# TMI-2 Control Room Log Book
# (March 27 to April 1, 1979)

Shift Supervisor

LSS-0001



SHIFT RELIEVED H. Clamagh TIME 2300 DATE 3/27/79
Signature

SHIFT ASSUMED BY F. Schumann
Signature

PLANT CONDITIONS: RCS TEMPERATURE 582 of MWE GROSS 916 MWE
RCS PRESSURE 2155 psig RX POWER 97.6 %
RCS BORON CONC. 1027 ppmb C.R. POS. 1-4 100 %
5 100 %
PLANT CONDITIONS: 6 95 %
7 95 %
8 27 %

0400 Turbine trip, Reactor trip, H.P. Injection ES
0527 Isolated S/G "B"

SHIFT RELIEVED F. Schumann
Signature TIME 0700 DATE 3-28-79

SHIFT ASSUMED BY A. Miller
Signature

PLANT CONDITIONS: RCS TEMPERATURE 330 of MWE GROSS 0 MWE
RCS PRESSURE 650 psig RX POWER 0 %
RCS BORON CONC. ppmb C.R. POS. 1-4 0 %
PLANT CONDITIONS/SPECIAL REMARKS: Recovering from 5 0 %
E.S. actuation 6 0 %
7 0 %
8 27 %

1315 Bypassed HPI, core flood slowly going into Rx vessel

1350 Received Rx Bldg Clg & Isol Signal — Pressure spiked up to ~5#, then dropped back to 1.5 psig — defeated RBI&C signal

1428 Moved bubble in "A" loop — temperature dropped

P99 251

PLANT CONDI... 5 100 %
6 95 %
7 95 %
8 27 %

0400 Turbine trip, Reactor trip, H.P. Injection ES
0527 Isolated S/G "B"

SHIFT-RELIEVED F Schemin TIME 0700 DATE 3-28-79
Signature
SHIFT ASSUMED BY A Miller
Signature

PLANT CONDITIONS: RCS TEMPERATURE 330 °F MWE GROSS 0 MWE
RCS PRESSURE 650 psig RX POWER 0 %
RCS BORON CONC. ppmb C.R. POS. 1-4 0 %

PLANT CONDI... S/SPECIAL REMARKS: Recovering from E.S. actuation
5 0 %
6 0 %
7 0 %
8 27 %

1315 Bypassed HPI, core flood slowly going into Rx vessel
1350 Received Rx Bldg Clg & Isol Signal — Pressure spike up to ~5#, then dropped back to 1.5 psig — defeated RBT&C signal
1428 Moved bubble in "A" loop — temperature dropped rapidly and then slowly came back
1510 Given OK to remove respirators in control room
1530 Method of cool down: 1 HPI pump and core flood
1720 "A" Hot Leg bubble collasping: pressurizer level dropping & RCS pressure dropping
2 HPI pumps — 925 gpm; Seal Inj 6.5 gpm
BWST level 26.5 feet.
1732 Pressure bottomed out at 623 psig — started increasing
1745 Started steaming "A" S/G
1800 RCS pressure 860# Tc 450 BWST level 24 feet

RCS pressure 1200# ; BWST level 23 feet
Closed MU-V 16B ; HPI flow 120 gpm ; RCS press - 2080#
Throttling back on MU-V 16 C ; HPI flow 105 gpm
Closed MU-V16C ; RCS pressure 2275
Holding RCS pressure at 2300# ; Opening up bypass valve on "A" S/G to provide more cooldown
Attempting to collapse bubbles in A & B Hot Legs
$T_{HA}$ at 550 °F ; $T_c$ at 395 °F ; pressurizer level at 400" +
Vacuum in condenser re-established
Started CO-P-2B to fill "B" S/G to ~390"
Started RC-P-1A D.C. Lift Pump
Raised level in "B" S/G and secured CO-P-2B
Started RC-P-1A for 10 sec. and returned to off
RCS pressure dropping at 1450 psig and decreasing ; $T_{HB}$ at 615 °F & decreasing ; $T_c$ at 310 °F & decreasing
Started RC-P-1A
$T_{C_A}$ 340 °F ; $T_{C_B}$ 338 °F
$T_{C_A}$ 330 °F ; $T_{C_B}$ 325 °F RCS pressure at 1250 psig, Pressurizer level at >400"
NA-R-748 Hi & Alert Range Alarm cleared
IC-R-1091 Hi & Alert Alarm Cleared
Started transferring contents of WDL-T-8B to Unit I MUWHT.
Placed A, B, C, SD RPS channels in Shutdown Bypass
Opened ~~DH-V-186~~ AM & DH-V 187 in preparation for placing DH system into service

SHIFT RELIEVED [signature] TIME 0000 DATE 3-29-79
Signature
SHIFT ASSUMED BY [signature]
Signature

199 253

PLANT CONDITIONS: RCS TEMPERATURE 295 °F NEE GROSS 0 MWE
RCS PRESSURE 1100

[illegible] collapse bubbles in [illegible]

1915 $T_{HA}$ at 550 °F; $T_C$ at 395 °F; pressurizer level at 400" ±

1916 Vacuum in condenser re-established

1917 Started CO-P-2B to fill "B" S/G to ~390"

1917 Started RC-P-1A D.C. Lift Pump

1930 Raised level in "B" S/G and secured CO-P-2B

1932 Started RC-P-1A for 10 sec. and returned to off

1940 RCS pressure dropping at 1450 psig and decreasing; $T_{HB}$ at 615 °F & decreasing; $T_C$ at 310 °F & decreasing

1950 Started RC-P-1A

1953 $T_{C_A}$ 340 °F; $T_{C_B}$ 338 °F

2017 $T_{C_A}$ 330 °F; $T_{C_B}$ 325 °F RCS pressure at 1250 psig; Pressurizer level at >400"

2055 VA-R-748 Hi & Alert Range Alarm cleared

2100 IC-R-1091 Hi & Alert Alarm Cleared

2150 Started transferring contents of WDL-T-8B to Unit I MWHT.

2146 Placed A, B, C, & D RPS channels in Shutdown Bypass

2125 Opened ~~DH-V-156~~ & DH-V-187 in preparation for placing DH system into service

SHIFT RELIEVED [signature] TIME 0000 DATE 3-29-79
Signature

SHIFT ASSUMED BY [signature]
Signature

PLANT CONDITIONS: RCS TEMPERATURE 295 °F NEB CROSS 0 MTE
RCS PRESSURE 1100 psig RX POWER 0 %
RCS BORON CONC. ppmb C.R POS. 1-4 0 %
5 0 %
6 0 %
7 0 %
8 %

PLANT CONDITIONS/SPECIAL REMARKS: plant cooldown / [illegible] 1-RCP operating

199 254

2150 CE-T-1115 N2 pressurizing line isolated at N2 regulator

2215 line up to sample A/B OTSG

2217 Reset high flux trips - set setpoint to <5% FP

2218 Bubble established in pressurizer
2230 holding cooldown at 300°F 1000 psi
2235 lost letdown flow - filters or demins appear plugged
0024 letdown prefilters high ΔP jiv
0055 secured aux + fuel handling buildings ventilation
E 0020 secured transfer of WDC-T-8B to unit 1
0121 MU-V-100 open - block orifice bypass - in attempt to establish letdown flow - no seal help pressure still filling
0121 Reset WDC-P-1B BLN - compressor running in auto
0148 VA-R-745 in alarm condition
0210 started aux + fuel handling buildings ventilation
0211 HP-R-220 in alert particulate and high alarm gas - everyone in respirators
0300 Tc 287°F, Th loop press 1028 psi, pzr temp 549°F pzr level and RC press slowly coming down
0301 CTSG sample line up secured
0345 Removed respirators - alarm activity in control room down
0435 Vented MU-T-1 to vent header
0500 high RCP seal water temps on non operating pumps
0527 high RCP seal water temps cleared - temporarily increased seal flow - found VS-V-67 closed - will open
0545 Reopened VS-V-67 clg water supply to seal return clgs throttle closed
0630 pumped down pzr level increased from 343 to 365 press dropped 50 psi
0631 letdown flow returned ~25 gpm after increasing TCCW temp ~100°F
0700 Reenergized 2-32A
0710 pzr level 352 press 899
0715 started pumping aux bldg sump tks to WDC-T-8B 199 255
0716 RC letdown shifted MU-T-1 to "B" RCDT due to increasing press in MU-T-1 - if press increased radiation levels in aux bldg increase

SHIFT RELIEVED [illegible] TIME 0900 DATE 3/29/79
Signature

0121 MV-V-100 open - block orifice bypass - [illegible] to establish letdown flow - no real help - pressurizer still filling

0121 Reset WDG-P-1B Blr - compressor running in auto

0145 VA-R-745 in alarm condition

0210 Started aux + fuel handling building ventilation

0211 HP-R-220 in alert particulate and high alarm - gas - everyone in respirators

0300 A Tc 287°F, A loop press 1625 psi, pzr temp 549°F pzr level and RC press slowly coming down

0301 CTSG sample line up secured

0325 Removed respirators airborne activity in control room down

0435 Visited MV-T-1 to vent header

0500 high RCP seal water temp on non operating pumps

0507 high RCP seal water temp cleared - temporarily increased seal flow - found VS-V-67 closed - will open

0545 Re-opened VS-V-67 cl water supply to seal return clgs throttle closed

0630 Spurious damn pzr level increased from 343 to 365 press dropped 50 psi

0631 Letdown flow returned ~25 gpm after increasing ICCW temp ~100°F

0700 Re energized 2-32A

0710 pzr level 352 press 899

0715 started pumping sump bldg sump tk to WDG-T-8B

0716 RC letdown shifted MV-T-1 to "B" RCDT due to increasing press in MV-T-1 - if press in vented radiation levels in aux bldg increase

SHIFT RELIEVED [illegible] TIME 0700 DATE 3/29/79
Signature

SHIFT ASSUMED BY [illegible]
Signature

199 256

PLANT CONDITIONS: RCS TEMPERATURE 285 °F GWE GROSS 0 MWE
RCS PRESSURE 915 psig RX POWER 0 %
RCS BORON CONC. ppmb C.R. POS. 1-4 0 %
5 0 %
6 0 %
7 0 %

PLANT CONDITIONS/SPECIAL REMARKS: Cold Cooldown - Rx System depressurization - RC-P-1A running

0845 Started transferring WDL-T-8A to Unit 1 MUWT
0900 CO-P-2B tagged out - due to excessive inboard pump seal leakage
0915 AH-E-1B breaker does not reset

1240 Turbine Bldg, Control Bldg, Recy, & Control & Service Bldg Sump Pumps turned off due to high level in 2 BTS.
1320 AH-E-1B breaker reset
1455 WDL-T-8A xfer to Unit 1 completed

SHIFT RELIEVED [signature] TIME 1600 DATE 3-29-79
Signature
SHIFT ASSUMED BY [signature]
Signature

PLANT CONDITIONS: RCS TEMPERATURE 280 °F MWE GROSS 0 MWE
RCS PRESSURE 930 psig RX POWER 0 %
RCS BORON CONC. 15-1 ppmb C.R. POS. 1-4 0 %
5 0 %
6 0 %
7 0 %
8 0 %

PLANT CONDITIONS/SPECIAL REMARKS:

1650 Placed jumper on MU-V-8 to allow continuous feed & bleed.
1600 Pumped Aux Bldg sump tank to WDL-T-8A.
2030 Vented MU-T-1 to Waste Gas header to lower pressure to ≈55 psig.
2100 Pumped Aux Bldg Sump tank to WDL-T-8A, aux building sump to aux building sump tank.
L.C. ≈1920 Letdown flow indicator started working
LC ≈2000 R.B. outside dose reads ≈3 mr/hr
1K Pressurizer LT-2 failed high, then came back to normal, initiated work request.
2120 RC-P-1A lower seal cavity press. indication on panel 8 failed low, 1K in.

199 257

1242 Inboard Bldg, Control Bldg, Recept & Control Ventilation
Sump Pumps turned off due to high level in 2 BTS.
1320 AHE-11B breaker reset
1455 WDL-T-8A refer to Unit 1 completed

SHIFT RELIEVED A. Mell TIME 1600 DATE 3-29-79
Signature
SHIFT ASSUMED BY [illegible]
Signature

PLANT-CONDITIONS: RCS TEMPERATURE 280 of MWE GROSS 0 MWE
RCS PRESSURE 950 psig RX POWER 0 %
RCS-BORON-CONC. 1521 ppmb C.R. POS. 1-4 0 %
5 0 %
PLANT CONDITIONS/SPECIAL REMARKS:
6 0 %
7 0 %
8 0 %

1600 Placed jumper on MU-V-8 to allow continuous feed + bleed.
LC 1600 Pumped Aux Bldg sump tank to WDL-T-8A.
2030 Vented MU-T-1 to Waste Gas header to lower pressure to 255 psig.
2100 Pumped Aux Bld. Sump tank to WDL-T-8A, aux building sump to aux building sump tank.
L.G. 1920 Letdown flow indicator started working.
LC 2000 R.B. outside dome reads ≈3 mr/hr
2K Pressurizer LT-2 failed high, then came back to normal, initiated work request.
2130 RC-P-1A lower seal cavity press. indication on panel 8 failed low, left in.
2200 Indication of OTSG(B) during shift show that it appears there was no tube leak or else it has sealed itself.

199 250

SHIFT [illegible] C Gedeon TIME 2400 DATE 3-29-79
Signature

SHIFT [illegible] F J Schermann
Signature

PLANT CONDITIONS: R S TEMPERATURE 280 °F NWE GROSS 0 NWE
R S PRESSURE 1060 psig RX POWER 0
R S BORON CONC. 1521 ppmb C.R. POS. 1-4 0
5 0
PLANT C[illegible] SPECIAL REMARKS: 6 0
7 0
8 0

0040 Energized pressurizer heaters Banks 3+2
0058 Deenergized pressurizer heaters Banks 3+2 MUT pressure increasing while level decreased. Pzr level dropped and many pressure increased.
0130 Shut turbine bypass valves for 5 minutes causing temps to increase 8°F
0150 ~~Vented waste gas~~ Vented makeup tank to waste decay tk Decay tank pressures "A" 50# "B" 75#
0155 Stopped pumping ABST to WDL-T8A level 9¼' in 8A
0215 Shut off all sump pumps in Turbine Bldg + Control Bldg area
0215 Stopped venting MUT-1
0220 Jacked "B" MFP by hand
0315 Pumped Control Building area sump with temp pump
0330 Venting MU-T1 to waste gas tank
0345 WDL-T8A full - stopped pumping to it
0346 Cycled MU-V376 199 259
0350 Stopped venting MU-T-1 "A" 50# "B" 80#
0351 Closed door between Aux Bldg + model room
0430 IWTS filter system started. Sump level 76%
0435 MUT1 level dropped straight down, shut MU-V12 Seal flow dropped off. Attempted to pump from "B" RCBT to MUT no flow could be obtained
0530 Adjusted makeup seal flow to ~7 gpm/pump

PLANT OPERATOR REMARKS:

5 C/ x
6 0 x
7 0 x
8 0 x

0040 Energized pressurizer heaters Banks 3+2
0058 Deenergized pressurizer heaters Banks 3+2 MUT pressure w increasing while level decreased. Pzr level dropped and pr mary pressure increased.
0130 Shut turbine bypass valves for 5 minutes causing tempera to increase 8°F
0155 ~~Vented waste gas~~ Vented makeup tank to waste decay tan Decay tank pressures "A" 50# "B" 75#
0155 Stopped pumping ABST to WDL-T8A level 9¼' in 8A
0215 Shut off all sump pumps in Turbine Bldg + Control Bldg area
0215 Stopped venting MUT-1
0220 Jacked "B" MFP by hand
0315 Pumped Control Building area sump with temp pump
0330 Venting MU-T1 to waste gas tank
0345 WDL-T8A full - stopped pumping to it
0346 Cycled MU-V376
0350 Stopped venting MU-T-1 "A" 50# "B" 80#
0351 Closed door between Aux Bldg + model room
0430 IWTS filter system started. Sump level 76%
0435 MU-T1 level dropped straight down, shut MU-V12 Seal flow dropped off. Attempted to pump from "B" RCBT to MUT no flow could be obtained
0530 Adjusted makeup seal flow to ~7 gpm/pump
0607 Energized PZR heaters Banks 2+3 @ 1065#
0614 Energized Bank 5 at 1069#
0617 Deenergized all heaters except Bank 1
0710 Started venting MUT1

199 260

SHIFT RELIEVED J. Sherman TIME 0710 DATE 3/30/79
Signature

SHIFT ASSUMED BY A. Miller
Signature

PLANT CONDITIONS: RCS TEMPERATURE 278 °F NWE GROSS 0 MWE
RCS PRESSURE 1050 psig RX POWER 0 %
RCS BORON CONC 1531 ppmb C.R. POS. 1 0 %
5 0 %
6 0 %
7 0 %
8 27 %

PLANT CONDITIONS/SPECIAL REMARKS:

0740 Start all Pzr heaters
0750 Started WDL-P-5A to MU-T-1
0753 Stopped WDL-P-5A, commenced adding D.I. $H_2O$ to MU-T-1 and Boric acid from CA-T-1
0810 Stopped adding Demin $H_2O$ and Boric acid to MU-T-1. Demin $H_2O$ SOK Tank level is 7'3".
0815 Shut off seal injection to RC-P-1B & RC-P-2B
0815 Shut DH-V-5A and commenced adding to MU-T-1 (Boric acid and Demin $H_2O$)
0820 Stopped adding to MU-T-1 (added 300 gallons)
0830 Stopped all heaters on Pzr except one group (maintaining ~1100 psig in RCS)
0855 J. Manosky and D. Bolty went to test $H_2$ Recombiner
0901 Venting of MU-T-1
0940 Shut DH-V-5B
0940 Stopped Steaming "A" S/G in order to heat RCS to 280°C
0947 Restarted Steaming "A" S/G 199 261
1020 Put Pzr level control in Auto
1000 Waste Gas Decay Tanks A & B at 79 psig (both WDG-V 26A & B are open)
1020 Put Pzr level control in Auto
1045 Put MU-V 17 to hand and shut it. Commenced bleeding letdown to "A" RCBT. Started Pzr heater bank 2
Reducing Pzr level to 100"

RCS BORON CONC: 1521 ppmb C.R. POS: 1-4 0 %

5 0 %

PLANT CONDITIONS/SPECIAL REMARKS:

6 0 %

7 0 %

8 27 %

0740 Start all Pzr heaters
0750 Started WDL-P-5A to MU-T-1
0753 Stopped WDL-P-5A, commenced adding D.I. $H_2O$ to MU-T-1 and Boric acid from CA-T-1
0810 Stopped adding Demin $H_2O$ and Boric acid to MU-T-1 Demin $H_2O$ SOK Tank level is 7'3".
0815 Shut off seal injection to RC-P-1B & RC-P-2B
0815 Shut DH-V-5A and commenced adding to MU-T-1 (Boric acid and Demin $H_2O$)
0820 Stopped adding to MU-T-1 (added 300 gallons)
0830 Stopped all Pzr heaters on Pzr except one group (maintaining ~1100 psig in RCS)
0855 J. Manarky and D. Belty went to test $H_2$ Recombiner
0901 Venting of MU-T-1
0900 Shut DH-V-5B
0940 Stopped Steaming "A" S/G in order to heat RCS to 250°F
0947 Restarted Steaming "A" S/G
1000 Put Pzr level control in Auto
1000 Waste Gas Decay Tanks A & B at 79 psig (both WDG-V 26A & B are open)
1020 Put Pzr level control in Auto
1045 Put MU-V 17 to hand and shut it. Commenced bleeding letdown to "A" RCBT. Started Pzr heater bank 2 Reducing Pzr level to 100"
1052 Started Pzr heater Bank 3
1059 Start Pzr heater Bank 4
1100 "A" RCBT at 9.5 ft.
1115 Pzr Heater banks 2, 3, & 5 off 199-262
1143 MU-V 8 to normal
1210 Pzr heater banks 2, 3, & 5 on
1220 Commenced transfer of MWHT to Unit I
1223 Pzr heater banks 2, 3, & 5 off
1243 Pzr heater bank #1 off

1340 Unint to defeat on interlocks for WDG-R-1420, 1435, 1436,
1356 Pzr heater bank #1 on
1404 Opening WDG-V 30B to put WDG-T-1 into Rx Bldg via BS-V 130A
1405 WDG-V 30B wouldn't open (suspect flow interlock setpoint cranked down to zero)
1409 Bleeding RCS letdown to "A" RCBT
1420 MU-V6B to normal, MU-V17 in auto
1440 WDG-T1A at 84 psig, 1B at 83 psig
1444 Start Pzr heater banks 1, 2, 3, 85
1445 MU HT level is 5 ft.
1445 WDG-V 30B opened - putting WDG-T-1A into Rx Bldg
~~1445 Start Pzr heater banks 1, 2, 3, 85 - AM~~
1445 AM
1450 Unint to normal on interlocks for WDG-R-1430, 1435, 1436, & HP-R219 - thereby shutting WDG-V30B.
1500 Stopped Pzr heater banks 2, 3, 85
1500 DOT in WDG-T-1A & 1B
1502 Filled 460 gal of "A" RCBT to MU-T-1
1530 Filled 50k to 12 ft.

SHIFT RELIEVED A Mills TIME 1600 DATE 3-30-79
Signature

SHIFT ASSUMED BY C Ada
Signature

| | | | | | |
|---|---|---|---|---|---|
| PLANT CONDITIONS: | RCS TEMPERATURE | 280 of | MWE CROSS | 0 | MWE |
| | RCS PRESSURE | 1100 psig | RX POWER | 0 | % |
| | RCS BORON CONC. | ppmb | C.R. POS. 1-4 | 0 | % |
| | | | 5 | 0 | % |
| ~~PLANT CONDITIONS/SPECIAL REMARKS:~~ | | | 6 | 0 | % |
| | | | 7 | 0 | % |
| | | | 8 | 22 | % |

199 263

1634 Turned off all pressurizer heaters to calculate pressure drop ratio to determine if a gas bubble is in the pressurizer.
1800 Halliburton commenced pumping water to BWST.
1800 Back ...

1417 [illegible]
1420 MU-V18 to normal, MU-V17 in auto
1440 WDG-T-1A at 84 psig, 1B at 83 psig
1444 Start PZR heater banks 1, 2, 3, 5
1445 MW U.T level is 5 ft.
L.E. 1450 WDG-V30B opened - putting WDG-T-1A into Rx Bldg.
~~Start PZR heater banks 1, 2, 3, 5 - TM~~
1455 TM
1450 Went to manual on interlocks for WDG-R-1480, 1485, 1486, & HP-R219 - thereby shutting WDG-V30B.
1500 Stopped PZR heater banks 2, 3, 5
1500 80# in WDG-T-1A & 1B
1502 Added 462 gal of 7" RCBT to MU-T-1
1530 Filled 50K to 12 ft.

SHIFT RELIEVED [signature] TIME 1600 DATE 3-30-79
Signature

SHIFT ASSUMED BY [signature]
Signature

| PLANT CONDITIONS: | RCS TEMPERATURE | 280 | of | MWE GROSS | 0 | MWE |
|---|---|---|---|---|---|---|
| | RCS PRESSURE | 1100 | psig | RX POWER | 0 | % |
| | RCS BORON CONC. | | ppmb | C.R. POS. 1-4 | 0 | % |
| | | | | 5 | 0 | % |
| ~~PLANT CONDITIONS/SPECIAL REMARKS:~~ | | | | 6 | 0 | % |
| | | | | 7 | 0 | % |
| | | | | 8 | 22 | % |

1634 Turned off all pressurizer heaters to calculate pressure drop rate to see how big of a gas bubble is in the pressurizer.
1837 Halliburton commenced pumping water to BWST.
1907 Energized pressurizer heater bank 1 press RCS 1050 psig
1920 Switched letdown to RCBT(C), RCBT(B) was full.
1921 Energized press heater group 2.
2001 Energized press. heater group 1.
2027 Turned off press heaters, press 1100 psi. 199 264
2037 Isolated FW to (A) OTSG to boil it down to ≈ 200" on Sundance.
2120 Energized press heater bank #4.
2128 Commenced venting PRZR to RCBT via RC-V137.
2212 Shut RC-V137

2240 "~~Ed~~ Commenced feeding OTSG (A), SU level +2.00"

SHIFT [illegible] TIME 0000 DATE 3-30-79

Signature

SHIFT A[illegible] BY

Signature

PL[illegible] DI.I.NS: R S TEMPERATURE 285 of MWE GROSS 0 MWE

R S PRESSURE 1075 psig RX POWER 0 %

R.S BORON CONC. ppmb C.R. POS. 1-4 0 %

5 0 %

PL[illegible] S/S[illegible] 6 0 %

7 0 %

8 27 %

2345 Continuing transient, pzr via RC-V-137

2353 Began pzr spray

0000 started MUHT transfer to unit 1 BWST level 12.5'

0033 Added 300 gal to MU-7-1 from "A" RCBT - MU-7-1 press 39#
at beginning of addition

0042 started RC-P-2B aux oil pump for test

0043 started MU-7-1 H.O addition MU-7-1 press 43.5#

0045 secured RC-P-2B aux oil pump

0105 Continuing pzr degas spray on heaters on MU-7-1
venting to vent hdr Pzr level 216" spray line
temp ~~[illegible]~~ 256°F

0120 energized pzr heaters banks 4+5

0130 A RCBT boron 265 ppm placed C RCBT on suction

0133 secured bank 5 pzr heaters

0138 secured bank 4 pzr heaters

0140 secured pzr degas closed RC-V-137, RC-V-3 +
secured all pzr heaters

0145 Began pzr vent to RB through RC-V-137

0152 energized Bank 3 heaters

0154 energized Bank 2 heaters

0155 energized Bank 1 heaters

0158 energized Bank 5 heaters secured bank 1 heaters

0200 [illegible]

199 265

[illegible] TEMPERATURE 265 of MWE GROSS 0 MW

R S PRESSURE 1075 psig RX POWER 0 %

RHS BORON CONC. ppmb C.R. POS. 1-4 0 %

5 0 %

PL [illegible] J/SP[illegible] 6 0 %

7 0 %

8 27 %

2345 Continuing Lowering pzr via RC-V-137

2353 Began pzr spray

0000 started MUHT transfer to unit T BUST level 12.5'

0033 Added 300 gal to MU-T-1 from "A" RCBT - MU-T-1 press 39#
at beginning of addition

0042 started RC-P-2B auxiliary oil pump for test

0043 started MU-T-1 H2O addition MU-T-1 press 43.5#

0045 secured RC-P-2B aux oil pump

0105 Continuing pzr degas spray on heaters on MU-T-1
venting Lowering level Pzr level 216" spray line
temp ~~[illegible]~~ 256°F

0120 energized pzr heaters banks 4+5

0130 A RCBT boron 265 ppm placed C RCBT on recirc

0133 secured bank 5 pzr heaters

0138 secured bank 4 pzr heaters

0140 secured pzr degas closed RC-V-137, RC-V-3 +
secured all pzr heaters

0145 Began pzr vent to RB through RC-V-137

0152 energized Bank 3 heaters

0154 energized Bank 2 heaters

0155 energized Bank 1 heaters

0158 energized Bank 5 heaters secured bank 1 heaters

0200 energized Bank 1 heaters

0205 RB equipment hatch 40 R/HR contact - WDC-T-1A/B
contact reading 60 R/HR

0215 secured Bank 5 pzr heaters

0228 energized Bank 4+5 heaters

0229 Began pzr spray opened RC-V-3

0315 secured pzr degas by closing RC-V-137 RC-V-3 de-
energized all pzr heaters - Waiting for H2
recombiner to be placed in service

199 266

0325 B shift CRO's SS/SE briefed on loss of RCP EP
0338 energized pzr bank 2 heaters
0400 de-energized Bank 2 heaters
0410 energized Bank 2 heaters
0440 de-energized Bank 2 heaters
0445 Added 150 gal to MU-T-1
0458 energized Bank 2 pzr heaters
0518 started HP-R-227 for RB H2 sample
0525 C RCBT boron 318 ppm B WST 2289 ppm
0528 RCBT B on sample Pzrs.
0547 Began 150 gal addition to MU-T-1 from B RCBT - initial press 32#
0549 pzr heaters bank #2 off
0551 turbine bypass valve from 47% to 44% open
0624 pzr htr bank #2 open
0638 secured RB H2 sample, HP-R-222 off isolation valve closed
0705 Began adding 150 gal to MU-T-1 from B RCBT initial press 23#
0707 secured MU-T-1 addition final press 24#
0730 secured pzr htr bank 2
0735 Began pzr spray - reduce press from 1075 to 1025
0737 secured pzr spray
0745 energize pzr heater bank 2
0755
~~0750~~ Began pzr degas and spray - all heaters are now manual
RC-V-137 and spray valve cracked open

SHIFT RELIEVED [signature] TIME 0800 DATE 3/31/79
Signature

SHIFT ASSUMED BY A Miller
Signature

PLANT CONDITIONS: RCS TEMPERATURE 280 of MWE GROSS 0 MWE
RCS PRESSURE 1050 psig RX POWER 0 %
RCS BORON CONC. ppmb C.R. POS. 1-4 0 %
5 0 %
PLANT CONDITIONS/SPECIAL REMARKS: 6 0 %
7 0 %
199 267 8 27 %

RC-1 [illegible] T. hot Temp. 282°F

[illegible] energized bank 3 pzr heaters
0518 started HP-R-227 for RB H2 sample
0525 C RCBT boron 318 ppm B WST 2289 ppm
0528 RCBT B sample received
0547 Began 150 gal addition to MU-T-1 from B RCBT - initial press 32#
0549 pzr heater bank #2 off
0551 turbine bypass valve from 47% to 44% open
0624 pzr htr bank #2 open
0638 secured RB H2 sample, HP-R-227 off isolation valve closed
0705 Began adding 150 gal to MU-T-1 from B RCBT initial press 23#
0707 secured MU-T-1 addition final press 24#
0730 secured pzr htr bank 2
0735 Began pzr spray - reduce press from 1025 to 1025
0737 secured pzr spray
0745 energized pzr heater bank 2
0755
~~0750~~ Began pzr degas and spray - all heaters are in manual
RC-V-137 and spray valve installed open

SHIFT RELIEVED [illegible] TIME 0800 DATE 3/31/79
Signature

SHIFT ASSUMED BY [illegible]
Signature

PLANT CONDITIONS: RCS TEMPERATURE 230 of MWE GROSS 0 MWE
RCS PRESSURE 1050 psig RX POWER 0 %
RCS BORON CONC. ppmb C.R. POS. 1-4 0 %
5 0 %
PLANT CONDITIONS/SPECIAL REMARKS: 6 0 %
7 0 %
8 27 %

0800 RC Loop A Inlet Temp 282°F
RC Pressure 1020#
Pzr level 230"
Pzr Temp 550°F
HP-R-320A 400
HP-R 232 125
BWST level 18.5 ft. 199 268
0803 Pzr vents and spray valve closed
0824 Fill Make-up Tank to ~50"
0825 Turn off H2 Bank #4 & #5

0828 Crack Pzr Vent Valve & Spray Valve
0830 Stopped filling make-up tank at 48" (added 566 gal.)
0831 Energize heater banks 4 & 5
0846 Closed Pzr Vent Valve
0900 Loop A Inlet Temp. 282 °F
RCS Pressure 1010 #
Pzr level 225"
Pzr temp 550 °F
HPR 3240 400
HPR 232 125
BWST level 18.5 ft.
0902 Closed Pzr Vent Valves
0907 Crack open Pzr Vent and Spray.
0917 Shut Spray & Vent Valves
0935 Opened Pzr Vent Valve
0956 Opened SF-V157 (xferring BWST from Unit I to Unit II BWST per SOP 1-79-48 → Unit I BWST to Unit I Spent Fuel Pool to Unit II Spent Fuel Surge Tank to Unit II BWST)
0957 Shut Pzr Vent Valve
1000 Loop A Inlet temp 282 °F
RCS pressure 1010 #
Pzr level 205"
Pzr temp 550 °F
HPR 3240 350
HPR 232 100
BWST level 20 ft.
L.E. 0930 MUHT = 7' Aux Sump Tank 3.4'
Aux Sump 3.2' DH Vault A 2.3'; B 2.1'
Waste Gas Tank A: 80#, B: 80#, Hdr. Press > 20#
Aux Sump Tank lined up to MUHT 199 269
1026 Closed SF-V157
1037 Opened Pzr Spray Valve
1042 Closed Pzr Spray Valve (reduced Plant pressure by 50 psi)
1045 Added 130 gal → MUT
1115 Opened SF-V157 to xfer water from SF Surge Tank to BWST
1120 Added BAMT solution & water to MU-T-1 (total 500 gal)

Pzr level 225
Pzr temp 550°F
HPR 3240 400
HPR 232 125
BWST level 18.5 ft.
0902 Closed Pzr Vent Valves
0907 Crack open Pzr Vent and Spray
0917 Shut Spray & Vent Valves
0935 Opened Pzr Vent Valve
0956 Opened SF-V157 (xfering BWST from Unit I to Unit II BWST per SOP 1-79-F6 → Unit I BWST to Unit I Spent Fuel Pool to Unit II Spent Fuel Surge Tank to Unit II BWST)
0957 Shut Pzr Vent Valve
1000 - Loop A Inlet temp 292°F
RCS pressure 1010#
Pzr level 205"
Pzr temp 550°F
HPR 3240 350
HPR 232 100
BWST level 20 ft.
L.E. 0930 MUHT - 7' Aux Sump Tank 3.4'
Aux Sump 3.2' DH Vault A 2.3'; B 2.1'
Waste Gas Tank A: 80#, B: 80#, Hdr. Press > 20#
Aux Sump Tank lined up to MUHT
1026 Closed SF-V157
1037 Opened Pzr Spray Valve
1042 Closed Pzr Spray Valve (reduced Plant pressure by 50psi)
1045 Added 130 gal → MUT
1115 Opened SF-V157 to xfer water from SF Surg Tank to BWST
1120 Added BORAX solution & water to MU-T-1 (total 300gal)
1130 Opened Pzr vent valve RC-V137
1143 Closed Pzr vent and opened spray valve
1144 Connected $H_2$ vent and $CO_2$ purge of T.G.
1145 BWST level 21.5'
1205 Closed Pzr spray valve
1210 Closed SF-V157
1230 BWST level 21.9', opened SF-V157
1235 Cracked open Pressurizer Spray

199 270

1300 Decreased PZR Level Control Setpoint
1301 RCS loop A - Tc 280°F, Press 1100#, Pzr Level 137", Pzr temp 550°F, HP-R 3240 reading 300 mr/hr, HPR 232 reading 90 mr/hr
BWST level 23 ft.
1312 Cracked open PZR vent & spray valve.
1320 SF-V 157 closed
(5m) Decay Tank pressures A - 50#, B - 80#
1340 Commenced ventilating to Unit 1 TG
1344 Opened SF-V157 & Then are now two sump pumps running in Unit I SF Pool & Unit II SF surge tank
1350 Closed RC-V137
1351 Started SF-P-1B to pump from SF surge tank to BWST
1410 Stopped SF-P-1B, left SF-V157 open
1420 Cracked vent valve on pressurizer
1417 Added water (303 gal) to MU-T-1 from "B" RCBT and BAMT
1430 Started SF-P-1A
1435 Commenced sparging $CO_2$ to MU Demineralizer
1445 SF-P-1A off
1511 Closed SF-V157 Transfer of water from SF surge tank to BWST halted until Unit I SF Pool Level is restored
1530 Adding 413 gal to MU-T-1 from RCBT "B" and BAMT
1532 Cracked PZR vent valve
1532 Secured Turbine Bldg ventilation

SHIFT RELIEVED A. McAlla TIME 1600 DATE 3-31-79
Signature

SHIFT ASSUMED BY C. Adams
Signature

139 271

PLANT CONDITIONS: RCS TEMPERATURE 280 °F MWE GROSS 0 MWE
RCS PRESSURE 1100 psig RX POWER 0 %
RCS BORON CONC. ppmb C.R. POS. 1-4 0 %
5 0 %
PLANT CONDITIONS/SPECIAL REMARKS:
6 0 %
7 0 %
8 22 %

1619 Shut RC-V137

1346 Commenced ventilating the Prem. T/G

1348 Opened SF-V157 - There are about Two Sump pumps running in Unit 1 SF Pit & Unit 2 SF surge tank

1350 Closed RC-V137

1351 Started SF-P-1B to pump from SF surge tank to BWST

1400 Stopped SF-P-1A, left SF-V157 open

1406 Checked vent valve on pressurizer

1407 Added water (303 gal) to MU-T-1 from "B" RCBT and BAMT

1420 Started SF-P-1A

1425 Commenced shorting $CO_2$ to Air Cannons

1428 SF-P-1A off

1431 Closed SF-V157 Transfer water from SF surge tank to BWST halted until Unit 1 SF Pool Level is restored

1536 Adding 413 gal to MU-T-1 from RCBT "B" and BAMT

1537 Cracked pzr vent valve

1542 Secured Turbine Bldg ventilation

SHIFT RELIEVED A. Miller TIME 1630 DATE 3-31-79

Signature

SHIFT ASSUMED BY C. Adams

Signature

PLANT CONDITIONS: RCS TEMPERATURE 280 °F MWE-GROSS 0 MWE

RCS PRESSURE 1100 PSIG RX POWER 0 %

RCS BORON CONC. ppmb C.R. POS. 1-4 0 %

5 0 %

PLANT CONDITIONS/SPECIAL REMARKS: 6 0 %

7 0 %

8 22 %

1619 Shut RC-V137

1620 Jogged open RC-V137

1626 Completed SP 3301-W1 act. 199 272

1632 Shut RC-V137.

1641 Closed MU-V13 due to low pressure in MU-T-1

1642 Started pumping contaminated liquid (B) to Unit 1 BWST.

1645 Opened RC-V137

1642 Started DF-X-10 for SP 3307-2M160.

1648 Stopped DF-X-10 to check cooling water.

1650 Closed RC-V137

1855 Started ~~DH~~ DF-X-1B for SP2303-M160.
1859 Opened MU-V13.
1950 Opened RC-V137.
2005 Stopped DF-X-1B.
L.E. 1740 Rad waste panel readings
Aux Bldg Sump 2 ft
MWHT 10 ft
DH vault (B) sump 2.35
DH vault (B) sump 2.15
RB spray vault (A) 23
RB spray vault (B) 1.75
Aux Sump tank 3.1
WDG-T-1A 82 psi
WDG-T-1B 82 psi
Vent Hdr. 4.25
L.E. 1742 Vent Header press 3.8 psig
L.E. 1857 Vent header press 3 psig
L.E. 2100 Rad Waste readings
Aux Sump 2.2 ft
MWHT 10 ft
DH (A) vault 2.3 ft
DH (B) vault 2.2 ft
RB spray vault A 2.3 ft
RB spray vault B 1.75 ft
Aux Sump tank 3.1 ft
WDG-T-1A 84 psig
WDG-T-1A 83 psig
Vent Header 3 psig
2126 Commenced pumping from Unit 1 SF pool to Unit 2 BUST
Unit 2 BUST 27.5 ft
L.E. 2034 Closed RC-V137
L.E. 2110 Opened RC-V137
2139 Closed RC-V137
2224 Opened RC-V137
2245 Closed RC-V137

199 273

MWHT 10 ft
DH vault (A) sump 2.35
DH vault (B) sump 2.15
RB spray vault (A) 2.3
RB spray vault (B) 1.25
Aux Sump tank 3.1
WDG-T-1A 82 psi
WDG-T-1B 82 psi
Vent Hdr. 4.25
L.E. 1245 Vent Header press 3.8 psig
L.E. 1852 Vent header press 3 psig
L.E. 2100 Rad Waste readings
Aux Sump 22 ft
MWHT 10 ft
DH (A) vault 2.3 ft.
DH (B) vault 2.2 ft
RB spray vault A 2.3 ft
RB spray vault B 1.25 ft
Aux Sump tank 3.1 ft
WDG-T-1A 84 psig
WDG-T-1B 83 psig
Vent Header 3 psig
2126 Commenced pumping from Unit 1 SF pool to Unit 2 BUST
Unit 2 BUST 22.5 ft
L.E. 2034 Closed RC-V137
L.E. 2110 Opened RC-V137
2139 Closed RC-V137
2224 Opened RC-V137
2245 Closed RC-V137
2320 WDG-T-1A, 1B at 84 psig.

199 274

SHIFT RELIEVED CAdos TIME 2355 DATE 3-31-79
Signature

SHIFT ASSUMED BY [illegible]
Signature

PLANT CONDITIONS: R.S TEMPERATURE 270 °F MWE GROSS 0 MWE
R.S PRESSURE 1050 psig RX POWER 0 %
R.S BORON-CONC. 2050 ppmb C.R. POS. 1-4 0 %
5 0 %
PLANT-CONDITIONS/SPECIAL REMARKS: 6 0 %
7 0 %
8 % %

2330 ~~2334~~ Added 370 gal B RCBT and 100 gal from BAMT to MU-T-1
2342 started SF-P-1A
2352 Closed RC-V-137
0009 stopped SF-P-1A
0015 shut IC-V-5 per B/W concurrence
0016 opened RC-V-137
0036 started SF-P-1A
0055 filled SDK tk
0056 cooled ICCW
0059 Closed RC-V-137
0101 stopped SF-P-1A
0112 Added 370 gal B RCBT + 100 gal from BAMT to MU-T-1
0120 opened AH-V-101 — 108 for RB sample
0123 increased spray flow
0125 opened RC-V-137
0127 Added 370 gal B RCBT and 100 gal BAMT to MU-T-1
0130 started SF-P-1A
0147 stopped SF-P-1A and closed SF-V-157
0200 closed RC-V-137
0226 adjusted RC spray flow & opened RC-V-137
0229 Closed AH-V-101 — 108 199 275
0251 Closed RC-V-137
0325 Added 370 gal B RCBT + 100 gal from BAMT to MU-T-1
LG 0323 Opened RC-V-137 + increased spray

PLANT CONDITIONS/SPECIAL REMARKS: 5 0 % 6 0 % 7 0 % 8 %

2330 ~~2334~~ Added 370 gal B RCBT and 100 gal from BAMT to MU-T-1
2342 started SF-P-1A
2352 Closed RC-V-137
0009 stopped SF-P-1A
0015 shut IC-V-5 per B/W concurrence
0016 opened RC-V-137
0036 started SF-P-1A
0055 filled SOK th
0056 cooled ICCW
0059 Closed RC-V-137
0101 stopped SF-P-1A
0112 Added 370 gal B RCBT + 100 gal from BAMT to MU-T-1
0120 opened AH-V-101 — 108 for RB sample
0123 increased spray flow
0125 opened RC-V-137
0127 Added 370 gal B RCBT and 100 gal BAMT to MU-T-1
0130 started SF-P-1A
0147 stopped SF-P-1A and closed SF-V-157
0200 closed RC-V-137
0226 adjusted RC spray flow and opened RC-V-137
0228 Closed AH-V-101 — 108
0251 Closed RC-V-137
0325 Added 370 gal B RCBT + 100 gal from BAMT to MU-T-1
LE 0323 Opened RC-V-137 + increased spray
0350 closed BS-V-149 in preparation to sample B waste gas decay tank
0400 shut RC-V-137
0435 ~~0432~~ Added 370 gal B RCBT + 100 gal BAMT to MU-T-1
0451 adjusted RC-V-1 open
0454 closed RC-V-137
0456 adjusted closed RC-V-1
0458 adjusted closed RC-V-1

199 276

0545 Opened RC-V-137
0603 opened SF-V-157
0616 Closed RC-V-137
0625 started SF-P-1A shut NR-V-513
0645 Added 320 gal "B" RCDT + 100 gal BAMT to MU-T-1
0652 opened RC-V-137
0659 stopped SF-P-1A
1.6 0600 Load waste Readings
MUHT 10 ft
aux sump 2.5 ft
aux sump tk 3.2 ft
WDG-T-1A 85 psi
WDG-T-1B 85 psi
vent header 4.3 psi
0710 Opened AH-V-~~101~~-105 for RB sample
0717 Closed AH-V-101-109
0725 started SF-P-1A

SHIFT RELIEVED [signature] TIME 0800 DATE 3rd 4/4/79
Signature
SHIFT ASSUMED BY [signature] / A. MILLER
Signature

PLANT CONDITIONS: RCS TEMPERATURE 280 °F WE GROSS 0 MWE
RCS PRESSURE 1000 psig RX POWER 0 %
RCS BORON CONC ~~2050~~ ppm C.R. POS 1-4 0 %
5 0 %
6 0 %
7 0 %
8 27 %

PLANT CONDITIONS/SPECIAL REMARKS:

199 277

0728 Closed RC-V137
0740 Latest HPR-227 Sample - R.B. Atmosphere 1 Rem Activity
2.6 % $H_2$
0750 BWST level 40.5' Secured pumping from SF surge tank and from Unit I SF tank. Closed SF-V157 and stopped SF-P1A. Shut down Unit I Sump pumps + SF recirc pump. No other changes