

PROCESS EQUIPMENT FAILURE RESPONSE

ERROR	RESPONSE	ERROR	RESPONSE
MFS#1 communication failure	CONT	MFS#2 communication failure	CONT
MFS#1 in manual mode	CONT	MFS#2 in manual mode	CONT
MFS#1 temp/presr interlock	CONT	MFS#2 temp/presr interlock	CONT
MFS#1 ambient temp too high	CONT	MFS#2 ambient temp too high	CONT
MFS#1 activation error	CONT	MFS#2 activation error	CONT
MFS#1 leak error	CONT	MFS#2 leak error	CONT
MFS#1 fault	CONT	MFS#2 fault	CONT
FCU communication failure	CONT	BOATL communication failure	CONT
FCU in manual mode	CONT	BOATL in manual mode	CONT
FCU fault	CONT	BOATL fault	CONT

If powerfail duration is less than 3 sec, then CONT else CONT.

TOLERANCE/FAULT RESPONSE

S \_NAL    LO-TOL    HI-TOL    DELAY    DURATION    GOTO(if out-of-tolerance)

All default tolerance/fault items

## IF CONDITION

```
STEP: IDLE          COMMENT: IDLE STATE
  TEMPL = 550.0 DEGC
  TEMPC = 550.0 DEGC
  TEMPS = 550.0 DEGC
  BOATSPD = 5.0 IPM
  N2 = 1250. SCCM
  BOATIN = ON
  N2CARR = 250.0 SCCM
```

## PROCESS RUN SEQUENCE

```
STEP: STRT          COMMENT: RUN: 1ST STEP      TIME: 00.00.05
  TEMPL = 550.0 DEGC
  TEMPC = 550.0 DEGC
  TEMPS = 550.0 DEGC
  N2 = 5000. SCCM
STEP: 0005          COMMENT: PULL BOATS OUT    TIME: 00.08.00
  TEMPL = 400.0 DEGC
  TEMPC = 500.0 DEGC
  TEMPS = 450.0 DEGC
  BOATSPD = 5.0 IPM
  N2 = 5000. SCCM
  BOATOUT = ON
  If OUTLMT = ON then goto 0006
  If EVENT = ON then goto 0006
STEP: 0006          COMMENT: LOAD WAFERS        TIME: 00.15.00
  TEMPL = 400.0 DEGC
  TEMPC = 500.0 DEGC
  TEMPS = 450.0 DEGC
  BOATSPD = 5.0 IPM
  N2 = 5000. SCCM
  BOATOUT = ON
  If EVENT = ON then goto BTIN
  SONIC = ON
STEP: BTIN          COMMENT: PUSH BOATS IN      TIME: 00.09.00
  TEMPL = 550.0 DEGC
  TEMPC = 550.0 DEGC
  TEMPS = 550.0 DEGC
  BOATSPD = 5.0 IPM
  TCUID = 18
  BOATIN = ON
  N2 = 5000. SCCM
  If EVENT = ON then goto 0008
STEP: 0008          COMMENT: STABLIZE          TIME: 00.15.00
  TEMPL = 550.0 DEGC
```

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    TEMPC = 550.0 DEGC  
    TEMPS = 550.0 DEGC  
    BOATSPD = 5.0 IPM  
    N2 = 3000. SCCM  
    BOATIN = ON

STEP: 0010           COMMENT: TEMP RAMP UP           TIME: 00.50.00  
    TEMPL = 950.0 DEGC  
    TEMPC = 950.0 DEGC  
    TEMPS = 950.0 DEGC  
    N2 = 3000. SCCM  
    O2LO = 60. SCCM  
    RMPRATE = 10.0 D/M

STEP: 0015           COMMENT: STABLIZE           TIME: 00.05.00  
    TEMPL = N/C DEGC  
    TEMPC = N/C DEGC  
    TEMPS = N/C DEGC  
    N2 = 3000. SCCM  
    O2LO = 60. SCCM

STEP: 0020           COMMENT: DRYOX           TIME: 00.53.00  
    TEMPL = N/C DEGC  
    TEMPC = N/C DEGC  
    TEMPS = N/C DEGC  
    O2HI = 3000. SCCM

STEP: 0025           COMMENT: ANNEAL           TIME: 00.20.00  
    TEMPL = N/C DEGC  
    TEMPC = N/C DEGC  
    TEMPS = N/C DEGC  
    N2 = 3000. SCCM

STEP: 0026           COMMENT: RAMP DOWN           TIME: 02.00.00  
    TEMPL = 550.0 DEGC  
    TEMPC = 550.0 DEGC  
    TEMPS = 550.0 DEGC  
    N2 = 3000. SCCM

    If TEMPC < 550.5 DEGC then goto BTOT  
    If EVENT = ON then goto BTOT

STEP: BTOT           COMMENT: HOLD FOR EVENT           TIME: 00.00.00  
    TEMPL = 550.0 DEGC  
    TEMPC = 550.0 DEGC  
    TEMPS = 550.0 DEGC  
    SONIC = ON  
    N2 = 1250. SCCM  
    N2CARR = 250.0 SCCM  
    If EVENT = ON then goto 0030

STEP: 0030           COMMENT: BOATOUT           TIME: 00.09.00  
    TEMPL = 400.0 DEGC  
    TEMPC = 550.0 DEGC  
    TEMPS = 450.0 DEGC

```
BOATOUT = ON
  N2 = 5000. SCCM
BOATSPD = 5.0 IPM
If EVENT = ON then goto 0031
If OUTLMT = ON then goto 0031
STEP: 0031 COMMENT: UNLOAD WAFERS TIME: 00.15.00
  TEMPL = 400.0 DEGC
  TEMPC = 500.0 DEGC
  TEMPS = 450.0 DEGC
  SONIC = ON
  N2 = 5000. SCCM
If EVENT = ON then goto 0035
STEP: 0035 COMMENT: BOATIN TIME: 00.09.00
  TEMPL = 550.0 DEGC
  TEMPC = 550.0 DEGC
  TEMPS = 550.0 DEGC
  BOATSPD = 5.0 IPM
  N2 = 5000. SCCM
  BOATIN = ON
If EVENT = ON then goto 0040
STEP: 0040 COMMENT: DATA COL END TIME: 00.00.09
  TEMPL = 550.0 DEGC
  TEMPC = 550.0 DEGC
  TEMPS = 550.0 DEGC
  BOATSPD = 5.0 IPM
  N2 = 3000. SCCM
  BOATIN = ON
```

## SPECIAL HOLD STEP

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STEP: SHLD COMMENT: SPECIAL HOLD
  TEMPL = N/C DEGC
  TEMPC = N/C DEGC
  TEMPS = N/C DEGC
  BOATIN = ON
  N2 = 2750. SCCM
  SONIC = ON
  BOATSPD = 5.0 IPM
  N2CARR = 250.0 SCCM
```

## ABORT SEQUENCE

```
-----
STEP: ABRT COMMENT: ABRT: 1ST STEP TIME: 00.15.00
  SONIC = ON
  TEMPL = 550.0 DEGC
  TEMPC = 550.0 DEGC
  TEMPS = 550.0 DEGC
```

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```
      BOATIN = ON
      BOATSPD = 5.0 IPM
      If EVENT = ON then goto ABR1
      N2 = 5000. SCCM
STEP: ABR1      COMMENT: ABORT 1      TIME: 00.00.05
      TEMPL = 550.0 DEGC
      TEMPC = 550.0 DEGC
      TEMPS = 550.0 DEGC
      N2 = 3000. SCCM
*** END OF FILE ***
```