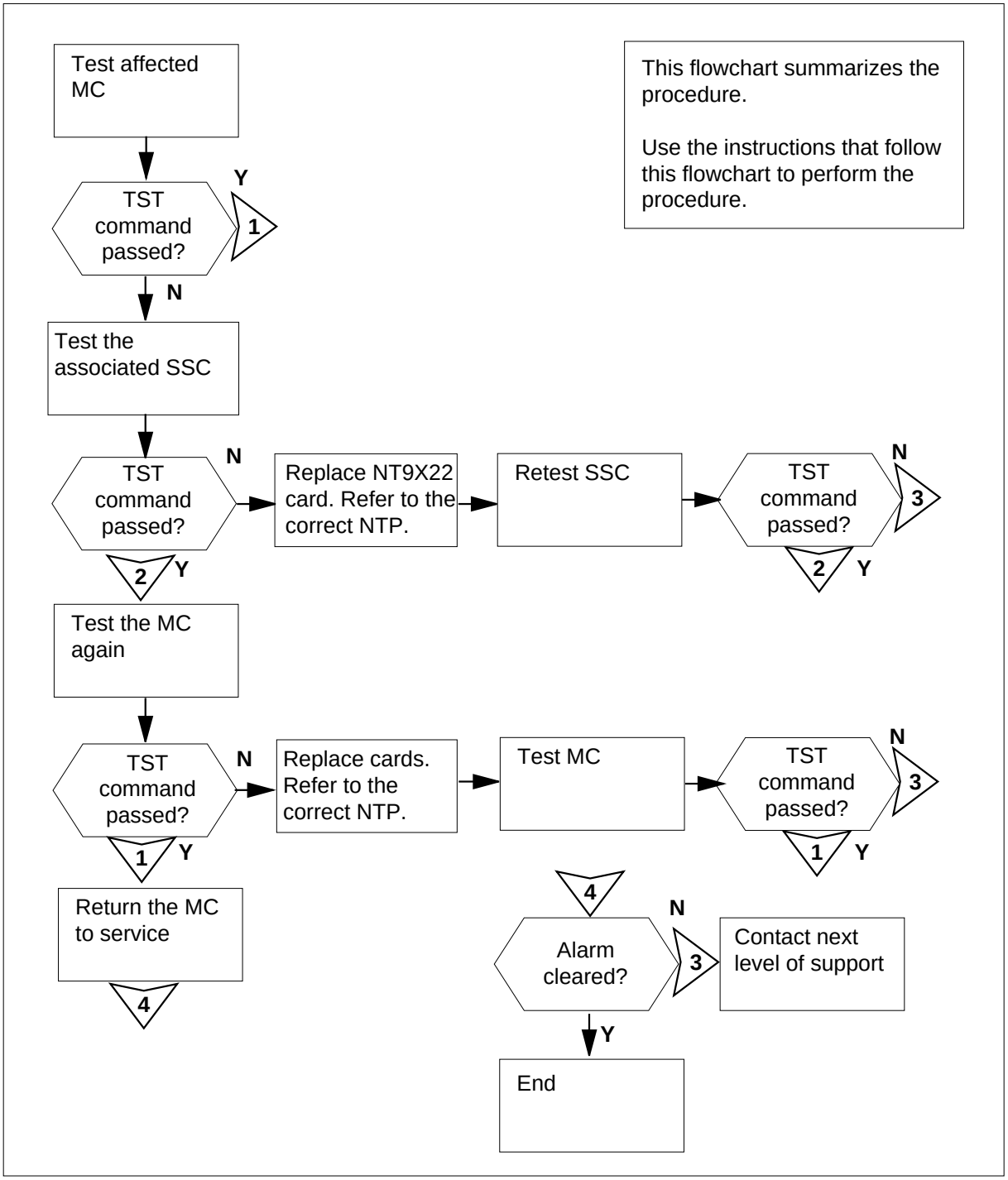
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM MBsyMC
major (continued)

Summary of Clearing a CM MBsyMC major alarm



CM MBsyMC
major (continued)

Clearing a CM MBsyMC major alarm

At the MAP terminal

1 To access the MC level of the MAP display, type

>MAPCI;MTC;CM;MC

and press the Enter key.

Example of a MAP display:

```
CM 0
 MC 0    MC 1
   .     mbsy
```

2 Record the number of the manual busy MC.

3 Consult office records or operating company personnel. Determine the reason for the removal of the MC from service.

When you have permission, continue this procedure.

4 To test the manual busy MC, type

>TST mc_number

and press the Enter key

where

mc_number
is the number of the manual busy MC (0 or 1) that yourecorded in step 2

If the TST command	Do
passed	step 16
failed, and the system generated a card list	step 5
is other than listed here	step 27

5 To access the clock level of the MAP display, type

>CLOCK

and press the Enter key.

Example of a MAP display:

```
          T O D
         MC0  MC1
Link 0    .   manb
Link 1    .   manb

   SSC    .   oos
```

6 To test the manual busy SSC, type

>TST SSC ssc_number

and press the Enter key.

where

ssc_number
is the SSC for the manual busy MC (0 or 1) that you recorded in step 2

If the TST command	Do
passed	step 9
failed, and the system generated card list generates	step 7
is other than listed here	step 27

7 To replace the NT9X22 card, perform the correct card procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

8 To test the manual busy SSC again, type

>TST SSC ssc_number

and press the Enter key

where

ssc_number
is the SSC for the manual busy MC (0 or 1) that you recorded in step 2

If the TST command	Do
passed	step 9
is other than listed here	step 27

9 To quit from the clock level of the MAP display, type

>QUIT

and press the Enter key.

10 To test the manual busy MC again, type

>TST mc_number

and press the Enter key

where

CM MBsyMC
major (continued)

mc_number
is the number of the manual busy MC (0 or 1) that you recorded in step 2

If the TST command	Do
passed	step 16
failed, and the system generated a card list	step 11
is other than listed here	step 27

11 Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

12 Perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

13 To access the MC level of the MAP display, type

```
>CM;MC
```

and press the Enter key.

14 To test the manual busy MC, type

```
>TST  mc_number
```

and press the Enter key.

where

mc_number
is the number of the manual busy MC (0 or 1)

If the TST command	Do
passed	step 16
failed, and you did not replace all cards on the list	step 15
failed, and you replaced all cards on the list	step 27
is other than listed here	step 27

15 Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 12.

16 To return the manual busy MC to service, type

```
>RTS  mc_number
```

and press the Enter key.

where

mc_number
is the number of the manual busy MC (0 or 1)

If the RTS command	Do
passed	step 17
failed	step 27

17 Determine if the inactive CM plane powered down.

If the inactive CM plane	Do
powered down	step 18
did not power down	step 20

18 To test the inactive CPU, type

>CM;TST

and press the Enter key.

Example of a MAP response:

```
The test(s) listed below will destroy
the software load in inactive CPU:

    Static RAM test

Do you want to do the test(s) anyway?
Please confirm: (”YES”, ”Y”, ”NO”, or ”N”):
```

19 To confirm the command, type

>YES

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Test passed.
```

If the TST command	Do
passed	step 20
failed	step 27

CM MBsyMC
major (continued)

20 Determine if the inactive CPU jammed.

Note: The word yes under the Jam header means that the CPU jammed. The area is blank if the CPU did not jam.

If the inactive CPU	Do
jammed	step 21
did not jam	step 22

At the CM reset terminal for the inactive CPU

21 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

```
JAM RELEASE DONE
```

At the MAP terminal

22 Determine if the CM is in sync.

Note: A dot or EccOn under the Sync header means that the CM is in sync. The word no means that the CM is not in sync.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   no  cpu 1   .     .  no     .     .     .   .
```

If the CM	Do
is in sync	step 25
is not in sync	step 23

23 To synchronize the CM, type

>SYNC

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command was successful	step 25

If the response	Do
indicates the CPUs are out of sync caused by a problem with mismatches. Analyze the mismatch logs before you synchronize the logs again.Do you wish to continue? Please confirm ("YES", "Y" or "NO", "N") (SN/SNSE Series 70 only)	step 24
is other than listed here	step 27

24 (SN/SNSE Series 70 only)

To deny the action, type

>NO

and press the Enter key.

Go to step 27.

25 Determine if the MBsyMC main alarm cleared.

If the alarm	Do
cleared	step 28
changed to another alarm	step 26
did not clear	step 27

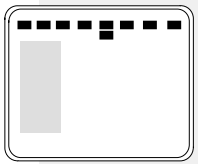
26 Perform the correct alarm clearing procedure in this document.

27 For additional help, contact the next level of support.

28 The procedure is complete.

CM MC Tbl minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks
MC Tbl	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, MC Tbl appears under the computing module (CM) header of the alarm banner. The MC Tbl indicates a minor alarm for message controller trouble.

Meaning

A minimum of one message controller (MC)

- is in-service trouble
- has a subsystem clock (SSC) fault
- has a time-of-day (TOD) clock fault

Result

The problem does not now affect subscriber service. If problems develop on the second MC, communications with one or both message switches can end.

Common procedures

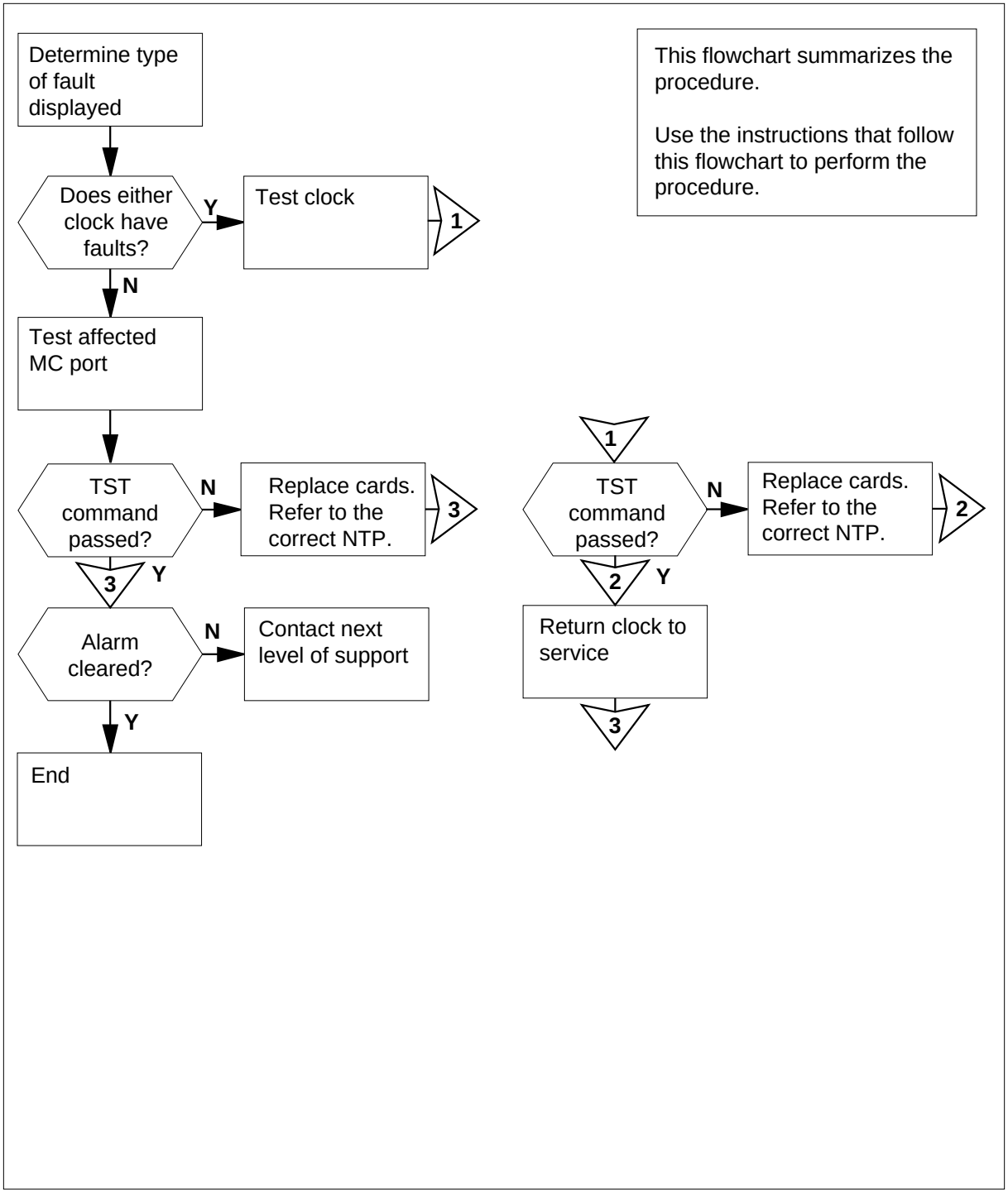
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM MC Tbl
minor (continued)

Summary of Clearing a CM MC Tbl minor alarm



CM MC Tbl
minor (continued)

Clearing a CM MC Tbl minor alarm

At the MAP terminal

1 To access the MC level of the MAP display, type

>MAPCI;MTC;CM;MC

and press the Enter key.

Example of a MAP display:

```
CM 0
 MC 0    MC 1
   .     istb
```

2 Determine the type of fault that causes the alarm.

Note: The fault indicator appears under the MC 0 and MC 1 headers of the MAP display. In the example in step 1, the fault indicator for MC 1 is istb.

If the fault indicator	Do
is `istb`	step 3
is `todf`	step 11
is `sscf`	step 14

3 To access the port level of the MAP display, type

>PORT

and press the Enter key.

Example of a MAP display:

```
         P O R T
       MC 0  MC 1
Link 0   .   oos
Link 1   .    .
```

4 To test the MC port that has faults, type

>TST mc_number link_number

and press the Enter key.

where

mc_number
is the number of the MC (0 or 1) that has in-service trouble

link_number
is the number of the link (0 or 1) that is out of service

Note: In the example in step 1, MC 1 has in-service trouble. In the example in step 3, link 0 of MC 1 is out of service.

CM MC Tbl
minor (continued)

Example of a MAP response:

```
Maintenance action submitted.
In service port test passed.
1000 messages sent, 1000 messages received.
```

If the TST command	Do
passed	step 28
failed, and the system generated a card list	step 5

5 Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

6 Perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

7 To access the port level of the MAP display, type

`>MC;PORT`

and press the Enter key.

8 To test the MC port, type

`>TST mc_number link_number`

and press the Enter key.

where

mc_number
is the number of the affected MC (0 or 1)

link_number
is the number of the link that was out of service (0 or 1)

If the TST command	Do
passed	step 28
failed, and you did not replace all cards on the list	step 9
failed, and you replaced all cards on the list	step 10

9 Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 6.

10 Perform the procedure *Clearing an MS CMIC minor alarm* in this document. Complete the procedure and return to this point.

Go to step 28.

CM MC Tbl
minor (continued)

11 To access the clock level of the MAP display, type

>CLOCK

and press the Enter key.

Example of a MAP display:

```
CM 0
 MC 0    MC 1
   .     todf

        TOD
      MC0 MC1
Link 0    .  flt
Link 1    .   .

   SSC    .   .
```

12 Record the number of the MC that has the TOD fault, and the number of the TOD clock that has faults.

Note: In the example in step 11, MC 1 has the TOD clock fault. The link number of the TOD clock that has faults is 0.

13 To test the TOD clock that has faults, type

>TST TOD mc_number link_number

and press the Enter key.

where

mc_number
is the number of the MC (0 or 1) that has a TOD clock fault

link_number
is the link number (0 or 1) of the damaged TOD clock

Example of a MAP response:

```
Maintenance action Submitted
MC 0 TOD 0 test passed.
```

If the TST command	Do
passed and alarm cleared	step 42
passed and TOD status is OK but alarm not cleared	step 28
passed but TOD status is not OK	step 26
failed	step 18
is other than listed here	step 41

CM MC Tbl
minor (continued)

14 To access the clock level of the MAP display, type

>CLOCK

and press the Enter key.

Example of a MAP display:

```
          TOD
      MC0 MC1
 Link 0    .   .
 Link 1    .   .

    SSC    .  flt
```

15 Record the number of the MC that has the SSC fault, and the number of the SSC that has faults.

Note: In the example in step 14, MC 1 has the SSC fault. The number of the SSC that has faults is 1.

16 To test the SSC that has faults, type

>TST SSC ssc_number

and press the Enter key.

where

ssc_number
is the number of the SSC that has faults (0 or 1)

Example of a MAP response:

```
A complete test will include temporary loss of two links.
Please Confirm (”YES”, ”Y”, ”NO”, or ”N”):
```

17 To confirm the command, type

>YES

and press the Enter key.

If the TST command	Do
passed	step 27
failed, and the system generated a card list	step 18
is other than listed here	step 41

18 Record the location, description, slot number, PEC, and PEC suffix of the first card on the list.

19 Perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

CM MC Tbl
minor (continued)

20 To access the clock level of the MAP display, type

`>MC;CLOCK`

and press the Enter key.

21 Determine the type of cleared clock fault.

Note: A fault indicator that was todf in step 2 indicates a cleared TOD clock fault. A fault indicator that was sscf step 2 indicates a cleared SSC fault.

If the cleared fault	Do
is `todf`	step 22
is `sscf`	step 23

22 To test the TOD clock, type

`>TST TOD mc_number link_number`

and press the Enter key.

where

mc_number
is the number of the affected MC (0 or 1)

link_number
is the link number of the tested TOD clock (0 or 1)

Example of a MAP response:

```
Maintenance action Submitted
MC 0 TOD 0 test passed.
```

If the TST command	Do
passed	step 26
failed, and you did not replace all cards on the list	step 25
failed, and you replaced all cards on the list	step 41
is other than listed here	step 41

23 To test the SSC, type

`>TST SSC ssc_number`

and press the Enter key.

where

ssc_number
is the number of the tested SSC (0 or 1)

CM MC Tbl
minor (continued)

Example of a MAP response:

```
A complete test will include temporary loss of two links.
Please Confirm (”YES”, ”Y”, ”NO”, or ”N”):
```

24 To confirm the command, type

>YES

and press the Enter key.

If the TST command	Do
passed	step 27
failed, and you did not replace all cards on the list	step 25
failed, and you replaced all cards on the list	step 41
is other than listed here	step 41

25 Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 19.

26 To return the TOD clock to service, type

>RTS TOD mc_number link_number

and press the Enter key.

where

mc_number
is the number of the affected MC (0 or 1)

link_number
is the link number (0 or 1) of the TOD clock that you returned to service

If the RTS command	Do
passed	step 28
failed	step 41

27 To return the SSC to service, type

>RTS SSC ssc_number

and press the Enter key.

where

CM MC Tbl
minor (continued)

ssc_number
is the number of the SSC that you returned to service (0 or 1)

If the RTS command	Do
passed	step 28
failed	step 41

28 To access the MC level of the MAP display, type

>MC

and press the Enter key.

Example of a MAP display:

```
CM 0
 MC 0    MC 1
   .     mbsy
```

29 Determine if the accessed MC is manual busy.

Note: If an MC is manual busy, mbsy appears under the MC 0 or MC 1 header.

If the MC	Do
is mbsy	step 30
is not mbsy	step 31

30 To return the manual busy MC to service, type

>RTS mc_number

and press the Enter key.

where

mc_number
is the number of the manual busy MC (0 or 1)

If the RTS command	Do
passed	step 31
failed	step 41

31 Determine if the inactive CM plane powered down.

If the inactive CM plane	Do
powered down	step 32
did not power down	step 34

32 To test the inactive CPU, type

>CM;TST

and press the Enter key.

Example of a MAP response:

```
The test(s) listed below will destroy
the software load in inactive CPU:

    Static RAM test

Do you want to do the test(s) anyway?
Please confirm: (”YES”, ”Y”, ”NO”, or ”N”):
```

33 To confirm the command, type

>YES

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Test passed.
```

If the TST command	Do
passed	step 34
failed	step 41
is other than listed here	step 41

34 Determine if the inactive CPU jammed.

Note: The word yes under the Jam header means that the CPU jammed. The area is blank if the CPU did not jam.

If the inactive CPU	Do
jammed	step 35
did not jam	step 36

At the CM reset terminal for the inactive CPU

35 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

CM MC Tbl
minor (continued)

```
JAM RELEASE DONE
```

At the MAP terminal

36 Determine if the CM is in sync.

Note: A dot or EccOn under the Sync header means that the CM is in sync. The word no means that the CM is not in sync.

If the CM	Do
is in sync	step 39
is not in sync	step 37

37 To synchronize the CM, type

>SYNC

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command is successful	step 39
indicates the CPUs are not in sync as a result of a problem with mismatches. Analyze the mismatch logs before you synchronize the logs again. Do you wish to continue?Please Confirm("YES", "Y", or "NO", "N")(SN/ SNSE series 70 only)	step 38
is other than listed here	step 41

38 (SN/ SNSE series 70 only)

To deny the action, type

>NO

and press the Enter key.

Go to step 41.

CM MC Tbl minor (end)

39 Determine if the MC Tbl minor alarm cleared.

If the alarm	Do
cleared	step 42
changed to another alarm	step 40
did not clear	step 41

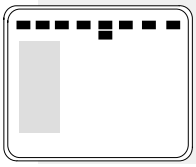
40 Perform the correct alarm clearing procedure in this document.

41 For additional help, contact the next level of support.

42 The procedure is complete.

CM MemCfg minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
MemCfg M	.	.	.	.	.	.	.	.	.

Indication

At the CM level of the MAP display, MemCfg appears under the CM header of the alarm banner. The MemCfg indicates a minor alarm for the wrong memory configuration.

Meaning

The computing module (CM) maintenance detects a memory card configuration that is not correct on one of the CM planes.

Result

Mismatches can occur which result in a power failure. CM operation that is not the same can result in a power failure.

Common procedures

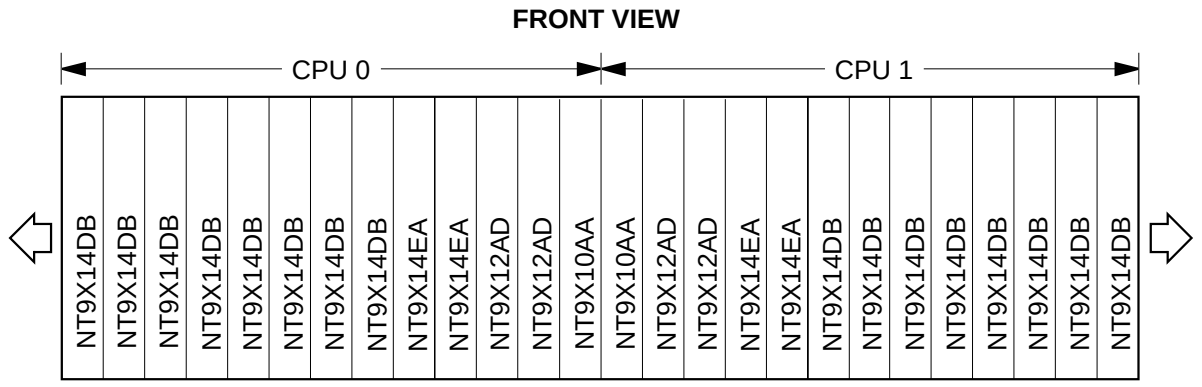
There are no common procedures.

Application

The following figures illustrate the correct position of memory cards for the SN50MX product.

CM MemCfg
minor (continued)

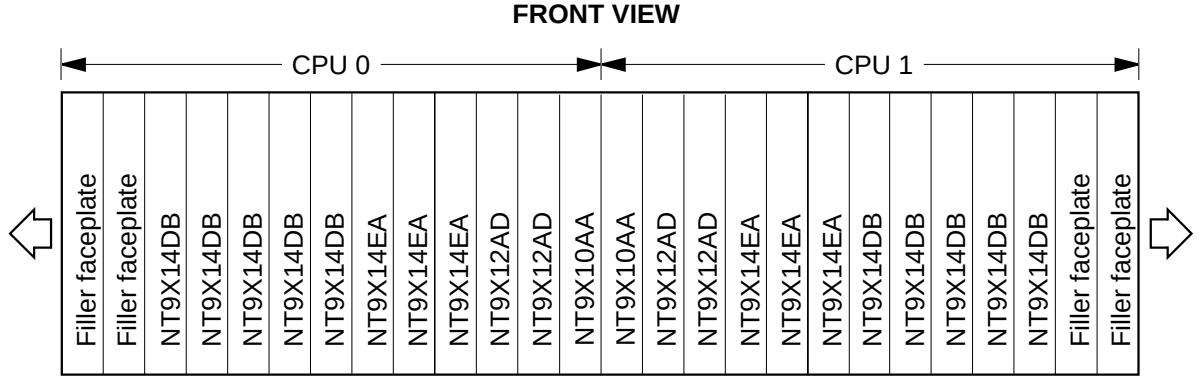
Configuration of SN50MX product with two NT9X14EA 96M memory cards



Note 1: Slots 11-16 and 23-28 contain the mandatory minimum memory configuration, when two NT9X14EA (96 Mbyte) cards are used.

Note 2: Slots 07-10 and 29-32 contain optional memory extension by up to four NT9X14DB (24 Mbyte) cards.

Configuration of SN50MX product with three NT9X14EA 96M memory cards



Note 1: Slots 12-16 and 23-27 contain the mandatory minimum memory configuration, when three NT9X14EA (96 Mbyte) cards are used.

Note 2: Slots 09-11 and 28-30 contain optional memory extension by up to three NT9X14DB (24 Mbyte) cards.

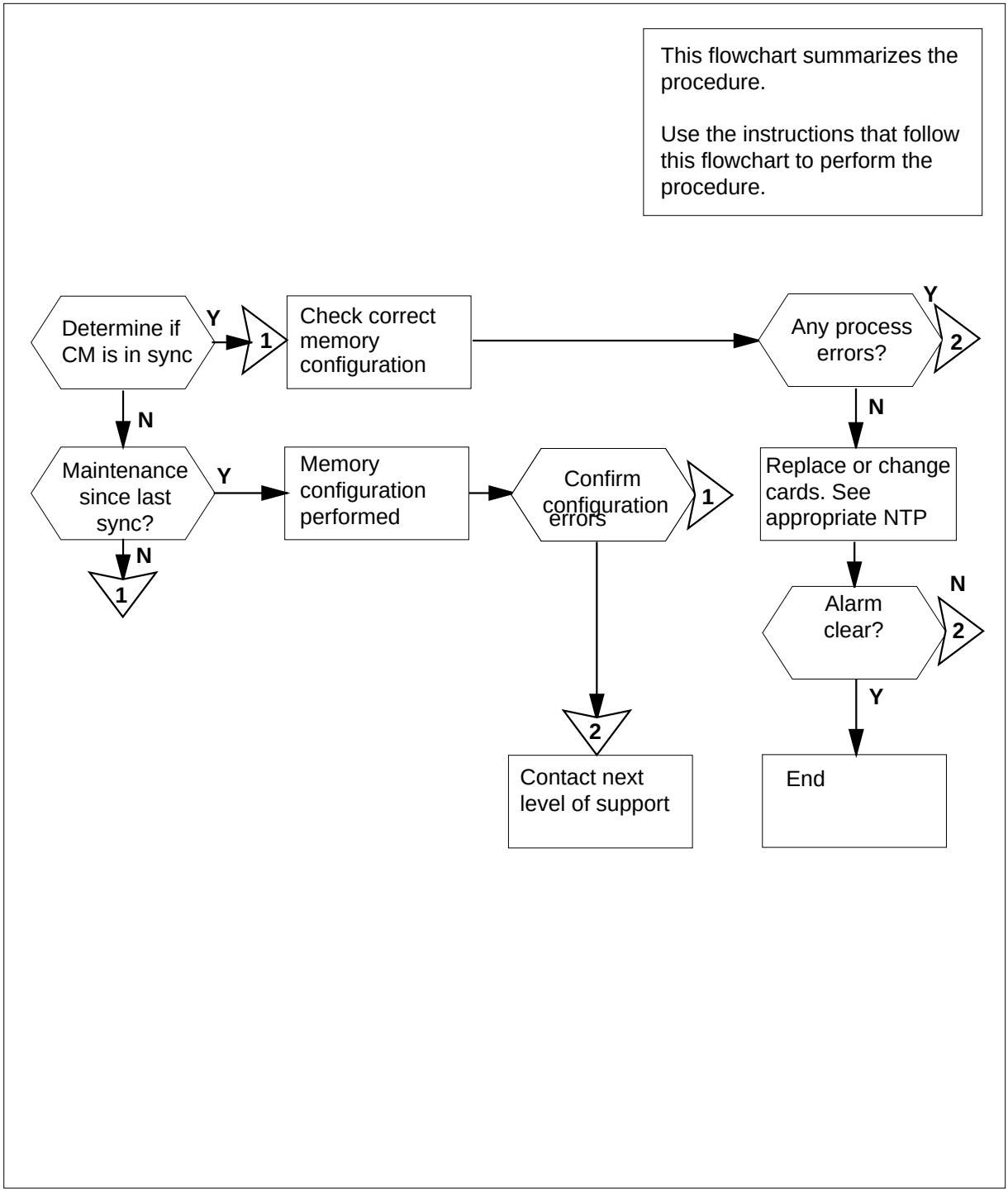
CM MemCfg
minor (continued)

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM MemCfg
minor (continued)

Summary of Clearing a CM MemCfg minor alarm



CM MemCfg
minor (continued)

Clearing a CM MemCfg minor alarm

At the MAP terminal

1 To access the memory level of the MAP display, type

>MAPCI; MTC; CM; MEMORY

and press the Enter key.

Example of SN MAP display

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0    .  cpu 1   .     .         .     .    .   .

CM 0   Plane 0    Plane 1
  1            |            1
  0987654321  P | P  1234567890
  ----......  -  -  ..........
```

2 Determine if the CM is in sync.

Note: A dot or EccOn under the Sync header means that the CM is in sync. The word no means that the CM is not in sync.

If the CM	Do
is in SYNC	step 3
is not in SYNC	step 7

3 To check the two CM planes for wrong memory configurations, type

>QRYMEM

and press the Enter key.

Note: Responses to the QRYMEM command are for the two planes.

The following are possible responses:

- a memory configuration result (valid or invalid)
- a possible processor optionality that is not consistent or error warning
- a possible out of sync warning (for the inactive plane only)
- if the memory configuration of the plane is wrong, the system provides a description of the wrong configuration

Example of SN MAP display

CM MemCfg
minor (continued)

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   No  cpu 0   .     .          MemCfg    .   .

CM 0   Plane 0    Plane 1
  1                          1
  0987654321  P | P  1234567890
  ----......  -  -  -..-------

MEMORY:
>QRYMEM
CPU 0 has a valid memory configuration
CPU 1 has an invalid memory configuration
WARNING: The CM is out of sync with the CPU 0 active.
         The data for CPU 1 may be out of date.
Empty slots found between the outer port card
(NT9X12AC) and the first memory card. Move memory
cards so that memory grows away from the processor.
```

4 Check for responses to the QRYMEM command. The responses are warning responses for processor optionality.

If the response	Do
shows processor optionality inconsistency	step 5
shows processor optionality error	step 28
shows no warning	step 5

5 Check for No Sync warning responses to the QRYMEM command as follows:

If the response	Do
shows the CM is out of sync	step 7
shows no warning	step 6

6 Review the correct configuration responses as the table indicates.

If the response	Do
is CPU 0 has an invalid memory configuration. There are empty slots between memory cards.	step 10

CM MemCfg
minor (continued)

If the response	Do
is CPU 0 has an invalid memory configuration. Empty slots between the outer port card <n> and the first memory card.	step 11
is CPU 0 has an invalid memory configuration. The NT9X14DB and NT9X14EA cards are intermixed.	step 12
is CPU 0 has an invalid memory configuration. The block of NT9X14DB cards are closest to the processor.	step 13
is CPU 0 has an invalid memory configuration. There are too many memory type> cardspresent on CPU <n>.	step 14
is CPU 0 has an invalid memory configuration. There are too few <memory type> cardspresent on CPU <n>. On the SN50MX platform, a minimum memory configuration consists of 2 NT9X14EA'sand 4 NT9X14DB's or 3 NT9X14EA's and 2 NT9X14DB's	step 16
is CPU 0 has an invalid memory configuration. There are too many NT9X14DB cardspresent on CPU <n>. There should be a maximum of <n> NT9X14DB's on a CPU plane with <n> NT9X14EA cards	step 17
is CPU 0 has an invalid memory configuration. There are too few <memory type> cardspresent on CPU <n>.	step 15

CM MemCfg
minor (continued)

If the response	Do
is CPU 0 has an invalid memory configuration. There are too few NT9X14DB memory cardspresent on CPU <n>. There should be a minimum of <n> NT9X14DB on a CPU plane with <n> NT9X14EA cards.	step 18
is No reply from request	step 19
is Software difference action cancelled.	step 20
is CPU <n> has an invalid memory configuration.The internal <component> inventory tables are corrupt.	step 21
is CPU <n> has an invalid memory configuration. The <component> PEC <pec> is not recognized.	step 22
is CPU <n> has an invalid memory configuration. The memory PEC <pec> is not supported by Processor Option.	step 23
is CPU <n> has an invalid memory configuration. This platform does not support mixed memory.	step 24
is no mailbox available.	step 25
is both CPU's have valid configuration.	step 27

7 Consult office records. Determine if maintenance was on the CM from the time the CM was last in sync. Determine if a memory configuration was performed.

If the answer	Do
is yes	step 8

CM MemCfg
minor (continued)

If the answer	Do
is no	step 6

8 To configure the memory to make sure that the inactive memory configuration data is up to date, type

>CONFIG

and press the Enter key.

Example of MAP display

```
WARNING:
I will now ask the mate CPU to re-configure its
memories.  I will take the new configuration data and
re-build the MEMORY MAP display for the inactive CPU
memory cards.  This must only be done when out of SYNC
and during a memory extension or reduction (adding or
deleting a memory card or replacing a memory card with
one of a different PEC code).
Please confirm (”YES or ”Y”, ”NO” or ”N”)
```

9 To confirm the command, type

>YES

and press the Enter key.

Example of MAP display

```
Maintenance action submitted
```

If the response	Do
indicates the CONFIG command passed	step 3
indicates the CONFIG command failed	step 28
indicates Configure aborted. NT9X14BB memory is incompatible with NT9X14EA memory	step 28

CM MemCfg
minor (continued)

At the switch

10 Empty memory slots are between the memory cards.

Compare the design of the CPU with the diagram at the start of this procedure. Note the differences in card positions.

To move the memory cards to fill the empty slots, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

Note: To achieve the desired result, move the least number of memory cards.

Go to step 26.

11 Empty slots are between the outer port card and the first memory card. Mixed memory on the CM must grow out from the processor with all empty slots on the ends of each plane.

Compare the configuration of the CPU with the diagram at the start of this procedure. Note the differences in card positions.

Move the memory cards in order to fill the empty slots. Perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

Note: To achieve the desired result, move the least number of memory cards.

Go to step 26.

12 The memory cards mix together. Keep the NT9X14EA and NT9X14DB cards as continuous sets. Keep the NT9X14EA set nearest to the processor, followed by the NT9X14DB set.

Compare the configuration of the CPU with the diagram at the start of this procedure. Note the differences in card positions.

Move the memory cards so that they do not mix together and the NT9X14EA cards are nearest to the processor. Perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

Note: Empty slots should not be present between the memory cards.

Go to step 26.

13 The NT9X14DB cards are nearest to the processor. Keep the NT9X14EA and NT9X14DB cards as continuous sets. Keep the NT9X14EA set nearest to the processor, followed by the NT9X14DB set.

Compare the configuration of the CPU with the diagram at the start of this procedure. Note the differences in card positions.

Move the memory cards so that the NT9X14EA cards are nearest to the processor. Perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

Note: Empty slots should not be present between the memory cards.

Go to step 26.

14 Too many memory cards of a given memory type are on the plane.

CM MemCfg
minor (continued)

Reduce number of memory cards of an indicated type to equal or be less than the indicated limit. Perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

Go to step 26.

15 Not enough memory cards of a given type are on the plane.

Decrease the number of NT9X14DB cards on the plane to equal or be greater than the indicated limit. Perform the the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

Go to step 26.

16 Not enough memory cards of a given type are on the plane. On the SN50MX platform, a minimum memory configuration has two NT9X14EA cards and four NT9X14DB cards. A minimum memory configuration also can have three NT9X14EA cards and two NT9X14DB cards.

Compare the configuration of the CPU with the diagram at the start of this procedure. Note the differences in card positions.

Increase the number of memory cards of the indicated type in order to conform to a supported configuration. Perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

Note: This response is for the SN50MX platform.

Go to step 26.

17 Too many NT9X14DB cards are on the plane. A maximum number of NT9X14DB cards is on a CPU plane with a given number of NT9X14EA cards.

Compare the configuration of the CPU with the diagram at the start of this procedure. Note the differences in card positions.

Reduce the number of memory cards of an indicated type in order to equal or be less than the indicated limit. Perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

Go to step 26.

18 Not enough NT9X14DB cards are on the plane. A minimum number of both NT9X14DB cards are on a CPU plane with a given number of NT9X14EA cards.

Compare the configuration of the CPU with the diagram at the start of this procedure. Note the differences in card positions.

Increase the number of NT9X14DB cards on the plane in order to equal or be less than the indicated limit. Perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

Go to step 26.

19 The QRYMEM command expired and cancelled.

Go to step 28.

20 Software is not compatible - action cancelled.

Go to step 28.

21 The internal CPU or memory tables have defects.

Go to step 28.

22 The QRYMEM command found a PEC code that the command does not recognize in the internal software inventory tables.

If the information is correct, and the PEC described is present on the indicated plane, remove the card from the shelf. To replace the card with the correct card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

Go to step 26.

23 The QRYMEM command found a memory card that the current configuration does not support.

Remove the card from the shelf. To replace the card with the correct card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

Go to step 26.

24 The QRYMEM command found multiple memory types on a platform that does not support mixed memory.

To configure the memory design again with a single memory type, add or replace cards. Perform the correct card procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

Go to step 26.

25 An internal software error occurred.

Go to step 28.

At the MAP display

26 To check both CM planes for wrong memory configurations, type

>QRYMEM

and press the Enter key.

Example of SN MAP display

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0        cpu 0   .     .              .   .

CM 0   Plane 0    Plane 1
  1                          1
  0987654321  P | P  1234567890
  ----.....  -  -  -..-------

MEMORY:
>QRYMEM
CPU 0 has a valid memory configuration
CPU 1 has an valid memory configuration
```

CM MemCfg **minor** (end)

27 Determine if the CM MemCfg minor alarm cleared.

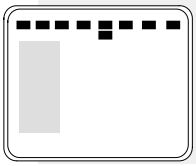
If the alarm	Do
cleared>	step 29
did not clear	step 28
is other than listed here	step 28

28 For additional help, contact the next level of support.

29 The procedure is complete.

CM MemCor major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
MemCor M	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, MemCor appears under the CM header of the alarm banner. The MemCor indicates a major alarm with an adjustable memory fault.

Meaning

A high number of adjustable memory faults occurred in a given time for a given memory module, memory card, or surface. You can expect a fixed rate of adjustable memory faults in normal switch operation. Excess of this rate causes MemCor to initiate. The excess is an indication of a damaged module, card, or surface.

Result

The mismatch handler isolated the hardware element with the fault. The mismatch handler also synchronized the switch again. The card(s) affected appear at the memory level of the MAP display with a mark of IsTb. The problem does not affect switch operation. The purpose of the alarm is to indicate that the hardware is the cause of a high number of mismatches. The alarm indicates that the hardware requires replacement.

Common procedures

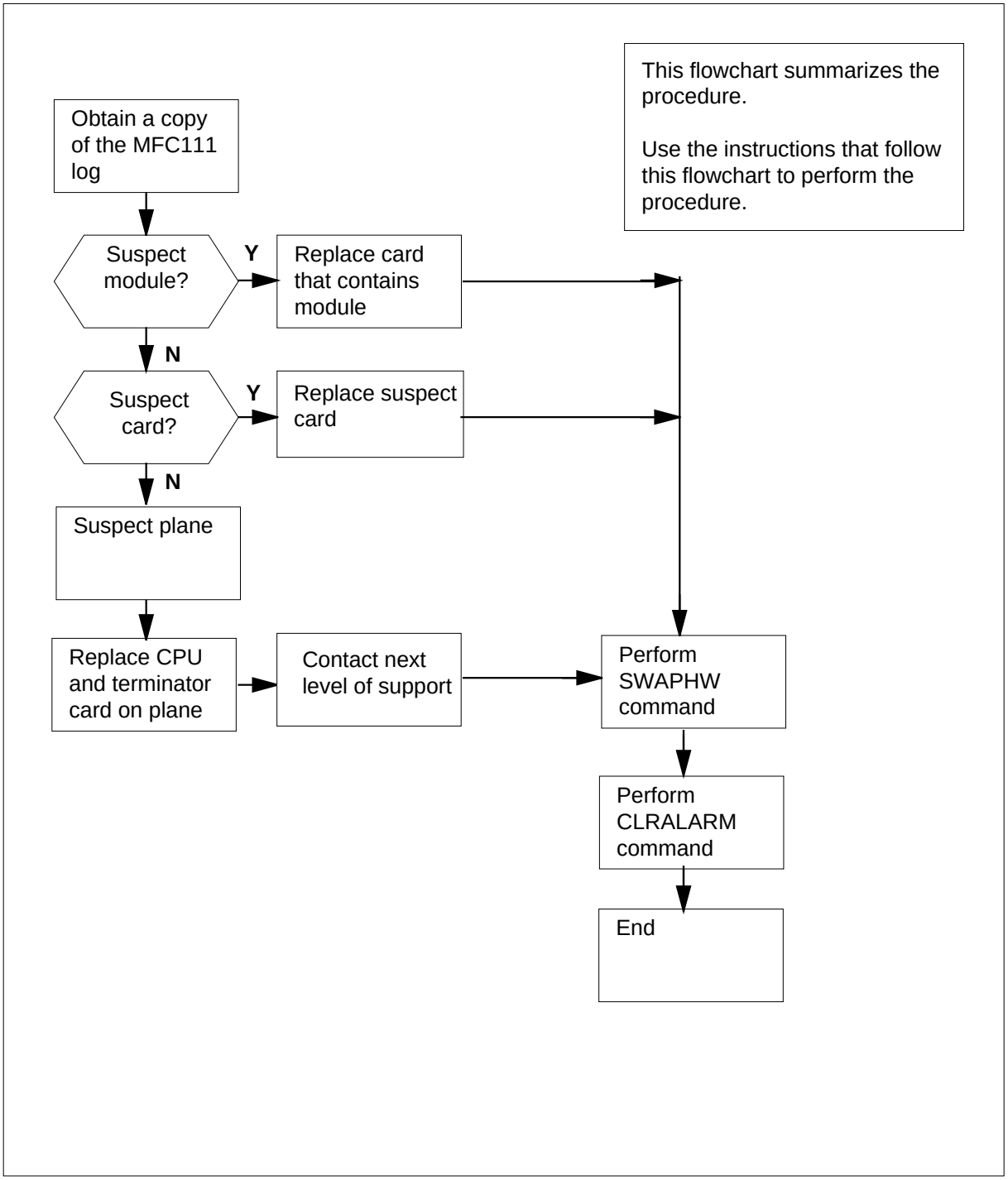
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM MemCor
major (continued)

Summary of Clearing a CM MemCor major alarm



CM MemCor major (continued)

Clearing a CM MemCor major alarm

At the current location

1 Obtain a duplicate of the MFC111 log report generated at the same time as the MemCor alarm. Refer to *Log Report Reference Manual* for a description of this log.

2 Identify the value of the field <threshold_type>. This field has the value “module", “card", or “plane". The field indicates the suspect hardware element.

If the MFC111 log	Do
indicates a suspect module	step 3
indicates a suspect card	step 5
indicates a suspect plane	step 10

Note: A card has three memory modules. A memory module is on a card. A suspect memory module requires replacement of the card.

3 Consult the log report. Identify the type and location of the card that requires replacement. The card is an NT9X14DB or NT9X14EA.

4 Go to step 6.

5 Consult the log report. Identify the type and location of the card that requires replacement. The card is an NT9X14DB or NT9X14EA.

6 Refer to the correct procedure in *Card Replacement Procedures* and replace the card in question.

CM MemCor
major (continued)

At the MAP display

7

CAUTION
Keeping the mismatch database up to date.
Keep the mismatch database up to date. Make sure that you inform the database of card changes through the SWAPHW command. If you do not keep the database up to date, the mismatch software cannot diagnose later mismatches correctly.

To notify the maintenance software system of the card replacement, type

>SWAPHW SLOT <shelf> <slot> <side>

and press the Enter key

where

shelf
is the shelf number of the replaced card

slot
is the slot number of the replaced card

side
is the side number of the replaced card

Example of a MAP response:

```
WARNING:    You have indicated that the following circuit
            pack has been replaced. Please verify that the
            following list accurately reflects the
            location of the replaced circuit pack, and
            that the displayed PEC code matches the pack
            currently equipped in that slot:
Site   Flr  RPos  Bay_id shf Description Slot EqPEC
<site><flr><rpos><bay>  <shf> <desc>   <slot> <pec> <side>

Do you wish to continue?
Please confirm (”YES”, ”Y”, ”NO”, ”N”):
```

8 To confirm, type

>YES

and press the Enter key.

Example of a MAP response:

```
Card replacement has been recorded.
```

9 Go to step 14.

CM MemCor
major (continued)

10 Identify from the log report the suspect plane.

Note: As a first attempt to fix the plane that has faults, replace the CPU card (NT9X10 or NT9X13). Also replace the terminator card (NT9X21).

Refer to the correct procedures in *Card Replacement Procedures.* Replace the CPU and the terminator cards on the plane in question.

11 Notify the next level of support that a MemCor alarm occurred for a plane. If you replaced the terminator and CPU cards on this plane, the next level of support can investigate the problem.

At the MAP

12

CAUTION
Keeping the mismatch database up to date.
Keep the mismatch database up to date. Inform the database of card changes through the SWAPHW command. If you do not keep the database up to date, the mismatch software cannot diagnose later mismatches correctly.

To notify the maintenance software system of the card replacement, type

>SWAPHW plane

and press the Enter key.

Example of a MAP response:

```
WARNING:    All ”Memory Fault, Correctable” history will
            be deleted during the next manual sync
            attempt. The PLANE option of this command
            should be used only during manual recovery
            from a MFC Plane threshold being exceeded.
```

13 To confirm, type

>YES

and press the Enter key.

14 To begin to clear the MemCor alarm, type

>CLRALARM MemCor

and press the Enter key.

Example of a MAP display:

```
The MemCor alarm will be cleared.
Do you wish to continue?
Please confirm (”YES”, ”Y”, ”NO”,
”N”):
```

CM MemCor **major** (end)

15 To clear the MemCor alarm, type

>Y

and press the Enter key.

Example of a MAP display:

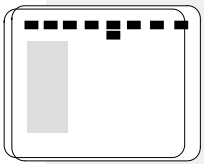
```
The MemCor alarm has been cleared.
```

Note: A generated CM176 log indicates that the alarm cleared

16 The procedure is complete.

CM MemCor minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
MemCor	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, MemCor appears under the computing module (CM) header of the alarm banner. The MemCor indicates an adjustable minor alarm for the memory fault.

Meaning

A correctable memory fault occurred. The switch attempts to correct the fault. Correction of the fault clears the alarm. A memory fault alarm occurs if the fault remains.

Result

The problem does not affect subscriber service.

Common procedures

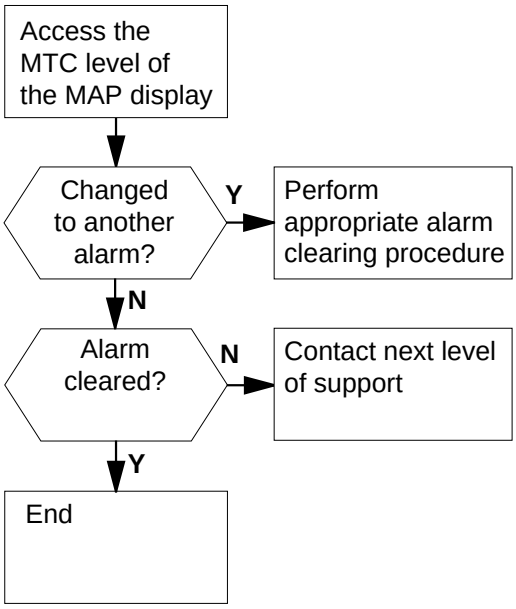
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM MemCor
minor (continued)

Summary of Clearing a CM MemCor minor alarm



This flowchart summarizes the procedure.

Use the instructions that follow this flowchart to perform the procedure.

CM MemCor minor (end)

Clearing a CM MemCor minor alarm

At the MAP terminal

1 To access the MTC level of the MAP display, type

`>MAPCI;MTC`

and press the Enter key.

Example of a MAP display:

```
MAPCI:
MTC:
```

2 Wait for the MemCor minor alarm to clear.

If the alarm	Do
clears	step 6
does not clear within 6 h	step 4
changes to another alarm	step 3

3 Perform the correct CM alarm clearing procedure in this document.

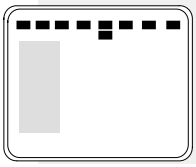
4 The system failed to clear the memory faults. Obtain copies of the associated CM and MM log reports.

5 For additional help, contact the next level of support.

6 The procedure is complete.

CM MemFlt minor

Alarm display



	CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
	MemFlt	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, MemFlt appears under the computing module (CM) header of the alarm banner. MemFlt indicates a correctable major alarm for the memory fault.

Meaning

In a given time, a memory module, memory card, or plane has correctable memory faults which exceed a fixed number. You can expect a fixed rate of correctable memory faults in normal switch operation. If the number of faults exceeds the fixed rate of faults, MemFlt appears. The exceeded rate is also an indication of a module, card, or plane that has faults.

Result

The mismatch handler isolated the hardware element that has faults and synchronized the switch again. The card(s) affected are marked FLT at the memory level of the MAP display. The problem does not affect switch operation. The alarm indicates that the hardware is the cause of a high number of mismatches. The alarm also indicates the hardware requires replacement.

Common procedures

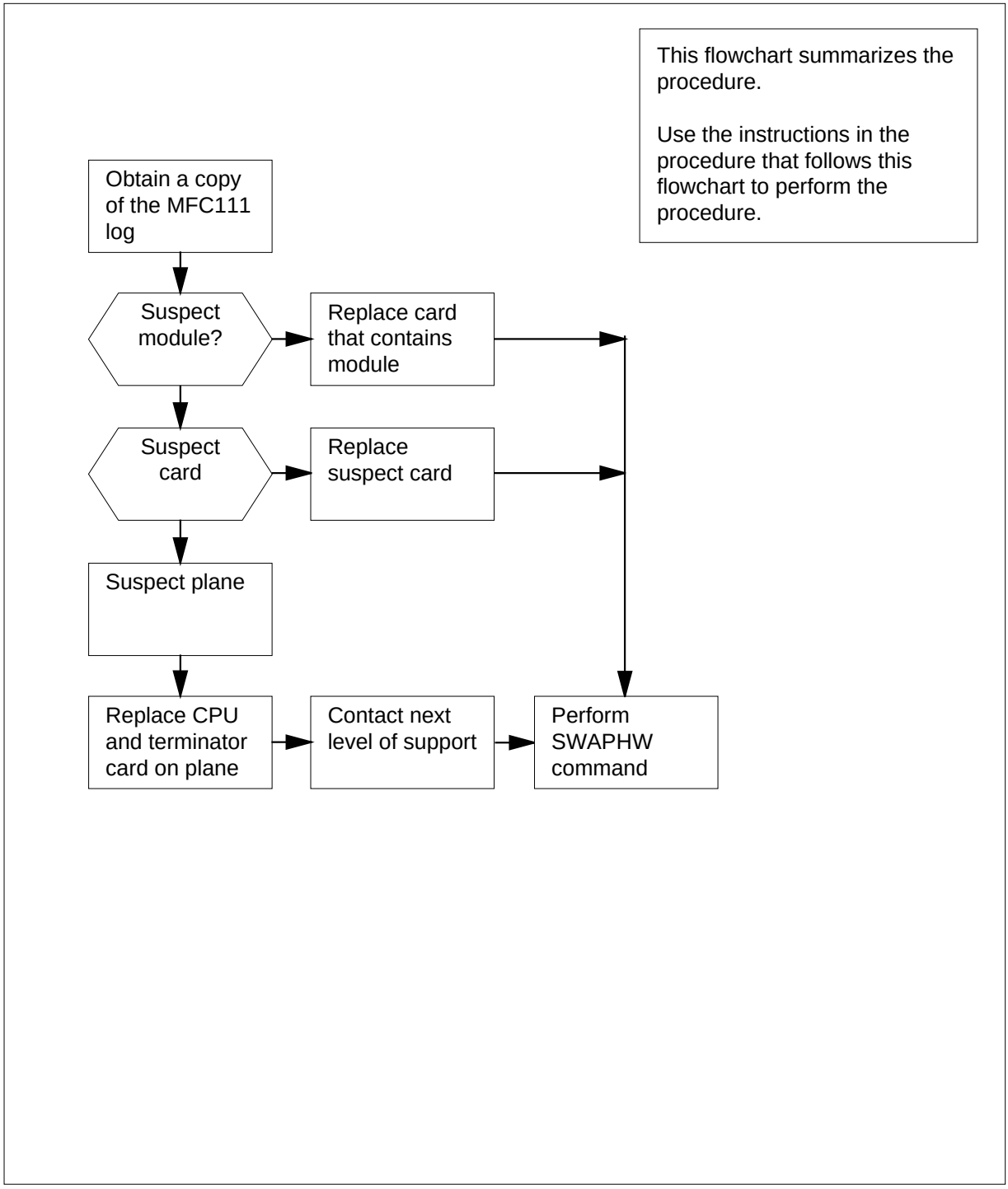
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM MemFlt minor (continued)

Summary of Clearing a CM MemFlt minor alarm



CM MemFlt
minor (continued)

Clearing a CM MemFlt minor alarm

At your current location

1 Obtain a duplicate of the MFC111 log report generated when the MemFlt alarm occurred. Refer to *Log Report Reference Manual* for a description of this log.

2 In the MFC111 log, identify the value of the field <threshold_type>. This field has the value “module", “card", or “plane" and indicates the suspect hardware elements.

If the MFC111 log	Do
indicates a suspect module	step 3
indicates a suspect card	step 5
indicates a suspect plane	step 10

Note: Three memory modules are on a card. A suspect memory module indicates that the card requires replacement.

3 Identify from the log report the type and location of the card that requires replacement. The card is an NT9X14DB or NT9X14EA.

4 Go to step 6.

5 Identify from the log report the type and location of the card that requires replacement. The card is an NT9X14DB or NT9X14EA.

6 Refer to the correct procedure in *Card Replacement Procedures*. Replace the suspect card.

If	Do
The SWAPHW command has not been performed	step 7
The SWAPHW command has already been performed	step 14

At the MAP display

7

WARNING
Keep the mismatch database up to date.
Keep the mismatch database up to date. Make sure that you inform the database of card changes through the SWAPHW command. Make sure the database is up to date so the mismatch software can diagnose later mismatches.

To notify the maintenance software system of the card replacement, type

>SWAPHW CARD <shelf> <slot> <side>

and press the Enter key.

where

shelf
is the shelf number of the card that you replaced

slot
is the slot number of the card that you replaced

side
is the side number of the card that you replaced

Example of a MAP response:

```
WARNING:    You have indicated that the following circuit
            pack has been replaced. Please verify that the
            following list accurately reflects the
            location of the replaced circuit pack, and
            that the displayed PEC code matches the pack
            currently equipped in that slot:
Site   Flr  RPos  Bay_id shf Description Slot EqPEC
<site><flr><rpos><bay>  <shf> <desc>   <slot> <pec> <side>

Do you wish to continue?
Please confirm (”YES”, ”Y”, ”NO”, ”N”):
```

8 To confirm, type

>YES

and press the Enter key.

Example of a MAP response:

```
Card replacement has been recorded.
```

9 Go to step 14

CM MemFlt minor (end)

10 Identify the suspect plane from the log report.

Note: As a first attempt to fix the plane that has faults, replace the CPU card (NT9X10 or NT9X13) and the terminator card (NT9X21).

Refer to the correct procedures in *Card Replacement Procedures* Replace the CPU and the terminator cards on the suspect plane.

11 Notify the next level of support that a MemFlt alarm occurred for the plane. A recent replacement of the terminator and CPU cards means that the next level of support can investigate the problem.

At the MAP

12

WARNING

Keep the mismatch database up to date.

Keep the mismatch database up to date. Make sure that you inform the database of card changes through the SWAPHW command. Make sure the database is up to date so the mismatch software can diagnose later mismatches.

To notify the maintenance software system of the card replacement, type

>SWAPHW plane

and press the Enter key.

Example of a MAP response:

```
WARNING:    All "Memory Fault, Correctable" history will
            be deleted during the next manual sync
            attempt. The PLANE option of this command
            should be used only during manual recovery
            from a MFC Plane threshold being exceeded.
```

13 To confirm, type

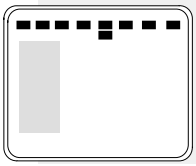
>YES

and press the Enter key.

14 You have completed the procedure.

CM MemLim minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
MemLim M	.	.	.	.	.	.	.	.	.

Indication

At the CMMNT level of the MAP display, MemLim appears under the computing module (CM) header of the alarm banner. The MemLim indicates a minor alarm for the memory limit.

Meaning

The memory allocation to the operating system reached approximately 90% of the limit for the given platform.

Result

Problems with operations can be present.

Common procedures

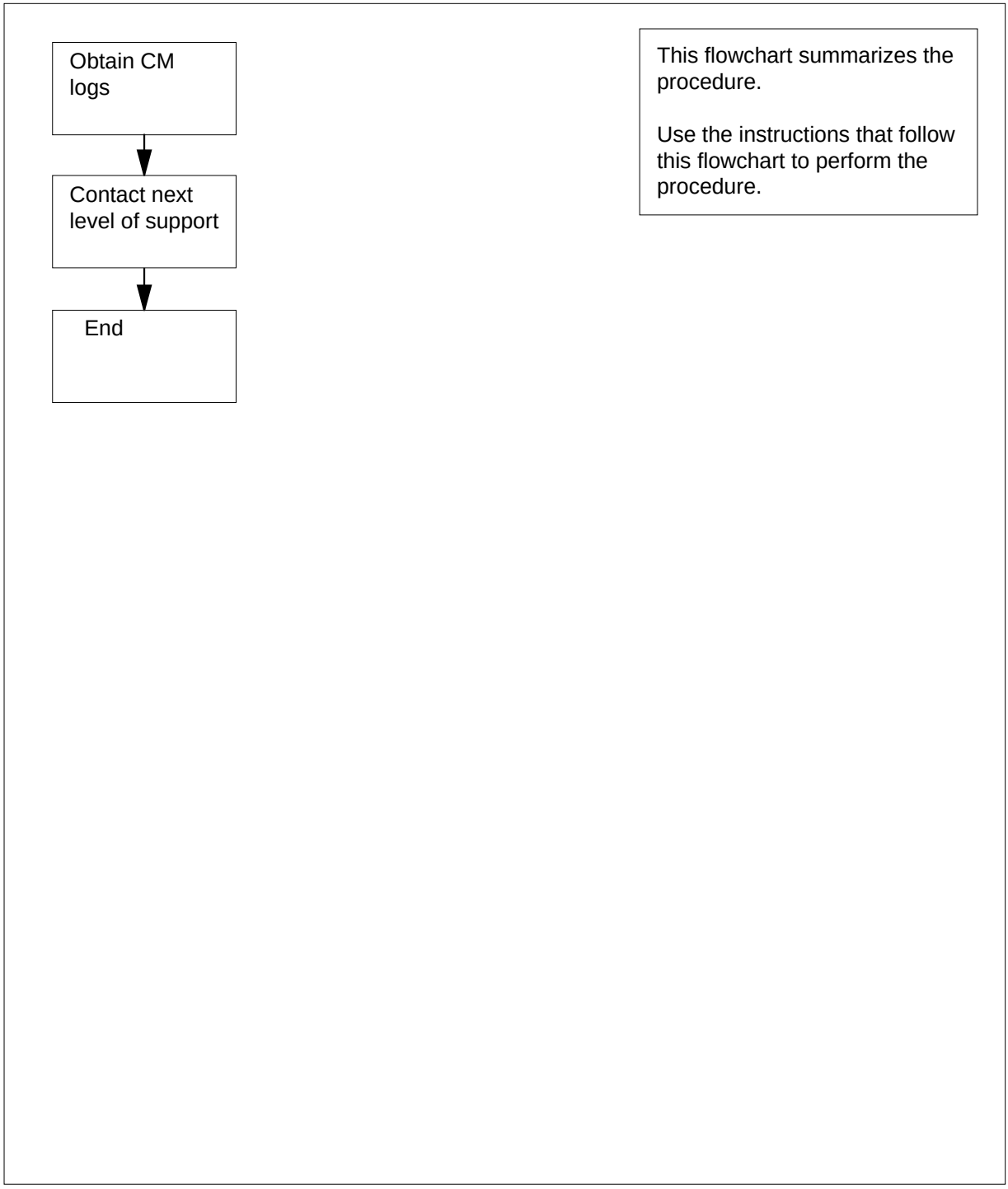
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM MemLim
minor (continued)

Summary of Clearing a CM MemLim minor alarm



CM MemLim minor (end)

Clearing a CM MemLim minor alarm

At the MAP display

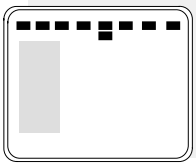
1 Obtain all recent CM logs.

2 For additional help, contact the next level of support.

3 The procedure is complete

CM MMnoSy major

Alarm display



```
CM     MS     IOD    Net    PM     CCS    Lns    Trks   Ext    APPL
MMnoSY        .      .                    .      .      .
*M*
```

Indication

At the CM level of the MAP display, MMnoSy appears under the CM header of the alarm banner. The MMnoSy indicates that the switch is out of synchronization because of a mismatch.

Meaning

The switch is out of sync as a result of one of the four following conditions:

- The mismatch handler finds a hard fault. The system does not attempt to synchronize again and produces log MM111.
- System recovery does not occur for one of the following reasons:
  - — mate under test
  - — synchronization lost during test
  - — mismatch threshold exceeded
  - — active CPU cannot stop activity
  - — software error
- An attempt at system recovery failed.
- Some external condition caused the loss of synchronization. Examples of external conditions are:
  - — power supply problems, such as an unexpected loss of A-feed power or B-feed power
  - — static discharge

The two CPUs of the computing module (CM) normally operate in the synchronous matched mode (in-synchronization). The out-of-sync condition indicates that manual recovery may be required.

Impact

Subscriber service is not affected. In most cases, the mismatch handler is able to clear the fault automatically and recover full functionality of the faulty CPU.

CM MMnoSy
major (continued)

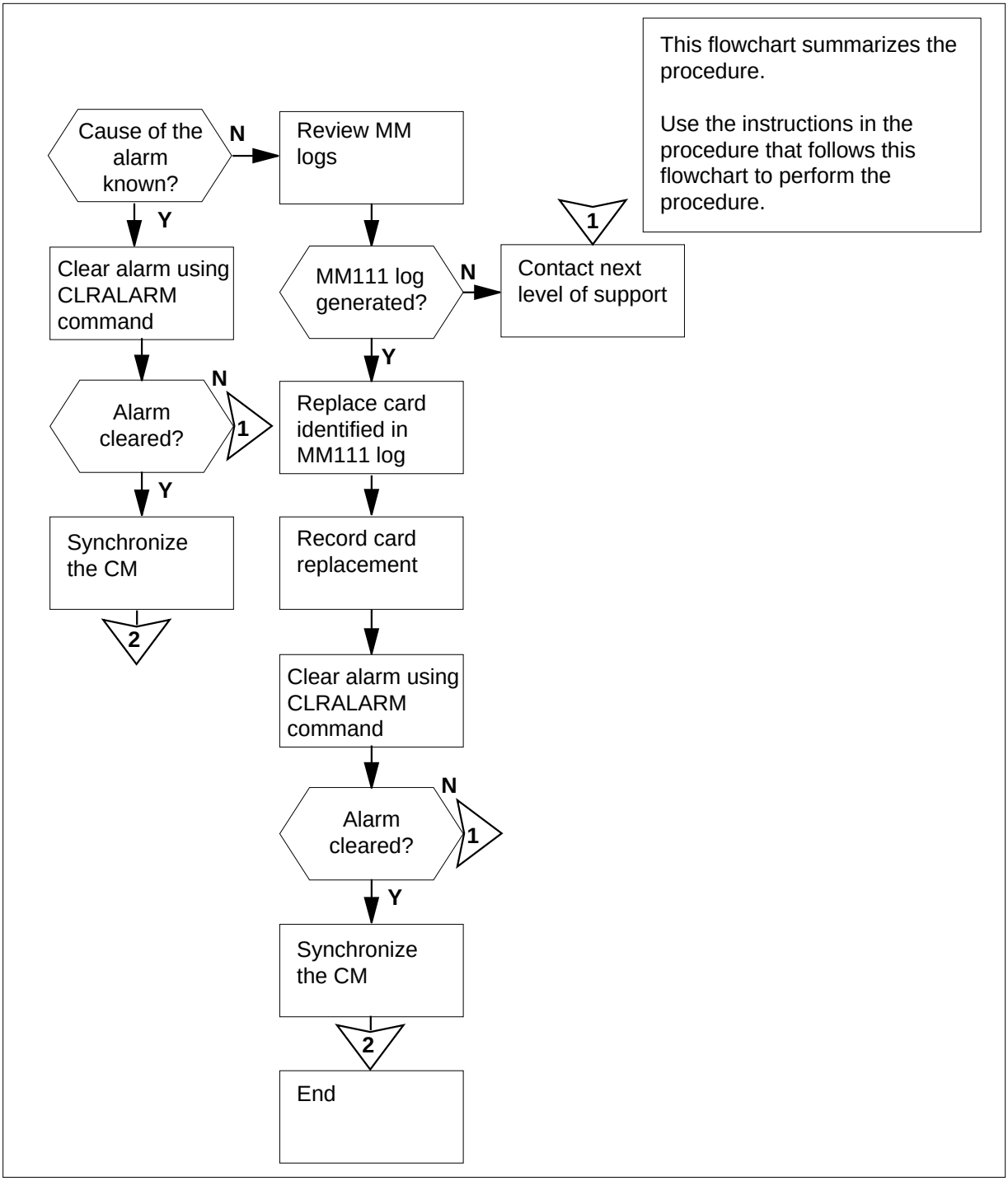
In some cases, the cause of the fault is not known and analysis of associated log reports is required to determine the cause.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM MMnoSy
major (continued)

Summary of Clearing a CM MMnoSy major alarm



CM MMnoSy major (continued)

Clearing a CM MMnoSy major alarm,

DANGER
Possible compromise of system integrity
Synchronization was dropped due to a mismatch event. Analyze mismatch logs properly, and take all appropriate recovery actions before continuing with the synchronization attempt. Attempts to regain synchronization when unresolved mismatch-causing conditions exist can compromise system integrity.

At the MAP terminal

1 To access the CM level of the MAP display, type

`>MAPCI;MTC;CM`

and press the Enter key.

Example of MAP display:

```
CM  Sync  Act  CPU0  CPU1  Jam  Memory  CMMnt  MC  PMC
 0   no   CPU1   .     .     .     .       .    .   .
```

2 Determine the cause of the alarm.

If the cause of the alarm	Do
is known	step 16
is not known	step 3

3 Check for the type of MM log and recovery log produced after the mismatch occurred.

If the logs	Do
produced are MM100 and MM111	step 4
produced are MM100 and MM112	step 19
produced are MM100 and MM113	step 19
produced are MM102 and MM111	step 23

4 Review the MM100 fault and MM111 recovery logs for results of the mismatch analysis.

Example of an MM100 log report

CM MMnoSy
major (continued)

```
MM100 Mismatch Feb14 03:44:36.673
    Mismatch number 17, Activity: Start: CPU 0, Final: CPU 0,
    Mismatch result: No hardware fault found
    Mismatch condition: Mismatch during sync transition
    System recovery action: Test mate, re-sync undertaken

               CPU 0             CPU 1
               Data is valid     Data is valid

Module Entry: IOABP SSTI: #052F  CMCHKPR SSTI: #022B
  AHR Value:    0B0107A4         01471240
  AHR Data:     A5A5A5A5         534C5F43
  MAU AHR:      000E07A0         000E0240
  MCR   :       00000000         00000000
     Not Found                   Owner #1C23,#0000: Module SOVFG DSPROT

A0–A6 (00042A00,01471244)     (000429C0,00044570) (FFFF0000,00DB2D34)
      (00042B64,016CC9D8) (01F9E658,016CE0E8)     (00042A20,01D1E524)
    ( 000300C0,0147FFFE)

D0–D7 (000000AD,9D8241CB)     (00030100,0147036E) (00000007,534C5F43)
      (0000276C,01470000) (78F0FFF4,00000000)     (00030100,00000000)
      (0000000C,00000000) (FFFF0000,FFFF0000)

PC:  (0B011254,0B1921EC) USP: (035478C4,01D1E508) SR:  (2410,000A)
ISP: (00042A18,00042B6C) MSP: (0040E7D0,0040E7D0) ICache:(0001,0001)

FIR:      (0001,0000)    MM_Ctrl:(086C,081C) Timer:    (3c2B,5967)
MAU_ctrl: (00AD,00AD)    MAU_err:(0080,0080) Clk_stat: (0006,0004)
FC:       (0006,0001)    IRM: (0000,0000)    ProcStat: (2A00,2E00)
SRam_Err: (FFC0,FFC0)    PerInt:(0055,0055)  Acc Prot: (00CF,00CF)
Mate_FIR: (0000,0001)    MateFIR_OK: (y,y)   MCR_STAT:      (0,0)

User Stack Dump               Interrupt Stack Dump
     FFFF0000   0B1953B2      0B0107A6   FDFDFDFD
     019E0000   000101F6      0004000C   FDFDFDFD
     01050002   00003C00      00042B20   FDFDFDFD
     00010000   00000400      0D752322   FDFDFDFD
     00000007   01471000      00000000   FDFDFDFD
     0050EB58   00690000      000002B0   FDFDFDFD

     MTC Info:
     020C1550                 000D0550
     001010D0                 00000000
     20000000                 00000000
     00010000                 00000000
     00000000                 00000000
     00000000                 00000000
```

Example of an MM100 log report (continued)

CM MMnoSy
major (continued)

```
Traceback:
0B011254=SYSDEFS.FM07:DISABLE_+#0000
0B1921EC=CMMEMORY.AG04:CHECKSUM+#0008
0D752322=TRAPDEFS.FJ03:TRAPHAND+#0162
0B1A2282=CMMEMORY.AG04:SET_CHEC+#013E
0B016C7E=INTSYS.BW04:FIR_INTE+#00D6
0B19525C=CMMEMORY.AG04:DO_CHECKS+#0098
0B049B3C=MODULES.DP02:INITIALIZ+#0014
0B323876=CMCHKPR.AQ01:CHECKSUM+#00FA
0B03D78Eis valtxt=PROCS.EY01:LIVEANDD+#0012
0B049B3C=MODULES.DP02:INITIALIZ+#0014

0B03D78E=PROCS.EY01:LIVEANDD+#0012
```

Example of an MM111 recovery log report

```
MM111  SEP15 07:09:10 4400 INFO MM RECOVERY
Mismatch 9, CM 0, Faulty CPU 1
System recovery complete: CPUs out-of-SYNC
Manual action required to resynchronize the CPUs
Suspect:
Site Flr RPos  Bay-id  Shf  Description  Slot  EqPEC
HOST     02   A02 DPCC:00  13 CPU: 00:1:0 20  9X13BC FRNT
HOST     02   A02 DPCC:00  13 CPU: 00:1:0 19  9X13BC FRNT
```

If the recovery action	Do
is system recovery complete, CPUs out of SYNC	step 5
anything else	step 25

5 Record the location, description, slot number, shelf number, product engineering code (PEC), and PEC suffix, of the first card on the list.

6 Perform the correct procedure in *Card Replacement procedures.* Complete the procedure and go to step 10.

7 Determine if all cards listed in the MM111 log have been replaced.

If all cards on the list have	Do
been replaced	step 25
not been replaced	step 8

8 Record the location, description, slot number, shelf number, and product engineering code (PEC), including the suffix, of the next card on the list.

9 Perform the correct procedure in *Card Replacement procedures*. When you have completed the procedure, go to step 10.

CM MMnoSy
major (continued)

10 Choose the next step based on the type of CM that you are working on.

If you are working on	Do
an SR70 CM	step 13
anything else	step 11

11 To record the card change in the mismatch history database, type

>SWAPHW CARD shelf_no slot_no side_no

and press the Enter key.

where

shelf_no
is the number of the shelf (0 or 1)

slot_no
is the number of the slot (1 to 38)

side_no
is the side of the computing module (front or back)

Example of MAP response:

```
WARNING: You have indicated that the following circuit
pack has been replaced.  Please verify that this
accurately reflects which circuit pack has been changed,
and that the displayed PEC code matches what is currently
equipped in that slot:

Site  Flr  RPOs  Shf  Description  Slot  EQPEC
HOST  00   A00   DPCC 0  18  CM 0;0;0  19  9X13BC

Do you wish to continue?
Please confirm (“YES”, “Y”, “NO” “N”):  YES

(“YES”, “Y”) if the displayed card = replaced card
```

12 To confirm the command, type

>YES

and press the Enter key.

13 To clear the *MMnoSy* alarm, type

>CLRALARM MMNOSY

and press the Enter key.

Example of MAP response:

```
The MMnoSy alarm will be cleared.
Do you wish to continue?
Please confirm (“YES”, “Y”, “NO” “N)
```

14 To confirm the command, type

>YES

and press the Enter key.

Example of MAP response:

```
The MMnoSync alarm has been cleared
```

If the system	Do
confirms the command	step 15
does not confirm the command	step 25

15 Synchronize the CM by typing

>SYNC

and pressing the Enter key.

Example of a MAP response:

```
The following cards have been reported as being replaced
since the last drop of synchronization.  Verify that
these cards truly reflect all hardware which has been
replaced before before continuing with the
synchronization attempt.

PLANE replacement has NOT been recorded.

Site Flr RPos  Bay-id  Shf  Description  Slot EqPEC
HOST  01  F02  DPCC:00  00  CPU  :00:0:0  19  9X10AA FRNT
HOST  01  F02  DPCC:00  01  PMC00:00:0:1  18  9X12AD FRNT
Please confirm (“YES”, “Y”, “NO” “N”)
```

If the response indicates	Do
synchronization was successful	step 26
anything else	step 7

16 To clear the *MMnoSy* alarm, type

>CLRALARM MMNOSY

and press the Enter key.

Example of MAP response:

```
The MMnoSy alarm will be cleared.
Do you wish to continue?
Please confirm (“YES”, “Y”, “NO” “N)
```

17 To confirm the command, type

>YES

CM MMnoSy
major (continued)

and press the Enter key.

Example of MAP response:

```
The MMnoSync alarm has been cleared
```

If the system	Do
confirms the command	step 18
does not confirm the command	step 25

18 Synchronize the CM by typing

>SYNC

and pressing the Enter key.

Example of a MAP response:

```
The following cards have been reported as being replaced
since the last drop of synchronization.  Verify that
these cards truly reflect all hardware which has been
replaced before before continuing with the
synchronization attempt.

PLANE replacement has NOT been recorded.

Site Flr RPos  Bay-id  Shf  Description  Slot EqPEC
HOST  01  F02  DPCC:00  00  CPU  :00:0:0  19  9X10AA FRNT
HOST  01  F02  DPCC:00  01  PMC00:00:0:1  18  9X12AD FRNT
Please confirm (“YES”, “Y”, “NO” “N”)
```

If the response indicates	Do
synchronization was successful	step 26
anything else	step 25

19 To retrieve the MM112 and MM113 mismatch logs, type

>LOGUTIL

and press the Enter key.

20 Print all MM logs.

If the software load is	Do
BCS34 or earlier	step 22
BCS35 or later	step 21

CM MMnoSy major (end)

21 Retrieve the MMINFO associated with the MM logs by typing

```
>MMINFO ALL DECODE
```

and pressing the Enter key.

Go to step 24.

22 Print all MMINFO logs.

Go to step 24.

23 The MMnoSy alarm is associated with matcher transient mismatches. Print all MM logs.

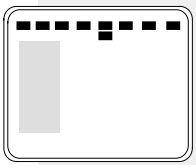
24 Send all log reports to the next level of support and proceed as directed.

25 For additional help, contact the next level of support.

26 The procedure is complete.

CM MMsync major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
MMSync M	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, MMSync appears under the CM header of the alarm banner. The MMSync indicates a major alarm for a fault mismatch.

Meaning

A fault mismatch occurred. An adjustable memory fault did not occur. Synchronization of the switch occurred again. In most occurrences, a hardware fault causes the mismatch. The next level of support must analyze the mismatch history.

A Series 60 burst mode write operation can cause a type of mismatch referred to as a matcher transient mismatch (MTM). The MMsync alarm threshold for MTMs is different than the threshold for other types of mismatches. For MTMs, the default threshold is 30 per da8y. This threshold can be reset to any value in the range of 10 to 50 using the MMSYNC SET command.

Result

The problem does not affect switch operation. The switch continues to operate in the synchronous mode.

Common procedures

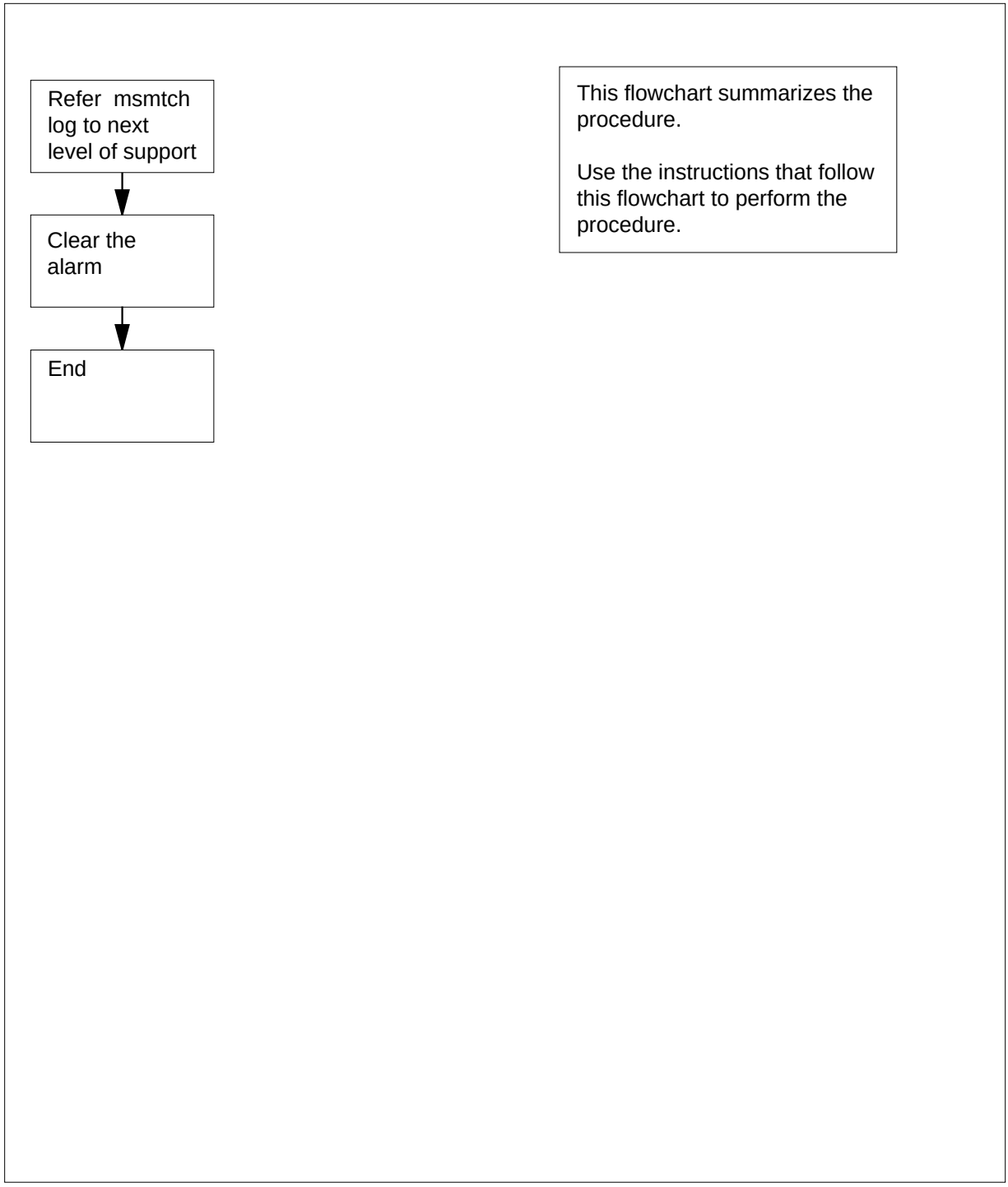
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM MMsync major (continued)

Summary of Clearing a CM MMsync major alarm



CM MMsync major (end)

Clearing a CM MMsync major alarm

At your current location

1 Notify the next level of support to perform direction analysis on the mismatch logs.

At the MAP display

2 To access the CM level of the MAP display, type

>MAPCI;MTC;CM

and press the Enter key.

Example of MAP display:

```
CM  Sync  Act  CPU0  CPU1  Jam  Memory  CMMnt  MC  PMC
 0   no   CPU1   .     .     .     .       .    .   .
```

3 To begin to clear the MMsync alarm, type

>CLRALARM MMsync

and press the Enter key.

Example of a MAP display:

```
The MMsync alarm will be cleared.
Do you wish to continue?
Please confirm (″YES″, ″Y″, ″NO″,
″N″):
```

4 To clear the MMsync alarm, type

>Y

and press the Enter key.

Example of a MAP display:

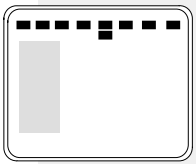
```
The MMsync alarm has been cleared.
```

Note: A generated CM176 log indicates that the alarm cleared.

5 The procedure is complete.

CM NoBrst minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
NoBrst	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, NoBrst appears under the computing module (CM) header of the alarm banner. At the CM level of the MAP display, noB appears in status fields for both central processing units (CPUs).

Meaning

The system disabled burst mode operation.

This alarm occurs for one of the following reasons:

- Synchronization of the (CM). The system always disables burst mode during the part of synchronization when the CM operates in memory update mode
- Synchronization of the CM by the command SYNC NOBURST
- Synchronization of the CM with the burst mode enabled on the active CPU. The CM does not have support on the inactive CPU

Note: The system may raise a NoBrst alarm during a recovery of a mismatch or a memory fault correctable (MFC) mismatch. The alarm clears when the recovery completes. Do not take action unless the alarm remains set after the recovery is complete.

Result

During periods of high call processing activity, call-start failures can occur.

Common procedures

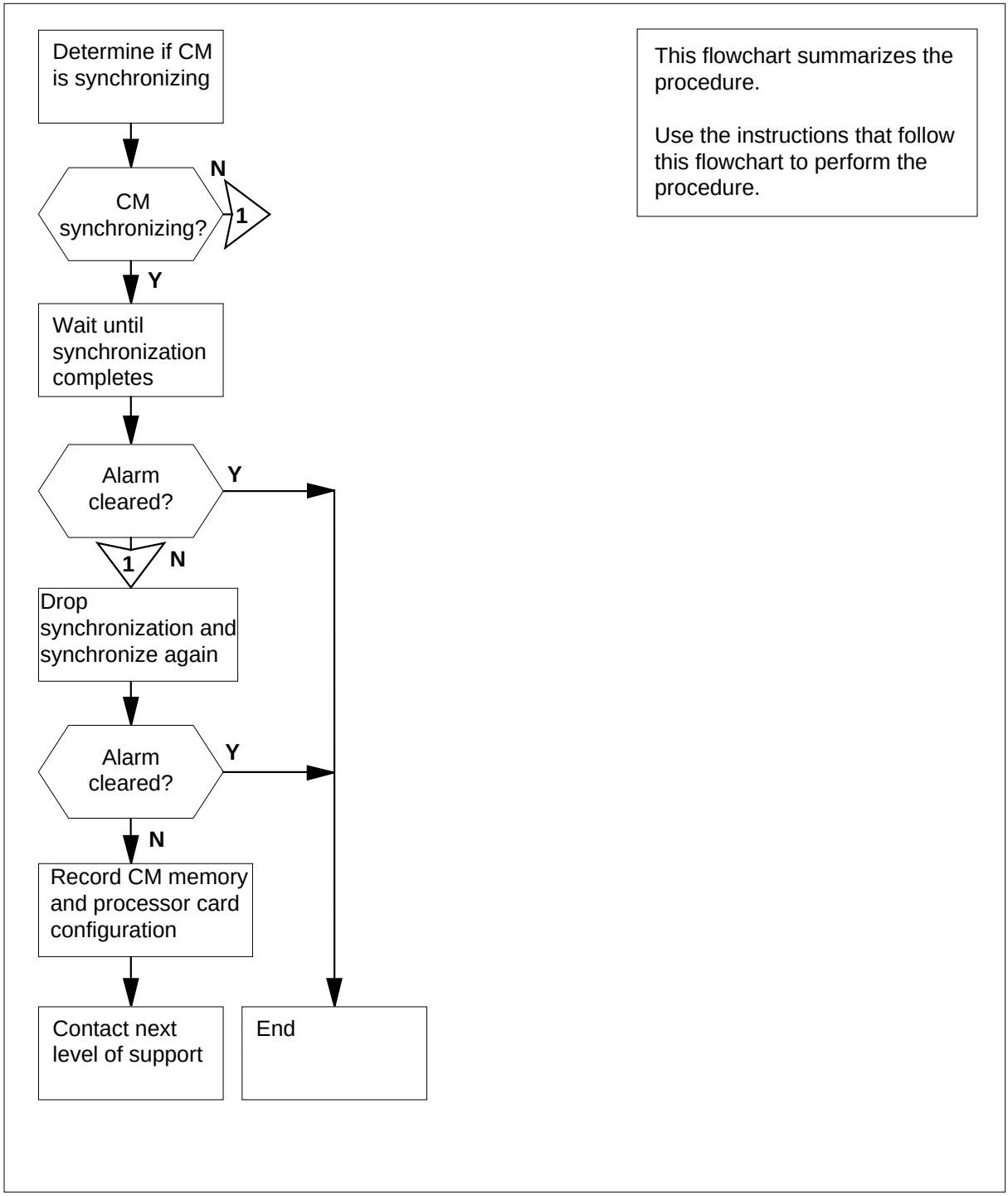
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM NoBrst
minor (continued)

Summary of Clearing a CM NoBrst mnor alarm



CM NoBrst
minor (continued)

Clearing a CM NoBrst minor alarm

At the MAP terminal

1 To access the CM level of the MAP display, type

`>MAPCI;MTC;CM`

and press the Enter key.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   no  cpu 1  ut     .  yes   .      .     .   .
```

2 Determine if the CM is in synchronization .

If the CM is in synchronization, the following status indicators appear in the alarm banner. The status indicators disappear as synchronization progresses:

- under test (ut) under the CPU0 or CPU1 header
- InStp under the CM header
- ut under the Memory header

If the CM	Do
is synchronizing	step 3
is not synchronizing	step 5

3 Wait until synchronization is complete. Determine if synchronization was successful.

Note: If synchronization is complete, a dot or EccOn appears under the Sync header. The response synchronization successful appears on the right of the command menu.

If the response	Do
indicates synchronization was successful	step 4
indicates synchronization failed	step 18
is other than listed here	step 18

4 Determine if the CM NoBrst minor alarm cleared.

If the alarm	Do
cleared	step 19
did not clear	step 6

CM NoBrst
minor (continued)

5 Determine if the CPUs are in sync.

Note: A dot or EccOn under the Sync header means that the CPUs are in sync. The word no means that the CPUs are not in sync.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0    .  cpu 1  noB   noB yes    .     .     .   .
```

If the CPUs	Do
are in sync	step 6
are not in sync	step 13

6 Determine if the inactive CPU jammed.

Note: The word yes under the Jam header means that the CPU jammed. The area is blank if the CPU did not jam.

If the inactive CPU	Do
jammed	step 9
did not jam	step 7

At the CM reset terminal for the inactive CPU

7

WARNING
Possible loss of service
Make sure that you do not jam the active CPU. If you jam the active CPU while the CM is not in sync, a cold restart occurs. The word Act on the top banner of the display identifies the reset terminal for the active CPU.

To jam the inactive CPU, type

>\JAM

and press the Enter key.

RTIF response:

```
PLEASE CONFIRM: (YES/NO)
```

8 To confirm the command, type

>YES

and press the Enter key.

RTIF response:

```
JAM DONE
```

At the MAP display

9 To drop synchronization, type

>DPSYNC

and press the Enter key.

If the response	Do
is About to drop sync with CPU n active. The inactive CPU is JAMMED. Do you want to continue. Please confirm ("YES", "Y", "NO", or "N"):	step 10
is other than listed here	step 18

10 To confirm the command, type

>YES

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Running in simplex mode with active CPU n.
```

At the CM reset terminal for the inactive CPU

11 Wait until A1 flashes on the reset terminal for the inactive CPU.

Note: Wait 5 min for A1 to flash.

If A1	Do
flashes	step 12
does not flash	step 18

12 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

```
RELEASE JAM DONE.
```

CM NoBrst
minor (continued)

13 To synchronize the CM, type

>SYNC

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command was successful	step 15
indicates the CPUs are not in sync as a result of a problem with mismatches. Analyze the mismatch logs before you synchronize the logs again. Do you wish to continue? Please Confirm ("YES", "Y", or "NO", "N") (SN/ SNSE series 70 only)	step 14
is other than listed here	step 18

14 (SN/ SNSE series 70 only)

To deny the action, type

>NO

and press the Enter key.

Go to step18.

15 Determine if the CM NoBrst minor alarm cleared.

If the alarm	Do
cleared	step 19
did not clear	step 16

16 Record the product engineering code (PEC) suffixes of the memory cards on both CM planes.

Note 1: For DMS SuperNode, memory cards have an NT9X14 PEC. These memory cards are in slots 7F to 16F in CM 0 and slots 23F to 32F in CM 1.

Note 2: For DMS SuperNode SE, memory cards have an NT9X14 PEC. These memory cards are in slots 12F to 16F in CM 0 and slots 23F to 27F in CM 1.

CM NoBrst minor (end)

Note 3: Locate the PEC and suffix at the top of the card faceplate.

17 Record the release code of the processor cards in both CM planes.

Note 1: Processor cards have an NT9X10 PEC. These processor cards are in slot 19F in CM 0 and slot 20F in CM 1.

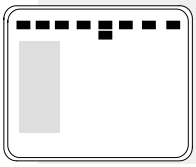
Note 2: Locate the release code on the bottom of the card faceplate.

18 For additional help, contact the next level of support.

19 The procedure is complete.

CM NoOvr minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
NoOvr	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, NoOvr appears under the computing module (CM) header of the alarm banner. The NoOvr indicates a no handshake-override minor alarm.

Meaning

The switch runs in sync without handshake-override capability.

Result

The central processing unit (CPU) runs 3% to 5% slower. A minor effect on call processing can occur during a period of high traffic.

Common procedures

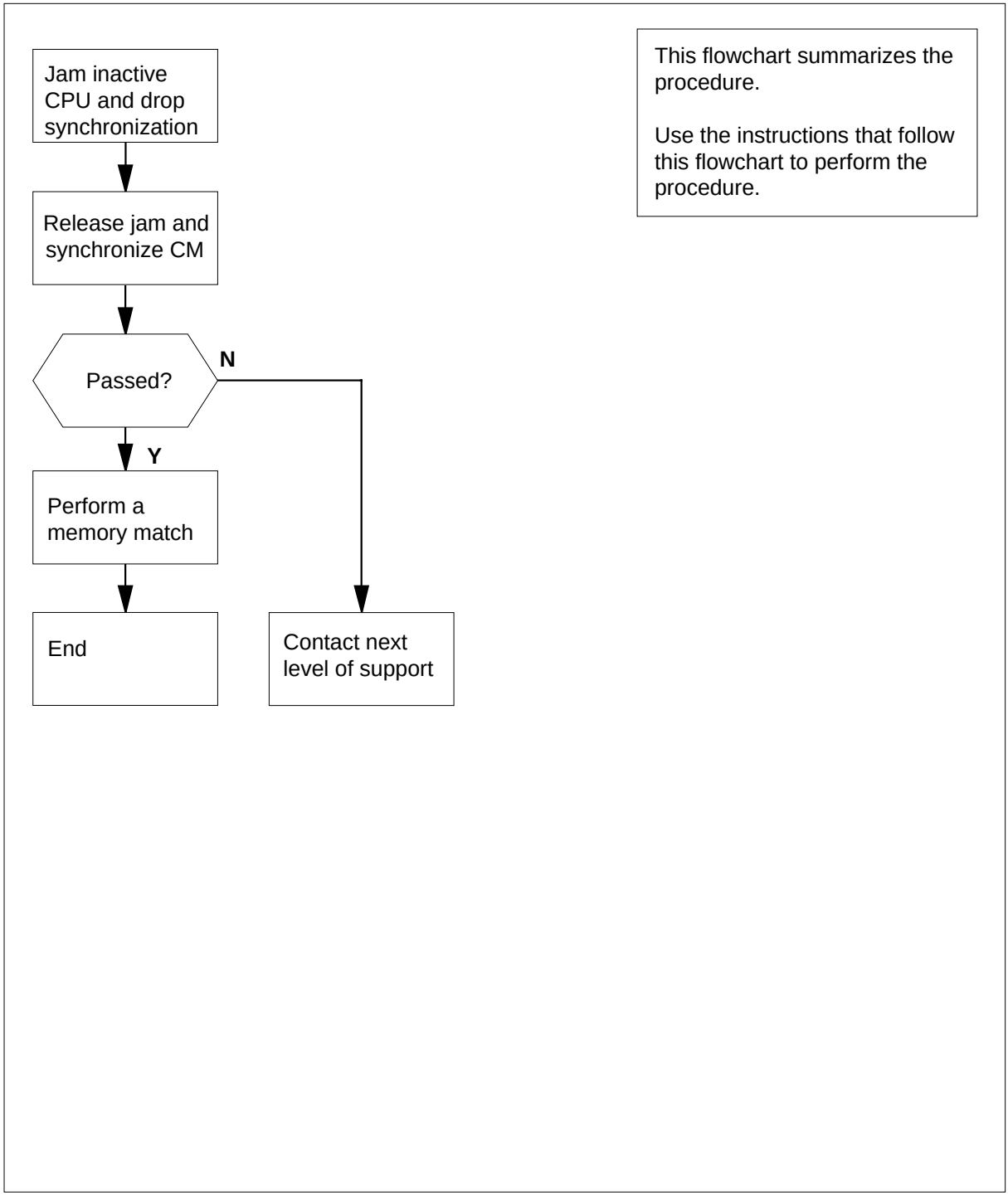
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM NoOvr minor (continued)

Summary of Clearing a CM NoOvr minor alarm



CM NoOvr
minor (continued)

Clearing a CM NoOvr minor alarm

At the MAP terminal

1 To access the CM level of the MAP display, type

>MAPCI;MTC;CM

and press the Enter key.

Example of a MAP display:

```
 CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
  0    .  CPU 1   .     .          .     .     .   .
```

2 Determine if the inactive CPU jammed.

Note: The word yes under the Jam header means that the CPU jammed. The area is blank if the CPU did not jam.

If the inactive CPU	Do
jammed	step 5
did not jam	step 3

At the CM reset terminal for the inactive CPU

3 To jam the inactive CPU, type

>\JAM

and press the Enter key.

RTIF response:

```
Please confirm: (YES/NO)
```

4 To confirm the command, type

>YES

and press the Enter key.

RTIF response:

```
JAM DONE
```

CM NoOvr
minor (continued)

At the MAP terminal

5 To drop synchronization, type

>DPSYNC

and press the Enter key.

If the response	Do
is About to drop sync withCPU n active.The inactive CPU is JAMMED. Do you want to continue? Please confirm ("YES", "Y", "NO", or "N"):	step 6
is other than listed here	step 20

6 To confirm the command, type

>YES

and press the Enter key.

At the CM reset terminal for the inactive CPU

7 Wait until A1 flashes on the reset terminal for the inactive CPU.

Note: Wait 5 min for A1 to flash.

If A1	Do
flashes	step 8
does not flash	step 20

8 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

```
JAM RELEASE DONE
```

At the MAP terminal

9 To synchronize the CM, type

>SYNC

and press the Enter key.

RTIF response:

CM NoOvr
minor (continued)

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command was successful	step 11
indicates the CPUs are not in sync as a result of a problem with mismatches. Analyze the mismatch logs before you synchronize the logs again. Do you wish to continue? Please Confirm("YES", "Y", or "NO", "N") (SN/ SNSE series 70 only)	step10
is other than listed here	step 20

10 (SN/ SNSE series 70 only)

To deny the action, type

>NO

and press the Enter key.

Go to step 20.

11 To access the memory level of the MAP display, type

>MEMORY

and press the Enter key.

Example of a MAP display for DMS SuperNode:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0    .  cpu 1   .     .         .     .    .   .

CM 0
  1  Plane 0  C | C   Plane 1 1
  0987654321  P | P  1234567890
  ..........  U | U  ..........

MEMORY:
```

Example of DMS SuperNode SE MAP display:

CM NoOvr
minor (continued)

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0    .  cpu 1   .     .         .     .    .   .

CM 0
     Plane 0  C | C  Plane 1
       54321  P | P  12345
       .....  U | U  .....

MEMORY:
```

12 To match the memories of the CPUs, type

>MATCH ALL

and press the Enter key.

Example of a MAP response:

```
Matching memory between CPUs in sync.
Match ok.
```

If the response	Do
is Match ok	step 13
is other than listed here	step 20

13 To access the command interpreter (CI) level of the MAP display, type

>QUIT ALL

and press the Enter key.

14 To access the log utility, type

>LOGUTIL

and press the Enter key.

15 To determine if the system generated an MM100 log report by the memory match, type

>OPEN MM 100

and press the Enter key.

Note: If the system did not generate a log report, the response is Log empty.

If the response	Do
is `Log empty`	step 16
is other than listed here	step 20

CM NoOvr minor (end)

16 To determine if the system generated an MM101 log report by the memory match, type

>OPEN MM 101

and press the Enter key.

If the response	Do
is Log empty	step 17
is other than listed here	step 20

17 To quit the log utility, type

>QUIT

and press the Enter key.

18 Determine if the NoOvr minor alarm cleared.

If the alarm	Do
cleared	step 21
changed to another alarm	step 19
did not clear	step 20

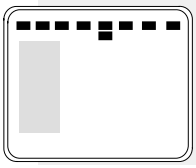
19 Perform the correct alarm clearing procedure in this document.

20 For additional help, contact the next level of support.

21 The procedure is complete.

CM NoSYNC major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
NoSYNC M	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, NoSYNC appears under the CM header of the alarm banner. The NoSYNC indicates a major alarm for no synchronization.

Meaning

Synchronization of the pair of central processing units (CPUs) on the computing module (CM) does not occur. In most occurrences, operating company personnel drop synchronization. If synchronization drops automatically, a more important alarm can bypass the NoSYNC alarm.

Result

The problem does not affect subscriber service. A fault can occur on the active side and the switch can attempt to switch activity between the CPUs. If a fault occurs and the switch affects activity between the CPUs, a cold restart occurs. Calls in progress terminate.

Common procedures

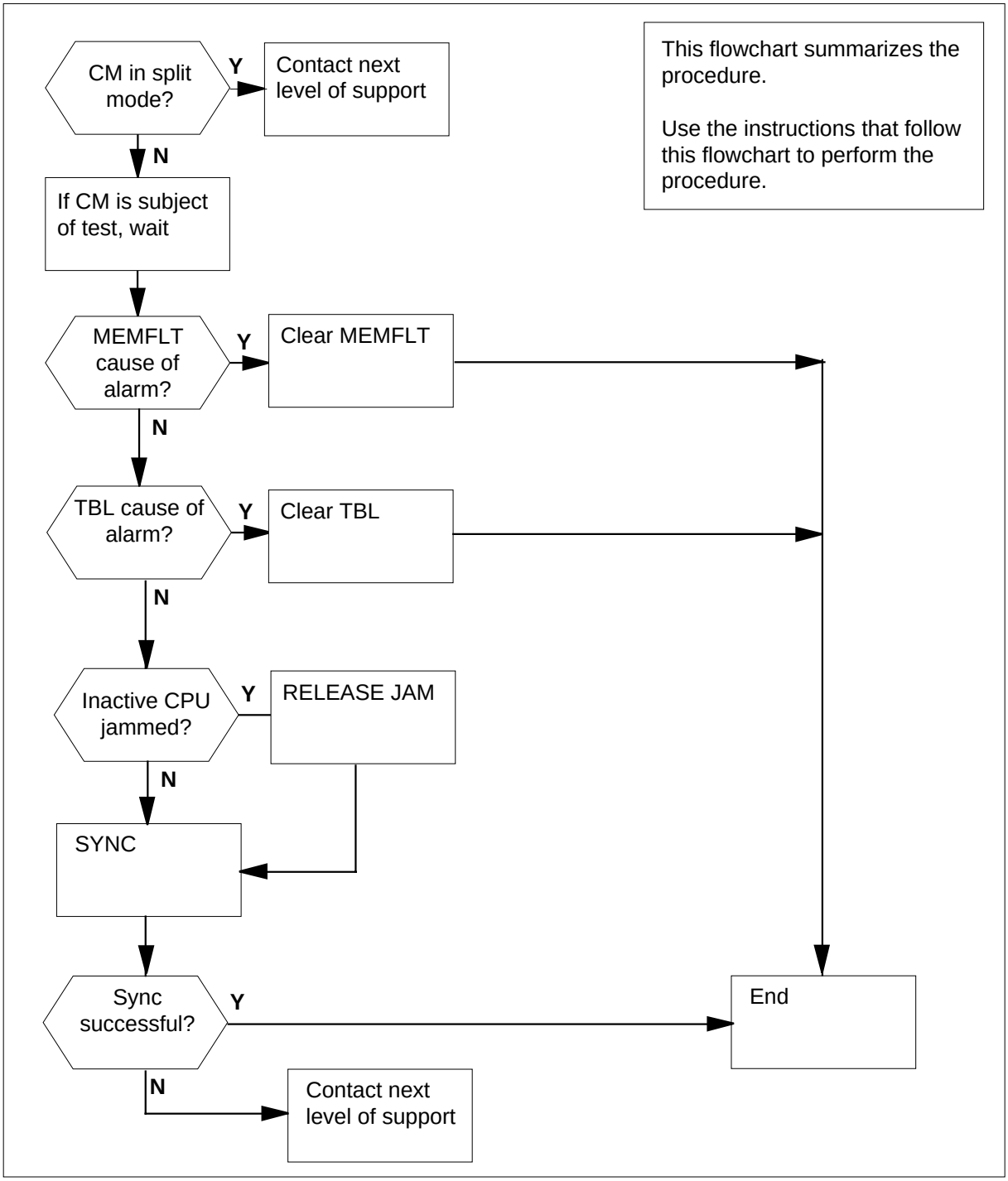
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM NoSYNC
major (continued)

Summary of Clearing a CM NoSYNC major alarm



Clearing a CM NoSYNC major alarm

At the MAP terminal

1 To access the CM level of the MAP display, type

>MAPCI;MTC;CM

and press the Enter key.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   no  CPU 1   .     .         .     .     .   .
```

2

WARNING
Possible loss of service
If the CM is in SPLIT mode do not try to synchronize. Synchronization of the CM causes the CM to drop the split mode and return to sync. This synchronization disrupts all other activity that occurs at the time.

Determine if the CM runs in split mode.

Note: If the CM runs in split mode, the word split appears under the Sync header of the MAP display.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   split  CPU 1   .     .         .     .     .   .
```

If the CM	Do
runs in split mode	step 12
does not run in split mode	step 3

3 Determine if the CM is the subject of tests.

If the CM is the subject of tests, ut appears under the following MAP display headers:

- CPU0
- CPU1
- Memory
- MC

CM NoSYNC
major (continued)

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   no  CPU 1   ut     .         .     .     .   .
```

If the CM	Do
is the subject of tests	step 4
is not the subject of tests	step 5

4 Complete the tests. Continue the procedure.

Note: The removal of the ut status indicator occurs when the tests are complete.

5 Determine the type of fault that causes the alarm.

Note: The fault indicator appears under the Memory and MC headers of the MAP display.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   no  CPU 1        .         flt     .     .   .
```

If	Do
`.` (dot) appears under the Memory and MC headers	step 8
`flt` appears under the Memory header.	step 6
`tbl` appears under the MC header	step 7

6 Memory faults cause the CM to drop synchronization. Perform the procedure *Clearing a CM MemFlt minor alarm* in this document. Complete the procedure. Go to step 13.

7 MC faults cause the CM to drop synchronization. Perform the procedure *Clearing a CM MC Tbl minor alarm* described in this document. Complete the procedure. Go to step 13.

8 Determine if the inactive CPU jammed.

Note: The word yes under the Jam header means that the CPU jammed. The area is blank if the CPU did not jam.

Example of a MAP display:

CM NoSYNC
major (continued)

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   no  CPU 1   .     .   yes    .     .     .   .
```

If the inactive CPU	Do
jammed	step 9
did not jam	step 10

At the CM reset terminal for the inactive CPU

9 To release the jam on the inactive CPU, type

>RELEASE JAM

and press the Enter key.

RTIF response:

```
JAM RELEASE DONE
```

At the MAP terminal

10 To synchronize the CM , type

>SYNC

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command was successful	step 13
indicates the CPUs are out of sync as a result of a problem with mismatches. Analyze the mismatch logs before you synchronize the logs again. Do you wish to continue? Please confirm ("YES", "Y", or "NO", "N") (SN/SNSE Series 70 only)	step 11
is other than listed here	step 12

11 (SN/SNSE Series 70 only)

To deny the action, type

>NO

CM NoSYNC
major (end)

and press the Enter key.

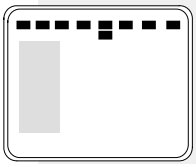
Go to step12.

12 For additional help, contact the next level of support to determine why the CM runs in split mode.

13 The procedure is complete.

CM NoTOD critical

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
NoTOD	.	.	.	.	.	.	.	.	.
C									

Indication

At the MTC level of the MAP display, NoTOD appears under the CM header of the alarm banner. The NoTOD indicates a no time-of-day critical alarm.

Meaning

An accurate time of day is not present. The system detected faults on all time-of-day clocks. Loss of real-time value occurred. The system set the clocks to zero.

Result

The switch needs time-of-day clocks to record billing information (automatic message accounting) and log reports.

Common procedures

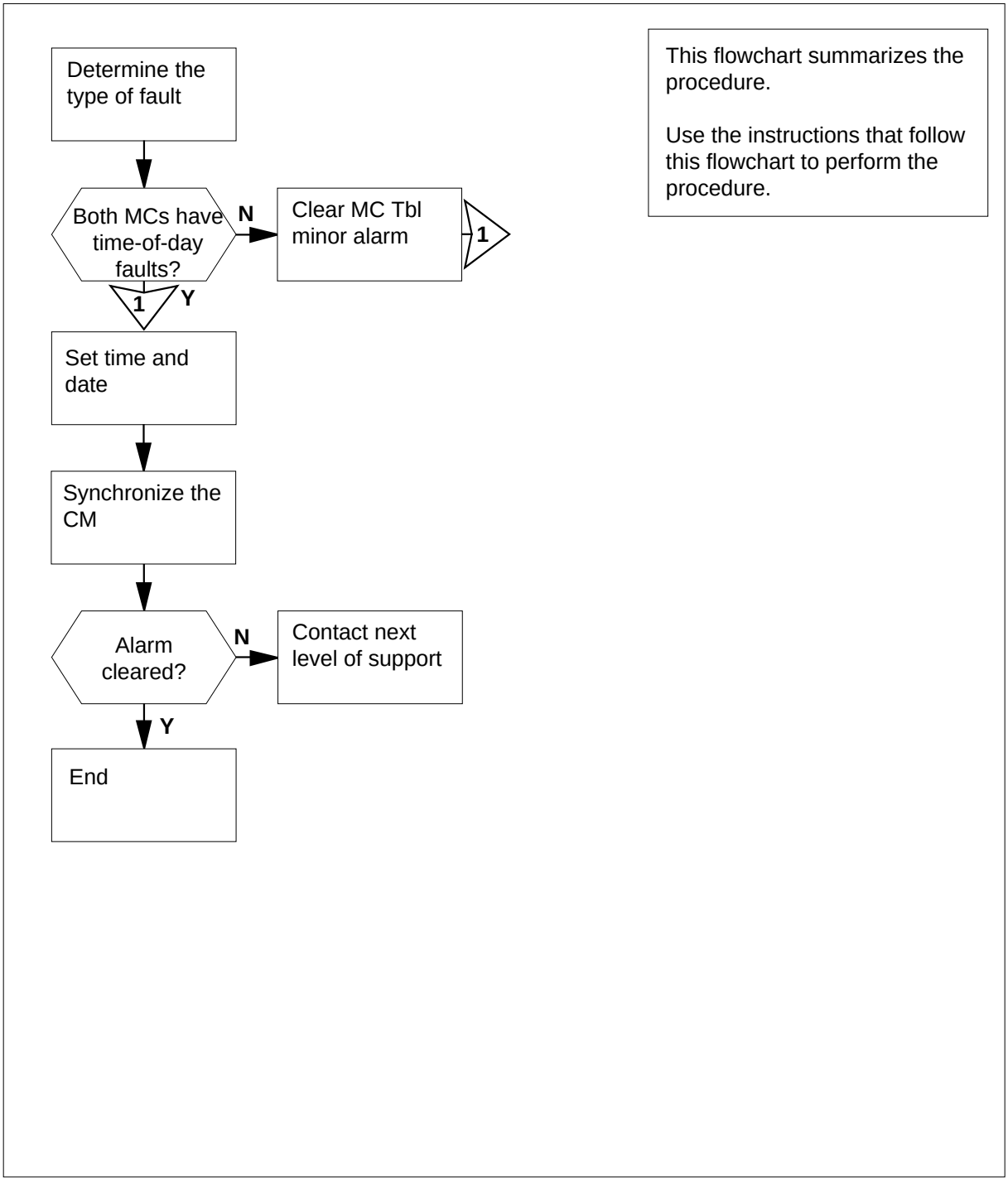
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM NoTOD critical (continued)

Summary of Clearing a CM NoTOD critical alarm



CM NoTOD
critical (continued)

Clearing a CM NoTOD critical alarm

At the MAP terminal

1 To access the message controller (MC) level of the MAP display, type

>MAPCI;MTC;CM;MC

and press the Enter key.

Example of a MAP display:

```
CM 0
 MC 0     MC 1
   .      todf
```

2 Determine the type of fault that caused the alarm.

Note: The type of fault appears under the MC 0 and MC 1 headers of the MAP display. In the example in step 1, a time-of-day fault (todf) appears under the MC1 header.

If	Do
one MC is `istb`	step 3
one MC is `todf`	step 3
both MCs are `todf`	step 4

3 Perform the procedure *Clearing a CM MC Tbl minor alarm* in this document. Complete the procedure and return to this point.

4 To set the date, type

>SETDATE dd mm yyyy

and press the Enter key

where

dd
is the day (01 to 31)

mm
is the month (01 to 12)

yyyy
is the year

Example input:

>SETDATE 15 10 1996

Example of a MAP response:

CM NoTOD
critical (continued)

```
setdate  15 10 1996
Warning:    There is an automated TOD clock change
            request scheduled on:
            1996/10/30 at 1:00 (see table DSTTABLE).
            Do you want to proceed with this request?
            Please confirm (”YES”, ”Y”, ”NO”, or ”N”):
```

5 To confirm the command, type

>Y

and press the Enter key.

Example of a MAP response:

```
Date is THU.  15/OCT/1996  00:00:00
```

6 To use the 24-h clock and set the time, type

>SETTIME hh mm

and press the Enter key

where

hh
is the hour (00 to 23)

mm
is the minute (00 to 59)

Example input:

>SETTIME 03 09

Example of a MAP response:

```
Warning:    There is an automated TOD clock change
            request scheduled on:
            1996/10/30 at 1:00 (see table DSTTABLE).
            Do you want to proceed with this request?
            Please confirm (”YES”, ”Y”, ”NO”, or ”N”):
```

7 To confirm the command, type

>Y

and press the Enter key.

Example of a MAP response:

```
Time is 03:09:00 on TUE. 1996/10/15.
```

8 To access the CM level of the MAP display, type

>CM

and press the Enter key.

CM NoTOD
critical (continued)

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   no   cpu 1  .     .  yes    .     .     .   .
```

9 Determine if the inactive CPU jammed.

Note: The word yes under the Jam header means that the inactive CPU jammed. The area is blank if the CPU did not jam.

If the inactive CPU	Do
jammed	step 10
did not jam	step 11

At the CM reset terminal for the inactive CPU

10 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

```
RELEASE JAM DONE
```

At the MAP terminal

11 Determine if the CM is in sync.

Note: A dot or EccOn under the Sync header means that the CM is in sync. The word no means the CM is not in sync.

If the CM	Do
is in sync	step 14
is not in sync	step 12

12 To synchronize the CM, type

>SYNC

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command was successful	step 14

CM NoTOD
critical (continued)

If the response	Do
is `The CPUs are out of sync due to a problem with mismatches. Do you wish to continue? Please confirm("YES", "Y", "NO", "N"` (Applies to SuperNode or SuperNode SE Series 70 only)	step 13
is other than listed here	step 19

13 To deny the action, type

`>NO`

and press the Enter key.

Note: This step applies to SuperNode or SuperNode SE Series 70 only.

Go to step 18.

14 Determine if the NoTOD critical alarm cleared.

If the alarm	Do
cleared	step 17
changed to another alarm	step 15
did not clear	step 19

15 Perform the correct alarm clearing procedure in this document. Complete the procedure, and return to this point.

16 The next step depends on the use of table DSTTABLE.

Note: The MAP response that indicates the use of table DSTTABLE appears in step 4.

If table DSTTABLE	Do
is in use	step 17
is not in use	step 20

CM NoTOD critical (end)

17 Make sure that conflicts do not exist between the SETDATE and SETTIME command entries and the entry in table DSTTABLE.

Note: The warning message indicates a possible problem with an entry in table DSTTABLE. The message appears when an entry that did not expire is in the table when you use SETDATE or SETTIME commands.

If a conflict	Do
occurs with an entry in DSTTABLE	step 19
does not occur with an entry in DSTTABLE	step 20

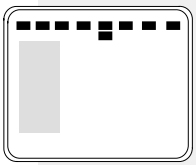
18 Collect mismatch logs and contact the next level of support.

19 For additional help, contact the next level of support.

20 The procedure is complete.

CM PMCFlt major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
PMCFlt M	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, PMCFlt appears under the CM header of the alarm banner. The PMCFlt indicates a major alarm for the peripheral module controller fault.

Meaning

The two ports of the peripheral module controller (PMC) are out of service. The ports are in one of the following states:

- P-side busy (The associated system load module is [SLM] out of service.)
- manual busy
- system busy (hard fault)

Result

The computing module (CM) cannot access either SLM.

The problem does not affect subscriber service. If a fault occurs, the switch cannot access the CM and MS files in order for the switch to recover. The CM and MS files are on the SLMs.

Common procedures

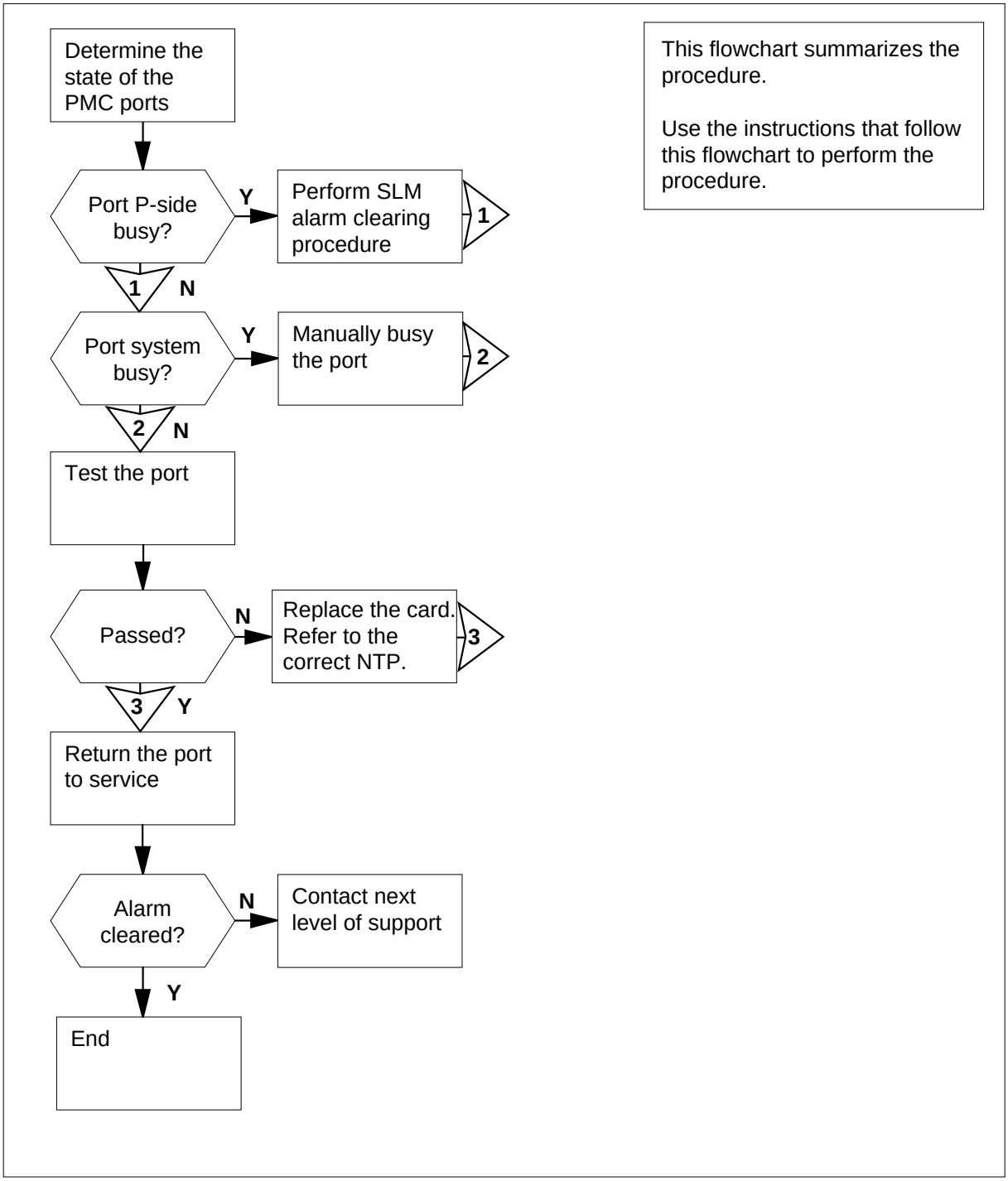
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM PMCFlt
major (continued)

Summary of How to clear a CM PMCFlt major alarm



CM PMCFlt
major (continued)

How to clear a CM PMCFlt major alarm

At the MAP terminal

1 To access the PMC level of the MAP display, type

>MAPCI;MTC;CM;PMC

and press the Enter key.

Example of a MAP display:

```
     PMC 0
     sbsy

PORT0: pbsy
PORT1: sbsy
```

2 Determine the state of the PMC ports.

Note: The state of the PMC ports appears on the right of the PORT0 and PORT1 headers on the MAP display.

If the state of either port	Do
is sbsy	step 5
is pbsy	step 3
is mbsy	step 4

3 The SLM that connects to the P-side busy port is out of service. Perform the correct alarm clearing procedure for an input/output device (IOD) SLM. Complete the procedure and return to this point.

Go to step 1.

4 Consult office records or operating company personnel. Determine the reason for the removal of the manual busy port from service. When you have permission, continue with the procedure.

Go to step 1.

5 To manually busy the system busy PMC port, type

>BSY 0 PORT port_number

and press the Enter key

where

CM PMCFlt
major (continued)

port_number
is the number of the system busy PMC port (0 or 1)

If the BSY command	Do
passed	step 6
failed	step 35

6 Determine the state of the PMC.

Note: The state of the PMC appears under the PMC header of the MAP display.

If the state of the PMC	Do
is sbsy	step 7
is other than listed here	step 13

7 Obtain a duplicate of CM133 log reports generated during the past hour.

8 Determine the reason that the PMC is in the system busy state.

Note: The reason for the system busy state of the PMC appears in the reason text of the CM133 log report.

If the reason for the system busy state of the PMC	Do
is A stuck hardware fault was detected	step 9
is other than listed here	step 13

9 Obtain a duplicate of any CM140 and CM152 log reports that the system generated during the past hour.

10 To replace the first card on the list in the CM152 log report, perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

Note 1: When both planes have a stuck hardware fault, a peripheral interrupt mismatch does not occur. When both planes have a stuck hardware fault, the system also does not generate a CM152 log report. If the system does not generate a CM152 log report, identify the card that has faults. To identify the card that has faults, use the information in the CM 140 log report.

Note 2: The CM140 log report identifies the affected PMC and link. The CM152 log report contains a list of cards that can require replacement.

11 To test the PMC port that you busied in step 5, type

```
>TST 0 PORT port_number
```

and press the Enter key

CM PMCFlt
major (continued)

where

port_number
is the number of the manual busy PMC port (0 or 1)

If the TST command	Do
passed	step 18
failed, the system generated a card list, and you did not replace all cards on the list in the CM152 log report.	step 12
failed, the system generated a card list, and you replaced all cards on the list in the CM152 log report.	step 35

12 To replace the next card on the list in the CM152 log report, perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

Go to step 11.

13 To test the manual busy PMC port, type

>TST 0 PORT port_number

and press the Enter key

where

port_number
is the number of the manual busy PMC port (0 or 1)

If the TST command	Do
passed	step 18
failed, and the system generated a card list	step 14

14 Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

15 Perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

16 To test the manual busy PMC port, type

>TST 0 PORT port_number

and press the Enter key

where

port_number
is the number of the manual busy PMC port (0 or 1)

If the TST command	Do
passed	step 18
failed, and you did not replace all cards on the list	step 17
failed, and you replaced all cards on the list	step 35

17 Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 15.

18 To return the PMC port to service, type

```
>RTS  0  PORT  port_number
```

and press the Enter key

where

port_number
is the number of the PMC port that you busied in step 5 (0 or 1)

If the RTS command	Do
passed	step 19
failed	step 35

19 Determine the state of the other PMC port.

If the state of the other PMC port	Do
is pbsy	step 3
is mbsy	step 4
is sbsy	step 5
is insv	step 20

20 To access the MC level of the MAP display, type

```
>MC
```

and press the Enter key.

Example of a MAP display:

CM PMCFlt
major (continued)

```
CM 0
 MC 0    MC 1
 mbsy      .
```

21 Determine if the message controller (MC) is manual busy.

Note: The state of the MC appears under the MC 0 and MC 1 headers.

If the state of the MC	Do
is `mbsy`	step 22
is not `mbsy`	step 23

22 To return the manual busy MC to service, type

`>RTS  mc_number`

and press the Enter key

where

mc_number
is the number of the manual busy MC (0 or 1)

Example of a MAP response:

```
Maintenance action submitted.
MC RTS OK.
```

If the RTS command	Do
passed	step 23
failed	step 35

23 To access the CM level of the MAP display, type

`>CM`

and press the Enter key.

24 Determine that the inactive CPU plane turned off.

If the inactive CPU plane	Do
turned off	step 25
did not turn off	step 27

25 To test the inactive CPU, type

`>TST`

and press the Enter key.

Example of a MAP response:

```
The test(s) listed below will destroy
the software load in inactive CPU:

    Static RAM test

Do you want to do the test(s) anyway?
Please confirm: (”YES”, ”Y”, ”NO”, or ”N”):
```

26 To confirm the command, type

>YES

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Test passed.
```

If the TST command	Do
passed	step 27
failed	step 35

27 Determine if the inactive CPU jammed.

Note: The word yes under the Jam header means that the CPU jammed. The area is blank if the CPU did not jam.

If the inactive CPU	Do
jammed	step 28
did not jam	step 29

At the CM reset terminal for the inactive CPU

28 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

```
JAM RELEASE DONE
```

CM PMCFlt
major (continued)

At the MAP terminal

29 Determine if the CM is in synchronization.

Note: A dot or EccOn under the Sync header means that the CM is in synchronization. The word no means that the CM is not in synchronization.

If the CM	Do
is in synchronization	step 31
is not in synchronization	step 30

30 To synchronize the CM, type

>SYNC

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Synchronization successful.
```

If the SYNC command	Do
was successful	step 31
was not successful	step 35

31 To access the PMC level of the MAP display, type

>MAPCI;MTC;CM;PMC

and press the Enter key.

32 Determine if the PMC ports are in service.

Note: The state of the PMC ports appears in the PORT0 and PORT1 fields, under the PMC 0 header. A dot means the port is in service.

If	Do
all PMC ports are in service	step 33
a minimum of one PMC port is not in service	step 2

33 Determine if the PMCFlt major alarm cleared.

If the PMCFlt major alarm	Do
cleared	step 36
changed to another alarm	step 34

CM PMCFlt major (end)

If the PMCFlt major alarm	Do
did not clear	step 35

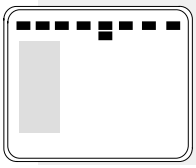
34 Perform the correct alarm clearing procedure in this document.

35 For additional help, contact the next level of support.

36 The procedure is complete.

CM PMCTbl minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
PMCTbl	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, PMCTbl appears under the computing module (CM) header of the alarm banner. The PMCTbl indicates a minor alarm for a peripheral message controller problem.

Meaning

A peripheral message controller (PMC) is in-service trouble because a PMC port is in one of the following states:

- P-side busy (The associated system load module [SLM] is out of service.)
- manual busy
- system busy (hard fault)

Result

The CM cannot access an SLM. The problem does not affect subscriber service.

Common procedures

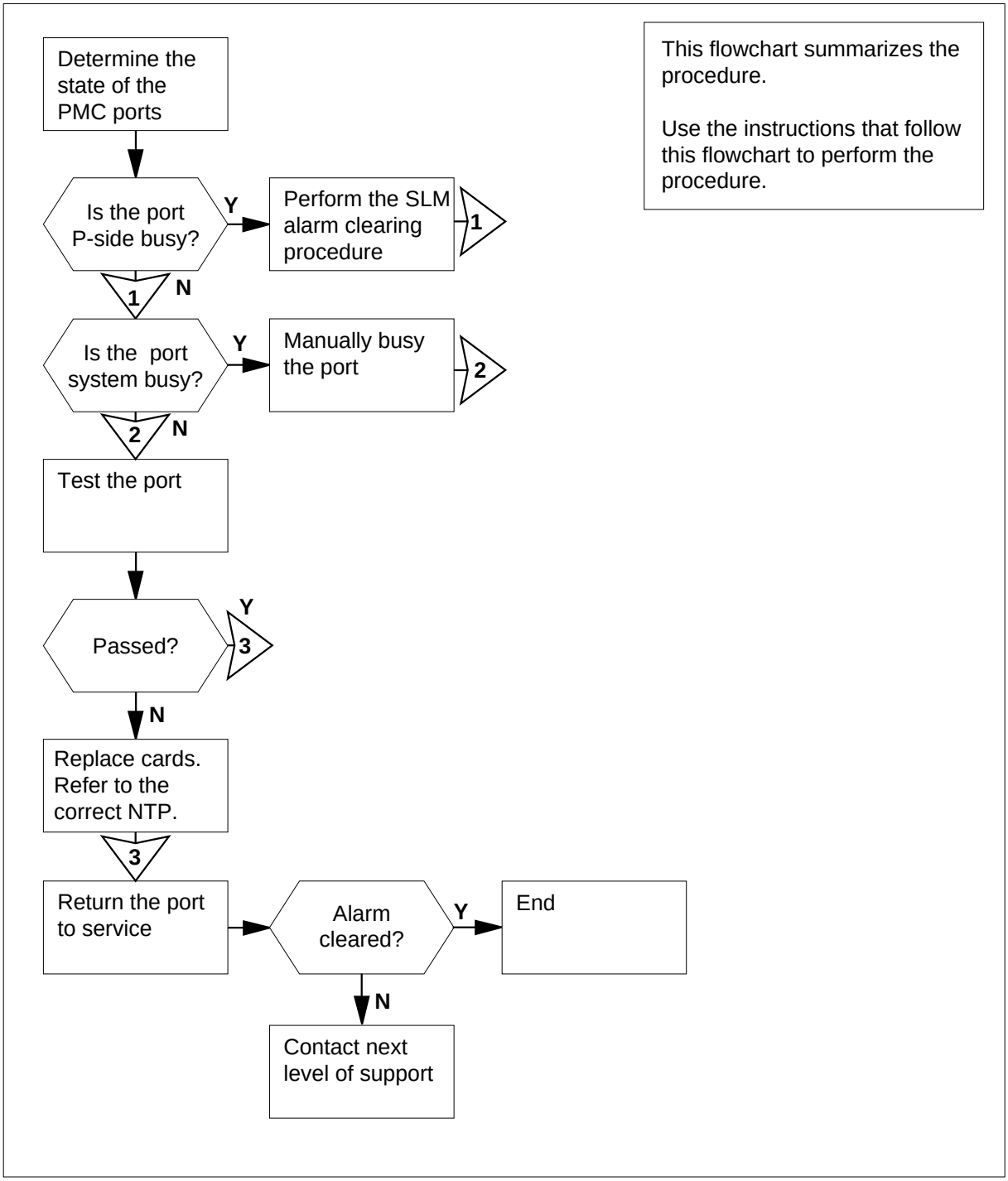
There are no common procedures.

Action

This procedure has a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM PMCTbl minor (continued)

Summary of How to clear a CM PMCTbl minor alarm



CM PMCTbl
minor (continued)

How to clear a CM PMCTbl minor alarm

At the MAP terminal

1 To access the PMC level of the MAP display, type

>MAPCI;MTC;CM;PMC

and press the Enter key.

Example of a MAP display:

```
    PMC 0
    istb

PORT0:  .
PORT1: sbsy
```

2 Determine the state of the PMC ports.

Note: The state of the PMC ports appears on the right of the PORT0 and PORT1 headers on the MAP display.

If the state of either port	Do
is pbsy	step 3
is mbsy	step 4
is sbsy	step 5

3 The SLM that connects to the P-side busy port is out of service. Perform the correct alarm clearing procedure for the input/output device (IOD) SLM. Complete the procedure and return to this point.

Go to step 1.

4 Consult office records or operating company personnel. Determine the reason for the removal of the manual busy port from service. When you have permission, continue this procedure.

Go to step 1.

5 To manually busy the system busy PMC port, type

>BSY 0 PORT port_number

and press the Enter key.

where

CM PMCTbl
minor (continued)

port_number
is the number of the system busy PMC port (0 or 1)

If the BSY command	Do
passed	step 6
failed	step 32

6 Obtain copies of CM137 log reports generated during the past hour.

7 Determine the cause of the system busy state of the PMC port.

Note: The reason for the system busy state of the PMC port appears in the reason text of the CM137 log report.

If the reason for the system busy state of the PMC	Do
is `A stuck hardware fault was detected`	step 8
is other than listed here	step 12

8 Obtain a duplicate of any CM140 and CM152 log reports generated during the past hour.

9 Replace the first card on the list in the CM152 log report. Perform the correct card replacement procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

Note 1: A peripheral interrupt mismatch does not occur when a stuck hardware fault occurs on both planes. The system does not generate a CM152 log report when a stuck hardware fault occurs on both planes. If the system does not generate a CM152 log report, identify the card that has faults. To identify the card that has faults, use the information in the CM140 log report.

Note 2: The CM140 log report identifies the affected PMC and link. The CM152 log report contains a list of cards that can require replacement.

10 To test the PMC port that you busied in step 5, type

```
>TST 0 PORT port_number
```

and press the Enter key.

where

port_number
is the number of the manual busy PMC port (0 or 1)

If the TST command	Do
passed	step 17

CM PMCTbl
minor (continued)

If the TST command	Do
failed, the system generated a card list, and you did not replace all cards on the list in the CM152 log report	step 11
failed, the system generated a card list, and you replaced all cards on the list in the CM152 log report	step 32

11 Replace the next card on the list in the CM152 log report. Perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

Go to step 10.

12 To test the manual busy PMC port, type

`>TST 0 PORT port_number`

and press the Enter key.

where

port_number
is the number of the manual busy PMC port (0 or 1)

If the TST command	Do
passed	step 17
failed, and the system generated a card list	step 13

13 Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

14 Perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

15 To test the manual busy PMC port, type

`>TST 0 PORT port_number`

and press the Enter key.

where

port_number
is the number of the manual busy PMC port (0 or 1)

If the TST command	Do
passed	step 17
failed, and you did not replace all cards on the list	step 16

CM PMCTbl
minor (continued)

If the TST command	Do
failed, and you replaced cards on the list	step 32

16 Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 14.

17 To return the manual busy PMC port to service, type

`>RTS 0 PORT port_number`

and press the Enter key.

where

port_number
is the number of the manual busy PMC port (0 or 1)

If the RTS command	Do
passed	step 18
failed	step 32

18 To access the MC level of the MAP display, type

`>MC`

and press the Enter key.

Example of a MAP display:

```
CM 0
 MC 0    MC 1
 mbsy      .
```

19 Determine if the message controller (MC) is manual busy.

Note: The term mbsy under the MC header means that the MC is manual busy.

If the state of the MC	Do
Text CharFormat="Mono">is mbsy Text>	step 20
is not `mbsy`	step 21

20 To return the manual busy MC to service, type

`>RTS mc_number`

and press the Enter key.

where

CM PMCTbl
minor (continued)

mc_number
is the number of the manual busy MC (0 or 1)

Example of a MAP response:

```
Maintenance action submitted.
MC RTS OK.
```

If the RTS command	Do
passed	step 21
failed	step 32

21 To access the CM level of the MAP display, type

>CM

and press the Enter key.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   no  cpu 1   .     .  yes    .     .     .
```

22 Determine if the inactive CM plane powered down.

If the inactive CM plane	Do
powered down	step 23
did not power down	step 25

23 To test the inactive CPU, type

>TST

and press the Enter key.

Example of a MAP response:

```
The test(s) listed below will destroy
the software load in inactive CPU:

    Static RAM test

Do you want to do the test(s) anyway?
Please confirm: (”YES”, ”Y”, ”NO”, or ”N”):
```

24 To confirm the command, type

>YES

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Test passed.
```

If the TST command	Do
passed	step 25
is other than listed here	step 32

25 Determine if the inactive CPU jammed.

Note: The word yes under the Jam header means that the inactive CPU jammed. The area is blank if the CPU did not jam.

If the inactive CPU	Do
jammed	step 26
did not jam	step 27

At the CM reset terminal for the inactive CPU

26 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

```
JAM RELEASE DONE
```

At the MAP terminal

27 Determine if the CM is in synchronization.

Note: A dot or EccOn under the Sync header means that the CM is in synchronization. The word no means that the CM is not in synchronization.

If the CM	Do
is in synchronization	step 30
is not in synchronization	step 28

28 To synchronize the CM, type

>SYNC

and press the Enter key.

Example of a MAP response:

CM PMCTbl
minor (end)

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command was successful	step 30

indicates `The CPUs are out of sync due to a problem with mismatches. The mismatch logs should be analyzed before re-syncing.`
`Do you wish to continue?`
`Please confirm ("YES", "Y", or "NO", "N")`
(SuperNode and SuperNode SE Series 70 only)
	step 29

is other than listed here	step 32

29 (SuperNode and SuperNode SE Series 70 only)

To deny the action, type

>NO

and press the Enter key.

Go to step 32.

30 Determine if the PMCTbl minor alarm cleared.

If the PMCTbl minor alarm	Do
cleared	step 33
changed to another alarm	step 31
did not clear	step 32

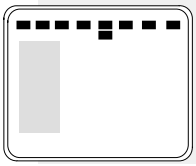
31 Perform the correct alarm clearing procedure in this document.

32 For additional help, contact the next level of support.

33 The procedure is complete.

CM PrcOpt major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
PrcOpt M	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, PrcOpt appears under the CM header of the alarm banner. The PrcOpt indicates a processor optionality alarm.

Meaning

The PEC number on the processor card and the value entered for the processor card do not match.

Result

The problem does not now affect subscriber service. If a fault occurs on the active side, the switch cannot recover automatically.

Common procedures

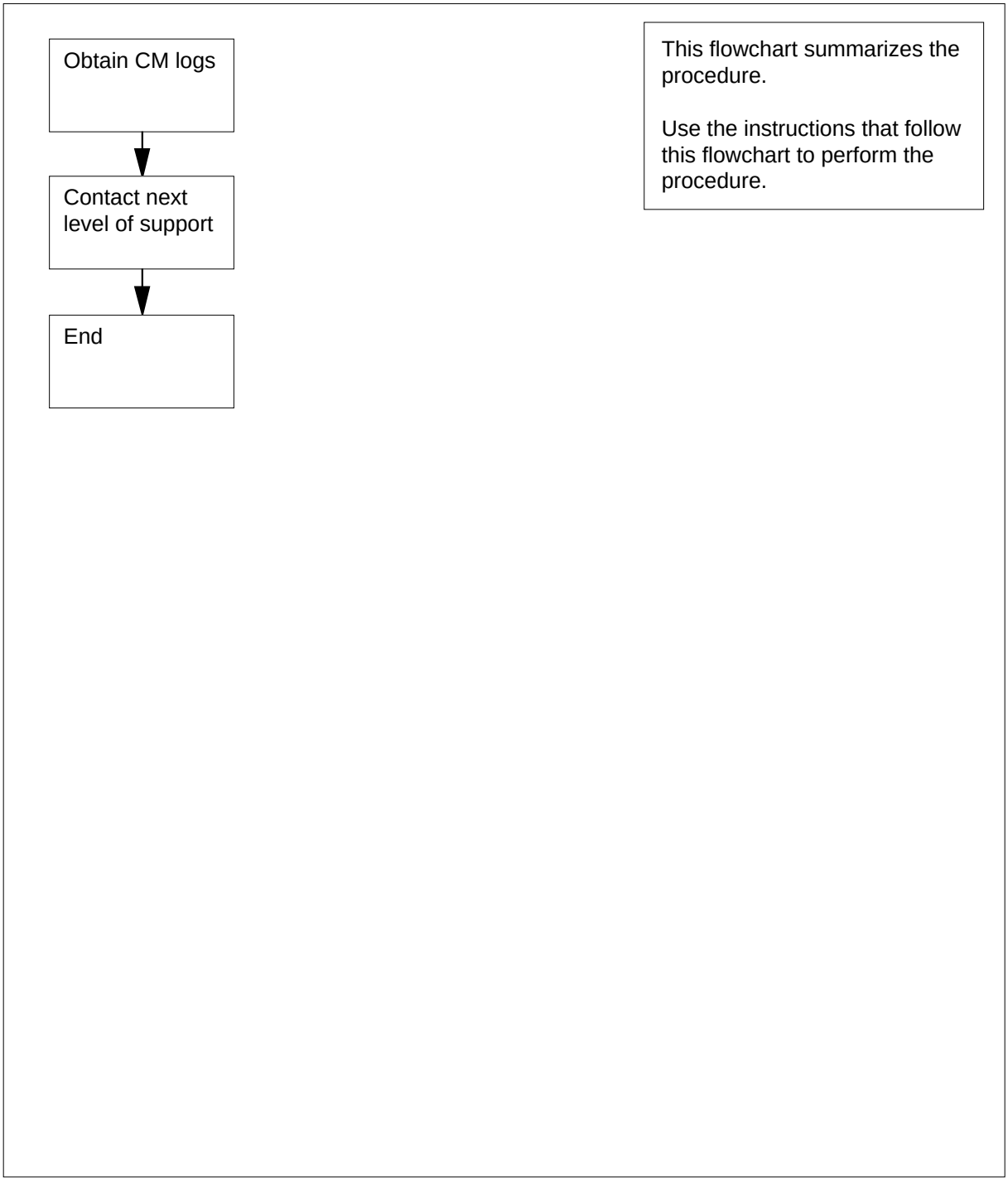
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM PrcOpt
major (continued)

Summary of Clearing a CM PrcOpt major alarm



Clearing a CM PrcOpt major alarm

At the MAP terminal

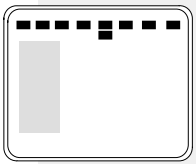
1 Obtain all current CM logs.

2 For additional help, contact the next level of support.

3 The procedure is complete.

CM RExFlt major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
RExFlt M	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, RExFlt appears under the CM header of the alarm banner. The RExFlt indicates a fault major alarm.

Meaning

The CM RExFlt major alarm occurs if a scheduled computing module (CM) routine exercise (REx) test does not finish.

Reasons for the failure of CM REx testing to finish include:

- a minimum of one failed REx test
- manual termination of REx testing
- a minimum of one trap
- a minimum of one mismatch
- a minimum of onelinks closure
- an RMS timeout
- an environment error

Result

There is no result.

Common procedures

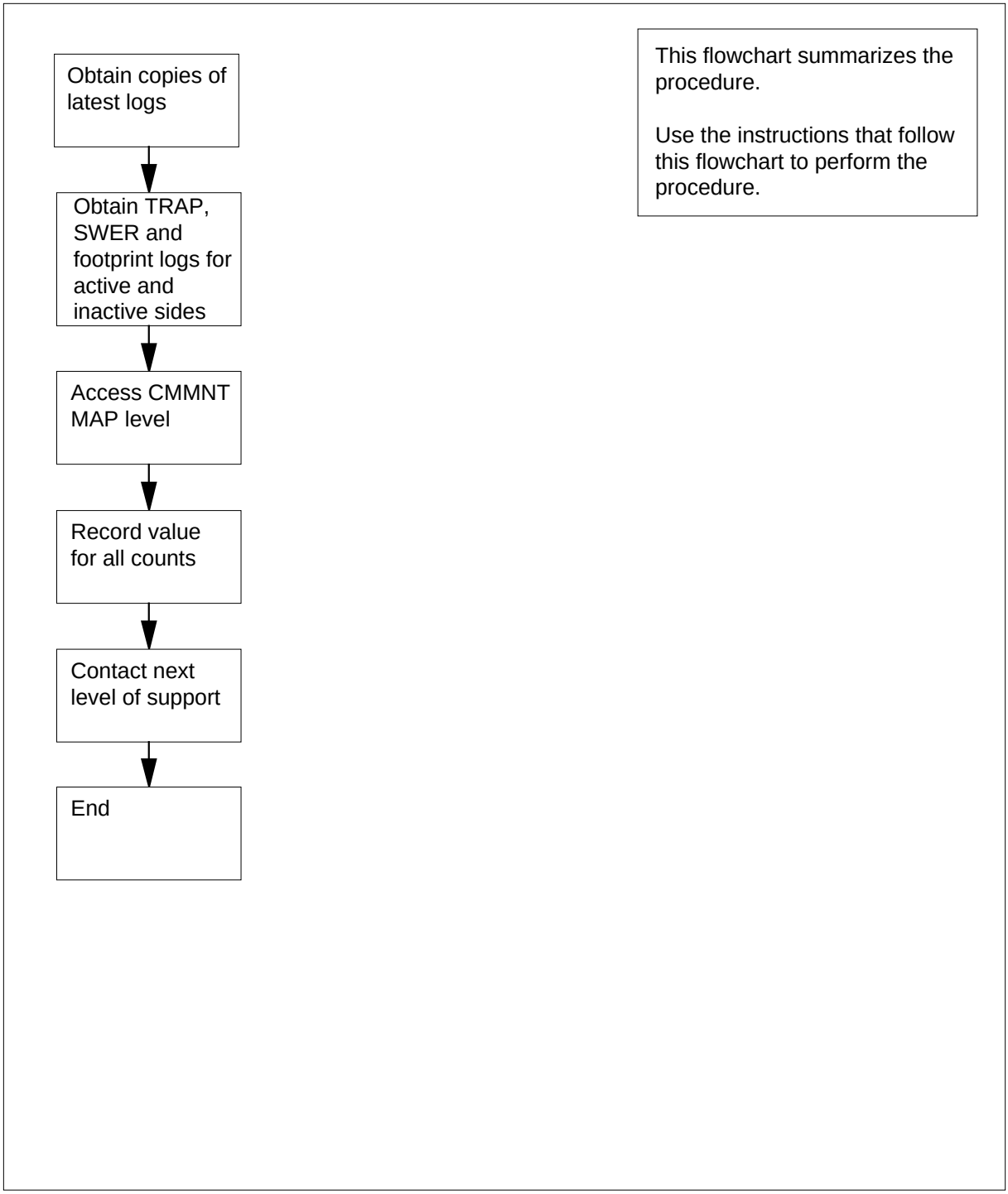
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM RExFlt major (continued)

Summary of Clearing a CM RExFlt major alarm



CM RExFlt
major (end)

Clearing a CM RExFlt major alarm

At the MAP terminal

1 Obtain copies of current CM, TRAP, SWER, and footprint logs for the active and inactive sides.

2 To access the CMMNT level of the MAP display, type

>MAPCI;MTC;CM;CMMNT

and press the Enter key.

Example of a MAP display:

```
CM   Sync  Act  CPU0  CPU1  Jam  Memory  CMMnt  MC  PMC
 0    .   cpu 0  .     .           .       .    .    .

Traps:          Per minute =    108      Total =    6342

AutoLdev:     Primary = SLM 0 DISK Secondary = SLM 1 DISK

Image Restartable = No image test since last restart

Next image test restart type=  RELOAD

Last CMREXTST executed

System memory in kbytes as of  14:39:07
Memory(kbytes):Used = 105984 Avail = 12800 Total = 118784
```

3 To determine the value of the counts for the system stability threshold, type

>QUERYCM REXSCHD COUNTS ALL

and press the Enter key.

Example of a MAP response:

```
The Link Closure count is 2.
The Out-of-sync Recovery Mismatch count is 1.
The In-Sync Recovery Mismatch count is 0.
The Trap Rate count is 0.
The Processor Memory Fault count is 0.
The Clock Fault count is 0.
The Cancelled REx count is 2.
```

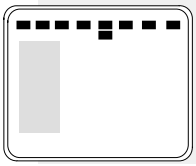
4 Record the values that appear for each count.

5 For additional help, contact the next level of support.

6 The procedure is complete.

CM RExSch minor

Alarm display



```
CM      MS    IOD    Net    PM    CCS    Lns    Trks    Ext    APPL
RExSch        .      .      .     .      .      .       .      .
              .      .      .
```

Indication

At the MTC level of the MAP display, RExSch appears under the computing module (CM) header of the alarm banner. The RExSch indicates a REx schedule minor alarm.

Meaning

The CM RExSch minor alarm occurs for the following reasons:

- Cancellation of two consecutive automatic daily routine exercise (REx) tests. System stability faults exceed the thresholds and cause the cancellation of an automatic daily REx test. Maintenance personnel enter these thresholds to detect recurring problems.
- Entry in table REXSCHED disabled CM REx testing.

Result

There is no result.

Common procedures

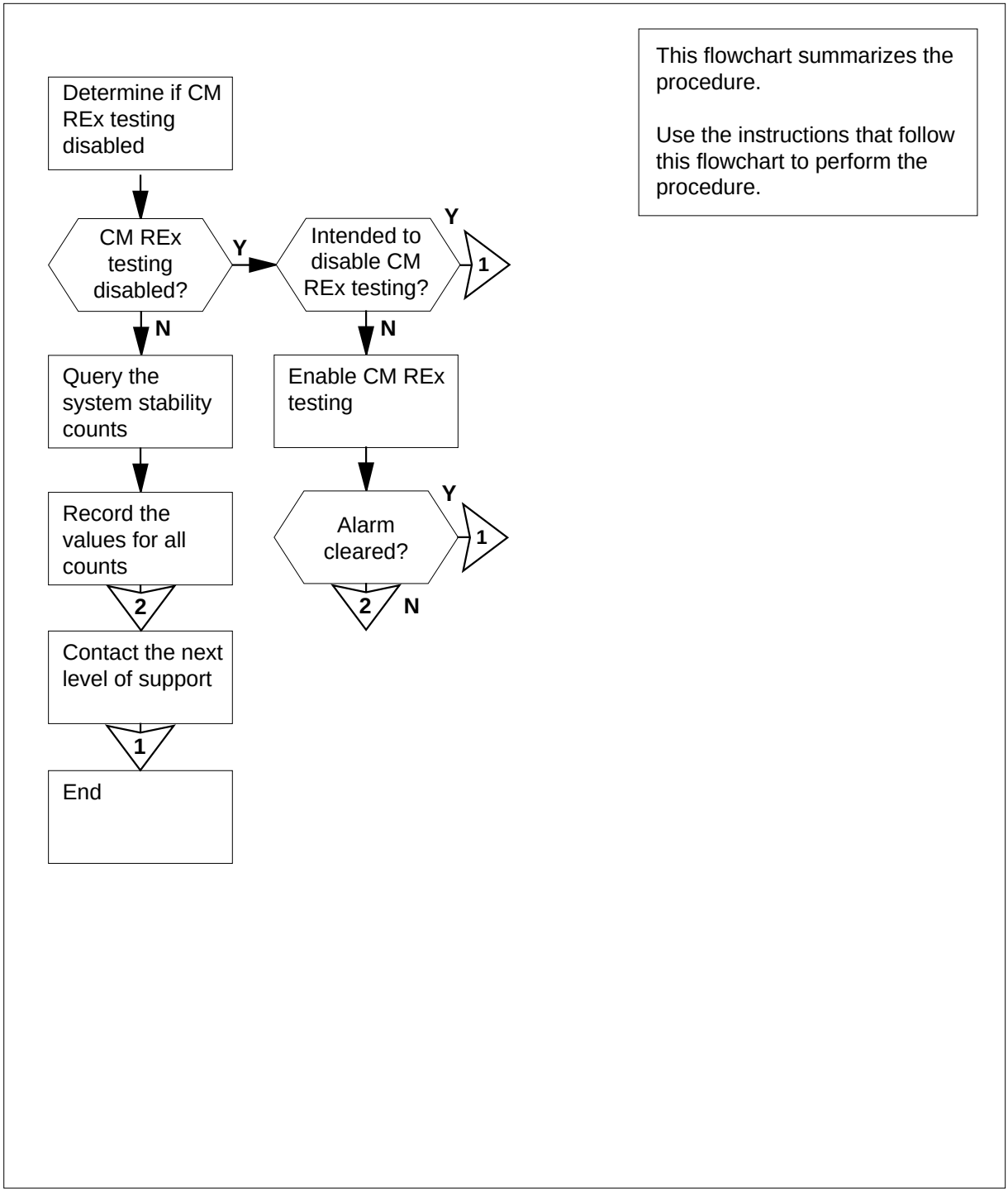
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM RExSch
minor (continued)

Summary of Clearing a CM RExSch minor alarm



CM RExSch
minor (continued)

Clearing a CM RExSch minor alarm

At the MAP terminal

1 Obtain copies of current IOAU112 log reports.

2 Determine if maintenance personnel disabled the CM REx testing. If maintenance personnel disabled the CM REx testing, the following message appears in the IOAU112 log report:

```
The CRITICAL CM_REX_TEST has been DISABLED INDEFINITELY.
```

If maintenance personnel	Do
disabled CM REx testing	step 3
did not disable CM REx testing	step 16

3 Contact your next level of support to determine if CM REx testing disabled.

If maintenance personnel	Do
intended to disable CM REx testing	step 20
did not intend to disable CM REx testing	step 4

4 To access table REXSCHED, type

>TABLE REXSCHED

and press the Enter key.

Example of a MAP response:

```
MACHINE NOT IN SYNC - DMOS NOT ALLOWED
JOURNAL FILE NOT AVAILABLE- DMOS NOT ALLOWED
TABLE: REXSCHED
```

5 To position on the CM REx test tuple, type

>POS CM_REX_TEST

and press the Enter key.

Example of a MAP response:

```
CM_REX_TEST   N   1    1         NONE
```

6 To activate write access, type

>RWOK ON

and press the Enter key.

CM RExSch
minor (continued)

Example of a MAP response:

```
WRITE ACCESS ENABLED FOR RESTRICTED DATA
```

7 To start the tuple change, type

>CHA

and press the Enter key.

Example of a MAP response:

```
MACHINE NOT IN SYNC - DMOS NOT ALLOWED
JOURNAL FILE NOT AVAILABLE- DMOS NOT ALLOWED
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
```

8 To enable CM REx testing, type

>Y

and press the Enter key.

Example of a MAP response:

```
TUPLE TO BE CHANGED:
CM_REX_TEST   N   1    1         NONE
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
```

9 To enter the time period between CM REx tests, type

>period

and press the Enter key.

where

period
is the minimum number of days between CM REx tests (1 to 7)

Note: If you do not want to change this part of the tuple, do not make an entry. Press the Enter key.

10 To enter the number of CM REx tests that run in parallel, type

>number

and press the Enter key.

where

number
is the maximum number of CM REx tests (0 to 99) that run in parallel

Note: If you do not want to change this part of the tuple, do not make an entry. Press the Enter key.

11 To enter the days of the week that you want to disable the CM REx test, type

>daysdsbl

and press the Enter key.

where

CM RExSch
minor (continued)

(MON, TUE, WED,
THU, FRI, SAT, SUN, ALL, or NONE)

Note: If you do not want to change this part of the tuple, do not make an entry. Press the Enter key.

12 To confirm the tuple change, type

>Y

and press the Enter key.

Example of a MAP response:

```
TUPLE CHANGED
JOURNAL FILE INACTIVE
```

13 To exit table REXSCHED, type

>QUIT

and press the Enter key.

14 To verify the activation of CM REx testing, review the most recent IOAU112 log reports.

Note: If maintenance personnel enabled CM REx testing, the message `The CRITICAL CM_REX_TEST has been ENABLED.` appears in the log report.

If the system	Do
confirms CM REx testing	step 15
does not confirm CM REx testing	step 19

15 When the next scheduled CM REx test is complete, determine if the RExSch alarm cleared.

If the RExSch alarm	Do
clears	step 20
does not clear	step 16

16 To access the CMMnt level of the MAP display, type

>MAPCI;MTC;CM;CMMNT

and press the Enter key.

Example of a MAP display:

CM RExSch
minor (end)

```
CM   Sync  Act  CPU0  CPU1  Jam  Memory  CMMnt  MC  PMC
 0    .   cpu 0  .     .          .       .    .    .

Traps:          Per minute =    108      Total =    6342

AutoLdev:     Primary = SLM 0 DISK Secondary = SLM 1 DISK

Image Restartable = No image test since last restart

Next image test restart type=  RELOAD

Last CMREXTST executed

System memory in kbytes as of  14:39:07
Memory(kbytes):Used = 105984 Avail = 12800 Total = 118784
```

17 To determine the value of counts for the system stability threshold, type

>QUERYCM REXSCHD COUNTS ALL

and press the Enter key.

Example of a MAP response:

```
The Link Closure count is 2.
The Out-of-sync Recovery Mismatch count is 1.
The In-Sync Recovery Mismatch count is 0.
The Trap Rate count is 0.
The Processor Memory Fault count is 0.
The Clock Fault count is 0.
The Cancelled REx count is 2.
```

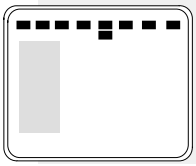
18 Record the values that appear for each count.

19 For additional help, contact the next level of support.

20 The procedure is complete.

CM RExTst minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
RExTst	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, RExTst appears under the CM header of the alarm banner. The RExTst indicates a routine exercise (REx) test minor alarm.

Meaning

The computing module (CM) undergoes routine exercise (REx) tests.

Result

The problem can affect subscriber service during a CM REx test. Suppression of all CM alarms except ClkFlt, CM Flt, CMTrap, IMAGE, LowMem, and NoTOD occurs.

Common procedures

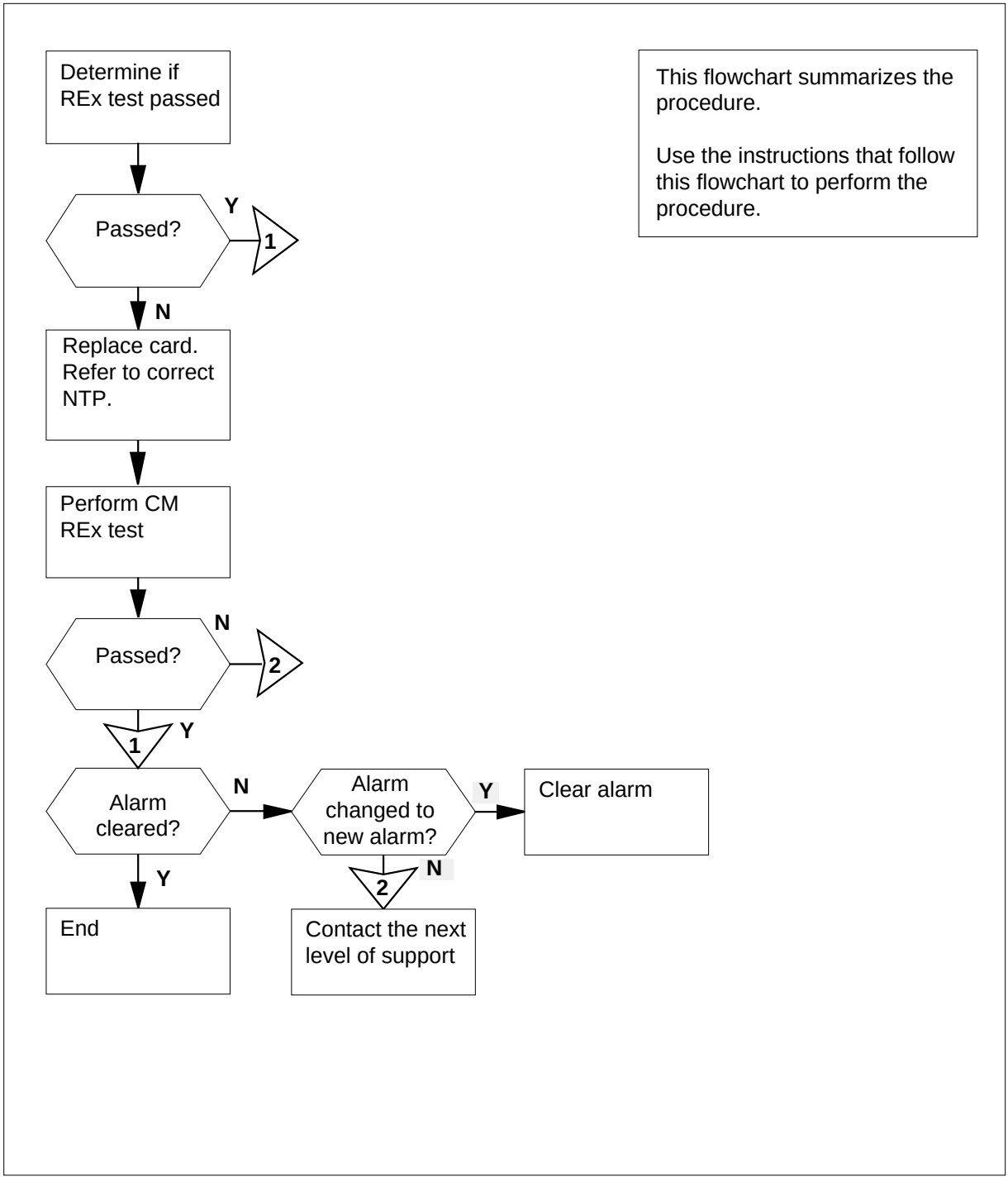
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM RExTst
minor (continued)

Summary of Clearing a CM RExTst minor alarm



CM RExTst
minor (continued)

Clearing a CM RExTst minor alarm

At the MAP terminal

1 To access the CM level of the MAP display, type

`>MAPCI;MTC;CM`

and press the Enter key.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0    .  cpu 0   .     .         .     .     .   .
```

2 Wait until the REx test is complete. Continue the procedure.

Note: Wait a maximum of 90 min for the REx test to finish.

3 Determine if the REx test passed.

Example of a MAP response:

```
Maintenance action submitted.
RExTst passed.
```

If the response	Do
indicates the REx test passed	step 12
indicates the REx test failed, and the system generated a card list	step 4
is other than listed here	step 14

4 Record the location, description, slot number, product engineering code (PEC), and PEC suffix of all cards on the list.

5 Choose a card to work on.

Note: One or more of the cards that require replacement can be on the inactive side. If the cards are on the inactive side, work on a card on the inactive side first.

6 Perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

7 Determine if more cards require replacement.

Note: You recorded this information in step 4.

If	Do
more cards require replacement	step 5
no more cards require replacement	step 8

CM RExTst
minor (continued)

8

DANGER
Possible service degradation
Check with operating company personnel to make sure that a REx test can run at this time. Make sure you initiate REx tests during a low traffic period. The REx tests require a high level of CPU occupancy.

To run a REx test on the CM, type

>REXTST

and press the Enter key.

If the response	Do
is CAUTION: CM sync and activity states will change Please confirm ("YES", "Y", "NO", or "N"):	step 10
is CMREx test not authorized by REX controller.	step 9
is other than listed here	step 14

9 You now run a REx test on another node. Determine from office records or from operating company personnel where the REx tests run. Wait until the tests finish. To run the CM test, type

>REXTST

and press the Enter key.

If the response	Do
is CAUTION: CM sync and activity states will change Please confirm ("YES", "Y", "NO", or "N"):	step 10
is other than listed here	step 14

10 To confirm the command, type

>YES

and press the Enter key.

CM RExTst minor (end)

Example of a MAP response:

```
Maintenance action submitted.
RExTst passed.
```

If the response	Do
indicates the REx test passed	step 12
indicates the REx test failed, and you did not replace all cards on the list	step 11
indicates the REx test failed, and you replaced all the cards on the list	step 14
is other than listed here	step 14

11 Record the location, description, slot number, PEC, and PEC suffix of all cards on the list.

Go to step 5.

12 Determine if the RExTst minor alarm cleared.

If the alarm	Do
cleared	step 15
did not clear	step 14
changed to another alarm	step 13

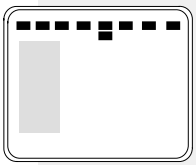
13 Perform the correct alarm clearing procedure in this document.

14 For additional help, contact the next level of support.

15 The procedure is complete.

CM SBsyMC major

Alarm display



	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
CM SBsyMC M	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, SBsyMC appears under the CM header of the alarm banner. The SBsyMC indicates a major alarm for a system busy message controller.

Meaning

A message controller (MC) is out of service for one of the following reasons:

- a hard fault
- a subsystem clock fault

Result

The computing module (CM) contains two MCs. If one MC is out of service, the full messaging load transfers to the second MC. The removal of the second MC from service means the switch cannot maintain subscriber service.

Common procedures

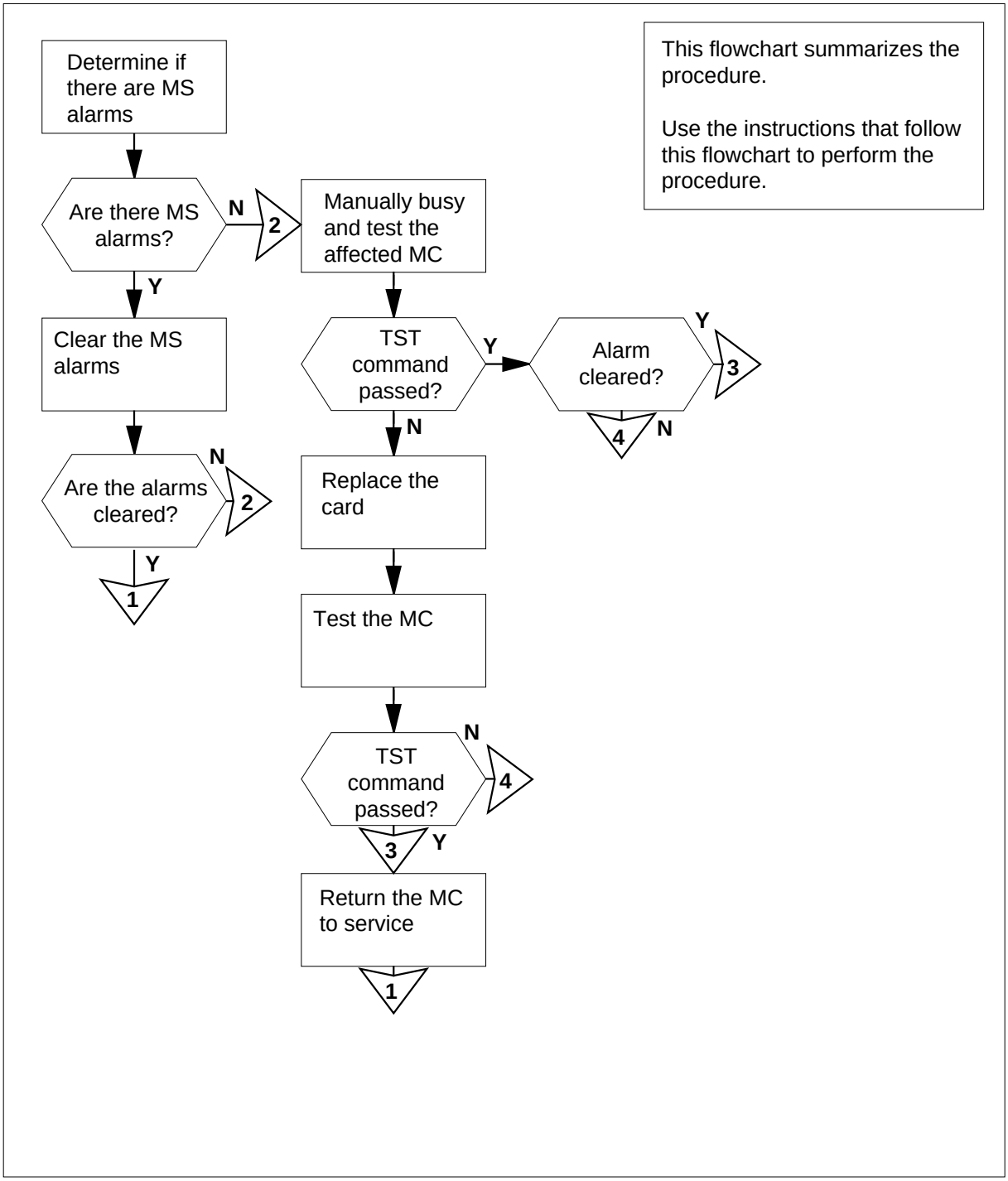
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

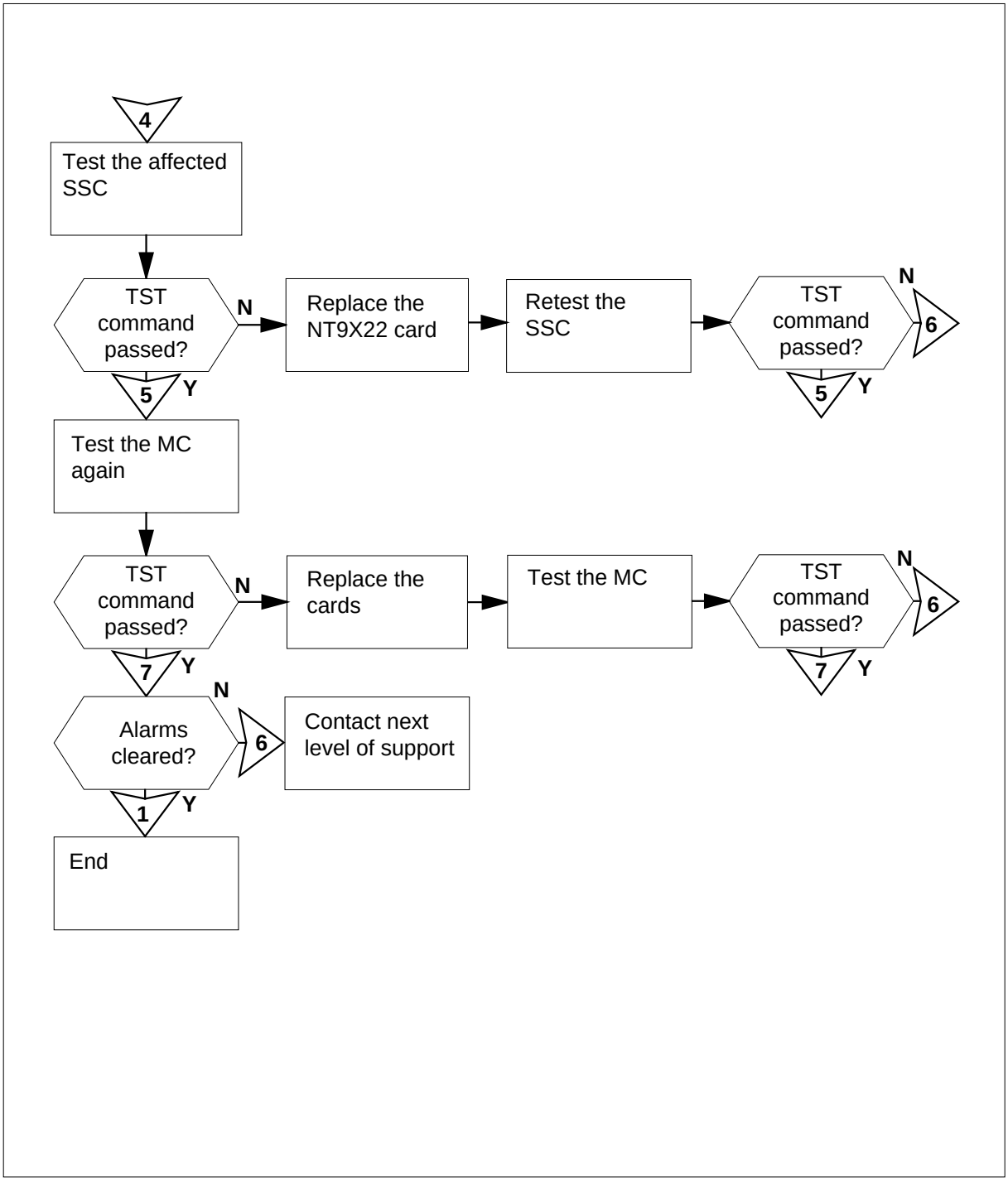
CM SBsyMC major (continued)

Summary of How to clear a CM SBsyMC major alarm



CM SBsyMC
major (continued)

Summary of How to clear a CM SBsyMC major alarm (continued)



How to clear a CM SBsyMC major alarm

At the MAP terminal

1 To clear all MS alarms, use the correct procedure in this document. Complete the procedure and return to this point.

2 Determine if the SBsyMC major alarm cleared.

If the alarm	Do
cleared	step 38
changed to another alarm	step 36
did not clear	step 3

3 To access the MC level of the MAP display, type

`>MAPCI;MTC;CM;MC`

and press the Enter key.

Example of a MAP display:

```
CM 0
 MC 0    MC 1
   .     sbsy
```

4 Record the number of the system busy MC.

5 To manually busy the system busy MC, type

`>BSY mc_number`

and press the Enter key.

where

mc_number
is the number of the system busy MC (0 or 1)

6 Obtain copies of CM104 log reports generated during the past hour.

7 Determine the cause of the system busy state of the MC.

Note: The reason for the system busy state of the MC appears in the reason text of the CM104 log report.

If the reason for the system busy state of the MC	Do
is `A stuck hardware fault was detected`	step 8

CM SBsyMC
major (continued)

If the reason for the system busy state of the MC	Do
is other than listed here	step 12

8 Obtain a duplicate of CM128 and CM152 log reports generated during the past hour.

9 Replace the first card on the list in the CM152 log report. Perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

Note 1: When both planes have a stuck hardware fault, a peripheral mismatch does not occur. When both planes have a stuck hardware fault, the system also does not generate a CM 152 log report. If the system does not generate a CM152 log report, use the information in the report to identify the card that has faults.

Note 2: The CM128 log report identifies the affected MC and link. The CM152 log report contains a list of cards that can require replacement.

10 To test the manual busy MC, type

>TST mc_number

and press the Enter key.

where

mc_number
is the number of the manual busy MC (0 or 1)

If the TST command	Do
passed	step 23
failed, the system generated a card list, and you did not replace all cards on the list in the CM152 log report	step 11
failed, the system generated a card list, and you replaced all cards on the list in the CM152 log report	step 13

11 To replace the next card on the list in the CM152 log report, perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

12 To test the manual busy MC, type

>TST mc_number

and press the Enter key.

where

CM SBsyMC
major (continued)

mc_number
is the number of the manual busy MC (0 or 1)

If the TST command	Do
passed	step 23
failed, and you did not replace all the cards listed in the CM152 log report	step 11
failed, and you replaced all the cards listed in the CM152 log report	step 13
is other than listed here	step 37

13 To access the clock level of the MAP display, type

>CLOCK

and press the Enter key.

Example of a MAP display:

```
          T O D
         MC0  MC1
Link 0    .   manb
Link 1    .   manb

   SSC    .   oos
```

14 To test the manual busy SSC, type

>TST SSC ssc_number

and press the Enter key.

where

ssc_number
is the SSC for the system busy MC (0 or 1) that you recorded in step 4

If the TST command	Do
passed	step 17
failed, and the system generated a card list	step 15
failed, and the system did not generate a card list	step 37

CM SBsyMC
major (continued)

15 To replace the NT9X22 card, perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

16 To test the manual busy SSC, type

`>TST SSC ssc_number`

and press the Enter key.

where

ssc_number
is the SSC for the system busy MC (0 or 1) that you recorded in step 4

If the TST command	Do
passed	step 17
failed	step 37

17 To quit from the clock level of the MAP display, type

`>QUIT`

and press the Enter key.

18 To test the manual busy MC, type

`>TST mc_number`

and press the Enter key.

where

mc_number
is the number of the system busy MC (0 or 1) that you recorded in step 4

If the TST command	Do
passed	step 23
failed, and the system generated a card list	step 19
failed, and the system generated a card list	step 37

19 Record the location, description, slot number, product engineering code (PEC), and PEC suffix of the first card on the list.

20 Perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

21 To test the manual-busy MC, type

`>MC;TST mc_number`

and press the Enter key.

where

CM SBsyMC
major (continued)

mc_number
is the number of the manual busy MC (0 or 1)

If the TST command	Do
passed	step 23
failed, and you did not replace all cards on the list	step 22
failed, and you replaced all cards on the list	step 37

22 Record the location, description, slot number, PEC, and PEC suffix of the next card on the list.

Go to step 20.

23 To return the manual busy MC to service, type

`>RTS mc_number`

and press the Enter key.

where

mc_number
is the number of the manual busy MC (0 or 1)

If the RTS command	Do
passed	step 24
failed	step 37

24 Determine the state of the MC that you returned to service.

If the state of the MC	Do
is `todf`, `sscf`, or `istb`	step 35
is other than listed here	step 25

25 To access the CM level of the MAP display, type

`>CM`

and press the Enter key.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   no  cpu 1   .     .  yes    .     .     .   .
```

CM SBsyMC
major (continued)

26 Determine if the inactive CM plane turned off.

If the inactive CM plane	Do
turned off	step 27
did not turn off	step 29

27 To test the inactive CPU, type

>TST

and press the Enter key.

Example of a MAP response:

```
The test(s) listed below will destroy
the software load in inactive CPU:

    Static RAM test

Do you want to do the test(s) anyway?
Please confirm: (”YES”, ”Y”, ”NO”, or ”N”):
```

28 To confirm the command, type

>YES

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Test passed.
```

If the TST command	Do
passed	step 29
failed	step 37

29 Determine if the inactive CPU jammed.

Note: The word yes under the Jam header means that the CPU jammed. The area is blank if the CPU did not jam.

If the inactive CPU	Do
jammed	step 30
did not jam	step 31

CM SBsyMC
major (continued)

At the CM reset terminal for the inactive CPU

30 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

```
RELEASE JAM DONE.
```

At the MAP terminal

31 Determine if the CM is in synchronization.

Note: A dot or EccOn under the synchronization header means that the CM is in synchronization. The word no means that the CM is not in synchronization.

If the CM	Do
is in synchronization	step 32
is not in synchronization	step 34

32 To synchronize the CM, type

>SYNC

and press the Enter key.

Example of a MAP response:

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command was successful	step 34
indicates `The CPUs are out of sync due to a problem with mismatches. Review the mismatch logs should before re-syncing. Do you wish to continue? Please confirm ("YES", "Y", or "NO", "N")` (SuperNode and SuperNode SE Series 70 only)	step 33
is other than listed here	step 37

33 (SuperNode and SuperNode SE Series 70 only)

CM SBsyMC
major (end)

To deny the action, type

>NO

and press the Enter key.

Go to step 37.

34 Determine if the SBsyMC major alarm cleared.

If the alarm	Do
cleared	step 38
changed to another alarm	step 36
did not clear	step 37

35 Perform the procedure *How to clear a CM MC Tbl minor alarm* in this document.

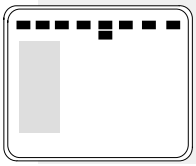
36 Perform the appropriate alarm clearing procedure in this document.

37 For additional help, contact the next level of support.

38 The procedure is complete.

CM SLMLIM major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
SLMLIM	.	.	.	.	.	.	.	.	.
M									

Indication

At the CMMNT level of the MAP display, SLMLIM appears under the CM header of the alarm banner. The SLMLIM indicates an image size major alarm.

Meaning

The image is too large to transfer to tape for the system load module (SLM). The two computing module (CM) loads of this size will not fit on the SLM disk.

Result

The problem does not now affect subscriber service. If a critical switch process requires additional memory and cannot obtain the additional memory, a warm or cold restart can occur.

Common procedures

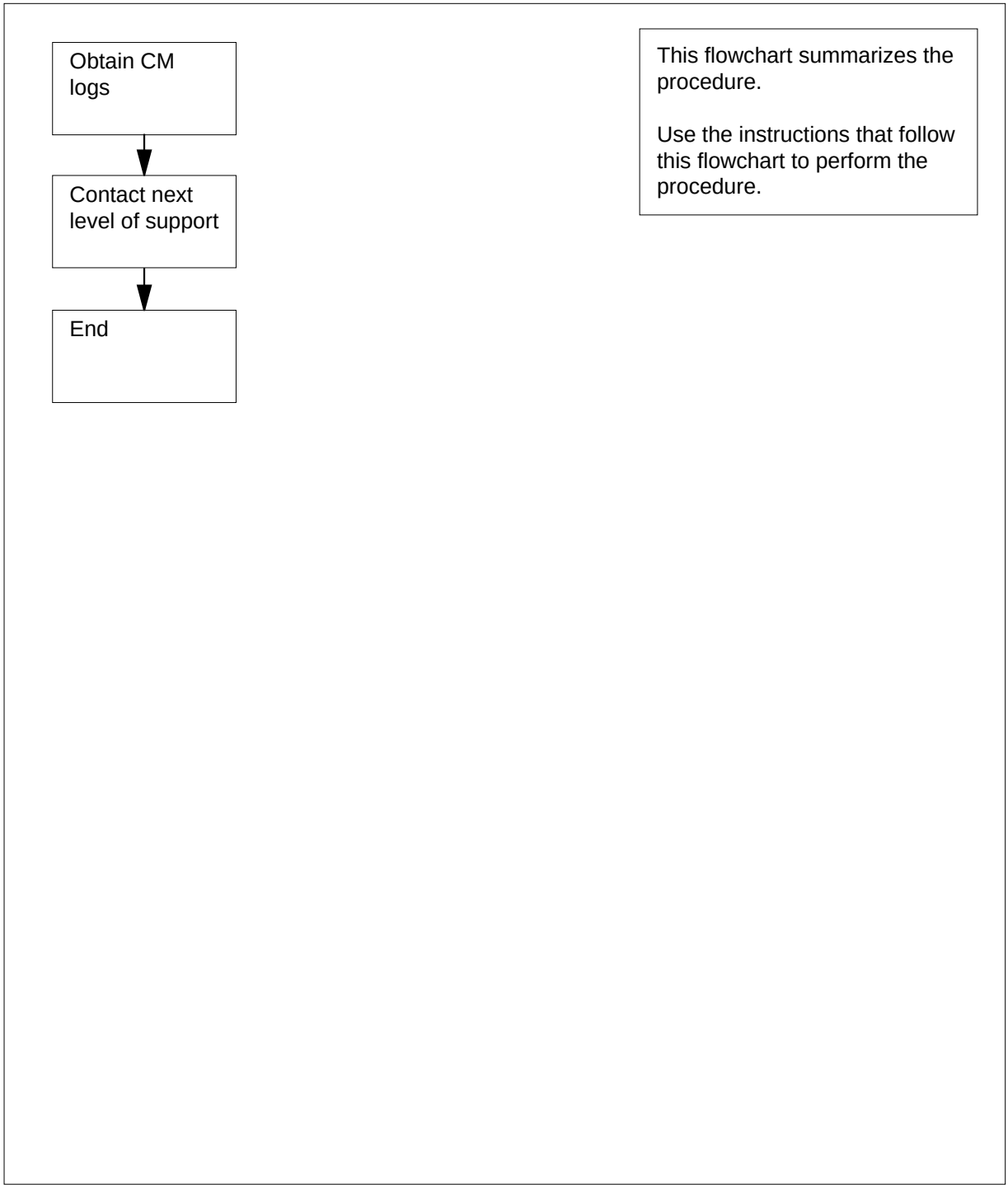
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM SLMLIM
major (continued)

Summary of Clearing a CM SLMLIM major alarm



CM SLMLIM major (end)

Clearing a CM SLMLIM major alarm

At the MAP

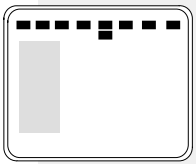
1 Obtain all recent CM logs.

2 For additional help, contact the next level of support.

3 The procedure is complete.

CM SLMLim minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
SLMLim M	.	.	.	.	.	.	.	.	.

Indication

At the CMMNT level of the MAP display, SLMLim appears under the CM header of the alarm banner. The SLMLim indicates an image minor alarm.

Meaning

The image is too large to transfer to tape for a system load module (SLM). Two loads for a computing module (CM) of this size will not fit on the SLM disk.

Result

The problem does not immediately affect subscriber service. If a critical switch process requires and cannot obtain additional memory, a warm or cold restart occurs.

Common procedures

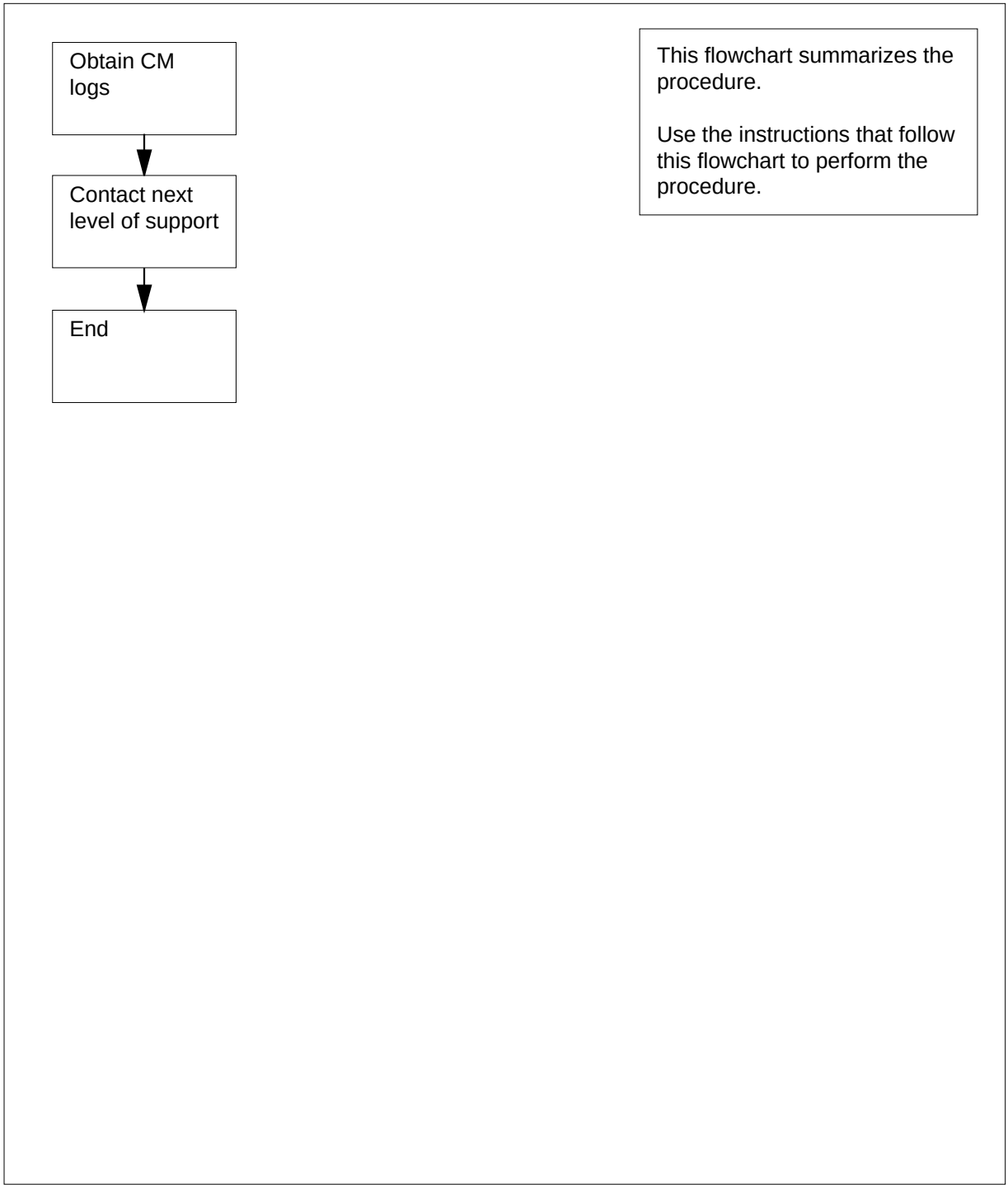
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM SLMLim minor (continued)

Summary of Clearing a CM SLMLim minor alarm



CM SLMLim minor (end)

Clearing a CM SLMLim minor alarm

At your Current Location

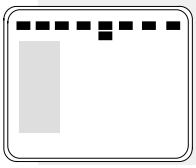
1 Obtain all recent CM logs.

2 For additional help, contact the next level of support.

3 The procedure is complete.

CM SRAMFL major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
SRAMFL M	.	.	.	.	.	.	.	.	.

Indication

At the MTC level of the MAP display, SRAMFL appears under the CM header of the alarm banner. The SRAMFl indicates that the system reached a parity trap threshold for static random access memory (SRAM).

Note: This alarm does not apply to offices with the SR70 version of Bell Northern Research (BNR) reduced instruction set computers (BRISC).

Meaning

The number of occurrences of SRAM parity traps on the computing module (CM) CPU card reached the threshold for the 48-h software counter. This condition indicates a potentially serious hardware problem.

Result

The problem does not affect subscriber service. The damaged hardware requires replacement.

Common procedures

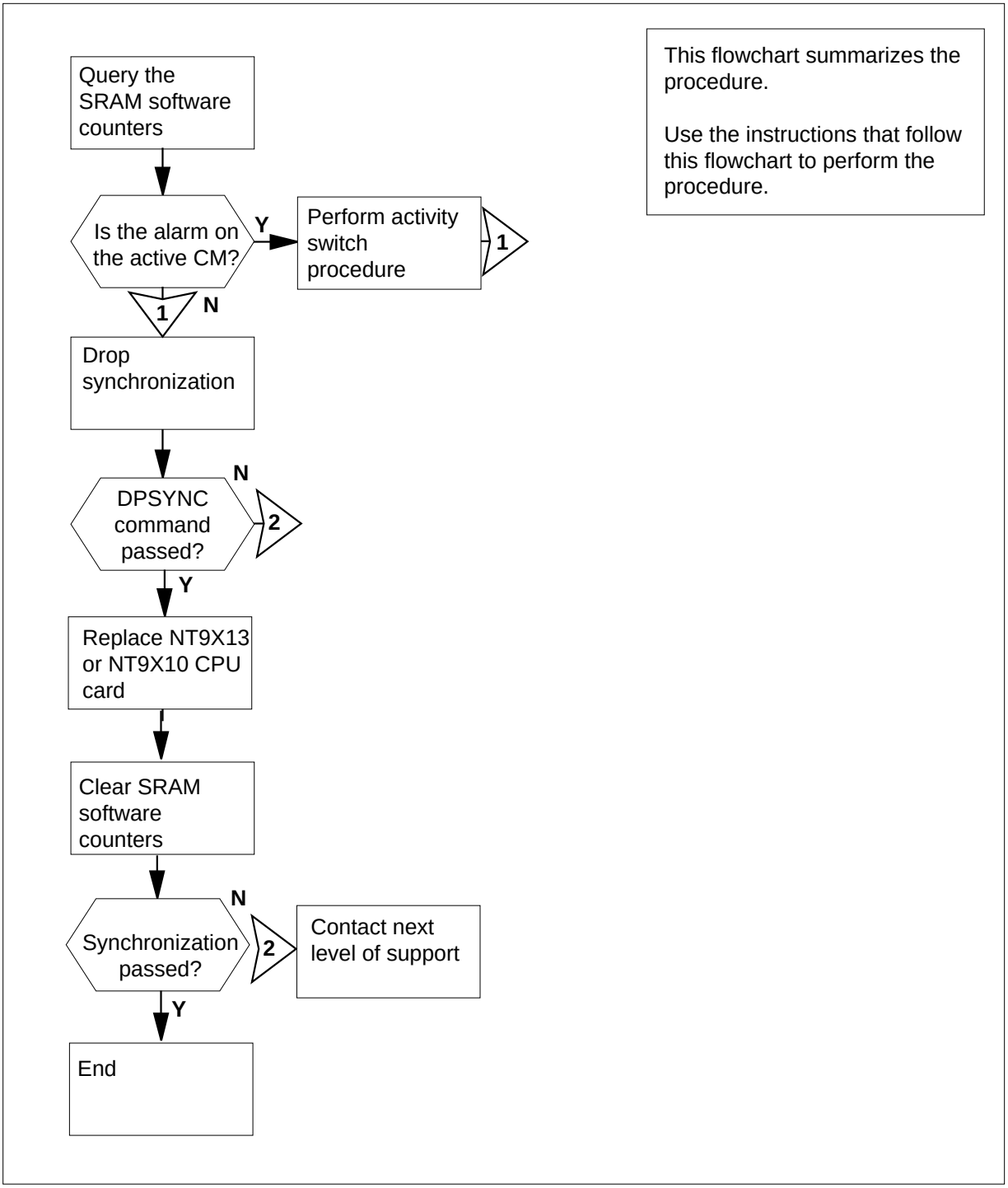
This procedure refers to *Activity switch with memory match*.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM SRAMFL
major (continued)

Summary of Clearing a CM SRAMFL major alarm



CM SRAMFL
major (continued)

Clearing a CM SRAMFL major alarm

At the MAP terminal

1 To access the SRAMCNT level of the MAP display, type

>SRAMCNT

and press the Enter key.

Example of a MAP display

```
SRAMCNT:
```

2 To display the SRAM fault counter values, type

>QUERYCNT

and press the Enter key.

Example of a MAP display

```
Query SRAM fault counters
-------------------------
 Counter/Threshold  Value
 -----------------  -----
act24                 2
act48                 2
inact24               0
inact48               0
dsdiff24              1
dsdiff48              2

minoralarm            1
preventrex            1
preventsync           2
preventswact          1
```

3 Note the values of counters act48 and inact48.

4 To exit from the SRAMCNT level of the MAP display, type

>QUIT

and press the Enter key.

5 Determine if the reason for the alarm is the active or inactive CM. To determine the reason, note if act48 or inact48 shows a minimum value of two.

If the alarm	Do
is on the active CM	step 6
is on the inactive CM	step 7

CM SRAMFL
major (continued)

6 Perform the procedure *Activity switch with memory match* in this document. Complete the procedure and return to this point.

7 To determine if the inactive central processing unit (CPU) jammed, access the CM level of the MAP display. Type

```
>MAPCI;MTC;CM
```

and press the Enter key.

Example of a MAP display:

```
CM  Sync  Act  CPU0  CPU1 Jam Memory CMMnt  MC  PMC
 0   no  cpu 1   .     .  yes    .     .     .   .
```

Note: The word yes under the Jam header means that the CPU jammed. The area is blank if the CPU did not jam.

If the CPU	Do
jammed	step 10
did not jam	step 8

At the CM reset terminal for the inactive CPU

8

CAUTION
Loss of service
Make sure that you do not jam the active CPU. If you jam the active CPU while the CM is not in sync, a cold restart occurs. The word Act on the top banner of the display identifies the reset terminal for the active CPU.

WARNING
Loss of service
Make sure that you do not jam the active CPU. If you jam the active CPU while the CM is not in sync, a cold restart occurs. The word Act on the top banner of the display identifies the reset terminal for the active CPU.

To jam the inactive CPU, type

```
>\JAM
```

and press the Enter key.

RTIF response:

```
Please confirm: (YES/NO)
```

9 To confirm the command, type

>YES

and press the Enter key.

RTIF response:

```
JAM DONE
```

At the MAP display

10 Determine if the CM is in sync.

Note: A dot or EccOn under the Sync header means that the CM is in sync. The word no means that the CM is not in sync. In the example in step 7, the CM is not in sync.

If the CM	Do
is in sync	step 11
is not in sync	step 14

11 To drop synchronization, type

>DPSYNC

and press the Enter key.

If the response	Do
is About to drop sync with CPU n active. The inactive CPU is JAMMED. Do you want to continue? Please confirm ("YES", "Y", "NO", or "N"):	step 12
is other than listed here	step 19

12 To confirm the command, type

>YES

and press the Enter key.

CM SRAMFL
major (continued)

At the CM reset terminal for the inactive CPU

13 Wait until A1 flashes on the reset terminal for the inactive CPU.

Note: Wait 5 min for A1 to flash.

If A1	Do
flashes	step 14
does not flash	step 19

14 Replace the NT9X13 or the NT9X10 CPU card on the inactive CPU. Perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

At the CM reset terminal for the inactive CPU

15 To release the jam on the inactive CPU, type

>\RELEASE JAM

and press the Enter key.

RTIF response:

```
JAM RELEASE DONE
```

At the MAP terminal

16 To set the values of the SRAM inactive 24- and 48-h software counters to zero, type

>SRAMCNT;CLEARCNT INACT

and press the Enter key.

Example of a MAP display:

```
The inact counter will be cleared by this
command.  Do you wish to continue ?
Please confirm (”YES”, ”Y”, ”NO”, or ”N”):
```

17 To synchronize the CM, type

>SYNC

and press the Enter key.

MAP response:

```
Maintenance action submitted.
Synchronization successful.
```

If the response	Do
indicates the SYNC command was successful	step 18
is other than listed here	step 19

18 To confirm the command, type

>YES

and press the Enter key.

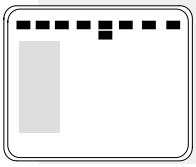
Go to step 20.

19 For additional help, contact the next level of support.

20 The procedure is complete.

CM SramFl minor

Alarm display



CM MS IOD Net PM CCS Lns Trks Ext APPL
SramFl . . . . . .
. . .

Indication

At the MTC level of the MAP display, SramFl appears under the computing module (CM) header. The SramFl indicates a static RAM (SRAM) fault minor alarm.

Note: This alarm does not apply to offices with the SR70 version of BNR reduced instruction set computers (BRISC).

Meaning

A 48-h software counter reached a specified threshold. The system generated a CM168 log to indicate the level of SRAM faults. Set thresholds for SRAM faults to prevent potential power failures.

Result

There is no result.

Common procedures

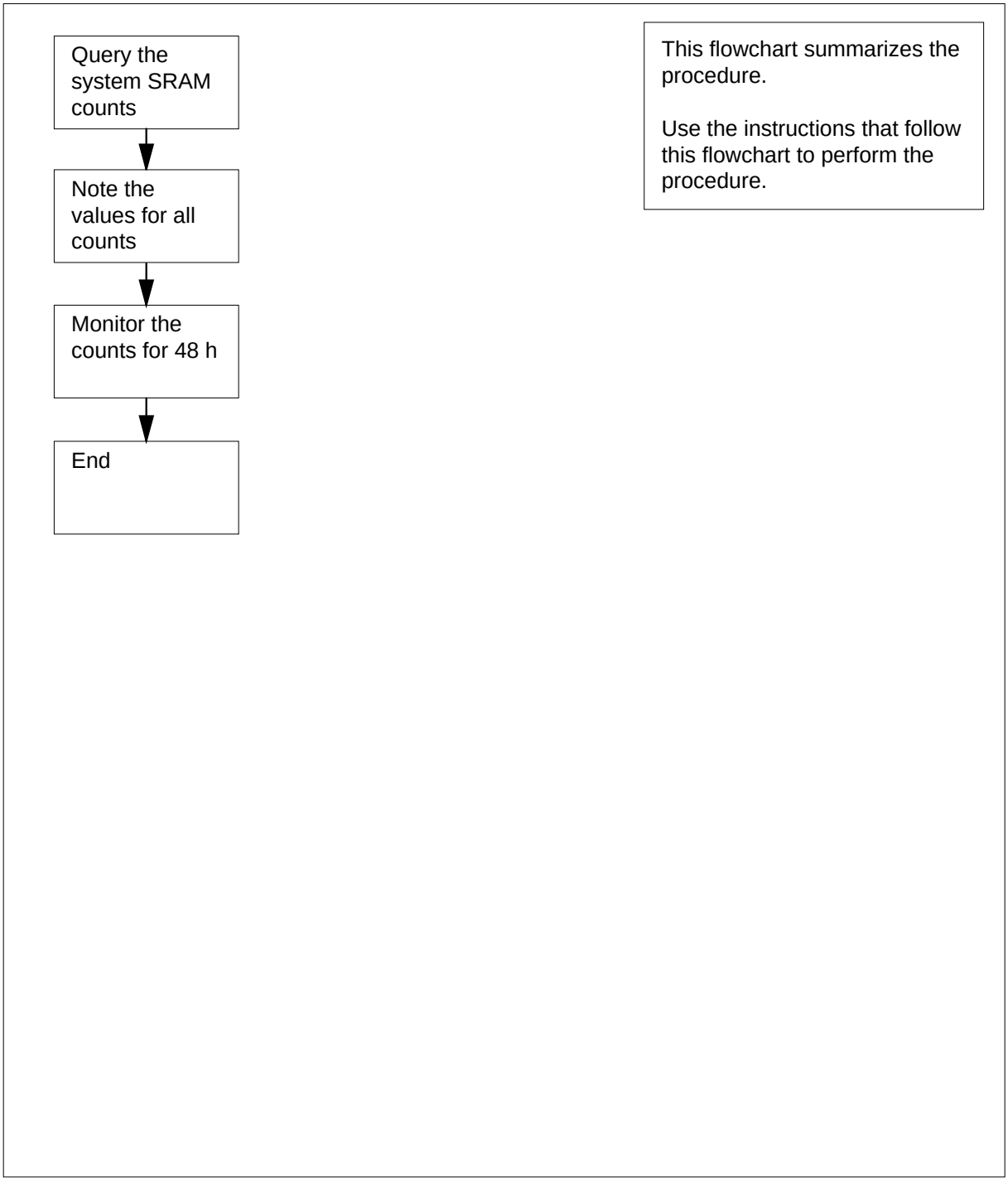
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM SramFl minor (continued)

Summary of Clearing a CM SramFl minor alarm



CM SramFl
minor (end)

Clearing a CM SramFl minor alarm

At the MAP display

1 To access the SRAMCNT level of the MAP display, type

>SRAMCNT

and press the Enter key.

Example of a MAP display

```
SRAMCNT:
```

2 To display the SRAM fault counter values, type

>QUERYCNT

and press the Enter key.

Example of a MAP display

```
 Query SRAM fault counters
 -------------------------
  Counter/Threshold  Value
  -----------------  -----
 act24                 2
 act48                 2
 inact24               0
 inact48               0
 dsdiff24              1
 dsdiff48              2

 minoralarm            1
 preventrex            1
 preventsync           2
 preventswact          1
```

3 Note the values that appear for each count in the upper part of the display.

4 To exit from the SRAMCNT level of the MAP display, type

>QUIT

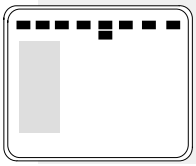
and press the Enter key.

5 Allow the alarm to remain for a 48-h period. If the system does not detect more faults, the alarm clears. If additional SRAM faults occur, a CM169 log and an SRAM major alarm appears.

6 The procedure is complete.

CM StrAlc critical

Alarm display



CM MS IOD Net PM CCS Lns Trks Ext **APPL**
StrAlc . . . . . .

Indication

At the MTC level of the MAP display, StrAlc appears under the CM header of the alarm banner. The StrAlc indicates a critical alarm for storage allocation.

Meaning

The used data store exceeds the maximum data store threshold. The used program store exceeds the maximum program store threshold. The current image size exceeds the maximum image size.

Result

The problem does not affect subscriber service. A critical switch procedure can require additional memory. If the procedure requires additional memory and cannot obtain the memory, a warm or cold restart can occur.

Common procedures

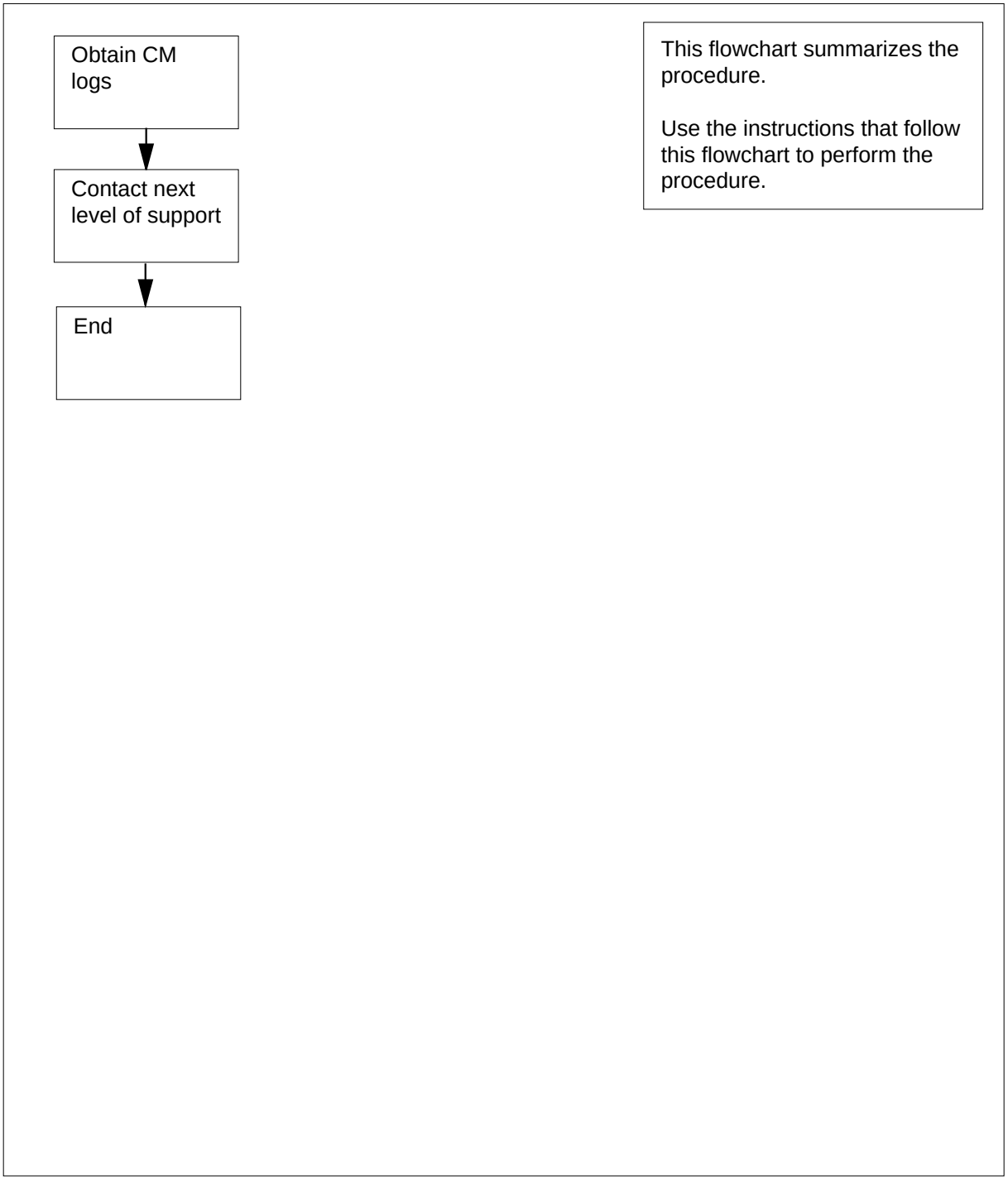
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

CM StrAlc critical (continued)

Summary of Clearing a CM StrAlc critical alarm



CM StrAlc critical (end)

Clearing a CM StrAlc critical alarm

At your current location

1 Obtain all the latest CM logs.

2 For additional help, contact the next level of support.

3 The procedure is complete.

4 Procedures to clear an external alarm

Introduction

This chapter provides procedures to clear external alarms. External alarms appear under the EXT header of the alarm banner in the MAP display. Each procedure contains the following sections:

- Alarm display
- Indication
- Meaning
- Result
- Common procedures
- Action

Alarm display

This section indicates how the alarm appears at the MAP terminal.

Indication

This section indicates:

- the location of the alarm indication
- the alarm appearance
- the affected subsystem
- the alarm intensity

Meaning

This section indicates the cause of the alarm.

Result

This section describes the results of the alarm condition.

Common procedures

This section lists common procedures used during the procedure to clear an alarm. A common procedure is a series of steps repeated within maintenance

procedures, for example, the removal and replacement of a card. The common procedures chapter in this Northern Telecom publication describes common procedures.

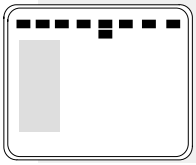
Do not go to a common procedure unless the step-action procedure directs you to go.

Action

This procedure contains a flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext Crit critical

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1Crit**	.
								C	

Indication

At the MTC level of the MAP display, Crit (preceded by a number) appears under the Ext header of the alarm banner. Crit indicates a critical external alarm.

Meaning

The alarm determines the meaning of the Crit alarms. Refer to the “Result" section.

The number that precedes Crit indicates the number of critical alarms.

Result

An alarm for an automatic message accounting failure (AMAFAIL) indicates that the system does not record billing information. The alarm does not affect subscriber service.

The critical power (CRPWR) alarm indicates that a critical fault is present in the power equipment of the DMS switch. Power equipment that supplies main or emergency power to the DMS switch can generate this alarm. The alarm does not affect subscriber service unless main and emergency power sources fail. If main and emergency power sources fail, all subscribers lose service.

The dead system (DEADSYSM) alarm indicates that a critical alarm scan point (scannm) changed state. The alarm only occurs if you set the alarm through ALMSC.

The line load control alarm (LLC_ALARM) indicates that line load control was activated at the MAP terminal. An office uses line load control to control a processor overload caused by a period of unusually high traffic. When line load control is active, calls made to subscribers with the essential line (ELN) service option have first priority. Calls made to lines that do not have ELN service experience a delay in reception of a ringing tone.

Ext Crit
critical (continued)

The message to central control not acknowledged (MCCNACK) alarm indicates a peripheral failure. The alarm indicates that at least one peripheral did not respond to a metering time-of-day changeover request. This alarm indicates a loss of billing information.

The no call processing alarm (NCPALARM) indicates that the switch does not process calls. All subscribers lose service.

The operational measurements critical alarm (OMCRITICAL) indicates that the OM critical alarm index reached the threshold within the scan period.

The power fault previous floor (PFPREFLR) alarm indicates that a critical fault is present on a lower floor of the building. The result of this alarm depends on the configuration of your office.

The power fault succeeding floor (PFSUCFLR) alarm indicates that a critical fault is present on a higher floor of the building. The impact of this alarm depends on the configuration of your office.

A voice relay critical alarm (VR1_CRITICAL) indicates that no datalinks are available to the TOPSVR1 application in table MPCFASTA.

A voice relay critical alarm (VR2_CRITICAL) indicates that no datalinks are available to the TOPSVR2 application in table MPCFASTA.

The voice services node critical alarm (VSN_CRIT_ALM) indicates that a critical error condition occurred in the voice services node. The alarm does not affect service.

The voice services node no links (VSN_NO_LINKS) alarm occurs when all logical datalinks to a voice services node are out of service. When all logical datalinks are out of service, the system routes Automated Alternate Billing Service (AABS) calls through the operator.

Common procedures

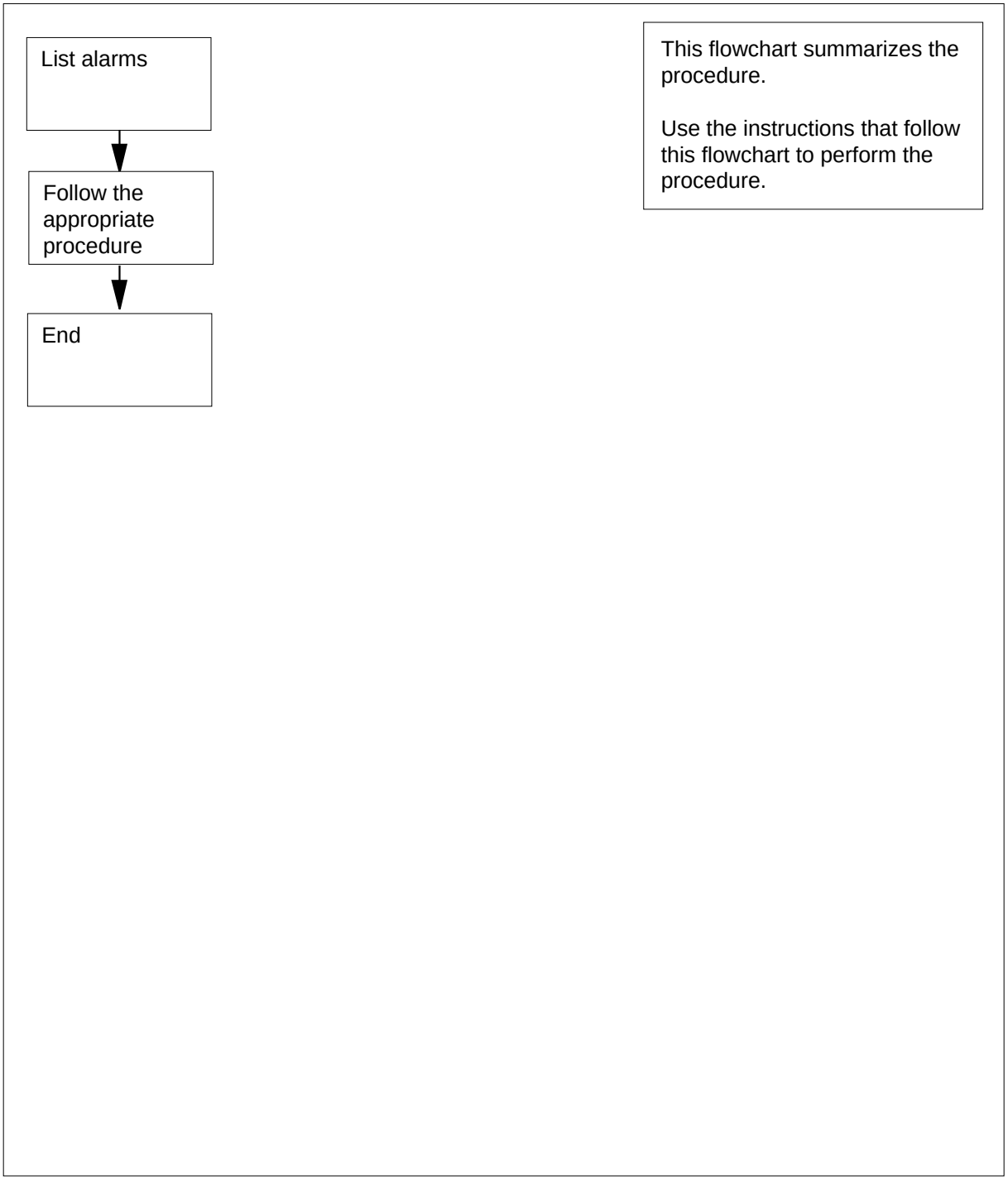
There are no common procedures.

Action

This procedure contains a flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext Crit
critical (continued)

Summary of Clearing an Ext Crit critical alarm



Ext Crit
critical (continued)

Clearing an Ext Crit critical alarm

At the MAP terminal

1 To access the Ext level of the MAP display, type

>MAPCI;MTC;EXT

and press the Enter key.

Example of a MAP display:

```
Ext Alarms    Crit    FSP   Major  Minor  NoAlm
                1      0      1      0     12
```

2 To list the critical external alarms, type

>LIST CRIT

and press the Enter key.

Example of a MAP response:

```
AMAFAIL
```

3 Determine the name of the first critical external alarm on the list.

If the first alarm	Do
is AMAFAIL	step 6
is CRPWR	step 4
is CRITEQUIP	step 4
is DEADSYSM	step 21
is LLC_ALARM	step 18
is MCCNACK	step 27
is MCPALARM	step 4
is OMCRITICAL	step 21
is PFSUCFLR	step 4
is VR1_CRITICAL	step 21
is VR2_CRITICAL	step 21
is VSN_CRIT_ALM	step 21

Ext Crit
critical (continued)

If the first alarm	Do
is VSN_NO_LINKS	step 21

4 Use the procedures supplied with your power equipment to find and fix the fault. Complete the procedure and return to this point.

5 Go to step 26.

6 Determine if the system displays an IOCOS, DDUOS, or MTDOS alarm, or an AMA-related alarm. These alarms appear under the IOD header of the MAP display.

If an IOD alarm	Do
appeared	step 7
did not appear	step 8

7 Perform the correct procedure in this document. Complete the procedure and return to this point.

8 To start the AMA process again, type

>AMARESTART

and press the Enter key.

MAP response:

```
THIS COMMAND WILL CAUSE DEAD RECORDING PROCESSES FOR ALL
STREAMS TO BE RESTARTED. DO YOU WISH TO PROCEED?
Please confirm (”YES”, ”Y”, ”NO”, or ”N”):
```

9 To confirm the command, type

>Y

and press the Enter key.

Example of a MAP response:

```
CALL RECORDING PROCESS ALREADY RUNNING FOR STREAM:  AMA
CALL RECORDING PROCESS ALREADY RUNNING FOR STREAM:  SMDR
```

10 Determine if the AMAFAIL alarm cleared.

If the AMAFAIL alarm	Do
cleared	step 11
did not clear	step 12

11 Record the action taken to clear the alarm in the office log.

Go to step 26.

Ext Crit
critical (continued)

12 Determine if your office connects to a telephone-network operating system (TNOS).

If your office	Do
connects	step 13
does not connect	step 28

13 To access the TNOS software, type

>TNOS

and press the Enter key.

14 To determine if throttling is ON, type

>FTSTA SCHEDULE

and press the Enter key.

If throttling	Do
is ON	step 28
is OFF	step 15

15 Determine if the AMAFAIL alarm occurred during a period of high traffic.

If the AMAFAIL alarm	Do
occurred during a period of high traffic	step 16
did not occur during a period of high traffic	step 28

16 To activate throttling of TNOS for high-traffic periods, type

>FTSCH ENABLE starthour startmin endhour endmin

and press the Enter key.

where

starthour
is a number from 01 to 23 that indicates the hour at which

throttling is to begin

startmin
is a number from 01 to 59 that indicates the minute at which

throttling is to begin

endhour
is a number from 01 to 23 that indicates the hour at which

throttling is to end

endmin
is a number from 01 to 59 that indicates the minute at which

throttling is to end

Example input:

```
>FTSCH  ENABLE  14  03  23  04
```

17 Determine if the AMAFAIL alarm continues to occur during high-traffic periods.

If the alarm	Do
continues to occur during high-traffic periods	step 28
does not continue to occur during high-traffic periods	step 25

18 Determine if you can deactivate the line load control.

If you	Do
have permission	step 19
do not have permission	step 28

19 To deactivate the line load control, type

```
>LLC  OFF
```

and press the Enter key.

Example of a MAP response:

```
LINE LOAD CONTROL IS OFF
```

20 Determine if the LLC_ALARM alarm cleared.

If the LLC_ALARM alarm	Do
cleared	step 25
did not clear	step 28

21 Determine if the system generated an EXT103 or an EXT108 log.

If the system	Do
generated an EXT103 or an EXT108 log	step 22

Ext Crit
critical (continued)

If the system	Do
did not generate an EXT103 or an EXT108 log	step 28

22 Determine if the alarm turned OFF.

Example of a log report:

```
EXT108 APR01 09:13:48 425 INFO VSN_CRIT_ALM OFF
   LANLINK_FAILURE 1
```

Note: The word OFF is on the right side of the alarm name. The word OFF indicates that the alarm turned OFF.

If the alarm	Do
turned OFF	step 25
did not turn OFF	step 23

23 Wait 30 min. Determine if the system generated an EXT103 or an EXT108 log.

If the system	Do
generated an EXT103 or an EXT108 log	step 24
did not generate an EXT103 or an EXT108 log	step 28

24 Determine if the alarm turned OFF.

If the alarm	Do
turned OFF	step 25
did not turn OFF	step 28

25 To list the critical external alarms, type

`>LIST CRIT`

and press the Enter key.

26 Determine if the EXT Crit critical alarm cleared.

If the alarm	Do
cleared	step 29

Ext Crit critical (end)

If the alarm	Do
changed to a lower number (for example, changed from 2Crit to 1Crit)	step 2
did not clear	step 28

27 Inform the next level of support that an MCCNACK alarm is available. Wait 5 min. Determine if the MCCNACK alarm cleared.

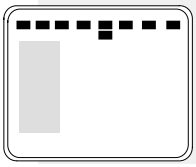
If the MCCNACK alarm	Do
cleared	step 29
did not clear	step 28

28 For additional help, contact the next level of support.

29 The procedure is complete.

Ext Maj
major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1Maj M**	.

Indication

At the MTC level of the MAP display, Maj (preceded by a number) appears under the Ext header of the alarm banner. The Maj indicates a major external alarm.

Meaning

The meaning of this alarm depends on the alarm. Refer to the *Result* section.

The number that precedes Maj indicates the number of major alarms.

Result

The alarm and battery maintenance trunk module fail (ABMTMFL) alarm indicates that a fault is present in the dead system alarm (DSA) card. The DSA card is present in the backup maintenance trunk module (MTM). The alarm does not affect subscriber service.

The alarm and battery office alarm unit fail (ABOAUFL) alarm indicates that a fault is present. The primary office alarm unit (OAU) card contains the fault. The OAU card is in the backup maintenance trunk module (MTM). The alarm does not affect subscriber service.

The alarm and battery supply fail (ABSFAIL) alarm indicates that a fault is present. The fault is present in the alarm and battery voltage supply of the power distribution center (PDC) frame. The alarm does not affect subscriber service.

The digital recorded announcement machine (DRAM) fail (DRAMALRM) alarm indicates one of the following conditions:

- The DRAM fails to return the message that the central control (CC) sent.
- The queue audit for the idle terminal linkage blocks (TLB) encounters a condition that is not planned.

Ext Maj
major (continued)

- The CC cannot communicate with the DRAM.
- A power loss is present on the DRAM.

The Emergency 911 automatic location identifier major (E911_ALI_MAJOR) alarm indicates a multiprotocol controller (MPC) link failure. The failure can occur in the asynchronous multiprotocol controller (MPC) link to the automatic location identifier (ALI) controller. The failure also can occur in both MPC links to an open interface ALI controller. No ALI information is available to the line or automatic call distribution public safety answering point (ACD PSAP) operators served by the database.

The Emergency 911 remote call event records major (E911_RCER_MAJOR) alarm indicates a problem. The problem occurs in all of the MPC links to a remote location. This location prints records of calls to the exact public safety answering point (PSAP). The MPC links failed. This alarm does not affect the records of events, logs, and calls generated at the E911 tandem location.

A malicious call trace (MCTALARM) alarm indicates that a malicious call trace occurs on the line of a subscriber.

A metering backup (METBCK) alarm indicates a problem with the backup file used for metering. The Device Independent Recording Package (DIRP) subsystem uses the backup file for metering. The METBCK alarm indicates that the system did not mount the DIRP. The metering system does not have a backup. Billing-related data are in jeopardy.

A major previous floor (MJPREFLR) alarm indicates that a major fault is present on a lower floor of the building. The impact of an MJPREFLR alarm depends on the configuration of your office. The impact of the alarm also depends on the items that your company chose to trigger the alarm.

A major power (MJPWR) alarm indicates that a major power fault is present in the equipment that supplies power to the DMS switch. The fault only affects subscriber service if a failure is present in both main and emergency power supplies.

A major succeeding floor (MJSUCFLR) alarm indicates that a major fault is present on a higher floor of the building. The impact of an MJSUCFLR alarm depends on the configuration of your office. The alarm result also depends on the items that your company chose to trigger the alarm.

Ext Maj
major (continued)

A major operational measurements (OM) buffered reports (OMBRFAIL) alarm indicates an output device failed during a write operation. The alarm does not affect subscriber service.

The OM major alarm (OMMAJOR) indicates that the OM major alarm index reached the threshold within the scan period.

The post autoapply sanity (POST_AUTOAPP_SAN) alarm indicates an exceeded log count. The number of specified logs during the POSTMON period after the autoapply process exceeds the allowed number. The following conditions can cause this alarm.

- The switch detects a maintenance condition not related to the autoapply process. The type of logs, and the number of the logs, identifies the affect on subscriber service.
- The counted logs include information-only logs and other low-priority logs. Subscriber service is not affected.
- The number of logs allowed during a POSTMON period may be too low. Subscriber service is not affected.

A power distribution center failure (PDCFAIL) alarm indicates that a power fault is present in a power distribution center (PDC) frame. The fault only affects subscriber service if the fault interrupts power to a shelf that does not have backup power supply.

An SL-100 link error (SLLNKERR) alarm indicates that data transfer stopped. A data transfer stop interrupts subscriber service.

A Traffic operator position system personal audio response system application (TOPS_PARS_APPL) alarm indicates a problem with (MPC) datalinks. The alarm indicates that all MPC datalinks for the TOPS_PAR are out of service. The alarm does not affect subscriber service.

A voice alarm (VCEALM) indicates that a fault is present in analog recorded announcement machine that connects to a DMS switch. The analog recorded announcement machine does not have a DMS switch. Subscribers do not receive recorded announcements.

A voice services node major alarm (VSN_MAJ_ALM) indicates a major error condition. The alarm indicates that a major error condition occurred or is resolved in the voice services node. The alarm does not affect subscriber service.

Common procedures

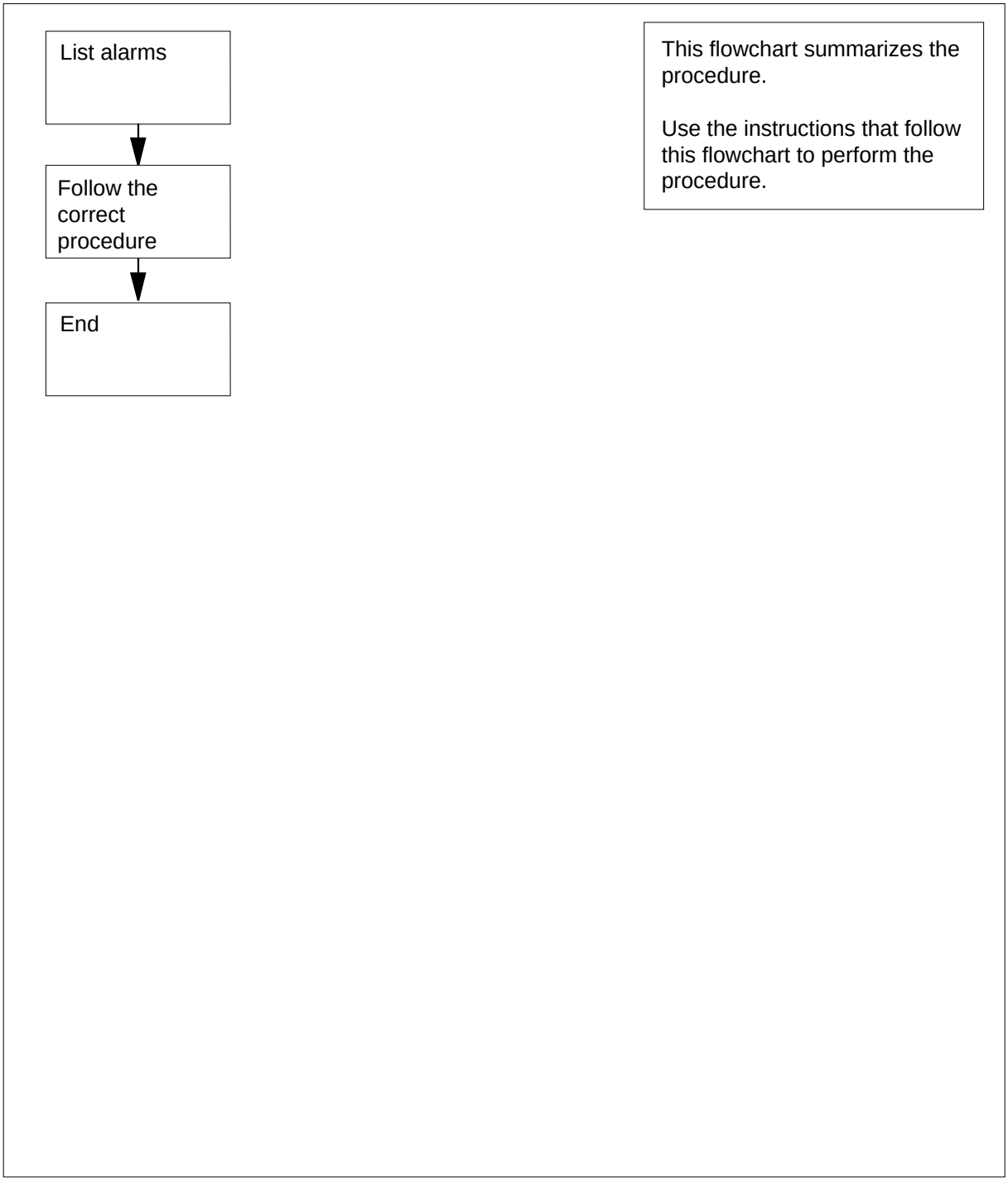
There are no common procedures.

Action

This procedure contains a flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext Maj
major (continued)

Summary of Clearing an Ext Maj major alarm



Clearing an Ext Maj major alarm

At the MAP terminal

1 To access the Ext level of the MAP display, type

>MAPCI;MTC;EXT

and press the Enter key.

Example of a MAP display:

```
Ext Alarms    Crit    FSP   Major  Minor  NoAlm
                1      0      1      0     12
```

2 To list the major alarms, type

>LIST MAJ

and press the Enter key.

Example of a MAP response:

```
DRAMALRM
```

3 Determine the name of the first major external alarm on the list.

If the first alarm	Do
is ABMTMFL	step 69
is ABOAUFL	step 81
is ABSFAIL	step 23
is DRAMALRM	step 97
is E911_AU_MAJOR	step 25
is E911_RCER_MAJOR	step 25
is MCTALARM	step 96
is METBCK	step 68
is MJPWR	step 27
is MJPREFLR	step 27
is MJSUCFLR	step 27
is OMBRFAIL	step 104

Ext Maj
major (continued)

If the first alarm	Do
is OMMAJOR	step 104
is POST_AUTOAPP_SAN	step 4
is POST_AUTOPROC_SA	step 4
is PDCFAIL	step 23
is SLLNKERR	step 29
is TOPS_PARS_APPL	step 21
is VCEALM	step 27
is VSN_MAJ_ALM	step 97

4

ATTENTION
Follow office policy when you troubleshoot and correct any maintenance condition. If necessary, contact the next level of support.

Review recent logs for any maintenance condition not related to the autoapply process.

If recent logs	Do
indicate a maintenance condition	Perform the correct procedure to clear the maintenance condition. When completed, go to step 19.
do not indicate a maintenance condition	step 5

5 Access table AUTOMON by typing

```
>TABLE  AUTOMON
```

and pressing the Enter key.

6 List the table by typing

```
>LIS  ALL
```

and pressing the Enter key.

Example of a MAP response:

```
NAME LOGNUM
-------------
   LOST    101
   LOST    104
   LOST    105
   LOST    106
     MM    100
     CM    103
     CM    111
     CM    112
     CM    116
     CM    119
     CM    122
     CM    125
   AUDT    101
   AUDT    102
   AUDT    397
    AUD    395
```

7 Review the contents of the table for any information-only logs or low-priority logs.

If table AUTOMON	Do
lists any information-only or low-priority logs that can deleted from the table	step 8
does not list any information-only or low-priority logs that can be deleted from the table	step 10

8

ATTENTION
Check office policy before you delete any logs from table AUTOMON. You may have to add the logs to table AUTOMON at a later date.

Delete the log from the table by typing

>DEL logname_lognum

and pressing the Enter key.

where

logname_lognum
is the name and number of the log

9 Repeat step 8 for each log to be deleted from the table.

Ext Maj
major (continued)

10 Quit the table by typing

>QUIT

and pressing the Enter key.

If you	Do
deleted any logs from table AUTOMON	step 19
did not delete any logs from table AUTOMON	step 11

11 Access table AUTOOPTS by typing

>TABLE AUTOOPTS

and pressing the Enter key.

12 List the table by typing

>LIS ALL

and pressing the Enter key.

Example of a MAP response:

```
    KEY FILEALRM APPROVAL                MONDATA DURATION MAXATMPT
DROPSYNC MONDAY TUESDAY WEDNSDAY THURSDAY FRIDAY SATURDAY SUNDAY
MNTTIME
------------------------------------------------------------------------
AUTOOPTS        N        N        Y  T15  T15  15       30        $
      N   2300    2300     2300     2300   2300     2300   2300
2315
```

13

> **ATTENTION**
> Check office policy before you change the percentage increase for allowed logs.

Change the percentage increase to allow for logs before an EXT MAJ alarm by typing

>CHA

and pressing the Enter key.

14 Press Enter to scroll through the fields until you receive the MONLIMIT prompt.

15 Record the current value in MONLIMIT. This value is the percentage increase that is allowed for logs before an EXT MAJ alarm.

16 Enter the new percentage increase by typing

>percent_increase

and pressing the Enter key.

where

percent_increase
is a number between 1 and 100

17 Confirm the change by typing

>Y

and pressing the Enter key.

18 Quit the table by typing

>QUIT

and pressing the Enter key.

At the EXT level of the MAP display

19 Release the alarm by typing

>SETSC alarm_name REL

and pressing the Enter key.

where

alarm_name
is POST_AUTOAPP_SAN or POST_AUTOPROC_SA

20 Go to step 105.

21 Perform the correct procedure in the corresponding *Maintenance Manual.*. Complete the procedure and return to this point.

22 Go to step 101.

23 A power fault is present in the PDC frame. Perform the procedure *Clearing an Ext FSP PDC frame major alarm* in this document. Complete the procedure and return to this point.

24 Go to step 101.

25 Perform the correct procedure in this document and return to this point.

26 Go to step 101.

27 Use the procedures supplied with your power equipment to find and fix the fault. Complete the procedure and return to this point.

28 Go to step 101.

29 Determine if the system generated an SLNK103 log.

If the system	Do
generated an SLNK103 log	step 30
did not generate an SLNK103 log	step 104

30 Determine the device in error.

Note: The SLNK log report lists the name of the failed device.

Ext Maj
major (continued)

Example of an SLNK103 log report:

```
SLNK103 Jun12 02:03:47 1991 INFO SESSION
   SMDR Reports transfer stopped on device MRLINK
```

31 To access table TERMDEV, type

>TABLE TERMDEV

and press the Enter key.

32 To position on the device, type

>POSITION dev_type

and press the Enter key.

where

dev_type
is the name of the device that you determined in step 30

33 Record the input/output controller number (listed under the IOCNO header), and card number (listed under the CKTNO header).

34 To quit from table TERMDEV, type

>QUIT

and press the Enter key.

35 To access table SLLNKDEV, type

>TABLE SLLNKDEV

and press the Enter key.

36 To position on the device, type

>POSITION dev_type

and press the Enter key.

where

dev_type
is the name of the device that you determined in step 30

37 Record the link transfer type (listed under the XFERS header).

38 To quit from table SLLNKDEV, type

>QUIT

and press the Enter key.

39 To access the link utility, type

>LNKUTIL

and press the Enter key.

40 To stop the transfer of data, type

>DEVSTOP dev_type xfer_type

and press the Enter key.

where

dev_type
is the name of the device that you determined in step 30

xfer_type
is the transfer type that you determined in step 37

41 To stop the device, type

>DEVDISC dev_type KILL

and press the Enter key.

where

dev_type
is the name of the device that you determined in step 30

42 To access the IOD level of the MAP display, type

>IOD

and press the Enter key.

Example of a MAP display:

```
IOD
IOC  0  1  2  3
STAT .  S  .  S

DIRP: AMA  B XFER:  .   NOP :  .   SLM : SLMbsy DVI :   .
DPPP:   .    DPPU:  .   NX25:  .    MLP :  .   SCAI:   .
CDR :   .
```

43 To access the IOC level of the MAP display for the device, type

>IOC ioc_no

and press the Enter key.

where

ioc_no
is the IOC number that you recorded in step 33

Example of a MAP display:

```
IOC   CARD    0   1    2    3    4    5    6    7     8
  1   PORT 0123 0123 0123 0123 0123 0123 0123  0123  0123
      STAT C--- P--- C-CC P--- CC--  P--- -C-C P---  ----
      TYPE MTD  DDU  CONS  MPC CONS  MPC  CONS  MPC
```

44 To access the Card level of the MAP display, type

>CARD card_no

and press the Enter key.

where

Ext Maj
major (continued)

card_no
is the circuit number that you recorded in step 33

Example of a MAP display:

```
Card   2   Ckt      0         1         2         3
Status           CS BUSY     –       CS BUSY   CS BUSY
Cons Id          RV120               TEAM1     CRTCOML3
ConType          VT100               VT100     VT100
```

45 To determine the syntax needed to manually busy the card, type

>HELP BSY

and press the Enter key.

46 To manually busy the circuit that corresponds to the device, type one of the following:

>BSY circuit

and press the Enter key.

>BSY link

and press the Enter key.

Note: Syntax for the BUSY command varies according to the type of device controller card.

where

circuit
is the number of the circuit (0 to 3)

link
is the number of the link (0 to 3)

47 To determine the syntax needed to offline the card, type

>HELP OFFL

and press the Enter key.

48 To put the circuit offline, type one of the following:

>OFFL circuit

and press the Enter key.

>OFFL link

and press the Enter.

Note: Syntax for the OFFLINE command varies according to the type of device controller card.

where

circuit
is the number of the circuit (0 to 3)

link
is the number of the link (0 to 3)

49 To manually busy the circuit, type one of the following:

```
>BSY  circuit
```

and press the Enter key.

```
>BSY  link
```

and press the Enter key.

where

circuit
is the number of the circuit (0 to 3)

link
is the number of the link (0 to 3)

50 To determine the syntax needed to return the card to service, type

```
>HELP  RTS
```

and press the Enter key.

Note: Syntax to return the card to service varies according to the type of device controller card.

51 To return the circuit to service, type one of the following:

```
>RTS  circuit
```

and press the Enter key.

```
>RTS  link
```

and press the Enter key.

where

circuit
is the number of the circuit (0 to 3)

link
is the number of the link (0 to 3)

52 To access the CI level of the MAP display, type

```
>QUIT  ALL
```

and press the Enter key.

53 To access the link utility, type

```
>LNKUTIL
```

and press the Enter key.

54 To start a session on the datalink, type

```
>DEVCON  dev_type
```

and press the Enter key.

where

dev_type
is the name of the device that you recorded in step 30

Ext Maj
major (continued)

55 To start data transmission, type

>DEVSTART dev_type xfer_type

and press the Enter key.

where

dev_type
is the name of the device that you recorded in step 30

xfer_type
is the transfer type that you determined in step 37

56 To access the Ext level of the MAP display, type

>MAPCI;MTC;EXT

and press the Enter key.

57 To list the major alarms, type

>LIST MAJ

and press the Enter key.

58 Determine if the SLLNKERR alarm is present.

If the SLLNKERR alarm	Do
is present	step 59
is not present	step 102

59 To stop the transfer of data, type

>DEVSTOP dev_type xfer_type

and press the Enter key.

where

dev_type
is the device that you recorded in step 30

xfer_type
is the transfer type that you recorded in step 37

60 To stop the device, type

>DEVDISC dev_type KILL

and press the Enter key.

where

dev_type
is the device that you recorded in step 30

61 To access the IOD level of the MAP display, type

>IOD

and press the Enter key.

Ext Maj
major (continued)

62 To access the IOC level of the MAP display for the device, type

```
>IOC  ioc_no
```

and press the Enter key.

where

ioc_no
is the IOC number for the device that you recorded in step 33

63 To access the Card level of the MAP display, type

```
>CARD  card_no
```

and press the Enter key.

where

card_no
is the circuit number that you recorded in step 33

64 To determine the syntax needed to manually busy the card, type

```
>HELP  BSY
```

and press the Enter key.

65 To manually busy the circuit that corresponds to the device, type one of the following:

```
>BSY  circuit
```

and press the Enter key.

```
>BSY  link
```

and press the Enter key.

Note: Syntax for the BUSY command varies according to the type of device controller card.

where

circuit
is the number of the circuit (0 to 3)

link
is the number of the link (0 to 3)

66 To determine the syntax needed to put the card offline, type

```
>HELP  OFFL
```

and press the Enter key.

67 To put the circuit offline, type one of the following:

```
>OFFL  circuit
```

and press the Enter key.

```
>OFFL  link
```

and press the Enter key.

Note: Syntax for the OFFLINE command varies according to the type of device controller card.

Ext Maj
major (continued)

where

circuit
is the number of the circuit (0 to 3)

link
is the number of the link (0 to 3)

Go to step 104.

68 Mount the backup volume in the DIRP subsystem. After the backup process runs, the METBCK alarm clears automatically or manually. To manually clear the METBCK alarm, execute the Mstore command at the MTRSYS level of the MAP display.

Go to step 102.

69 To access table ALMSD, type

>TABLE ALMSD

and press the Enter key.

70 To position on the tuple for the signal distributor (SD) point MTMFAIL, type

>POSITION MTMFAIL

and press the Enter key.

Example of a MAP response:

```
MTMFAIL 1 0 1 N N
```

71 To display the table headings, positioned on the SD point tuple, type

>LIST

and press the Enter key.

Example of a MAP response:

```
 FUNCTION SDGROUP POINT NORMALST AUDIBLE LAMPTEST
 ------------------------------------------------
 MTMFAIL   1       0       1      N       N
```

72 Record the SD point group number.

Note: The SD point group number appears under the SDGROUP heading.

73 To quit from table ALMSD, type

>QUIT

and press the Enter key.

74 To access table ALMSDGRP, type

>TABLE ALMSDGRP

and press the Enter key.

75 To position on the SD point group number tuple, type

>POSITION sdgroup_no

and press the Enter key.

where

sdgroup_no
is the SD point group number that you recorded in step 72

Example of a MAP response:

```
1 MTM 1 0 3X82AA
```

76 Display the table headings positioned on the SD point group number tuple. To display the table headings, type

>LIST

and press the Enter key.

Example of a MAP response:

```
 SDGROUP TMTYPE TMNO TMCDTNO CARDCODE
 ----------------------------------
 1       MTM    1    0        3X82AA
```

77 Record the TMTYPE, TMNO, and CARDCODE for the MTM.

78 To quit from table ALMSDGRP, type

>QUIT

and press the Enter key.

79 To access the PM level of the MAP display, type

>PM

and press the Enter key.

Example of a MAP display:

```
        SysB    ManB    OffL    CBsy    ISTb    InSv
PM         0       0       1       9       0       0
```

80 To determine the state of the MTM, type

>POST MTM mtm_no

and press the Enter key.

where

mtm_no
is the TMNO that you recorded in step 77

If the MTM	Do
is CB sy or SysB	step 95
is not CB sy or SysB	step 93

Ext Maj
major (continued)

81 To access table ALMSD, type

>TABLE ALMSD

and press the Enter key.

82 To position on the tuple for the SD point OAUFAIL, type

>POSITION OAUFAIL

and press the Enter key.

Example of a MAP response:

```
OAUFAIL 1 0 1 N N
```

83 Display the table headings, positioned on the SD point tuple. To display the table headings, type

>LIST

and press the Enter key.

Example of a MAP response:

```
FUNCTION SDGROUP POINT NORMALST AUDIBLE LAMPTEST
-------------------------------------------------
OAUFAIL   1       0     1        N       N
```

84 Record the SD point group number.

Note: The SD point group number appears under the SDGROUP heading.

85 To quit from table ALMSD, type

>QUIT

and press the Enter key.

86 To access table ALMSDGRP, type

>TABLE ALMSDGRP

and press the Enter key.

87 To position on the SD point group number tuple, type

>POSITION sdgroup_no

and press the Enter key.

where

sdgroup_no
is the SD point group number that you recorded in step 84

Example of a MAP response:

```
1 OAU 1 0 3X82AA
```

88 Display the table headings, positioned on the SD point group number tuple. To display the table headings, type

>LIST

and press the Enter key.

Example of a MAP response:

```
SDGROUP TMTYPE TMNO TMCDTNO CARDCODE
-----------------------------------
1       OAU    1    0        3X82AA
```

89 Record the TMTYPE, TMNO, and CARDCODE for the OAU.

90 To quit from table ALMSDGRP, type

>QUIT

and press the Enter key.

91 To access the PM level of the MAP display, type

>PM

and press the Enter key.

Example of a MAP display:

```
              SysB    ManB    OffL    CBsy    ISTb    InSv
 PM              0       0       1       9       0       0
```

92 To determine the state of the OAU, type

>POST OAU oau_no

and press the Enter key.

where

oau_no
is the TMNO that you recorded in step 89

If the OAU	Do
is CBsy or SysB	step 95
is not CBsy or SysB	step 93

93 To replace the card that you recorded in step 77 or step 89, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

94 Go to step 101.

95 Perform the correct procedure to clear a peripheral module alarm. Complete the procedure and return to this point.

Go to step 101.

Ext Maj
major (continued)

96 To silence the alarm, type

>MAPCI;MTC;SIL

and press the Enter key.

97 Determine if the system generated one of the following logs.

If the system	Do
generated an EXT103 log	step 98
generated an EXT107 log	step 98
generated an EXT108 log	step 98
generated an AUDT205 log	step 103
generated an AUDT206 log	step 103
generated an AUDT207 log	step 103
generated a log other than listed here	step 104

98 Determine if the alarm turned OFF.

Example of a log report:

```
EXT107 APR01 09:13:48 425 INFO VSN_MAJ_ALM OFF
   CNTRLNK_INTERFACE 1
```

Note: The word OFF appears on the right side of the alarm name. The word OFF indicates that the alarm turned OFF.

If the alarm	Do
turned OFF	step 102
did not turn OFF	step 99

99 Wait 30 min. Determine if the system generated an EXT103 log, an EXT107 log or an EXT108 log.

If the system	Do
generated a log	step 100
did not generate a log	step 104

100 Determine if the alarm turned OFF.

If the alarm	Do
turned OFF	step 102
did not turn OFF	step 104

101 Determine if the TOPS_PARS_APPL alarm cleared.

If the alarm	Do
cleared	step 102
did not clear	step 104

102 Determine if the EXT Maj major alarm cleared.

If the alarm	Do
cleared	step 105
changed to a smaller number (for example, changes from 2Maj to 1Maj)	step 2
did not clear	step 104

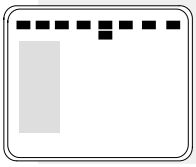
103 Refer to the correct log report and maintenance action in the *Log Report Reference Manual*.

104 For additional help, contact the next level of support.

105 The procedure is complete.

Ext Min
minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1Min**	.

Indication

At the MTC level of the MAP display, Min (preceded by a number) appears under the Ext header of the alarm banner. The Min indicates a minor external alarm.

Meaning

The meaning of the minor alarms depends on the exact alarm (see Result).

The number that precedes Min indicates the number of minor alarms.

Result

A BLUEBOX alarm indicates that system software detects a false attempt to make a toll call with a bluebox. A bluebox is a tone generator. Blueboxes allow persons to make toll calls that are not legal and do not incur toll charges. The problem does not affect subscriber service.

An emergency 911 automatic location identifier minor (E911_ALI_MINOR) alarm appears. The alarm indicates that the asynchronous multiprotocol controller (MPC) link to an open interface automatic location identifier (ALI) controller failed. Only one of the two redundant links in the ALI interface can operate. The problem does not affect subscriber service.

An emergency 911 remote call event records minor (E911_RCER_MINOR) alarm appears. The alarm indicates that one of the MPC links to a remote location failed. Records of calls to the exact public safety answering point (PSAP) print at the remote location. The problem does not affect subscriber service.

An off-hook alarm for the emergency 911 public safety answering point (E911_PSAP_OFFHK) indicates that a PSAP operator was off-hook. The PSAP operator was off-hook and did not connect to another party for a time

Ext Min
minor (continued)

that exceeds an office parameter setting. The PSAP operator cannot answer incoming emergency calls. The problem can affect subscriber service.

An alarm for the emergency 911 selective routing database memory (E911_SRDB_MEMORY) indicates that one of the following conditions is present:

- the selective routing database (SRDB) uses storage that exceeds a specified percentage of the total store
- the free memory is below a specified value
- the number of tuples in the SRDB exceeds a specified value

The preceding conditions do not affect subscriber service.

A metering out-of-service (METOOS) alarm appears. The alarm indicates that the out-of-service file on the device independent recording package (DIRP) subsystem for metering is not mounted. You cannot withdraw the allocation of software meter blocks.

A meter recycle (METXRCYL) alarm indicates a meter audit failed to clear recycle meters. The alarm occurs after an image backup loads again.

A minor previous floor (MNPREFLR) alarm indicates that a minor power fault is present on a lower floor of the building. The problem does not affect subscriber service.

A minor power (MNPWR) alarm indicates that a minor fault is present in the equipment that supplies power to the switch. The problem does not affect subscriber service.

A minor succeeding floor (MNSUCFLR) alarm indicates that a minor power fault is present on a higher floor of the building. The problem does not affect subscriber service.

A minor alarm for operational measurements buffered reports (OMBRSTOP) indicates that an output device fails during a read operation. If you ignore the failure for an extended period, the disk buffer fills and all operational measurements (OM) data goes unbuffered to the log system. The problem does not affect subscriber service.

An OCDL_CONGESTION indicates a large volume of traffic on and along the OCDL links.

that exceeds an office parameter setting. The PSAP operator cannot answer incoming emergency calls. The problem can affect subscriber service.

An alarm for the emergency 911 selective routing database memory (E911_SRDB_MEMORY) indicates that one of the following conditions is present:

- the selective routing database (SRDB) uses storage that exceeds a specified percentage of the total store
- the free memory is below a specified value
- the number of tuples in the SRDB exceeds a specified value

The preceding conditions do not affect subscriber service.

A metering out-of-service (METOOS) alarm appears. The alarm indicates that the out-of-service file on the device independent recording package (DIRP) subsystem for metering is not mounted. You cannot withdraw the allocation of software meter blocks.

A meter recycle (METXRCYL) alarm indicates a meter audit failed to clear recycle meters. The alarm occurs after an image backup loads again.

A minor previous floor (MNPREFLR) alarm indicates that a minor power fault is present on a lower floor of the building. The problem does not affect subscriber service.

A minor power (MNPWR) alarm indicates that a minor fault is present in the equipment that supplies power to the switch. The problem does not affect subscriber service.

A minor succeeding floor (MNSUCFLR) alarm indicates that a minor power fault is present on a higher floor of the building. The problem does not affect subscriber service.

A minor alarm for operational measurements buffered reports (OMBRSTOP) indicates that an output device fails during a read operation. If you ignore the failure for an extended period, the disk buffer fills and all operational measurements (OM) data goes unbuffered to the log system. The problem does not affect subscriber service.

An OCDL_CONGESTION indicates a large volume of traffic on and along the OCDL links.

Ext Min
minor (continued)

An OCDL_SYSB alarm indicates an affected operator centralization from a remote toll center to a host DMS TOPS toll center. A reduction of remote links to the TOPS toll center occurred.

An alarm for a traffic operator position system personal audio response system link (TOPS_PARS_LINK) appears. The alarm indicates that an MPC datalink for the TOPS_PARS application is out of service. The problem does not affect subscriber service.

A traffic operator position system personal audio response system node (TOPS_PARS_NODE) alarm indicates that all MPC datalinks to any PARS application are out of service. The problem does not affect subscriber service.

A TQMSFCQA_ALM alarm indicates missing datafill in table TQMSFCQA. An EXT 106 log will be generated when the alarm is set. Field CT4Q will reference the queue that was assigned a CT4Q in table CT4QNAMS but is missing from TQMSFCQA.

A minor alarm for the testline 101 (TSTLN101) indicates a call. The call enters on a 101-type test line at a transmission test center (TTC). The problem does not affect subscriber service.

A voice relay one (VR1_MINOR) alarm indicates that only one datalink is available to the TOPSVR1 application in table MPCFASTA. The problem does not affect subscriber service.

A voice relay two (VR2_MINOR) alarm indicates that only one datalink is available to the TOPSVR2 application in table MPCFASTA. The problem does not affect subscriber service.

A voice services node minor alarm (VSN_MIN_ALM) indicates that a minor error condition occurs in the VSN. The alarm also indicates a resolution of a problem in the VSN. The problem does not affect subscriber service.

A voice services node one link (VSN_ONE_LINK) alarm appears. A VSN alarm indicates that only one datalink in a set of two or more datalinks attached to a VSN can operate.

Common procedures

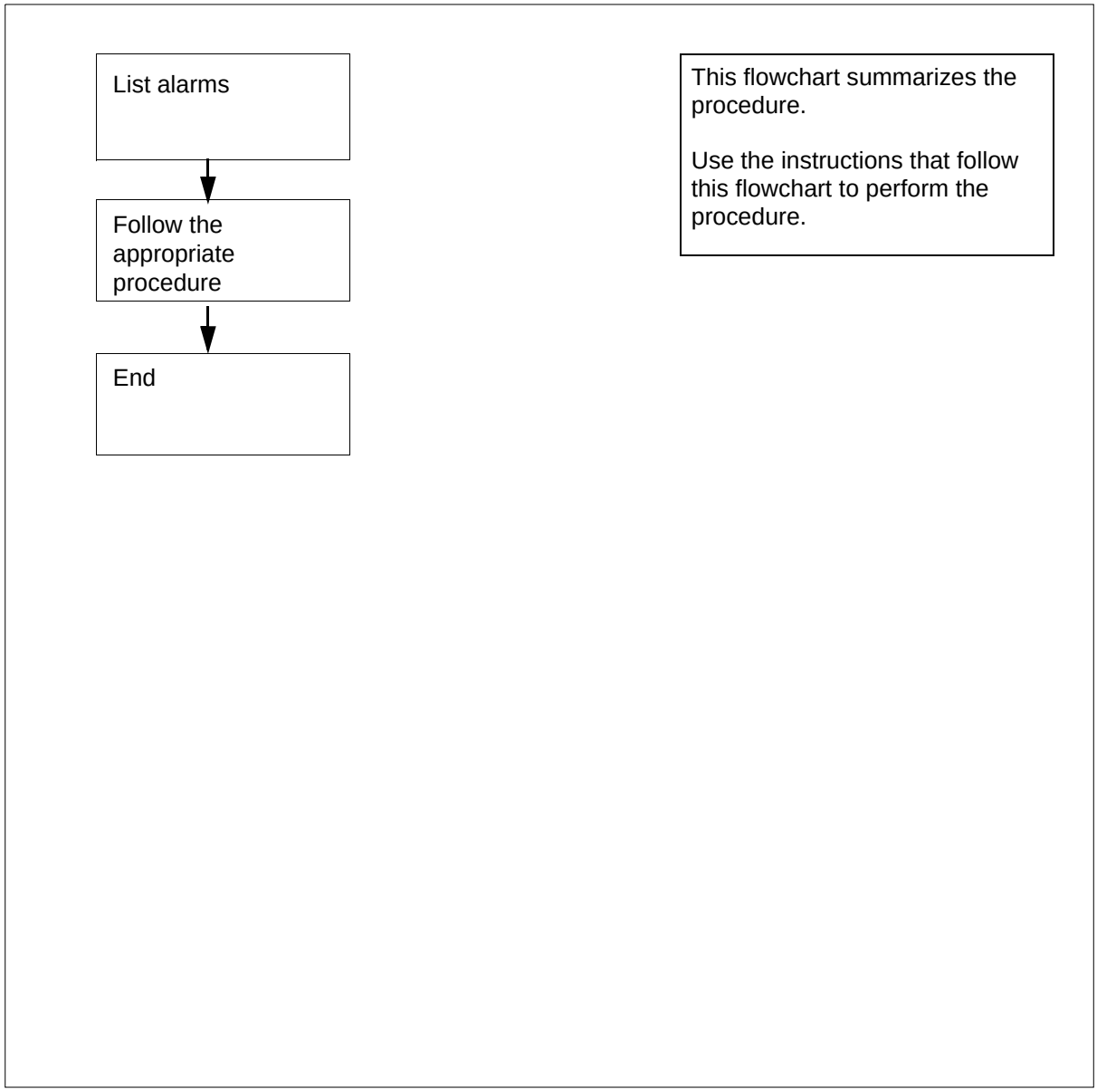
There are no common procedures.

Ext Min
minor (continued)

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of clearing a Net ISTb on a link minor alarm



Ext Min
minor (continued)

If the first alarm	Do
is TOPS_PARS_LINK	step 4
is TOPS_PARS_NODE	step 4
is TQMSFCQA_ALM	step 18
is TSTLN101	step 11
is VR1_MINOR	step 18
is VR2_MINOR	step 18
is VSN_MIN_ALM	step 18
is VSN_ONE_LINK	step 18

4 Perform the correct procedure that supports Traffic Operator Position System (TOPS) to clear the alarm. Complete the procedure and return to this point.

5 Go to step 23.

6 Use the procedures supplied with your power equipment to find and fix the fault. Complete the procedure and return to this point.

7 Go to step 23.

8 The occurrence of this alarm depends on the configuration of your office. The occurrence of the alarm also depends on the stimulus that your company chose as the trigger for the alarm. Use the procedures outlined by your company to find and fix the fault. Complete the procedure and return to this point.

9 Go to step 23.

10 Perform the correct procedure in this document. Complete the procedure and return to this point.

Go to step 23.

11 Answer the incoming call on a 101-type test line at a transmission test center (TTC). Take action according to the procedure on how to respond to 101-type calls. Your company outlines the procedure. Complete the procedure and return to this point.

12 Go to step 23.

13 Determine if the system generated a TRK153 log report.

If the system	Do
generated a TRK153 log report	step 14
did not generate a TRK153 log report	step 24

Ext Min
minor (continued)

14 Respond to the alarm and log report as indicated in your company procedure to handle toll calls that are not legal. Complete the procedure and return to this point.

15 Go to step 23.

16 Mount the out-of-service volume on the DIRP subsystem.

Go to step 23.

17 At the CI level of the MAP display, execute the RCLR command.

Go to step 18.

18 Determine if the system generated an EXT106 log report.

If the system	Do
generated an EXT106 log report	step 19
did not generate an EXT106 report	step 24

19 An alarm is present in the alarm banner. Fix the datafill fault. Enter the following command

```
>setsc tqmsfcqa_alm rel
```

and press the enter key. Proceed to step 25.

20 Determine if the alarm is OFF.

Example of a log report:

```
EXT106 APR01 09:13:48 425 INFO VSN_MIN_ALM OFF
   CNTRLNK_INTERFACE 1
```

Note: The word OFF on the right side of the alarm name indicates that the alarm is off.

If the alarm	Do
is OFF	step 23
is not OFF	step 21

21 Wait 30 min. Determine if the system generated an EXT106 log.

If the system	Do
generated an EXT106 log	step 22
did not generate an EXT106 log	step 23

22 Determine if the alarm is OFF.

If the alarm	Do
is OFF	step 23
is not OFF	step 24

23 Determine if the EXT Min minor alarm cleared.

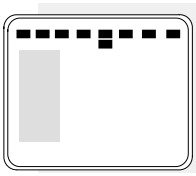
If the alarm	Do
cleared	step 25
changed to a lower number (for example, changed from 2Min to 1Min)	step 2
did not clear	step 24

24 For additional help, contact the next level of support.

25 The procedure is complete.

Ext CPPOOL critical

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.		**1Crit**	

Indication

At the MTC level of the MAP display, CPPOOLMGR critical appears under the computing module (CM) header of the alarm banner. The CPPOOLMGR critical signal indicates that an audit finds a fault condition. The audit finds a fault when the audit finds an error condition with the pools.

Meaning

The system raises the CPPOOL critical alarm because of the following conditions:

- The system raises POOL302 when the number of free areas owned by the server reduces to 10% of the server memory.
- The system raises POOL312 when the number of areas used by a pool reaches 90% of the server's limit of vast areas of that pool.
- The system raises POOL321 when a pool reaches 100% of the absolute possible usage level.

Result

This alarm indicates that memory runs very low. Report the condition immediately to next level of support, so that call processing does not degrade.

Common procedures

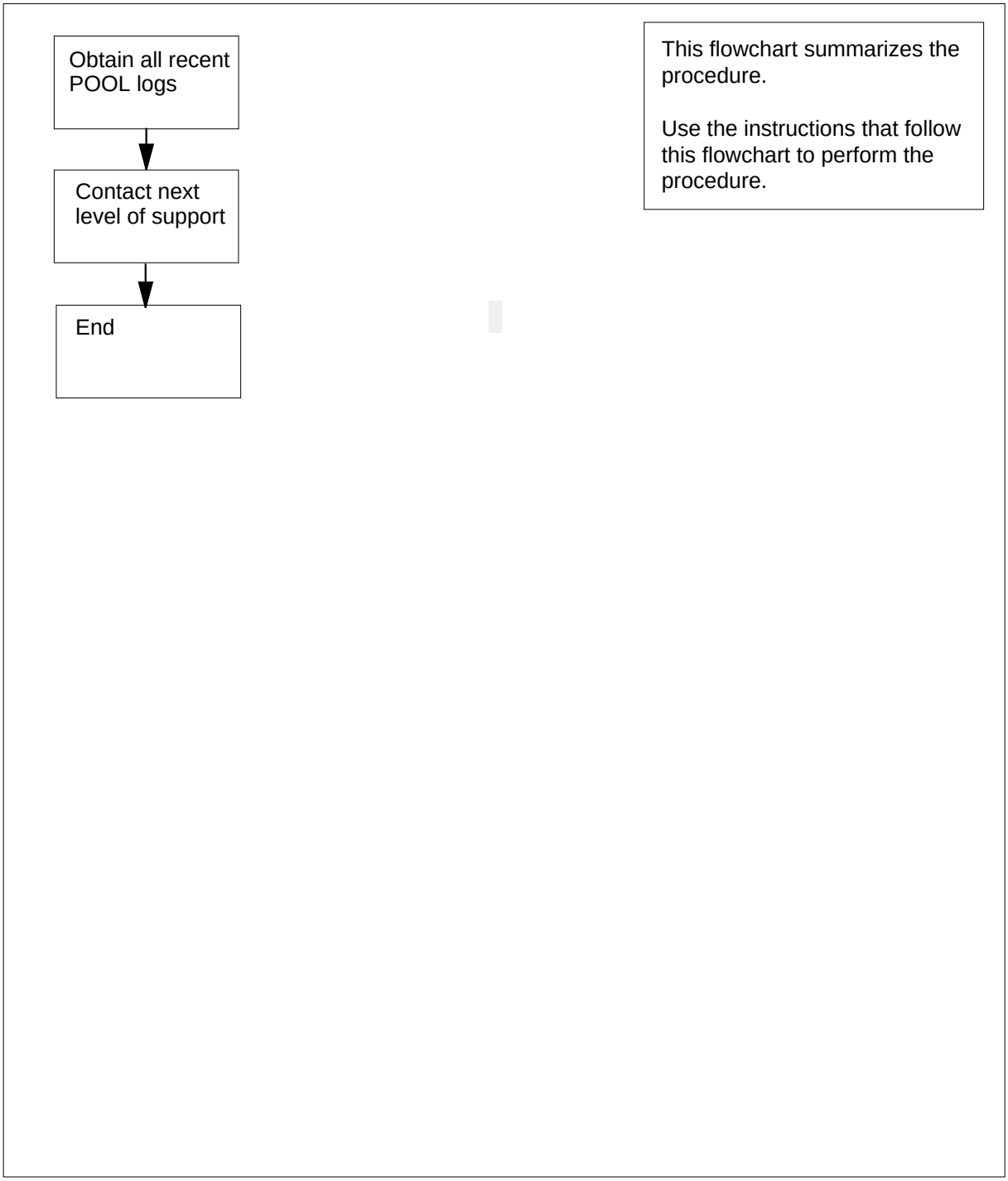
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext CPPOOL critical (continued)

Summary of Clearing an Ext CPPOOL critical alarm



Ext CPPOOL
critical (continued)

Clearing an Ext CPPOOL critical alarm

At the MAP display

1 To access the Ext level of the MAP display, type

>MAPCI;MTC;EXT

and press the Enter key.

2 To access pool information, type

>CPPOOLMGR

and press the Enter key.

3 Review pool logs.

If the log	Do
is POOL 302	step 4
is POOL 312	step 5
is POOL 321	step 10

4 To display current information about the server and office parameter, type

>DMEMINFO

and press the Enter key.

Example of MAP display:

```
          DYNAMIC MEMORY SIZE PARM

 PARM     MEMORY IN KBYTES             VAST AREAS

 SIZE     Total       USED             Total USED

 15MB     15360K      2112K  13%       240     33K  13%

          POOLS IN ALARM

 POOL     FTRQ2WPERMS is in alarm for a POOL_LIMIT alarm
```

Go to step 7.

5 To access pool information, type

>POOL poolname

and press the Enter key.

where

Ext CPPOOL
critical (continued)

poolname
is the name of the pool

Example of MAP display:

```
                CURRENT POOL INFORMATION in BLOCKS

POOL NAME        IN USE HWM  ALLOC PERCENT PERCENT  ALARM

                 BLOCKS BLOCKS BLOCKS  Tot MEM   Pool Max

    FTRQ2WPERMS      0   69615 69615        7%        100%*
     FTRQAGENTS      0     100  4681        1%          7%
    FTRQ0WAREAS      0       0  8191        1%         11%
    FTRQ2WAREAS      0       0  5461        1%          8%
    FTRQ4WAREAS      0       0  4095        1%          5%
    FTRQ8WAREAS      0       0  2730        1%          4%
   FTRQ16WAREAS      0       0  1638        1%          2%
   FTRQ32WAREAS      0       0   910        1%          1%
    FTRQ0WPERMS      0       0  5461        1%          8%
NUMBER_OF_NCCBS_
SCRATCHEXT_AREAS     0       0  8191        1%          2%
    FTRQ4WPERMS      0       0  3276        1%          4%
    FTRQ8WPERMS      0       0  2340        1%          3%
   FTRQ16WPERMS      0       0  1489        1%          2%
   FTRQ32WPERMS      0       0   862        1%          1%
```

6 Check the preceding response for the percentage of memory allocated. Compare the percentage of memory allocated to the total amount of memory available. Compare the percentage of memory allocated to the maximum amount that the pool can have.

7 You must increase the size of the parameter DYNAMIC_MEMORY_SIZE in table OFCENG to clear the alarm.

Go the the next level of support. Determine the amount of store you must add to the parameter DYNAMIC_MEMORY_SIZE. Return to this point.

8 The pool memory is close to the maximum amount of pool memory. If necessary, you can reduce the size of the pool memory.

Go the the next level of support. Determine the amount of store you must add to the parameter DYNAMIC_MEMORY_SIZE. Return to this point.

9 To make sure that the amount of store added to the parameter turned OFF the alarm, type

>DMEMINFO

and press the Enter key.

Example of MAP display:

Ext CPPOOL
critical (end)

```
                DYNAMIC MEMORY SIZE PARM

PARM            MEMORY IN KBYTES              VAST AREAS

SIZE            Total       USED              Total USED

15MB            15360K      2112K  13%        240   33K   13%

                POOLS IN ALARM
```

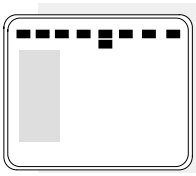
If the alarm	Do
is OFF	step 11
is ON	step 10

10 For additional help, contact the next level of support.

11 The procedure is complete.

Ext CPPOOL major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	**1Maj**		

Indication

At the MTC level of the MAP display, CPPOOLMGR major appears under the CM header of the alarm banner. The CPPOOLMGR major indicates that an audit detects a fault condition when the audit detects an error condition with the pools.

Meaning

The CPPOOL major alarm occurs as a result of the following conditions:

- POOL301 occurs when the number of free areas owned by the server drops to 20% of server memory.
- POOL311 occurs when the pool uses 80% or more of the server limit of areas of that pool.

Result

This alarm indicates a potential problem because server memory runs low. If server memory is not available, call processing degrades.

Common procedures

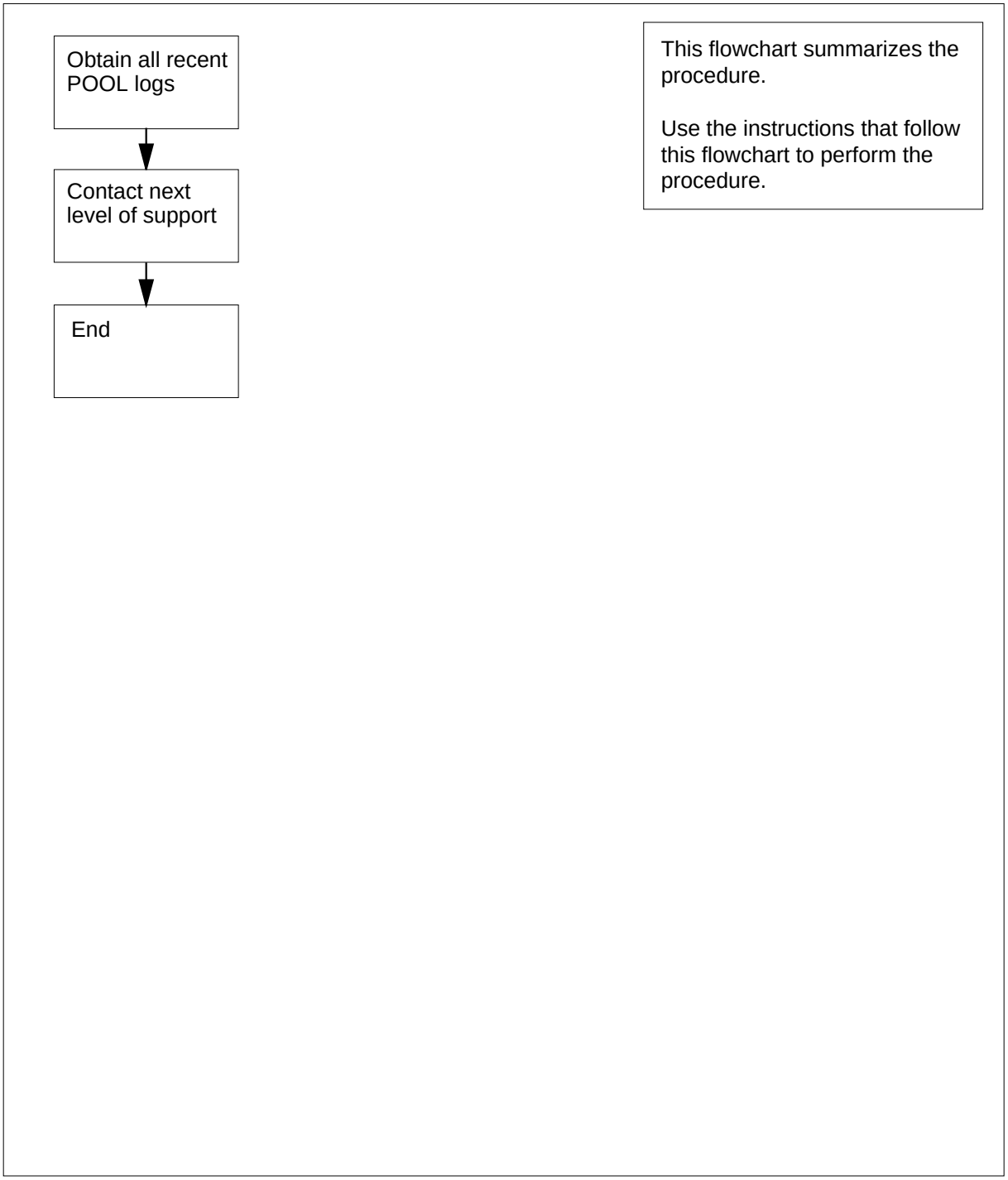
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext CPPOOL
major (continued)

Summary of Clearing an Ext CPPOOL major alarm



Clearing an Ext CPPOOL major alarm

At the MAP terminal

1 To access the Ext level of the MAP display, type

>MAPCI;MTC;EXT

and press the Enter key.

2 To access pool information, type

>CPPOOLMGR

and press the Enter key.

3 Review pool logs.

If log	Do
is POOL 301	step 4
is POOL 311	step 5

4 To determine if the memory server needs more memory, type

>DMEMINFO

and press the Enter key.

Example of MAP display:

```
          DYNAMIC MEMORY SIZE PARM

 PARM     MEMORY IN KBYTES            VAST AREAS

 SIZE     Total       USED            Total USED

 15MB     15360K      2112K  13%      240     33K  13%

          POOLS IN ALARM

 POOL     FTRQ2WPERMS is in alarm for a POOL_LIMIT alarm
```

Go to step 7.

5 To access pool information, type

>POOL poolname

and press the Enter key.

where

poolname
is the name of the pool

Ext CPPOOL
major (continued)

Example of MAP display:

```
                    CURRENT POOL INFORMATION in BLOCKS

POOL NAME          IN USE HWM  ALLOC PERCENT PERCENT  ALARM

                   BLOCKS BLOCKS BLOCKS  Tot MEM   Pool Max

    FTRQ2WPERMS         0   69615 69615       7%        100%*
     FTRQAGENTS         0     100  4681       1%          7%
    FTRQ0WAREAS         0       0  8191       1%         11%
    FTRQ2WAREAS         0       0  5461       1%          8%
    FTRQ4WAREAS         0       0  4095       1%          5%
    FTRQ8WAREAS         0       0  2730       1%          4%
   FTRQ16WAREAS         0       0  1638       1%          2%
   FTRQ32WAREAS         0       0   910       1%          1%
    FTRQ0WPERMS         0       0  5461       1%          8%
NUMBER_OF_NCCBS_
SCRATCHEXT_AREAS        0       0  8191       1%          2%
    FTRQ4WPERMS         0       0  3276       1%          4%
    FTRQ8WPERMS         0       0  2340       1%          3%
   FTRQ16WPERMS         0       0  1489       1%          2%
   FTRQ32WPERMS         0       0   862       1%          1%
```

6 Check the preceding response for the allocated percentage of memory. Compare the memory to the total amount of available memory and the maximum amount of memory available to the pool.

If pool	Do
is close to the total memory maximum	step 7
is close to the pool maximum	step 8

7 The parameter DYNAMIC_MEMORY_SIZE in table OFCENG must increase in size to clear the alarm.

Go the the next level of support to determine the amount of store to add to the parameter DYNAMIC_MEMORY_SIZE. Return to this point.

8 The pool memory is near the maximum. Reduction of pool memory is a possible fix.

Go the the next level of support to determine the amount of store to add to the parameter DYNAMIC_MEMORY_SIZE. Return to this point.

9 To check that the amount of store added to the parameter turns the alarm OFF, type

`>DMEMINFO`

and press the Enter key.

Ext CPPOOL
major (end)

Example of MAP display:

```
                DYNAMIC MEMORY SIZE PARM

PARM            MEMORY IN KBYTES                VAST AREAS

SIZE            Total       USED                Total USED

15MB            15360K      2112K  13%          240   33K   13%

                POOLS IN ALARM
```

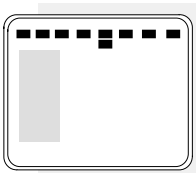
If the alarm	Do
is OFF	step 11
is ON	step 10

10 For additional help, contact the next level of support.

11 The procedure is complete.

Ext CPPOOL minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.		**1Min**	

Indication

At the MTC level of the MAP display, CPPOOLMGR minor appears under the CM header of the alarm banner. The CPPOOLMGR indicates that an audit detects a fault condition when the audit detects an error condition with the pools.

Meaning

The CPPOOL minor alarm occurs as a result of these conditions:

- POOL300 report generates when the number of server-owned free areas drops to 30% of server memory
- POOL310 report generates when the pool uses 70% or more of the server limit of free areas of that pool
- POOL320 report generates when a pool reaches 90% of the absolute possible use level

Result

This alarm indicates a potential problem because server memory begins to run low. If server memory is not available, call processing degrades.

Common procedures

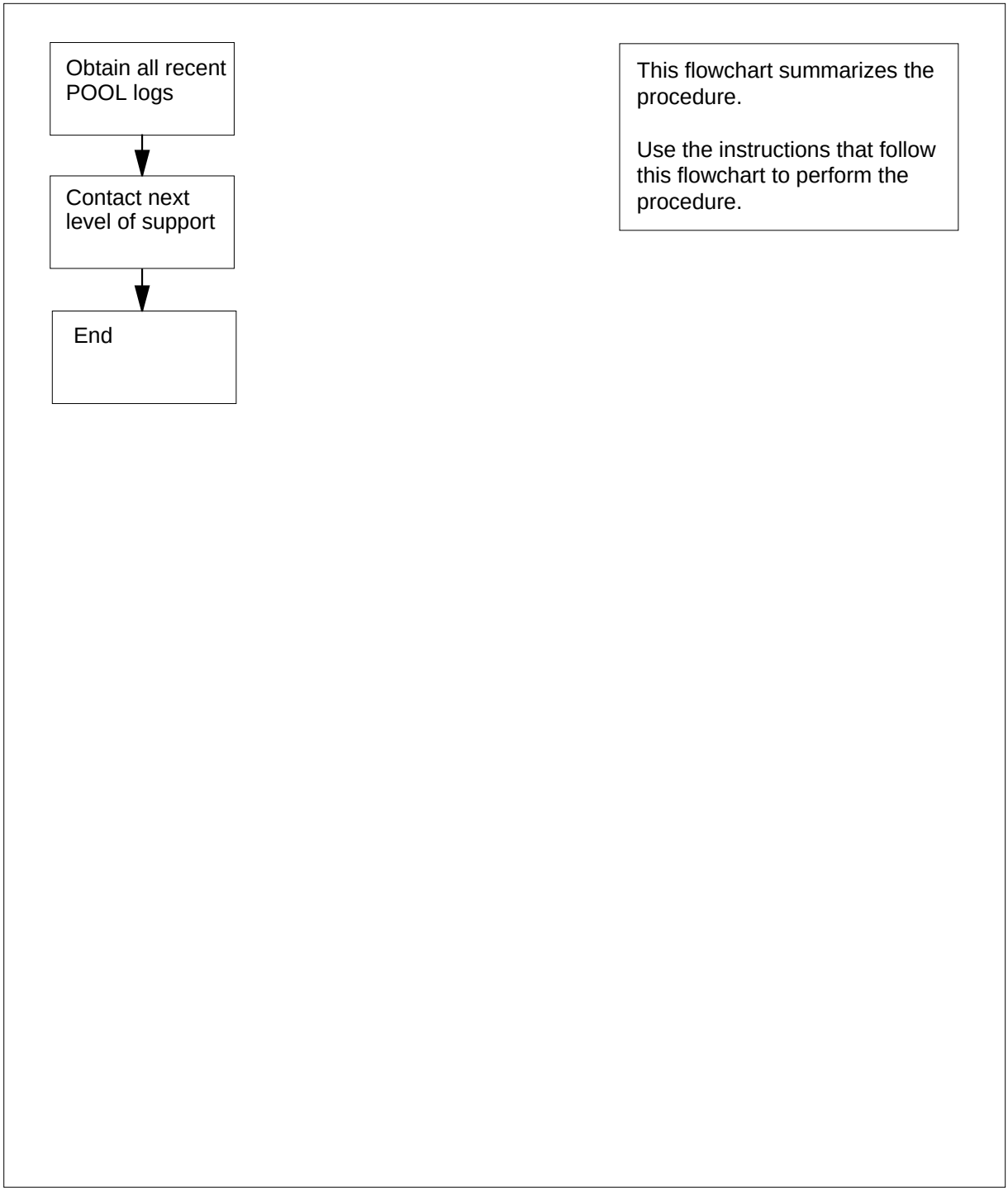
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext CPPOOL minor (continued)

Summary of Claring an Ext CPPOOL minor alarm



Ext CPPOOL
minor (continued)

Clearing an Ext CPPOOL minor alarm

At the MAP terminal

1 To access the EXT level of the MAP display, type

>MAPCI;MTC;EXT

and press the Enter key.

2 To access pool information, type

>CPPOOLMGR

and press the Enter key.

3 Review pool logs.

If log	Do
is POOL300	step 4
is POOL310	step 5
is POOL320	step 9

4 To determine if the memory server needs more memory, type

>DMEMINFO

and press the Enter key.

Example of MAP display:

```
          DYNAMIC MEMORY SIZE PARM

 PARM     MEMORY IN KBYTES            VAST AREAS

 SIZE     Total       USED            Total USED

 15MB     15360K      2112K  13%      240     33K  13%

          POOLS IN ALARM

 POOL     FTRQ2WPERMS is in alarm for a POOL_LIMIT alarm
```

5 To verify the pool size, type

>POOL poolname

and press the Enter key.

where

poolname
is the name of the pool

Example of MAP display:

Ext CPPOOL
minor (continued)

```
                    CURRENT POOL INFORMATION in BLOCKS

POOL NAME        IN USE HWM  ALLOC PERCENT PERCENT  ALARM

                 BLOCKS BLOCKS BLOCKS  Tot MEM   Pool Max

    FTRQ2WPERMS      0   69615 69615       7%        100%*
     FTRQAGENTS      0     100  4681       1%          7%
    FTRQ0WAREAS      0       0  8191       1%         11%
    FTRQ2WAREAS      0       0  5461       1%          8%
    FTRQ4WAREAS      0       0  4095       1%          5%
    FTRQ8WAREAS      0       0  2730       1%          4%
   FTRQ16WAREAS      0       0  1638       1%          2%
   FTRQ32WAREAS      0       0   910       1%          1%
    FTRQ0WPERMS      0       0  5461       1%          8%
NUMBER_OF_NCCBS_
SCRATCHEXT_AREAS     0       0  8191       1%          2%
    FTRQ4WPERMS      0       0  3276       1%          4%
    FTRQ8WPERMS      0       0  2340       1%          3%
   FTRQ16WPERMS      0       0  1489       1%          2%
   FTRQ32WPERMS      0       0   862       1%          1%
```

6 Check the response for the percentage of allocated memory compared to the total amount of available memory. Compare the percentage of allocated memory to the maximum amount of memory available to the pool.

If pool	Do
is close to the total amount of available memory	step 7
is close to the maximum amount of available memory	step 9

7 You can increase the size of the server parameter DYNAMIC_MEMORY_SIZE, in table OFCENG.

Go to step 9.

8 To check if store has enough memory to turn off the alarm, type

>DMEMINFO

and press the Enter key.

Example of MAP display:

Ext CPPOOL
minor (end)

```
                DYNAMIC MEMORY SIZE PARM

PARM            MEMORY IN KBYTES              VAST AREAS

SIZE            Total       USED              Total USED

15MB            15360K      2112K  13%        240   33K   13%

                POOLS IN ALARM
```

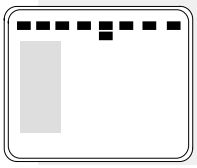
If the alarm	Do
is OFF	step 10
is ON	step 9

9 For additional help, contact the next level of support.

10 The procedure is complete.

Ext E911_ALI major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1Maj**	.
								M	

Indication

Under the EXT subsystem header at the MTC level of the MAP display, 1Maj can indicate an E911_ALI_MAJOR alarm. The major alarm for the E911 automatic location identification (ALI) appears under the EXT header.

Meaning

An E911_ALI_MAJOR alarm means that both multiprotocol controller links to the ALI controller of an open interface failed.

Result

ALI database information is not available to line or automatic call distribution public safety answering point (PSAP) operators the database serves.

Common procedures

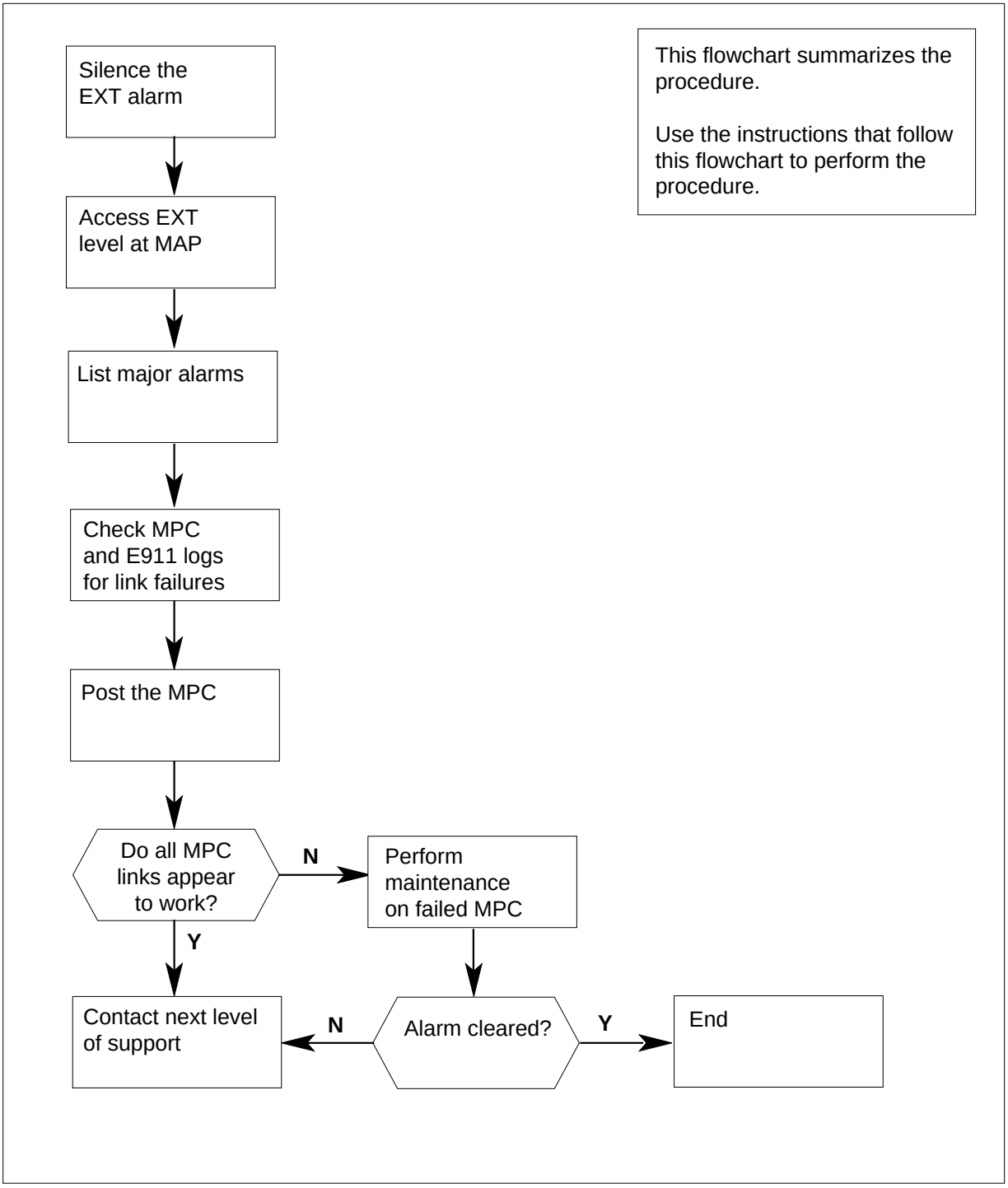
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext E911_ALI
major (continued)

Summary of Clearing an Ext E911_ALI major alarm



Ext E911_ALI
major (continued)

Clearing an Ext E911_ALI major alarm

At the MAP display

1 Enter this procedure from a step in a procedure to clear system-level alarms that identify an EXT major alarm.

2 If you must silence the alarm, type

>MAPCI;MTC;SIL

and press the Enter key.

3 To access the EXT level of the MAP, type

>EXT

and press the Enter key.

Example of MAP response

```
Ext Alarms    Crit   FSP   Major   Minor   NoAlm
                0     0       1       0      14
```

4 To display all the EXT major alarms, type

>LIST MAJ

and press the Enter key.

If the MAP response is	Do
E911_ALI_MAJOR	step 6
other than listed here	step 5

5 Go to the procedures listed in the table of contents of this document for references to other alarms.

6 Review any MPC908 and E911211 log reports. To access LOGUTIL, type

>LOGUTIL

and press the Enter key.

7 To open the buffer for MPC log reports and browse any MPC908 log reports, type

>OPEN MPC 908

and press the Enter key.

The switch generates a MPC908 log report when the tandem detects an MPC card in a SysB state.

Example of MPC908 log report

```
     MPC908 FEB 13:05:24  3700    MPC LINK STATUS
MPC    3 LINK    3 STATUS CHANGE:   ENBLIP –> SBSY
System Action Taken
```

Ext E911_ALI
major (continued)

8 Use the BACK command to browse through the buffer and display each MPC908 log report.

9 Note the MPC number listed in the MPC908 log report.

10 To open the buffer for E911 log reports and browse any E911211 log reports, type

>OPEN E911 211

and press the Enter key.

The switch can generate an E911211 log report without an E911210 log report. The absence of the E911210 log report indicates the tandem tried to send records to the ALI database twice. Each attempt failed.

Example of the E911211 log report:

```
E911211 FEB03 13:05:24 0101 ALI RECORD FAILURE SEND
FAILURE
                          TWO ATTEMPTS FAILED
PSAPNUM   003    POSNUM  0012     MPC    1   MPCLINK    2
```

11 Use the BACK command to browse through the buffer and display each E911211 log report.

12 Note the MPC number listed in the E911211 log reports.

13 To exit LOGUTIL, type

>QUIT

and press the Enter key.

14 To access the MTC MAP level, type

>MAPCI;MTC

and press the Enter key.

15 To display MPC card status, type

>IOD;IOC 1;MPC mpc_number

and press the Enter key.

where

mpc_number
is the ID of the MPC card identified in steps 9 and 12

Note: The card is in an IOC number. You do not need to know the number of the IOC that contains the card to display the MPC link status. IOC port information for IOC1 appears when the system shows link status for the MPC card. The MPC card is on the same IOC shelf or another IOC shelf.

Example of MAP response

Ext E911_ALI
major (end)

```
IOC  CARD  0    1    2     3     4     5     6     7     8
    User    SYSTEM    BOARD   LINK0  LINK1   LINK2   LINK3
1   PORT  0123 0123 0123 0123  0123  0123  0123  0123 0123
    STAT  ... .--- .---  .---  .---  ... .... .... ....
    TYPE  CONS   MPC   MPC   MPC   MPC
Card 3   Unit        17
        User    SYSTEM    BOARD   LINK0  LINK1   LINK2
     Status    Ready   COMACT   UNEQ  UNEQ    ENBLD   SBSY
WARNING: MPC 17 IS NOT ON THE DISPLAYED IOC
MPC 17 IS ON IOC 3
```

If links are	Do
not SysB	step 16
SysB	step 17

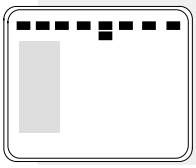
16 Contact the next level of support.

17 Perform MPC card maintenance. Refer to this document. Verify that the alarm cleared. If the alarm persists, contact the next level of support.

18 The procedure is complete.

Ext E911_ALI minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1Min**	.

Indication

Under the EXT subsystem header at the MTC level of the MAP display, 1Min can indicate an E911_ALI_MINOR alarm. The E911 automatic location identification (ALI) minor alarm appears under the EXT heading.

Meaning

An E911_ALI_MINOR alarm means one of the multiprotocol controller (MPC) links to the ALI controller of an open interface failed.

Result

Only one of two redundant links in this two-link ALI interface can operate if the E911_ALI_MINOR alarm activates.

Common procedures

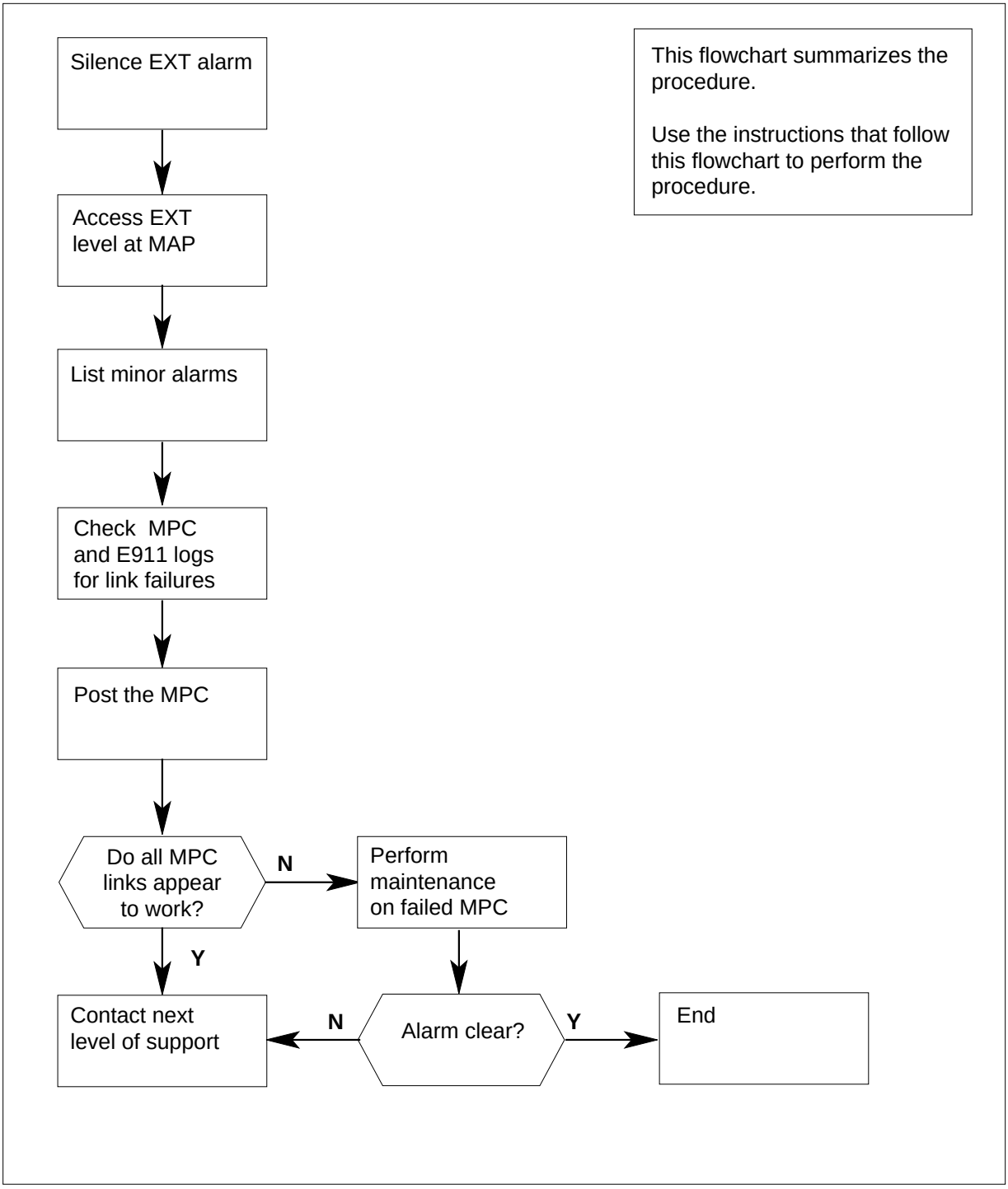
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext E911_ALI minor (continued)

Summary of Clearing an Ext E911_ALI minor alarm



Ext E911_ALI
minor (continued)

Clearing an Ext E911_ALI minor alarm

At the MAP display

1 Enter this procedure from a step in a procedure to clear system-level alarms that identify an EXT minor alarm.

2 If you must silence the alarm, type

>MAPCI;MTC;SIL

and press the Enter key.

3 To access the EXT level of the MAP, type

>EXT

and press the Enter key.

Example of MAP response

```
Ext Alarms    Crit   FSP   Major   Minor   NoAlm
               0     0       0       1      14
```

4 To display all the EXT minor alarms, type

>LIST MIN

and press the Enter key.

If the MAP response is	Do
E911_ALI_MINOR	step 6
other than listed here	step 5

5 Go to the procedures listed in the table of contents of this document for references to other alarms.

6 Review any MPC908 and E911211 log reports. To access LOGUTIL, type

>LOGUTIL

and press the Enter key.

7 To open the buffer for MPC log reports and browse any MPC908 log reports, type

>OPEN MPC 908

and press the Enter key.

The switch generates a MPC908 log report when the tandem detects an MPC card in a SysB state.

Example of the MPC908 log:

```
     MPC908 FEB03 13:05:24  3700    MPC LINK STATUS
MPC    3 LINK    3 STATUS CHANGE:    ENBLIP –> SBSY
System Action Taken
```

Ext E911_ALI
minor (continued)

8 Use the BACK command to browse through the buffer and display each MPC908 log report.

9 Note the MPC number listed in the MPC908 log report.

10 To open the buffer for E911 log reports and browse any E911211 log reports, type

>OPEN E911 211

and press the Enter key.

The switch can generate an E911211 log report without an E911210 log report. The absence of the E911210 log report indicates the tandem tried to send records to the ALI database twice. Each attempt failed.

Example of the E911211 log report:

```
E911211 FEB03 13:05:24 0101 ALI RECORD FAILURE SEND
FAILURE
             TWO ATTEMPTS FAILED
PSAPNUM  003      POSNUM  0012    MPC     1    MPCLINK   2
```

11 Use the BACK command to browse through the buffer and display each E911211 log report.

12 Note the MPC number listed in the E911211 log reports.

13 To exit LOGUTIL, type

>QUIT

and press the Enter key.

14 To access the MTC MAP level, type

>MAPCI;MTC

and press the Enter key.

15 To display MPC card status, type

>IOD;IOC 1;MPC mpc_number

and press the Enter key.

where

mpc_number
is the ID of the MPC card identified in step 9 or 12

Note: The card is in an IOC number. You do not need to know the number of the IOC that contains the card to display the MPC link status. IOC port information for IOC1 appears when the system shows link status for the MPC card. The MPC card is on the same IOC shelf or another IOC shelf.

Example of MAP response

Ext E911_ALI
minor (end)

```
IOC  CARD  0    1    2     3     4     5     6     7     8
 1 PORT 0123 0123 0123  0123  0123  0123  0123  0123  0123
   STAT .... .--- .---  .---  .---  .... .... .... ....
TYPE  CONS   MPC   MPC   MPC   MPC
Card 3   Unit        17
      User   SYSTEM   BOARD   LINK0  LINK1   LINK2   LINK3
      Status    Ready   COMACT   UNEQ  UNEQ    ENBLD  SBSY
WARNING: MPC 17 IS NOT ON THE DISPLAYED IOC
MPC 17 IS ON IOC 3
```

If links are	Do
not SysB	step 16
SysB	step 17

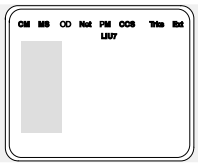
16 Contact the next level of support.

17 Perform MPC card maintenance. Refer to this document. Verify that the alarm cleared. If the alarm persists, contact the next level of support.

18 The procedure is complete.

Ext E911_LDT critical

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	**.**	**.**		**.**	**.**	**.**	**1Crit**	**.**

Indication

Under the EXT subsystem header at the MTC level of the MAP display, 1Crit can indicate an E911_LDTBSY_CRITICAL alarm.

Meaning

An E911_LDTBSY_CRITICAL alarm refers to a percentage of units of a minimum of one line appearance. The alarm indicates that the units of the line appearance are in a busy state. The busy state is any state other than CPD, IDL, or INB. The line appearance is on a hunt group for the digital trunk (LDT) of the public safety answering point (PSAP). Field CRALMPCT of option LDTPSAP in table HUNTGRP contains the entry of this percentage.

Result

An E911227 log reports the time, PSAP name, and level of the alarm condition. In this event, the alarm condition is critical. The system produces an E911227 log report during each audit. Audits occur in 3-min intervals. The system produces the log report for each LDTPSAP hunt group that meets the alarm condition. This alarm rises when a minimum of one LDTPSAP hunt group is in the alarm condition. The alarm remains in a raised state when a minimum of one LDTPSAP hunt group is in the alarm condition. The alarm lowers when no more LDTPSAP hunt groups are in the alarm condition. The result is that when the alarm is active, you must monitor E911227 log reports. Monitor the log reports to determine the LDTPSAPs that are in the alarm condition.

Common procedures

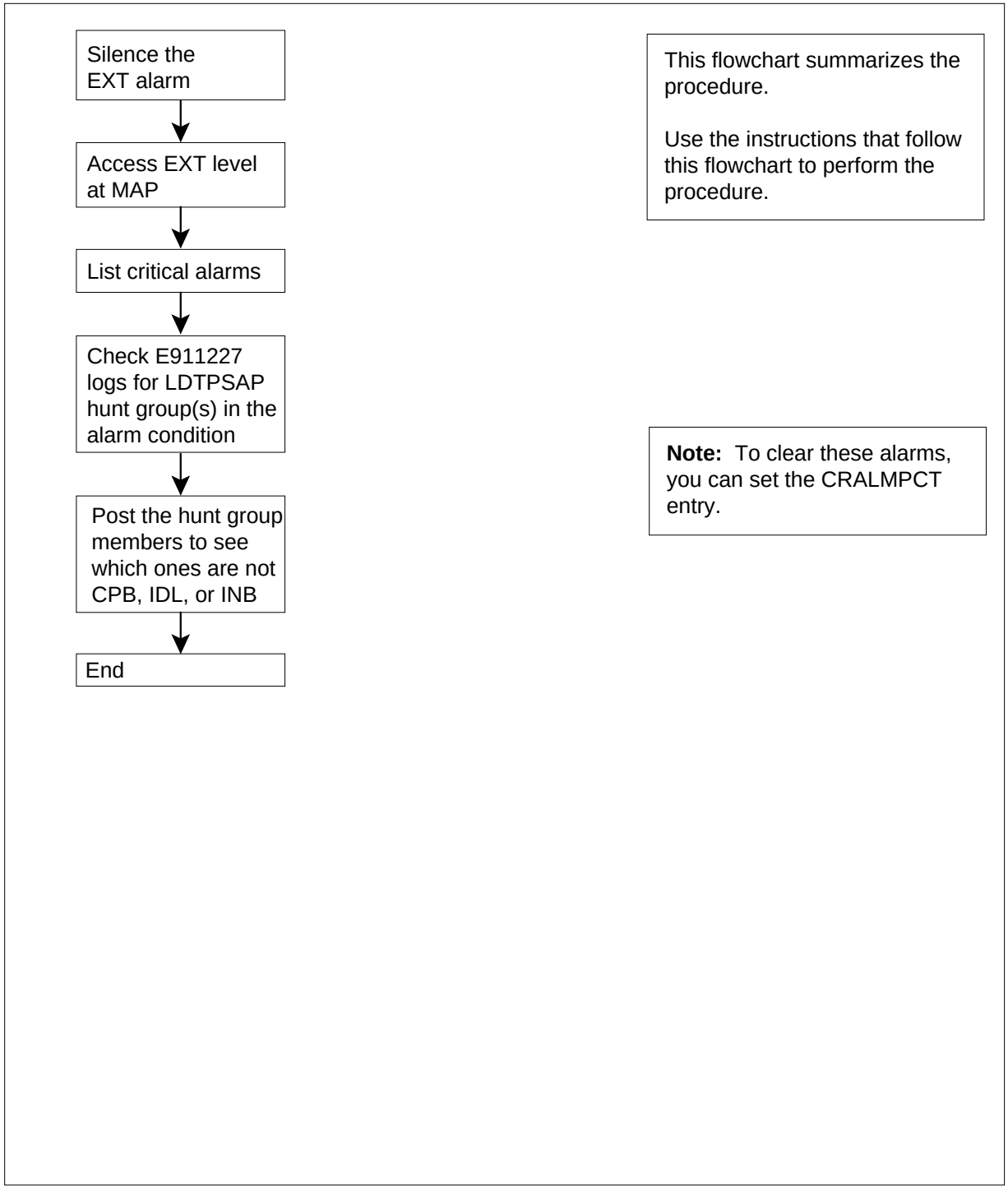
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext E911_LDT
critical (continued)

Summary of Clearing an Ext E911 LDT alarm



Ext E911_LDT critical (continued)

Clearing an Ext E911_LDT alarm

At the MAP display

1 Enter this procedure from a step in an alarm clearing procedure at the system level. Enter from the step that identified an EXT critical alarm.

To clear an E911_LDTBSY_CRITICAL alarm, reverse the condition. To clear the alarm condition, return the busy lines to service or turn off the alarm through data entry.

If the following actions occur, the system automatically lowers the alarm:

- you raised one of the busy alarms for the LDTPSAP hunt group percentage
- the next audit determines that no LDTPSAP hunt groups meet the conditions for the alarm

The alarm requires a maximum of 3 min to lower after you changed the alarm condition at the PSAP hunt group.

2 To silence the alarm, type

`>MAPCI;MTC;SIL`

and press the Enter key.

3 To access the EXT level of the MAP, type

`>MAPCI;MTC;EXT`

and press the Enter key.

Example of a MAP response:

```
Ext Alarms  Crit    FSP     Major   Minor   NoAlm
            1       1       0       0       14
```

4 To display all the EXT critical alarms, type

`>LIST CRIT`

and press the Enter key.

If response on MAP display	Do
is `E911_LDTBSY_CRITICAL`	step 6
is other than listed here	step 5

5 Go to the table of contents.

6 Obtain the E911227 log to find the LDT PSAP hunt group(s) that are in the alarm condition.

7 To access LOGUTIL, type

`>LOGUTIL`

and press the Enter key.

Ext E911_LDT critical (end)

8 To open the E911227 log report buffer, type

>OPEN E911227

and press the Enter key.

The last E911227 log report generated will be displayed on the MAP screen.

9 Browse through the buffer to display the E911227 log report for your critical alarm (the buffer also may contain other minor or major alarms). Enter the following command as many times as needed to see your report:

>BACK

and press the Enter key.

Example of the E911227 log report for a critical alarm:

```
RTPB  E911227 OCT12 14:21:02 1600 INFO E911 LDT PSAP PCT BUSY CONDITION
          PSAPNAME = POLICE  ALARM = CRITICAL  MEMBERS_INSV = 6
MEMBERS_OUT_OF_SERVICE = 10
```

The last E911 log report generated will appear on the MAP screen.

10 To exit LOGUTIL, type

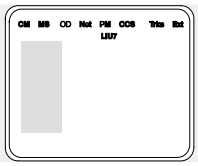
>QUIT

and press the Enter key.

11 The procedure is complete.

Ext E911_LDT major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	**.**	**.**		**.**	**.**		**1Min**	**.**

Indication

A 1Maj can indicate an E911_LDTBSY_MAJOR alarm. The 1Maj appears under the EXT subsystem header at the MTC level of the MAP display.

Meaning

An E911_LDTBSY_MAJOR alarm refers to a percentage of members of a minimum of one line appearance. The alarm indicates that the members of the line appearance are in a busy state. The busy state is any state other than CPD, IDL, or INB. The line appearance is on a digital trunk (LDT) of a hunt group for the public safety answering point (PSAP). Field MJALMPCT of option LDTPSAP in table HUNTGRP contains the data for this percentage.

Result

An E911227 log reports the time, PSAP name, and level of the alarm condition. In this event, the alarm condition is major. The system produces an E911227 log report during each audit. An audit occurs in three minute intervals. The system produces the log report for every LDTPSAP hunt group that meets the alarm condition. This alarm rises when at least one LDTPSAP hunt group is in the alarm condition. The alarm remains in a raised state when at least one LDTPSAP hunt group is in the alarm condition. The alarm lowers when no more LDTPSAP hunt groups are in the alarm condition. The result is that when the alarm is active, you must monitor E911227 log reports. Monitor the log reports to determine the LDTPSAPs in the alarm condition.

Common procedures

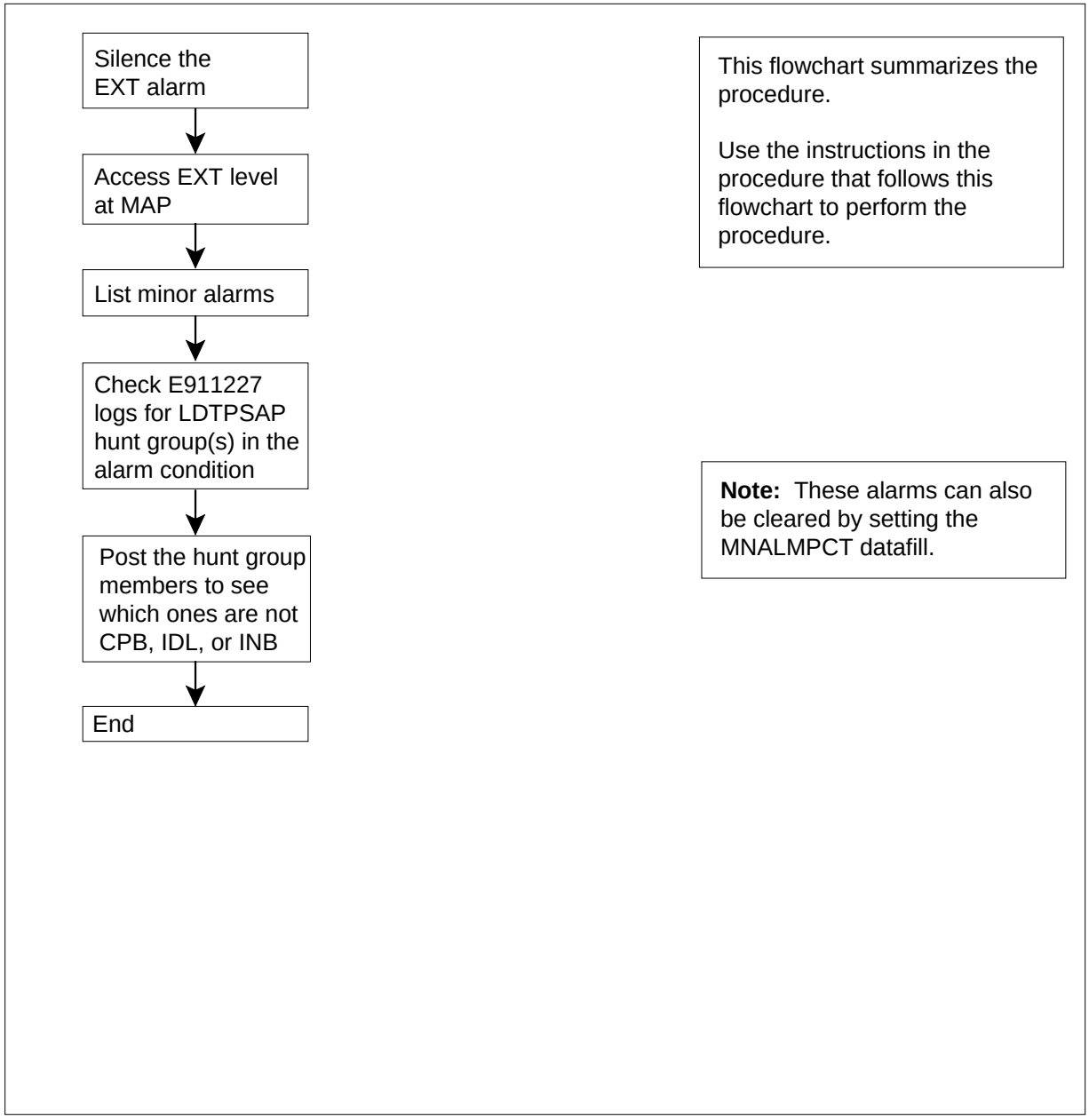
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext E911_LDT
major (continued)

Summary of Clearing an Ext E911_LDT alarm



Ext E911_LDT
major (continued)

Clearing an Ext E911_LDT alarm

At the MAP display

1 Enter this procedure from a step in an alarm clearing procedure at the system level. Enter from the step that identified an EXT major alarm.

To clear an E911_LDTBSY_MAJOR alarm, reverse the condition. To clear the alarm condition, return the busy lines to service or turn OFF the alarm through data entry.

If the following actions occur, the system lowers the alarm automatically:

- you raised one of the busy alarms for the LDTPSAP hunt group percentage
- the next audit determines that no LDTPSAP hunt groups meet the conditions for the alarm

The alarm requires a maximum of 3 min to lower after you changed the alarm condition at the PSAP hunt group.

2 If you must silence the alarm, type

```
>MAPCI;MTC;SIL
```

and press the Enter key.

3 To access the EXT level of the MAP display, type

```
>MAPCI;MTC;EXT
```

and press the Enter key.

Example of a MAP response:

```
Ext Alarms  Crit    FSP     Major   Minor   NoAlm
            0       1       0       1       14
```

4 To display all the EXT major alarms, type

```
>LIST MAJ
```

and press the Enter key.

If response on MAP display	Do
is E911_LDTBSY_MAJOR	step 6
is other than listed here	step 5

5 Go to the table of contents.

6 Obtain an E911227 log to determine the LDT PSAP hunt group(s) that are in the alarm condition.

7 To access LOGUTIL, type

```
>LOGUTIL
```

and press the Enter key.

Ext E911_LDT
major (end)

8 To open the E911227 log report buffer, type

>OPEN E911227

and press the Enter key.

The last E911 log report generated will be displayed on the MAP screen.

9 Browse through the buffer to display the E911227 log report for your critical alarm (the buffer also may contain other minor or major alarms). Enter the following command as many times as needed to see this report:

>BACK

and press the Enter key.

Example of the E911227 log report:

```
RTPB    E911227 OCT12 14:21:02 1600 INFO E911 LDT PSAP PCT BUSY CONDITION
            PSAPNAME = POLICE  ALARM = MINOR  MEMBERS_INSV = 6
MEMBERS_OUT_OF_SERVICE = 10
```

10 To exit LOGUTIL, type

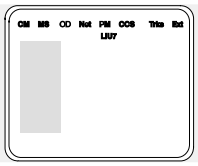
>QUIT

and press the Enter key.

11 The procedure is complete.

Ext E911_LDT minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.		.	.		**1Min**	.

Indication

Under the EXT subsystem header at the MTC level of the MAP display, 1Min can indicate an E911_LDTBSY_MINOR alarm.

Meaning

An E911_LDTBSY_MINOR alarm means that a certain percentage of members of at least one line appearance on digital trunk (LDT) public safety answering point (PSAP) hunt group are in a potentially undesirable busy state (that is, any state other than CPD, IDL, or INB). This percentage is datafilled in field MNALMPCT of option LDTPSAP in table HUNTGRP.

Impact

An E911227 log reports the time, PSAP name, and alarm condition which is met (in this case, minor). An E911227 log report is produced during each periodic audit (every 3 minutes) for every LDT PSAP hunt group meeting the alarm condition. This alarm is raised when at least one LDT PSAP hunt group is found to be in the alarm condition, and is not lowered until there are no more LDT PSAP hunt groups in the alarm condition. That is, the alarm is not “re-raised" when another LDT PSAP meets the alarm condition. It just stays raised as long as there is one or more LDT PSAP hunt group in the alarm condition. Therefore, when the alarm is active, E911227 log reports must be monitored to determine exactly which LDT PSAPs are in that condition.

Common procedures

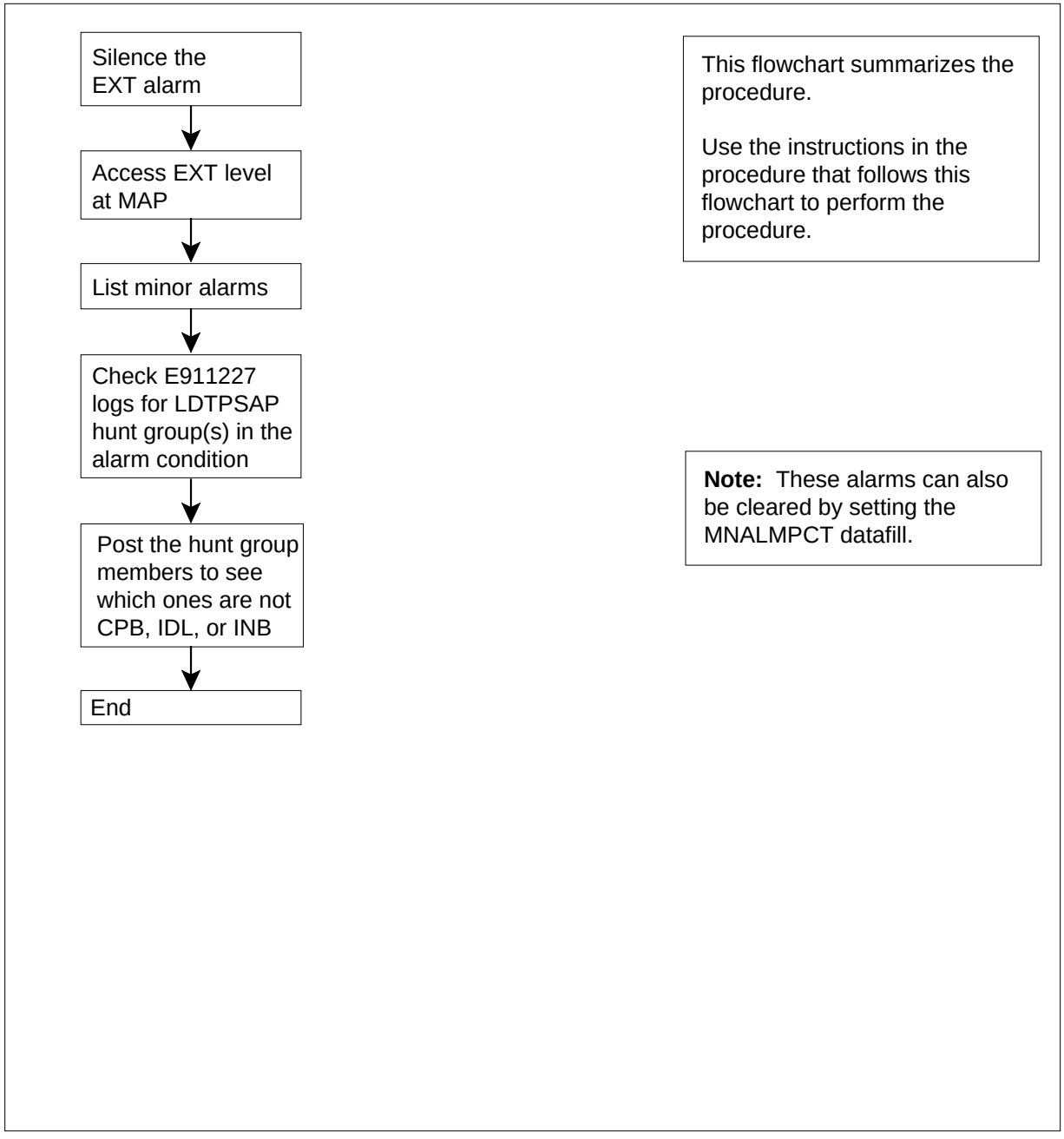
Not applicable

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

Ext E911_LDT
minor (continued)

Summary of clearing an Ext E911_LDT alarm



Ext E911_LDT minor (continued)

Clearing an Ext E911_LDT alarm

At the MAP display

1 You should be entering this procedure from a step in a system-level alarm clearing procedure that identified an EXT minor alarm.

Clearing an E911_LDTBSY_MINOR alarm entails reversing the situation—that is, clear the alarm condition by returning the busy lines to service or shut the alarm off via datafill.

If one of the LDT PSAP hunt group percentage busy alarms was previously raised, and the next audit determines that there are no longer any LDT PSAP hunt groups which meet the conditions for that alarm, the system automatically lowers the alarm. It can take up to 3 minutes for the alarm to actually be lowered after the alarm condition has been fixed at the PSAP hunt group.

2 Silence the alarm, if required, by typing

```
>MAPCI;MTC;SIL
```

and pressing the Enter key.

3 Access the EXT level of the MAP display by typing

```
>MAPCI;MTC;EXT
```

and pressing the Enter key.

Example of a MAP response:

```
Ext Alarms  Crit    FSP     Major   Minor   NoAlm
            0       1       0       1       14
```

4 Display all the EXT minor alarms by typing

```
>LIST MIN
```

and pressing the Enter key.

If response on MAP display is	Do
E911_LDTBSY_MINOR	step 6
(anything else)	step 5

5 Go to the table of contents.

6 Obtain E911227 log to see which LDT PSAP hunt group(s) are in the alarm condition.

7 Access LOGUTIL by typing

```
>LOGUTIL
```

and pressing the Enter key.

8 Open the E911227 log report buffer by typing

```
>OPEN E911227
```

and pressing the Enter key.

Ext E911_LDT
minor (end)

The last E911 log report generated will be displayed on the MAP screen.

9 Browse through the buffer to display the E911227 log report for your critical alarm (the buffer also may contain other minor or major alarms). Enter the following command as many times as needed to see this report:

>BACK

and press the Enter key.

Example of the E911227 log report:

```
RTPB    E911227 OCT12 14:21:02 1600 INFO E911 LDT PSAP PCT BUSY CONDITION
            PSAPNAME = POLICE  ALARM = MINOR  MEMBERS_INSV = 6
MEMBERS_OUT_OF_SERVICE = 10
```

10 Exit LOGUTIL by typing

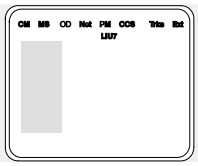
>QUIT

and pressing the Enter key.

11 You have completed this procedure.

Ext E911_OFBSR critical

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
.	.	.	.		.	.	.	**1Crit**	.

Indication

Under the EXT subsystem header at the MTC level of the MAP display, 1Crit can indicate an E911_OFBSR_CRITICAL alarm.

Meaning

The E911_OFBSR_CRITICAL alarm has slightly different meanings, determined by the type of Off-Board Selective Routing (OFBSR) interface used.

For a single OFBSR interface, the E911_OFBSR_CRITICAL alarm raises when both multiprotocol controller (MPC) links to the OFBSR database become unavailable. The alarm will stay raised until at least one MPC link becomes available.

For a dual OFBSR interface, the E911_OFBSR_CRITICAL alarm raises when all multiprotocol controller (MPC) links to both databases become unavailable. The alarm will stay raised until at least one MPC link becomes available.

Impact

The OFBSR cannot route E911 calls from the unavailable MPC link. The calls will be either default routed based on the emergency service number (ESN) of the E911 trunk or routed based on the ESN retrieved from the E911SRBD table.

Common procedures

This procedure does not refer to any common procedures.

Next level of maintenance

Repeat this procedure if it is not successful when you first perform the procedure.

A problem can occur that requires the help of the local maintenance personnel. Gather all important logs, reports, and system information (that is, product

Ext E911_OFBSR
critical (continued)

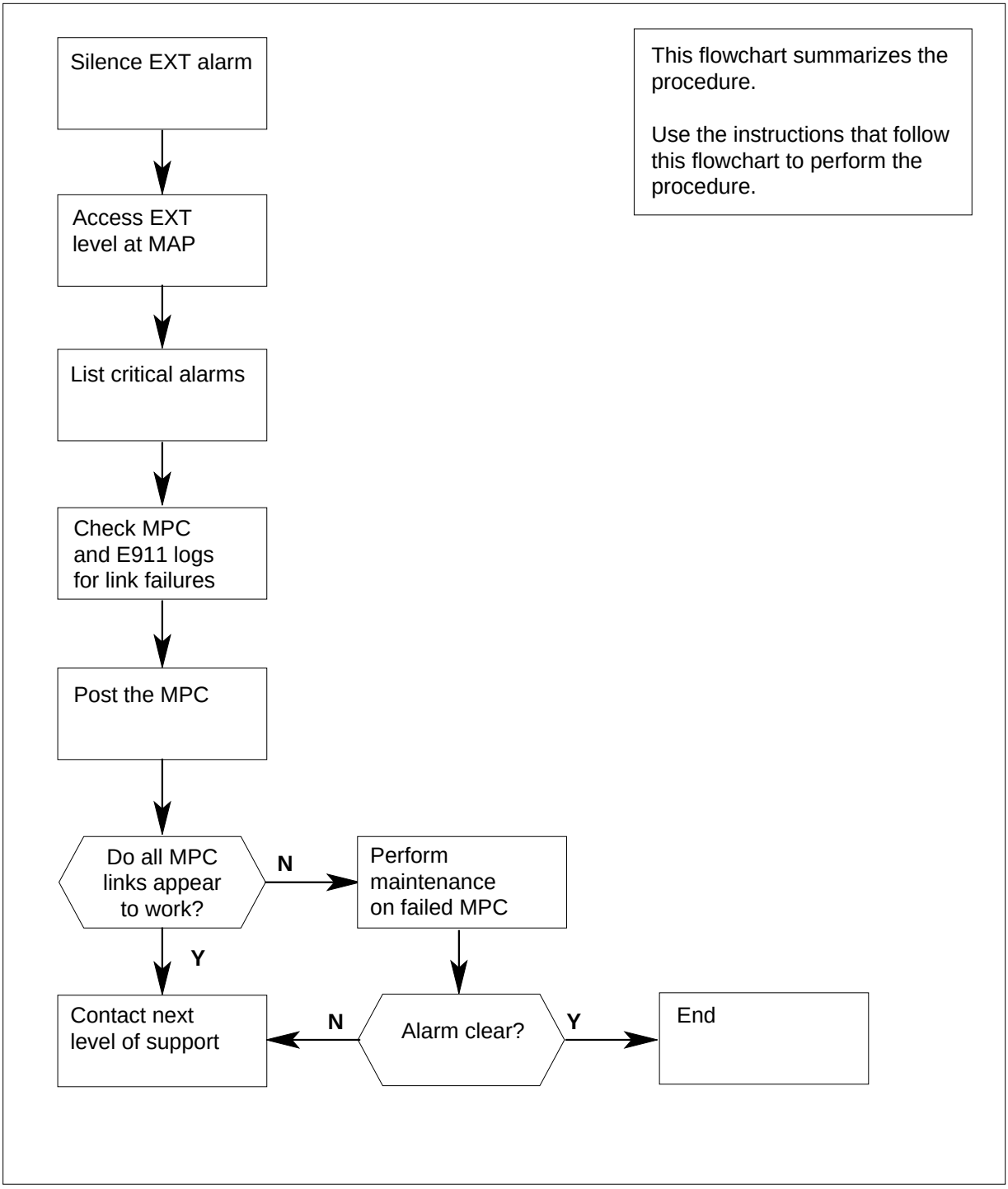
type and current software load) for analysis. The related logs, maintenance notes, and system information help make sure that the next level of maintenance and support can find the problem. More detail about logs appears in the *Log Report Reference Manual*.

Action

The flowchart that follows provides a summary of this procedure. Use the instructions in the step action procedure that follows the flowchart to clear the alarm.

Ext E911_OFBSR critical (continued)

Summary of Clearing an Ext E911_OFBSR_CRITICAL alarm



Ext E911_OFBSR
critical (continued)

Clearing an Ext E911_OFBSR_CRITICAL alarm

At the MAP display

1 Enter this procedure from a step in a procedure to clear system-level alarms that identify an EXT critical alarm.

2 If you must silence the alarm, type

>MAPCI;MTC;SIL

and press the Enter key.

3 To access the EXT level of the MAP, type

>EXT

and press the Enter key.

Example of MAP response

```
Ext Alarms    Crit   FSP   Major   Minor   NoAlm
                1     0       0       0      14
```

4 To display all the EXT critical alarms, type

>LIST CRIT

and press the Enter key.

If the MAP response is	Do
E911_OFBSR_CRITICAL	step 6
other than listed here	step 5

5 Go to the procedures listed in the table of contents of this document for references to other alarms.

6 Review any MPC908 and E911233 log reports. To access LOGUTIL, type

>LOGUTIL

and press the Enter key.

7 To open the buffer for MPC log reports and browse any MPC908 log reports, type

>OPEN MPC 908

and press the Enter key.

The switch generates a MPC908 log report when the tandem detects an MPC card in a SysB state.

Example of MPC908 log report

```
     MPC908 FEB 13:05:24  3700    MPC LINK STATUS
MPC    3 LINK    3 STATUS CHANGE:   ENBLIP –> SBSY
System Action Taken
```

Ext E911_OFBSR
critical (end)

8 Use the BACK command to browse through the buffer and display each MPC908 log report.

9 Note the MPC number listed in the MPC908 log report.

10 To exit LOGUTIL, type

>QUIT

and press the Enter key.

11 To access the MTC MAP level, type

>MAPCI;MTC

and press the Enter key.

12 To display MPC card status, type

>IOD;IOC 1;MPC mpc_number

and press the Enter key.

where

mpc_number
is the ID of the MPC card identified in step 9 or 12

Note: The card is in an IOC number. You do not need to know the number of the IOC that contains the card to display the MPC link status. IOC port information for IOC1 appears when the system shows link status for the MPC card. The MPC card is on the same IOC shelf or another IOC shelf.

Example of MAP response

```
IOC  CARD  0    1    2     3     4     5     6     7     8
 1 PORT 0123 0123 0123  0123  0123  0123  0123  0123  0123
   STAT .... .--- .---  .---  .---  .... .... .... ....
TYPE  CONS   MPC   MPC   MPC   MPC
Card 3   Unit        17
      User   SYSTEM   BOARD   LINK0  LINK1   LINK2   LINK3
      Status    Ready   COMACT   UNEQ  UNEQ    ENBLD  SBSY
WARNING: MPC 17 IS NOT ON THE DISPLAYED IOC
MPC 17 IS ON IOC 3
```

If links are	Do
not SysB	step 13
SysB	step 14

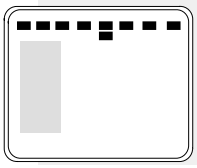
13 Contact the next level of support.

14 Perform MPC card maintenance. Refer to this document. Verify that the alarm cleared. If the alarm persists, contact the next level of support.

15 The procedure is complete.

Ext E911_OFBSR major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1Maj**	.
								M	

Indication

Under the EXT subsystem header at the MTC level of the MAP display, 1Maj can indicate an E911_OFBSR_MAJOR alarm.

Meaning

An E911_OFBSR_MAJOR alarm means that one or more of the multiprotocol controller (MPC) links to the Off-Board Selective Routing (OFBSR) database(s) has become unavailable.

For a single OFBSR interface, the E911_OFBSR_MAJOR alarm raises when one of the multiprotocol controller (MPC) links to the OFBSR database becomes unavailable. The alarm will stay raised until all MPC links to the database become available.

For a dual OFBSR interface, the E911_OFBSR_MAJOR alarm raises when all multiprotocol controller (MPC) links to one of the OFBSR databases become unavailable. The alarm will stay raised until at least one MPC link to the affected database becomes available.

Impact

The OFBSR communication continues on available links.

For a dual OFBSR interface, communication is swithced to the secondary database. An E911234 log is generated as notification of the switch.

Common procedures

This procedure does not refer to any common procedures.

Next level of maintenance

Repeat this procedure if it is not successful when you first perform the procedure.

Ext E911_OFBSR
major (continued)

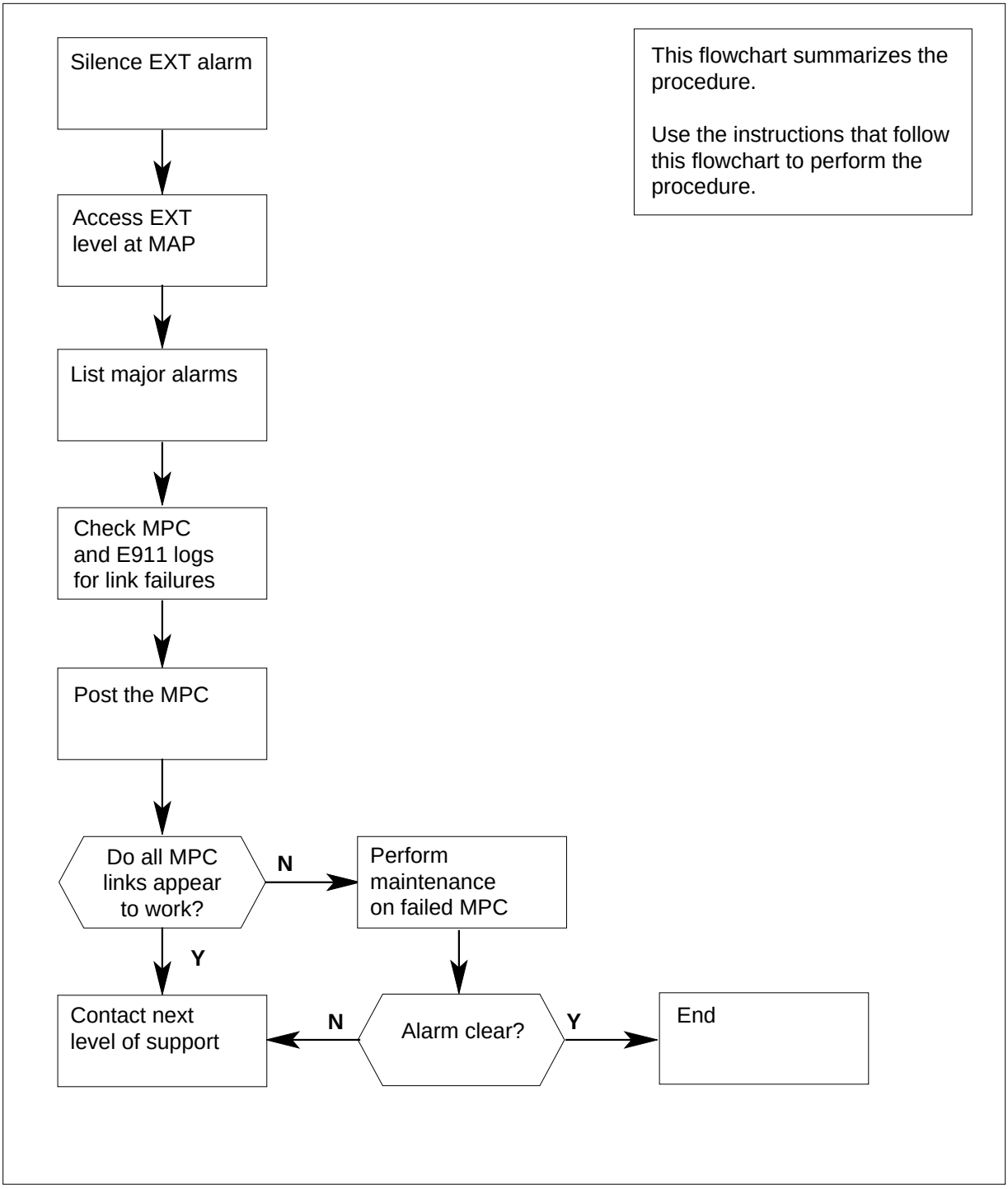
A problem can occur that requires the help of the local maintenance personnel. Gather all important logs, reports, and system information (that is, product type and current software load) for analysis. The related logs, maintenance notes, and system information help make sure that the next level of maintenance and support can find the problem. More detail about logs appears in the *Log Report Reference Manual*.

Action

The flowchart that follows provides a summary of this procedure. Use the instructions in the step action procedure that follows the flowchart to clear the alarm.

Ext E911_OFBSR
major (continued)

Summary of clearing alarm Ext E911_OFBSR_MAJOR alarm



Ext E911_OFBSR
major (continued)

Clearing alarm Ext E911_OFBSR_MAJOR alarm

At the MAP display

1 Enter this procedure from a step in a procedure to clear system-level alarms that identify an EXT major alarm.

2 If you must silence the alarm, type

>MAPCI;MTC;SIL

and press the Enter key.

3 To access the EXT level of the MAP, type

>EXT

and press the Enter key.

Example of MAP response

```
Ext Alarms    Crit   FSP   Major   Minor   NoAlm
              0       0      1       0      14
```

4 To display all the EXT major alarms, type

>LIST MAJ

and press the Enter key.

If the MAP response is	Do
E911_OFBSR_MAJOR	step 10
other than listed here	step 5

5 Go to the procedures listed in the table of contents of this document for references to other alarms.

6 Review any MPC908, E911233, and E911234 log reports. To access LOGUTIL, type

>LOGUTIL

and press the Enter key.

7 To open the buffer for MPC log reports and browse any MPC908 log reports, type

>OPEN MPC 908

and press the Enter key.

The switch generates a MPC908 log report when the tandem detects an MPC card in a SysB state.

Example of MPC908 log report

```
     MPC908 FEB 13:05:24  3700    MPC LINK STATUS
MPC    3 LINK    3 STATUS CHANGE:   ENBLIP –> SBSY
System Action Taken
```

Ext E911_OFBSR
major (end)

8 Use the BACK command to browse through the buffer and display each MPC908 log report.

9 Note the MPC number listed in the MPC908 log report.

10 To exit LOGUTIL, type

>QUIT

and press the Enter key.

11 To access the MTC MAP level, type

>MAPCI;MTC

and press the Enter key.

12 To display MPC card status, type

>IOD;IOC 1;MPC mpc_number

and press the Enter key.

where

mpc_number
is the ID of the MPC card identified in step 9 or 13

Note: The card is in an IOC number. You do not need to know the number of the IOC that contains the card to display the MPC link status. IOC port information for IOC1 appears when the system shows link status for the MPC card. The MPC card is on the same IOC shelf or another IOC shelf.

Example of MAP response

```
IOC  CARD  0    1    2     3     4     5     6     7     8
 1 PORT 0123 0123 0123  0123  0123  0123  0123  0123  0123
   STAT .... .--- .---  .---  .---  .... .... .... ....
TYPE  CONS   MPC   MPC   MPC   MPC
Card 3   Unit        17
      User   SYSTEM   BOARD   LINK0  LINK1   LINK2   LINK3
      Status    Ready   COMACT   UNEQ  UNEQ    ENBLD  SBSY
WARNING: MPC 17 IS NOT ON THE DISPLAYED IOC
MPC 17 IS ON IOC 3
```

If links are	Do
not SysB	step 13
SysB	step 14

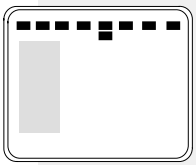
13 Contact the next level of support.

14 Perform MPC card maintenance. Refer to this document. Verify that the alarm cleared. If the alarm persists, contact the next level of support.

15 The procedure is complete.

Ext E911_OFBSR minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1Min**	.

Indication

Under the EXT subsystem header at the MTC level of the MAP display, 1Min can indicate an E911_OFBSR_MINOR alarm.

Meaning

An E911_OFBSR_MINOR alarm generates only for the dual OFBSR interface. The alarm is raised when one of the multiprotocol controller (MPC) links to either of the two Off-Board Selective Routing (OFBSR) databases becomes unavailable.

Impact

OFBSR communication will continue on available links. The alarm continues until all links to both databases are available.

Common procedures

This procedure does not refer to any common procedures.

Next level of maintenance

Repeat this procedure if it is not successful when you first perform the procedure.

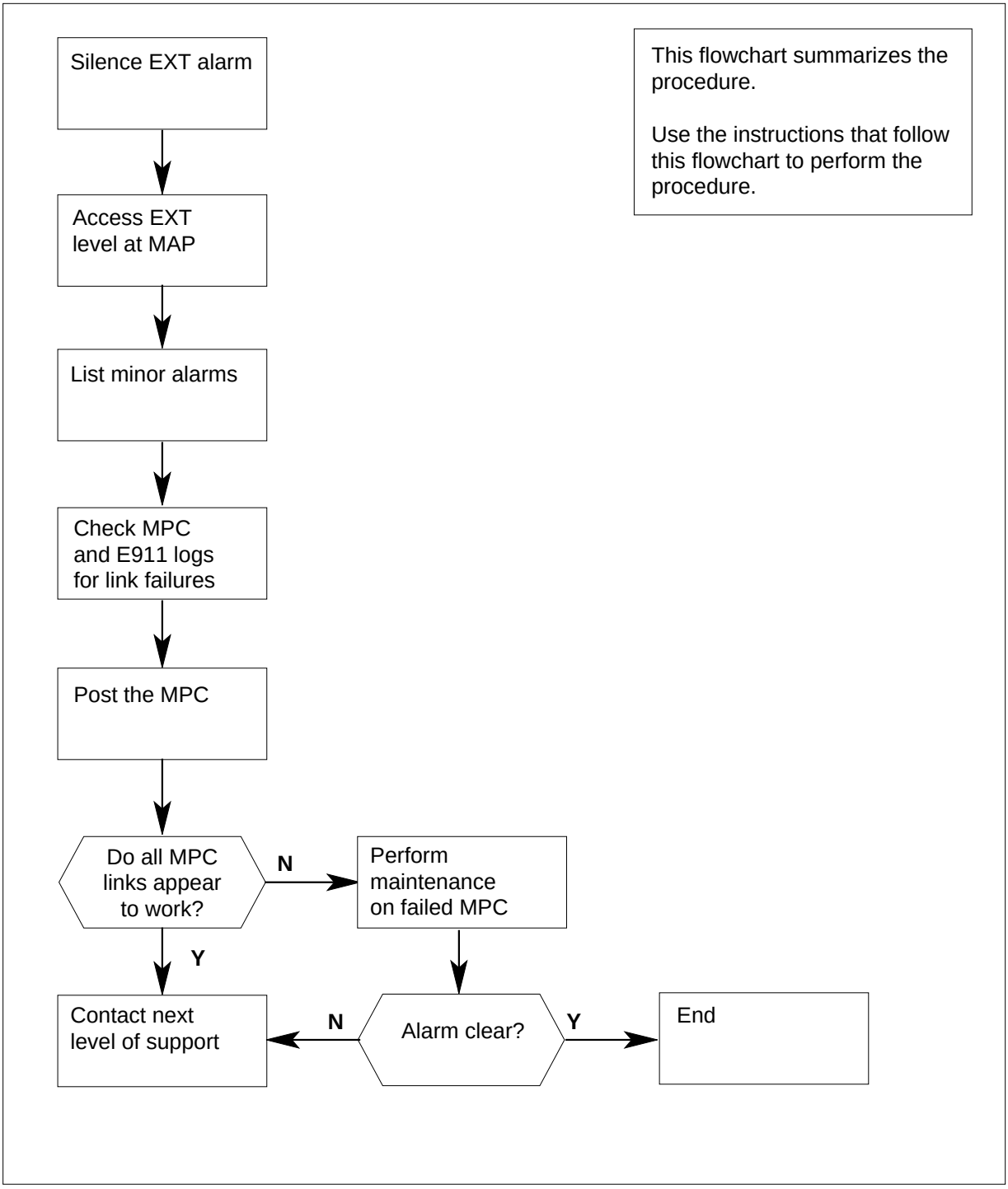
A problem can occur that requires the help of the local maintenance personnel. Gather all important logs, reports, and system information (that is, product type and current software load) for analysis. The related logs, maintenance notes, and system information help make sure that the next level of maintenance and support can find the problem. More detail about logs appears in the *Log Report Reference Manual*.

Action

The flowchart that follows provides a summary of this procedure. Use the instructions in the step action procedure that follows the flowchart to clear the alarm.

Ext E911_OFBSR
minor (continued)

Summary of clearing alarm Ext E911_OFBSR_MINOR alarm



Ext E911_OFBSR minor (continued)

Clearing alarm Ext E911_OFBSR_MINOR alarm

At the MAP display

1 Enter this procedure from a step in a procedure to clear system-level alarms that identify an EXT major alarm.

2 If you must silence the alarm, type

>MAPCI;MTC;SIL

and press the Enter key.

3 To access the EXT level of the MAP, type

>EXT

and press the Enter key.

Example of MAP response

```
Ext Alarms    Crit   FSP   Major   Minor   NoAlm
              0       0      0       1      14
```

4 To display all the EXT minor alarms, type

>LIST MIN

and press the Enter key.

If the MAP response is	Do
E911_OFBSR_MINOR	step 10
other than listed here	step 5

5 Go to the procedures listed in the table of contents of this document for references to other alarms.

6 Review any MPC908, E911233, and E911234 log reports. To access LOGUTIL, type

>LOGUTIL

and press the Enter key.

7 To open the buffer for MPC log reports and browse any MPC908 log reports, type

>OPEN MPC 908

and press the Enter key.

The switch generates a MPC908 log report when the tandem detects an MPC card in a SysB state.

Example of MPC908 log report

```
     MPC908 FEB 13:05:24  3700    MPC LINK STATUS
MPC    3 LINK    3 STATUS CHANGE:   ENBLIP –> SBSY
System Action Taken
```

Ext E911_OFBSR
minor (end)

8 Use the BACK command to browse through the buffer and display each MPC908 log report.

9 Note the MPC number listed in the MPC908 log report.

10 To exit LOGUTIL, type

>QUIT

and press the Enter key.

11 To access the MTC MAP level, type

>MAPCI;MTC

and press the Enter key.

12 To display MPC card status, type

>IOD;IOC 1;MPC mpc_number

and press the Enter key.

where

mpc_number
is the ID of the MPC card identified in step 9 or 11.

Note: The card is in an IOC number. You do not need to know the number of the IOC that contains the card to display the MPC link status. IOC port information for IOC1 appears when the system shows link status for the MPC card. The MPC card is on the same IOC shelf or another IOC shelf.

Example of MAP response

```
IOC  CARD  0    1    2     3     4     5     6     7     8
 1 PORT 0123 0123 0123  0123  0123  0123  0123  0123  0123
   STAT .... .--- .---  .---  .---  .... .... .... ....
TYPE  CONS   MPC   MPC   MPC   MPC
Card 3   Unit        17
      User   SYSTEM   BOARD   LINK0  LINK1   LINK2   LINK3
      Status    Ready   COMACT   UNEQ  UNEQ    ENBLD  SBSY
WARNING: MPC 17 IS NOT ON THE DISPLAYED IOC
MPC 17 IS ON IOC 3
```

If links are	Do
not SysB	step 13
SysB	step 14

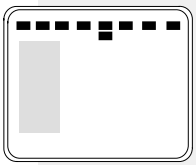
13 Contact the next level of support.

14 Perform MPC card maintenance. Refer to this document. Verify that the alarm cleared. If the alarm persists, contact the next level of support.

15 The procedure is complete.

Ext E911_PSAP_OFFHK minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1Min**	.

Indication

Under the EXT subsystem header at the MTC level of the MAP display, 1Min can indicate an E911_PSAP_OFFHK alarm. The E911 permanent lockout (PLO) or off-hook minor alarm appears under the EXT heading for SuperNode and NT40 applications.

Meaning

This alarm indicates one of the following conditions:

- A public safety answering point (PSAP) operator was off-hook after call disconnect.
- A PSAP operator was off-hook without a connection to another party for an extended period of time. The off-hook time exceeded an office parameter (E911_PSAP_OFFHK_ALARM_TIME) setting.
- Equipment failures occur. The equipment failures imitate a PSAP off-hook state.

Result

The PSAP operator cannot answer emergency calls that enter on a line. If the originator hold (ORIGHOLD) is set to Y (Yes), the originator can block network resources. If an ORIGHOLD is set to Y, the caller cannot place other calls.

Common procedures

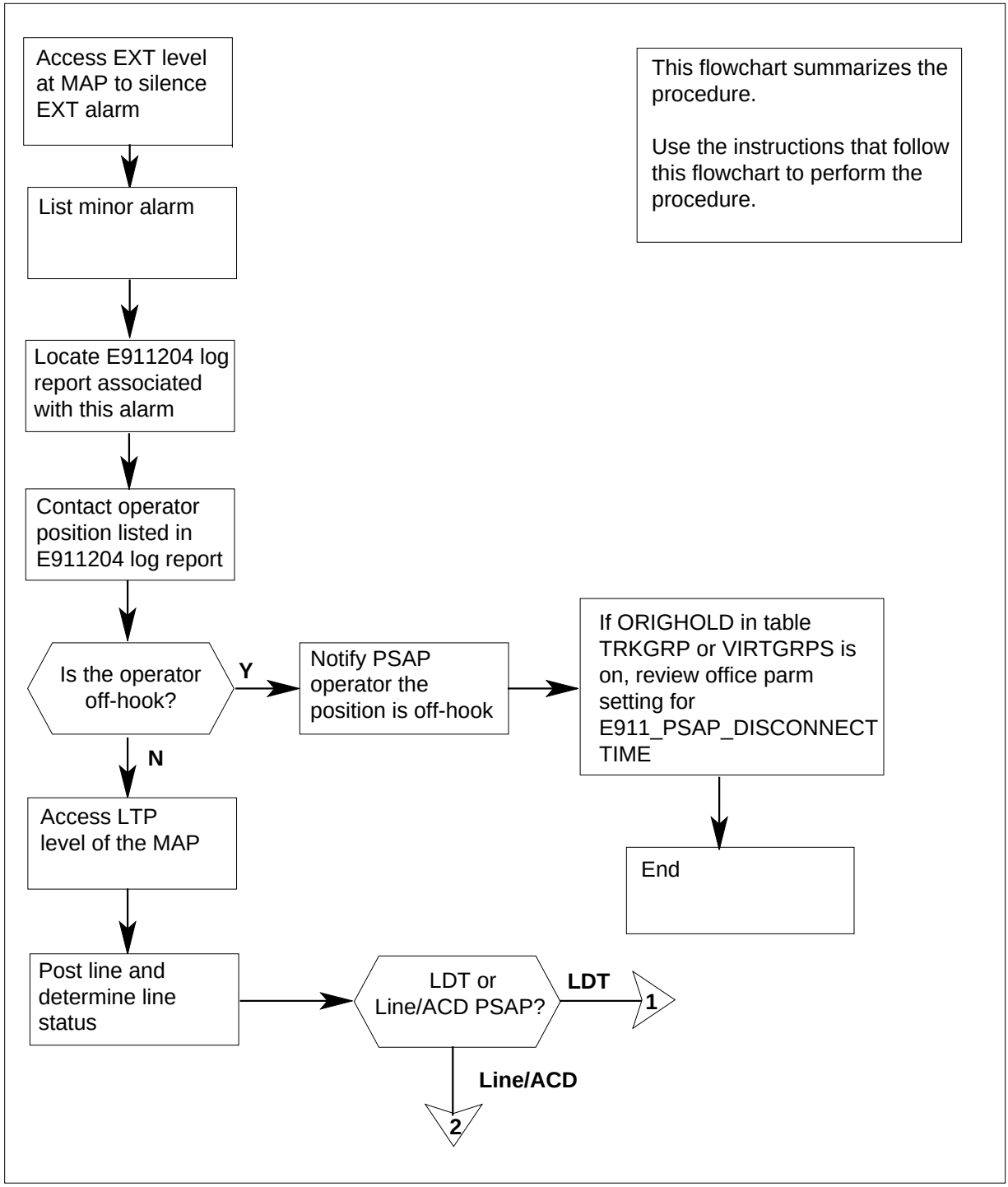
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

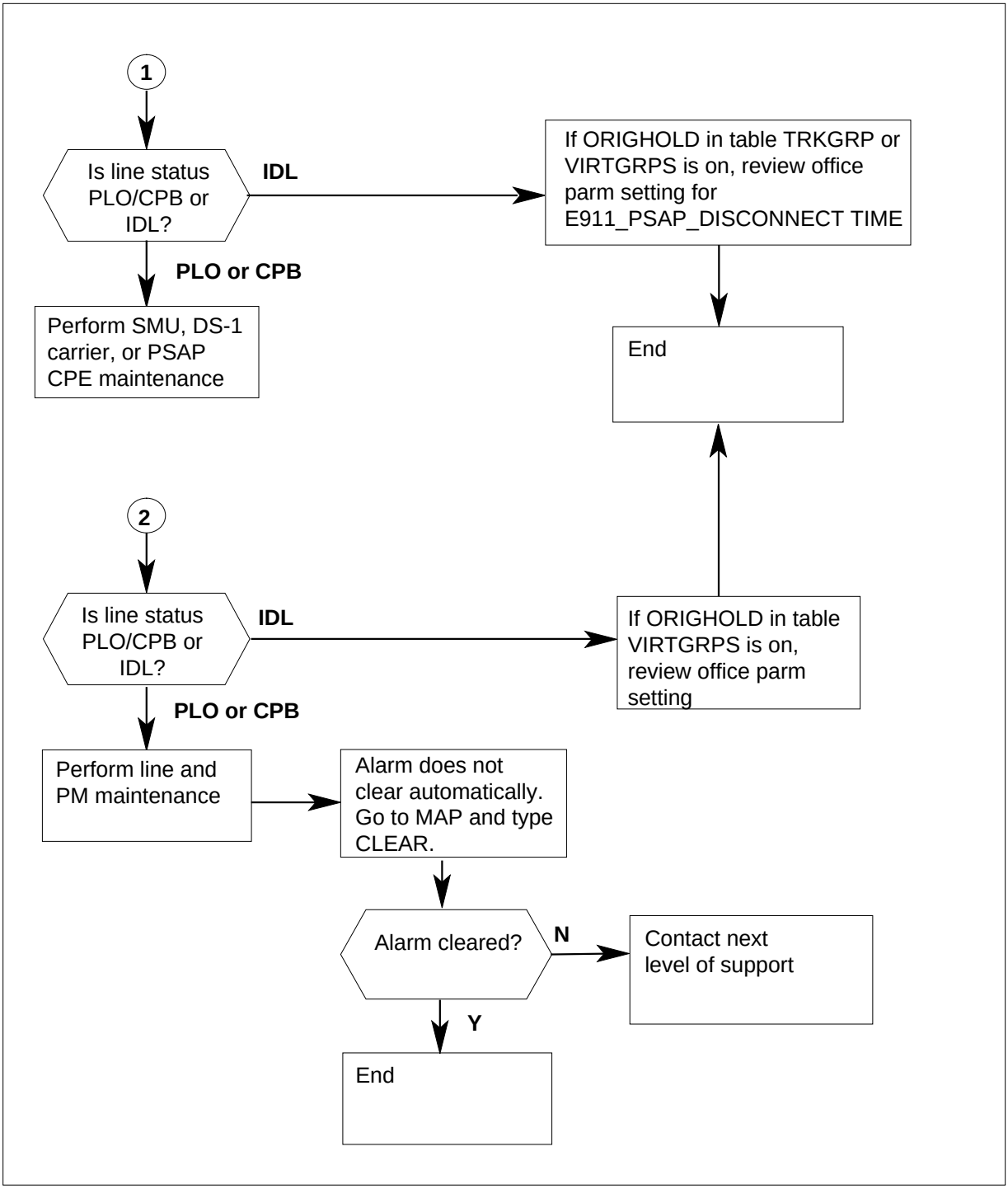
Ext E911_PSAP_OFFHK
minor (continued)

Summary of How to clear an Ext E911_PSAP_OFFHK minor alarm



Ext E911_PSAP_OFFHK minor (continued)

Summary of How to clear an Ext E911_PSAP_OFFHK minor alarm (continued)



Ext E911_PSAP_OFFHK
minor (continued)

How to clear an Ext E911_PSAP_OFFHK minor alarm

At the MAP display

1 You enter this procedure from a step in a procedure to clear system-level alarms that identifies EXT alarms at the MAP display. The alarm activates for time on office parameter E911_PSAP_OFFHK_ALARM_TIME.

2 To access EXT level, type

>MAPCI;MTC;EXT

and press the Enter key

Example of a MAP response:

```
Ext Alarms   Crit  FSP  Major  Minor  NoAlm
          0       0      0     1      11
```

3 To display all the EXT minor alarms, type

>LIST MIN

and press the Enter key.

Example of a MAP response:
E911_PSAP_OFFHK

4 Obtain E911204 to get the directory number (DN) and line equipment number (LEN) of the operator with the off-hook line. See *Input/Output System Reference Manual*, 297-1001-129, to use LOGUTIL and collect this information.

To access LOGUTIL, type

>LOGUTIL

and press the Enter key.

5 To open the buffer for the E911 log report, type

>OPEN E911

and press the Enter key.

6 Browse through the buffer to locate the E911204 log report. To access the previous report, type

>BACK

and press the Enter key.

Repeat the command to display the E911204 log report.

Example of a MAP response:

```
E911204 FEB03 13:05:24 0101 INFO
   PERMANENT off–hook CONDITION AT PSAP
   LINE EQUIPMENT NUMBER: HOST 0 0 19 06
   DN: 6211234
   PSAP NAME: RALPOLICE
```

The last generated E911 log report prints on the MAP screen.

Ext E911_PSAP_OFFHK
minor (continued)

7 Exit LOGUTIL, type

>QUIT

and press the Enter key.

8 Contact PSAP operator to determine if the operator console is off-hook.

If PSAP console	Do
is off-hook	Tell the PSAP operator to go on-hook. ORIGHOLD, in table TRKGRP or VIRTGRPS, can be Y for the end office where the call routed. If ORIGHOLD is Y, check E911_PSAP_DISCONNECT_TIME. See *Office Parameters Reference Manual*. If ORIGHOLD is N, you do not need more maintenance. Go to step 12. Originator hold and ringback are available for local access 911 calls routed through virtual facility groups with BCS34.
is on-hook	Note the DN/LEN of the operator with the off-hook line. See the E911204 log report. Go to the next step.

9 To access the LTP level of the MAP display from the MTC level of the MAP display, type

>LNS;LTP;POST L len

and press the Enter key.

where

LEN
is the line equipment number listed in the E911204 log

Normal response on the MAP display:

```
LCC PTY  RNG ....LEN.DN    STA F S LTA  TE  RESULT IBN
       PSAP 00 0 00 04   621 6004   PLO
```

Ext E911_PSAP_OFFHK
minor (continued)

Perform maintenance tasks if these events happen:

If the status of the posted line	Do
is PLO or CPB and the PSAP is a Line/ACD PSAP	Perform line and peripheral module maintenance. See this document. Verify the alarm cleared.
is PLO or CPB and the PSAP is an LDT PSAP	Perform SMU, DS-1 carrier maintenance. Refer to *Subscriber Carrier Module-100 Urban Maintenance Manual*, 297-8241-550 for DS-1 carrier information and SMU maintenance information. Verify the alarm cleared. If necessary, perform PSAP CPE maintenance. Refer to *Trouble Locating and Clearing Procedures*.
is IDL	If ORIGHOLD is Y for the end office where the call routed, check the E911_PSAP_DISCONNECT_TIME parameter. See *Office Parameters Reference Manual* for information. If the ORIGHOLD is N, you do not need to take additional action. Go to step 12. An intermittent fault can be the cause the alarm. Monitor for E911204 log reports. Return to this procedure if the alarm occurs again.

10 To clear the alarm, type

>CLEAR

and press the Enter key.

Ext E911_PSAP_OFFHK **minor** (end)

11 Check to see if alarm persists.

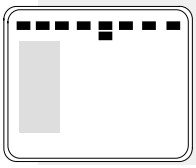
If alarm	Do
clears	step 13
does not clear	step 12

12 Refer to the next level of control.

13 The procedure is complete.

Ext E911_RCER major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1Maj M**	.

Indication

Under the EXT subsystem header at the MTC level of the MAP, 1Maj can indicate an E911_RCER_MAJOR alarm. The additional feature for RCERs must exist for the 1Maj to indicate an E911_RCER_MAJOR alarm. The major alarm for the E911 remote call event record (RCER) appears under the EXT heading.

Meaning

An E911_RCER_MAJOR alarm means the multiprotocol controller (MPC) links to a remote location failed. Records of calls to an exact public safety answering point (PSAP) print at the remote location. This failure does not affect records like events, logs, and calls generated at the E911 tandem location.

Result

Line or automatic call distribution PSAP operators cannot access a printed record or information about calls at the location.

Common procedures

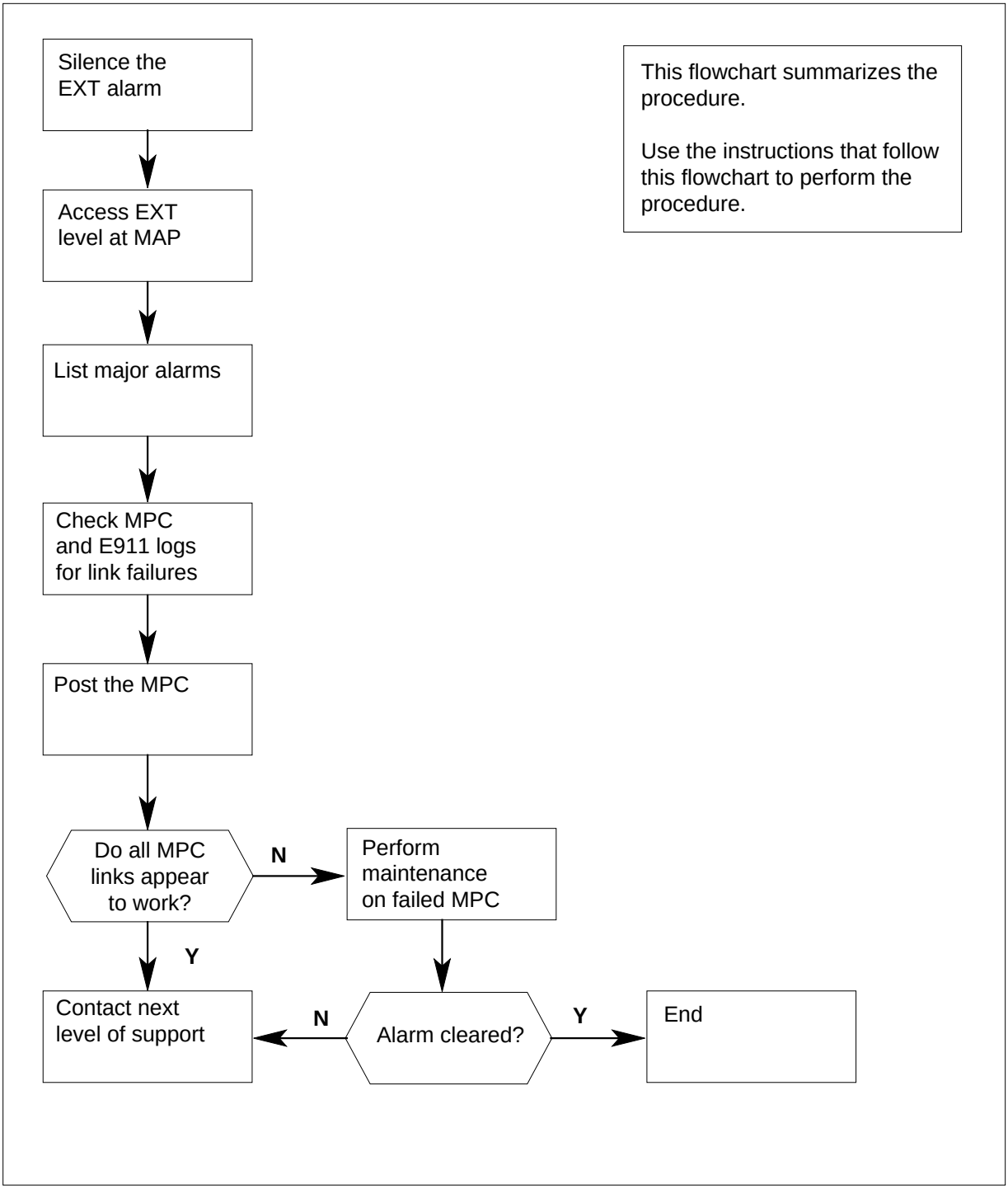
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure. Note that these procedures are the same as the procedures identified for the major alarm for the E911 automatic location identification. Both procedures deal with the MPC links.

Ext E911_RCER major (continued)

Summary of Clearing an Ext E911_RCER_MAJOR major alarm



Ext E911_RCER
major (continued)

Clearing an Ext E911_RCER_MAJOR major alarm

At the MAP display

1 Enter this procedure from a step in a procedure to clear system-level alarms that identify an EXT major alarm.

2 If you must silence the alarm, type

>MAPCI;MTC;SIL

and press the Enter key.

3 To access the EXT level of the MAP, type

>EXT

and press the Enter key.

Example of MAP response

```
Ext Alarms    Crit   FSP   Major   Minor   NoAlm
                0     0       1       0      14
```

4 To display all the EXT major alarms, type

>LIST MAJ

and press the Enter key.

If the MAP response is	Do
E911_RCER_MAJOR	step 6
other than listed here	step 5

5 Go to the procedures listed in the table of contents of this document for references to other alarms.

6 Review any MPC908 and E911218 log reports. To access LOGUTIL, type

>LOGUTIL

and press the Enter key.

7 To open the buffer for MPC log reports and browse any MPC908 log reports, type

>OPEN MPC 908

and press the Enter key.

The switch generates a MPC908 log report when the tandem detects an MPC card in a SysB state.

Example of MPC908 log report

```
     MPC908 FEB 13:05:24  3700    MPC LINK STATUS
MPC    3 LINK    3 STATUS CHANGE:   ENBLIP –> SBSY
System Action Taken
```

Ext E911_RCER
major (continued)

8 Use the BACK command to browse through the buffer and display each MPC908 log report.

9 Note the MPC number listed in the MPC908 log report.

10 To open the buffer for E911 log reports and browse any E911218 log reports, type

>OPEN E911 218

and press the Enter key.

The switch generates an E911218 log report for each call to the PSAP with lost RCER information. The switch generates the report when one or more links are down.

Example of the E911218 log report:

```
E911218 MAR26 08:15:38 0101 RCER WAS NOT SENT
REASON: No Links Up
1990/03/26 9196211235 MADISONPOLICE1234 15:10:00 15:10:02

15:10:17  15:10:25  9199211901  MADISONFIRE  15:10:19
```

11 Use the BACK command to browse through the buffer and display each E911218 log report.

12 Check office policy. Store or discard the E911218 log report.

13 To exit LOGUTIL, type

>QUIT

and press the Enter key.

14 To access the MTC MAP level, type

>MAPCI;MTC

and press the Enter key.

15 To display MPC card status, type

>IOD;IOC 1;MPC mpc_number

and press the Enter key.

where

mpc_number
is the ID of the MPC card identified in step 9

Note: The card is in an IOC number. You do not need to know the number of the IOC that contains the card to display the MPC link. IOC port information for IOC1 appears when the system shows link status for the MPC card. The MPC card is on the same IOC shelf or another IOC shelf.

Example of a MAP response:

Ext E911_RCER
major (end)

```
IOC   CARD   0   1     2     3     4     5     6    7    8
1   PORT  0123 0123 0123 0123  0123  0123  0123  0123 0123
    STAT  .... .---  .---  .---  .---  .... .... .... ....
    TYPE  CONS   MPC   MPC   MPC   MPC
Card 3   Unit        17
       User   SYSTEM   BOARD  LINK0  LINK1   LINK2   LINK3
     Status    Ready  COMACT   UNEQ  UNEQ     ENBLD  SBSY
WARNING: MPC 17 IS NOT ON THE DISPLAYED IOC
MPC 17 IS ON IOC 3
```

If the links	Do
are not SysB	step 16
are SysB	step 17

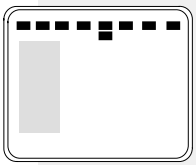
16 Contact the next level of support.

17 Perform MPC card maintenance. Refer to this document. Complete MPC card maintenance and verify that the E911_RCER_MAJOR alarm cleared. If the alarm persists, contact the next level of support.

18 The procedure is complete.

Ext E911_RCER minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1Min**	.

Indication

Under the EXT subsystem header at the MTC level of the MAP display, 1Min can indicate a possible E911_RCER_MINOR alarm. The additional feature for RCERs must be available for the 1Min to indicate the alarm. The E911 remote call event record (RCER) minor alarm appears under the EXT heading.

Meaning

An E911_RCER_MINOR alarm means a multiprotocol controller (MPC) link to a remote location failed. Records of calls to an exact public safety answering point (PSAP) print at the remote location.

Result

A link that sends information for call event records does not operate if the E911_RCER_MINOR alarm activates.

Common procedures

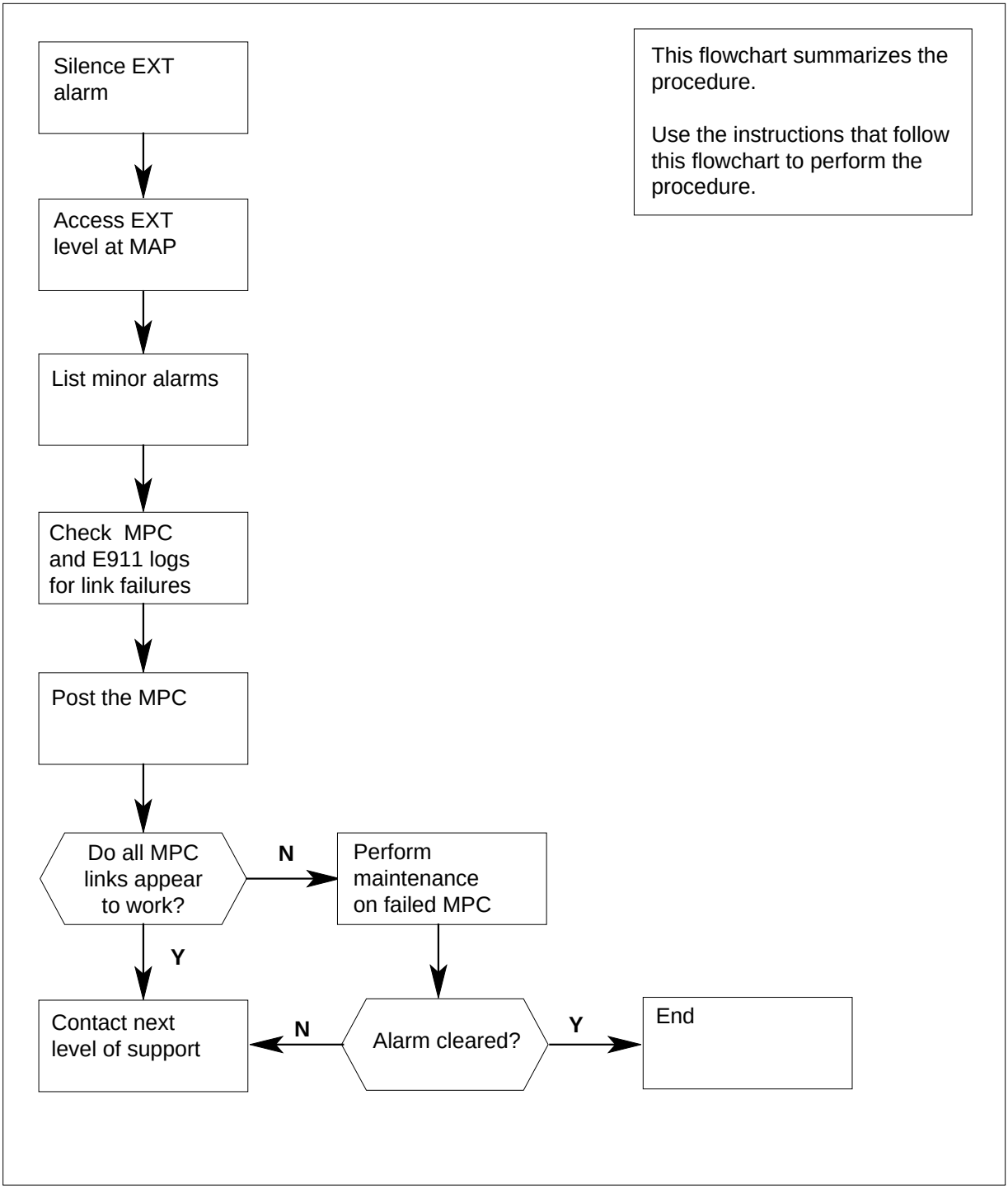
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext E911_RCER
minor (continued)

Summary of Clearing an Ext E911-RCER minor alarm



Ext E911_RCER minor (continued)

Clearing an Ext E911_RCER minor alarm

At the MAP display

1 Enter this procedure from a step in a procedure to clear system-level alarms that identify an EXT minor alarm.

2 If you must silence the alarm, type

>MAPCI;MTC;SIL

and press the Enter key.

3 To access the EXT level of the MAP, type

>EXT

and press the Enter key.

Example of MAP response

```
Ext Alarms    Crit   FSP   Major   Minor   NoAlm
               0     0       0       1      14
```

4 To display all the EXT minor alarms, type

>LIST MIN

and press the Enter key.

If the MAP response is	Do
E911_RCER_MINOR	step 5
other than listed here	step 6

5 Go to the procedures listed in the table of contents of this document for references to other alarms.

6 Review any MPC908 and E911218 log reports. To access LOGUTIL, type

>LOGUTIL

and press the Enter key.

7 To open the buffer for MPC log reports and browse any MPC908 log reports, type

>OPEN MPC 908

and press the Enter key.

The switch generates a MPC908 log report when the tandem detects an MPC card in a SysB state.

Example of the MPC908 log:

```
     MPC908 FEB03 13:05:24  3700    MPC LINK STATUS
MPC    3 LINK    3 STATUS CHANGE:    ENBLIP –> SBSY
System Action Taken
```

Ext E911_RCER
minor (continued)

8 Use the BACK command to browse through the buffer and display each MPC908 log report.

9 Note the MPC number listed in the MPC908 log report.

10 To open the buffer for E911 log reports and browse any E911218 log reports, type

>OPEN E911 218

and press the Enter key.

The switch generates an E911218 log report for each call to the PSAP with lost RCER information. The switch generates the report when one or more links are down.

Example of E911218 log report:

```
E911218 MAR26 08:15:38 0101 RCER WAS NOT SENT
REASON: No Links Up
1990/03/26 9196211235 MADISONPOLICE   1234  15:10:00
15:10:02

15:10:17  15:10:25  9199211901  MADISONFIRE  15:10:19
```

11 Use the BACK command to browse through the buffer and display each E911218 log report.

12 Check office policy. Store or discard the E911218 log report.

13 To exit LOGUTIL, type

>QUIT

and press the Enter key.

14 To access the MTC MAP level, type

>MATCI;MTC

and press the Enter key.

15 To display the MPC card status, type

>IOD;IOC 1;MPC mpc_number

and press the Enter key.

where

mpc_number
is the ID of the MPC card identified in step 9

Note: You do not need to know the number of the IOC port that holds the card to display MPC link status. IOC port information for IOC 1 appears when the system shows link status for the MPC card. The MPC card is on the same IOC shelf or another IOC shelf.

Example of a MAP response:

Ext E911_RCER
minor (end)

```
IOC  CARD  0    1    2     3     4     5     6     7     8
 1   PORT  0123 0123 0123 0123 0123 0123  0123  0123  0123
     STAT .... .---  ---  ---  .--- .... .... .... ....
     TYPE  CONS   MPC   MPC   MPC   MPC Card 3   Unit   17
     User  SYSTEM    BOARD   LINK0  LINK1   LINK2   LINK3
    Status  Ready   COMACT  UNEQ    UNEQ     ENBLD  SBSY
WARNING: MPC 17 IS NOT ON THE DISPLAYED IOC
MPC 17 IS ON IOC 3
```

Refer to the following table. The next step depends on if card links are system busy.

If card links	Do
are not SysB	step 16
are SysB	step 17

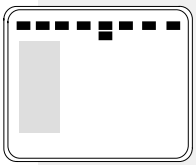
16 Contact the next level of support.

17 Perform MPC card maintenance. Refer to this document. Complete MPC card maintenance and verify that the E911_RCER_MINOR alarm cleared. If the alarm persists, contact the next level of support.

18 This procedure is complete.

Ext E911_SRDB_MEMORY minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1Min**	.

Indication

Under the EXT subsystem header at the MTC level of the MAP display, 1Min can indicate a possible E911_SRDB_MEMORY alarm. The alarm occurs if table E911SRDB approaches maximum size or store is not available. The minor alarm for the E911 selective routing database (SRDB) memory appears under the EXT heading in SuperNode and NT40 applications.

Meaning

An E911_SRDB_MEMORY minor alarm means that one or more of these conditions are present:

- The SRDB uses storage that exceeds a set percentage of the total store in the switch (default percentage is 80%).
- The free memory drops below an exact value (default value is five areas).
- The number of tuples in the SRDB exceeds a set percentage (default value is 95% of the total allowable).

Result

Table E911SRDB approaches maximum size or store is not available if an E911_SRDB_MEMORY minor alarm activates. The update to table E911SRDB also stops when the alarm activates.

Common procedures

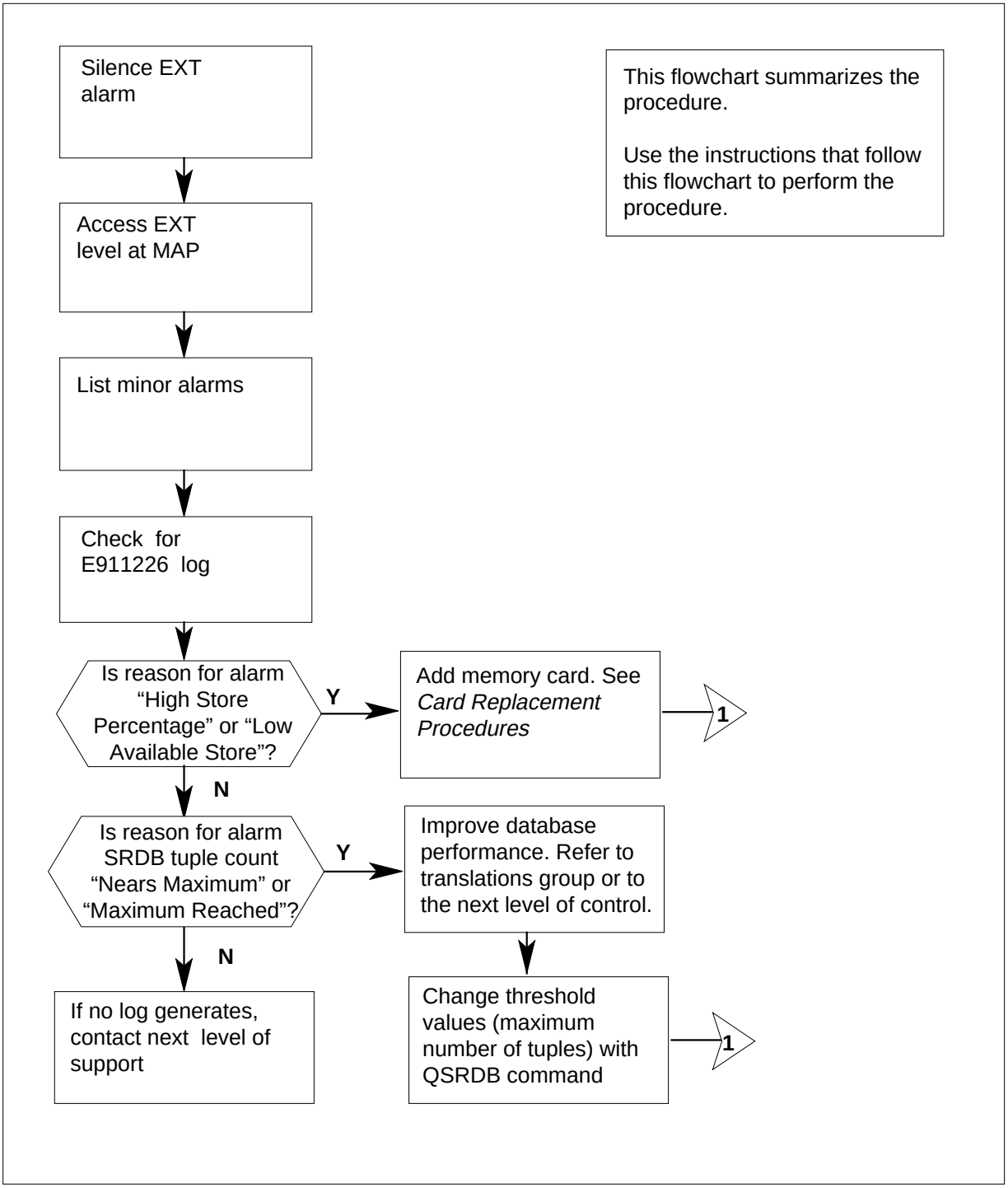
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

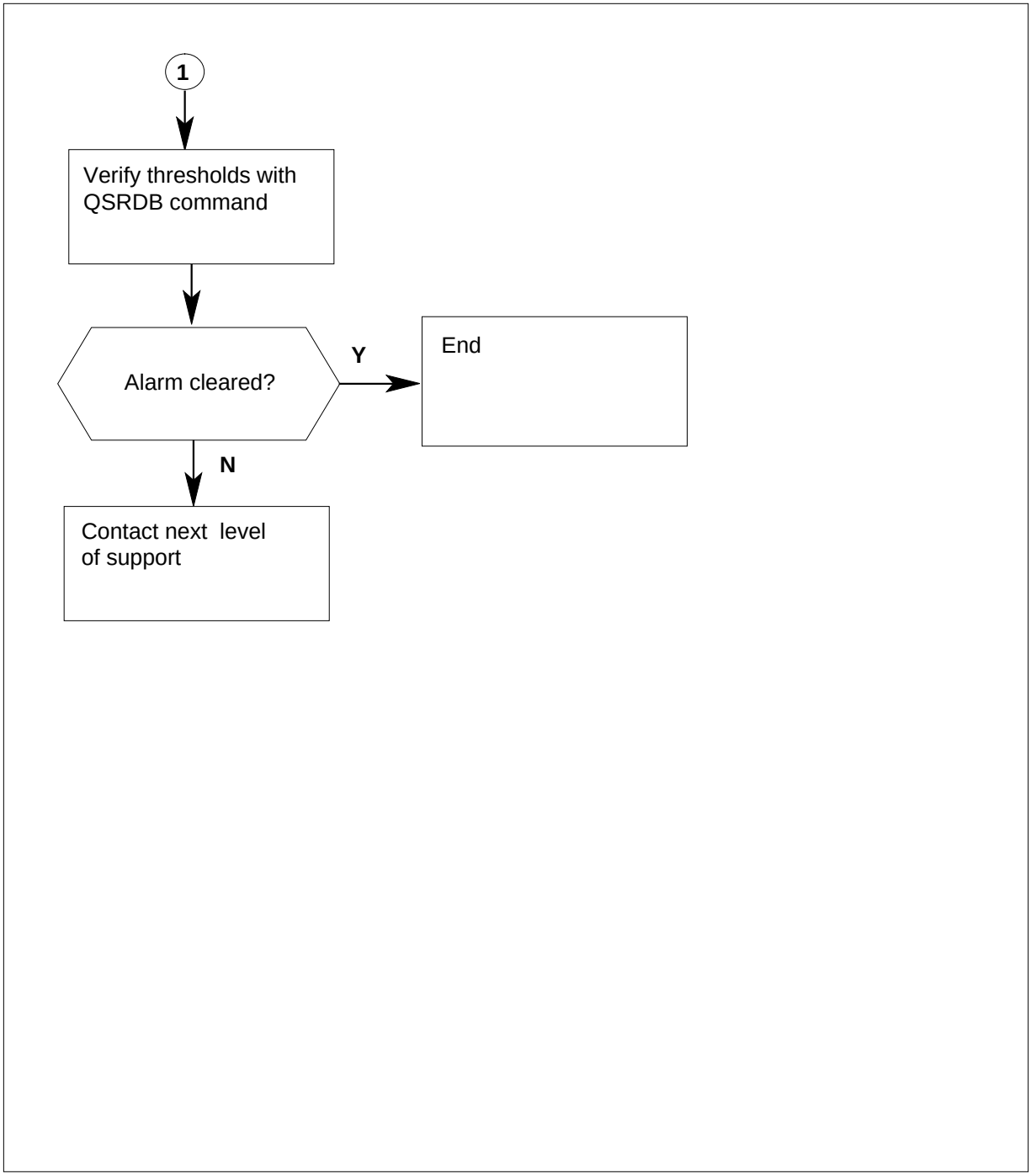
Ext E911_SRDB_MEMORY minor (continued)

Summary of How to clear an Ext E911_SRDB_MEMORY minor alarm



Ext E911_SRDB_MEMORY
minor (continued)

Summary of How to clear an Ext E911_SRDB_MEMORY minor alarm (continued)



Ext E911_SRDB_MEMORY minor (continued)

How to clear an Ext E911_SRDB_MEMORY minor alarm

At the MAP display

1 Enter this procedure from a step in a procedure to clear a system-level alarm that identified an EXT minor alarm.

2 If you must silence the alarm, type

>MAPCI;MTC;SIL

and press the Enter key.

3 To access the EXT level of the MAP display, type

>EXT

and press the Enter key.

Example of a MAP response

```
Ext Alarms    Crit   FSP   Major   Minor   NoAlm
                0      0       1       0      14
```

4 To display all the EXT minor alarms, type

>LIST MIN

and press the Enter key.

If response on MAP display	Do
is E911_SRDB_MEMORY	step 5

5 Obtain an E911226 log report. To access LOGUTIL, type

>LOGUTIL

and press the Enter key.

6 To open the buffer for E911 log reports and browse any E911226 log reports, type,

>OPEN E911 226

and press the Enter key.

An E911226 log generates when:

- The SRDB uses storage that exceeds an exact percentage of the total store in the switch (default 80%).
- Free memory drops below an exact value (default five areas).
- The number of tuples in a database exceeds an exact value (default 95% of permitted total).
- Table E911SRDB has the maximum number of permitted tuples.

Note: Logs with the reason “Nearing maximum" will not print unless five minutes passed since the last log time. This time limit ensures that E911226 logs do not flood the system,

Example of an E911226 log report:

Ext E911_SRDB_MEMORY
minor (continued)

```
   E911226 MAR26 08:15:38 1290 INFO SRDB MEMORY WARNING!!!
REASON = --Low Available Store
```

> ***Note:*** The E911225 log generates when tuples increase or change by an exact number (default=1000) in the database. The counter does not reset on new updates. The log always generates every 1000 changes on update sessions. The log is for information only.

Example of an E911225 log report:

```
E911225 MAR26 08:15:38 1289 INFO SRDB MEMORY INFORMATION
SRDB COUNT 250000, SRDB STORE    81 KBytes,   FREE STORE
4 VAreas
```

7 Use the BACK command to browse through the buffer and display each E911211 log report.

8 To exit LOGUTIL, type

>QUIT

and press the Enter key.

9 Note the reason category on the E911226 log.

If the reason	Do
is high store percentage	step 10
is low available store	step 10
is near maximum	step 11
is maximum reached	step 11
is log did not generate	contact next level of support

10 To increase the data store in the SuperNode, add memory card NT9X14BB or NT9X145DB. Refer to *Card Replacement Procedures*.

Proceed to step 12.

11 You can optimize the database in table E911SRDB. Use higher range tuples that have a key to define a range. The range can include the DN for the caller to route to an emergency service number. In an optimized state, the database allows the SRDB to serve the largest number of DNs. The database uses tuples for a range of DNs. It does not assign an exact DN to each tuple. Refer to the translations group or to the next level of control.

Proceed to step 12.

12 To change threshold values, like the maximum number of tuples, use the CI command. Type

>QSRDB

and press the Enter key.

Ext E911_SRDB_MEMORY
minor (continued)

13 To determine:

- the number of tuples in table E911SRDB
- the amount of store this table uses
- the amount of free store in the switch

type

>QSRDB MEM

and press the Enter key.

Example of a MAP response:

```
SRDB    Count   250,000 SRDB STORE 4,032 KBytes FREE STORE
32 VAreas
```

14 To display the values that cause the output of store-use information or warnings on table E911SRDB, type

>QSRDB THRESH

and press the Enter key.

Example of a MAP response:

```
SRDB %:      80             STORE MINIMUM:  5
NEAR LIMIT:       760000        LOG COUNT:          1000
```

15

WARNING
Take care when you use the Set option of the QSRDB command
This option changes the threshold values that determine when an alarm or log generates. If the values are set incorrectly, a possibility is present that the system will not warn of low store access for table E911SRDB.

To set threshold values, type

>QSRDB SET <PERCENT <VALUE>
STORE
NLIMIT
COUNT>

and press the Enter key.

When you enter 0 for PERCENT, STORE, NLIMIT and COUNT, the parameter turns off.

If you enter the wrong parameter, the correct range of values for the parameter appears. A request to enter the command again accompanies the parameter display.

Ext E911_SRDB_MEMORY
minor (end)

Example of a MAP response

```
THRESHOLD VALUES WILL BE:
SRDB %:  85          STORE MINIMUM:   5
NEAR LIMIT:  725000  LOG COUNT:       5000
Please confirm (“YES” or “NO”):
>YES
SRDB THRESHOLD VALUES HAVE BEEN UPDATED
```

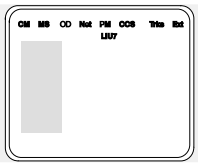
Note: If you enter the wrong parameter, the system prompts you with the correct ranges.

16 Verify that the arm cleared. If the alarm persists, contact the next level of support.

17 The procedure is complete

Ext ESR minor

Alarm display



CM	MS	IOD	Net	**PM**	CCS	Lns	Trks	Ext	APPL
.	.	**.**	**.**		**.**	**.**	**.**	**1 Min.**	**.**

Indication

Under the Ext subsystem header at the MTC level of the MAP display, 1 Min. may indicates one or more ESR minor alarms.

Meaning

A minor alarm is raised when a caller makes an emergency call to an attendant. The operating company personnel monitors the alarm and gathers the call information from a log. The call information is available to the attendant if the caller fails to complete the call.

Impact

Possible loss of life or property.

Common procedures

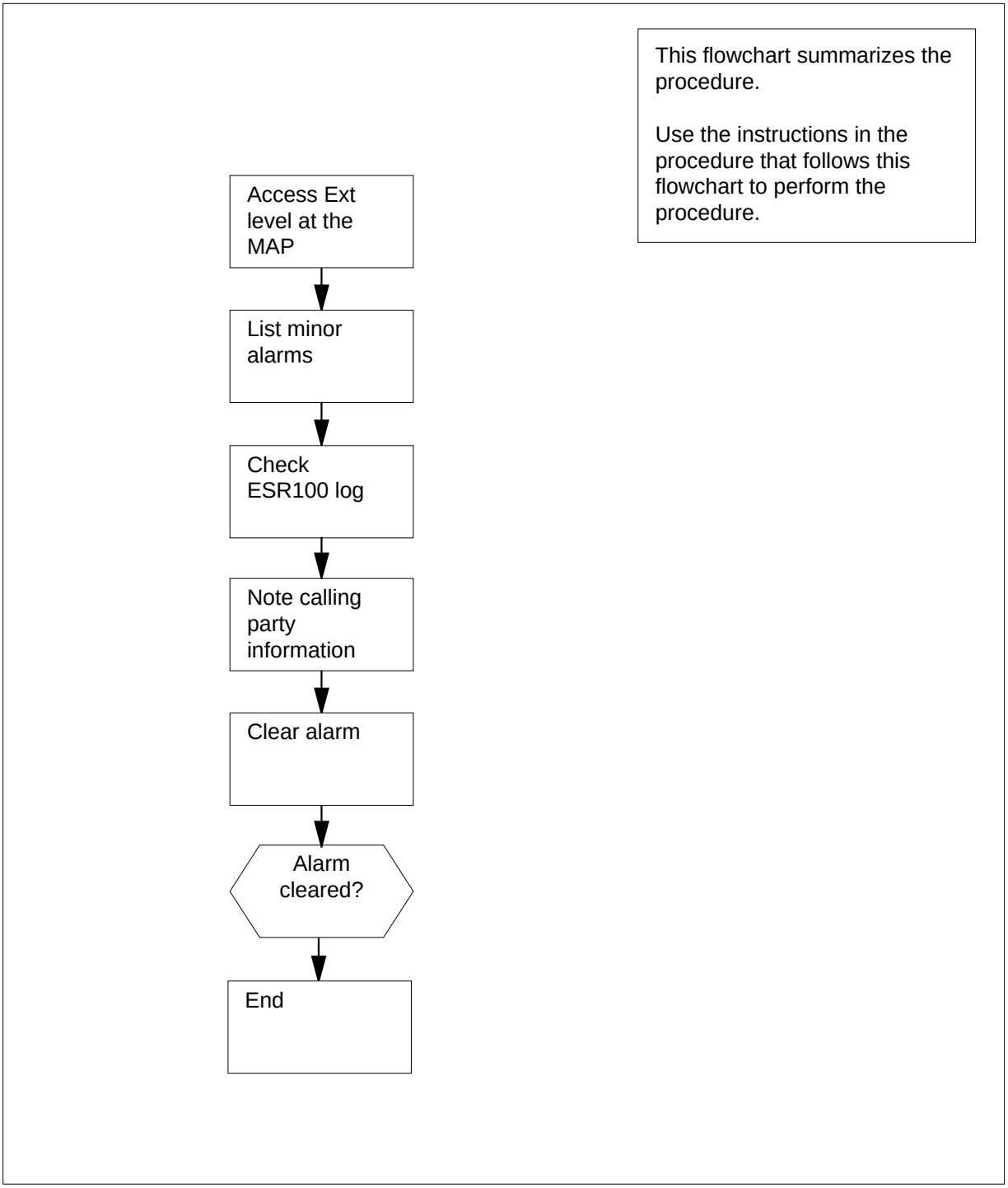
Not applicable

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

Ext ESR
minor (continued)

Summary of clearing an Ext ESR alarm



Ext ESR
minor (continued)

Clearing an Ext ESR alarm

At your current location

1 To access the Ext level of the MAP display, type

>EXT

and press the Enter key.

Example of a MAP display.

```
CM  MS  IOD  Net  PM  CCS  Lns  Trks  Ext  APPL . . 2MPCOS .
1LIM  .  .  54GC  1 Min  .

Ext AlarmsCritFSPMajorMinor NoAlm
0 0 0 1 10
```

2 To display all the Ext minor alarms, type

>LIST MIN

and press the Enter key.

If response on MAP display is	Do
ESR ALARM	step 4
other items	step 3

3 Perform the appropriate alarm-clearing procedures in this document. When you have completed the procedure, go to step 11.

4 To access LOGUTIL, type

>LOGUTIL

and press the Enter key.

5 To open the ESR log report buffer, type

>OPEN ESR

and press the Enter key.

6 To browse through the buffer to display the ESR100 log report, type

>BACK ALL

and press the Enter key.

Example of an ESR100 log report.

```
ESR100 MAY06  19:29:47 9700 INFO
LEN HOST 01 0 05 02 DN 471690123
FPT TRUNK: Kashiwa_Fire_1
```

7 Note the calling number, the date and time, and the terminating fire, police and trunk (FPT) number.

8 To exit LOGUTIL, type

>QUIT

Ext ESR
minor (end)

and press the Enter key.

9 To clear the alarm, type

>SETSC ESR_ALARM REL

and press the Enter key.

Example of a MAP display.

```
Ext AlarmsCritFSPMajorMinor NoAlm
0 0 0 0 10

setsc esr_alarm rel
OK
```

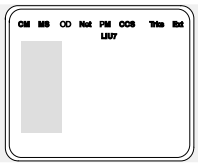
If the alarm	Do
clears	step 11
fails	step10

10 Contact the next level of support.

11 You have completed this procedure.

Ext ESR_TIME_ALARM minor

Alarm display



CM	MS	IOD	Net	**PM**	CCS	Lns	Trks	Ext	APPL
.	.	**.**	**.**		**.**	**.**	**.**	**1 Min**	**.**

Indication

Under the Ext subsystem header at the MTC level of the MAP display, 1 Min may indicate one or more ESR_TIME_ALARM minor alarms.

Meaning

A minor alarm is raised within 30 sec when no attendant has answered an emergency call. The operating company personnel monitors the alarm and gathers the call information from a log. The call information is available to the attendant.

Impact

Possible loss of life or property.

Common procedures

Not applicable

Action

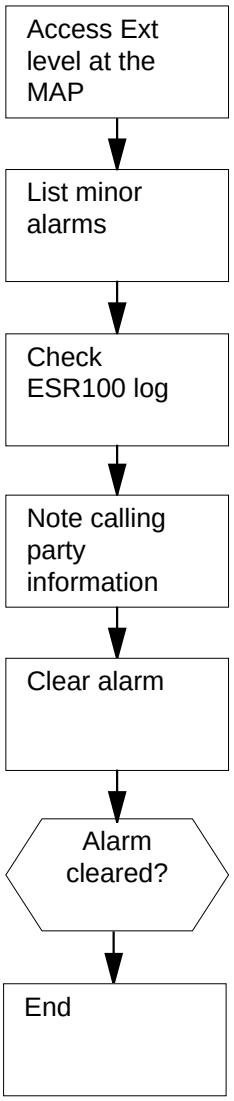
The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

Ext ESR_TIME_ALARM
minor (continued)

Summary of clearing an Ext ESR_TIME_ALARM alarm

This flowchart summarizes the procedure.

Use the instructions in the procedure that follows this flowchart to perform the procedure.



Ext ESR_TIME_ALARM
minor (continued)

Clearing an Ext ESR_TIME_ALARM alarm

At your current location

1 To access the Ext level of the MAP display, type

>EXT

and press the Enter key.

Example of a MAP display.

```
CM  MS  IOD  Net  PM  CCS  Lns  Trks  Ext  APPL .  .  2MPCOS .
1LIM  .  .  54GC  2 Min  .

Ext Alarms CritFSPMajorMinor NoAlm
0 0 0 1 10
```

2 To display all the Ext minor alarms, type

>LIST MIN

and press the Enter key.

If response on MAP display is	Do
ESR_TIME_ALARM	step 4
anything else	step 3

3 Perform the appropriate alarm-clearing procedures in this document. When you have completed the procedure, go to step 11.

4 To access LOGUTIL, type

>LOGUTIL

and press the Enter key.

5 To open the ESR log report buffer, type

>OPEN ESR

and press the Enter key.

6 To browse through the buffer to display the ESR100 log report, type

>BACK ALL

and press the Enter key.

Example of an ESR100 log report.

```
ESR100 MAY06  19:29:47 9700 INFO
LEN HOST 01 0 05 02 DN 471690123
FPT TRUNK: Kashiwa_Fire_1
```

7 Note the calling phone number, the date and time, and the terminating fire, police and trunk (FPT) number.

Ext ESR_TIME_ALARM minor (end)

8 To exit LOGUTIL, type

>QUIT

and press the Enter key.

9 To clear the alarm, type

>SETSC ESR_TIME_ALARM REL

and press the Enter key.

Example of a MAP display.

```
Ext Alarms CritFSPMajorMinor NoAlm
0 0 0 0 10

setsc esr_time_alarm rel
OK
```

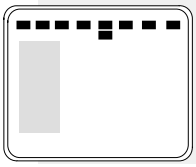
If the alarm	Do
clears	step 11
fails	step10

10 Contact the next level of support.

11 You have completed this procedure.

Ext FSP major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the Ext header of the alarm banner. The FSP indicates an Ext frame supervisory panel (FSP) alarm, or a modular supervisory panel (MSP) alarm.

Meaning

The system generates an FSP alarm when one or more frames or cabinets in the office has a power fault. The system also generates an FSP alarm for a cooling unit fault.

The number that precedes FSP is the number of equipment aisles in which the subsystem detects an FSP alarm.

Result

The impact on subscriber service depends on the type of the fault and the type of frame that contains the fault.

Common procedures

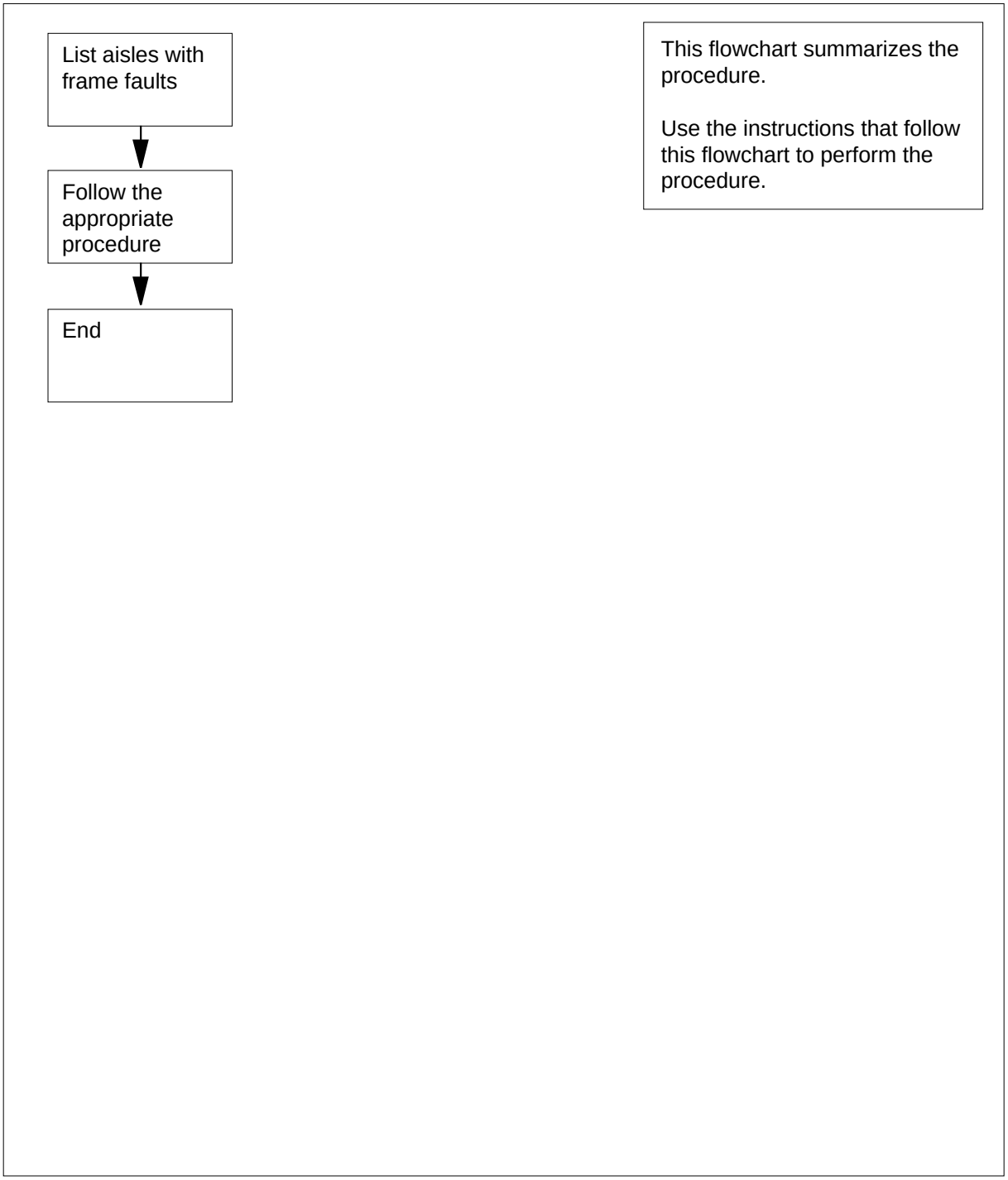
There are no common procedures.

Action

This procedure contains a flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
major (continued)

Summary of Clearing an Ext FSP major alarm



Clearing an Ext FSP major alarm

At the MAP terminal

1 To access the Ext level of the MAP display, type

>MAPCI;MTC;EXT

and press the Enter key.

Example of a MAP display:

```
 Ext Alarms    Crit    FSP   Major  Minor  NoAlm
                 0      1      0      0     12
```

2 List the aisles in the office that have one or more frames with faults on power or cooling units. To list the aisles, type

>LIST FSP

and press the Enter key

Example of a MAP response:

```
FSPAISn
```

Note: In the example, n represents the aisle that contains one or more frames with a power or cooling unit fault.

3 Record the identity of the first aisle on the list.

4 In the aisle, locate the frame that has the fault on the power or cooling unit. A lit FRAME FAIL lamp identifies the frame.

Note: If a frame has an FSP alarm, the FRAME FAIL lamp at the end of the aisle of the frame illuminates.

5 Perform the FSP alarm clearing procedure in this document. Make sure the procedure is correct for the type of frame. Complete the procedure and return to this point.

6 Determine if the FSP major alarm cleared.

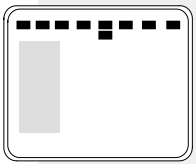
If the alarm	Do
cleared	step 8
changed to a smaller number (for example, changed from 2FSP to 1FSP)	step 2
did not clear	step 7

7 For additional help, contact the next level of support.

8 The procedure is complete.

Ext FSP
APC cabinet major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP**	.
								M	

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the EXT header of the alarm banner. The FSP indicates a major alarm for an external frame supervisory panel (FSP).

Meaning

A power fault or a cooling unit fault is present on one or more office cabinets.

The number under the EXT header of the alarm banner indicates the number of affected cabinets.

Result

The impact on subscriber service depends on the type of fault and the type of cabinet that contains the fault.

Common procedures

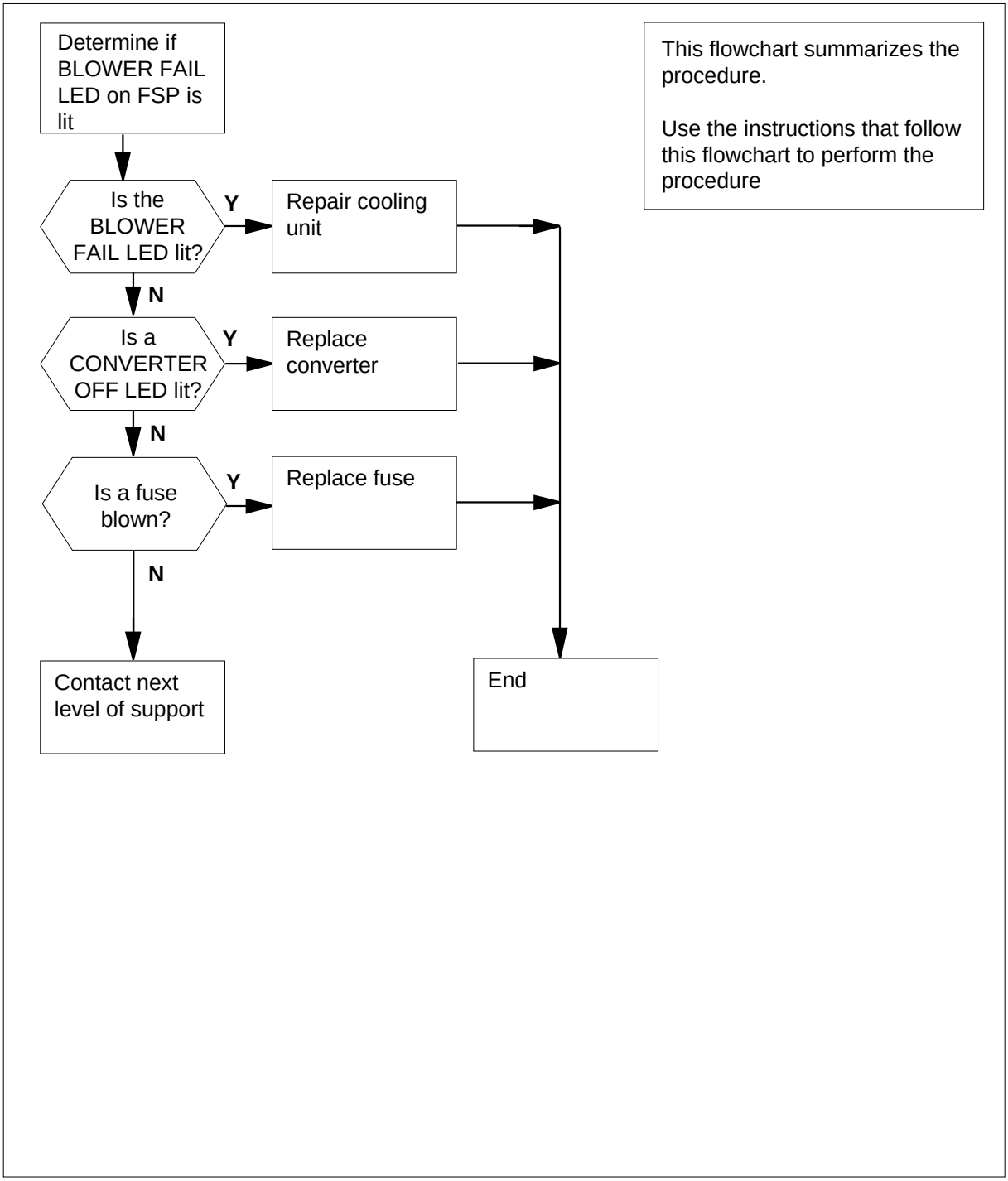
There are no common procedures.

Action

This procedure contains a flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
APC cabinet major (continued)

Summary of Clearing an Ext FSP APC cabinet major alarm



Ext FSP
APC cabinet major (continued)

Clearing an Ext FSP APC cabinet major alarm

At the APC

1 Determine if the BLOWER FAIL LED on the FSP is lit.

If the BLOWER FAIL LED	Do
is lit	step 38
is not lit	step 2

2 Check each converter in the cabinet. Determine if any CONVERTER OFF LEDs are lit.

If any CONVERTER OFF LEDs	Do
are lit	step 7
are not lit	step 3

3 Determine if fuses 01 to 04 on the FSP have blown.

If a fuse	Do
has blown	step 4
has not blown	step 41

4

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

5 Remove the blown fuse.

6 Insert the replacement fuse.

If the fuse	Do
has blown again	step 31

Ext FSP
APC cabinet major (continued)

If the fuse	Do
has not blown again	step 38

7 Set the POWER switch on the converter to ON.

If the CONVERTER OFF LED	Do
is lit	step 8
is not lit	step 37

8 Record the number of the shelf that contains the converter with the lit CONVERTER OFF LED.

9 Determine if the cabinet is an APC SuperNode or an APC SuperNode SE.

If the cabinet	Do
is an APC SuperNode	step 11
is an APC SuperNode SE	step 10

10 Determine from the following table which fuse associates with the shelf with the lit CONVERTER OFF LED.

Shelf	Fuse
C0 (left side)	01
C0 (right side)	05
1 (left side)	02
1 (right side)	06
2 (left side)	03
2 (right side)	07
3 (left side)	04
3 (right side)	08

Note: Shelf numbering is from top to bottom. Shelf 0 is below the FSP. Shelf 3 is the bottom shelf. The different sides of each shelf (left and right) relate to different FSP fuses, as listed in the table.

Go to step 12.

Ext FSP
APC cabinet major (continued)

11 Refer to the following table. Determine which fuse associates with the shelf with the lit CONVERTER OFF LED.

Shelf	Fuse
MS0 (left side)	01
MS0 (right side)	02
MS1 (left side)	03
MS1 (right side)	04
CM0 (left side)	05
CM0 (right side)	06
CM/SLM (left side)	07
CM/SLM (right side	08

12 Determine if the associated fuse is blown.

If the fuse	Do
is blown	step 13
is not blown	step 27

13

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

14 Remove the blown fuse.

15 Insert the replacement fuse.

If the fuse	Do
has blown, and the CONVERTER OFF LED is lit	step 16

If the fuse	Do
has not blown, and the CONVERTER OFF LED is not lit	step 39
has not blown, and the CONVERTER OFF LED is lit	step 29

16 Determine if the APC connects to a power distribution center (PDC) or cabinetized PDC (CPDC).

If the APC	Do
connects to a PDC	step 17
connects to a CPDC	step 22

At the PDC

17 Locate the fuse that powers the APC shelf.

If the fuse	Do
has blown	step 18
has not blown	step 29

18 Remove the fuse holder that contains the blown fuse.

19

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

20 Replace the blown fuse.

21 Install the fuse holder into the PDC shelf.

Go to step 24.

Ext FSP
APC cabinet major (continued)

At the CPDC

22 Locate the circuit breaker that powers the APC shelf.

If the circuit breaker	Do
is OFF	step 25
is ON	step 29

23 Set the circuit breaker to ON.

At the APC

24

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

25 Remove the blown fuse.

26 Insert the replacement fuse.

If the CONVERTER OFF LED	Do
is lit	step 29
is not lit	step 37

27 To replace the converter card, perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

28 Determine if the CONVERTER OFF LED for the replaced converter card is lit.

If the CONVERTER OFF LED	Do
is lit	step 41
is not lit	step 37

29 Locate the blown fuse.

If the blown fuse	Do
is one of 09, 11, 14, 15, or 16	step 41

Ext FSP
APC cabinet major (continued)

If the blown fuse	Do
is one of 10, 12, or 13	step 30

30 Determine from the following table which alarm and control card associates with the blown fuse.

Fuse number	Alarm and control card
12	slot CD1 (NT6X36KA)
13	slot CD2 (NT6X36KA)
10	slot CD3 (NT0X91KA)

31 Remove the blown fuse.

32

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

33 To replace the alarm and control card, perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

34 Insert the replacement fuse.

If the fuse	Do
has blown again	step 41
has not blown again	step 37

35 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL LED	Do
is lit, and step 3 is not complete	step 3
is lit, and step 3 is complete	step 41
is not lit	step 40

Ext FSP
APC cabinet major (end)

36 To repair the cooling unit that has faults, perform the correct procedure in *Trouble Locating and Clearing Procedures.* Complete the procedure and return to this point.

37 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL LED	Do
is lit	step 2
is not lit	step 40

At the MAP terminal

38 To access the EXT level of the MAP display, type

`>MAPCI;MTC;EXT`

and press the Enter key.

39 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the cabinets with an FSP alarm	step 40
is present, and you accessed all the cabinets with an FSP alarm	step 41
is not present	step 42

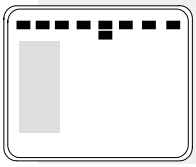
40 Perform the correct procedure in this document for the type of frame that has the FSP alarm. Complete the procedure and return to this point.

41 For additional help, contact the next level of support.

42 The procedure is complete.

Ext FSP
CCC frame major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the EXT header of the alarm banner. The FSP indicates a major alarm for an external frame supervisory panel (FSP).

Meaning

A power fault or a cooling unit fault is present in one or more office frames. The number under the EXT header of the alarm banner indicates the number of affected frames.

Result

The impact on subscriber service depends on the type of fault. Subscriber service impact also depends on the type of frame of the fault.

Common procedures

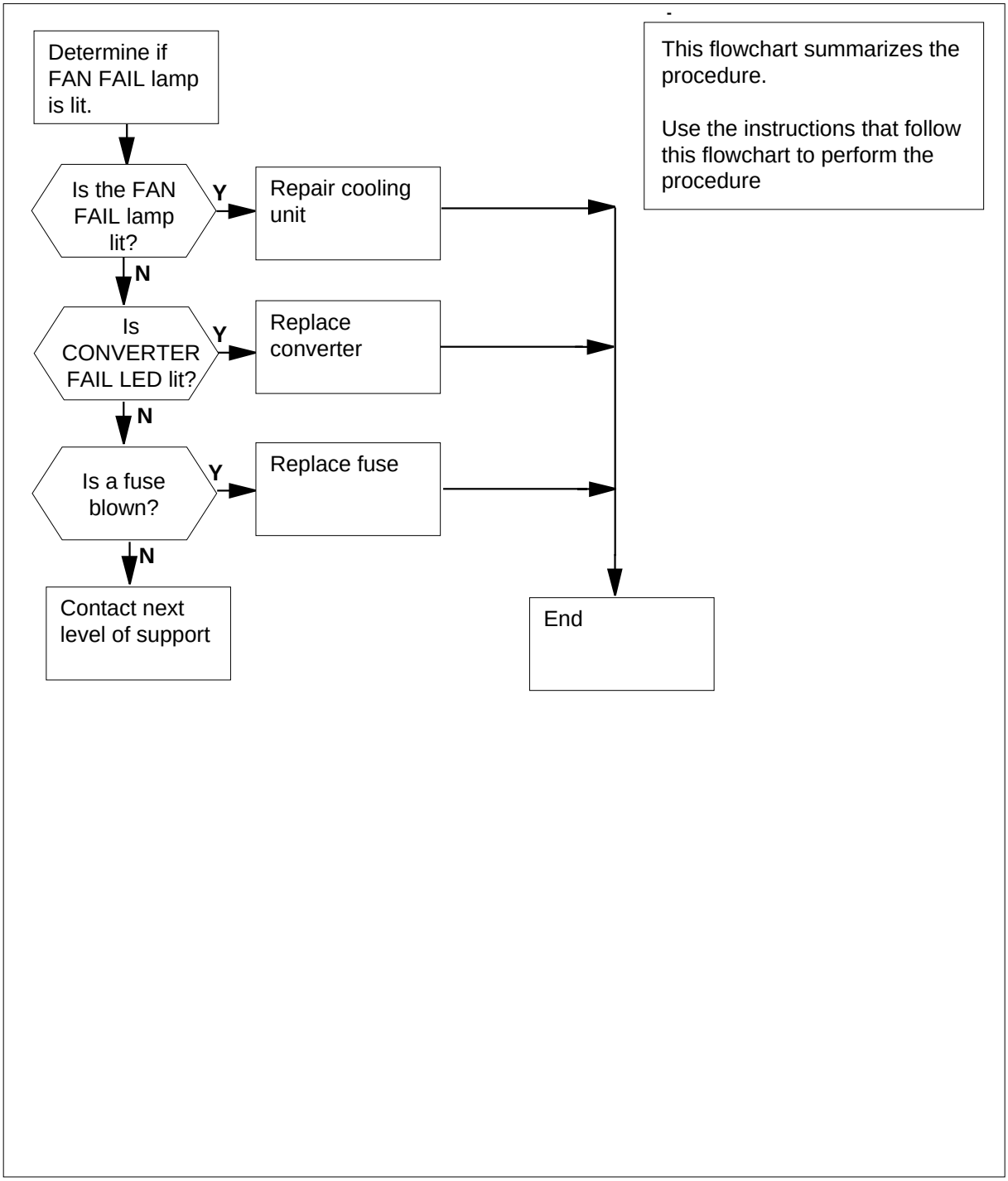
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
CCC frame major (continued)

Summary of Clearing an Ext FSP CCC frame major alarm



Ext FSP
CCC frame major (continued)

Clearing an Ext FSP CCC frame major alarm

At the CCC frame

1 Determine if the FAN FAIL lamp on the FSP is lit.

If the FAN FAIL lamp	Do
is lit	step 39
is not lit	step 2

2 Determine if any CONVERTER FAIL LEDs are lit. Each converter in the frame contains CONVERTER FAIL LEDs.

If the CONVERTER FAIL LEDs	Do
are lit	step 7
are not lit	step 3

3 Note any blown alarm battery supply (ABS) fuses (05 to 08).

Note: The fuses are on the FSP.

If a fuse	Do
has blown	step 4
has not blown	step 44

4 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

5 Remove the blown fuse.

6

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Ext FSP
CCC frame major (continued)

Insert the replacement fuse.

If a fuse	Do
has blown	step 44
has not blown	step 38

7 Determine if the POWER switch on the converter is ON or OFF.

If the POWER switch	Do
is ON	step 9
is OFF	step 8

8 Turn the POWER switch on the converter ON.

If the CONVERTER FAIL LED	Do
is lit	step 9
is not lit	step 38

9 Record the number of the shelf that contains the converter with the lit CONVERTER FAIL LED.

10 Examine the following table. Determine the number of the fuse for the shelf with the lit CONVERTER FAIL LED.

Shelf	Fuse
65	51
51	32
32	18
18	04

Note: The fuses are on the FSP.

11 Determine if the fuse for the shelf blows.

If the fuse	Do
has blown	step 12
has not blown	step 18

Ext FSP
CCC frame major (continued)

12 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

13

WARNING
Static electricity damage
Wear a wrist strap that connects to the wrist-strap grounding point of a frame supervisory panel (FSP) to handle ENAB and DACT switches. The wrist strap protects against static electricity damage.

Set the ENAB switch on the NT1X48 card in a vertical position.

Note: The NT1X48 card is in the CPU.

14 Set the DACT switch on the NT1X48 card toward the right.

Note: The NT1X48 card is in the CPU.

15 Remove the blown fuse.

16

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

17 Press and release the RESET button on the converter.

If the fuse	Do
has blown, and the CONVERTER FAIL LED is lit	step 21
has not blown, and the CONVERTER FAIL LED is not lit	step 38
has not blown, and the CONVERTER FAIL LED is lit	step 31

Ext FSP
CCC frame major (continued)

18

WARNING
Static electricity damage
Wear a wrist strap that connects to the wrist-strap grounding point on the frame supervisory panel (FSP) to handle ENAB and DACT switches. The wrist strap protects against static electricity damage.

Set the ENAB switch on the NT1X48 card toward the top.

Note: The NT1X48 card is in the CPU.

19 Set the DACT switch on the NT1X48 card toward the right.

Note: The NT1X48 card is in the CPU.

20 Press and release the RESET button on the converter.

If the CONVERTER FAIL LEDs	Do
are lit	step 21
are not lit	step 38

21 Record the number of the shelf and frame that contain the converter with the lit CONVERTER FAIL LED.

At the PDC frame

22 Determine if the fuse that powers the shelf in the CCC frame blows.

If the fuse	Do
has blown	step 23
has not blown	step 31

23 Remove the fuse holder that contains the blown fuse.

24 Replace the cartridge fuse inside the fuse holder.

25

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Replace the blown fuse.

26 Install the fuse holder back on the PDC frame.

At the CCC frame

27 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

28 Remove the blown fuse.

29

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

30 Press and release the RESET button on the converter.

If the CONVERTER FAIL LED	Do
is lit	step 31
is not lit	step 38

31 To replace the converter, perform the correct procedure in *Card Replacement Procedures.* When the procedure is complete, return to this point.

32 Determine if the CONVERTER FAIL LED for the replaced converter is lit.

If the CONVERTER FAIL LED	Do
is lit	step 33
is not lit	step 38

33 Determine if short-circuited or bent pins are present on the backplane of the shelf.

If short-circuited or bent pins	Do
are present	step 46
are not present	step 34

34 Record the number of the shelf that contains the converter with the lit CONVERTER FAIL LED.

Ext FSP
CCC frame major (continued)

35 Examine the following table. Determine which alarm and control card corresponds to the shelf with the converter and the lit CONVERTER FAIL LED.

Shelf number	Alarm and control card
18 or 51	slot 1 (NT0X36AB)
32 or 65	slot 2 (NT0X36AB)

36 Record the CMC and CPU numbers on the frame.

37 To replace the alarm and control card, perform the correct procedure in *Card Replacement Procedures*. When the procedure is complete, return to this point.

38 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit, and more blown fuses are present	step 3
is lit, and no more blown fuses are present	step 46
is not lit	step 41

39 To repair the cooling unit that has faults, perform the correct procedure in *Trouble Locating and Clearing Procedures*. When the procedure is complete, return to this point.

40 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit	step 2
is not lit	step 41

At the MAP terminal

41 To access the EXT level of the MAP display, type

```
>MAPCI;MTC;EXT
```

and press the Enter key.

Ext FSP
CCC frame major (end)

42 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the frames with an FSP alarm	step 43
is present, and you accessed all the frames with an FSP alarm	step 46
is not present	step 47

43 Perform the procedure in this document that is correct for the type of frame that has the FSP alarm. Complete the procedure and return to this point.

44

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

Open the FSP panel from the left-hand side.

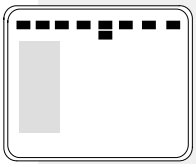
45 Determine if the supply wiring for the alarm battery of the MSP is short-circuited. The next level of support can request this information.

46 For additional help, contact the next level of support.

47 The procedure is complete.

Ext FSP
CDSN cabinet with an MSP shelf major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the EXT header of the alarm banner. The FSP indicates a major alarm for an external frame supervisory panel (FSP).

Meaning

A power fault or a cooling unit fault is present in one or more office cabinets. The number under the EXT header of the alarm banner indicates the number of cabinets affected.

Result

The impact on subscriber service depends on the type of fault and the type of cabinet that contains the fault.

Common procedures

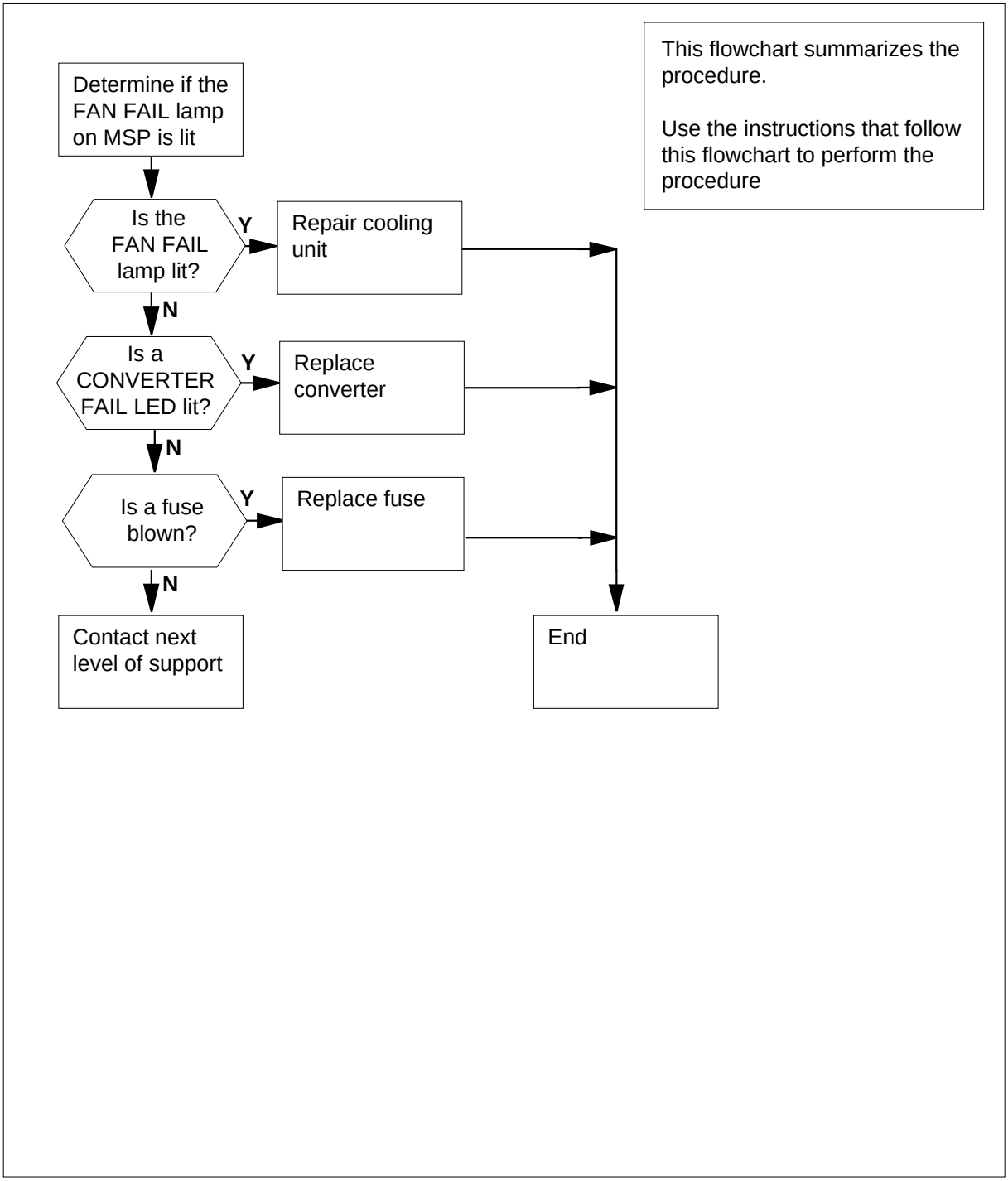
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
CDSN cabinet with an MSP shelf major (continued)

Summary of Clearing an Ext FSP CDSN cabinet with an MSP shelf major alarm



Ext FSP
CDSN cabinet with an MSP shelf major (continued)

Clearing an Ext FSP CDSN cabinet with an MSP shelf major alarm

At the CDSN

1 Determine if the FAN FAIL lamp on the MSP is lit.

If the FAN FAIL lamp	Do
is lit	step 30
is not lit	step 2

2 Check each converter in the cabinet. Determine if any CONVERTER FAIL LEDs are lit.

If CONVERTER FAIL LEDs	Do
are lit	step 7
are not lit	step 3

3 Determine if any fuses on the MSP are blown.

If a fuse	Do
has blown	step 4
has not blown	step 35

4 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

5 Remove the blown fuse.

6

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
has blown	step 35

Ext FSP
CDSN cabinet with an MSP shelf major (continued)

If the fuse	Do
has not blown	step 29

7 Determine if the POWER switch on the converter is ON or OFF.

If the POWER switch	Do
is ON	step 9
is OFF	step 8

8 Set the POWER switch on the converter to ON.

If the CONVERTER FAIL LED	Do
is lit	step 9
is not lit	step 29

9 Record the number of the shelf that contains the lit CONVERTER FAIL LED.

Note: The shelf numbers are on the right side of the cabinet.

10 Identify the circuit breaker on the MSP that associates with the shelf that contains the lit CONVERTER FAIL LED.

Note: The labels for the circuit breakers contain numbers for the breaker identification, the equipment shelf, and the circuit pack position. For example, CB02-47-01 is circuit breaker 02 for shelf 47 and circuit pack position number 01.

11 Determine if the circuit breaker is ON or OFF.

If the circuit breaker	Do
is ON	step 12
is OFF	step 13

12 Set the circuit breaker to OFF.

13 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

14 Release the RESET button.

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED stays lit	step 15
remains ON, and the CONVERTER FAIL LED is not lit	step 29

Ext FSP
CDSN cabinet with an MSP shelf major (continued)

If the circuit breaker	Do
remains ON, and the CONVERTER FAIL LED is lit	step 21

15 Record the numbers of the cabinet and shelf with the lit CONVERTER FAIL LED.

At the CPDC

16 Locate the circuit breaker that powers the CDSN shelf.

17 Determine if the circuit breaker is ON or OFF.

If the circuit breaker	Do
is OFF	step 18
is ON	step 21

18 Set the circuit breaker to ON.

At the CDSN

19 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

20 Release the RESET button.

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED stays lit	step 24
remains ON, and the CONVERTER FAIL LED is not lit	step 29
remains ON, and the CONVERTER FAIL LED is lit	step 22

21 Set the circuit breaker to OFF.

22 To replace the converter card, perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

23 Determine the state of the converter that you replaced. Determine the state of the associated circuit breaker.

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED stays lit	step 24
remains ON, and the CONVERTER FAIL LED is not lit	step 29

Ext FSP
CDSN cabinet with an MSP shelf major (continued)

If the circuit breaker	Do
remains ON, and the CONVERTER FAIL LED is lit	step 25

24 Determine if the backplane of the shelf has any short-circuited or bent pins.

Note: The backplane is at the rear of the cabinet.

If the backplane of the shelf	Do
has short-circuited or bent pins	step 35
does not have short-circuited or bent pins	step 25

25 Set the circuit breaker to OFF.

26 To replace the alarm module (NTRX41AA), perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

27 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

28 Release the RESET button.

If the CONVERTER FAIL LED	Do
is lit	step 35
is not lit	step 29

29 Determine if the FRAME FAIL lamp on the MSP is lit.

If the FRAME FAIL lamp	Do
is lit, and more blown fuses are present	step 3
is lit, and no more blown fuses are present	step 35
is not lit	step 32

30 To repair the damaged cooling unit, perform the correct procedure in *Trouble Locating and Clearing Procedures.* Complete the procedure and return to this point.

31 Determine if the FRAME FAIL lamp on the MSP is lit.

If the FRAME FAIL lamp	Do
is lit	step 2

Ext FSP
CDSN cabinet with an MSP shelf major (end)

If the FRAME FAIL lamp	Do
is not lit	step 32

At the MAP terminal

32 To access the EXT level of the MAP display, type

`>MAPCI;MTC;EXT`

and press the Enter key.

33 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the cabinets with an FSP alarm	step 34
is present, and you accessed all the cabinets with an FSP alarm	step 35
is not present	step 37

34 Perform the correct procedure in this document for the type of cabinet that has the FSP alarm. Complete the procedure and return to this point.

At the back of the CDSN

35

DANGER
Risk of electrocution
Some terminals inside the MSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the MSP.

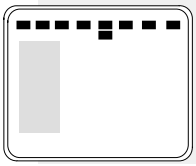
Determine if the alarm battery supply wiring of the MSP is short-circuited. The next level of support can request this information.

36 For additional help, contact the next level of support.

37 The procedure is complete.

Ext FSP
CIOE cabinet with an MSP shelf major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the EXT header of the alarm banner. The FSP indicates a major alarm for an external frame supervisory panel (FSP).

Meaning

A power fault or a cooling unit fault exists in one or more office cabinets. The number under the EXT header of the alarm banner indicates the number of cabinets affected.

Result

The result on subscriber service depends on the type of fault and the type of cabinet that contains the fault.

Common procedures

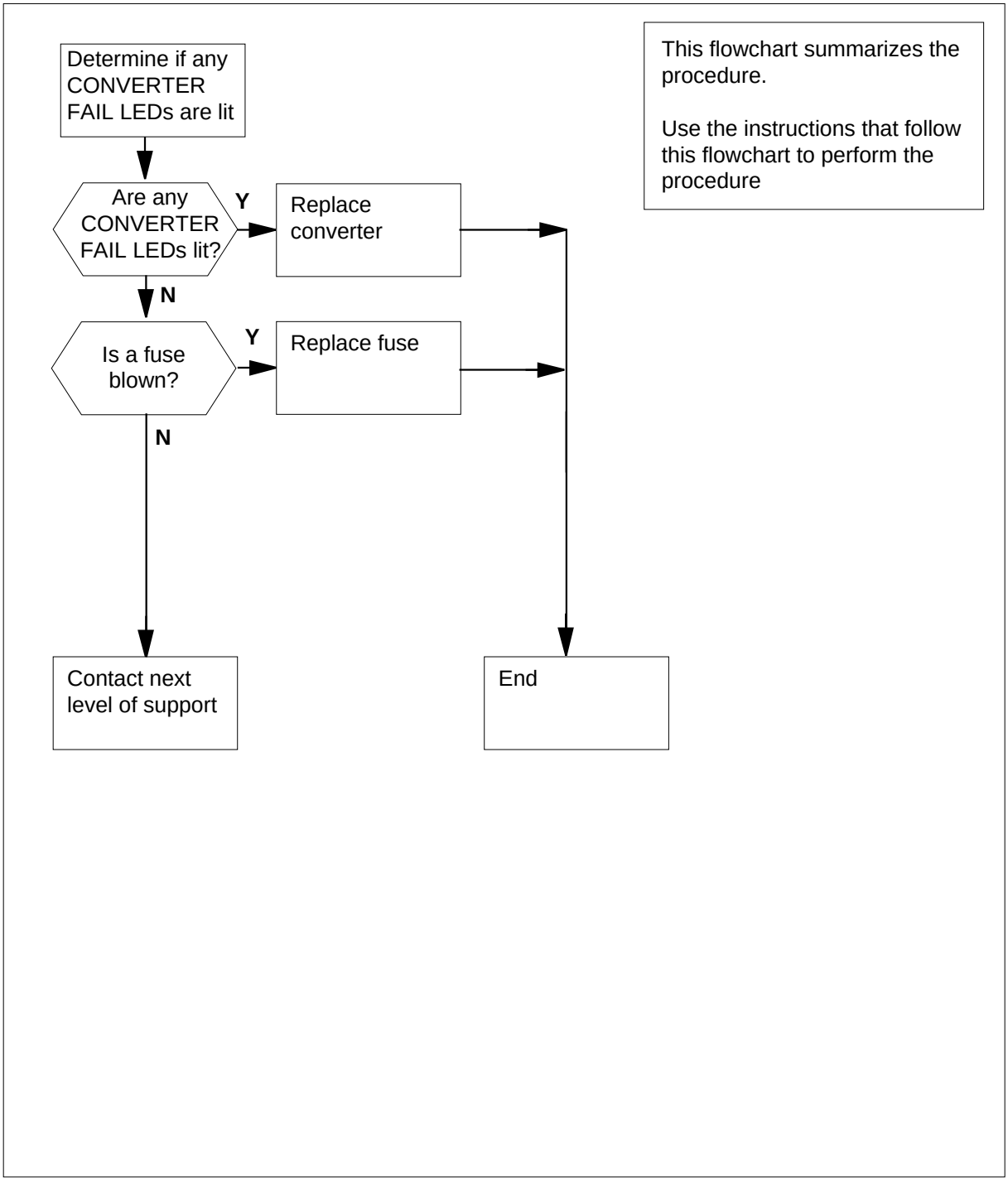
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
CIOE cabinet with an MSP shelf major (continued)

Summary of Clearing an Ext FSP CIOE cabinet with an MSP shelf major alarm



Ext FSP
CIOE cabinet with an MSP shelf major (continued)

Clearing an Ext FSP CIOE cabinet with an MSP shelf major alarm

At the CIOE

1 Check each converter in the cabinet. Determine if any CONVERTER FAIL LEDs are lit.

If CONVERTER FAIL LEDs	Do
are lit	step 6
are not lit	step 2

2 Determine if any blown fuses exist on the MSP.

If a fuse	Do
has blown	step 3
has not blown	step 29

3 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

4 Remove the blown fuse.

5

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
has blown	step 29
has not blown	step 25

6 Determine if the POWER switch on the converter is ON or OFF.

If the POWER switch	Do
is ON	step 8

Ext FSP
CIOE cabinet with an MSP shelf major (continued)

If the POWER switch	Do
is OFF	step 7

7 Set the POWER switch on the converter to ON.

If the CONVERTER FAIL LED	Do
is lit	step 8
is not lit	step 25

8 Record the number of the shelf with the lit CONVERTER FAIL LED.

Note: The shelf numbers are on the right side of the cabinet.

9 Determine if any blown fuses are present on the MSP.

If a fuse	Do
has blown	step 10
has not blown	step 13

10 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

11 Remove the blown fuse.

12

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

13 Press and release the RESET button on the converter.

If the fuse	Do
has blown again, and the CONVERTER FAIL LED remains lit	step 14
does not protrude, and the CONVERTER FAIL LED is not lit	step 25

Ext FSP
CIOE cabinet with an MSP shelf major (continued)

If the fuse	Do
does not protrude, and the CONVERTER FAIL LED is lit	step 20

14 Record the numbers of the cabinet and shelf that contain the lit CONVERTER FAIL LED.

At the CPDC

15 Locate the circuit breaker that powers the CIOE shelf.

16 Determine if the circuit breaker is ON or OFF.

If the circuit breaker	Do
is OFF	step 17
is ON	step 19

17 Set the circuit breaker to ON.

At the CIOE

18 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

19 Set the circuit breaker to OFF.

20 To replace the converter card, perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

21 Determine if the CONVERTER FAIL LED for the converter card that you replaced is lit.

If the CONVERTER FAIL LED	Do
is lit	step 22
is not lit	step 25

22 Determine if the backplane of the shelf has any short-circuited or bent pins.

Note: The backplane is at the rear of the cabinet.

If short-circuited or bent pins	Do
are present	step 29
are not present	step 23

23 To replace the alarm module (NTRX41AA), perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

Ext FSP
CIOE cabinet with an MSP shelf major (continued)

24 Press and release the RESET button on the converter.

If the CONVERTER FAIL LED	Do
is lit	step 29
is not lit	step 25

25 Determine if the FRAME FAIL LED on the MSP is lit.

If the FRAME FAIL LED	Do
is lit, and more blown fuses are present	step 2
is lit, and more blown fuses are not present	step 29
is not lit	step 26

At the MAP terminal

26 To access the EXT level of the MAP display, type

`>MAPCI;MTC;EXT`

and press the Enter key.

27 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the cabinets with an FSP alarm	step 28
is present, and you accessed all the cabinets with an FSP alarm	step 29
is not present	step 31

28 Perform the correct procedure in this document for the type of frame that has the FSP alarm. Complete the procedure and return to this point.

Ext FSP
CIOE cabinet with an MSP shelf major (end)

At the back of the CIOE

29

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

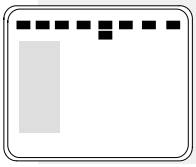
Determine if the supply wiring for the alarm battery in the MSP is short-circuited. The next level of support can ask for this information.

30 For additional help, contact the next level of support.

31 The procedure is complete.

Ext FSP
CIPE cabinet with an MSP shelf major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the EXT header of the alarm banner. The FSP indicates a major alarm for an external frame supervisory panel (FSP).

Meaning

A power fault or a cooling unit fault exists in one or more office cabinets. The number under the EXT header of the alarm banner indicates the number of cabinets affected.

Result

The impact on subscriber service depends on the type of fault and the type of cabinet that contains the fault.

Common procedures

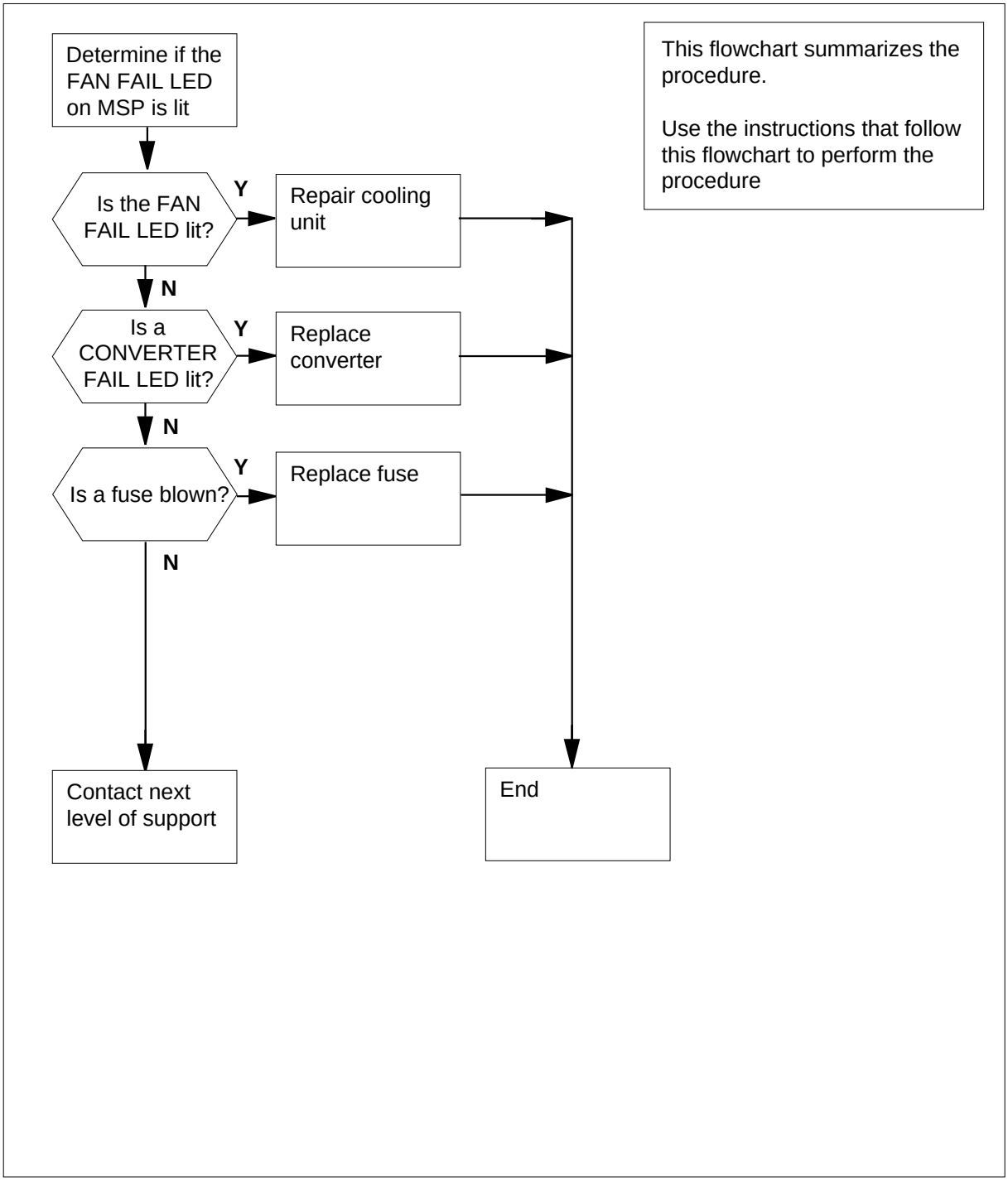
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
CIPE cabinet with an MSP shelf major (continued)

Summary of Clearing an Ext FSP CIPE cabinet with an MSP shelf major alarm



Ext FSP
CIPE cabinet with an MSP shelf major (continued)

Clearing an Ext FSP CIPE cabinet with an MSP shelf major alarm

At the CIPE

1 Determine if the FAN FAIL LED on the MSP is lit.

If the FAN FAIL LED	Do
is lit	step 30
is not lit	step 2

2 Check each converter in the cabinet. Determine if any CONVERTER FAIL LEDs are lit.

If CONVERTER FAIL LEDs	Do
are lit	step 7
are not lit	step 3

3 Determine if any blown fuses are present on the MSP.

If a fuse	Do
has blown	step 4
has not blown	step 35

4 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

5 Remove the blown fuse.

6

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
has blown again	step 35

Ext FSP
CIPE cabinet with an MSP shelf major (continued)

If the fuse	Do
has not blown again	step 29

7 Determine if the POWER switch on the converter is ON or OFF.

If the POWER switch	Do
is ON	step 9
is OFF	step 8

8 Set the POWER switch on the converter to ON.

If the CONVERTER FAIL LED	Do
is lit	step 9
is not lit	step 29

9 Record the number of the shelf with the lit CONVERTER FAIL LED. The shelf numbers are on the right side of the cabinet.

10 Identify the circuit breaker on the MSP that associates with the shelf that contains the lit CONVERTER FAIL LED.

Note: Labels for the circuit breakers contain numbers for the breaker identification, the equipment shelf, and the circuit pack position. For example, CB02-47-01 is CB 02 for shelf 47 and number 01 for the circuit pack position.

11 Determine if the circuit breaker is ON or OFF.

If the circuit breaker	Do
is ON	step 12
is OFF	step 13

12 Set the circuit breaker to OFF.

13 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

14 Release the RESET button.

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED stays lit	step 15
remains ON, and the CONVERTER FAIL LED is not lit	step 29

Ext FSP
CIPE cabinet with an MSP shelf major (continued)

If the circuit breaker	Do
remains ON, and the CONVERTER FAIL LED is lit	step 21

15 Record the numbers of the cabinet and shelf with the lit CONVERTER FAIL LED.

At the CPDC

16 Locate the circuit breaker that powers the cabinetized international peripheral equipment (CIPE) shelf.

17 Determine if the circuit breaker is ON or OFF.

If the circuit breaker	Do
is OFF	step 18
is ON	step 21

18 Set the circuit breaker to ON.

At the CIPE

19 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

20 Release the RESET button.

If the circuit breaker	Do
turns OFF again, and the CONVERTER FAIL LED is lit	step 24
remains ON, and the CONVERTER FAIL LED is not lit	step 29
remains ON, and the CONVERTER FAIL LED is lit	step 22

21 Set the circuit breaker to OFF.

22 To replace the converter card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

23 Determine the state of the converter card you replaced, and the associated fuse.

If the fuse	Do
has blown again, and the CONVERTER FAIL LED is lit	step 24
does not protrude, and the CONVERTER FAIL LED is not lit	step 29

Ext FSP
CIPE cabinet with an MSP shelf major (continued)

If the fuse	Do
does not protrude, and the CONVERTER FAIL LED is lit	step 25

24 Determine if the backplane of the shelf has short-circuited or bent pins. The backplane is at the rear of the cabinet.

If short-circuited or bent pins	Do
are present	step 36
are not present	step 25

25 Set the circuit breaker to OFF.

26 To replace the alarm module (NTRX41AA), perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

27 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

28 Release the RESET button.

If the CONVERTER FAIL LED	Do
is lit	step 35
is not lit	step 29

29 Determine if the FRAME FAIL LED on the MSP is lit.

If the FRAME FAIL LED	Do
is lit and more blown fuses are present	step 3
is lit and no more blown fuses are present	step 35
is not lit	step 32

30 To repair the damaged cooling unit, perform the correct procedure in *Trouble Locating and Clearing Procedures.* Complete the procedure and return to this point.

31 Determine if the FRAME FAIL LED on the MSP is lit.

If the FRAME FAIL LED	Do
is lit	step 2

Ext FSP
CIPE cabinet with an MSP shelf major (end)

If the FRAME FAIL LED	Do
is not lit	step 32

At the MAP terminal

32 To access the EXT level of the MAP display, type

`>MAPCI;MTC;EXT`

and press the Enter key.

33 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the cabinets with an FSP alarm	step 34
is present, and you accessed all the cabinets with an FSP alarm	step 35
is not present	step 37

34 Perform the correct procedure in this document for the type of cabinet that has the FSP alarm. Complete the procedure and return to this point.

At the back of the CIPE

35

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

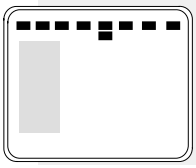
Determine if the supply wiring of the alarm battery in the MSP is short-circuited. The next level of support can ask for this information.

36 For additional help, contact the next level of support.

37 The procedure is complete.

Ext FSP
CISM, CMTA, and CTME cabinet with an MSP shelf major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, a number and FSP appear under the Ext header of the alarm banner.

The FSP indicates a major alarm for the external frame supervisory panel (FSP).

This procedure applies to:

- integrated services module (CISM) cabinets
- metallic test access (CMTA) cabinets
- trunk module equipment (CTME) cabinets
- services module equipment (ISME) frames

Meaning

One or more cabinets in the office has a power fault or a cooling unit fault.

The number under the EXT header of the alarm banner indicates the number of cabinets affected.

Result

The impact on subscriber service depends on the type of fault and the type of cabinet that contains the fault.

Common procedures

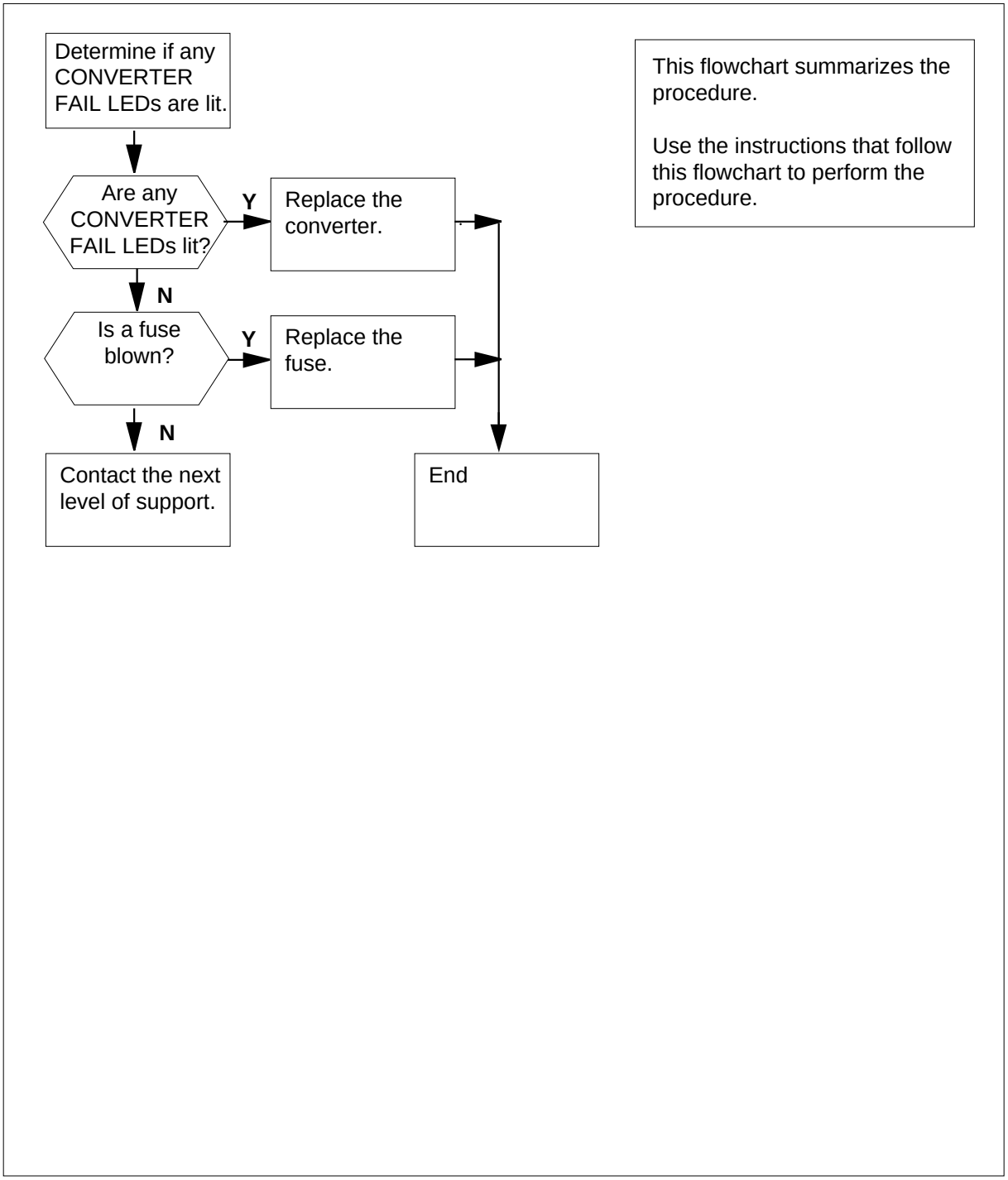
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
CISM, CMTA, and CTME cabinet with an MSP shelf major (continued)

Summary of Clearing an Ext FSP CISM, CMTA, and CTME cabinet with an MSP shelf major alarm



Ext FSP
CISM, CMTA, and CTME cabinet with an MSP shelf major (continued)

Clearing an Ext FSP CISM, CMTA, and CTME cabinet with an MSP shelf major alarm

At the CISM, CMTA ,CTME cabinets or ISME frame

1 Check each converter in the cabinet. Determine if any CONVERTER FAIL LEDs are lit.

If CONVERTER FAIL LEDs	Do
are lit	step 6
are not lit	step 2

2 Determine if the MSP has any blown fuses.

If a fuse	Do
has blown	step 3
has not blown	step 32

3 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

Note: The ISME frame and CISM cabinet can have an input/output module (IOM). An IOM occupies slot positions 2 and 3 of the integrated services module (ISM). Fuses in MSP fuse positions 71-07, 71-08 and 71-09 control IOM slots.

4 Remove the blown fuse.

5

DANGER
Risk of fire
To protect against fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
has blown again	step 32
has not blown again	step 28

Ext FSP
CISM, CMTA, and CTME cabinet with an MSP shelf major (continued)

6 Determine if the POWER switch on the converter is ON or OFF.

If the POWER switch	Do
is ON	step 8
is OFF	step 7

7 Turn the POWER switch on the converter to ON.

If the CONVERTER FAIL LED	Do
is lit	step 8
is not lit	step 28

8 Record the number of the shelf with the lit CONVERTER FAIL LED. The shelf numbers are on the right side of the cabinet.

9 Identify the circuit breaker on the MSP for the shelf that contains the lit CONVERTER FAIL LED.

Note: A label for a circuit breaker contains numbers for breaker identification, equipment shelf and circuit pack position. For example, CB02-47-01 is CB 02 for shelf 47 and number 01 for the circuit pack position.

10 Determine if the circuit breaker is ON or OFF.

If the circuit breaker	Do
is ON	step 11
is OFF	step 12

11 Set the circuit breaker to OFF.

12 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

Note: The shelf can contain two converters with lit CONVERTER FAIL LEDs. When both converters have lit CONVERTER FAIL LEDs, press and hold the RESET button on the inner converter. Press and hold the RESET button while you set the circuit breaker to ON (up). After you set the inner converter, press the RESET button to reset the outer converter.

13 Release the RESET button.

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED is lit	step 14
remains ON, and the CONVERTER FAIL LED is not lit	step 28

Ext FSP
CISM, CMTA, and CTME cabinet with an MSP shelf major (continued)

If the circuit breaker	Do
remains ON, and the CONVERTER FAIL LED is lit	step 21

14 Record the numbers of the cabinet and shelf with the lit CONVERTER FAIL LED.

At the CPDC

15 Locate the circuit breaker that powers the CISM, CMTA or CTME shelf.

16 Determine if the circuit breaker is ON or OFF.

If the circuit breaker	Do
is OFF	step 17
is ON	step 20

17 Set the circuit breaker to ON.

At the CISM, CMTA ,CTME cabinets or ISME frame

18 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

19 Release the RESET button.

If the circuit breaker	Do
turns OFF again, and the CONVERTER FAIL LED is lit	step 23
remains ON, and the CONVERTER FAIL LED is not lit	step 28
remains ON, and the CONVERTER FAIL LED is lit	step 21

20 Set the circuit breaker to OFF.

21 To replace the converter card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

22 Determine the state of the converter that you replaced. Determine the state of the associated circuit breaker.

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED stays lit	step 23
remains ON, and the CONVERTER FAIL LED is not lit	step 28

Ext FSP
CISM, CMTA, and CTME cabinet with an MSP shelf major (continued)

If the circuit breaker	Do
remains ON, and the CONVERTER FAIL LED is lit	step 24

23 Determine if the backplane of the shelf has short-circuited or bent pins.

Note: The backplane is at the rear of the cabinet.

If short-circuited or bent pins	Do
are present	step 32
are not present	step 24

24 Make sure that the circuit breaker is OFF.

25 To replace the alarm module (NTRX41AA), perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

26 Press and hold the RESET button on the converter while you set the associated circuit breaker to ON.

Note: The shelf can contain two converters with lit CONVERTER FAIL LEDs. When both converters have lit CONVERTER FAIL LEDs, press and hold the RESET button on the inner converter. Press and hold the RESET button while you set the circuit breaker to ON. After you reset the inner converter, press the RESET button to reset the outer converter.

27 Release the RESET button.

If the CONVERTER FAIL LED	Do
is lit	step 32
is not lit	step 28

28 Determine if the FRAME FAIL lamp on the MSP is lit.

If the FRAME FAIL lamp	Do
is lit, and more blown fuses exist	step 2
is lit, and more blown fuses do not exist	step 35
is not lit	step 29

At the MAP terminal

29 To access the EXT level of the MAP display, type

```
>MAPCI;MTC;EXT
```

and press the Enter key.

Ext FSP
CISM, CMTA, and CTME cabinet with an MSP shelf major (end)

30 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the cabinets with an FSP alarm	step 31
is present, and you accessed all the cabinets with an FSP alarm	step 35
is not present	step 36

31 Perform the correct procedure for the type of frame that has the FSP alarm. Complete the procedure and return to this point.

At the CISM, CMTA ,CTME cabinets or ISME frame

32

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48 V dc to -60 V dc. Do not touch any terminals inside the FSP.

Determine if the supply wiring for an alarm battery in the MSP is short-circuited. The next level of support can ask for this information.

If the alarm battery	Do
has short-circuited	step 35
has not short-circuited (IOM)	step 33

At the CISM cabinet or ISME frame

33 To replace the NTFX30 IOM controller card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

34 Insert another replacement fuse

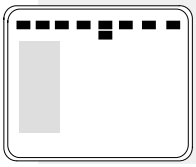
If the fuse	Do
has blown again	step 35
has not blown again	step 28

35 For additional help, contact the next level of support.

36 The procedure is complete.

Ext FSP
CPDC cabinet major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**nFSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the EXT header of the alarm banner. The FSP indicates a major alarm for an external frame supervisory panel (FSP).

Meaning

A power fault or a cooling unit fault is present in one or more office cabinets. The number under the EXT header of the alarm banner indicates the number of cabinets affected.

Result

The impact on subscriber service depends on the type of fault and the type of cabinet that contains the fault.

Common procedures

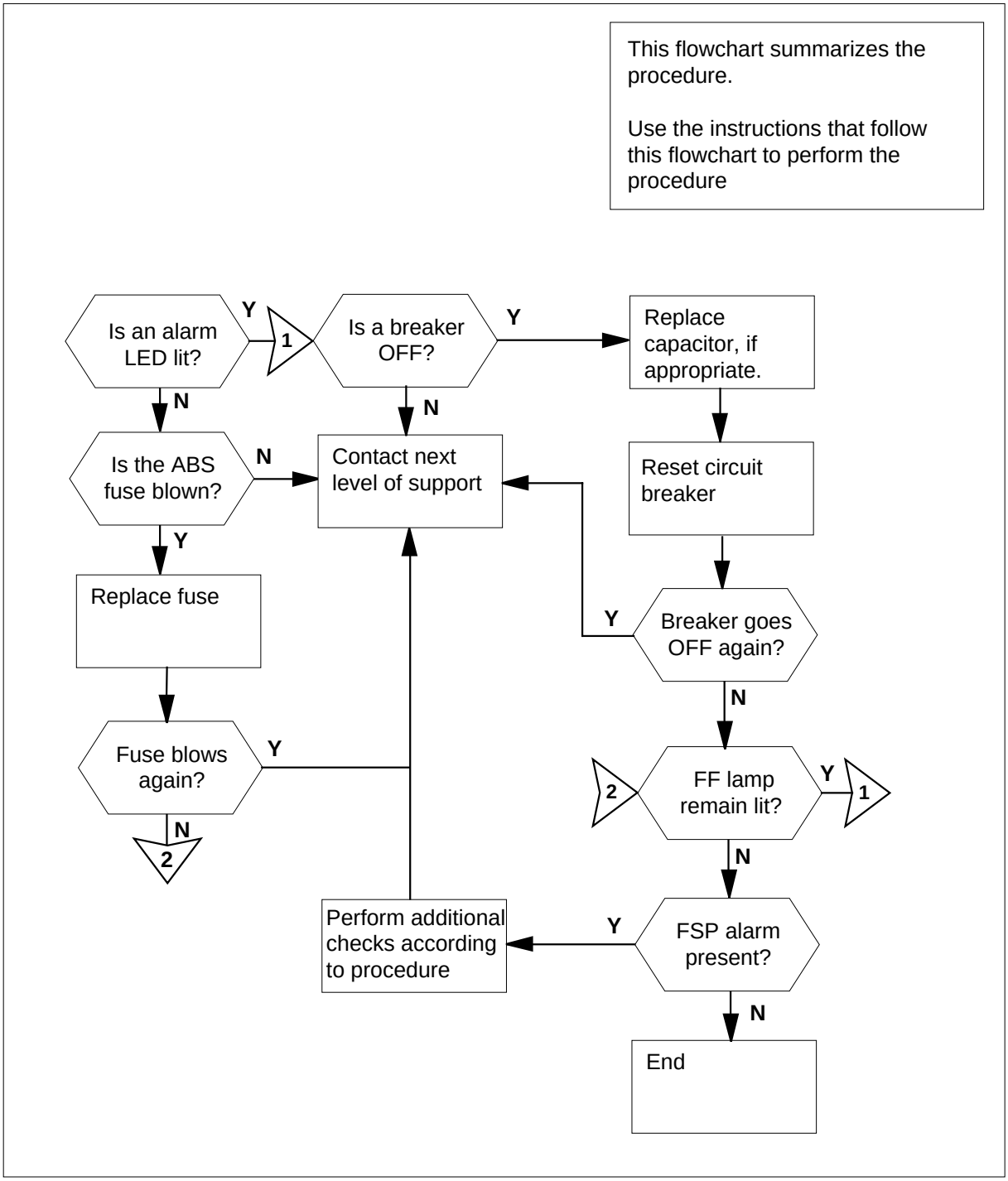
There are no common procedures.

Action

This procedure contains a flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
CPDC cabinet major (continued)

Summary of Clearing an Ext FSP CPDC cabinet major alarm



Ext FSP
CPDC cabinet major (continued)

Clearing an Ext FSP CPDC cabinet major alarm

At the CPDC cabinet

1 The alarm LEDs are on the right sides of the breaker panels. Determine if any of the alarm LEDs are lit.

If alarm LEDs	Do
are lit	step 2
are not lit	step 3

2 Locate any breaker panel that indicates an alarm. Determine if one or more circuit breakers are OFF.

If	Do
one or more circuit breakers are OFF	step 4
all circuit breakers are ON	step 3

3 Determine if the alarm battery supply (ABS) fuse on the FSP has blown.

If the ABS fuse	Do
has blown	step 21
has not blown	step 44

4 Determine the purpose of the circuit breaker that is OFF.

Note: The label under the circuit breaker specifies the element that the circuit breaker supplies.

If the circuit breaker	Do
supplies talk battery to an LCE frame	step 6
does not supply talk battery to an LCE frame	step 5
supplies power to a filter capacitor on the CPDC breaker panel	step 24

5 Set the circuit breaker to ON. Go to step 20.

6 Record the numbers of the LCE frame and shelf that associate with the circuit breaker.

Ext FSP
CPDC cabinet major (continued)

At the LCE frame

7 Locate the ten talk battery fuses above the shelves. Remove the ten talk battery fuses (five for each shelf).

Note: Talk battery A powers the first and third shelves from the bottom of the LCE. Talk battery B powers the second and fourth shelves.

8 Obtain a capacitor forming tool.

Note 1: A capacitor forming tool consists of a 100-W 120-V light bulb in a socket without insulation-ended twisted wires. The without insulation-ended twisted wires must have spring-type alligator clips on each end.

Note 2: You can insert a new tool with the tool number T000655, CPC number NTA0600512, into the fuse holder instead of the light bulb. You can insert the new tool in the same method that you insert a fuse.

9

DANGER
Risk of electrocution
The fuse holder contacts on the filter panel faceplate have high voltages. Do not touch the probes of the capacitor forming tool to the faceplate of the filter panel. Do not let the probes of the capacitor forming tool touch each other.

Connect the leads of the capacitor forming tool across the circuit breaker to charge the capacitors.

IfAfter 5 s, if the light bulb	Do
is lit	step 10
is not lit	step 16

At the LCE frame

10 Label the lead positive terminal of the capacitor as + (positive). Label the lead of the negative terminal of the capacitor as - (negative).

11 Disconnect the leads from the short-circuited capacitor.

12 Remove the capacitor.

13 Install a replacement capacitor.

14 Connect the + (positive) lead to the positive terminal of the capacitor.

15 Connect the - (negative) lead to the negative terminal of the capacitor.

Go to step 9 to charge the capacitors again.

At the back of the CPDC

16 Remove the capacitor forming tool.

Ext FSP
CPDC cabinet major (continued)

At the front of the CPDC

17 Immediately set the circuit breaker to ON.

At the LCE frame

18 Insert the ten talk battery fuses that you removed in step 7, one at a time. Pause between each fuse.

19 Depress the indicator on one of the talk battery fuses to determine if a talk battery is present.

If the FRAME FAIL LED	Do
is lit or ON	step 39
is not lit or OFF	step 20

At the CPDC

20 Determine if the circuit breaker is ON or OFF.

If the circuit breaker	Do
is OFF	step 44
is ON	step 39

21 Obtain a replacement fuse that has the same voltage and amperage as the blown ABS fuse.

22 Remove the blown ABS fuse.

23

DANGER
Risk of electrocution
To protect against electrocution, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement ABS fuse.

If the fuse	Do
has blown again	step 43
has not blown again	step 39

24 Make sure that the circuit breaker for the capacitor remains OFF.

Ext FSP
CPDC cabinet major (continued)

At the back of the CPDC

25 Obtain a capacitor forming tool and a voltmeter.

Note 1: A capacitor forming tool consists of a 100-W 120-V light bulb in a socket without insulation-ended twisted wires. The without insulation-ended twisted wires must have spring-type alligator clips on each end.

Note 2: You can insert a new tool with the tool number T000655, CPC number NTA0600512, into the fuse holder instead of the light bulb. You can insert the new tool in the same method that you insert a fuse.

26 Label the lead positive terminal of the capacitor as + (positive). Label the lead negative terminal of the capacitor as - (negative).

27 Connect one lead of the capacitor forming tool to a ground stud. Connect the lead to the ground stud on the ground plate for the battery return (L+) of the breaker panel.

28 Connect the other lead of the capacitor forming tool to the bottom post of the circuit breaker that powers the short-circuited capacitor.

29 Use the voltmeter to make sure that no voltage is present across the terminals of the capacitor.

30 Use the voltmeter to make sure that no voltage is present between either terminal of the capacitor and the battery return.

31

DANGER
Risk of electrocution
The terminals at the back of the CPDC have an electrical potential of -48V dc to -60V dc. Use the voltmeter to detect voltage. Do not attempt to replace the capacitor.

Make sure that the capacitor forming tool remains in place. Disconnect the leads from the short-circuited capacitor.

32 Remove the capacitor.

33 Install a replacement capacitor.

34 Connect the positive lead to the positive terminal of the capacitor. Connect the negative lead to the negative terminal of the capacitor.

35 Remove the capacitor forming tool.

36 To allow the capacitor to recharge, wait 3 to 5 min.

At the front of the CPDC

37 Set the circuit breaker for the capacitor to ON.

Ext FSP
CPDC cabinet major (continued)

38 Determine if the circuit breaker is ON or OFF.

If the circuit breaker	Do
is OFF	step 44
is ON	step 39

39 Determine if the FRAME FAIL LED on the FSP is lit.

If the FRAME FAIL LED	Do
is lit, and more circuit breakers are OFF	step 4
is lit, and no more circuit breakers are OFF	step 43
is not lit	step 40

At the MAP terminal

40 To access the EXT level of the MAP terminal, type

```
>MAPCI;MTC;EXT
```

and press the Enter key.

41 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the cabinets with an FSP alarm	step 42
is present, and you accessed all the cabinets with an FSP alarm	step 44
is not present	step 45

42 Perform the correct procedure in this document for the type of frame that has the FSP alarm. Complete the procedure and return to this point.

Ext FSP
CPDC cabinet major (end)

At the back of the CPDC

43

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

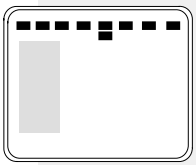
Determine if the ABS wiring inside the FSP is short-circuited. The next level of support can ask for this information.

44 For additional help, contact the next level of support.

45 The procedure is complete.

Ext FSP
DCE frame major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the Ext header of the alarm banner. The FSP indicates a major alarm for an external frame supervisory panel (FSP).

Meaning

A power fault or a cooling unit fault is present in an office frame. The number under the Ext header of the alarm banner indicates the number of cabinets affected.

Result

The impact on subscriber service depends on the type of fault and the type of frame that contains the fault.

Common procedures

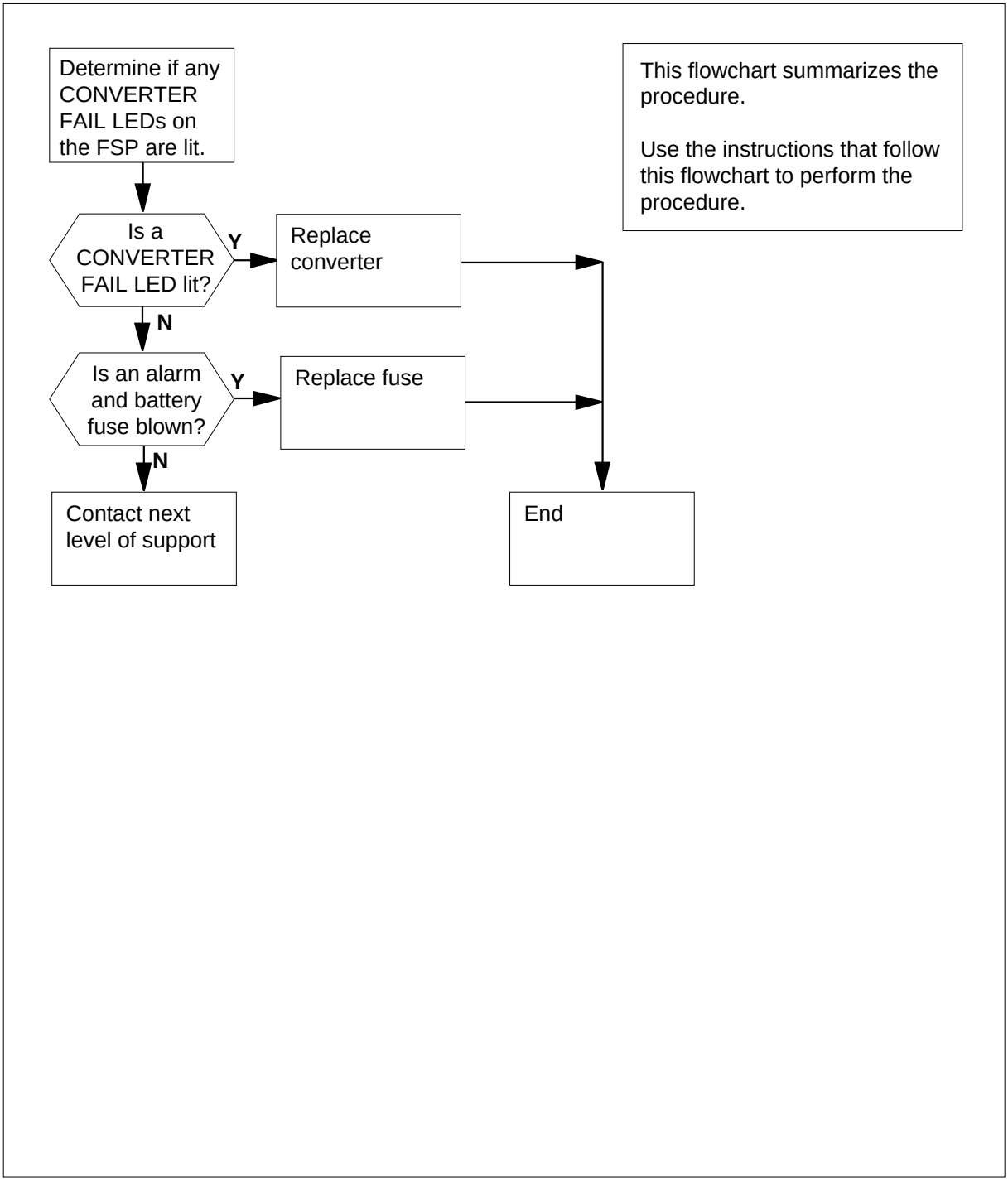
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
DCE frame major (continued)

Summary of Clearing an Ext FSP DCE frame major alarm



Ext FSP
DCE frame major (continued)

Clearing an Ext FSP DCE frame major alarm

At the DCE frame

1 Check each converter in the frame. Determine if any CONVERTER FAIL LEDs are lit.

If CONVERTER FAIL LEDs	Do
are lit	step 6
are not lit	step 2

2 Determine if any of the alarm battery supply (ABS) fuses (01 to 05) on the FSP are blown.

If a fuse	Do
has blown	step 3
has not blown	step 37

3 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

4 Remove the blown fuse.

5

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
has blown again	step 37
has not blown again	step 33

6 Determine if the POWER switch on the converter is ON or OFF.

If the POWER switch	Do
is ON	step 8

Ext FSP
DCE frame major (continued)

If the POWER switch	Do
is OFF	step 7

7 Set the POWER switch on the converter to ON.

If the CONVERTER FAIL LED	Do
is lit	step 8
is not lit	step 33

8 Record the number of the shelf that contains the converter with the lit CONVERTER FAIL LED.

9 Use the following table to identify the circuit breaker for the shelf that contains the converter with the lit CONVERTER FAIL LED. The circuit breaker is on the FSP.

If Shelf number is	Do Circuit breaker number
65	CB1
51	CB2
32	CB3
18	CB4
04	CB5

10 Determine if the associated circuit breaker is ON or OFF.

If the circuit breaker	Do
is ON	step 11
is OFF	step 12

11 Set the identified circuit breaker to OFF.

12 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

Note: The shelf can contain two converters with lit CONVERTER FAIL LEDs. When both converters have lit CONVERTER FAIL LEDs, press and hold the RESET button on the innermost converter. Press and hold the RESET button on the innermost converter while you set the circuit breaker to ON (up). After you reset the innermost converter, press the RESET button to reset the outermost converter.

Ext FSP
DCE frame major (continued)

13 Release the RESET button.

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED is lit	step 14
remains ON, and the CONVERTER FAIL LED is not lit	step 33
remains ON, and the CONVERTER FAIL LED is lit	step 25

14 Record the numbers of the frame and shelf with the lit converter FAIL LED.

At the PDC frame

15 Locate the fuse that powers the shelf in the data communications equipment (DCE) frame.

16 Determine if the fuse is blown.

If the fuse	Do
has blown	step 17
has not blown	step 21

17 Remove the fuse holder that contains the blown fuse.

18 Replace the cartridge fuse inside the fuse holder.

19

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Replace the blown fuse.

20 Install the fuse holder on the PDC frame.

21 Locate the fuse for the battery filter.

22 Determine if the fuse has blown.

If the fuse	Do
has blown	step 17
has not blown	step 26

Ext FSP
DCE frame major (continued)

At the DCE frame

23 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

> ***Note:*** The shelf can contain two converters with lit CONVERTER FAIL LEDs. When both converters have lit CONVERTER FAIL LEDs, press and hold the RESET button on the innermost converter. Press and hold the RESET button on the innermost converter while you set the circuit breaker to ON (up). After you reset the innermost converter, press the RESET button to reset the outermost converter.

24 Release the RESET button.

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED is lit	step 26
remains ON, and the CONVERTER FAIL LED is not lit	step 33
remains ON, and the CONVERTER FAIL LED is lit	step 25

25 Set the associated circuit breaker to OFF.

26 To replace the converter, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

27 Determine if the CONVERTER FAIL LED for the replaced converter is lit.

If the converter FAIL LED	Do
is lit	step 28
is not lit	step 33

28 Determine if the backplane of the shelf has any short-circuited or bent pins.

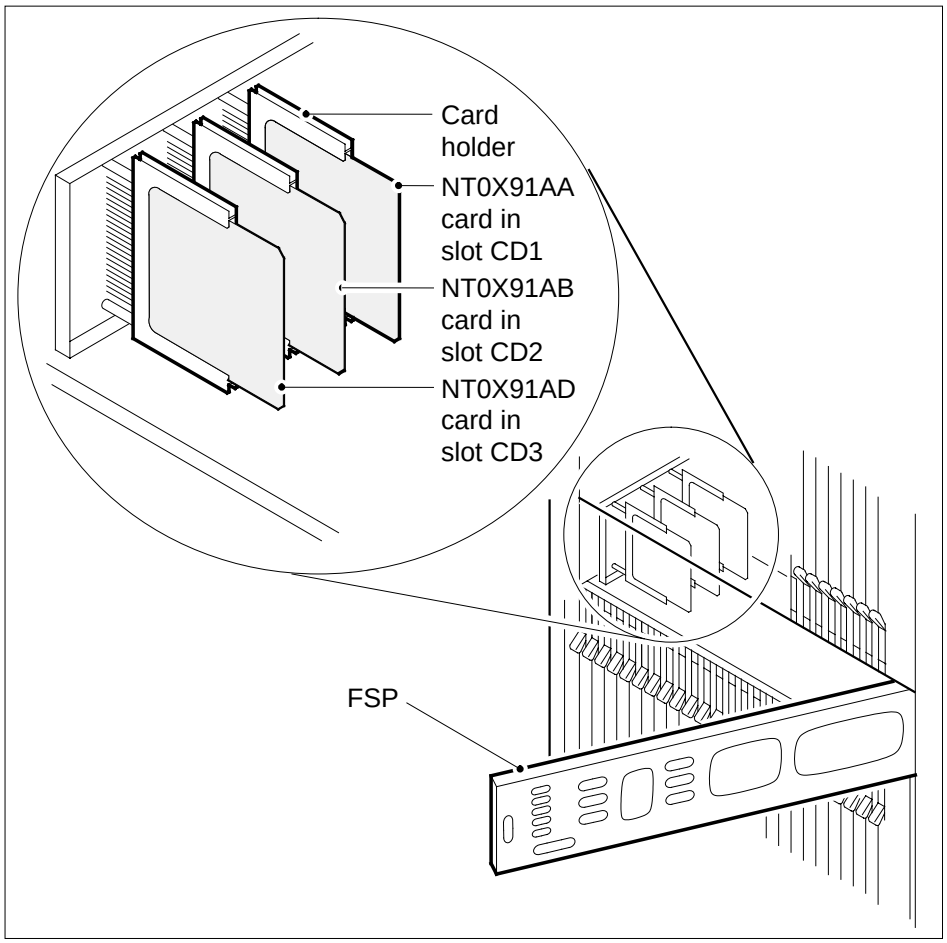
If the backplane of the shelf	Do
has short-circuited or bent pins	step 40
does not have short-circuited or bent pins	step 29

29 Record the number of the shelf that contains the converter with the lit CONVERTER FAIL LED.

Ext FSP
DCE frame major (continued)

30 Use the table and diagram to identify the alarm and control card for the shelf with the lit CONVERTER FAIL LED.

Shelf number	Alarm and control card	Card position
04	slot CD1 (NT0X91AA)	back
32 and 65	slot CD2 (NT0X91AB)	center
18 and 51	slot CD3 (NT0X91AD)	front



31 Note the PM type, PM number, and unit number in each of the shelves controlled by the alarm and control card. You identified the alarm and control card in the previous step.

Ext FSP
DCE frame major (continued)

32 To replace the alarm and control card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

33 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit, and more blown fuses are present	step 2
is lit, and more blown fuses are not present	step 40
is not lit	step 34

At the MAP terminal

34 To access the Ext level of the MAP display, type

```
>MAPCI;MTC;EXT
```

and press the Enter key.

35 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the frames with an FSP alarm	step 36
is present, and you accessed all the frames with an FSP alarm	step 40
is not present	step 41

36 Perform the correct procedure for the type of frame that has the FSP alarm. This document contains a list of steps. Complete the procedure and return to this point.

At the DCE frame

37

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

Unscrew the slotted nut to the left of the FSP.

38 Open the FSP panel.

39 Determine if the supply wiring for the alarm battery of the MSP is short-circuited. The next level of support can request this information.

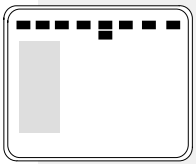
Ext FSP
DCE frame major (end)

40 For additional help, contact the next level of support.

41 The procedure is complete.

Ext FSP
DPCC cabinet major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the EXT header of the alarm banner. The FSP indicates a major alarm for an external frame supervisory panel (FSP).

Meaning

A power fault or a cooling unit fault is present in one or more office cabinets.

The number under the EXT header of the alarm banner indicates the number of cabinets affected.

Result

The impact on subscriber service depends on the type of fault and the type of cabinet that contains the fault.

Common procedures

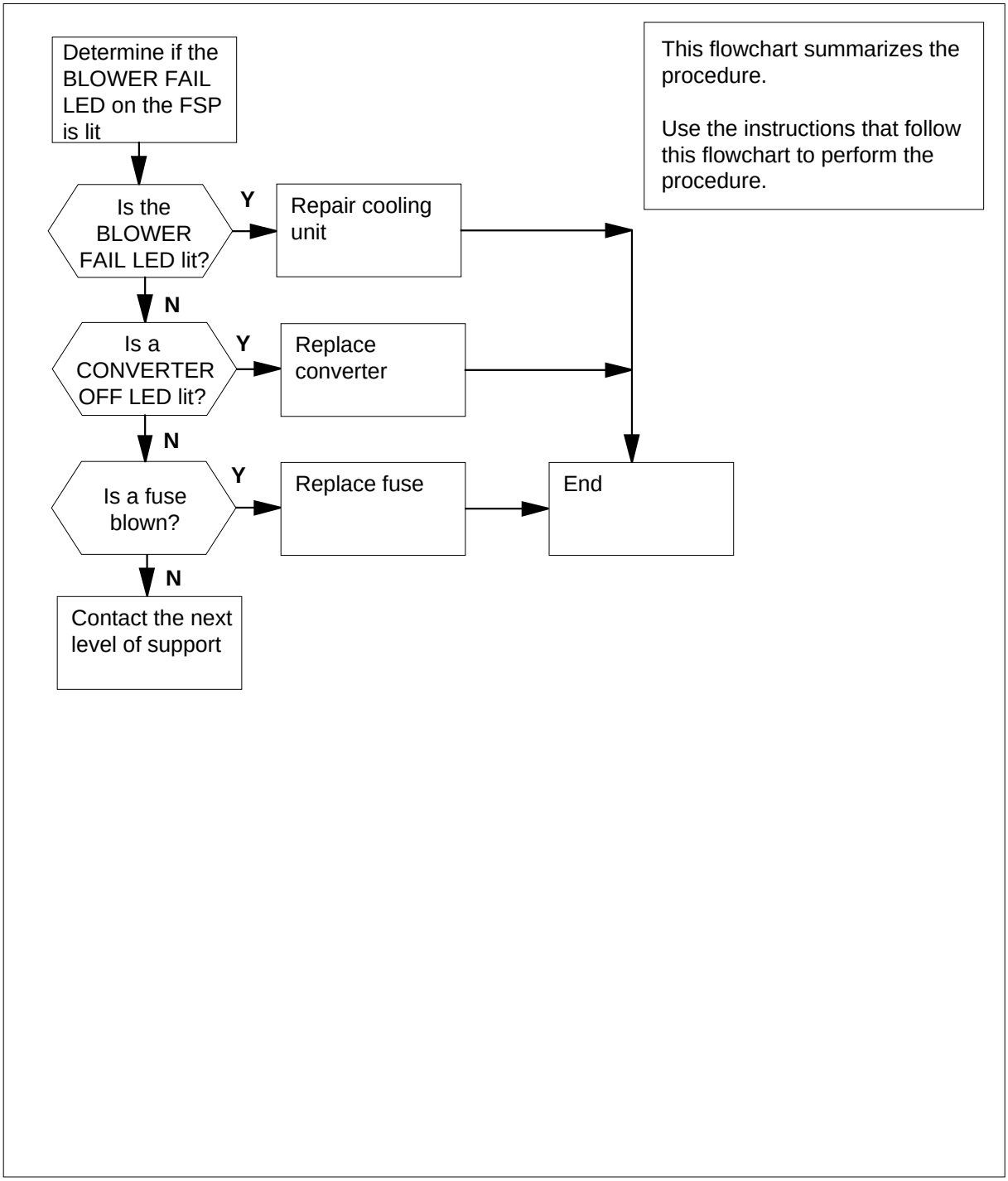
There are no common procedures.

Action

This procedure contains a flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
DPCC cabinet major (continued)

Summary of Clearing an Ext FSP DPCC cabinet major alarm



Ext FSP
DPCC cabinet major (continued)

Clearing an Ext FSP DPCC cabinet major alarm

At the DPCC

1 Determine if the BLOWER FAIL LED on the FSP is lit.

If the BLOWER FAIL LED on the FSP	Do
is lit	step 38
is not lit	step 2

2 Check each converter in the cabinet. Determine if any of the CONVERTER OFF LEDs are lit.

If any CONVERTER OFF LEDs	Do
are lit	step 7
are not lit	step 3

3 Determine if any of the fuses from 01 to 16 on the FSP have blown.

If a fuse	Do
has blown	step 4
has not blown	step 43

4 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

5 Remove the blown fuse.

6

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Ext FSP
DPCC cabinet major (continued)

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
has blown	step 31
has not blown	step 37

7 Set the POWER switch on the converter to ON.

If the CONVERTER OFF LED	Do
is lit	step 8
is not lit	step 37

8 Record the number of the shelf that contains the converter with the lit CONVERTER OFF LED.

9 Determine if the cabinet is a DPCC SuperNode or a DPCC SuperNode SE.

If the cabinet	Do
is a DPCC SuperNode	step 11
is a DPCC SuperNode SE	step 10

10 Use the following table to identify the fuse for the shelf that contains the lit CONVERTER OFF LED:

(Sheet 1 of 2)

Shelf	Fuse
0 (left side)	01
0 (right side)	05
1 (left side)	02
1 (right side)	06
2 (left side)	03

Ext FSP
DPCC cabinet major (continued)

(Sheet 2 of 2)

Shelf	Fuse
2 (right side)	07
3 (left side)	04
3 (right side)	08

Note: This document numbers the shelves from top to bottom. Shelf 0 is below the FSP. Shelf 3 is the bottom shelf. The different sides of each shelf (left and right) relate to different FSP fuses, as listed in the previous table.

Go to step 12.

11 Use the following table to identify the fuse for the shelf that contains the lit CONVERTER OFF LED:

Shelf	Fuse
MS0 (left side)	01
MS0 (right side)	02
MS1 (left side)	03
MS1 (right side)	04
CM0 (left side)	05
CM0 (right side)	06
CM/SLM (left side)	07
CM/SLM (right side)	08

12 Determine if the associated fuse is blown.

If the fuse	Do
has blown	step 13
has not blown	step 29

13 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

14 Remove the blown fuse.

Ext FSP
DPCC cabinet major (continued)

15

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
has blown, and the CONVERTER OFF LED is lit	step 16
has not blown, and the CONVERTER OFF LED is not lit	step 39
has not blown, and the CONVERTER OFF LED is lit	step 29

16 Determine if the DPCC connects to a PDC or CPDC.

If the DPCC	Do
connects to a PDC	step 17
connects to a CPDC	step 23

At the PDC

17 Locate the fuse that powers the DPCC shelf.

18 Determine if the fuse has blown.

If the fuse	Do
has blown	step 19
has not blown	step 29

19 Remove the fuse holder that contains the blown fuse.

20 Obtain a replacement fuse.

21

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Replace the blown fuse.

22 Install the fuse holder back into the PDC shelf.

Go to step 26.

At the CPDC

23 Locate the circuit breaker that powers the DPCC shelf.

24 Determine if the circuit breaker is ON or OFF.

If the circuit breaker	Do
is OFF	step 25
is ON	step 29

25 Set the circuit breaker to ON.

At the DPCC

26 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

27 Remove the blown fuse.

28

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the CONVERTER OFF LED	Do
is lit	step 29
is not lit	step 37

Ext FSP
DPCC cabinet major (continued)

29 To replace the converter card, perform the correct procedure in *Card Replacement Procedure*. Complete the procedure and return to this point.

30 Determine if the CONVERTER OFF LED for the converter card that you replaced is lit.

If the CONVERTER OFF LED	Do
is lit	step 43
is not lit	step 37

31 Determine which fuse is blown.

If the blown fuse	Do
is one of 09, 11, 14, 15, or 16	step 43
is one of 10, 12, or 13	step 32

32 Use the following table to identify the alarm and control card that associate with the blown fuse:

Fuse number	Alarm and control card
12	slot CD1 (NT6X36KA)
13	slot CD2 (NT6X36KA)
10	slot CD3 (NT0X91KA)

33 Remove the blown fuse.

34 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

35 To replace the alarm and control card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

36

DANGER
Risk of fire
Replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer. This procedure protects against the risk of fire.

Ext FSP
DPCC cabinet major (continued)

Insert the replacement fuse.

If the fuse	Do
has blown again	step 43
has not blown again	step 37

37 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL LED	Do
is lit, and more blown fuses are present	step 3
is lit, and more blown fuses are not present	step 43
is not lit	step 40

38 To repair the damaged cooling unit, perform the correct procedure in *Trouble Locating and Clearing Procedures*. Complete the procedure and return to this point.

39 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL LED	Do
is lit	step 2
is not lit	step 40

At the MAP terminal

40 To access the EXT level of the MAP display, type

```
>MAPCI;MTC;EXT
```

and press the Enter key.

41 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the cabinets with an FSP alarm	step 42
is present, and you accessed all the cabinets with an FSP alarm	step 43
is not present	step 44

42 Perform the correct procedure for the type of frame that has the FSP alarm. Complete the procedure and return to this point.

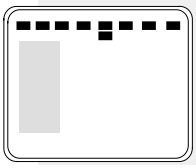
Ext FSP
DPCC cabinet major (end)

43 For additional help, contact the next level of support.

44 The procedure is complete.

Ext FSP
DSNE frame or CDSN cabinet major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the EXT header of the alarm banner. The FSP indicates a major alarm for an external frame supervisory panel (FSP).

Meaning

A power fault or a cooling unit fault exists on one or more office frames. The number under the EXT header of the alarm banner indicates the number of frames affected.

Result

The impact on subscriber service depends on the type of fault and the type of frame that contains the fault.

Common procedures

There are no common procedures.

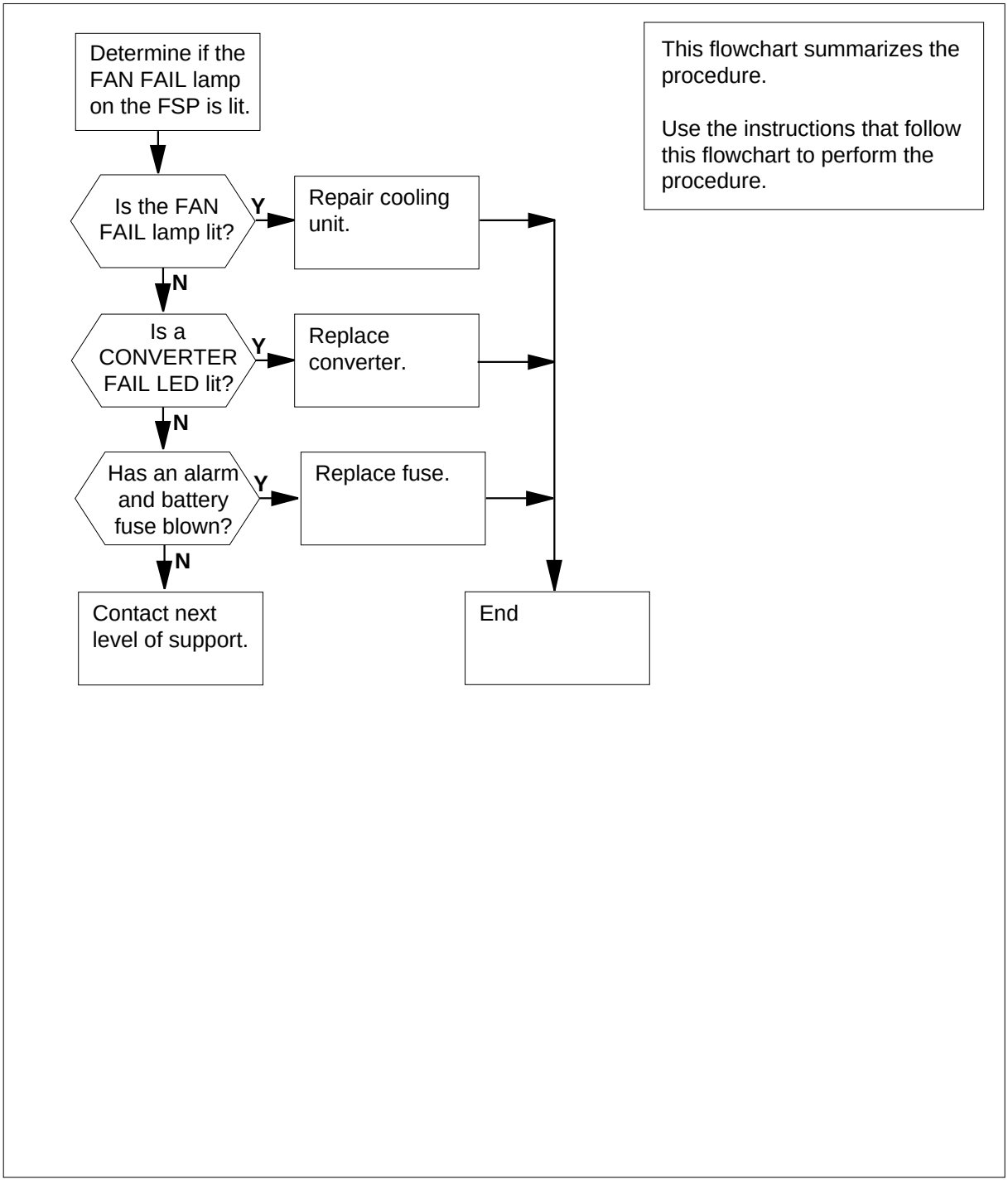
Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Note: This procedure applies to a double shelf network equipment (DSNE) frame and a cabinetized dual-shelf network (CDSN) that has an FSP. The term DSNE also refers to this type of CDSN, unless otherwise specified.

Ext FSP
DSNE frame or CDSN cabinet major (continued)

Summary of Clearing an Ext FSP DSNE frame or CDSN cabinet major alarm



Ext FSP
DSNE frame or CDSN cabinet major (continued)

Clearing an Ext FSP DSNE frame or CDSN cabinet major alarm

At the DSNE frame

1 Determine if the FAN FAIL lamp on the FSP is lit.

If the FAN FAIL lamp	Do
is lit	step 33
is not lit	step 2

2 Check each converter in the frame. Determine if any CONVERTER FAIL LEDs are lit.

If CONVERTER FAIL LEDs	Do
are lit	step 7
are not lit	step 3

3 Determine if any of the alarm battery supply (ABS) fuses (01 to 04) on the FSP have blown.

If a fuse	Do
has blown	step 4
has not blown	step 38

4 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

5 Remove the blown fuse.

6

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

Insert the replacement fuse.

If the fuse	Do
has blown again	step 38

Ext FSP
DSNE frame or CDSN cabinet major (continued)

If the fuse	Do
has not blown again	step 32

7 Determine if the POWER switch on the converter is ON or OFF.

If the POWER switch	Do
is ON	step 9
is OFF	step 8

8 Set the POWER switch on the converter to ON.

If the CONVERTER FAIL LED	Do
is lit	step 9
is not lit	step 32

9 Record the number of the shelf that contains the converter with the lit CONVERTER FAIL LED.

10 Use the following table to identify which circuit breaker associates with the shelf that contains the converter with the lit CONVERTER FAIL LED. The circuit breaker is on the FSP.

If Shelf number is	Do Circuit breaker number
65	CD1
51	CD2
18	CD4
32	CD5

11 Determine if the associated circuit breaker is ON or OFF.

If the circuit breaker	Do
is ON	step 12
is OFF	step 13

12 Set the identified circuit breaker to OFF.

13 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

Ext FSP
DSNE frame or CDSN cabinet major (continued)

14 Release the RESET button.

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED is lit	step 15
remains ON, and the CONVERTER FAIL LED is not lit	step 32
remains ON, and the CONVERTER FAIL LED is lit	step 24

15 Record the numbers of the frame and shelf that contain the converter with the lit CONVERTER FAIL LED.

At the PDC frame

16 Locate the fuse that powers the shelf in the DSNE frame.

17 Determine if the fuse has blown.

If the fuse	Do
has blown	step 18
has not blown	step 25

18 Remove the fuse holder that contains the blown fuse.

19 Replace the cartridge fuse inside the fuse holder.

20

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

Replace the blown fuse.

21 Install the fuse holder on the PDC frame.

At the DSNE frame

22 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

23 Release the RESET button.

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED is lit	step 25

Ext FSP
DSNE frame or CDSN cabinet major (continued)

If the circuit breaker	Do
remains ON, and the CONVERTER FAIL LED is not lit	step 32
remains ON, and the CONVERTER FAIL LED is lit	step 24

24 Set the associated circuit breaker to OFF.

25 To replace the converter, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

26 Determine if the CONVERTER FAIL LED on the replaced converter is lit.

If the CONVERTER FAIL LED	Do
is lit	step 27
is not lit	step 32

27 Determine if the backplane of the shelf has any short-circuited or bent pins.

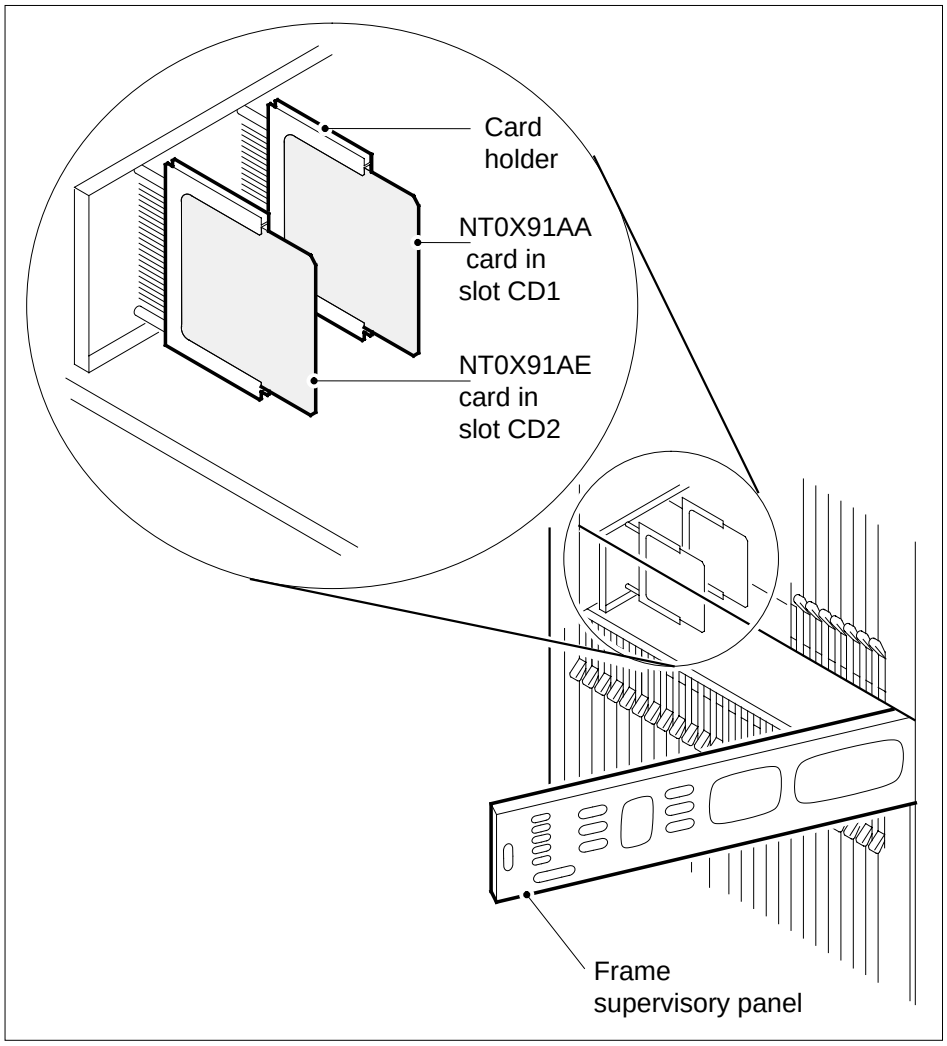
If the backplane of the shelf	Do
has short-circuited or bent pins	step 41
does not have short-circuited or bent pins	step 28

28 Record the number of the shelf that contains the converter with the lit CONVERTER FAIL LED.

29 Use the table and diagram to identify which alarm and control card associates with the shelf that contains the converter with the lit CONVERTER FAIL LED.

Shelf number	Alarm and control card	Card position
65 and 51	slot CD1 (NT0X91AA)	back
32 and 18	slot CD2 (NT0X91AE)	front

Ext FSP
DSNE frame or CDSN cabinet major (continued)



30 Record the numbers of the network plane and the network module for the shelves that the alarm and control card control. You identified the alarm and control card in the previous step.

31 To replace the alarm and control card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

At the DSNE frame

32 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit, and more blown fuses is present	step 3

Ext FSP
DSNE frame or CDSN cabinet major (continued)

If the FRAME FAIL lamp	Do
is lit, and more blown fuses is not present	step 41
is not lit	step 35

33 To repair the damaged cooling unit, perform the correct procedure in *Trouble Locating and Clearing Procedures*. Complete the procedure and return to this point.

34 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit	step 2
is not lit	step 35

At the MAP terminal

35 To access the EXT level of the MAP display, type

```
>MAPCI;MTC;EXT
```

and press the Enter key.

36 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the frames with an FSP alarm	step 37
is present, and you accessed all the frames with an FSP alarm	step 41
is not present	step 42

37 Perform the correct procedure for the type of frame that has the FSP alarm. This document contains a list of procedures. Complete the procedure and return to this point.

Ext FSP
DSNE frame or CDSN cabinet major (end)

At the DSNE frame

38

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

Unscrew the slotted nut to the left of the FSP.

39 Open the FSP panel.

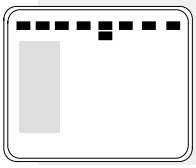
40 Determine if the alarm battery supply wiring inside the FSP is short-circuited. The next level of support can request this information.

41 For additional help, contact the next level of support.

42 The procedure is complete.

Ext FSP
DTE or IDTE frame major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the EXT header of the alarm banner. The FSP indicates a major alarm for an external frame supervisory panel (FSP).

Meaning

A power fault or a cooling unit fault exists in one or more office frames. The number under the EXT header of the alarm banner indicates the number of frames affected.

Result

The impact on subscriber service depends on the type of fault and the type of frame that contains the fault.

Common procedures

There are no common procedures.

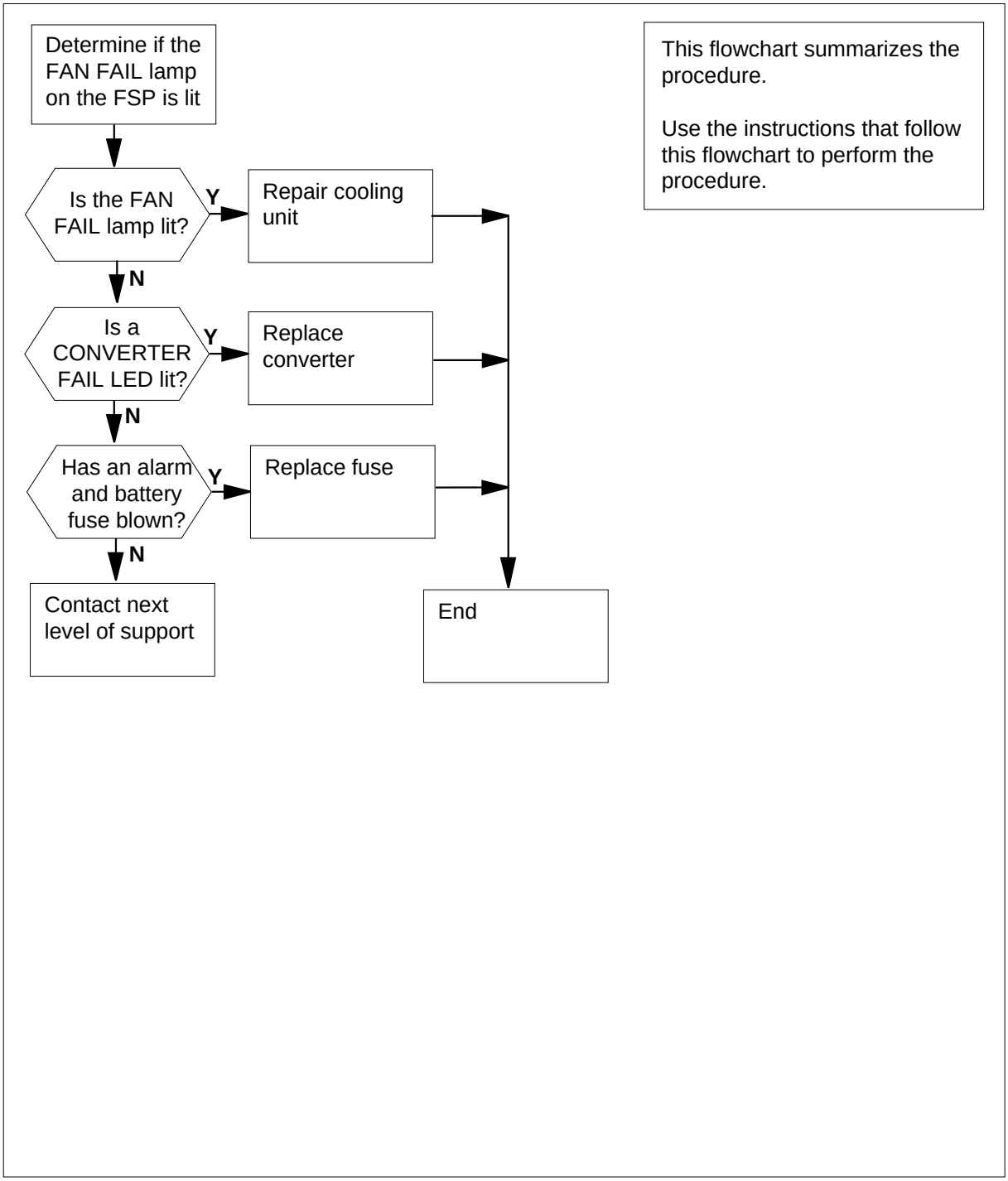
Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Note: This procedure applies to a digital trunk equipment (DTE) frame and an international digital trunk equipment (IDTE) frame. The word DTE also refers to IDTE, unless otherwise specified.

Ext FSP
DTE or IDTE frame major (continued)

Summary of Clearing an Ext FSP DTE or IDTE frame major alarm



Ext FSP
DTE or IDTE frame major (continued)

Clearing an Ext FSP DTE or IDTE frame major alarm

At the DTE frame

1 Determine if the FAN FAIL lamp on the FSP is lit.

If the FAN FAIL lamp	Do
is lit	step 35
is not lit	step 2

2 Check each converter in the frame. Determine if any CONVERTER FAIL LEDs are lit.

If CONVERTER FAIL LEDs	Do
are lit	step 7
are not lit	step 3

3 Determine if any of the alarm battery supply (ABS) fuses (01 to 08) on the FSP have blown.

If a fuse	Do
has blown	step 4
has not blown	step 40

4 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

5 Remove the blown fuse.

6

DANGER
Risk of fire
To protect against the risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
has blown again	step 40

Ext FSP
DTE or IDTE frame major (continued)

If the fuse	Do
has not blown again	step 34

7 Determine if the POWER switch on the converter is ON or OFF.

If the POWER switch	Do
is ON	step 9
is OFF	step 8

8 Set the POWER switch on the converter to ON.

If the CONVERTER FAIL LED	Do
is lit	step 9
is not lit	step 34

9 Record the number of the shelf that contains the converter with the lit CONVERTER FAIL LED.

10 Use the following table to identify which circuit breaker associates with the shelf with the lit CONVERTER FAIL LED. The circuit breaker is on the FSP.

If Shelf number is	Do Circuit breaker number
65	CD1
32	CD2
51	CD4
18	CD5

11 Determine if the associated circuit breaker is ON or OFF.

If the circuit breaker	Do
is ON	step 12
is OFF	step 13

12 Set the circuit breaker you identified to OFF.

13 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

Ext FSP
DTE or IDTE frame major (continued)

14 Release the RESET button.

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED is lit	step 15
remains ON, and the CONVERTER FAIL LED is not lit	step 34
remains ON, and the CONVERTER FAIL LED is lit	step 26

15 Record the numbers of the frame and shelf that contain the converter with the lit CONVERTER FAIL LED.

At the PDC frame

16 Locate the fuse that powers the shelf in the DTE frame.

17 Determine if the fuse has blown.

If the fuse	Do
has blown	step 18
has not blown	step 22

18 Remove the fuse holder that contains the blown fuse.

19

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Replace the cartridge fuse inside the fuse holder.

20 Replace the blown fuse.

21 Install the fuse holder on the PDC frame.

22 Locate the battery filter fuse.

23 Determine if the fuse has blown.

If the fuse	Do
has blown	step 18

Ext FSP
DTE or IDTE frame major (continued)

If the fuse	Do
has not blown	step 27

At the DTE frame

24 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

25 Release the RESET button.

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED is lit	step 27
remains ON, and the CONVERTER FAIL LED is not lit	step 34
remains ON, and the CONVERTER FAIL LED is lit	step 26

26 Set the associated circuit breaker to OFF.

27 To replace the converter, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

28 Determine if the CONVERTER FAIL LED for the replaced converter is lit.

If the CONVERTER FAIL LED	Do
is lit	step 29
is not lit	step 34

29 Determine if the backplane of the shelf has any short-circuited or bent pins.

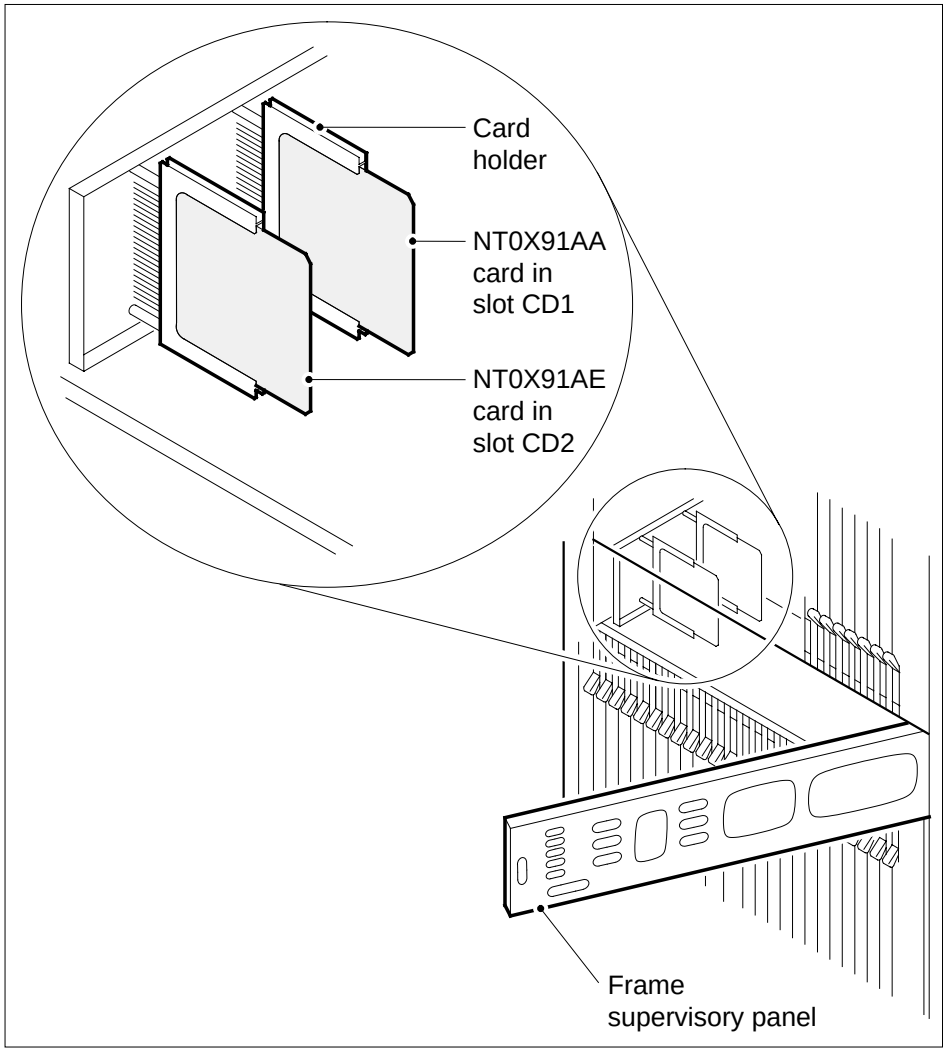
If short-circuited or bent pins	Do
are present	step 43
are not present	step 30

30 Record the number of the shelf that contains the converter with the lit CONVERTER FAIL LED.

Ext FSP
DTE or IDTE frame major (continued)

31 Use the table and diagram to identify the alarm and control card for the shelf with the lit CONVERTER FAIL LED.

Shelf number	Alarm and control card	Card position
18 and 51	slot CD1 (NT0X91AA)	rear
65 and 32	slot CD2 (NT0X91AE)	front



32 Record the PM type, number, and unit number of each of the shelves that the alarm and control card control. You identified the alarm and control card in the previous step.

Ext FSP
DTE or IDTE frame major (continued)

33 To replace the alarm and control card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

34 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit, and more blown fuses are present	step 3
is lit, and more blown fuses are not present	step 43
is not lit	step 37

35 To repair the cooling unit that has faults, perform the correct procedure in *Trouble Locating and Clearing Procedures*. Complete the procedure and return to this point.

36 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit	step 2
is not lit	step 37

At the MAP terminal

37 To access the EXT level of the MAP display, type

```
>MAPCI;MTC;EXT
```

and press the Enter key.

38 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the frames with an FSP alarm	step 39
is present, and you accessed all the frames with an FSP alarm	step 43
is not present	step 44

39 Perform the correct procedure for the type of frame that has the FSP alarm. This document contains a list of procedures. Complete the procedure and return to this point.

Ext FSP
DTE or IDTE frame major (end)

At the DTE frame

40

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

Unscrew the slotted nut to the left of the FSP.

41 Open the FSP panel.

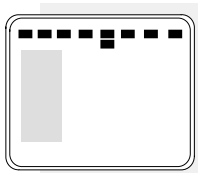
42 Determine if the supply wiring of the alarm inside the FSP is short-circuited. The next level of support can request this information.

43 For additional help, contact the next level of support.

44 The procedure is complete.

Ext FSP
IOE frame and CIOE cabinet major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the Ext header of the alarm banner. The FSP indicates a major alarm for an external frame supervisory panel (FSP).

Meaning

A power fault or a cooling unit fault is present in one or more office cabinets.

The number under the Ext header of the alarm banner indicates the number of frames affected.

Result

The impact on subscriber service depends on the type of fault and the type of frame that contains the fault.

Common procedures

There are no common procedures.

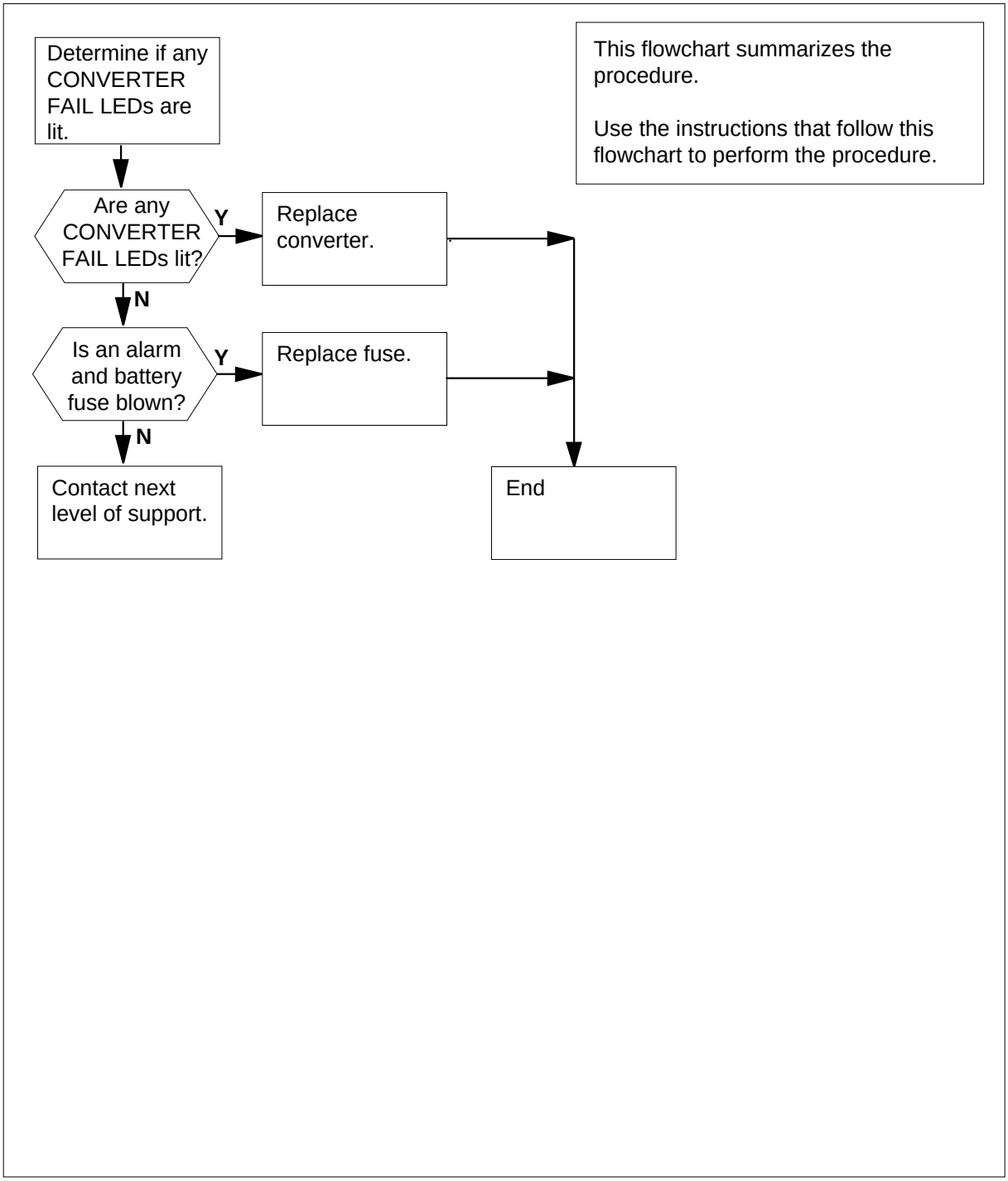
Action

This procedure contains a flowchart and a list of steps. Use the flowchart to review the procedure. Follow the instructions to perform the procedure.

Note: This procedure applies to an input/output equipment (IOE) frame and cabinetized input/output equipment (CIOE) that has an FSP. In this procedure, IOE also refers to this type of CIOE, unless the procedure specifies otherwise.

Ext FSP
IOE frame and CIOE cabinet major (continued)

Summary of Clearing an Ext FSP IOE frame and CIOE cabinet major alarm



Ext FSP
IOE frame and CIOE cabinet major (continued)

Clearing an Ext FSP IOE frame and CIOE cabinet major alarm

At the IOE frame

1 Check each converter in the frame. Determine if any of the CONVERTER FAIL LEDs are lit.

If any CONVERTER FAIL LEDS	Do
are lit	step 6
are not lit	step 2

2 Locate the alarm battery supply (ABS) fuses (05 to 08) on the FSP. Determine if any of the ABS fuses are blown.

If a fuse	Do
has blown	step 3
has not blown	step 39

3 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

4 Remove the blown fuse.

5

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
has blown again	step 39
has not blown again	step 35

6 Determine if the POWER switch on the converter is ON or OFF.

If the POWER switch	Do
is ON	step 8

Ext FSP
IOE frame and CIOE cabinet major (continued)

If the POWER switch	Do
is OFF	step 7

7 Set the POWER switch on the converter to ON.

Ifif the CONVERTER FAIL LED	Do
is lit	step 8
is not lit	step 35

8 Record the number of the shelf that contains the converter with the lit CONVERTER FAIL LED.

9 Locate the fuses on the FSP. Use the following table to identify which fuse associates with the shelf that contains the lit CONVERTER FAIL LED.

Shelf number	Fuse Number
32	01
18	02
04	03

10 Determine if the associated fuse has blown.

If the fuse	Do
has blown	step 11
has not blown	step 14

11 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

12

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Remove the blown fuse.

13 Insert the replacement fuse.

Ext FSP
IOE frame and CIOE cabinet major (continued)

14 Press the RESET button on the converter.

15 Release the RESET button.

If the fuse	Do
has blown, and the CONVERTER FAIL LED is lit	step 16
has not blown, and the CONVERTER FAIL LED is not lit	step 35
has not blown, and the CONVERTER FAIL LED is lit	step 28

16 Record the numbers of the frame and shelf that contain the converter with the lit CONVERTER FAIL LED.

At the PDC frame

17 Locate the fuse that powers the shelf in the IOE frame.

18 Determine if the fuse has blown.

If the fuse	Do
has blown	step 19
has not blown	step 28

19 Remove the fuse holder with the blown fuse.

20 Replace the cartridge fuse inside the fuse holder.

21

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Replace the blown fuse.

22 Install the fuse holder back on the PDC frame.

At the IOE frame

23 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

24 Remove the blown fuse.

Ext FSP
IOE frame and CIOE cabinet major (continued)

25

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

26 Press the RESET button on the converter.

27 Release the RESET button.

If the CONVERTER FAIL LED	Do
is lit	step 28
is not lit	step 35

28 To replace the converter, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

29 Determine if the CONVERTER FAIL LED for the replaced converter is lit.

If the CONVERTER FAIL LED	Do
is lit	step 30
is not lit	step 35

30 Determine if the backplane of the shelf has short-circuited or bent pins.

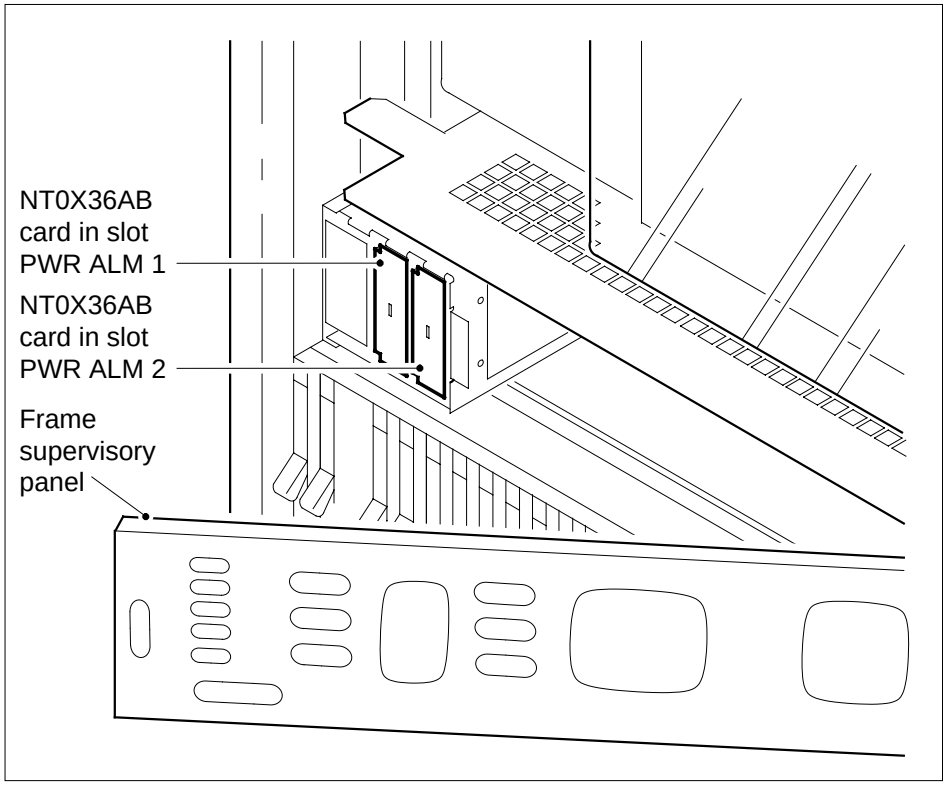
If short-circuited or bent pins	Do
are present	step 42
are not present	step 31

31 Record the number of the shelf that contains the converter with the lit CONVERTER FAIL LED.

Ext FSP
IOE frame and CIOE cabinet major (continued)

32 Use the following table and diagram. Identify which alarm and control card associates with the shelf with the lit CONVERTER FAIL LED.

Shelf number	Alarm and control card	Card position
18	slot 2 (NT0X36AB)	left
04 and 32	slot 2 (NT0X36AB)	right



33 Record the input/output controller (IOC) number, and the disk drive unit (DDU) number. Record the numbers in each of the shelves controlled by the alarm and control card that you identified.

34 To replace the alarm and control card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

Ext FSP
IOE frame and CIOE cabinet major (continued)

At the IOE frame

35 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit, and more blown fuses are present	step 2
is lit, and no more blown fuses are present	step 42
is not lit	step 36

At the MAP terminal

36 To access the EXT level of the MAP display, type

`>MAPCI;MTC;EXT`

and press the Enter key.

37 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the frames with an FSP alarm	step 38
is present, and you accessed all the frames with an FSP alarm	step 42
is not present	step 43

38 Perform the correct procedure in this document for the type of frame that has the FSP alarm. Complete the procedure and return to this point.

At the IOE frame

39

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

Unscrew the slotted nut to the left of the FSP.

40 Open the FSP panel.

Ext FSP
IOE frame and CIOE cabinet major (end)

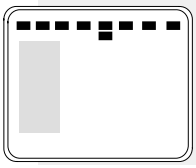
41 Determine if the alarm battery supply wiring inside the FSP is short-circuited. The next level of support can request this information.

42 For additional help, contact the next level of support.

43 The procedure is complete.

Ext FSP
LME frame (with fuses only) major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP preceded by a number appears under the Ext header of the alarm banner, and indicates an external frame supervisory panel (FSP) major alarm.

Meaning

One or more frames in the office has a power fault or a cooling unit fault.

The number that precedes FSP is the number of frames with an FSP alarm.

Impact

The impact on subscriber service depends on the nature of the fault and the type of frame in which the fault is located.

Common procedures

Checking the electronic fuse unit in an LME or RLM frame is referenced in this procedure.

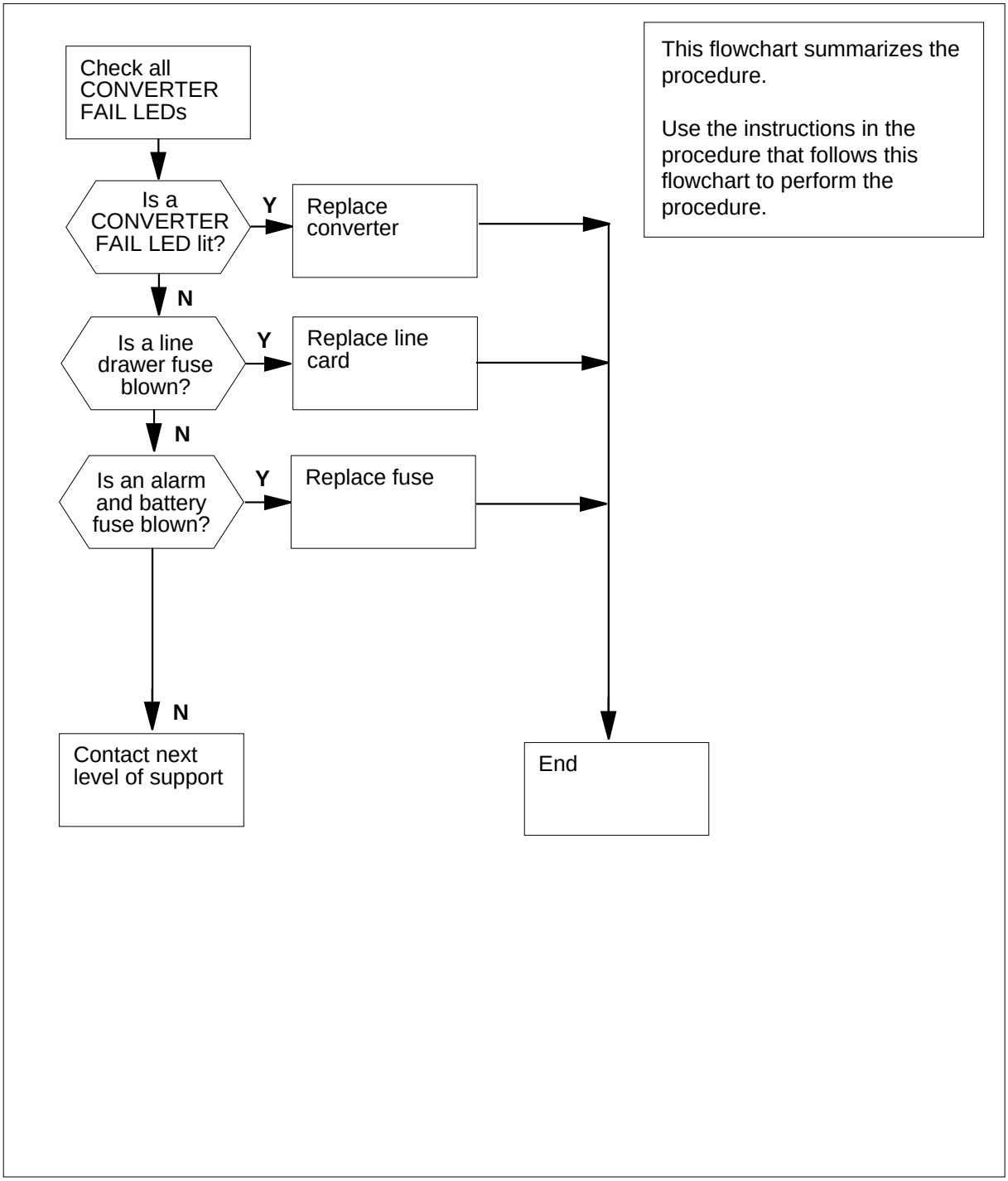
Action

The following flowchart is a summary of this procedure. Use the instructions in the step-action table that follows the flowchart to perform the procedure.

Note: This procedure applies to a remote line module (RLM) frame.

Ext FSP
LME frame (with fuses only) major (continued)

Summary of clearing a/an Ext FSP alarm



Ext FSP
LME frame (with fuses only) major (continued)

Clearing a/an Ext FSP alarm

At the LME frame

1 Check the CONVERTER FAIL LED on each NT2X05 converter in the frame.

If	Do
any NT2X05 converters have a lit CONVERTER FAIL LED	step 31
no NT2X05 converters have a lit CONVERTER FAIL LED	step 2

2 Check the CONVERTER FAIL LED on the NT2X70 converter in the frame.

If the CONVERTER FAIL LED is	Do
lit	step 27
not lit	step 3

3 Check the line drawer fuses (04 to 23), which are located on the FSP.

If	Do
a fuse is blown	step 8
no fuses are blown	step 4

4 Check the alarm battery supply (ABS) fuses (24 to 27), which are located on the FSP.

If	Do
a fuse is blown	step 5
no fuses are blown	step 65

5 Obtain a replacement fuse wit the same voltage and amperage as the blown fuse.

6 Remove the blown fuse.

Ext FSP
LME frame (with fuses only) major (continued)

7

DANGER
Risk of fire
For continued protection against risk of fire, replace blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
blows again	step 65
does not blow	step 61

8 Obtain a replacement fuse with the same voltage as the blown fuse.

9 Remove the blown fuse.

10

DANGER
Risk of fire
For continued protection against risk of fire, replace blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse

If the fuse	Do
blows (prorudes) again	step 11
does not blow	step 61

11 Use the following table to determine which drawer is associated with the blown fuse.

If Fuse number	Do Drawer number
04, 14	0, 1
06, 16	2, 3
08, 18	4, 5

Ext FSP
LME frame (with fuses only) major (continued)

If Fuse number	Do Drawer number
10, 20	6, 7
12, 22	8, 9
05, 15	10, 11
07, 17	12, 13
09, 19	14, 15
11, 21	16, 17
13, 23	18, 19

Note: The drawers are not numbered on the frame. The numbering scheme used in this table is to facilitate the identification of the drawers. The numbering is from left to right and bottom to top, that is, drawer 0 is the bottom left-hand drawer and drawer 19 is the top right-hand drawer.

12 Pull out the line drawer you have just identified.

13

DANGER
Personal injury
Do not touch the line feed resistors on the line cards. The line feed resistors generate enough heat to burn you.

CAUTION
Loss of service
Carry out this procedure during periods of low traffic.

Unseat all the line cards in the drawer

Note: Just unseat the line cards; do not remove them from the drawer.

14 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

15 Remove the blown fuse.

Ext FSP
LME frame (with fuses only) major (continued)

16

DANGER
Risk of fire
For continued protection against risk of fire, replace blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
blows again	step 17
does not blow	step 18

17 Check the drawer for loose or short-circuited wires.

If there are	Do
loose or short-circuited wires	step 68
no loose or short-circuited wires	step 65

18 Reseat the line cards one at a time, and check the fuse after reseating each line card.

If after reseating	Do
a line card, the fuse blows again	step 19
all the line cards, the fuse does not blow	step 26

19

DANGER
Personal injury
Do not touch the line feed resistors on the line cards. The line feed resistors generate enough heat to burn you.

Remove the line card from the drawer.

20 Obtain a replacement line card. Ensure that the replacement card has the same product engineering code (PEC), including the suffix, as the card being removed.

Ext FSP
LME frame (with fuses only) major (continued)

21 Insert the replacement line card into the drawer.

22 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

23 Remove the blown fuse.

24

DANGER
Risk of fire
For continued protection against risk of fire, replace blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse

If the fuse	Do
blows again	step 68
does not blow	step 25

25 Reseat all the other line cards in the drawer.

26 Push the drawer back in, and go to step 61.

27 Note the number of the LM in the frame.

At the MAP terminal

28 Access the PM level of the MAP by typing

```
>MAPCI;MTC;PM
```

and pressing the Enter key.

29 Post the PM level of the MAP by typing

```
>POST  LM bay_no pair_no
```

and pressing the Enter key.

where

bay no
is the number of the LM bay (0 to 511)

pair_no
is the number of the LM in the bay (0 or 1)

30 Busy the LM by typing

```
>BUSY
```

and pressing the Enter key.

Ext FSP
LME frame (with fuses only) major (continued)

At the LME frame

31 Check the POWER switch on the converter.

If the POWER switch is	Do
ON	step 33
OFF	step 32

32 Set the POWER switch on the converter to ON.

If the CONVERTER FAIL LED is	Do
lit	step 33
not lit	step 61

33 Use the following table to identify which fuse, located on the FSP, is associated with the converter that has a lit CONVERTER FAIL LED.

IfConverter	DoFuse number
NT2X05 slot 1 (leftmost)	01
NT2X05 slot 5	03
NT2X70 slot 23	02

34 Check the associated fuse

If the fuse is	Do
blown	step 35
not blown	step 36

35 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

36 Remove the blown fuse from the FSP.

37

DANGER
Risk of fire
For continued protection against risk of fire, replace blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

Ext FSP
LME frame (with fuses only) major (continued)

38 Press the RESET button on the converter.

39 Release the RESET button.

If the fuse	Do
blows and the CONVERTER FAIL LED is lit	step 40
does not blow and the CONVERTER FAIL LED is not lit	step 61
does not blow and the CONVERTER FAIL LED is lit	step 49

40 Note the number of the frame with the lit CONVERTER FAIL LED.

At the power distribution center (PDC) frame

41 Locate the fuse that powers the LME frame

If the fuse is	Do
blown	step 42
not blown	step 46

42 Remove the fuse holder that contains the blown fuse.

43 Replace the cartridge fuse inside the fuse holder.

44

DANGER
Risk of fire
For continued protection against risk of fire, replace blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Replace the blown fuse.

45 Install the fuse holder back onto the PDC frame.

46 Locate battery filter fuses.

If the fuse is	Do
blown (protruding)	step 42
not blown	step 49

Ext FSP
LME frame (with fuses only) major (continued)

At the RLM frame

47 Press the RESET button on the converter.

48 Release the RESET button

If the CONVERTER FAIL LED is	Do
lit	step 49
not lit	step 61

49 Perform the appropriate procedure in Lines, Trunks, and Peripherals Card Replacement Procedures to replace the converter. When you have completed the procedure, return to this point.

50 Proceed as follows according to the converter you have just replaced.

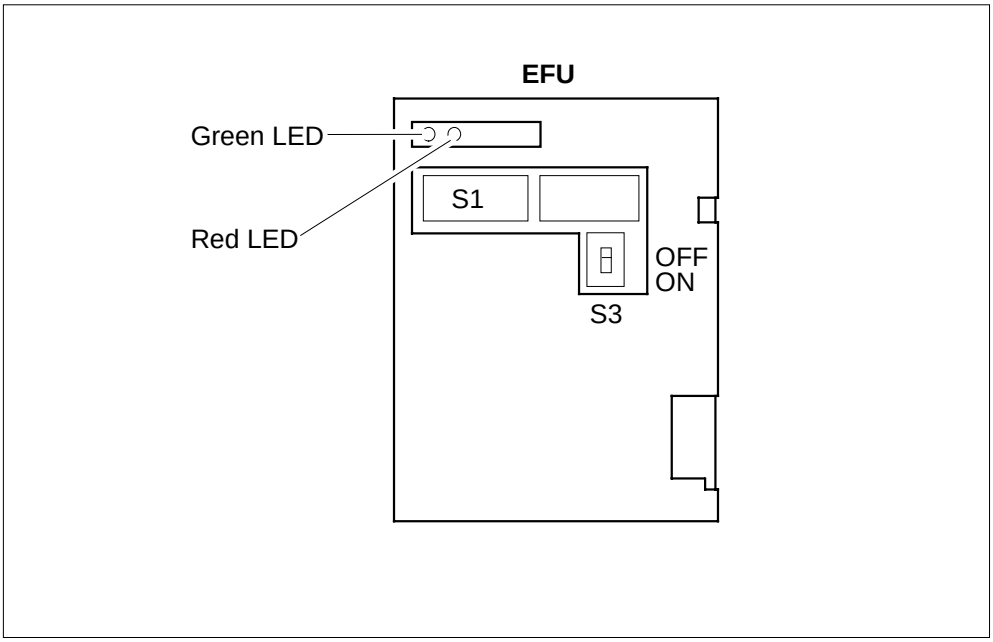
If you have just replaced an	Do
NT2X05 converter	step 57
NT2X70 converter	step 51

51 Check the CONVERTER FAIL LED for the converter you have just replaced.

If the CONVERTER FAIL LED is	Do
lit	step 52
not lit	step 61

52 Check the electronic fuse unit (EFU), which is located at the rear of the frame (see illustration below).

Ext FSP
LME frame (with fuses only) major (continued)



53 Check the LEDs on the EFU.

Note: The EFU is operating correctly when only the green LED is lit.

If	Do
only the green LED is lit	step 59
neither of the LEDS are lit	step 54
both the LEDs are lit	step 54
only the red LED is lit	step 54

54 Perform the procedure “Checking the electronic fuse unit in an LME or RLM frame" in this document. When you have completed the procedure, return to this point.

55 Press the RESET button on the NT2X70 converter.

56 Release the RESET button

If the CONVERTER FAIL LED is	Do
lit	step 59
not lit	step 61

Ext FSP
LME frame (with fuses only) major (continued)

57 Determine if the CONVERTER FAIL LED for the converter you have just replaced is lit.

If the CONVERTER FAIL LED is	Do
lit	step 58
not lit	step 61

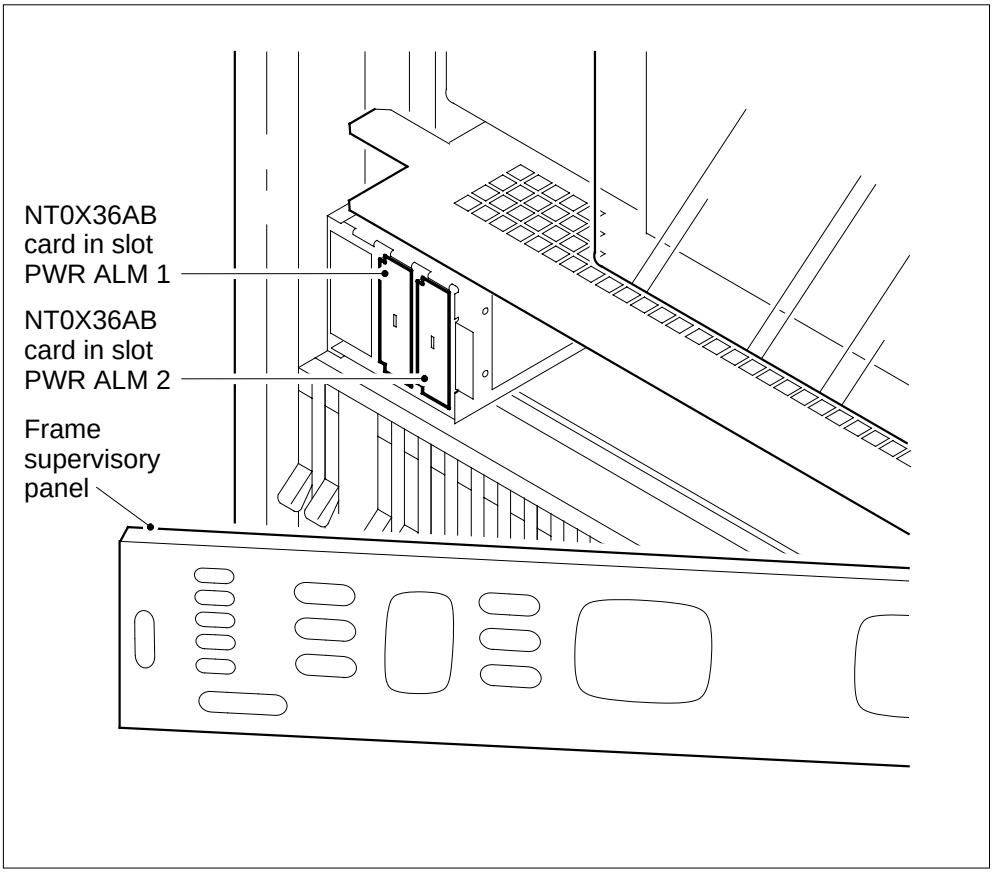
58 Determine if there are bent or short-circuited pins on the backplane of the shelf

If there are	Do
bent or short-circuited pins	step 68
no bent or short-circuited pins	step 59

59 Use the following table to identify the alarm and control card associated with the converter that has a lit CONVERTER FAIL LED.

Converter, Fuse number	Alarm and control panel
NT0X205 slot 1/01	slot 1 (NT0X36AB)
NT2X05 slot 5/03 and NT2X70 slot 23/02	slot 2 (NT0X36AB)

Ext FSP
LME frame (with fuses only) major (continued)



60 Perform the appropriate procedure in Lines, Trunks, and Peripherals Card Replacement Procedures to replace the alarm and control card. When you have completed the procedure, return to this point.

61 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp is	Do
lit, and you have not completed steps 2 or 3 in this procedure	step 62
lit, and you have completed steps 2 and 3 in this procedure	step 65
not lit	step 63

62 Go to the step you have not yet completed, that is, either step 2 or 3 in this procedure.

Ext FSP
LME frame (with fuses only) major (end)

At the MAP

63 Access the EXT level of the MAP to determine whether an FSP alarm is present by typing

`>MAPCI;MTC;EXT`

and pressing the Enter key.

If an FSP alarm is	Do
present, and you have not accessed all the frames with an FSP alarm	step 64
present, and you have accessed all the frames with an FSP alarm	step 68
not present	step 69

64 Perform the appropriate procedure for the type of frame that has the FSP alarm. When you have completed the procedure, return to this point.

At the RLM frame

65

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48 V dc to -60 dc. do not touch any terminals inside the FSP.

Unscrew the slotted nut on the left-hand side of the FSP.

66 Open the FSP pane.

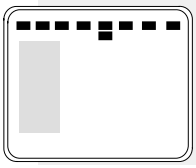
67 Determine if the alarm battery supply wiring inside the FSP is short-circuited. the personnel at the next level of support may request this information.

68 For further assistance, contact the personnel responsible for the next level of support.

69 You have completed this procedure.

Ext FSP
LPP cabinet major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, a number and FSP appear under the EXT header of the alarm banner. The FSP indicates an external frame supervisory panel (FSP) major alarm.

Meaning

One or more cabinets in the office has a power fault or a cooling unit fault. The number under the EXT header of the alarm banner indicates the number of cabinets affected.

Result

The impact on subscriber service depends on the type of fault and the type of frame that contains the fault.

Common procedures

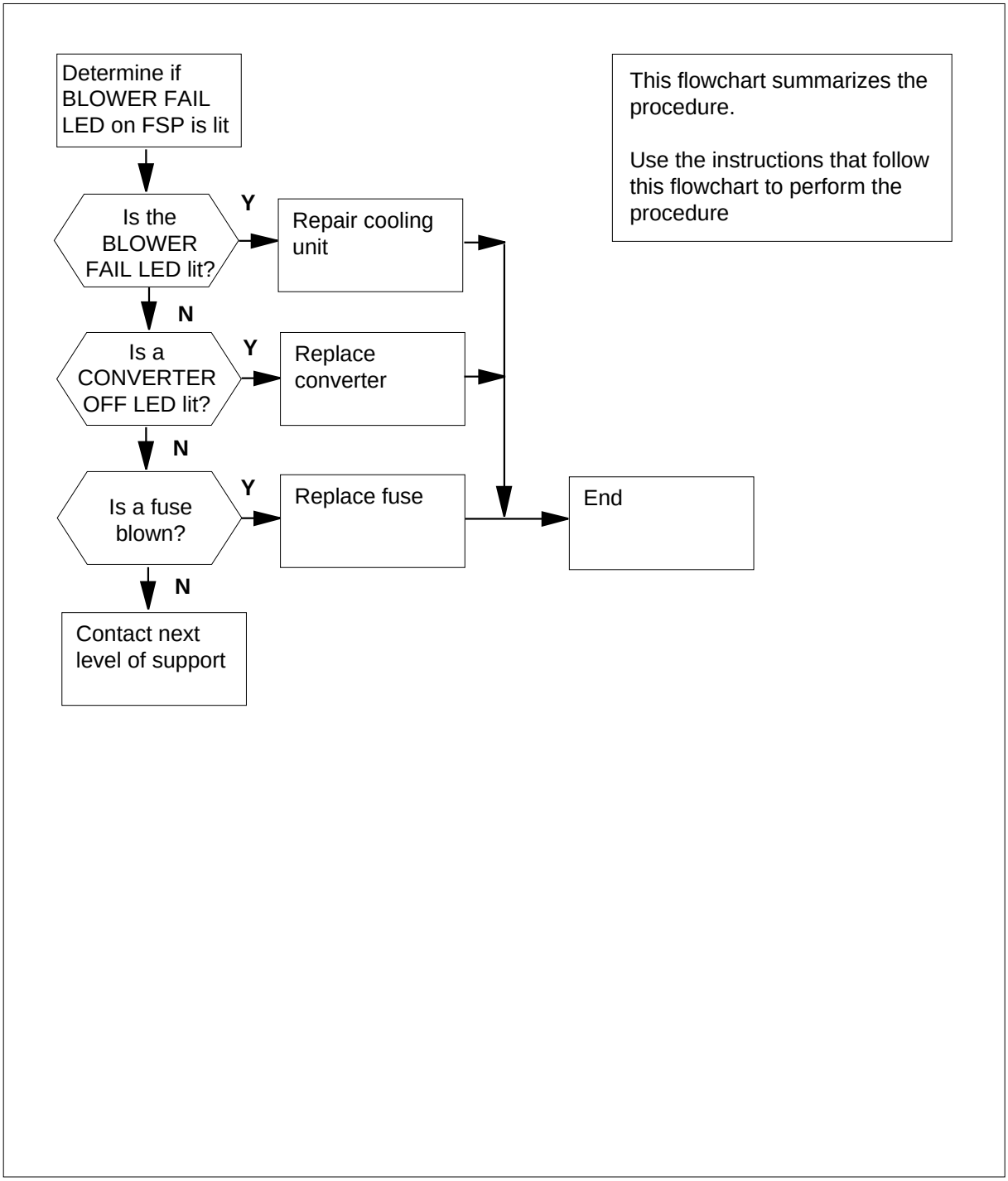
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
LPP cabinet major (continued)

Summary of Clearing an Ext FSP LPP cabinet major alarm



Ext FSP
LPP cabinet major (continued)

Clearing an Ext FSP LPP cabinet major alarm

At the LPP

1 Determine if the BLOWER FAIL LED on the FSP is lit.

If the BLOWER FAIL LED	Do
is lit	step 31
is not lit	step 2

2 Check each power converter in the cabinet. Determine if any of the CONVERTER FAIL LEDs are lit.

If CONVERTER OFF LEDs	Do
are lit	step 3
are not lit	step 20

3 Set the POWER switch on the converter to ON.

If the CONVERTER OFF LED	Do
is lit	step 4
is not lit	step 32

4 Record the number of the shelf that contains the converter with the lit CONVERTER OFF LED.

5 Use the following table to identify the fuse for the shelf that has the lit CONVERTER FAIL LED.

If Shelf number is	Do Fuse
39 (left side)	01
39 (right side)	02
26 (left side)	03
26 (right side)	04
13 (left side)	05
13 (right side)	06
00 (left side)	07

If Shelf number is	Do Fuse
00 (right side)	08

6 Determine if the associated fuse has blown.

If the fuse	Do
has blown	step 7
has not blown	step 14

7 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

8 Remove the blown fuse.

9

DANGER
Risk of fire
To protect against fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
has blown, and the CONVERTER OFF LED is lit	step 10
has not blown, and the CONVERTER OFF LED is not lit	step 32
has not blown, and the CONVERTER OFF LED is lit	step 18

10 Record the number of the shelf with the lit CONVERTER OFF LED. The shelf numbers are on the right side of the cabinet.

At the CPDC

11 Locate the circuit breaker that powers the LPP shelf.

12 Determine if the circuit breaker is ON or OFF.

If the circuit breaker	Do
is OFF	step 13
is ON	step 18

Ext FSP
LPP cabinet major (continued)

13 Set the circuit breaker to ON.

At the LPP

14 To replace the converter card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

15 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

16 Remove the blown fuse.

17

DANGER
Risk of fire
To protect against fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

Go to step step 19.

18 To replace the converter card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

19 Determine if the CONVERTER OFF LED for the power converter card you replaced is lit.

If the CONVERTER OFF LED is	Do
is lit	step 36
is not lit	step 32

20 Determine if any of fuses 01 to 04 on the FSP have blown.

If a fuse	Do
has blown	step 21
has not blown	step 36

21 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

22 Remove the blown fuse.

Ext FSP
LPP cabinet major (continued)

23

DANGER
Risk of fire
To protect against fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
has blown again	step 24
has not blown again	step 30

24 Determine the fuse that has blown.

If the blown fuse	Do
is one of 09, 11, 14, 15, or 16	step 36
is one of 10, 12, or 13	step 25

25 Use the following table to identify the alarm and control card that associates with the blown fuse.

If Fuse number is	Do Alarm and control card
12	slot CD1 (NT6X36KA)
13	slot CD2 (NT6X36KA)
10	slot CD3 (NT0X91KA)

26 To replace the alarm and control card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

27 Remove the blown fuse.

28 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

Ext FSP
LPP cabinet major (continued)

29

DANGER
Risk of fire
To protect against fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
has blown again	step 36
has not blown again	step 30

30 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL LED	Do
is lit, and more blown fuses are present	step 20
is lit, and more blown fuses are not present	step 36
is not lit	step 33

31 To repair the damaged cooling unit, perform the correct procedure in *Trouble Locating and Clearing Procedures*. Complete the procedure and return to this point.

32 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL LED	Do
is lit	step 2
is not lit	step 33

At the MAP terminal

33 To access the EXT level of the MAP display, type

```
MAPCI;MTC;EXT
```

and press the Enter key.

Ext FSP
LPP cabinet major (end)

34 Determine if an FSP alarm exists.

If an FSP alarm	Do
is present, and you did not access all the cabinets with an FSP alarm	step 35
is present, and you accessed all the cabinets with an FSP alarm	step 36
is not present	step 37

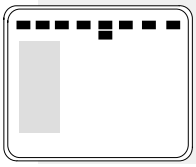
35 Perform the correct procedure for the type of frame that has the FSP alarm.

36 For additional help, contact the next level of support.

37 The procedure is complete.

Ext FSP
MEX frame major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the Ext header of the alarm banner. The FSP indicates a major alarm for an external frame supervisory panel (FSP).

Meaning

A power fault or a cooling unit fault is present in one or more office frames. The number under the Ext header of the alarm banner indicates the number of cabinets affected.

Result

The impact on subscriber service depends on the type of fault and the type of frame that contains the fault.

Common procedures

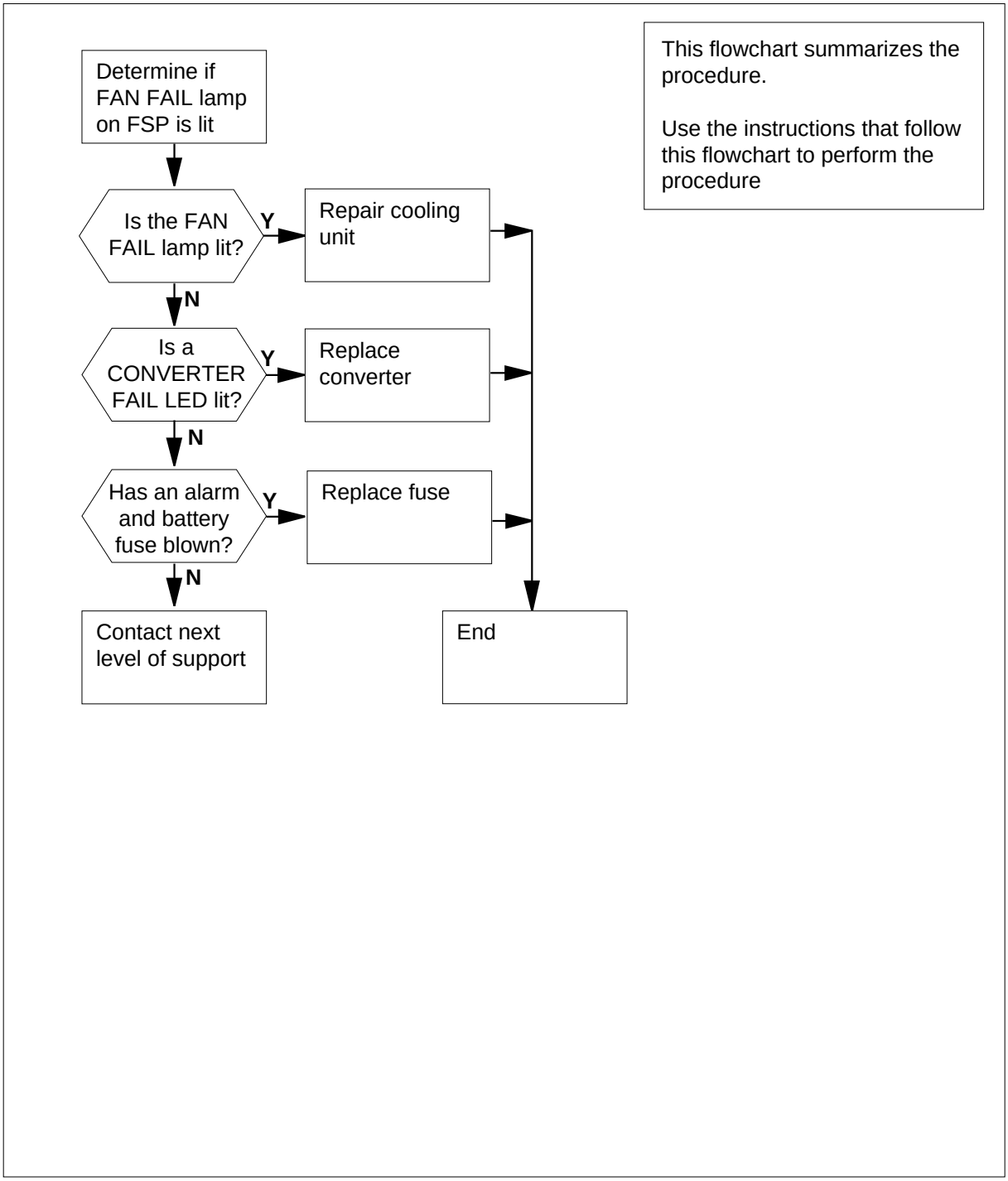
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
MEX frame major (continued)

Summary of Clearing an Ext FSP MEX frame major alarm



Ext FSP
MEX frame major (continued)

Clearing an Ext FSP MEX frame major alarm

At the MEX frame

1 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FAN FAIL lamp	Do
is it	step 75
is not lit	step 2

2 Check each converter in the frame. Determine if any CONVERTER FAIL LEDs are lit.

If CONVERTER FAIL LEDs	Do
are lit	step 7
are not lit	step 3

3 Determine if any of the alarm battery supply (ABS) fuses (05 to 08) on the FSP have blown.

If a fuse	Do
has blown	step 4
has not blown	step 80

4 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

5 Remove the blown fuse.

6

DANGER
Risk of fire
To protect against fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
blows again	step 80

Ext FSP
MEX frame major (continued)

If the fuse	Do
does not blow	step 74

7 Determine if the POWER switch on the converter is ON or OFF.

If the POWER switch	Do
is ON	step 9
is OFF	step 8

8 Set the POWER switch on the converter to ON.

If the CONVERTER FAIL LED	Do
is lit	step 9
is not lit	step 74

9 Record the number of the shelf that contains the converter with the lit CONVERTER FAIL LED.

10 Use the following table to identify the FSP fuse for the shelf with the lit CONVERTER FAIL LED.

Shelf number	Fuse number
65	01
51	02
32	03
18	04

11 Determine if the associated fuse has blown.

If the fuse	Do
has blown	step 12
has not blown	step 33

12 Record the number of the data store (DS) in the shelf that associates with the blown fuse.

Note: The DS number is 0 or 1.

Ext FSP
MEX frame major (continued)

At the MAP terminal

13 To access the CC level of the MAP display, type

`>MAPCI;MTC;CC`

and press the Enter key.

14 Record the number of the active central processing unit (CPU) and inactive CPU.

15 Your next step depends on the DS number that you noted in step 12. Your next step also depends on the CPU that you noted as active in step 14.

If the DS number	Do
is 0 and the active CPU is 1	step 19
is 0 and the active CPU is 0	step 16
is 1 and the active CPU is 1	step 16
is 1 and the active CPU is 0	step 19

At the MAP terminal

16 To access the CC level of the MAP display, type

`>MAPCI;MTC;CC`

and press the Enter key.

17 To switch CPU activity, type

`>SWACT`

and press the Enter key.

Note: The CPU must be inactive. The CPU is in the frame that contains the alarm and control card you want to replace.

18 To confirm the SWACT command, type

`>YES`

and press the Enter key.

At the CCC frame

19 Go to the CCC frame that contains the inactive CPU.

20

WARNING
Static electricity damage
Wear a wrist strap that connects to a wrist-strap grounding point of a frame supervisory panel (FSP) to handle the ENAB and DACT switches. The wrist strap protects the switches against static electricity damage.

Set the ENAB switch on the NT1X48 card toward the top.

Note: The NT1X48 card is in the CPU. The CPU is in the CCC frame.

21 Set the DACT switch on the NT1X48 card toward the right.

Note: The NT1X48 card is in the CPU. The CPU is in the CCC frame.

22 Note the number of the CMC in the CCC frame that contains the inactive CPU.

At the MAP terminal

23 To access the CMC level of the MAP display, type

```
>MAPCI;MTC;CMC
```

and press the Enter key.

24 To manually busy the CMC, type

```
>BSY
```

and press the Enter key.

25 To access the clock level of the MAP display, type

```
>SYNCLK
```

and press the Enter key.

26 Determine if the clock for the inactive CCC frame is active.

If the clock	Do
is active	step 27
is not active	step 28

27 To switch clock activity, type

```
>SWACT
```

and press the Enter key.

If the SWACT command	Do
passes	step 28

Ext FSP
MEX frame major (continued)

If the SWACT command	Do
fails	step 83

At the MEX frame

28 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

29 Remove the blown fuse.

30

DANGER
Risk of fire
To protect against fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

DANGER
Briefly state reasons for the danger
Enter the reasons the danger: a danger alerts the reader to a risk of personal injury or death.

Insert the replacement fuse.

31 Press the RESET button on the converter.

32 Release the RESET button.

If the fuse	Do
has blown, and the CONVERTER FAIL LED is lit	step 34
has not blown, and the CONVERTER FAIL LED is not lit	step 74
has not blown, and the CONVERTER FAIL LED is lit	step 58

33 Press and release the RESET button on the converter with the lit CONVERTER FAIL LED.

If the CONVERTER FAIL LED	Do
is lit	step 34

If the CONVERTER FAIL LED	Do
is not lit	step 74

34 Record the numbers of the frame and shelf that contain the lit CONVERTER FAIL LED.

At the PDC frame

35 Locate the fuse that powers the shelf in the MEX frame.

36 Determine if the fuse has blown.

If the fuse	Do
has blown	step 37
has not blown	step 42

37 Remove the fuse holder that contains the blown fuse.

38 Replace the cartridge fuse inside the fuse holder.

39

DANGER
Risk of fire
To protect against fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Replace the blown fuse.

40 Install the fuse holder into the PDC frame.

At the MEX frame

41 Press and release the RESET button on the converter.

If the fuse	Do
has blown, and the CONVERTER FAIL LED is lit	step 42
has not blown, and the CONVERTER FAIL LED is not lit	step 59
has not blown, and the CONVERTER FAIL LED is lit	step 42

42 Note the number of the DS in the shelf that associates with the blown fuse.

Note: The DS number is 0 or 1.

Ext FSP
MEX frame major (continued)

At the MAP terminal

43 To access the CC level of the MAP display, type

>MAPCI;MTC;CC

and press the Enter key.

44 Record the number of the active CPU and inactive CPU.

45 Your next step depends on the DS number that you noted in step 42. Your next step also depends on the CPU that you noted as active in step 44.

If the DS number	Do
is 0 and the active CPU is 1	step 48
is 0 and the active CPU is 0	step 46
is 1 and the active CPU is 1	step 46
is 1 and the active CPU is 0	step 48

At the MAP terminal

46 To access the CC level of the MAP display, type

>MAPCI;MTC;CC

and press the Enter key.

47 To switch CPU activity, type

>SWACT

and press the Enter key.

Note: The CPU must be inactive. The CPU is in the frame that contains the alarm and control card you want to replace.

48 To confirm the SWACT command , type

>YES

and press the Enter key.

At the CCC frame

49 Go to the CCC frame that contains the inactive CPU.

50

WARNING
Static electricity damage
Wear a wrist strap that connects to the wrist-strap grounding point of a frame supervisory panel (FSP) to handle the ENAB and DACT switches. The wrist strap protects the switches against static electricity damage.

Ext FSP
MEX frame major (continued)

Set the ENAB switch on the NT1X48 card toward the top.

Note: The NT1X48 card is in the CPU. The CPU is in the CCC frame.

51 Set the DACT switch on the NT1X48 card toward the right.

Note: The NT1X48 card is in the CPU. The CPU is in the CCC frame.

52 Note the number of the CMC in the CCC frame that contains the inactive CPU.

At the MAP terminal

53 To access the CMC level of the MAP display, type

`>MAPCI;MTC;CMC`

and press the Enter key.

54 To manually busy the CMC, type

`>BSY`

and press the Enter key.

55 Determine if the clock for the inactive CCC frame is active.

If the clock	Do
is active	step 56
is not active	step 57

56 To switch clock activity, type

`>SWACT`

and press the Enter key.

If the SWACT command	Do
passes	step 57
fails	step 83

57 Press and release the RESET button on the converter.

If the fuse	Do
has blown, and the CONVERTER FAIL LED is lit	step 34
has not blown, and the CONVERTER FAIL LED is not lit	step 74
has not blown, and the CONVERTER FAIL LED is lit	step 58

58 To replace the converter, perform the appropriate procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

Ext FSP
MEX frame major (continued)

59 Determine the state of the converter that you replaced and the associated fuse.

If the fuse	Do
has blown, and the CONVERTER FAIL LED is lit	step 60
has not blown, and the CONVERTER FAIL LED is not lit	step 74
has not blown, and the CONVERTER FAIL LED is lit	step 60

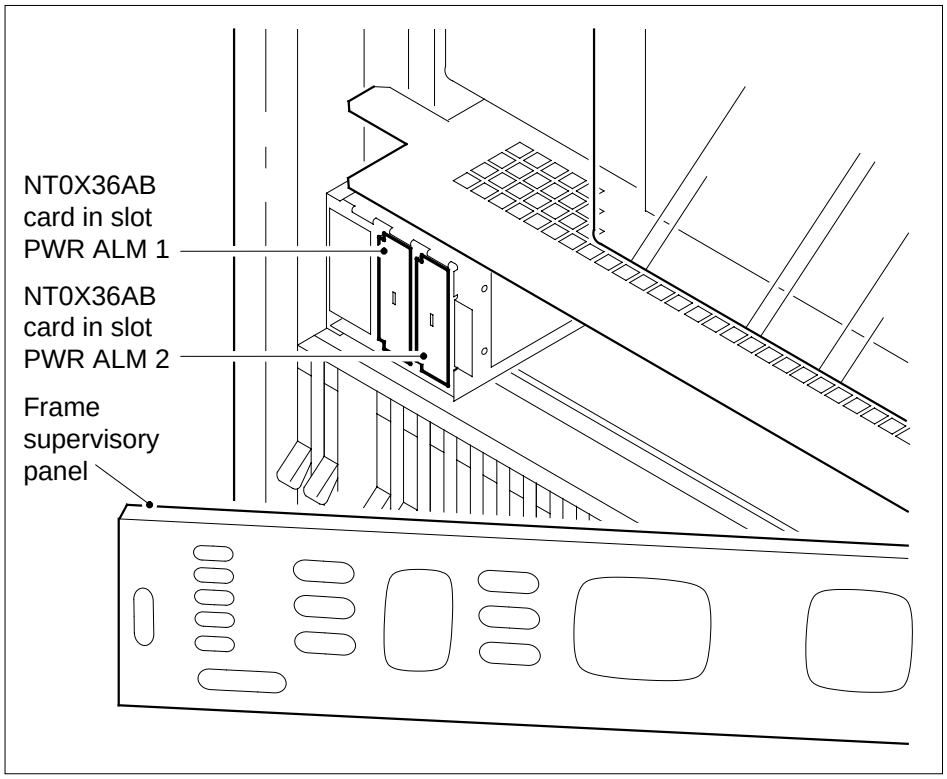
60 Determine if the backplane of the shelf has short-circuited or bent pins.

If short-circuited or bent pins	Do
are present	step 83
are not present	step 61

61 Use the table and diagram to identify the alarm and control card for the shelf with the lit CONVERTER FAIL LED.

Shelf Number	Alarm and control card
18 and 51	slot 1 (NT0X36AB)
32 and 65	slot 2 (NT0X36AB)

Ext FSP
MEX frame major (continued)



62 Use the following table to identify fuses for the shelves controlled by the alarm and control card you want to replace. The fuses are on the FSP.

Shelf number	Fuse number
65	01
51	02
32	03
18	04

63 Remove the two identified fuses.

Ext FSP
MEX frame major (continued)

64

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

Obtain a replacement alarm and control card. Make sure that the replacement card has the same Product engineering code (PEC) and PEC suffix as the card you remove.

65 Unscrew the slotted nut to the left of the FSP.

66 Open the FSP panel.

67

WARNING
Loss of service
Make sure that the alarm and control card you remove is the card that controls the PMs that you busied. Loss of service results if you move the wrong card.

Remove the alarm and control card.

68 Insert the replacement card.

69 Close the FSP panel.

70 Tighten the slotted nut on the FSP.

71 Insert the two fuses removed in step 63.

72 The replaced alarm and control card controls shelves. Use the following steps to reset the converter in each shelf the card controls.

73 Press and release the RESET button on the converter.

If the CONVERTER FAIL LED	Do
is lit	step 83
is not lit	step 74

74 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit, and more blown fuses exist	step 3

Ext FSP
MEX frame major (continued)

If the FRAME FAIL lamp	Do
is lit, and more blown fuses do not exist	step 83
is not lit	step 77

75 To replace the converter, perform the correct procedure in *Card replacement Procedures*. Complete the procedure and return to this point.

76 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit	step 2
is not lit	step 77

At the MAP terminal

77 To access the EXT level of the MAP display, type

```
>MAPCI;MTC;EXT
```

and press the Enter key.

78 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the frames with an FSP alarm	step 79
is present, and you accessed all the frames with an FSP alarm	step 83
is not present	step 84

79 Perform the correct procedure for the type of frame that has the FSP alarm. This document contains a list of procedures. Complete the procedure and return to this point.

At the MEX frame

80 Unscrew the slotted nut to the left of the FSP.

Ext FSP
MEX frame major (end)

81

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

Open the FSP panel.

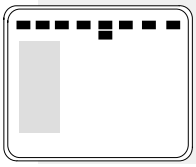
82 Determine if the supply wiring for the alarm battery in the FSP is short-circuited. The next level of support can ask for this information.

83 For additional help, contact the next level of support.

84 The procedure is complete.

Ext FSP
MS7E frame major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the Ext header of the alarm banner. The FSP indicates a major alarm for an external frame supervisory panel (FSP).

Meaning

A power fault or a cooling unit fault is present in one or more office frames. The number under the Ext header of the alarm banner indicates the number of frames affected.

Result

The impact on subscriber service depends on the type of fault and the type of frame that contains the fault.

Common procedures

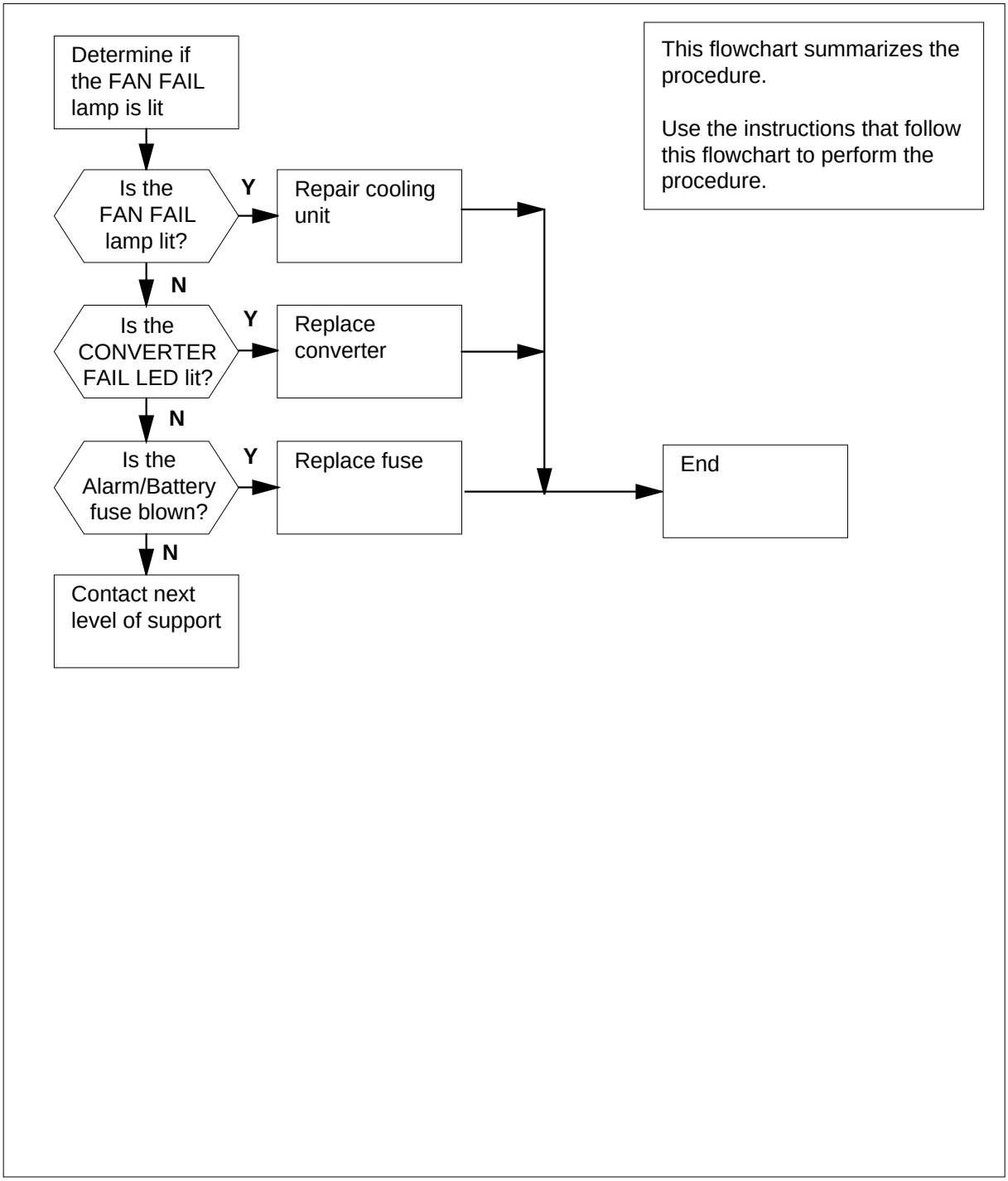
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
MS7E frame major (continued)

Summary of Clearing an Ext FSP MS7E frame major alarm



Ext FSP
MS7E frame major (continued)

Clearing an Ext FSP MS7E frame major alarm

At your current location

1 Determine if the FAN FAIL lamp on the FSP is lit.

If the FAN FAIL lamp	Do
is lit	step 32
is not lit	step 2

2 Check each converter in the frame. Determine if any of the CONVERTER FAIL LEDs are lit.

If CONVERTER FAIL LEDs	Do
are lit	step 7
are not lit	step 3

3 Determine if any of the alarm battery supply (ABS) fuses (05 to 09), on the FSP, have blown.

If a fuse	Do
has blown	step 4
has not blown	step 37

4 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

5 Remove the blown fuse.

6

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
has blown again	step 37

Ext FSP
MS7E frame major (continued)

If the fuse	Do
has not blown again	step 31

7 Determine if the POWER switch on the converter is ON or OFF.

If the POWER switch	Do
is ON	step 9
is OFF	step 8

8 Set the POWER switch on the converter to ON.

If the CONVERTER FAIL LED	Do
is lit	step 9
is not lit	step 31

9 Note the number of the shelf that contains the converter with the lit CONVERTER FAIL LED. Note the half of the shelf (left or right) that contains the converter with the lit CONVERTER FAIL LED.

10 Check the table that follows. Identify the circuit breaker on the FSP for the shelf that contains the converter with the lit CONVERTER FAIL LED.

Shelf number	Circuit breaker number
51 (left side)	CD1
18 (left side)	CD2
18 (right side)	CD3
51 (right side)32 (left side)32 (right side)	CD4CD5CD6

Note: Each circuit breaker associates with one half of a shelf. The preceding table indicates if the circuit breaker associates with the left side or with the right side.

11 Determine if the associated circuit breaker is ON or OFF.

If the fuse	Do
is ON	step 12
is OFF	step 13

12 Set the circuit breaker that you identified to OFF.

13 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

14 Release the RESET button

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED is lit	step 15
remains ON, and the CONVERTER FAIL LED is not lit	step 31
remains ON, and the CONVERTER FAIL LED is lit	step 26

15 Record the numbers of the frame and the shelf that contain the converter with the lit CONVERTER FAIL LED.

At the PDC frame

16 Locate the fuse that powers the shelf in the MS7E frame.

17 Determine if the fuse has blown.

If the fuse	Do
has blown	step 18
has not blown	step 22

18 Remove the fuse holder that contains the blown fuse.

19

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Replace the cartridge fuse inside the fuse holder.

20 Replace the blown fuse.

21 Install the fuse holder back on the PDC frame.

22 Locate the battery filter fuse.

23 Determine if the fuse has blown.

If the fuse	Do
has blown	step 18

Ext FSP
MS7E frame major (continued)

If the fuse	Do
has not blown	step 27

At the MS7E frame

24 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

25 Release the RESET button.

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED is lit	step 27
remains ON, and the CONVERTER FAIL LED is not lit	step 31
remains ON, and the CONVERTER FAIL LED is lit	step 26

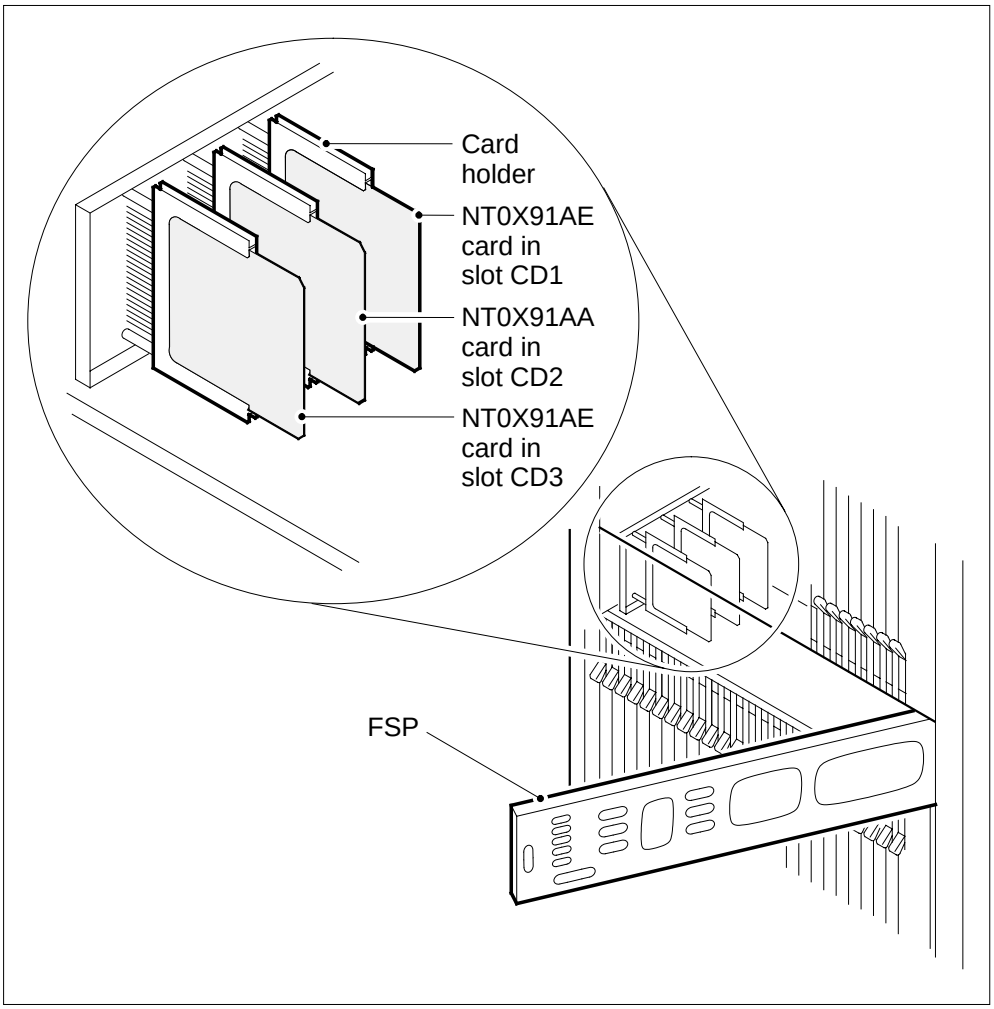
26 Set the associated circuit breaker to OFF.

27 To replace the converter, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

28 Examine the following table and diagram. Identify which alarm and control card associates with the shelf with the lit CONVERTER FAIL LED.

Shelf number	Alarm and control card	Card position
18 and 32 right side	slot CD1 (NT0X91AA)	rear
18 left side and 51 right side	slot CD2 (NT0X91AE)	front
32 and 51 left side	slot CD3 (NT0X91AE)	front

Ext FSP
MS7E frame major (continued)



29 Note the MSB7 number and unit number in each of the shelves controlled by the alarm and control card that you identified.

30 To replace the converter, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

31 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit, and more blown fuses are present	step 3
is lit, and no more blown fuses are present	step 40
is not lit	step 34

Ext FSP
MS7E frame major (continued)

32 To repair the cooling unit that has faults, perform the correct procedure in *Routine Maintenance Procedures*. Complete the procedure and return to this point.

33 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit	step 2
is not lit	step 34

At the MAP terminal

34 To access the EXT level of the MAP display, type

`>MAPCI;MTC;EXT`

and press the Enter key.

35 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the frames with an FSP alarm	step 36
is present, and you accessed all the frames with an FSP alarm	step 40
is not present	step 41

36 Perform the procedure in this document that is correct for the type of frame that has the FSP alarm. Complete the procedure and return to this point.

At the MS7E frame

37

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

Unscrew the NUT that has slots on the left-hand side of the FSP.

38 Open the FSP panel.

39 Determine if the alarm battery supply wiring inside the FSP is short-circuited. Perform this procedure if the next level of support requests this information.

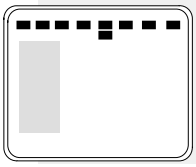
40 For additional help, contact the next level of support.

Ext FSP
MS7E frame major (end)

41 This procedure is complete.

Ext FSP
NET0 or NET1 frame (circuit breakers and fuses) major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the Ext header of the alarm banner. The FSP indicates a major alarm for an external frame supervisory panel (FSP).

Meaning

One or more frames in the office have a power fault or a cooling unit fault.

The number under the Ext header of the alarm banner indicates the number of frames affected.

Result

The impact on subscriber service depends on the type of fault and the type of cabinet that contains the fault.

Common procedures

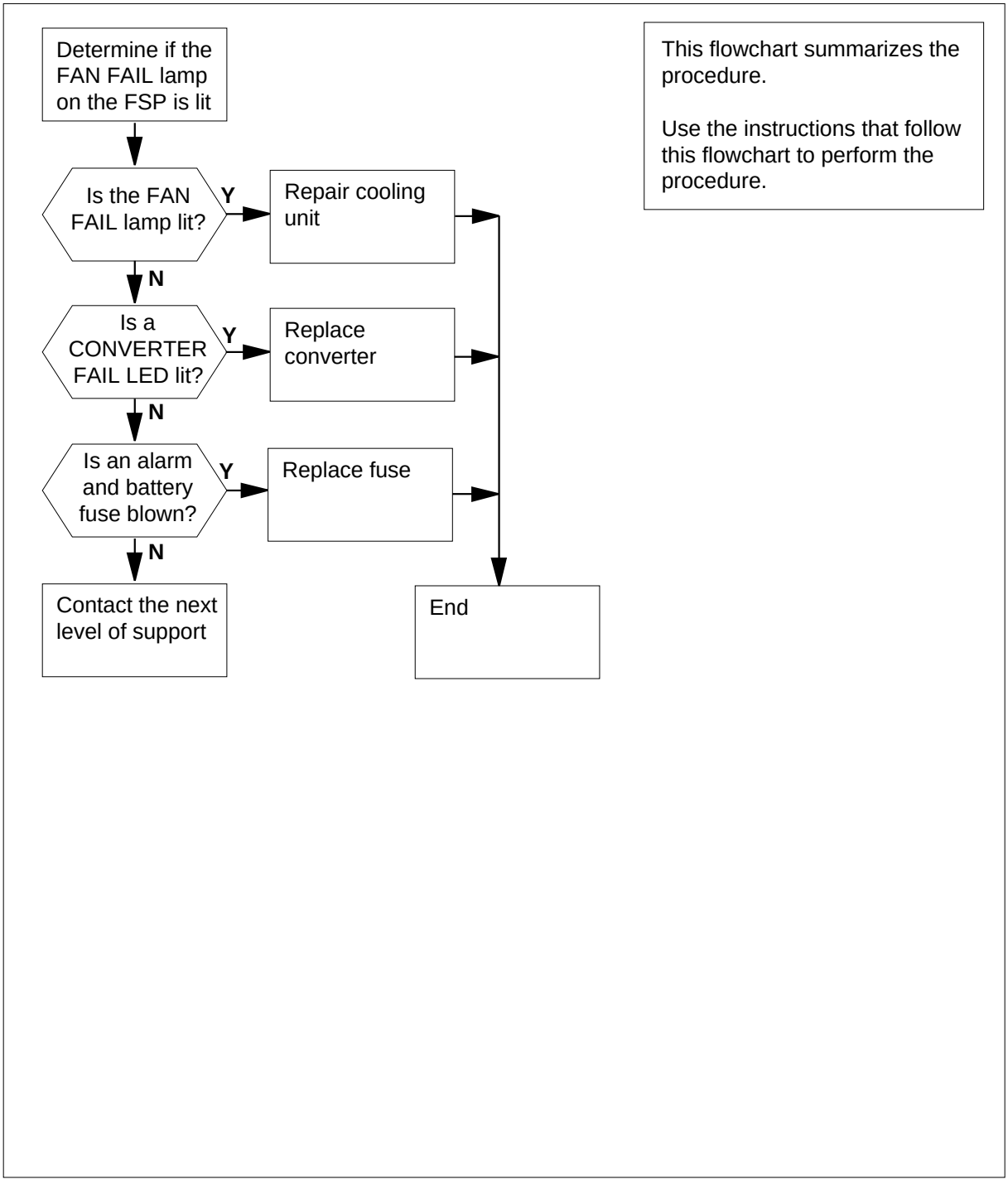
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
NET0 or NET1 frame (circuit breakers and fuses) major (continued)

Summary of Clearing an Ext FSP NET0 or NET1 frame (circuit breakers and fuses) major alarm



Ext FSP
NET0 or NET1 frame (circuit breakers and fuses) major (continued)

Clearing an Ext FSP NET0 or NET1 frame (circuit breakers and fuses) major alarm

At the NET0 or NET1 frame

1 Determine if the FAN FAIL lamp on the FSP is lit.

If the FAN FAIL lamp	Do
is lit	step 33
is not lit	step 2

2 Check each converter in the frame. Determine if any CONVERTER FAIL LEDs are lit.

If CONVERTER FAIL LEDs	Do
are lit	step 7
are not lit	step 3

3 Check the alarm battery supply (ABS) fuses (01 to 05) on the FSP. Determine if any ABS fuses are blown.

If a fuse	Do
is blown	step 4
is not blown	step 38

4 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

5 Remove the blown fuse.

6

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with the same type, rating (color code), and manufacturer.

Ext FSP
NET0 or NET1 frame (circuit breakers and fuses) major (continued)

Insert the replacement fuse.

If the fuse	Do
is blown again	step 38
is not blown again	step 32

7 Determine if the POWER switch on the converter is ON or OFF.

If the POWER switch	Do
is ON	step 9
is OFF	step 8

8 Set the POWER switch on the converter to ON.

If the CONVERTER FAIL LED	Do
is lit	step 9
is not lit	step 32

9 Record the number of the shelf that contains the converter with the lit CONVERTER FAIL LED.

10 Refer to the following table. Identify the circuit breaker located on the FSP that associates with the shelf with the lit CONVERTER FAIL LED.

Shelf number	Circuit breaker number
65	CB1
32	CB2
51	CB4
18	CB5

11 Determine if the associated circuit breaker is ON or OFF.

If the circuit breaker	Do
is ON	step 12
is OFF	step 13

12 Set the circuit breaker you identified to OFF.

Ext FSP
NET0 or NET1 frame (circuit breakers and fuses) major (continued)

13 Press and hold the RESET button on the converter. Set the circuit breaker to ON.

14 Release the RESET button.

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED is lit	step 15
remains ON, and the CONVERTER FAIL LED is not lit	step 32
remains ON, and the CONVERTER FAIL LED is lit	step 24

15 Record the numbers of the frame and shelf that contain the converter with the lit CONVERTER FAIL LED.

At the PDC frame

16 Locate the fuse that powers the shelf in the NET0 or NET1 frame.

17 Determine if the fuse is blown.

If the fuse	Do
is blown	step 18
is not blown	step 25

18 Remove the fuse holder that contains the blown fuse.

19 Replace the cartridge fuse inside the fuse holder.

20

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Replace the blown fuse.

21 Install the fuse holder on the PDC frame.

At the NET0 or NET1 frame

22 Press and hold the RESET button on the converter. Set the circuit breaker to ON.

Ext FSP
NET0 or NET1 frame (circuit breakers and fuses) major (continued)

23 Release the RESET button.

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED is lit	step 25
remains ON, and the CONVERTER FAIL LED is not lit	step 32
remains ON, and the CONVERTER FAIL LED is lit	step 24

24 Set the associated circuit breaker to OFF.

25 To replace the converter, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

26 Determine if the CONVERTER FAIL LED for the converter that you replaced is lit.

If the CONVERTER FAIL LED	Do
is lit	step 27
is not lit	step 32

27 Determine if short-circuited or bent pins are present on the backplane of the shelf.

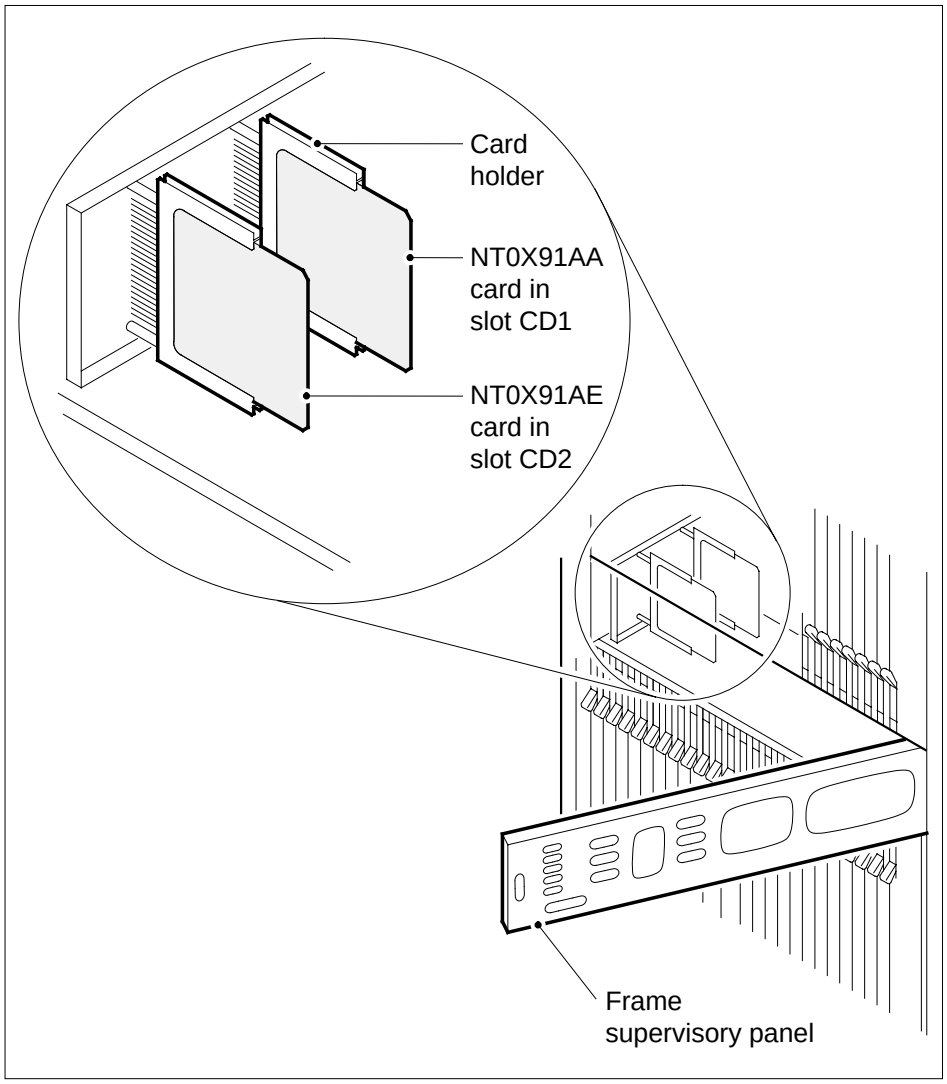
If short-circuited or bent pins	Do
are present	step 41
are not present	step 28

28 Record the number of the shelf that contains the converter with the lit CONVERTER FAIL LED.

29 Refer to the following table and diagram. Identify the alarm and control card that associates with the shelf with the lit CONVERTER FAIL LED:

Shelf number	Alarm and control card	Card position
18 and 51	slot CD1 (NT0X91AA)	rear
32 and 65	slot CD2 (NT0X91AE)	front

Ext FSP
NET0 or NET1 frame (circuit breakers and fuses) major (continued)



30 Record the numbers of the network plane and the network module for the shelves controlled by the alarm and control card. You identified the alarm and control card in the last step.

31 To replace the alarm and control card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

32 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit, and more blown fuses are present	step 3
is lit, and no more blown fuses are present	step 41

Ext FSP
NET0 or NET1 frame (circuit breakers and fuses) major (continued)

If the FRAME FAIL lamp	Do
is not lit	step 35

33 To repair the cooling unit that has faults, perform the correct procedure in *Trouble Locating and Clearing Procedures.* Complete the procedure and return to this point.

34 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit	step 2
is not lit	step 35

At the MAP terminal

35 To access the Ext level of the MAP display, type

`>MAPCI;MTC;EXT`

and press the Enter key.

36 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the frames with an FSP alarm	step 37
is present, and you accessed all the frames with an FSP alarm	step 41
is not present	step 42

37 Perform the correct procedure in this document for the type of frame that has the FSP alarm. Complete the procedure and return to this point.

At the NET0 or NET1 frame

38

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

Unscrew the slotted nut on the left side of the FSP.

39 Open the FSP panel.

Ext FSP
NET0 or NET1 frame (circuit breakers and fuses) major (end)

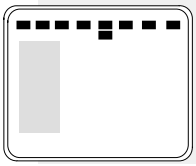
40 Determine if the alarm battery supply wiring inside the FSP is short-circuited. The next level of support can request this information.

41 For additional help, contact the next level of support.

42 This procedure is complete.

Ext FSP
NET0 or NET1 frame (with fuses only) major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the EXT header of the alarm banner. The FSP indicates a major alarm for the external frame supervisory panel (FSP).

Meaning

A power or a cooling unit fault is present in one or more office frames.

The number under the EXT header of the alarm banner indicates the number of frames affected.

Result

The impact on subscriber service depends on the type of fault and the type of frame that contains the fault.

Common procedures

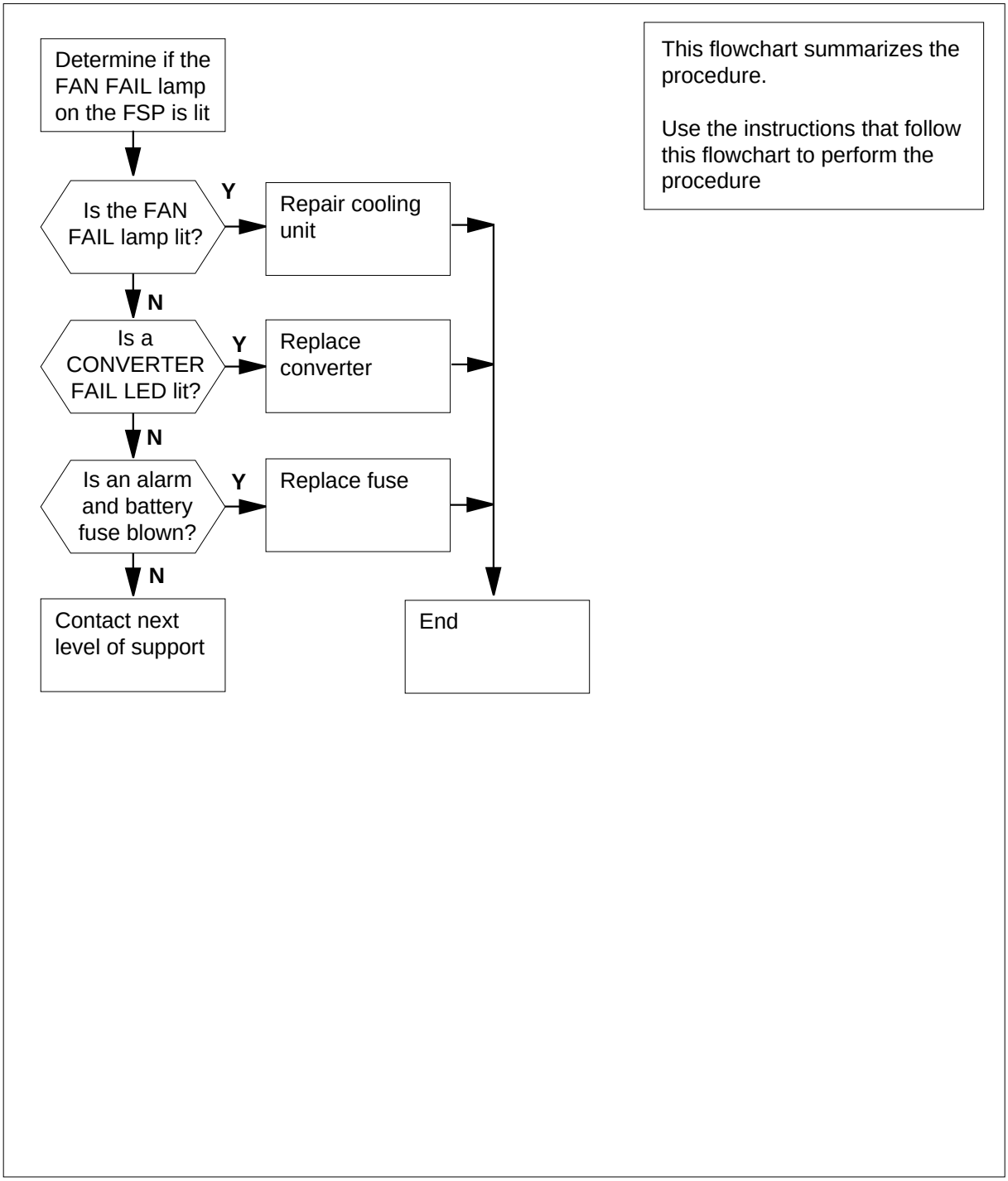
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
NET0 or NET1 frame (with fuses only) major (continued)

Summary of Clearing an Ext FSP NET0 or NET1 frame (with fuses only) major alarm



Ext FSP
NET0 or NET1 frame (with fuses only) major (continued)

Clearing an Ext FSP NET0 or NET1 frame (with fuses only) major alarm

At the NET0 or NET1 frame

1 Determine if the FAN FAIL lamp on the FSP is lit.

If the FAN FAIL lamp	Do
is lit	step 34
is not lit	step 2

2 Check each converter in the frame. Determine if any CONVERTER FAIL LEDs are lit.

If	Do
any CONVERTER FAIL LEDs are lit	step 7
no CONVERTER FAIL LEDs are lit	step 3

3 Determine if any of the alarm battery supply (ABS) fuses (05 to 09) are blown. The ABS fuses are on the FSP.

If	Do
a fuse is blown	step 4
no fuses are blown	step 39

4 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

5 Remove the blown fuse.

6

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
blows again	step 39

Ext FSP
NET0 or NET1 frame (with fuses only) major (continued)

If the fuse	Do
does not blow	step 33

7 Determine if the POWER switch on the converter is ON or OFF.

If the POWER switch	Do
is ON	step 9
is OFF	step 8

8 Set the POWER switch on the converter to ON.

If the CONVERTER FAIL LED is	Do
is lit	step 9
is not lit	step 33

9 Use the following table to identify the fuse on the FSP for the shelf with the lit CONVERTER FAIL LED.

Shelf number	Fuse number
65	01
51	02
32	03
18	04

10 Determine if the associated fuse is blown.

If the fuse	Do
is blown	step 11
is not blown	step 14

11 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

12 Remove the blown fuse.

Ext FSP
NET0 or NET1 frame (with fuses only) major (continued)

13

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

14 Press and release the RESET button on the converter.

If the fuse	Do
is blown, and the CONVERTER FAIL LED is lit	step 15
is not blown, and the CONVERTER FAIL LED is not lit	step 33
is not blown, and the CONVERTER FAIL LED is lit	step 26

15 Record the numbers of the frame and shelf that contain the converter with the lit CONVERTER FAIL LED.

At the PDC frame

16 Locate the fuse that powers the shelf in the NET0 or NET1 frame.

17 Determine if the fuse is blown.

If the fuse	Do
is blown	step 18
is not blown	step 26

18 Remove the fuse holder that contains the blown fuse.

19 Replace the cartridge fuse inside the fuse holder.

20

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Replace the blown fuse.

Ext FSP
NET0 or NET1 frame (with fuses only) major (continued)

21 Install the fuse holder on the PDC frame.

At the NET0 or NET1 frame

22 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

23 Remove the blown fuse.

24

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

25 Press and release the RESET button on the converter.

If the CONVERTER FAIL LED	Do
is lit	step 26
is not lit	step 33

26 To replace the converter, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

27 Determine if the CONVERTER FAIL LED for the converter that you replaced is lit.

If the CONVERTER FAIL LED	Do
is lit	step 28
is not lit	step 33

28 Determine if the backplane of the shelf has any short-circuited or bent pins.

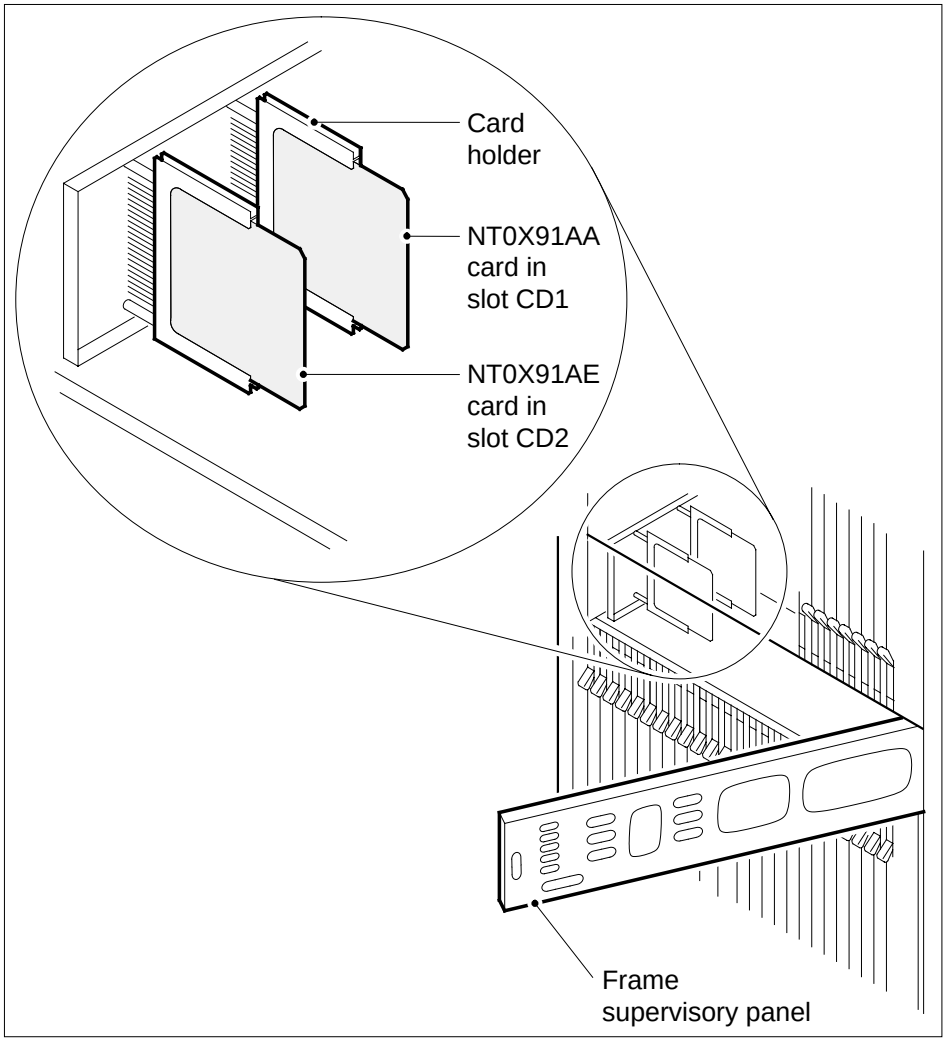
If the backplane of the shelf	Do
has short-circuited or bent pins	step 42
does not have short-circuited or bent pins	step 29

29 Record the number of the shelf that contains the converter with the lit CONVERTER FAIL LED.

Ext FSP
NET0 or NET1 frame (with fuses only) major (continued)

30 Use the table and diagram to identify the alarm and control card for the shelf with the lit CONVERTER FAIL LED.

Shelf number	Alarm and control card	Card position
18 and 51	slot CD1 (NT0X91AA)	rear
32 and 65	slot CD2 (NT0X91AE)	front



Ext FSP
NET0 or NET1 frame (with fuses only) major (continued)

31 Record the numbers of the network plane and the network module for the shelves that the alarm and control card control. You identified the alarm and control card in the previous step.

32 To replace the alarm and control card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

33 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit, and more blown fuses are present	step 3
is lit, and no more blown fuses are present	step 42
is not lit	step 36

34 To repair the cooling unit that has faults, perform the correct procedure in *Trouble Locating and Clearing Procedures*. Complete the procedure and return to this point.

35 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit	step 2
is not lit	step 36

At the MAP terminal

36 To access the EXT level of the MAP display, type

```
>MAPCI;MTC;EXT
```

and press the Enter key.

37 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the frames with an FSP alarm	step 38
is present, and you accessed all the frames with an FSP alarm	step 42
is not present	step 43

38 Perform the correct procedure in this document for the type of frame that has the FSP alarm. Complete the procedure and return to this point.

Ext FSP
NET0 or NET1 frame (with fuses only) major (end)

At the NET0 or NET1 frame

39

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

Unscrew the slotted nut on the left side of the FSP.

40 Open the FSP panel.

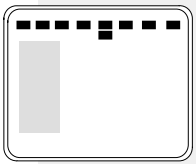
41 Determine if the alarm battery supply wiring inside the FSP is short-circuited. The next level of support can ask for this information.

42 For additional help, contact the next level of support.

43 The procedure is complete.

Ext FSP
NETC frame major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the EXT header of the alarm banner. The FSP indicates a major alarm for an external frame supervisory panel (FSP).

Meaning

One or more frames in the office have a power fault or a cooling unit fault.

The number under the EXT header of the alarm banner indicates the number of frames affected.

Result

The impact on subscriber service depends on the type of fault and the type of frame that contains the fault.

Common procedures

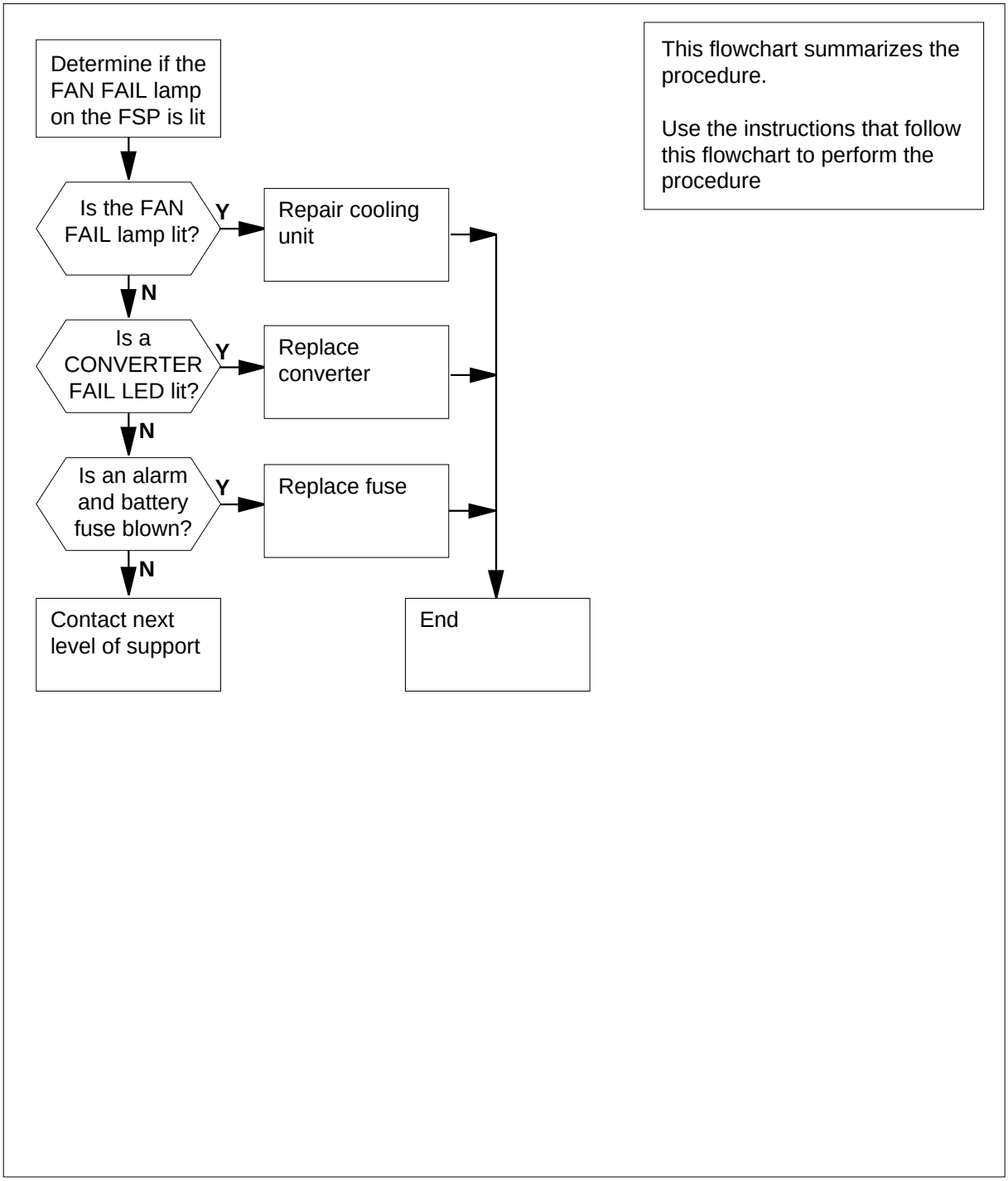
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
NETC frame major (continued)

Summary of Clearing an Ext FSP NETC frame major alarm



Ext FSP
NETC frame major (continued)

Clearing an Ext FSP NETC frame major alarm

At the NETC frame

1 Determine if the FAN FAIL lamp on the FSP is lit.

If the FAN FAIL lamp	Do
is lit	step 33
is not lit	step 2

2 Check each converter in the frame. Determine if any of the CONVERTER FAIL LEDs are lit.

If any CONVERTER FAIL LEDs	Do
are lit	step 7
are not	step 3

3 Check the alarm battery supply (ABS) fuses (01 to 05) on the FSP. Determine if any of the ABS fuses are blown.

If any fuses	Do
are blown	step 4
are not blown	step 38

4 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

5 Remove the blown fuse.

6

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
is blown again	step 38

Ext FSP
NETC frame major (continued)

If the fuse	Do
is not blown again	step 32

7 Determine if the POWER switch on the converter is ON or OFF.

If the POWER switch	Do
is ON	step 9
is OFF	step 8

8 Set the POWER switch on the converter to ON.

If the CONVERTER FAIL LED	Do
is lit	step 9
is not lit	step 32

9 Record the number of the shelf that contains the converter with the lit CONVERTER FAIL LED.

10 Refer to the following table. Identify the circuit breaker on the FSP that associates with the shelf with the lit CONVERTER FAIL LED.

Shelf number	Circuit breaker number
65	CB1
32	CB2
51	CB4
18	CB5

11 Determine if the associated circuit breaker is ON or OFF.

If the circuit breaker	Do
is ON	step 12
is OFF	step 13

12 Set the identified circuit breaker to OFF.

13 Press and hold the RESET button on the converter while you set the circuit breaker to ON.

Ext FSP
NETC frame major (continued)

14 Release the RESET button.

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED is lit	step 15
remains ON, and the CONVERTER FAIL LED is not lit	step 32
remains ON, and the CONVERTER FAIL LED is lit	step 24

15 Record the number of the frame and shelf that contain the converter with the lit CONVERTER FAIL LED.

At the PDC frame

16 Locate the fuse that powers the shelf in the NETC frame.

17 Determine if the fuse is blown.

If the fuse	Do
is blown	step 18
is not blown	step 25

18 Remove the fuse holder that contains the blown fuse.

19 Replace the cartridge fuse inside the fuse holder.

20

DANGER
Risk of fire
To protect against risk of fire, make sure you replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Replace the blown fuse.

21 Install the fuse holder on the PDC frame.

At the NETC frame

22 Press and hold the RESET button on the converter. Set the circuit breaker to ON.

23 Release the RESET button.

If the circuit breaker	Do
turns OFF, and the CONVERTER FAIL LED is lit	step 25

Ext FSP
NETC frame major (continued)

If the circuit breaker	Do
remains ON, and the CONVERTER FAIL LED is not lit	step 32
remains ON, and the CONVERTER FAIL LED is lit	step 24

24 Set the associated circuit breaker to OFF.

25 To replace the converter, perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

26 Determine if the CONVERTER FAIL LED for the converter that you replaced is lit.

If the CONVERTER FAIL LED	Do
is lit	step 27
is not lit	step 32

27 Determine if short-circuited or bent pins are present on the backplane of the shelf.

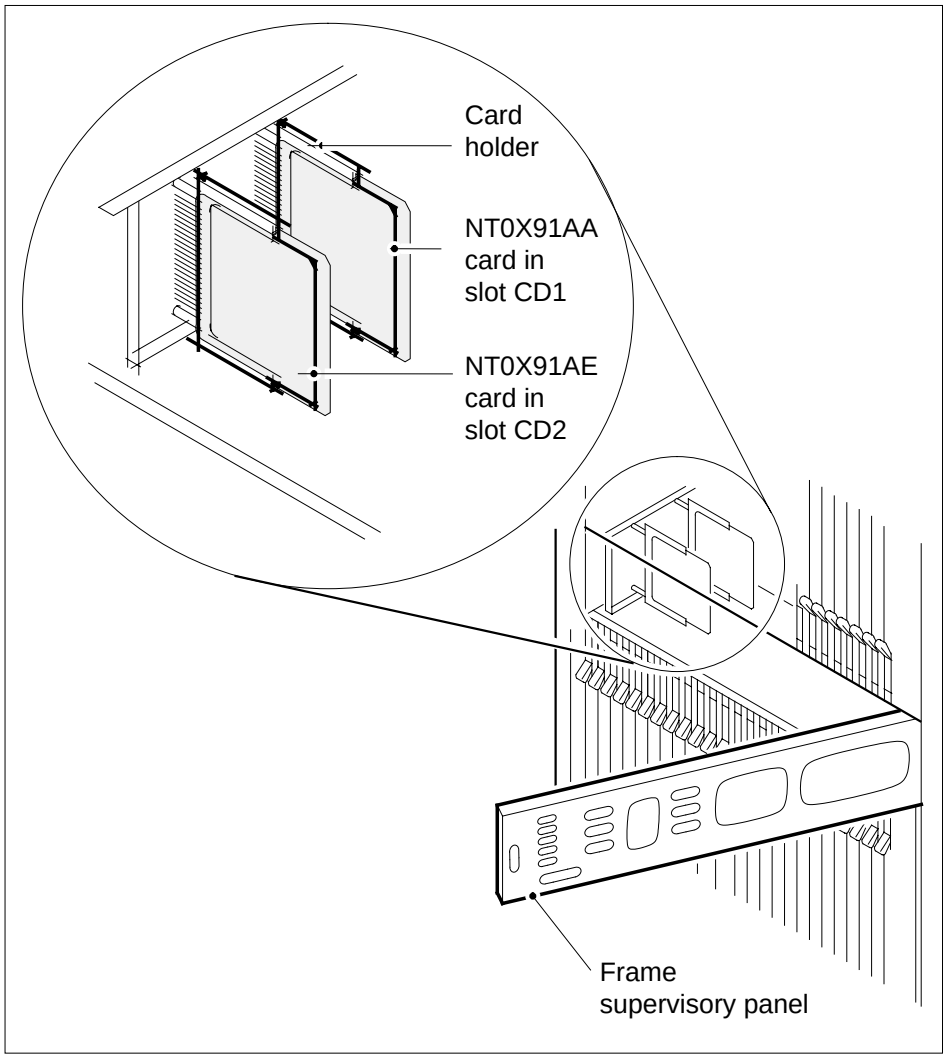
If short-circuited or bent pins	Do
are present	step 41
are not present	step 28

28 Record the number of the shelf that contains the converter with the lit CONVERTER FAIL LED.

29 Refer to the following table and diagram. Identify the alarm and control card that associates with the shelf with the lit CONVERTER FAIL LED.

Shelf number	Alarm and control card	Card position
51 and 65	slot CD1 (NT0X91AA)	rear
18 and 32	slot CD2 (NT0X91AE)	front

Ext FSP
NETC frame major (continued)



30 Record the numbers of the network plane and network module number for the shelves controlled by the alarm and control card. You identified the alarm and control card in the previous step.

31 To replace the alarm and control card, perform the correct procedure in *Card Replacement Procedures.* Complete the procedure and return to this point.

32 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit, and more blown fuses are present	step 3
is lit, and no more blown fuses are present	step 41

Ext FSP
NETC frame major (continued)

If the FRAME FAIL lamp	Do
is not lit	step 35

33 To repair the cooling unit that has faults, perform the correct procedure in *Trouble Locating and Clearing Procedures.* Complete the procedure and return to this point.

34 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit	step 2
is not lit	step 35

At the MAP terminal

35 To access the EXT level of the MAP display, type

`>MAPCI;MTC;EXT`

and press the Enter key.

36 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the frames with an FSP alarm	step 37
is present, and you accessed all the frames with an FSP alarm	step 41
are not present	step 42

37 Perform the correct procedure in this document for the type of frame that has the FSP alarm. Complete the procedure and return to this point.

At the NETC frame

38

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

Unscrew the slotted nut on the left side of the FSP.

39 Open the FSP panel.

Ext FSP
NETC frame major (end)

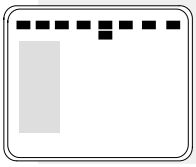
40 Determine if the alarm battery supply wiring inside the FSP is short-circuited. The next level of support can request this information.

41 For additional help, contact the next level of support.

42 This procedure is complete.

Ext FSP
PDC frame major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**nFSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the Ext header of the alarm banner. The FSP indicates a major alarm for an external frame supervisory panel (FSP).

Meaning

A power fault or a cooling unit fault is present on one or more office frames.

The number under the Ext header of the alarm banner indicates the number of affected frames.

Result

The impact on subscriber service depends on the type of fault. Subscriber service impact also depends on the type of frame of the fault.

Common procedures

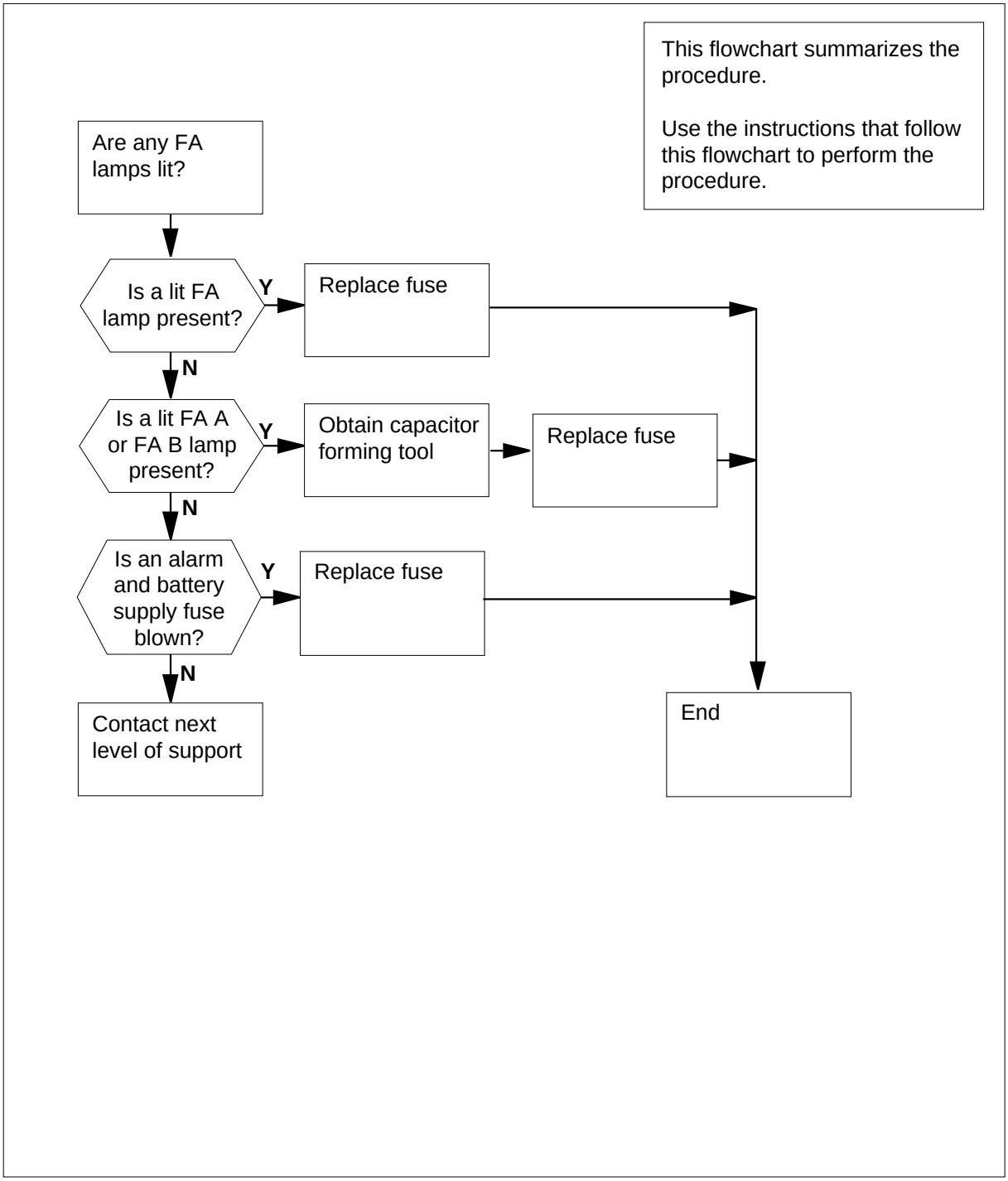
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
PDC frame major (continued)

Summary of Clearing an Ext FSP PDC frame major alarm



Ext FSP
PDC frame major (continued)

Clearing an Ext FSP PDC frame major alarm

At the PDC frame

1 The FA lamps are on the left side of each distribution panel. Determine if any FA lamps are lit.

If an FA lamp	Do
is lit	step 2
is not lit	step 3

2 The fuses are on the distribution panel. Note any blown fuses that associate with the lit FA lamp.

If a fuse	Do
has blown	step 25
has not blown	step 21

3 The FA A and FA B lamps are on the filter panel at the bottom of the frame. Determine if either of the FA A and FA B lamps are lit.

If	Do
the FA A or FA B lamp is lit	step 5
neither the FA A nor the FA B lamp is lit	step 4

4 Alarm battery supply (ABS) fuses are on the FSP. Note any blown ABS fuses.

If a fuse	Do
has blown	step 47
has not blown	step 56

5 Remove the fuse holder nearest the lit lamp (FA A or FA B).

6 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

7 Replace the cartridge fuse that is inside the fuse holder.

8 Replace the guard fuse that is on the fuse holder.

9 Obtain a capacitor forming tool.

Note: A capacitor forming tool consists of a 100-W 120-V light bulb that screws into a socket without insulation-ended twisted wires. The without

Ext FSP
PDC frame major (continued)

insulation-ended twisted wires must have spring-type alligator clips on each end. You can insert a new tool with the tool number T000655, CPC number NTA0600512, into the fuse holder instead of the light bulb. You can insert the new tool in the same method that you insert a fuse.

10 Connect the leads of the capacitor forming tool across the connectors in the fuse holder slot to charge the capacitors.

If	After 3 s, if the light bulb	Do
	is lit, and you did not replace the capacitor	step 11
	is lit, and you replaced the capacitor	step 56
	is not lit	step 19

11 Remove the fuse that powers the capacitor.

12 Obtain a voltmeter.

At the back of the PDC frame

13 Use the voltmeter to make sure that no voltage is present across the terminals of the capacitors. Use the voltmeter to make sure that no voltage is present between either terminal of the capacitor and the battery return.

14

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

Label the leads that go to the positive terminal of the capacitor as + and the negative terminal as -.

15 Disconnect the leads from the short-circuited capacitor.

16 Remove the capacitor.

17 Install the replacement capacitor.

18 Connect the lead with the label + to the positive terminal of the capacitor. Connect the lead with the label - to the negative terminal of the capacitor. Go to step 10.

At the PDC frame

19 Remove the capacitor forming tool and immediately insert the fuse holder back into the PDC frame.

Ext FSP
PDC frame major (continued)

20 The FA A and FA B lamps are on the filter panel at the bottom of the frame. Determine if any FA A or FA B lamps are lit.

If	Do
the lamp that was lit in the beginning, remains lit	step 56
neither lamp is lit	step 50

21 For each fuse on the distribution panel, record the number of the frame and shelf that associates with the frame.

22 Go to the next frame that you recorded in step 21.

At the recorded frame

23 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit	step 25
is lit, and the frame is an LCE	step 24
is not lit, and the frame is not an LCE	step 22

24 Press the indicator on the A -48V talk battery QFF fuse. Press the indicator on the B -48V talk battery QFF fuse.

Note: These fuses are above the LCE shelf.

If the FRAME FAIL lamp	Do
is lit, and you checked each frame	step 56
is lit, and you did not check each frame	step 22
is not lit	step 25

At the PDC frame

25 Determine if the blown fuse supplies -48V Talk Battery to an LCE frame.

Note: The information is on the label under the blown fuse.

If the fuse	Do
supplies -48V talk battery to an LCE frame	step 26

Ext FSP
PDC frame major (continued)

If the fuse	Do
does not supply -48V talk battery to an LCE frame	step 42

26 Remove the fuse holder that contains the blown fuse.

27 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

28 Replace the cartridge fuse that is inside the fuse holder.

Note: Do not insert the fuse holder back into the PDC frame.

29 Replace the guard fuse that is on the fuse holder.

At the LCE frame

30 Remove the ten -48V talk battery fuses that are above the shelves. Talk battery A powers the first and third shelves from the bottom of the LCE. Talk battery B powers the second and fourth shelves.

31 Obtain a capacitor forming tool.

Note: A capacitor forming tool consists of a 100-W 120-V light bulb that screws into a socket without insulation-ended twisted wires. You can insert a new tool with the tool number T000655 and CPC number NTA0600512. Insert the new tool into the fuse holder instead of the light bulb. You can insert the new tool in the same method that you insert a fuse.

32

DANGER
Risk of electrocution
High voltages are present at the contacts for the fuse holder on the faceplate of the filter panel. Do not let the probes of the capacitor forming tool touch the faceplate of the filter panel. Do not let the probes of the capacitor forming tool touch together.

Connect the leads of the capacitor forming tool across the connectors in the fuse holder slot to charge the capacitors.

IfAfter 3 s, if the light bulb	Do
is lit, and you have not replaced the capacitor	step 33
is lit, and you replaced the capacitor	step 56
is not lit	step 38

Ext FSP
PDC frame major (continued)

At the LCE frame from which you just removed the fuses

33 Label the leads that go to the positive terminal of the capacitor as + and the negative terminal as -.

34 Disconnect the leads from the short-circuited capacitor.

35 Remove the capacitor.

36 Install a replacement capacitor.

37 Connect the lead with the label + to the positive terminal of the capacitor. Connect the lead with the label - to the negative terminal of the capacitor. Go to step 32.

At the PDC frame

38 Remove the capacitor forming tool and immediately insert the fuse holder back into the PDC frame.

At the LCE frame from which you just removed the fuses

39 Insert the ten -48V talk battery fuses that you removed in step 30. Insert each fuse one at a time. Pause between each fuse.

At the PDC frame

40 Determine if any of the fuses that you replaced are blown fuses.

If any fuses	Do
have blown	step 56
have not blown	step 41

At the LCE frame from which you just replaced the fuses

41 Press the indicator on one of the -48V QFF fuses for the talk battery that you replaced. Use this procedure to determine if the talk battery is present.

If the FRAME FAIL lamp	Do
is lit	step 51
is not lit	step 56

At the PDC frame

42 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

43 Remove the fuse holder that contains the blown fuse.

44 Replace the cartridge fuse that is inside the fuse holder.

45 Replace the guard fuse that is on the fuse holder.

Ext FSP
PDC frame major (continued)

46 Install the fuse holder back on the PDC frame.

If the fuse	Do
has blown	step 56
has not blown	step 50

47 Obtain a replacement fuse that has the same voltage and amperage as the blown fuse.

48 Remove the blown fuse.

49 Insert the replacement fuse.

If the fuse	Do
has blown again	step 54
has not blown again	step 50

50 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit	step 1
is not lit	step 51

51 To access the Ext level of the MAP display, type

`>MAPCI;MTC;EXT`

and press the Enter key.

52 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not access all the frames with an FSP alarm	step 53
is not present, and you accessed all the frames with an FSP alarm	step 56
is not present	step 57

53 Perform the procedure in this document that is correct for the type of frame that has the FSP alarm. When the procedure is complete, return to this point.

Ext FSP
PDC frame major (end)

At the PDC frame

54

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

Open the FSP panel.

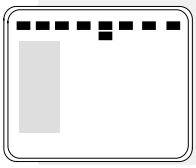
55 Determine if the supply wiring for the alarm battery inside the FSP is short-circuited. The next level of support can request this information.

56 For additional help, contact the next level of support.

57 The procedure is complete.

Ext FSP
RLCE frame major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP preceded by a number appears under the Ext header of the alarm banner, and indicates an external frame supervisory panel (FSP) major alarm.

Meaning

One or more frames in the office has a power fault or a cooling unit fault.

The number that precedes FSP is the number of frames with an FSP alarm.

Impact

The impact on subscriber service depends on the nature of the fault and the type of frame in which the fault is located.

Common procedures

None

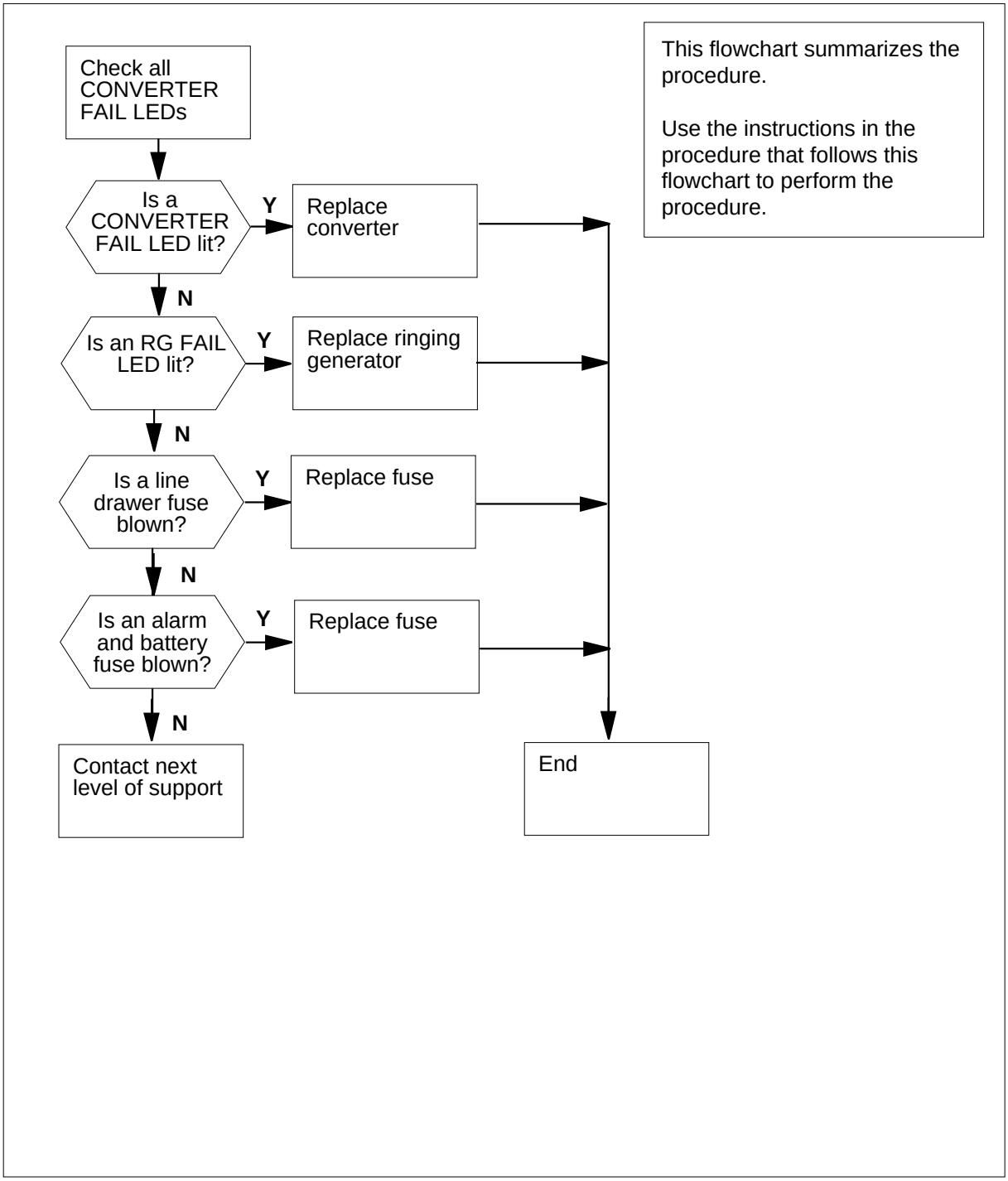
Action

The following flowchart is a summary of this procedure. Use the instructions in the step-action table that follows the flowchart to perform the procedure.

Note: This procedure applies to a remote line concentrating equipment (RLCE) frame.

Ext FSP
RLCE frame major (continued)

Summary of clearing a/an Ext FSP alarm



Ext FSP
RLCE frame major (continued)

Clearing a/an Ext FSP alarm

At the RLCE frame

1 Check the CONVERTER FAIL LED on each converter in the frame.

If	Do
any CONVERTER FAIL LED	step 52
no CONVERTER FAIL LED	step 2

2 Check the ringing generator (RG) FAIL LED on both RGs, which are located at the top of the frame.

Note: The FAIL LED is located behind the front panel of the RG.

If	Do
any FAIL LEDs are lit	step 39
no FAIL LEDs are lit	step 3

3 Check the line drawer fuses (01 to 15, and RA and RB), which are located on the fuse panel above each unit in the frame.

If	Do
a fuse is blown	step 8
no fuses are blown	step 4

4 Check the alarm battery supply (ABS) fuses (01 to 08), which are located on the FSP.

If	Do
a fuse is blown	step 5
no fuses are blown	step 102

5 Obtain a replacement fuse wit the same voltage and amperage as the blown fuse.

6 Remove the blown fuse.

Ext FSP
RLCE frame major (continued)

7

DANGER
Risk of fire
For continued protection against risk of fire, replace blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
blows again	step 102
does not blow	step 98

8 Determine which fuse is blown.

Note: Fuses 01 to 05 each supply +5 V, fuses 06 to 10 each supply +15V, and fuses 11 to 15 each supply -48V.

If the blown fuse is any one of	Do
01 to 05	step 13
06 to 15	step 9
RA to RB	step 13

9 Use the following table to determine which +15V fuse (06 through 10) is associated with which -48V fuse (11 through 15).

If -48V fuse number	Do +15V fuse number
11	06
12	07
13	08
14	09
15	10

10 Remove the blown fuse and its associated fuse. For example, if the blown fuse is 06, then remove fuse 11 as well.

11 Obtain a replacement fuse wit the same voltage and amperage as the blown fuse.

Ext FSP
RLCE frame major (continued)

12 Insert the -48V fuse, then the +15 fuse.

If the fuse	Do
blows again	step 16
does not blow	step 98

13 Obtain a replacement fuse wit the same voltage and amperage as the blown fuse.

14 Remove the blown fuse.

15

DANGER
Risk of fire
For continued protection against risk of fire, replace blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse

If the fuse	Do
blows again	step 18
does not blow	step 98

16 Remove the blown fuse and its associated fuse. For example, if the blown fuse is 06, then remove fuse 11 as well.

17 Obtain a replacement fuse wit the same voltage and amperage as the blown fuse.

18 Use the following table to determine which drawer in the shelf below the fuse panel is associated with the blown fuse.

If Fuse number	Do Drawer number
01, 06, 11	1 (leftmost)
02, 07, 12	2,
03, 08, 13	3
04, 09, 14	4
05, 10, 15	5

Note: The RA and RB fuses supply ringing voltage to all five drawers in the shelf.

Ext FSP
RLCE frame major (continued)

19 Pull out the line drawer you have just identified.

Note: When dealing with a blown RA or RB fuse, begin with the leftmost drawer.

20

DANGER
Personal injury
Do not touch the line feed resistors on the line cards. The line feed resistors generate enough heat to burn you.

CAUTION
Loss of service
Carry out this procedure during periods of low traffic.

Unseat all the line cards in the drawer.

Note: Just unseat the line cards; do not remove them from the drawer.

If you are dealing with	Do
any one of fuses 01 to 05	step 22
any one of fuses 06 to 15	step 21
any RA or RB fuse	step 22

21 Insert the -48V fuse, then the +15 fuse.

If the fuse	Do
blows again	step 25
does not blow	step 27

22 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

23 Remove the blown fuse.

Ext FSP
RLCE frame major (continued)

24

DANGER
Personal injury
Do not touch the line feed resistors on the line cards. The line feed resistors generate enough heat to burn you.

Insert the replacement fuse

If the fuse	Do
blows again	step 25
does not blow	step 27

25 Check the drawer for loose or short-circuited wires.

If there are	Do
loose or short-circuited wires	step 105
no loose or short-circuited wires, and the fuse you are dealing with is a ringing voltage fuse (RA or RB) and you have not done all five drawers in the shelf.	step 26
no loose or short-circuited wires, the fuse you are dealing with is a ringing voltage fuse (RA or RB) and you have done all five drawers in the shelf.	step 105
no loose or short-circuited wires, and the fuse you are dealing with is one of the line drawer fuses (01 to 15)	step 105

26 Reseat all the line cards in the drawer and repeat steps 19 and 20 for the next drawer.

27 Reseat the line cards one at a time, and check the fuse after reseating each line card.

If after reseating	Do
a line card, the fuse blows again	step 28
all the line cards, the fuse does not blow	step 98

28

DANGER
Personal injury
Do not touch the line feed resistors on the line cards. The line feed resistors generate enough heat to burn you.

Remove the line card from the drawer

29 Obtain a replacement line card. Ensure that the replacement card has the same product engineering code (PEC), including the suffix, as the card being removed.

30 Insert the replacement line card into the drawer

If you are dealing with	Do
any one of fuses 01 to 05	step 34
any one of fuses 06 to 15	step 31
any RA or RB fuse	step 34

31 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

32 Remove the blown fuse and its associated fuse. For example, if the blown fuse is 06, then remove fuse 11 as well.

33 Insert the -48V fuse, then the +15 fuse.

If the fuse	Do
blows again	step 105
does not blow	step 37

34 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

35 Remove the blown fuse.

36

DANGER
Risk of fire
For continued protection against risk of fire, replace blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Ext FSP
RLCE frame major (continued)

Insert the replacement fuse.

If the fuse	Do
blows again	step 105
does not blow	step 37

37 Reseat all the other line cards in the drawer.

38 Push the drawer back in, and go to step 98.

39 Use the following table to identify which circuit breaker located on the FSP is associated with RG that has a lit FAIL LED.

IfRG number	DoCircuit breaker number
RG0 (leftmost)	CB5
RG1	CB6

40 Check the associated circuit breaker

If the circuit breaker is	Do
lON	step 49
OFF	step 41

41 Set the circuit breaker to ON

If the circuit breaker	Do
turns OFF and the FAIL LED on the RG is lit	step 42
remains ON and the FAIL LED on the RG is not lit	step 98
remains ON and the FAIL LED on the RG is lit	step 49

At the power distribution center (PDC) frame

42 Locate the fuse that powers the RG in the RLCM frame.

If the fuse is	Do
blown	step 43
not blown	step 47

43 Remove the fuse holder that contains the blown fuse.

44 Replace the cartridge fuse inside the fuse holder.

45

DANGER
Risk of fire
For continued protection against risk of fire, replace blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Replace the blown fuse.

46 Install the fuse holder back onto the PDC frame.

47 Locate battery filter fuses.

If the fuse is	Do
blown (protruding)	step 43
not blown	step 50

At the RLCE frame

48 Set the circuit breaker to ON.

If the circuit breaker	Do
turns OFF and the RG FAIL LED is lit.	step 50
remains ON and the RG FAIL LED is not lit	step 98
remains ON and the RG FAIL LED is lit	step 49

49 Set the circuit breaker to OFF.

50 Perform the appropriate procedure in Lines, Trunks, and Peripherals Card Replacement Procedures to replace the RG. When you have completed the procedure, return to this point.

51 Check the RG FAIL LED for the RG you have just replaced.

If the RG FAIL LED is	Do
lit	step 105
not lit	step 98

Ext FSP
RLCE frame major (continued)

52 Determine which power converter has a lit CONVERTER FAIL LED.

If the converter is	Do
an NT6X53	step 53
not an NT6X53	step 56

53 Use the following table to identify whch circuit breaker located on the FSP is associated with the shelf with the lit CONVERTER FAIL LED.

If Shelf number	Do Circuit breaker number
04	CB6
18	CB7

54 Check the associated circuit breaker

If the circuit breaker is	DoCircuit breaker number
ON	step 73
OFF	step 55

55 Set the circuit breaker you have just identified to ON.

If the circuit breaker	Do
turns OFF and the RG FAIL LED is lit.	step 63
remains ON and the RG FAIL LED is lit	step 73
remains ON and the RG FAIL LED is not lit	step 98

56 Check the POWER switch on the converter.

If the POWER switch is	Do
ON	step 58
OFF	step 57

57 Set the POWER switch on the converter to ON

If the CONVERTER FAIL LED is	Do
lit	step 58

Ext FSP
RLCE frame major (continued)

If the CONVERTER FAIL LED is	Do
not lit	step 98

58 Use the following table to identify whch circuit breaker located on the FSP is associated with the shelf with the lit CONVERTER FAIL LED.

If Shelf number	Do Circuit breaker number
32 (NT2X70 in slot 22)	CB1
32 (NT2X70 in slot 25)	CB4
51	CB5

59 Check the associated circuit breaker

If the circuit breaker is	Do
ON	step 60
OFF	step 61

60 Set the circuit breaker you have just identified to OFF.

61 Press and hold the RESET button on the converter while setting the circuit breaker to ON.

62 Release the RESET button.

If the circuit breaker	Do
turns OFF and the CONVERTER FAIL LED is lit	step 63
remains on and the CONVERTER FAIL LED is not lit	step 98
remains on and the CONVERTER FAIL LED is lit	step 73

63 Record the numbers of the frame and shelf with the lit CONVERTER FAIL LED.

At the power distribution center (PDC) frame

64 Locate the fuse that powers the shelf in the RLCE frame.

If the fuse is	Do
blown	step 65

Ext FSP
RLCE frame major (continued)

If the fuse is	Do
not blown	step 74

65 Remove the fuse holder that contains the blown fuse.

66 Replace the cartridge fuse inside the fuse holder.

67

DANGER
Risk of fire
For continued protection against risk of fire, replace blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Replace the blown fuse.

68 Install the fuse holder back onto the PDC frame.

At the RLCE frame

69 Proceed as follows depending on which converter had a lit CONVERTER FAIL LED.

If the converter is	Do
an NT6X53	step 72
not an NT6X53	step 70

70 Press and hold the RESET button on the converter while setting the circuit breaker to ON.

71 Release the RESET button.

If the circuit breaker	Do
turns OFF and the CONVERTER FAIL LED is lit	step 74
remains ON and the CONVERTER FAIL LED is not lit	step 98
remains ON and the CONVERTER FAIL LED is lit	step 73

72 Set the circuit breaker to ON.

If the circuit breaker	Do
turns OFF and the CONVERTER FAIL LED is lit	step 74

Ext FSP
RLCE frame major (continued)

If the circuit breaker	Do
remains ON and the CONVERTER FAIL LED is not lit	step 98
remains ON and the CONVERTER FAIL LED is lit	step 73

73 Set the circuit breaker to OFF.

74 Perform the appropriate procedure in Lines, Trunks, and Peripherals Card Replacement Procedures to replace the converter. When you have completed the procedure, return to this point.

75 Proceed as follows depending on the converter you have just replaced.

If the converter you have just replaced is	Do
an NT6X53	step 77
not an NT6X53	step 76

76 Check the CONVERTER FAIL LED for the converter you have just replaced.

If the CONVERTER FAIL LED is	Do
lit	step 93
not lit	step 98

77 Check the converter you have just replaced, as well as the associated circuit breaker.

If the circuit breaker	Do
turns OFF and the CONVERTER FAIL LED is lit	step 79
remains ON and the CONVERTER FAIL LED is not lit	step 98
remains ON and the CONVERTER FAIL LED is lit	step 78

78 Set the circuit breaker to OFF.

79 Remove the NT6X51 and NT6X52 cards from the shelf with the lit CONVERTER FAIL LED.

80 Set the circuit breaker to ON.

If the CONVERTER FAIL LED is	Do
lit	step 93

Ext FSP
RLCE frame major (continued)

If the CONVERTER FAIL LED is	Do
not lit	step 81

81 Set the circuit breaker to OFF.

82 Inserr the NT6X51 card back into the shelf.

83 Set the circuit breaker to ON.

If the circuit breaker	Do
turns OFF and the CONVERTER FAIL LED is lit	step 85
remains ON and the CONVERTER FAIL LED is not lit	step 87
remains ON and the CONVERTER FAIL LED is lit	step 84

84 Set the circuit breaker to OFF.

85 Perform the appropriate procedure in Lines, Trunks, and Peripherals Card Replacement Procedures to replace the NT6X51 card. When you have completed the procedure, return to this point.

86 Set the circuit breaker to ON.

If the circuit breaker	Do
turns OFF and the CONVERTER FAIL LED is lit	step 91
remains ON and the CONVERTER FAIL LED is not lit	step 87
remains ON and the CONVERTER FAIL LED is lit	step 90

87 Set the circuit breaker to OFF.

88 Insert the NT6X52 card back into the shelf.

89 Set the circuit breaker to ON.

If the circuit breaker	Do
turns OFF and the CONVERTER FAIL LED is lit	step 91
remains ON and the CONVERTER FAIL LED is not lit	step 98
remains ON and the CONVERTER FAIL LED is lit	step 90

90 Set the circuit breaker to OFF.

Ext FSP
RLCE frame major (continued)

91 Perform the appropriate procedure in Lines, Trunks, and Peripherals Card Replacement Procedures to replace the NT6X52 card. When you have completed the procedure, return to this point.

92 Set the circuit breaker to ON.

If the CONVERTER FAIL LED is	Do
lit	step 95
not lit	step 98

93 Determine if there are bent or short-circuited pins on the backplane of the shelf

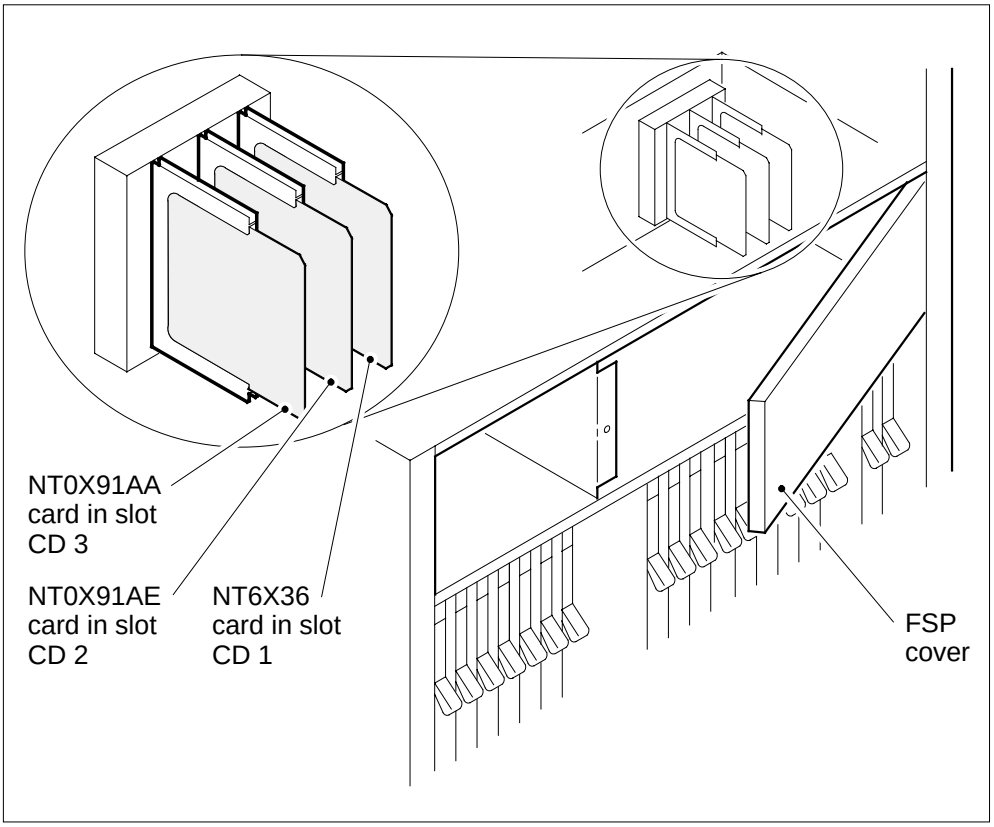
If there are	Do
bent or short-circuited pins	step 105
no bent or short-circuited pins, and the converter you are dealing with is an NT6X53	step 94
no bent or short-circuited pins, and the converter you are dealing with is not an NT6X53	step95

94 Insert the NT6X51 and the NT6X52 cards back into the shelf.

95 Use the following table to identify which alarm and control card is associated with the shelf with the lit CONVERTER FAIL LED.

Shelf number	Alarm and control card	Card position
04 and 18	slot CD1 (NT6X36AA)	right
32 (2X70 in slot 25)	slot CD2 (NT0X91AA)	left
32 (2X70 in slot 22) and 51	slot CD3 (NT0X91AE)	middle

Ext FSP
RLCE frame major (continued)



96 Record the numbers of the LCM and RMM in the frame.

97 Perform the appropriate procedure in Lines, Trunks, and Peripherals Card Replacement Procedures to replace the alarm and control card. When you have completed the procedure, return to this point.

98 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp is	Do
lit, and you have not completed step 2, 3, or 4 in this procedure	step 99
lit, and you have completed steps 2, 3, and 4 in this procedure	step 105
not lit	step 100

99 Go to the step you have not yet completed, that is, step 2, 3, or 4 in this procedure.

Ext FSP
RLCE frame major (end)

At the MAP

100 Access the Ext level of the MAP to determine whether an FSP alarm is present by typing

>MAPCI;MTC;EXT

and pressing the Enter key.

If an FSP alarm is	Do
present, and you have not accessed all the frames with an FSP alarm	step 101
present, and you have accessed all the frames with an FSP alarm	step 105
not present	step 106

101 Perform the appropriate procedure for the type of frame that has the FSP alarm When you have completed the procedure, return to this point.

At the RLCE frame

102

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48 V dc to -60 V dc. Do not touch any terminals inside the FSP.

Unscrew the slotted nut on the left-hand side of the FSP.

103 Open the FSP panel.

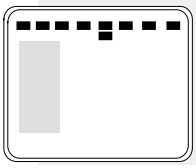
104 Determine if the alarm battery supply wiring inside the FSP is short-circuited. The personnel at the next level of support may request this information.

105 For further assistance, contact the personnel responsible for the next level of support.

106 You have completed this procedure.

Ext FSP
RLM frame (with fuses only) major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP preceded by a number appears under the Ext header of the alarm banner, and indicates an external frame supervisory panel (FSP) major alarm.

Meaning

One or more frames in the office has a power fault or a cooling unit fault.

Impact

The impact on subscriber service depends on the nature of the fault and the type of frame in which the fault is located.

Common procedures

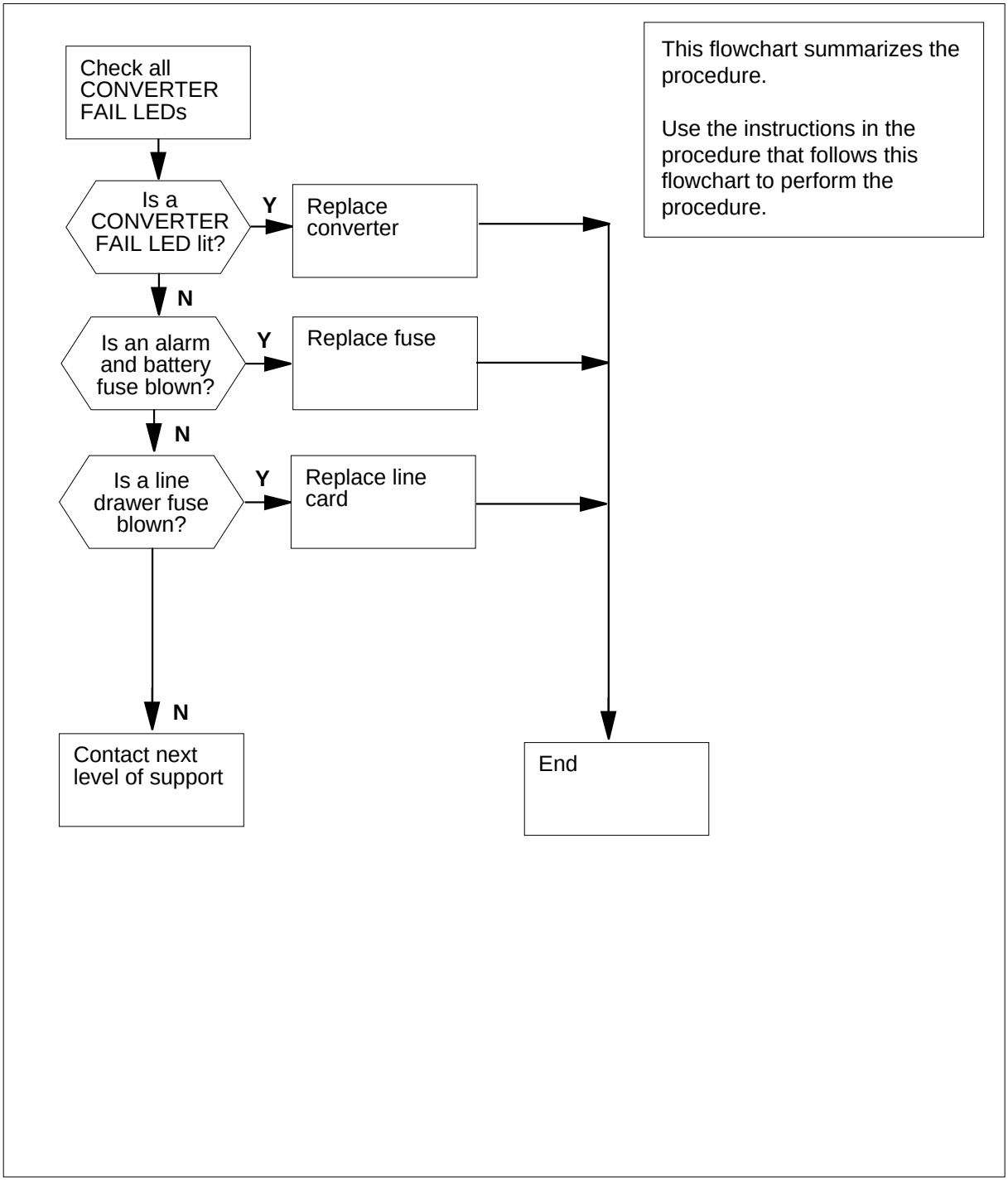
Checking the electronic fuse unit in an LME or RLM frame is referenced in this procedure.

Action

Note: This procedure applies to a remote line module (RLM) frame.

Ext FSP
RLM frame (with fuses only) major (continued)

Summary of clearing a/an Ext FSP alarm



Ext FSP
RLM frame (with fuses only) major (continued)

Clearing a/an Ext FSP alarm

At the RLM frame

1 Check the CONVERTER FAIL LED on each NT2X05 converter in the frame.

If	Do
any NT2X05 converters have a lit CONVERTER FAIL LED	step 31
no NT2X05 converters have a lit CONVERTER FAIL LED	step 2

2 Check the CONVERTER FAIL LED on the NT2X70 converter in the frame.

If the CONVERTER FAIL LED is	Do
lit	step 27
not lit	step 3

3 Check the alarm battery supply (ABS) fuses (24 to 27), which are located on the FSP.

If	Do
a fuse is blown	step 4
no fuses are blown	step 7

4 Obtain a replacement fuse wit the same voltage and amperage as the blown fuse.

5 Remove the blown fuse.

6

DANGER
Risk of fire
For continued protection against risk of fire, replace blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Ext FSP
RLM frame (with fuses only) major (continued)

Insert the replacement fuse.

If the fuse	Do
blows again	step 65
does not blow	step 61

7 Check the line drawer fuses (04 to 23), which are located on the FSP.

If	Do
a fuse is blown	step8
no fuses are blown	step 65

8 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

9 Remove the blown fuse.

10

DANGER
Risk of fire
For continued protection against risk of fire, replace blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse

If the fuse	Do
a fuse is blown	step 11
no fuses are blown	step 61

11 Use the following table to determine which drawer is associated with the blown fuse.

If Fuse number	Do Drawer number
04, 14	0, 1
06, 16	2, 3
08, 18	4, 5
10, 20	6, 7

Ext FSP
RLM frame (with fuses only) major (continued)

If Fuse number	Do Drawer number
12, 22	8, 9
05, 15	10, 11
07, 17	12, 13
09, 19	14, 15
11, 21	16, 17
13, 23	18, 19

Note: The drawers are not numbered on the frame. The numbering scheme used in this table is to facilitate the identification of the drawers. The numbering is from left to right and bottom to top, that is, drawer 0 is the bottom left-hand drawer and drawer 19 is the top right-hand drawer.

12 Pull out the line drawer you have just identified.

13

DANGER
Personal injury
Do not touch the line feed resistors on the line cards. The line feed resistors generate enough heat to burn you.

CAUTION
Loss of service
Carry out this procedure during periods of low traffic.

Unseat all the line cards in the drawer

14 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

15 Remove the blown fuse.

Ext FSP
RLM frame (with fuses only) major (continued)

16

DANGER
Risk of fire
For continued protection against risk of fire, replace blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
blows again	step 17
does not blow	step 18

17 Check the drawer for loose or short-circuited wires.

If there are	Do
loose or short-circuited wires	step 68
no loose or short-circuited wires	step 65

18 Reseat the line cards one at a time, and check the fuse after reseating each line card.

If after reseating	Do
a line card, the fuse blows again	step 19
all the line cards, the fuse does not blow	step 26

19

DANGER
Personal injury
Do not touch the line feed resistors on the line cards. The line feed resistors generate enough heat to burn you.

Remove the line card from the drawer.

20 Obtain a replacement line card. Ensure that the replacement card has the same product engineering code (PEC), including the suffix, as the card being removed.

Ext FSP
RLM frame (with fuses only) major (continued)

21 Insert the replacement line card into the drawer.

22 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

23 Remove the blown fuse.

24

DANGER
Risk of fire
For continued protection against risk of fire, replace blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse

If the fuse	Do
blows again	step 68
does not blow	step 25

25 Reseat all the other line cards in the drawer.

26 Push the drawer back in, and go to step 61.

27 Note the number of the LM in the frame.

At the MAP terminal

28 Access the PM level of the MAP by typing

```
>MAPCI;MTC;PM
```

and pressing the Enter key.

29 Post the PM level of the MAP by typing

```
>POST  LM bay_no pair_no
```

and pressing the Enter key.

where

bay no
is the number of the LM bay (0 to 511)

pair_no
is the number of the LM in the bay (0 or 1)

30 Busy the LM by typing

```
>BUSY
```

and pressing the Enter key.

Ext FSP
RLM frame (with fuses only) major (continued)

31 Check the POWER switch on the converter.

If the POWER switch is	Do
ON	step 33
OFF	step 32

32 Set the POWER switch on the converter to ON.

If the CONVERTER FAIL LED is	Do
lit	step 33
not lit	step 61

33 Use the following table to identify which fuse (01, 02, or 03), located on the FSP, is associated with the NT2X05 converter that has a lit CONVERTER FAIL LED.

IfConverter	DoFuse number
NT2X05 slot 1 (leftmost)	01
NT2X05 slot 5	03
NT2X70 slot 23	02

34 Check the associated fuse

If the fuse is	Do
blown	step 35
not blown	step 38

35 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

36 Remove the blown fuse from the FSP.

37

DANGER
Risk of fire
For continued protection against risk of fire, replace blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

Ext FSP
RLM frame (with fuses only) major (continued)

38 Press the RESET button on the converter.

39 Release the RESET button.

If the fuse	Do
blows and the CONVERTER FAIL LED is lit	step 40
does not blow and the CONVERTER FAIL LED is not lit	step 61
does not blow and the CONVERTER FAIL LED is lit	step 49

40 Record the frame number that contains the converter with the lit CONVERTER FAIL LED.

At the power distribution center (PDC) frame

41 Locate the fuse that is associated with the frame and the converter you have just noted.

If the fuse is	Do
blown	step 42
not blown	step 46

42 Remove the fuse holder that contains the blown fuse.

43 Replace the cartridge fuse inside the fuse holder.

44

DANGER
Risk of fire
For continued protection against risk of fire, replace blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Replace the blown fuse.

45 Install the fuse holder back onto the PDC frame.

46 Locate battery filter fuses.

If the fuse is	Do
blown (protruding)	step 42

Ext FSP
RLM frame (with fuses only) major (continued)

If the fuse is	Do
not blown	step 49

At the RLM frame

47 Press the RESET button on the converter.

48 Release the RESET button

If the CONVERTER FAIL LED is	Do
lit	step 49
not lit	step 61

49 Perform the appropriate procedure in Lines, Trunks, and Peripherals Card Replacement Procedures to replace the converter. When you have completed the procedure, return to this point.

50 Proceed as follows according to the converter you have just replaced.

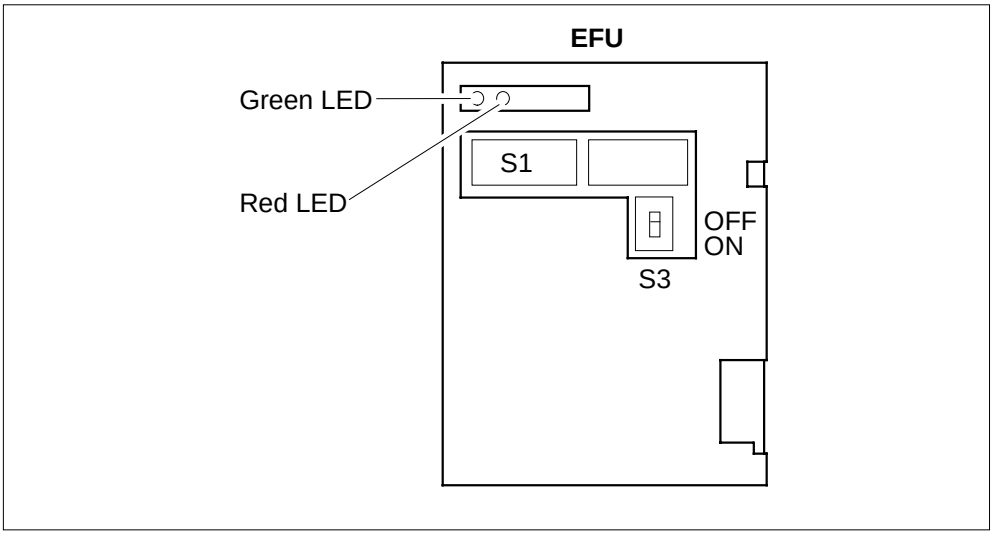
If you have just replaced an	Do
NT2X05 converter	step 57
NT2X70 converter	step 51

51 Check the CONVERTER FAIL LED for the converter you have just replaced.

If the CONVERTER FAIL LED is	Do
lit	step 52
not lit	step 61

52 Check the electronic fuse unit (EFU), which is located at the rear of the frame (see illustration below).

Ext FSP
RLM frame (with fuses only) major (continued)



53 Check the LEDs on the EFU.

Note: The EFU is operating correctly when only the green LED is lit.

If	Do
only the green LED is lit	step 58
neither of the LEDS are lit	step 54
both the LEDs are lit	step 54
only the red LED is lit	step 54

54 Perform the procedure “Checking the electronic fuse unit in an LME or RLM frame" in this document. When you have completed the procedure, return to this point.

55 Press the RESET button on the NT2X70 converter.

56 Release the RESET button

If the CONVERTER FAIL LED is	Do
lit	step 57
not lit	step 61

Ext FSP
RLM frame (with fuses only) major (continued)

57 Determine if the CONVERTER FAIL LED for the converter you have just replaced is lit.

If the CONVERTER FAIL LED is	Do
lit	step 58
not lit	step 61

58 Determine if there are bent or short-circuited pins on the backplane of the shelf

If there are	Do
bent or short-circuited pins	step 68
no bent or short-circuited pins	step 59

59 Use the following table to identify the alarm and control card associated with the converter that has a lit CONVERTER FAIL LED.

IfConverter, Fuse number	DoAlarm and control card
NT0X205 slot 1/01	slot 1 (NT0X36AB)
NT2X05 slot 5/03 and NT2X70 slot 23/02	slot 2 (NT0X36AB)

60 Perform the appropriate procedure in Lines, Trunks, and Peripherals Card Replacement Procedures to replace the alarm and control card. When you have completed the procedure, return to this point.

61 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp is	Do
lit, and you have not completed steps 2 or 3 in this procedure	step 62
lit, and you have completed steps 2 and 3 in this procedure	step 68
not lit	step 63

62 Go to the step you have not yet completed, that is, either step 2 or 3 in this procedure.

Ext FSP
RLM frame (with fuses only) major (end)

At the MAP

63 Access the Ext level of the MAP to determine whether an FSP alarm is present by typing

`>MAPCI;MTC;EXT`

and pressing the Enter key.

If an FSP alarm is	Do
present, and you have not accessed all the frames with an FSP alarm	step 64
present, and you have accessed all the frames with an FSP alarm	step 68
not present	step 69

64 Perform the appropriate procedure for the type of frame that has the FSP alarm When you have completed the procedure, return to this point.

At the RLM frame

65

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48 V dc to -60 dc. do not touch any terminals inside the FSP.

Unscrew the slotted nut on the left-hand side of the FSP.

66 Open the FSP panel.

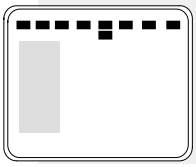
67 Determine if the alarm battery supply wiring inside the FSP is short-circuited. the personnel at the next level of support may request this information.

68 For further assistance, contact the personnel responsible for the next level of support.

69 You have completed this procedure.

Ext FSP
TME frame or CTME cabinet with FSP shelf major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	**Ext**	APPL
.	.	.	.	.	.	.	.	**1FSP M**	.

Indication

At the MTC level of the MAP display, FSP (preceded by a number) appears under the Ext header of the alarm banner. The FSP indicates a major alarm for an external frame supervisory panel (FSP).

Note: This procedure applies only to trunk module equipment (TME) frames and cabinetized trunk module equipment (CTME) frames provisioned with an FSP. The Ext FSP alarm clearing procedure for CTME provisioned with an MSP is in another procedure. This procedure is “Ext FSP in CISM, CMTA, and CTME cabinets with an MSP shelf major".

Meaning

A power fault or a cooling unit fault is present in one or more office frames or cabinets. The number that precedes the FSP in the alarm banner indicates the number of frames or cabinets affected.

Result

The impact on subscriber service depends on the type of the fault. The impact on subscriber service also depends on the types of subsystems provisioned in the frame or cabinet.

Common procedures

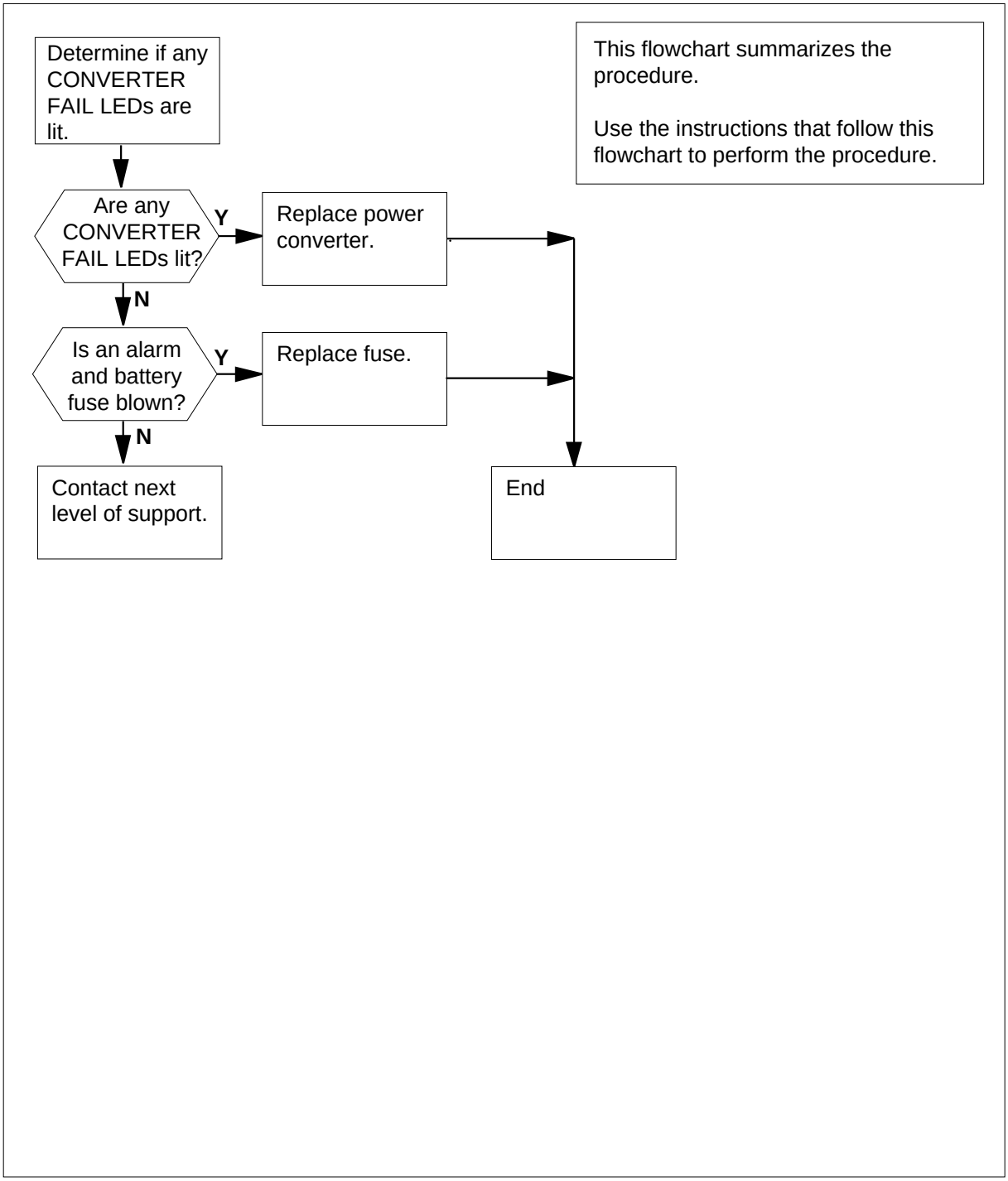
There are no common procedures.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Ext FSP
TME frame or CTME cabinet with FSP shelf major (continued)

Summary of Clearing an Ext FSP TME frame or CTME cabinet with FSP shelf major alarm



Ext FSP
TME frame or CTME cabinet with FSP shelf major (continued)

Clearing an Ext FSP TME frame or CTME cabinet with FSP shelf major alarm

At the TME frame or CTME cabinet

1 Determine if any of the CONVERTER FAIL LEDs on power converters are lit.

If CONVERTER FAIL LEDs	Do
are lit	step 6
are not lit	step 2

2 Determine if any of the alarm battery supply (ABS) or cooling unit fuses on the FSP are blown.

Note: In the TME FSP, the ABS fuse numbers are 01 to 03. In the CTME FSP, the ABS fuse numbers are 7 to 10. In the CTME FSP, the cooling unit fuse numbers are 11 and 14.

If a fuse	Do
has blown	step 3
has not blown	step 39

3 Obtain a replacement fuse with the same voltage and amperage rating as the blown fuse.

4 Remove the blown fuse.

5

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse.

If the fuse	Do
has blown again	step 39
has not blown again	step 46

Ext FSP
TME frame or CTME cabinet with FSP shelf major (continued)

6 Determine if the POWER switch on the converter is set to OFF.

If the POWER switch	Do
is OFF	step 7
is ON	step 8

7 Set the POWER switch on the power converter to ON.

If the CONVERTER FAIL LED	Do
is lit	step 8
is not lit	step 46

8 Record the number of the cabinet and shelf that contain the power converter with the CONVERTER FAIL LED lit.

If you	Do
work on a TME frame	step 9
work on a CTME cabinet	step 14

9 Use the table to identify the circuit breaker that controls the power to the shelf with the lit CONVERTER FAIL LED. The FSP holds the circuit breaker.

Circuit breaker number	Shelf number
01	65
02	51
03	32
04	18
05	04

10 Determine if the associated breaker is set to OFF.

If the circuit breaker	Do
is set to OFF	step 11
is set to ON	step 12

11 Set the circuit breaker to ON.

12 Press the RESET button on the power converter.

Ext FSP
TME frame or CTME cabinet with FSP shelf major (continued)

13 Release the RESET button.

If the circuit breaker	Do
trips again, and the CONVERTER FAIL LED is lit	step 21
does not trip, and the CONVERTER FAIL LED is lit	step 38
does not trip, and the CONVERTER FAIL LED is not lit	step 46

14 Use the table to identify the fuse on the FSP for the shelf with the lit CONVERTER FAIL LED.

IfFuse number	DoShelf number
01	05
02	33
04	19
05	47

15 Determine if the fuse that controls power to the shelf has blown.

If the fuse	Do
has blown	step 16
has not blown	step 19

16 Obtain a replacement fuse with the same voltage and amperage rating as the blown fuse.

17

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Remove the blown fuse.

18 Insert the replacement fuse.

19 Press the RESET button on the power converter.

Ext FSP
TME frame or CTME cabinet with FSP shelf major (continued)

20 Release the RESET button.

If the fuse	Do
has blown, and the CONVERTER FAIL LED is lit	step 21
has not blown, and the CONVERTER FAIL LED is lit	step 38
has not blown, and the CONVERTER FAIL LED is not lit	step 46

21 The next step depends on if the office has a power distribution center (PDC) or a cabinetized PDC (CPDC).

If the office	Do
has a PDC	step 22
has a CPDC	step 28

At the PDC

22 Locate the fuse that powers the shelf in the TME or CTME.

23 Determine if the fuse has blown.

If the fuse	Do
has blown	step 24
has not blown	step 38

24 Remove the fuse holder that contains the blown fuse.

25 Replace the cartridge fuse inside the fuse holder.

26

DANGER
Risk of fire
Replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer. This procedure protects against the risk of fire.

Replace the blown fuse.

Ext FSP
TME frame or CTME cabinet with FSP shelf major (continued)

27 Install the fuse holder back on the PDC frame.

If you	Do
work on a TME frame	step 32
work on a CTME cabinet	step 35

At the CPDC

28 Locate the circuit breaker that powers the shelf in the TME frame or CTME cabinet.

29 Determine if the circuit breaker is set to OFF.

If the circuit breaker	Do
is OFF	step 30
is ON	step 38

30 Set the circuit breaker to ON.

31 The next step depends on the type of frame that you work on.

If you	Do
work on a TME frame	step 32
work on a CTME cabinet	step 35

At the TME frame

32 Obtain a replacement fuse with the same voltage and amperage as the blown fuse.

33 Remove the blown fuse.

34

DANGER
Risk of fire
To protect against risk of fire, replace the blown fuse with a fuse of the same type, rating (color code), and manufacturer.

Insert the replacement fuse. Go to step 36.

At the CTME cabinet

35 Set the circuit breaker to ON.

Ext FSP
TME frame or CTME cabinet with FSP shelf major (continued)

At the TME frame or CTME cabinet

36 Press the RESET button on the power converter.

37 Release the RESET button.

If the CONVERTER FAIL LED	Do
is lit	step 38
is not lit	step 46

38 To replace the power converter, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

39 Determine if the CONVERTER FAIL LED for the power converter that you replaced is lit.

If the CONVERTER FAIL LED	Do
is lit	step 40
is not lit	step 46

40 Determine if the backplane of the shelf has any short-circuited or bent pins.

If the backplane of the shelf	Do
has short-circuited or bent pins	step 53
does not have short-circuited or bent pins	step 41

41 The next step depends on the type of frame that you work on.

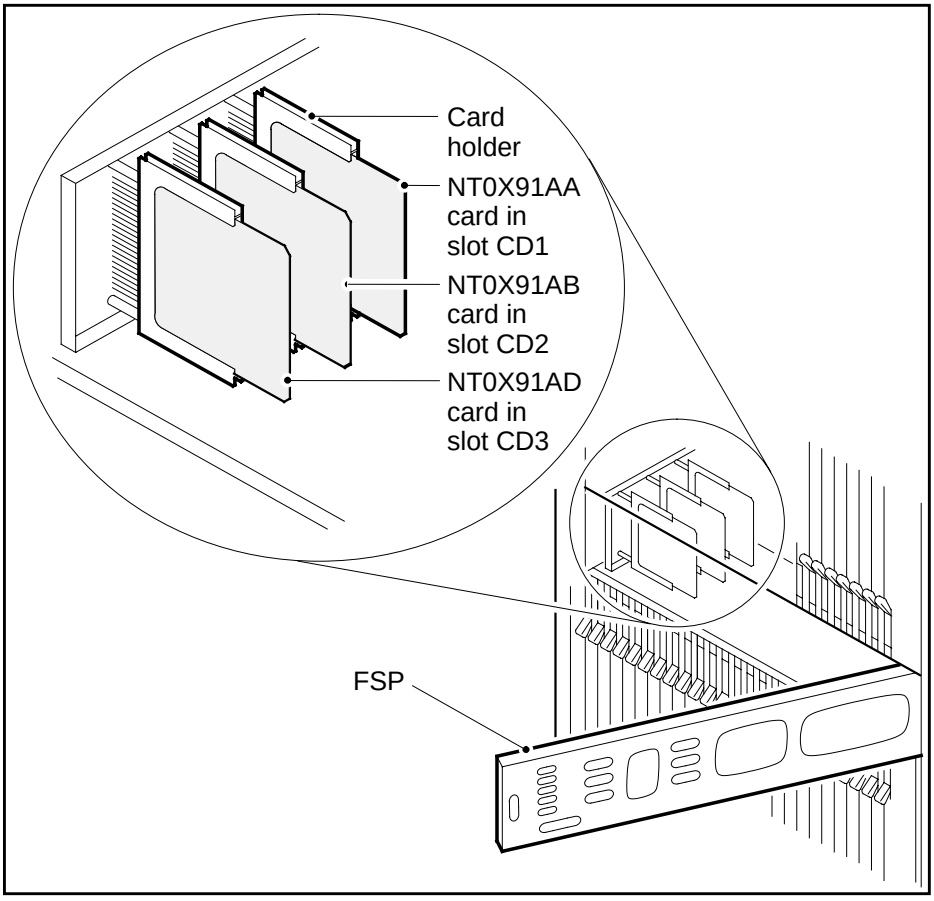
If you	Do
work on a TME frame	step 42
work on a CTME cabinet	step 44

Ext FSP
TME frame or CTME cabinet with FSP shelf major (continued)

At the TME frame

42 Use the table and diagram to identify the drive and alarm card for the shelf with the lit CONVERTER FAIL LED.

Drive and alarm card	FSP card position	FSP circuit breakers	Shelf position
NT0X91AA	CD1	CB5	04
NT0X91AB	CD2	CB3	32
		CB1	65
NT0X91AD	CD3	CB4	18
		CB2	51



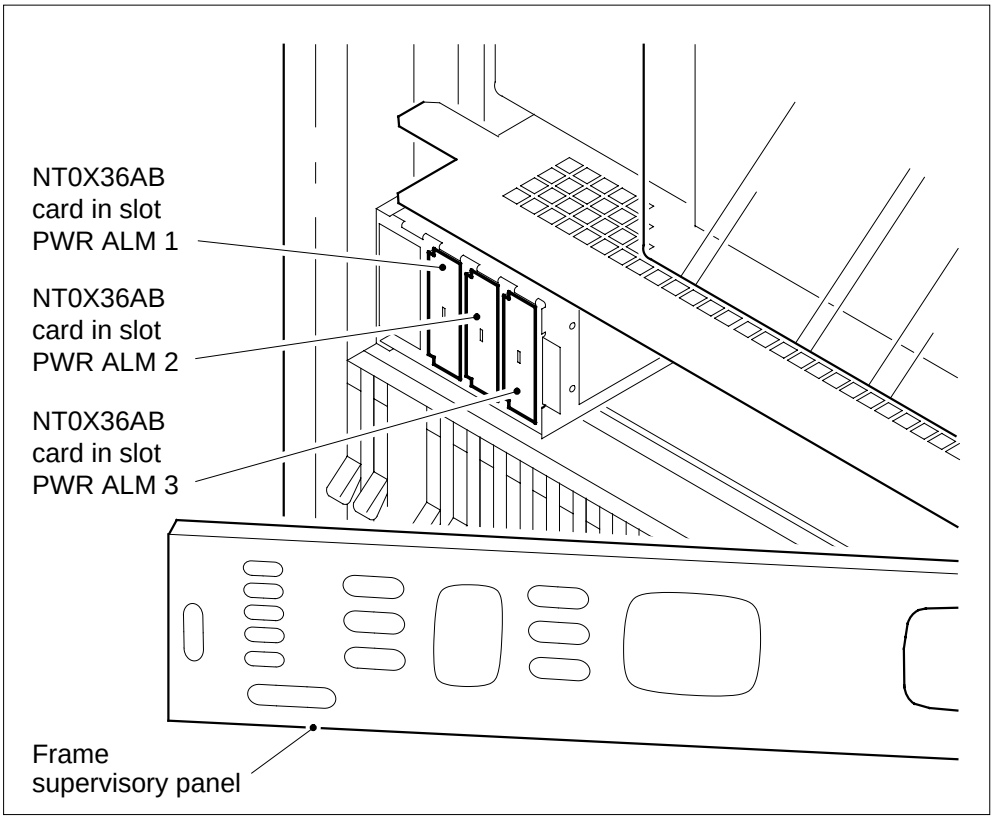
Ext FSP
TME frame or CTME cabinet with FSP shelf major (continued)

43 Go to step 45.

At the CTME cabinet

44 Use the table and diagram to identify the alarm and control card for the shelf with the lit CONVERTER FAIL LED.

Power and alarm card slot	FSP fuse number	Shelf position
PWR ALM 1	01	05
	02	33
PWR ALM 2	04	19
PWR ALM 3	05	47



45 To replace the alarm and control card, perform the correct procedure in *Card Replacement Procedures*. Complete the procedure and return to this point.

Ext FSP
TME frame or CTME cabinet with FSP shelf major (continued)

At the TME frame or CTME cabinet

46 Determine if the FRAME FAIL lamp on the FSP is lit.

If the FRAME FAIL lamp	Do
is lit, and more fuses that have blown are present	step 2
is lit, and more blown fuses that have not blown are present	step 53
is not lit	step 47

At the MAP terminal

47 To access the EXT level of the MAP display, type

`>MAPCI;MTC;EXT`

and press the Enter key.

48 Determine if an FSP alarm is present.

If an FSP alarm	Do
is present, and you did not correct the power faults on all the frames with an FSP alarm	step 49
is present, and you corrected the power faults on all the frames with an FSP alarm	step 53
is not present	step 54

49 Determine the type of frame that has the FSP alarm. Perform the correct procedure in this NTP to clear the alarm. Complete the procedure and go to step 48.

At the TME frame or CTME cabinet

50 Unscrew the slotted nut to the left of the FSP.

51 Open the FSP panel.

52

DANGER
Risk of electrocution
Some terminals inside the FSP have an electrical potential of -48V dc to -60V dc. Do not touch any terminals inside the FSP.

Ext FSP
TME frame or CTME cabinet with FSP shelf major (end)

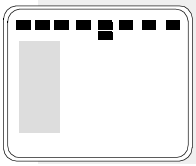
Determine if the ABS wiring inside the FSP has short-circuited. The next level of support can request this information.

53 For additional help, contact the next level of support.

54 The procedure is complete.

Ext HIGH_MEM_BLOCKING critical

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
.	.	.	.	.	.	.	.	**1Crit**	.

Indication

At the MTC level of the MAP display, ‘Crit’ preceded by a number appears under the Ext header of the MAP alarm banner. This indicates a critical external alarm.

Meaning

A high memory blocking condition has been detected in the system. If the office remains in this condition for a sustained period of time, engineered capacity will be reduced and system stability may be impacted.

Result

Log EXT108 is generated when the alarm is raised. The alarm message ‘High Memory Blocking’ is shown in log EXT108. For every minute that the alarm is active, an XACP300 log is generated. When the alarm is cleared, an EXT108 is generated that indicates that the memory blocking level is normal. An XACP500 log is generated (once only) when the memory blocking level returns to normal.

Common procedures

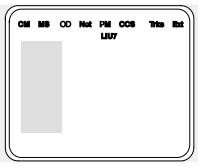
There are no common procedures.

Action

Inform your supervisor. Supervisors in operating companies should contact Nortel support for a memory blocking assessment.

Ext JESCALL minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
.	.	.	.		.	.	.	**1 Min.**	.

Indication

Under the Ext subsystem header at the MTC level of the MAP display, 1 Min. can indicate one or more JESCALL minor alarms.

Meaning

When a caller makes an emergency call to an attendant, a minor alarm occurs. The operating company personnel monitor the alarm and gather the call information from a log. The call information is available to the attendant if the caller fails to complete the call.

Impact

The subscriber can access the emergency service bureau.

Common procedures

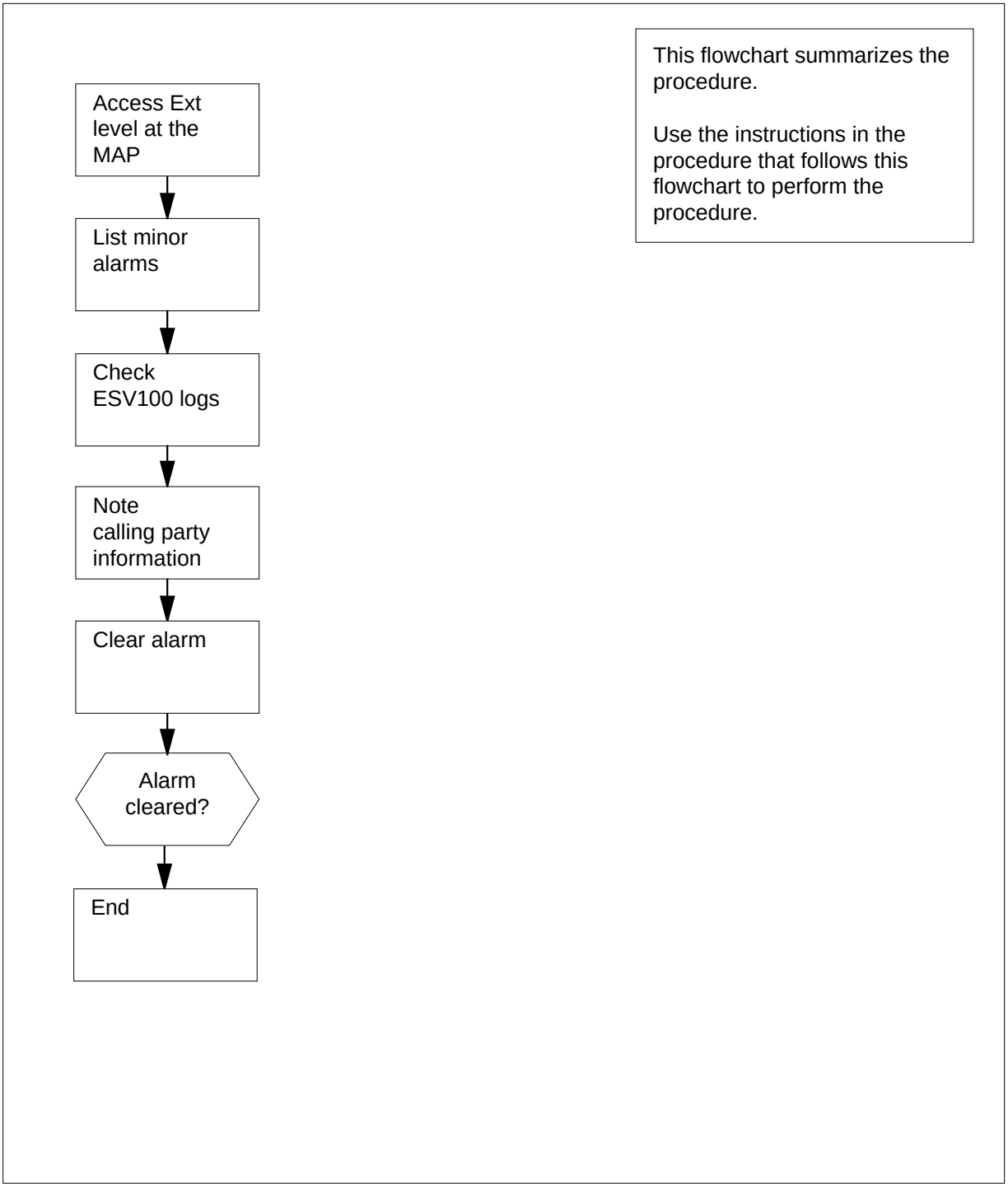
Not applicable

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

Ext JESCALL
minor (continued)

Summary of clearing an Ext JESCALL alarm



Ext JESCALL
minor (continued)

Clearing an Ext JESCALL alarm

At the MAP terminal

1 To access the Ext level of the MAP display, type

>EXT

and press the Enter key.

Example of a MAP display.

```
CM  MS  IOD  Net  PM  CCS  Lns  Trks  Ext  APPL .  .  2MPCOS  .
1LIM  .  .  54GC  1 Min  .
Ext Alarms     Crit   FSP   Major  Minor      NoAlm
               0      0     0      1          10
```

2 To display all the Ext minor alarms, type

>LIST MIN

and press the Enter key.

Note: You must set field Report in table SFWALARM to yes. This datafill ensures that EXT logs with the time of day are recorded for the JESCALL alarm. This information identifies which EVS100 log corresponds to which JESCALL alarm.

If response on MAP display is	Do
JESCALL	step 4
other items	step 3

3 Perform the correct alarm-clearing procedure in this document. When you have completed the procedure go to step 11.

4 To access LOGUTIL, type

>LOGUTIL

and press the Enter key.

5 To open the ESV log report buffer, type

>OPEN ESV

and press the Enter key.

6 To display the ESV100 log report, type

>BACK ALL

and press the Enter key.

Example of an ESV100 log report.

```
ESV100 APR22 18:53:03 9800 INFO JAPAN EMERGENCY SERVICE
TRACE
CALLING PARTY NUMBER :                347701235
     CALLING PARTY : HOST 02 0 01 01 DN 7701235   DN0347700020
     OUTGOING TRUNK : CKT        FPTPLC1 3
```

Ext JESCALL
minor (end)

7 Note the calling number, the date and time, and the terminating fire and police trunk (FPT) number.

8 To exit LOGUTIL, type

`>QUIT`

and press the Enter key.

9 To clear the alarm, type

`>jesclear JESCALL`

and press the Enter key.

Example of a MAP display.

```
Ext Alarms    Crit    FSP     Major  Minor      NoAlm
                0       0       0      0          10
jesclear JESCALL
JESCALL alarm cleared
```

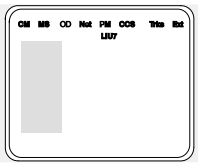
If the alarm	Do
clears	step 11
fails	step10

10 Contact the next level of support.

11 You have completed this procedure.

Ext JESUNANS minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
.	.	.	.		.	.	.	**1 Min.**	.

Indication

Under the Ext subsystem header at the MTC level of the MAP display, 1 Min. can indicate one or more JESUNANS minor alarms.

Meaning

When no attendant answers an emergency call within the datafilled time, a minor alarm occurs. The operating company personnel monitor the alarm and gather the call information from a log. The call information is available to the attendant.

Impact

The subscriber cannot access the emergency service bureau.

Common procedures

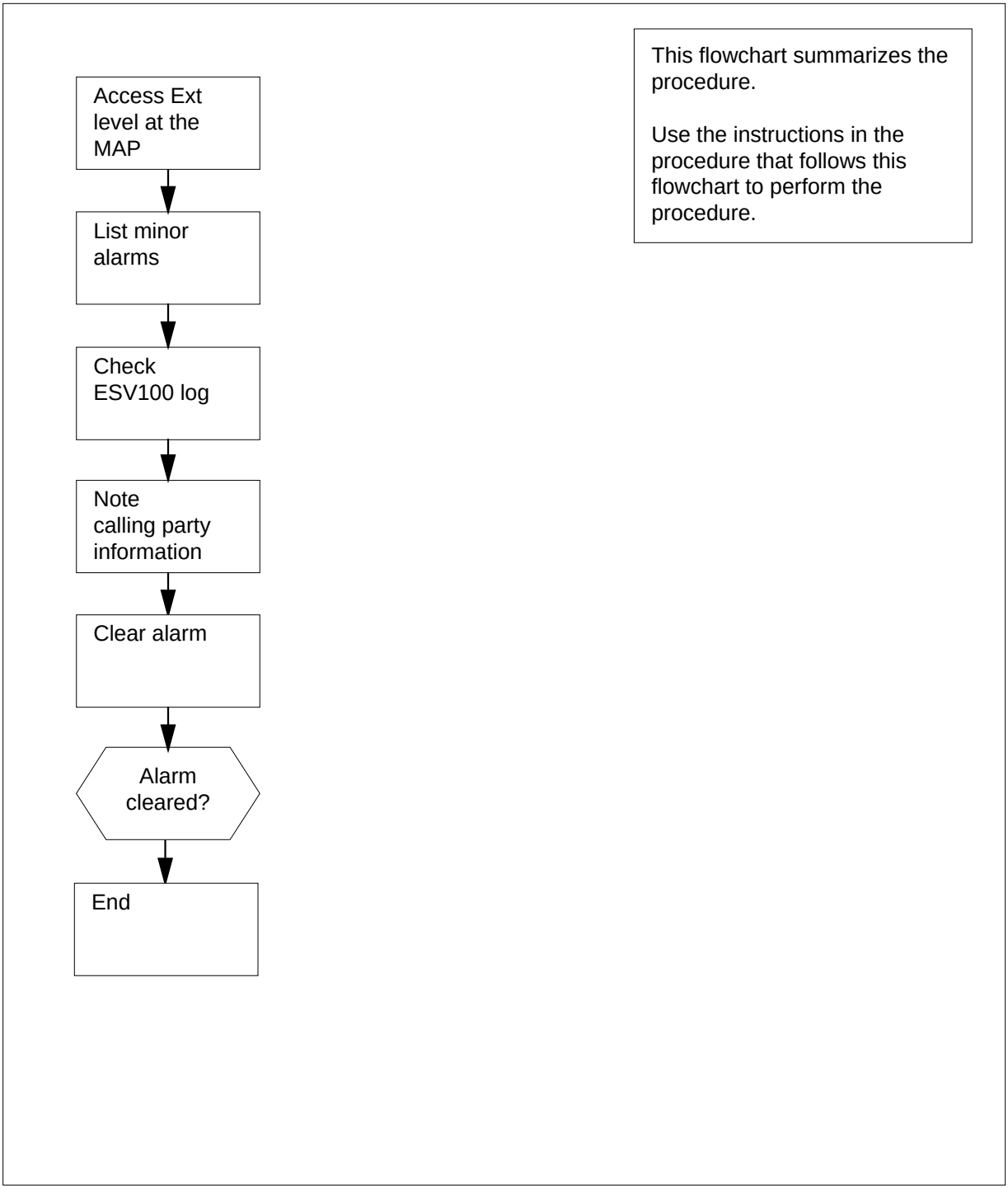
Not applicable

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

Ext JESUNANS
minor (continued)

Summary of clearing an Ext JESUNANS alarm



Ext JESUNANS minor (continued)

Clearing an Ext JESUNANS alarm

At the MAP terminal

1 To access the Ext level of the MAP display, type

>EXT

and press the Enter key.

Example of a MAP display.

```
CM  MS  IOD  Net  PM  CCS  Lns  Trks  Ext  APPL . . 2MPCOS .
1LIM  .  .  54GC  1 Min  .
Ext Alarms     Crit  FSP   Major  Minor      NoAlm
               0     0     0      1          10
```

2 To display all the Ext minor alarms, type

>LIST MIN

and press the Enter key.

Note: You must set field Report in table SFWALARM to yes. This datafill ensures that EXT logs with the time of day are recorded for the JESUNANS alarm. This information identifies which EVS100 log corresponds to which JESUNANS alarm.

If response on MAP display is	Do
JESUNANS	step 4
anything else	step 3

3 Perform the correct alarm-clearing procedure in this document. When you have completed the procedure go to step 11.

4 To access LOGUTIL, type

>LOGUTIL

and press the Enter key.

5 To open the ESV log report buffer, type

>OPEN ESV

and press the Enter key.

6 To display the ESV100 log report, type

>BACK ALL

and press the Enter key.

Example of an ESV100 log report.

```
ESV100 APR22 18:53:03 9800 INFO JAPAN EMERGENCY SERVICE
TRACE
CALLING PARTY NUMBER :                  347701235
     CALLING PARTY : HOST 02 0 01 01 DN 7701235   DN0347700020
     OUTGOING TRUNK : CKT        FPTPLC1 3
```

Ext JESUNANS
minor (end)

7 Note the calling number, the date and time, and the terminating fire and police trunk (FPT) number.

8 To exit LOGUTIL, type

```
>QUIT
```

and press the Enter key.

9 To clear the alarm, type

```
>JESCLEAR
```

and press the Enter key.

Example of a MAP display.

```
Ext Alarms    Crit   FSP   Major   Minor      NoAlm
                0     0     0       0         10
jesclear JESUNANS
JESUNANS alarm cleared
```

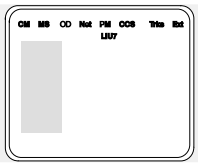
If the alarm	Do
clears	step 11
fails	step10

10 Contact the next level of support.

11 You have completed this procedure.

Ext MALO Major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
.	.	.	.		.	.	.	**1Maj.**	.

Indication

Under the Ext subsystem header at the Ext level of the MAP display, 1 Maj. may indicate one or more malicious call originating (MALO) major alarms.

Meaning

A MALO alarm is raised in the originating office. The alarm is generated each time a call attempts to terminate to a subscriber with the MALO service active.

When the MALO alarm is generated, the operating company can check call information from a log. The operating company can decide on the correct action, based on this information

Impact

Failure to trace malicious calls.

Common procedures

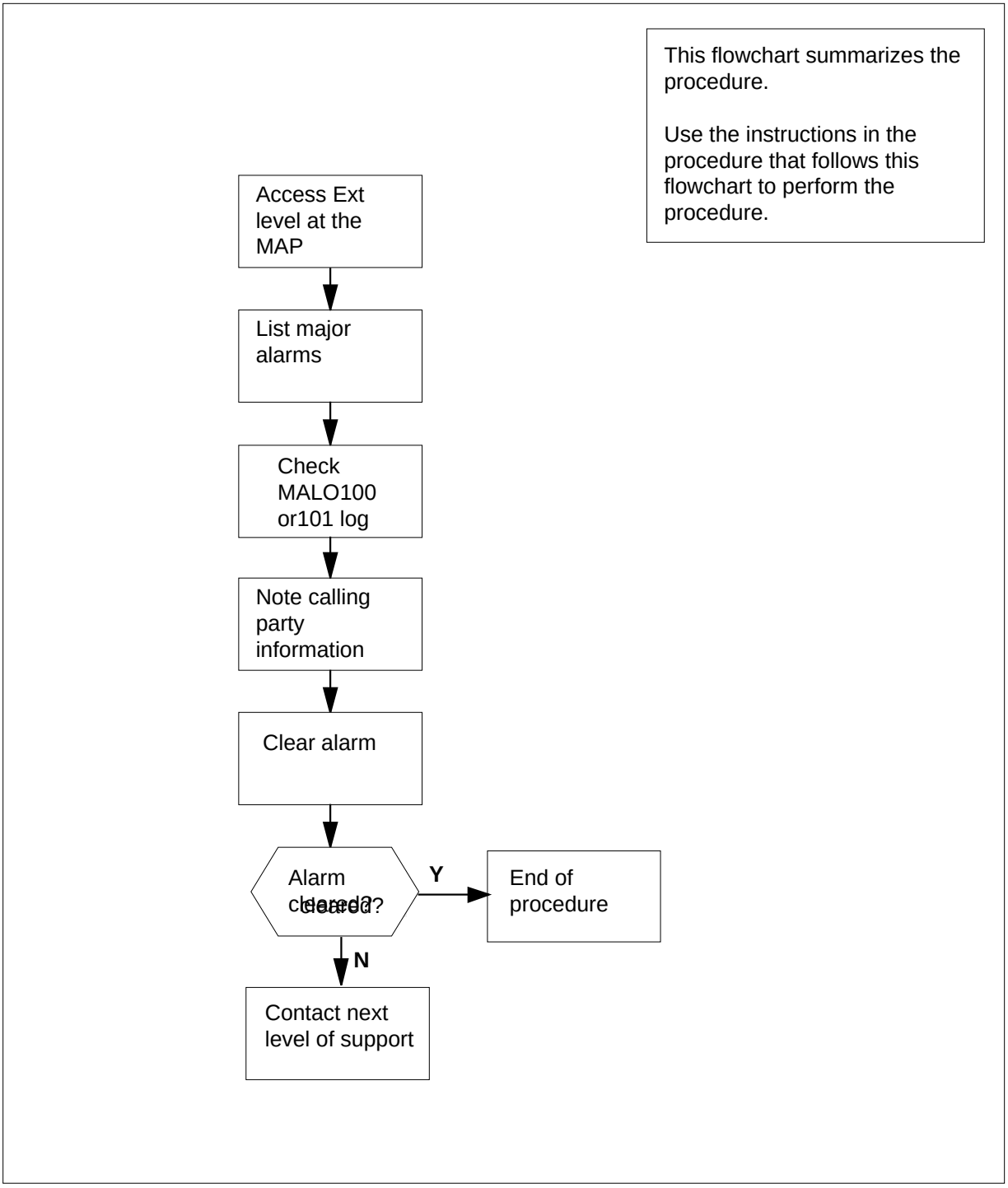
Not applicable

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

Ext MALO
Major (continued)

Summary of clearing an Ext MALO alarm



Ext MALO
Major (continued)

Clearing an Ext MALO alarm

At your current location

1 To access the Ext level of the MAP display, type

>EXT

and press the Enter key.

Example of a MAP display.

```
CM  MS  IOD  Net  PM  CCS  Lns  Trks  Ext  APPL .  .  2MPCOS  .
1LIM  .  .  54GC  1 Maj  .

Ext Alarms CritFSPMajorMinor NoAlm
0 0 1 1 12
```

2 To display all the Ext major alarms, type

>LIST MAJ

and press the Enter key.

If response on MAP display is	Do
MALOALARM	step 4
anything else	step 3

3 Perform the appropriate alarm-clearing procedures in this document. When you have completed the procedure, go to step 12.

4 To access LOGUTIL, type

>LOGUTIL

and press the Enter key.

5 To open the MALO log report buffer, type

>OPEN MALO

and press the Enter key.

6 To browse through the buffer to display the MALO100 or 101 log reports, type

>BACK ALL

and press the Enter key.

If the log is	Do
MALO100	step 7
MALO101	step 7

7 Note the date and time, the calling party LEN, the forwarding party LEN, and the called party DN.

Go to step 9.

Ext MALO
Major (end)

8 Note the date and time, the incoming trunk ID, the forwarding party LEN, and the called party DN.

9 To exit LOGUTIL, type

```
>QUIT
```

and press the Enter key.

10 To clear the alarm, type

```
>SETSC MALO_ALARM REL
```

and press the Enter key.

Example of a MAP display.

```
Ext AlarmsCritFSPMajorMinor NoAlm
0 0 0 0 10

setsc esr_time_alarm rel
OK
```

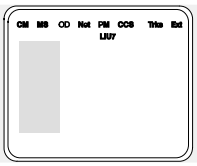
If the alarm	Do
clears	step 12
fails	step11

11 Contact the next level of support.

12 You have completed this procedure.

Ext MALT Major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
.	.	.	.		.	.	.	**1Maj.**	.

Indication

Under the Ext subsystem header at the Ext level of the MAP display, 1 Maj. may indicate one or more malicious call terminating (MALT) major alarms.

Meaning

A MALT alarm is raised in the originating office. The alarm is generated each time a call attempts to terminate to a subscriber with the MALT service active.

When the MALT alarm is generated, the operating company can check call information from a log. The operating company can decide on the correct action, based on this information

Impact

Failure to trace malicious calls.

Common procedures

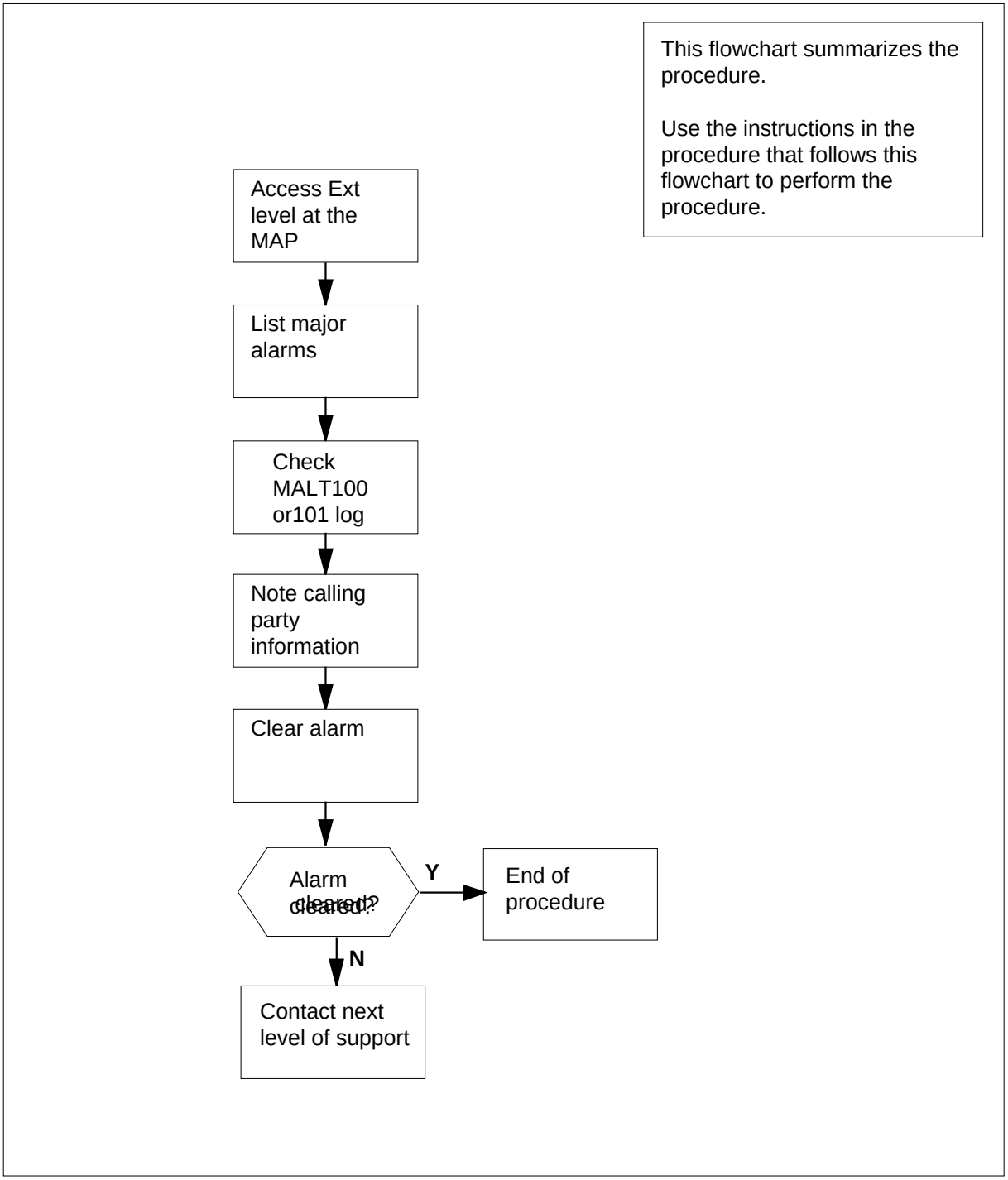
Not applicable

Action

The following flowchart is only a summary of the procedure. Use the instructions in the step-action procedure that follows the flowchart to clear the alarm.

Ext MALT
Major (continued)

Summary of clearing an Ext MALT alarm



Ext MALT
Major (continued)

Clearing an Ext MALT alarm

At your current location

1 To access the Ext level of the MAP display, type

>EXT

and press the Enter key.

Example of a MAP display.

```
CM    MS  IOD     Net  PM   CCS  Lns  Trks     Ext  APPL
 .     .  2MPCOS  .    1LIM  .    .    54GC   1 Maj  .

Ext Alarms        Crit  FSP  Major  Minor    NoAlm
                    0     0     1      1       12
```

2 To display all the Ext major alarms, type

>LIST MAJ

and press the Enter key.

If response on MAP display is	Do
MALTALARM	step 4
anything else	step 3

3 Perform the appropriate alarm-clearing procedures in this document. When you have completed the procedure, go to step 11.

4 To access LOGUTIL, type

>LOGUTIL

and press the Enter key.

5 To open the MALT log report buffer, type

>OPEN MALT

and press the Enter key.

6 To browse through the buffer to display the MALT100 or 101 log reports, type

>BACK ALL

and press the Enter key.

If the log is	Do
MALT100	step 7
MALT101	step 8

Ext MALT
Major (end)

7 Note the date and time, the called party DN, the called party LEN, and the calling party DN.

Go to step 9.

8 Note the date and time, the called party DN, the called party LEN, and the incoming trunk ID.

9 To exit LOGUTIL, type

>QUIT

and press the Enter key.

10 To clear the alarm, type

>SETSC MALT_ALARM REL

and press the Enter key.

Example of a MAP display.

```
Ext Alarms   Crit  FSP  Major  Minor   NoAlm
               0     0     0      0       10

setsc     esr_time_alarm      rel
OK
```

If the alarm	Do
clears	step 12
fails	step11

11 Contact the next level of support.

12 You have completed this procedure.

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DMS-100 Family

North American DMS-100

Alarm Clearing and Performance Monitoring Procedures

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