# EPS

# SPDA RAIL HEATER FAILAURE

Advisory:
SPDA Z13B (Z14B) Heater B (A) Failed - Z1

User Notification

PCS Z1: EPS
Z1: EPS
'Z13B'

sel Rail Htr[X]B(A) Health Status (any one) - Faild

**Nominal Config:**
nav Z1: EPS
Z1: EPS
'Z13B'

Rail Htr[X]B Availability - Ena Opr

Rail Htr[X]A Availability - Ena BU

**1** Check RPCM.

PCS Z1: EPS
Z1: EPS

RPCM Z13B B (Z14B B) - Active?

No → **2**
- Go to RPCM LOSS OF COMM, all (SODF: EPS).

Yes ↓

**3** Check Heater Failure Flags.

PCS Z1: EPS
Z1: EPS
'Z13B'

- sel Rail Htr[X]B(A)
- Determine condition via failure flags:

| | |
|---|---|
| Availability - Inh and Cmd Status - On | → 49 |
| Hi Limit Violation - True | → 7 |
| Low Limit Violation - True | → 27 |
| Temp Sensor Status - Faild | → 4 |
| RPC Position - Op and Cmd Status - On | → 36 |
| RPC Position - Cl and Cmd Status - Off<br>RPC Position - Cl and Availbty - Inh | → 16 |
| RPC - Trip | → 39 |

**4**
Both Z13B and Z14B heater B(A) Temp Sensors failed?

No → 55

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**5** Possible loss of MDM Card N1-2 A02 (N1-1 A02).

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**6**
- Perform MDM IO CARD FAILURE, all (SODF: C&DH), then
- Configure redundant heater availability to Ena Opr

3 ↓

**7**
Temp > Temp Snsr Failure Upper Limit?

→ **8** Transient failure. → **9**
- Continue nominal operations.

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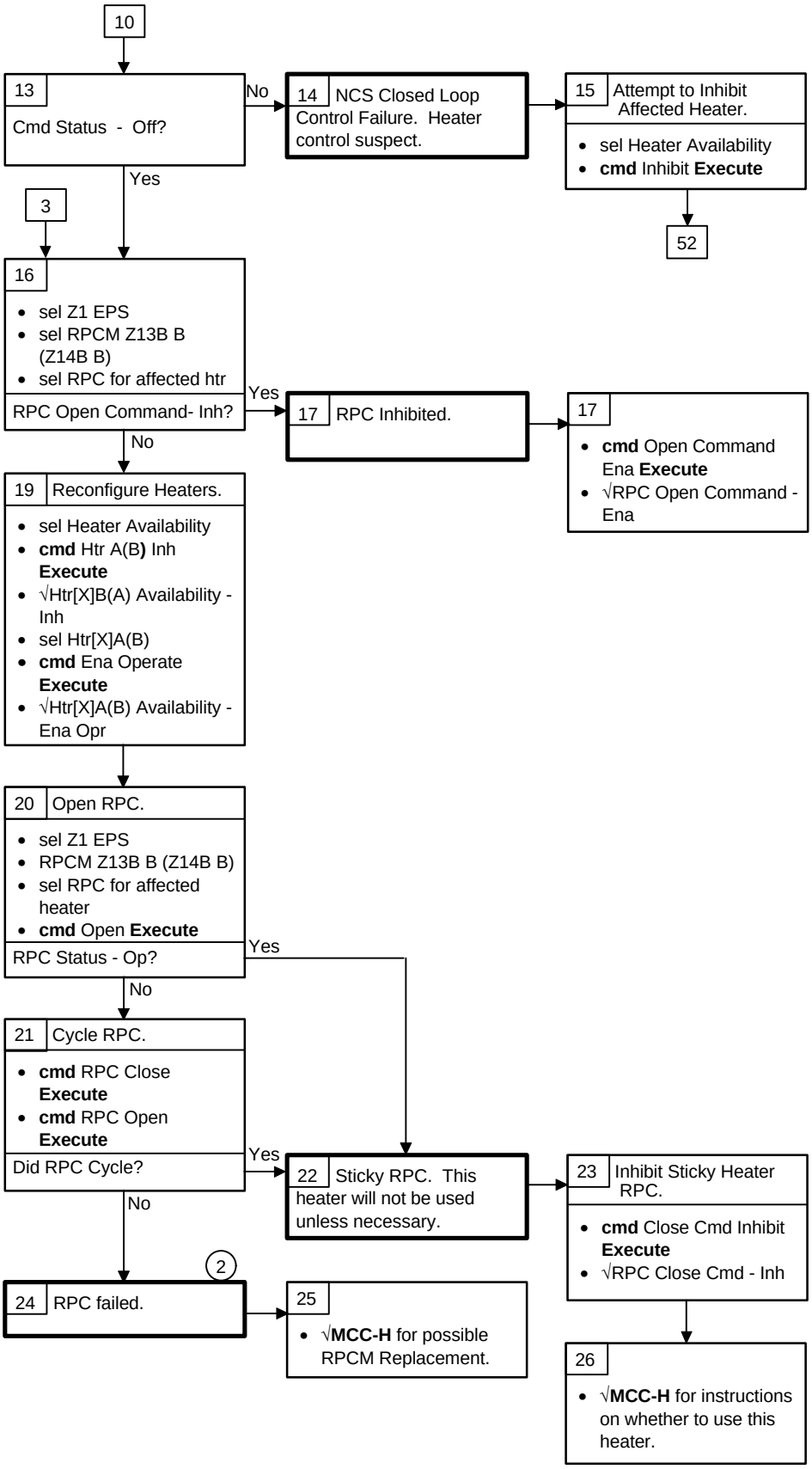
**10**
RPC Position - Op?

→ **11** Possible Transient Hot Thermal Environment. (1) → **12**
- √**MCC-H** for further action.

↓ 13

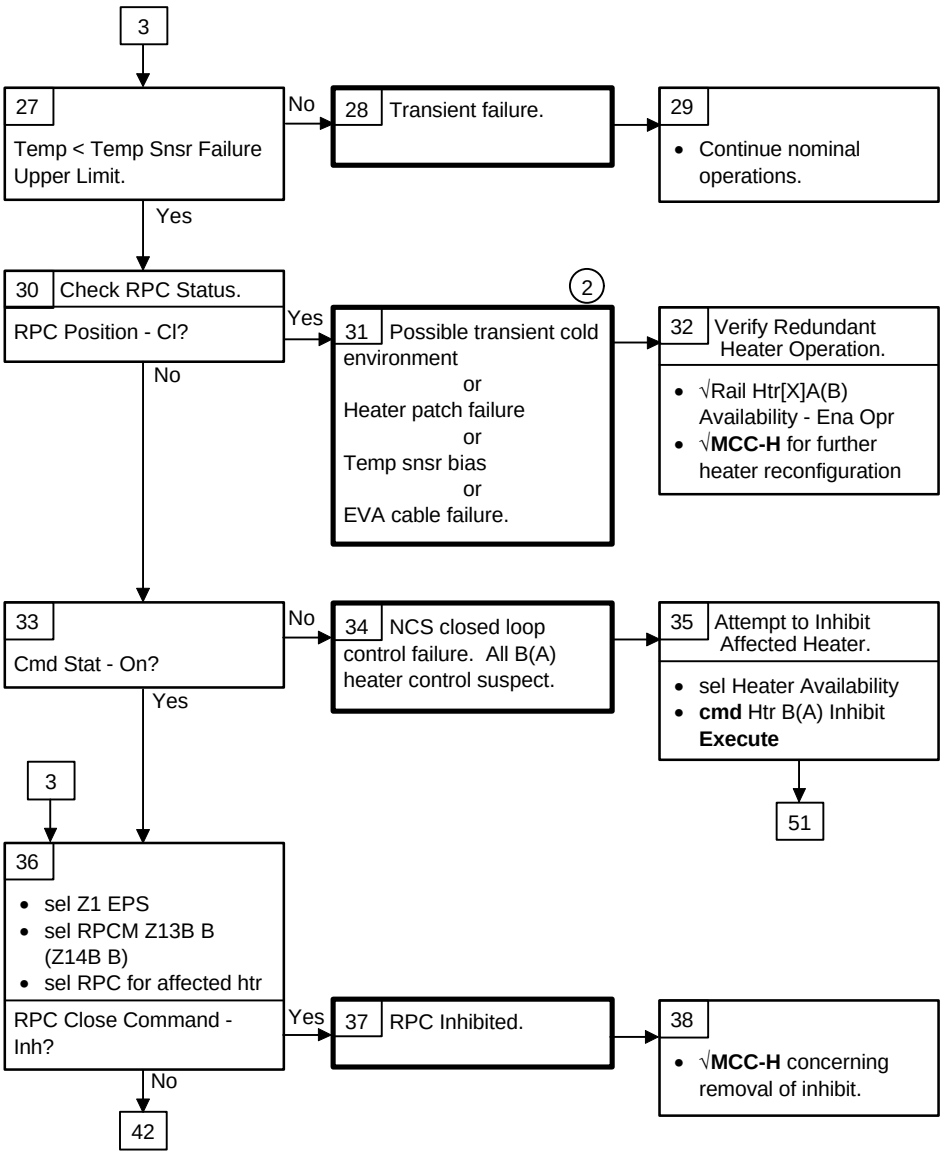
(1) Failure Upper Limit band may be set too small. **MCC-H** may uplink a change to Failure Upper Limit.

## SPDA RAIL HEATER FAILAURE (Cont)



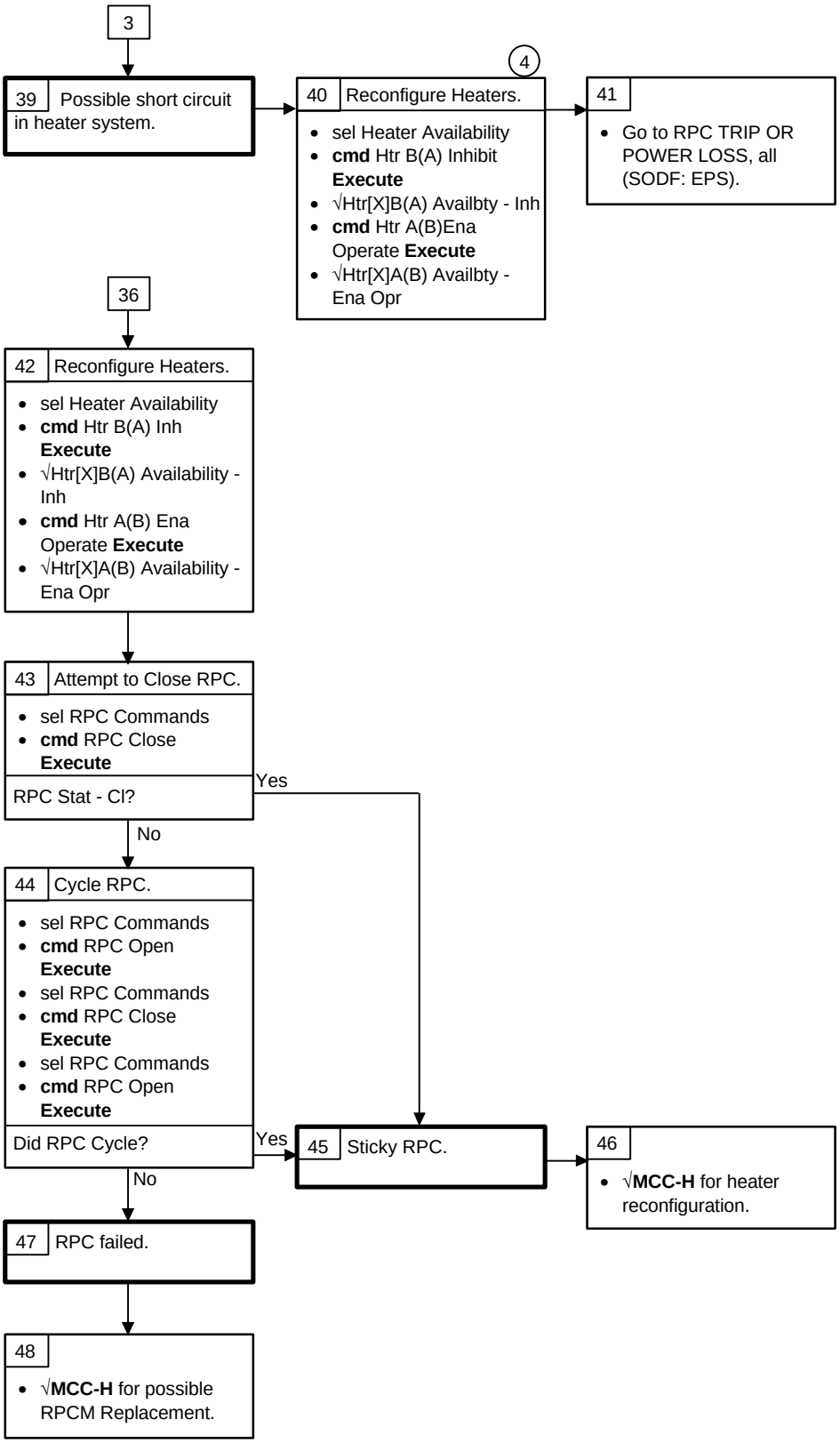

(2) **MCC-H** will evaluate the possibility of touch temperature violations and consequences of leaving the heater on.

## SPDA RAIL HEATER FAILAURE (Cont)



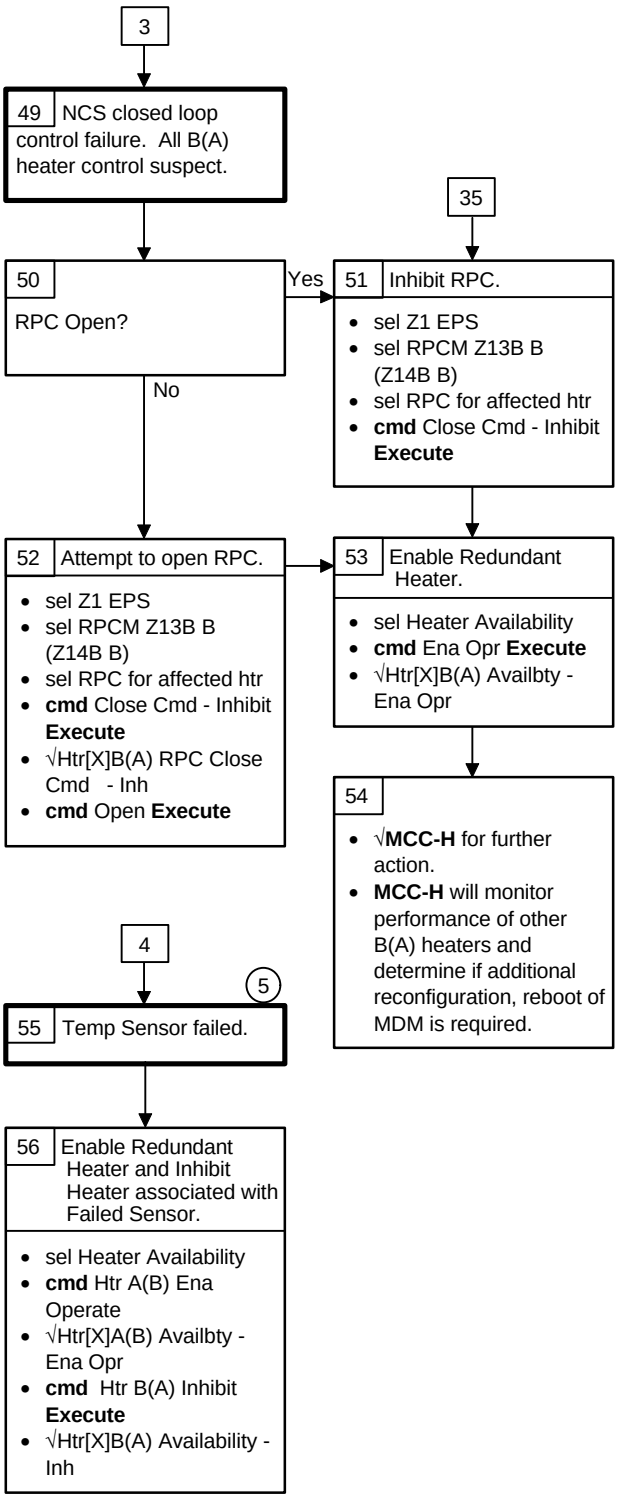

(3) A transient cold environment could require both B and A heaters to keep temperatures within limits. A heater pad debonding failure could also be the culprit in this case. If all B(A) temperatures do not appear to be rising properly, the failure could be in the EVA cable/connectors P135/J635 (B heaters) or P132/J632 (A heaters).

## SPDA RAIL HEATER FAILAURE (Cont)




4
Since the RPC tripped, it will not be used again unless necessary.

## SPDA RAIL HEATER FAILAURE (Cont)




(5) Temperature sensor has failed its range check. Software will command the heater off (default state).