May 18, 1979

NRC/IE STATUS LOG 4/1 - 5/1/79

RECORD

7530-00-222-3525
FEDERAL SUPPLY SERVICE
(GP 3)

150 1243

7905210190 P

4/1/79

Emergency Procedures Reviewed By IE

1. Pressurizer Degas Procedure
2. Waste Gas System Trouble
3. Emergency Procedure for Sampling RVT-1
4. Venting Makeup & Gas Spare to Vent Header
5. Check of Waste Gas Decay 30 D
6. Fill OTSG to 95%
7. H_2 Recombiner Operation

150 124

4/2/79 0800 – DEBRIEFING – SEYFRIT / HIGGINS to GRIER

Stelli has initated planning to mobilize decon crews to clean up auxl Bldg. Tentative plans would give IE General oversight resp, with a total team, including management, HP, etc to whatever agency is used – Moseley informed

Waste gas decay tank sample taken @ 4:15 a. Can't transport to BETTIS due to weather

IE onsite has responsibility to develop PN info and fax to IE:HQ at 0630 and 1830 each day

State agency found significant I^{131} in milk samples. Split sample with PA state found no I^{131}.

Containment spray is reported to have actuated at N1400 on 3/29 when pressure spike of ~ 30# occured in containment. Tanks reportedly decreased (emptied) from 50% to 30%

Gas held up tank analysis – 56% H_2; N_2 43%; O – 0% – Thinking is don't return to containment as this would increase H_2 by 0.5%

150 128

Recombiners – Hooked up, ready to warm up one – second unit to be backup. Capacity is

calculated to be 0 cu ft/Hr removal - for 90% removal of Hz ~ 2000 Hrs required. Generation rate of Hz in containment is initially expected to exceed removal (50-100 cu ft/Hr.) Rad level at piping surface is calculated to be 40 R/Hr. Plan to have in service by 1200 today.

Bubble may be gone by 1200 today present calculations based on 100# pressure drop. Trying to get better definition by cycling pressure between 900-1100#. Bubble size presently +57.5 +47.3 @ 0740

S.G. A - still not filled for heat sink in case of RCP failure. Considering filling and using condensate pumps with flow thru steam lines to condenser instead of RHR (OH), due to possibility of RHR system leakage of high level activity.

B&W Ltr to Met Ed says instruments are expected to starting failing at an exposure of 10^5 rads. 10^5 rad exposure reached on 4/1/79
RCS flow transmitters "A" & "B" (1st) on both loops failed 4/2
Hanauer wants details on instr to determine failure modes

Core flood tanks approved for isolation, not yet isolated

150 126

Walking robot from O.R. not yet in service checking out remote (radio) control. - Sampling

Containment H_2 2.4%; O-17.6% N_2 79.9%

PAO offices setup in middletown telephone 944-4796; 944-4943

IE individual entered ~~Containment~~ Aux Bldg & + in violation of RWP in that he did not have a survey meter

1015 Approval ~~for~~ to place recombiner in use was granted w/20 minute delay to permit ARMS to get airborne

1040 Bubble size believed to be Zero,

1200 Radiation measurements

	4/1	4/2
Containment - Personnel Access	15 MR	100 MR
- ATMO Sample (contact)	350 MR	850 MR
- Top of dome	4 MR	

1346 Recombiner in service -
1419 - Temp @ 450° F will be at 1300° F, reaction Temp in ~35 minutes
No leakage - reading 400 MR at reactor chamber

150 +2

1510 (from Beckman in U-2 CR)
– Over flights are reporting 50-200 mr/hr over screen house and stack. No abnormal readings in CR. No plant operation changes w/ apt recombiner in operation. Recombiner contact readings: 700 mr/hr. on pump; 90 mr/hr on heater chamber. The recombiner is expected to be at operating temperature (1300°F) shortly and then will require ~ 1 hr. to stabilize. It is presently passing 60-65 cfm.

1630 IE:HQ requested that continuous contact be maintained between the control room and IE:HQ.

1640 Grier wants IE opns to log 10 highest core thermocouple readings on core map ~ hourly.

1905 Region III personnel arrived at airport (Wenick, Brown, McGregor, Jorgensen) and will go to the Skyway Motel.

150 128

1915 State has ordered TMI to stop all liquid discharges. This is apparently because of iodine being found in a ~~~~ water sample of water being discharged to the river Recombiner operating O.K.

2225 Verbay called. Said that they were increasing the temperature of the recombiner by 700°F to try to improve its efficiency. The latest hydrogen concentration is 2.3%. A new online H2 analyzer is being installed. [illegible]

4/3 0025 Notified of a release from the [illegible] building - same time as initial notification [illegible]

0033 Dick Wilson, GPU identified [illegible] as a sequence of events. Our highest priority there is to obtain info for Congressional briefing on Wed. But we are not to set operation to obtain data to the detriment of safety.

0039 Informed by Higgs that Lawver stated that Stellar had been briefed & event seq

0055 Finished debrief with off going shift. Still dynamic. One H2 recombiner running. 2nd in stdby status. Running unit had hi flo rate. MXR hyd valve temps 100° (~1300 vs 1200). Calc H2 [(T2-T6)/125 = H2] went fm 1.9 to 2.3%. 2.3 considered more accurate. Est 11-12 days to get to below 1%. Plan to sample SG - don't know how attained >225 psig.

150 19

0058 Release evaluated as due to on line H2 analyzer - "terminated" Im prtr

0115 Second Notif of release back up - worst case 30 hr projected 70 hr.

At 0110, B. Jorgenson, RIII was advised by Victor P. Orlandi, GPU that turbine sump overflow @ present conditions would be 70 hr, worst case 30 hr.

0500 1 Am release evaluated by licensee as due to venting of the MUT @ 6 psig to the vent header (done periodically @ 6 psig) because of vent header leakage. Offsite dose detected was a spike to 1.5 mr ~3 mi downwind, with rapid return to 0.02 mr.

4/3/79
0830 Shift change debrief

Making up to boric acid mix tank

Release at 0200 attributed to leak between MUT and compressors

Containment and gas decay tank samples sent to Bettis on 4/2 appears to be bad samples.

150 150 SG "A" still @ 34", expect to fill MS lines solid within 3 shifts - MS pipe hangers pinned so springs are not supporting

Cont'd 0830 debrief-

Flood tanks isolated A/2

Recombiners - cycling hourly with H_2 concentration reading 1.9-2.3% at 65 cfm. direct contact on 2" pipe is 5-19 R.

Bubble is calculated to be 50 - 125 cu ft

Na OH Tank @ 30' and being increased to full - Tank aligned for containment spray, if needed

1043. Online H_2 analyzer secured after 0020 release. Analyzer uses a 2 cc sample that is released after analyzing. Has not been placed back in service.

0950 - Commenced filling SG A to 95% from 34%

1100 SG B ~~Sample~~ data for 0700 provided I^{131} - 2.9 Ci/ml; I^{133} - 8×10^{-2}; Ce 134 - 8E-3; Ce 136 - 18E-2; Ce 137 - 3.2 E-2

1430 PZR (1/3) level transmitter failed low (LT-1)

1520 4 hours away from hooking up temporary rig to pressurizer sample line

150.137

1500 H_2 analyzer did not give puff (see 0243 entry). It was makeup tank vent to gas header
H_2 analyzer not working due to low flow.

2320 Notified Shift a sample is being taken from the waste gas decay tank.

4/4

0200 PZR level transmitter (LT-2) has been acting up - presently stable. Contingency plans ~~are being formulated~~ for action to take if transmitter fails.

Waste gas decay tank sample was not taken (as planned) this shift.

4/4 0857 - Shift debrief
- Concerned about loss of PZR lvl instrumentation (last LT1 - now deenergized & LT2 is erratic)
Today working on correlating MUT and using a PZR steam dome and PZR sample lines to read PZR lvl.

- I^{131} in aux bldg has increased and is now 100 to 1000 times MPC. Considering putting NaOH on aux bldg floor. 150 131

Cont'd debrief
- plan to sample RCS by use of Robot today @ ≈ 1100.

1000 Question came up concerning who has responsibility, IE or NRR for assuring that Tech Spec requirements are adhered to. NRR says IE has that responsibility & should identify any significant NC to NRR. NRR has authority to review & Waiver. All procedures that contain alignments or operations that deviate from T.S. requirements should be identified on the procedure by IE.

1026 - Joel Lubenau Pa DER stated that he and State of Md had discussed discharge of industrial wastes. Joel stated that neither Md or Pa have a hold on the industrial waste discharges. Md told Pa that Pa has lead on this matter.

1130 RCS sampling delayed beyond 1400 due to tubing across elbow in front of sample panel and dumb "Herbie" can't step over it.

1300 Joel Lubenau, Pa DER stated that the FDA analysis of river water showing I^{131} was a lab error - NO I^{131}. PN 79-67I, page 2 contained this error. "J" issued corrected.

150 133

4/4 - 1515 - relayed THI-2 power data to AL David Bettis. Except for 17.5 hour period on 3/5-6 (ex shut down) power level has been above 90%. Since 3/6/79 to time of incident, power level has been 96-98%.

4/4-1600 Aux Bldg sample taken in puddle near tendon access area. Rad levels reported in area 450 m/hr. Analyses done by B&W Mo 99 - 8.9×10^{-3}; I^{131} - 0.67; ~~Cs-134 - 9.9~~ Cs-134 - 9.9×10^{-4}; Cs-136 - 1.85×10^{-3}; CS-137 - 4.08×10 La-140 - 5.026×10^{-3}. Sample reading 40 m/hr [illegible] - 350. John Collins - NRR said [illegible] to put hydrazine in all Aux Bldg water puddles/sumps to tie up I^{131}. Not done as of 1725.

1748 Unit 2 Fuel Bldg area monitor 100 m/hr, No change from previous readings

Initiated pressurizer spray

2256 1ml. sample from the 281 ft elev of the Aux Bldg was delivered to the NRC trailer for counting & analysis. George Smith had requested the sample for analysis.

4/4/79 2315

Bettis reported an error in their previous report on the 3/31/79 containment gas analysis. Error due to their use of an incorrect base volume

Analysis	(Initial Report 3/31) Incorrect Result	(Reported 4/4/79) Correct Result
Xe 133	1.5×10^9 dpm/ml	2.6 uCi/ml 5.8×10^9 dpm/ml
Xe 133M	3.5×10^7 dpm/ml	7.9 uCi/ml 1.75×10^7 dpm/ml
Xe 135	1.8×10^7 dpm/ml	3.5 uCi/ml 7.8×10^7 dpm/ml
I 131	1.4×10^5 dpm/ml	0.025 uCi/ml 5.6×10^3 dpm/ml

4/5/79 0250

While venting the PZR (thru the PZR vent line) for 10 minutes, the PZR level decreased from 213" to 204" and pressure decreased from 1070 psig to 975 psig. This response of level and pressure tends to substantiate the lack of, or small size of, any bubble in the Rx vessel.

(NOT RELATED TO INCIDENT)

0448 A shipment of solid waste left the site at 1650 on 4/4/79. Another shipment is being prepared.

1050 Water level in reactor building
B&W calculates 268,000 gals.
levels probable 39.2"
max 52.9"
min 35.8"

0940 Bubble calculation shows "0" bubble

150 136

4/5/79 1600

During review of draft procedure Z-28, OTSG Level Control During Natural Circulation With Level Higher Than Normal, IE identified a step that will violate TS 3.4.5, OTSG level. The procedure calls for 480" while the TS requires the level to be between 18" & 440" for modes 1-4 (mode 4 is above 200°). NRR & Met Ed notified by I.E. reviewers

1630 WASTE GAS TANK B BEING VENTED INTO CONTAINMENT

2300 The venting of the B waste gas decay tank did not take place as stated above. It is currently scheduled for after the 11-7pm shift comes on. The ARMS chopper is in the air at 2315.

4/6

0100 Hold on venting waste gas decay tank to containment. Reported leak in line. Hydro of line and repair of any identified leaks to be done prior to venting. Not expected this shift.

11 of 39 pressurizer heaters are inoperable. Some of the remaining htr. bkrs. are tripping spuriously.

150 136

0310 Started discharging IWGTS to river. Release rate of 100gpm being diluted by 58000 gpm of cooling tower ~~effluent~~ effluent. Last sample taken on IWGTS at ~~0020~~ 0020 on 4/6/7 showed I131 ~~concentration~~ activity to be ~~of~~ 2.3×10^{-5} uci/ml.

0547 ~~0545~~ Started venting "A" Waste Gas Decay Tank to containment. Plans are to decrease WGST pressure from 84 psig to 15 psig at a ~~3 lb/hr~~ rate of 3 psig/hr.

0600 (Re 0310 entry) Stopped discharging IWGTS to river at 0400. Taking sample; plan to continue discharge following sample results.

0615 Resumed discharge of IWGTS. Sample results indicated I131 activity to be 2.1×10^{-5} uci/ml.

0630 Terminated venting of WGST due to high activity in auxiliary building.

0745-4/6/79 Debriefing

- Eleven of 39 Fwd heaters inoperable - installing higher amp breakers to increase current flow to HTRS

150 139

Cont'd debrief 4/6/79

- Let down flow decreasing - considering securing seal flow to non-operating RCP. Operating RCP is on internal seal flow.

Scoping work involved to install three additional decay heat systems with remote control valves to back up the installed 2 systems. Target date for work completion is 5 days.

- Established a negative containment pressure of 2" to prevent collapse of tanks in containment.

4/6

0950 From Roger Zavadonski in U-2 CR S.W.D.G.T - 1A being released to containment since 0280. No problems. Monitor H.R. - 3240, reading 60-80 mr/hr.

IWST discharged 0310 - 0400 and resumed at 0615.

Unit 2 Misc Waste Tk. being pumped to Unit 1 " " " Tank level at 0800, 4/5 was 8'9". At midnite, was reading 6' Vents to Unit 1 Tk.

1100 Have experienced a gradual letdown decrease to a low of ~ 2 gpm. Throttled back on intermediate cooling to heat up letdown line to remove boron plate out. Flow now ~ 5 gpm

150 138

416

1100 Continue vent "A" Waste gas decay tank.
Pressure decreasing @ 5#/Hr

1320 RCP 1A tripped - Not planned - May have been intermediate cooler interlock.

TMI operations are entering seal cooler room with predetermined stay times. Previous seal room radiation levels were measured at 150 mr/hr at door.
1405 - Notified entry had taken place with NO over exposures

1425 Cause of RCP 1A trip not known at this time 2A operating OK. Seal water flow to 1A & 2A, Core T/C's not read yet. Press appears (eyeball) to have increased to 1300#, T/C appears to have increased to 50° F. Intermediate cooler SW. may have caused trip - flooding of SW may have occurred. Reviewing all intermediate cooler interlocks
NO environmental changes resulted as a result of this event.
1449 - reported no RCS pressure spike during pump outage. Spike was on RCP seal pressure

1600 Waste gas tank "A" being vented to containment Tank "B" pressure is also decreasing. Common connect valve between tanks is leaking, resulting in both tanks being vented simultaneously

4/6/79

2300 Continued venting waste gas decay tanks all shift. Pressure down to 43 & 40 psig

2330 Started borating between 2245 & 2250. Going to 4000ppm

4/7/79

0300 Small release while venting MUT – secured within 1 minute. Rad increase from .02 to .07 mrem detected, rapidly returning to .02. Notified Pa

~1400 Started pumping Misc Waste Tk to Bleed Tk. Plan to the pump Aux bldg. sumps to Misc Waste T. then use NaOH.

4/7/79

1945- Started procedure Z-57. Lowered RCS pressure to 750 (actually 731) by ~2040 and to 702 psig by 2236. All readings look normal

2206 Small release when MU tank was filled too fast and caused burp. Vent monitor went up by a factor of 10 to $4X10^{-5}$. Dropped to $4X10^{-6}$ by ~2300. ARMs was notified & sent up to survey.

150 146

4/8/79

00:08 - Cycling pumps in 50?? psi steps to decrease to 500 psi.

0645 ~~Assume~~ Report that one hr's lost - no quantification

0654 - Bo Hertansen has set of t/c readings preceding & after RCP trip / shift - will bring out with him - NRR wants.

0735 - @ 550#

0855 - NRR approves depressurization to 500 psig

8930 - Boron conc in PS a/o 4/7 midnite, 2329 ppm

ALL REQUESTS FOR INFORMATION FROM HQ, WITH THE EXCEPTION OF H-2 PLANT PARAMETERS AVAILABLE IN THE CONTROL ROOM, SHOULD BE COMMUNICATED THROUGH IE TRAILER.

~1315 - Repressurizing to 1000 psig + filling SGs to upper heat removal steaming level.

1445 - At 888#. Starting to depress in 50# increments to 500#. Will require NRR OK at each 50# increment.

2245 • Reduced RCS pressure from 800 to 500 in 50 psig increments per procedure. Nothing unusual noted.

• NRR approved temporary procedure change to Z-57 to allow pressurizer level to go to 150 inches.

• Lost level indication on B S/G prior to 1500 readings

0800 - Update from last shift - depressurized to ~425#
Going back up to ~1000# for more degassing

150 148

4/9/79

From Conte, U-2 CR ~ 1200

Concentrated ~~high~~ Low RCW level spill in U-1 Aux Bldg while transferring from Conc. Waste Storage Tk to Solidification Drum. White + 4 HP going to investigate.

1430 - Update from Conte

Priority Items

- More U-1 waste than Cap-Jan.
- ~~U-2 Mole room Waste Tanks~~ IPH water
- ~~Map Aux Bldg radiation levels + issue RWPs~~
- ~~Piping Sys sample Tank up Hydro pumps~~ became inoperable while testing Hi-Press ~~Level~~ Pzr level backup instrument.
- Scoping job for installing backup filters in Aux bldg.
- Plant opr personnel are performing check of DK Sys pressure interlocks.
- Evaluating failing heaters for CIV's
- ~~Recalculating control point~~ - considering more leak
- "B" SG sample reading 2 μCi/ml I[131]

150 142

4/9/79 2400 - Received notification that NRR has approved procedure to pull RCS sample. Metson says Met Ed will be ready to pull the sample about 0110. The ARMS helicopter people have been notified. Met Ed will wait till they are in the air

to 0545 APR - Receiving sample sink. ~0620-0630 sample times. No plans to degas/depressurize until PZR level instrumentation resolved. - Hi core thermocouple 399 - with histogram of readings: 201°-210°, 1; 251°-260°, 1; 281°-290°, 27; 291°-300°, 10; 301°-310°, 5; 311°-320°, 1; 331°-340°, 1; 351°-360°, 1; 371°-380°, 1; 391°-400°, 1. NRR believes T/C's are valid based upon input from noise monitoring but hasn't explained the below T_c values (just the high & both ones attributed to have been checked??) - low readings are being discounted by NRR.

0603 - 2 pigs - 4 samples - PrHio & BRW selected as priority. ORNL & Savannah River to assist pig location - problem communicated to D. Donaldson @ 0603. - Need to follow up later (might as well get 6-12 pigs - this is going to happen again).

0733 - RCS sample drawn

1005 - from Rick Conte

Priorities

- Complete packing breakin on RW pump
- Pzr Htrs. cable drying
- Installation of charcoal filters on condenser vacuum pump exhaust - problem: must secure pump thereby losing vacuum.
- Filling Boric Acid Mix tank.
- Talking about obtaining RB sump sample
- Pzr level instr. LP-2 acting erratic a/o 0200; now on LP-3. Holding up on depressurization to 300# until LP-2

problem is resolved.
- Met Ed has set 150" lower limit on Pzr level.
- Still looking into advisability of disabling CIV's breakers.

0903 - 1130 - Sewage transfer to truck
γ 3×10^{-7} I^{131}
γ 5×10^{-7} I^{133}
γ 40^{-6} Cs^{137}

1320 - Started depressurization to 500 #.
1450 - from Rick Conte
LP-2 tracking; LP-3 on computer. Problem evidently resolved. Established hold on further depressurization to 300 # (now at 450 #)
Loop A narrow range pressure instrument O.O.S.. Checking out problem.
1520 - Looking for NRR approval to proceed with depressurization using Pzr level
Heisse gage installation for pressure correlation. NRR reviewing.

4/10/79 16-24 ~~4-12~~ MCS Shift -
Raised RCS pressure and holding under 1000 psig (986 psig @ 2300).
Primary sample left site @ 2240

Discussed Met Ed HP training and possible waiver or alternatives with Al Gibson. He will pursue this with Met Ed tomorrow.

150 1A

4/10/79 16-24 AC's 4-12 shift

Discussed with Al Gibson Met Ed's desire to move radiation zone control points back to normal control points to ease the burden on masks. Al Gibson will pursue.

2000 - Commenced Pzr. level reduction from 232" to 100".

00-08 Shift 4/11/79

0140 Licensee requested to transfer H-2 Bleed Tk to H-1 Misc. Radwaste Tk. Sought NRC approval. Subsequently determined that transfer was not needed immediately. Does NRC have to approve? (Klingler says no)

0230 Pri system sample landed at Oak Ridge (per Mike Wilbur, IE: HQ).

0248 Pzr level indicator, LP-2, failed high.

0258 " " " " resumed indication

0305 " " " ", failed high.

0310 Pri system sample landed at Augusta, Ga. for Savannah River (per Mike Wilbur IE: HQ).

0318 Pzr level indicator LP-2, resumed operation. After second LP-2 failure, CR operators began taking base line data for plant water inventory determination of Pzr. level (EP 21). 250, Rev. 3, Heise Rig procedure still not approved. Reportedly there are problems with calibration. Please determine cause of delay.

150 148

0400 Plant Status:

Letdown 22.5 gpm	MU pump 1B operating
RCP 2A in operation	Cond. " 1B "
S.G. A - Level 335"	RB fan Clrs. 3 of 5 "
Press 14 psig	CV sump level - 39"
SG B - Level 350"	RB press. -0.6
Press 13 psig	MU Tk level 62"
RC Bleed Tk. 1A - 10.8'	press 0
1B - 13.8' (to Misc. Waste)	
1C - 13.4'	Cont Hz - 1.8
BWST Level 54'	RCP 2A ~~Mtr~~ shaft - 8 mv
Waste Gas Decay Tk A - 35'	motor X - 1.6 mv
B - 32'	Y - 1.8 mv

0800 - 1600 4-11-79

1020 Pzr lvl indicator LT-2 continuing erratic behavior (351X spikes in past 12 hrs.) - anticipating failure

1120 - Rcvd info fm Cntk - B&W reported 34 vs 4 fm bottom - no other info.

1424 - fm Cntk - Starting pmcd 25 cycle to 300# for degas.

1600 - 2400 4/11/79

150 146

1820 TMI-2 pri sys press 515 psig

1845 @ 1830 500 psi TC's see TC sheet +-

Pressurizer press indication has gotten wider @ ± 30 psi swing. Could cause problems w/ procedure requirements below 500 psi.

2115 Pressurizer level LT-2 is now lost ~~Declared~~ (at 2047). One level indicator (LT-3) left which appears to be off as much as 30 inches. They now say LT-3 is OK

2135 Stack gas radiation monitor has started an upward trend.

@ 2042

Pressurizer press	448 psi	8H	396
" temp	473 °F	6G	311
" level	184	5G	353
A Tc	282	5H	384
B Tc	280	9M	341

@ 2052

Pressurizer press	406 psi	8H	347
" temp	461 °F	6G	312
" level	190	5G	354
A Tc	282	5H	385
B Tc	280	9M	347

150 147

2235 Unit 2 starting to depressurize to 350 psi

2245 HQ said that Commissioners Bradford, Ahearn and their staffs will visit tomorrow, 4/12/79

Pzr press	350 psi	8H	389
" temp	452°F	6G	314
LD 16 gpm " level	205 in	5G	365
A Tc	281°	5H	386
B Tc	279°	9M	342

2335 NRR OK to pressurize to 300 psi

4/12/72 00-08 Shift

0110 Completed 3rd cycle to ~ 300 psig. Noise detection equipment recorded very little gas evolution. Increasing pressure to ~1000 psig & will hold.

~0200, At 0100 Temporary cond. storage tk. overflow tanks (2) left site without HP release. One truck previously sampled at 1E-06 μCi/ml. I^{131}. Contacted Pa. State Police to intercept & escort return to site for survey & resampling. Truck located at I-81 Harrisburg Truck Stop (~5 mi from Harrisburg) and returned to site at 0305. Were enroute to N.J. for repairs. IE-HP surveyed tank externally - no indication of leakage or rad. levels. Smpls of liquid content obtained. Waiting for results. Shift Supt. initiated procedure to require both property release and HP release for all shipments off site.

0500 - 798" Aux. Bldg. Exhaust filter Change-out procedure ready for PORC approval after incorporation of IE-HP comments. No NRR approval will be required to implement this procedure. (No NRR reviewers on site.) Implementation imminent.

150 148

0610 – Tank Sample results: ~~I~~ 6.4 × 10⁻⁷ μCi/cc
Gross β (MPC 3 × 10⁻⁷ μCi/cc. ~~I~~ 131)

0700 Plant Status

Letdown	19.8 gpm	Contain. press	-1.0 #
RCP 2A in operation		Contain temp	83°
Pzr pressure	971#	Contain Atm. H_2	1.76 %
Pzr temp.	552°	Highest Core Thermocouples	
Pzr level	226"	8H - 387°	6G - 306°
"A" loop temp	282°	5G - 347°	5H - 377°
"B" loop temp	280°	9M - 337°	

0800 – Started working E98

0800 – State of Pa is on normal notify. procedure for 7PM to 7AM. – will be there during the drop: 783-8150 is the Nite Civil Def. (PEMA) number.

1830 Direct line from EE trailer to State of Pa. will not be manned by state between 7PM and 7AM. If contact with state is necessary contact the Pennsylvania Emergency Management Agency (PEMA) at 783-8150 between 7PM & 7AM.

2100 Pzr level ~~transmitter~~ transmitter LT-2 is now working again according to Keller.

4/13/79 00-08 Shift

0100- Hz recombiner tripped. Hz ~ 1.48

0210- Met-Ed Shift Supr. requested NRC approval for procedure Z93 "R. Bldg. Sump Level Measurement". Met-Ed ready to implement - no NRC reviewers on site. Discussed procedure with U-2 Control Rm. General scheme is to tap into "B" DH loop downstream of DH-V6 with Hose gage; then to crack DH-V6. The procedure contained no provisions for ensuring that DH-V65 would close (possibility of debris precluding valve seating). Suggested that Met Ed make contingency plan for back flush line Connections appear to be available. Also suggested that during last leakage test the "B" loop ~~has~~ indicated leakage. Met-Ed will check out before proceeding.

0255- Problem with Hz recombiner is burned out heaters. Unsure if heaters will be replaced or second recombiner cut in 150 150

0615 U-2 CR reports 2' hole in tent around job area for Z98. Also, HP has invalidated the RWP for the job. Reason unknown at this time.

0610 (late entry) - ~~Frank [illegible]~~ Discharging WDLT-11A to river (500 gals). Started discharge at 0535. Total conc. 2.16 E-03 μCi/ml (1/10 MPC)

4-13-79 0800 - 1600

0920. Control room advised by licensee and relayed to IE trailer that the licensee will commence cool-down @ 2° F/hr @ 1000.

1600 - 2400

1940 U2 control room - HP-219 is being taken out of service while a new stack monitor is being installed.

2100 U2 control room - replacing charcoal filters is being delayed until next shift. They are going ahead with replacing HPR-219.

2130 @ 2100

Pzr press	829 psi	7H	346
" temp	537°F	8H	350
" level	156 in	5G	321
Tc A	250°F	6G	283
Tc B	246°F	9M	309
let down	199 GPM	6L	282
Cont. press	-0.8		
" temp	84°F		
	-0.4°F/hr		

150 151

2130 AI H_2 expert now onsite

2330

PZR pres	845	8H	345
" temp	536	5H	349
" level	154	5G	320
TA	249	8G	281
TB	246	9M	310
LD	19.6	6L	282
Cont pres	-1.0		
" temp	85		

4/14/79 Shift 00-08

0140 - USAF plane landed at HIA to receive pressurized RCS sample for transfer to Allied Chemical at INEL Idaho Falls.

0150 - RCS sample ready for delivery to HIA.

0235 - HPR returned to service.

0300 - RCS sample left site.

0320 - " " at HIA. (ETA-0345 EST.)

0400 - " " enroute to INEL, Idaho Falls.

- Filter replacement job resumed after decon of HPR-228 (Aux Bldg Vent Monitor) I channel. HPR-219 still alarmed with external monitor hookup underway.

0600 - Filter job halted until next shift. Max exposure 55 mR/hr by dosimeter. One filter changed out.

150 152

1820 Recombiner ready to start - valve lineup is in progress

2230 H_2 Recombiner back on line (~2000 & is warming up, but is not yet up to temp & processing.

2330 - Filter replacement job halted due to lack of air. (7 filters have been removed - 1/2 of "A" bank.)

4/15/79 00-08 Shift

0500 - Filter removal job resumed

0700 - U-2 CR reported that 17 of ninety filters had been removed. (2330 entry of 4/14 possibly in error.)

1700 H_2 = 4.46%

4/16/79 00-08 Shift

- LATE ENTRY 0732 4/15 - Aux Bldg. exhaust fan tripped (AH-8C). Fan restarted at 1214 after jumpering fire system controls. (Previous trip occurred 4/11/79 at 0123 & restarted at 0345. Presumed same cause; however, both supply & both exhausts were running at that time.)

150 153

0500 - Recirculating preparatory to drawing RCS simple

0615 - RCS gas + water sample drawn & sent to B&W Lynchburg for analyses.

1613 30 Jack at 75 has back prob - ~~sent~~ took him to Walter - he went to army hospital

~1614 00 Sent rough list of TG trouble record to Bob Pardus for TOF release purposes.

1515 - Rec'd Memo from Dion to Smith which directs IE to begin preparing daily PN - It directs the IE Shift Sup to have prepared by 0700 starting 4/17.

Rec'd a Computer Print out from TMI/GPU for their document file indexed by keyword —

Rec'd a copy of a Task Status Report (Construction Work)

Rec'd copy of GPU's Prel. sequence of events —

GPU data (Aux Bldg Sup Parameters) collectors are moving to the site tonight - will be providing the data sheets twice per shift starting tonight —

Aux Bldg Filter C.O. did not progress on this shift due to air ~~supply~~ problems - elevator not controlling —

150 154

2000 Unit 2 C.R has started radioing the Unit 2 vent radiation monitor readings to us every hour & we are passing them on to the Smiths fellows at the other end of the trailer. These readings a being recorded in the back of this log.

Unit 2 C.R. notified us that inorder to repair the Unit 1 aux bldg. elevator they were going to have to pump contaminated water out of the elevator shaft. To do this they will be transfering water as follows:

(1) auxilary sump to aux. sumpt tank to next tank.
(2) misc waste tank to bleed tank
(3) Elevator shaf into aux bldg. sump.

2300 - Resumed work on charcoal filter elements replacement
- H_2 concentration 1.36%

150 158

4/17/79 00-08 Shift

0330 - Twenty charcoal filter elements replaced
- Started spraying Aux Bldg. floor with sodium thio + hydroxide.

0415 - Pumped aux. sump to misc. waste tank.
- U-2 CR reported that N_2 supply line in service Bldg to Core Flood Tks is indicating 10+20 R/hr at 2 points. Believed due to leakage thru CFT check

valves. Licensee intends to pressurize with N_2 to blow back into CFT's.

0600 Completed N_2 blow back to CFT. Levels reduced satisfactorily (20K/hr → 5K/hr + 10K/hr → 50-50 K/hr.)

0630 - Loop A Tc = 244F

Loop B Tc = 241F

0800 TO 1600 —

0940 - Talked with Tom Harney (Fed Reg Preparation Office in Phila) - gave him status per the PN.

1145 - Rec'd copy of proposed modified T.S. for review — Harpster reviewing —

Control Room Status Report as of 1215 —

1. Aux Boiler Feedpumps (2) To complete by midnite one vibrating badly, one leaking oil - could cause long term problems w/: (Condensate Vacuum attempting to repair one that has excessive vibration

2. Aux Bldg Filter replacement - Continuing on a one for one basis (slow) 31 Total as of 1600

150 156

3. PZR Level - Ch 2 + 3 still operating Tests run so far on the DP Cell indicate poor correlation. Licensee continuing to work on a priority basis. 1600 no change in status

4. Incinerator preping Loss of Condenser Vacuum Procedure - NRR has provided comments -

5. Make Up Tank now being continously vented to Waste Gas Tanks — (Had been previously pressurized to obtain sample)

6. Unit 2 Vent Eberline Monitor continously reading discharge. Grab samples being taken to verify -

7. Considerations ~~for initiating~~ O_2 control in the ~~containment~~ tail being discussed along with secondary chemistry control.

8. Decon of the D.G. Rooms continuing (U) upper level was reported completed working lower level -

1745 Pressurizer level transmitter LT-2 has failed again. Status on these gage calibration has not changed.

2100 Told U-2 C.R. to bring 4 DOE radios & antenna wire that is in the C.R to the IE trailer at the end of the shift.

2235 Pressurizer level LT-2 is working again

150 158

4/18/28

00-08 . 1) Control room inspectors are to call the IE shift supervisor with the plant status and operations in progress every four hours. This information is to be included in this log to allow the preparation of the daily PN. Additionally at the end of each shift the offgoing watch will bring a copy of the shift duties item list to the IE shift supervisor.

PASS ON TO YOUR WATCH!!

0530 50 filters have been changed in Aux Building

at about 0330 the B Diesel Gen was started for surveillance. Concurrent with this an increase was noted in vent monitor. The engine was secured at 0430 and the readings started to decrease. The licensee made aerial survey over island and trailer city. Results are not yet known.

0630 Makeup tanks now also being pulled during increase of activities noted above.

150 158

0900 Attended Arnold Briefing
(See Outage Planning Mtg Notes)

Status Aux Boiler Feed Pump 1A back in service - Both Pumps now operable.

PER Level - Licensee still working, now have a hi capacity test pump for establishing a better reference leg.

Filter changeout progressing - Had a man pass out in the area around 3:30 PM so had a small perturbation -- Number 63 ~~3:30 to~~

It is emphasized that when "A" train changeout is complete and prior to start up. We (NRC) want advance notification to set up monitoring.

RB Sump level determination is on hold. Licensee would like to open DHV-2B and get a pressure reading NRR has not concurred in opening the valve. Its position is the valve should not be opened —

219 Rad Monitor is O.O.S. —

150 159

1600 Attended Technical Group Meeting
Status of items is as follows:

1. Aux building charcoal filter changeout should be complete the morning of 4/19/79. 63 cartridges change as of 2040. Next they plan to change out the ~~CV~~ filters in the fuel handling building exhaust.
2. Pressurizer level determination backup. Use a RTD to meas steam phase temp. & calc. satn pressure. Use the Rosemount to measure water phase pressure with the pressure diff. indicative of water level. They are now taking data to calibrate. Will calibrate for 130 to 300 inch range
3. Pressurized Sample - started recirculating @ 2001 & will take sample at ~2100. Sample will be flown to Idaho 849/Idaho/Met Ed. plan to get together by phone to work out differences of opinion relative to sampling & analytical techniques. 150-160
4. Cooldown rate - plan to open turbine admission valves to try to increase

1800 (cont'd)
cooldown rate

5. Hydrazine addition - B&W wants this done due to concerns related to chloride stress corrosion. It is not of immediate concern, but should be done before the reactor coolant temp decreases to 150°F, since O_2 removal is not as effective at temps < 150°F.

6. Re cont. building sump level measurement. Decided not to open DH-V6B at this time. Radiation measurement indicate that it may be leaking and if it is they may not need to open. They are letting pressure stabilize & see what kind of indication they get on the Heise gage. IE is not for opening DH-V6B until absolutely necessary due to the potential for radiation release.

150 164

7. Decontamination - (W) should finish decontaminating the diesel building tonight. Several suggested that consideration be given to painting the decontaminated floors since they are sure to be contaminated again & painting would ease

subsequent decontamination:

B. It was mentioned that where extensive welding is going on around charcoal filters that scavengers with their own charcoal filter be used to remove smoke from the system.

9. Noise experts say that noise analysis indicates there is little, if any, debris in the bottom of the B vessel or floating around.

10. Discussed best action to take if a RCP is lost: i.e. start another pump or immediately go on natural circulation. One person expressed concern that starting a pump could cause the impeller to shift (this apparently happened at SONO) resulting in shafting the damaged cord. All but one were for starting another pump - NRR is going to look into this further.

2245 Pressurized primary coolant sample is leaving TMI for Harrisburg airport.

2315 HPR-219 is still out of service. Shaw says the licensee is developing a scheme to determine instantaneous iodine release rates.

2330 LT-2 pressurizer level indicator has stopped again.

4/19/79

0030 Re HPR-219 is still OOS. Samples (particle) are being taken every 4 hrs.

0300 Preparations are being made to admit steam to main turbine.

0500 Filter replacement should finish this AM, we need to get with NRC to see if they want to look at POP test procedure. Also a memo in ck appears to signify the safety requirements of EP-32; NRC should be made aware of this. Start of RCP if ~~are~~ safe.

150 164

0805- Med-Ed gave NRC six hours notice for starting of the "A" Aux Bldg Train after Filter change out -

Shanbaky to coordinate with Joe Logan
U-2 Control - re what do we want
Met Ed to do —

Rec'd word that they are detecting
instrosion in LT-3 similar to
that heard in LT 2 ≈ 48 hours
before failure — CR has initiated
procedure EP 2 (PZR level control
using MUT Level) to begin checking
correlations —

Notified that the LT 2 problem
appears to be only a meter problem
that can be fixed — continuing to
run EP 2 however —

1130 The last filter cartridge is going
in — ≈ 1 hour A Train will be
ready to run — Delayed to ≈2:30PM

1:45PM - Rec'd call from State Police
asking if the 1 mile radius
air restriction was still in effect.
Per Stello "yes" They were informed.

150 H65

Status

Alternate PZR level — Hose needs to be valved in - had problem with dosimeters will resume taking readings soon —

Filter Replacement - complete - however inspection found some tears in the downstream HEPA's ~ 20 will have to be replaced - apparently torn during filter C.O.. Filters are available no time estimate yet on replacement

Turbine aux - started steam flow to turbine (@ 85 RPM) trying to establish a 2°F/per hour cooldown rate. 2:00 PM Tc is @ 19°F looks good

Hydrazine addition started (7.5 liters) into MUT at 10 GPM flow ~~[illegible]~~ Hope to reduce O2 level —

D6 Room Decon —

Sump Level Determination - Hose gage reading (1.5 psig) relates to a 54" sump level in the RB. This is questionable —

150 166

4:45 PM - C reported that the HEPA filter C.O. would not be completed and the A Train started until day shift tomorrow. along with getting the filters installed is the consideration of having ~~the~~ The stack monitor 219 operable for A train start up --

1800 Status

(1) Cooldown rate is 22°F/hr. Cooldown to limit of 160°F.

(2) Pressurizer level. House sys ~~serve~~ developed for 130 - 250 inches. They are working on completing the calibration. LT-3 is still shutdown.

(3) & cont. Sump level measurement. Radiation measurements indicate DH-4GB is leaking. On April 6th downstream of the valve read 125 mr and the same spot reads 5 r now. House gage indicates 53 inch sump level which no one believes. They plan to take more extensive radiation surveys to ~~see~~ and try to determine if other valves are leaking.

(4) HEPA filter replacement in progress & should be complete on 0000-0800 shift.

(5) Hydrazine addition is complete. A pressurized primary coolant sample is scheduled for 0700 Saturday to evaluate the effect of the hydrazine.

(6) HPR-219 still out of service

2120 ~~[illegible]~~ Key Lake loaded standing ~~[illegible]~~

~~[illegible]~~

2320 V-2 C.R. says they can't get a good estimate for completion of the HPR replacement at this time. The job is going slower than expected

4/20 00-08

The results of the RC sample sent to Lynchburg on 4/19. are as follows.

To.	41.8 cc/Kg	Xe^{133}	17.9 μc/cc
H_2	21.9 "	Xe^{131}	10.12 μc/cc
N_2	18.1 "	I^{131}	.032 "
O_2	1.9 "	pH	8.3
No det.	K_r or Xe	B	3568 ppm 150 168

a radiation detector has been installed by Heinz Lang at DHV-6B, initial reading 192 m. The readout is by the control panel. This is to check the leakage past DHV-6B.

0800 — A train Filter change out — also have 2 to change + repair of Smoke detectors.

0900 - Attended 0900 staff mtg — Status -

Cooldown will be leveled off at ≈175° ~~F~~ This is due to a need to take into consideration NDT limits (160° F) and possible instrument error — Turbine to be ~~cooled~~ used to maintain Temp —

Prear right sample will be taken tonight and sent to Lynchburg —

FE attenuation level indicator still working — present system is not correlating well — additional discussions to be held regarding the use of a constant pressure reg —

1330 - Glenn Walton / Shandrey reported a possible problem relative to the Foundations for the new 2500 KW Diesel Generators. The foundation as presently installed (crushed rock and tiss) do not appear to be sufficient when the vibration from operation is considered - Ie talked with NRR Kipatrick / Novak who concurred and agreed to discuss a fix with SPU -

Item of interest - after much discussion about the need for mods to A 0756 for solid question. It was concluded that based on previous tests, A 0756 could be made solid with existing installation with no problems - Procedure is to be prepared -

Note: - Requested Const Insp (Walton) to obtain drawings / sketches of options being built. (Will do in AM)

150 170

2100 Attended 1600 Tech. Review Meeting - Status is:

(1) Rad. releases from site averaging 0.45 - 0.5 curies/day

(2) Cooldown - stabilized at 175°F - have throttled back on turbine

(3) Old pressurizer level meas. - plan to install a reference leg. Procedure is being approved - they still need more data for good calibration

(4) Now do not think there is leakage past D4 - V6B. Sumps there now reading zero

(5) "A" filter train not yet in service. Problem is with the heat sensors in the filter protection system. A short is giving an indication of a fire and now prevents opening the dampers isolating train "A".

(6) Primary sample now scheduled for 0700 on 4/22/79

150 171

2155 Unit 2 CR just said that the train B deluge sys tripped isolating train B and since it was on for ~2 min. flooding train "B". The water would drain down into the aux building sump & probably result in a ground release.
Also since "A" and "B" trains are now bypassed the building exhaust

is now unfiltered. They plan to start up train "A" in ~ 15 min. Ground survey teams were dispatched to pull samples. ARM's helicopter will be up in 45 min.

2233 "A" train is ~~not~~ yet in service. Building vent monitor on top of the aux bldg definitely showed an increase in iodine out vent, but we don't have a definite reading yet.

2307 Phase C security alert or initiated. A guard found the exterior door to D-1 diesel unlocked. No one was in diesel room. Additionally a gate (#30) on N-W corner of security fence was found to be unlocked when guard twisted lock and it fell open in big hand. A search of D-1 and D-2 was conducted. No intruders were noted. Phase C called at 2335.
Informed R. Carlson of event on phone. He is IE:I duty officer.

2345 Placed train A Aux Bldg Vent Filter in service.

4/21 ams flight 2330 - 0030 detected no airborne activity. 150 172

0300 ± 15 started fan in Fuel Handling Building N.E. system in preparation to start charging charcoal

filters in Train B. Saw a slight increase on P2W6 monitor to 8.5×10^{-6} μCi/ml. Psych results do not confirm this reading.
Trailer will be moved today to NRR just at 6. They will share with us and we with them during the move.

0330 lost stereoscopic printout. Still have hi-lo & readings.

R.I. office is down to one person 24 hr coverage. If you cannot reach the duty officer on the open line, try 1-215-337-5000 or 488-1000 (FTS).

4/27

0700 — NRC Trailer being moved to the ~~Island~~ Hard line 5 way communications lost —

9:00 AM Mtg Status
— I levels - down by factor of 2 offsite MSA
— MUT cubicle air sample ~~Tech~~ analysis not completed
— Hot well activity 1.2×10^{-7} I_{131} — (reported)
— air Ejector condenser 1.1×10^{-10} upstream of filter

Will be looking at FHB Filter charcoal cut since ~~I~~ levels on filters were found hi

Alternate PZR Level - seems to be a bad case - don't seem to be able to keep the steam space ref. leg filled - (DHL Outlet Valves)

Can DHV 1, 2, 3 be opened? Proposed a megger check and phase check to be done today.

2:30 PM - Terminated communication from Trailer City New NRR Tech #1. Nos 782-3950 3951, 3952.

It was reported that the Waste Gas Decay Tank A pressure is 25 PSIG as read on the local gage. B Tank is 21 PSIG

Megger + Phase checks of DHV 1, 2, 3 & 171 have been completed - readings look ok -

150 174

2030 Attended 1800 status meeting. This meeting will be held in trailer 23 until Monday.

① Met-Ed said I put the plant vents seems to be trending downward

② Aux. Bldg. filter "B" train changeout should begin this shift.

③ Alternate pressurizer level meas. still working on - they will be raising and lowering pressurizer level tonight with the changes in makeup tank level will occur

which could result in a radiation release.

2245 Momentarily start changing "A" train filters for fuel handling building.

2300 Status

(1) Plant computer not working therefore, no routine TC readouts, etc.
(2) "A" fuel handling building filter status same as @ 2245
(3) "B" train aux bldg filters probably start changeout on days on 4/22.
(4) Ht. pressurizer level determination status unchanged.
(5) Cooldown rate - holding @ 175°F
(6) Iodine release trending downward.

4/22 A NRC review team memo to Stello indicates they believe we have established a QA function at TMI-2 with a resident QA staff knowledgable in Mech, Elect, Civil Engineering and NDE to provide daily surveillance of the activities.

150 175

0600 Whole body counter work who lost air supply while working in filter change was 3.9 % of MPBB.
0700 C/B on H2 recombiner tripped at. still Contact 0715 —

0900 Mtg Slates

Levels .2 - .3 c/day trending down

Pressurized sample to be taken AM —

Alternate PZR level - still working

— Fuel Handling ~~Building~~ Filter change out 40 of 60 changed —

1130 — Pressurized sample taken and being shipped by Duncan to B&W Lynchburg —

Alternate PZR Level — new piping reg & cell built with tee to facilitate Dead Weight Tester when it arrives. now being installed.

Rec'd copy of Bulletin 79-05B ref. B&W Plants — reset PORV set point & reset Hi Press set point TMI-2 rec'd for Info only —

150 176

2140 Control Room Unit 2 status of the plant

(1) Recombiner was restested. They could not find anything wrong with it.

(2) "A" train fuel handling building filter changeout is complete.

(3) Aux. bldg. "B" train filter changeout should begin soon.

(4) HPR-219 the two radiation monitors were going to pull their sample off of the ~~same~~ same sample line using a standard "T" rather than a sample splitter. Our inspectors questioned this and since they do not have a sample splitter available they will isolate one instrument ~~with~~ with the other as a backup. This is still being evaluated.

The following info. was obtained in the 1000 status meeting

(1) Preliminary ~~sh~~ results of the pressurizer reactor coolant analysis by DTW today:

23.8 cc/kg Hz — Boron 2937 ± 20 ppm

<9.9 cc/kg N — Xe 133 7 μc/cc

<1.1 cc/kg Ox — Xe 131 m 6.8 μc/cc

1 cc 200 mr/hr on contact, 30 mr/hr @ 3 ft. shielded sample vessel 2.1 R/hr on contact, 130 mr @ 1 ft, 30 mr @ 3 ft.

150 177

(2) A procedure to be used to put the plant on natural circulation in case the RCP is lost should be approved for use soon. Procedure issued (EP-32) @ 2215 a copy is in this book.

(3) Decision was made not to deliberately go on natural circulation until the decay heat system is upgraded (leaks in sys. stopped or minimized) and a mechanism for going solid on OTSG "B" to use it as an alternate heat sink has developed. This means it will take 8 days or longer before they are ready to deliberately put Unit 2 on natural circulation. This will be discussed further at the 0900 meeting on 4/23/79.

(4) Alternate pressurizer level determination - see attached handout for description of methods being evaluated. The dead weight tester for Method #1 should arrive at the ~~site for~~ site on 4/23

2300 (5) Moseley and Davis will probably visit the site on Wed or Thurs. (4/25 or 4/26).

150 178

4/23.

(1) 0300 Completed work on FHB Train A. Need new smoke detector and QC checks yet.

(2) We need definitive as to what role we are to play with respect to procedures, i.e. Licensee is operating by memo etc and changing procedures vs do they approved written procedure. Additionally do need to emphasize the accuracy of logs and charts to licensee. They do not document or marked. The reconstruction of current events would be might impossible.

(3) Work in progress to place the pumps for SG-B plant system cooldown and the HX is been cleaned.

(4) The lead weight tester is here. Another correlation with Heise Gauge is in progress.

(5) 0445 A Pinch tested for weekly surveillance Upper level being increased to 360" for this test.

(6) Have moved 35 new filters for Train B ABV system into Aux Building. No replacement started yet.

150 179

0600 A. Waste evaporator condensate storage tanks is being discharged to the river. The tank contains effluents from Cap-Gun processing. Reviewed by J. White before release.

States as of 0900 Meeting

Filter Changeout - A FHB complete however, problem exists with Deluge System. Heat Sensor is grounded out System Isolated and being worked on.

Condenser A.E. Monitor (upstream of filters) - Mad out sporadic 1000-3000 counts - air sample $< 2.5 \times 10^{-10}$ I_{131} 2.4×10^{-9} no immediate concern. This is also monitored by #19 in the stack.

EP-32 Loss of RCP and initiation of Natural Circulation. B+W committed to brief each of 6 crews on procedure. STA to requested that our CR Inspector sit in on this session for each shift and provide Feedback if we have any problems.

Ref: 4/23 Backshift (0000-0800) entry
(2) - regarding any procedures that NRC approves. Stella's instructions to us are to monitor the procedures and any changes made - If changes are made without visible NRC approval we are to immediately bring them to NRC's attention

Regarding the quality of the logs or marking of recorder charts - We should bring it to the attention of Miller (or Supt) If this is unsuccessful we are to inform Stella who will talk to Arnold — The same goes for other concerns of this type —

1930 In the 1000 meeting it was stated that IE inspectors were holding up the design work because welds were not properly qualified. Both Herb Cook and Eugene Boyd were contacted and they both stated that IE did not put a hold tag on the work. They said that the licensee asked IE if the welds were qualified & IE told them "no" but IE did not stop or put a hold on the work

2025 Status as of the 1800 tech. group meeting:

(1) Sample results for the 4/22/79 pressurizer sample were given out. See Misc Info notebook.

(2) The schedule to be followed in the process of deliberately steaming natural circulation was passed out. Target date is 5/2/79. See Misc Info notebook.

(3) @ 2020 Unit 2 control room said that it would be at least one hour and may not be until 2300 or 2400 before "A" train fuel handling building are returned to service.

(4) The next Rx coolant sample (#5) is scheduled for 0500 on 4/25/79

(5) Alt. pressurizer level determination - no change.

(6) The 0900 Task Mgmt / Schedule Meeting will be in Arnold's trailer on the island.

150 182

2130 Unit 2 control room - licensee found another heat detector damaged and the fuel handling "A" train filter may not be placed in service this shift.

2210 Unit 2 control room notified us that the E B neutralizing tank overflowed while they were pumping it into it from the makeup tank. A level indicator was not functioning resulting in the overflow. The water flows into the aux. bldg. sump. The aux bldg vent monitors increased from 200 cpm to 700/1000 cpm/hr. Iodine ~~reduction~~ monitor remains unchanged. The licensee is spraying down the area.
Ground survey team was sent out and ARMS sent up. NRR trailer notified (Volmer)

2245 Aux. bldg. vent monitors are now trending down.

4/24
0600 Continuous readout on HP-719 is out of service.

(1) 28 of 90 Train B Auxiliary Building filters have been changed.
(2) Train A Fuel Handling Building is still not in service.
(3) No pressure in release as result of vent tank overflow as indicated by 719 graph at 0400.

150 183

0630 (1) Train A FHB placed in service @ 2,000 GPM

(2) ~ About 40 gallons sprayed in Train B of Aux Bldg

0745: W. Kuhlman was contaminated on hands & clothing while going through uncontrolled area of U-1 FH Building & the licensee is investigating the source of the contamination.

1100 - Morning meeting items

(1) Wed 4/25 - PORC review of Nat. Receive. procedure - NRR & IE attendance requested & committed. (Have transp. team for IE) [Goal is to be ready for Nat. Receive. by 5/2.

(2) 2 of 3 FHA Protection pumps OOS - vendor called in (today) - one of the 2 OOS expected back in today.

(3) Watch for info on OTSC solid evolution.

(4) Alt. PSZR level - believed by licensee to be good for 150"-300" level by maintaining @ 200"-250" indicated level.

~1130 Received notify that Makeup pumps had tripped due cooling water pumps trip - Std by cooling water pumps on, MU pumps on. cause being investigated

1:15 Sr. Higgins: NI-2 Source range instr - failed low I & C checking.

1508 Secondary xient - water hammer in steam lines - so turbine was trotted - being brought back on - caused ~10°/hr heatup (for 10 mins) - $T_{c(a)}$ = 177° now [were cutting in feedwater on every feedwater nozzle -] no damage identified yet. Feedwater back on main nozzles.

1520 xient cause - change in gen flow caused cavitation & water in steam lines - will take ~1 hr to drain - heatup is ~12°/hr - in primary.

1620 Projected 4 hrs ~230° pressurizer temp to get turbine on line - heatup ~10°/hr now.

2000 - Attended 1800 tech. group meeting. Status:
(1) Heatup rate ~ 6.3°F/hr
(2) 73 trays replaced in the "B" train of the aux. blg. filters. Should be finished tommorrow, 4/25/79
(3) Alt. pressurizer level meas. - not taking data since the turbine trip.
(4) RCS sample # 5 scheduled for 0500 on 4/25/79

150, 185

Shift 4/25

Please note the attached copies from the HP log. A shipment of solid waste is planned on 4/25. Make sure OSP (Wayne Kerr or Joel Guberson, 492-7767) ~~is~~ notified and that the various states involved are notified

"B" train aux bldg filters changeout is complete. To estimate as to when "B" will be put in service

Place Train B of Aux Bldg Filters in service.

(a) Concern raised by J. White of supply V-2 RCS with people in FH Bldg.

(b) Also concern of horizontal displacement of new filter train and ripple capability.

150 186

4/24/79

0300 Report that HPR-219 is not working properly - since 0100

0430 HPR-219 appears to be back in line. Will log for 0600 readings -

0556 - Call from Hanauta Radwaste to ship what is presently on pallet (location) #1

(1) - 75 drums of compacted Radwaste - 0.168 mC - 551 cuft - (#79-38) -

(2) - Old air filters - to shipped in Super-Tiger Container

(3) - 9 - 50 cuft liners in shielded box. containing solid waste -

0630 - Ops reports established flow through "A" Train of Fuel Handling Building filters.

The State of Pa representative was informed with the planned liquid release and all analytical data was given to him.

1600 P.E. TROTNOWSKI

1810 Jerry Serabian noted that Met-Ed is planning on making a solid waste shipment on 4/25/79. See previous entry on shipment description. Shipment is tentatively slated to be made to Barnwell, South Carolina.
NOTE: WE MUST NOTIFY OSP WHEN THE SHIPMENT IS FIRMED UP.

1010 Bob Shipman reported that 3 ruptured filtrate vials were found during 4/24/79 NRC check. Licensee investigation underway.

Fire Pump Situation: 1:45 PM, 4/25/79

Unit 1 Circ. Water Flume pump (diesel) is available

Unit 1 & 2 River Intake diesel fire pumps are OOS.

Unit 1 River Water Motor driven fire pump also OOS.

Licensee is reportedly working around the clock to get 1 in service and is considering the alternatives of getting another pump on site or using a fire station pumper as standby pump on site.

Tech Specs required:

2 pumps inop. - 7 days to restore, or report in 30 days more than 2 inop - establish back up fire water supply in 24 hrs, + special report to Comm

Does NRR waive any T.S. requirements in this case? Discuss with V. Stello - he wanted more info on probs / ETR.

2:29 - Unit 1 RW2 diesel inoperable for ~ 1 day or more. Tech Rep at. - may be long term prob?

Unit 2 RW2 diesel - came on in auto this AM due low pr header - overheated, plus spraying water - Tech Rep recommended shutdown it cool down - will restart then & expect to declare will know in 1 hr if OK.

Motor driven pump - checking on probs.

150 189

Storm below cooling towers - suct for cooling towers & fire pump — has some acty - yard drains drain into dam, thence to river. that has some contamination. - ~ 2 gpm leakage to river - dissd lead prob - measurable acty < MPC was going to river - correction measure was fire hose to river side - of dam to dilute ditch. — that stopped fire pumps, ~~Con~~ causing unit 2 pumps to come on - dilution stopped - have adequate fire header pressure now (~90 #) attitude Grapit tank full - they have posted the word (MC) that fire system not to be used for anything fire purposes w/o notifying control room.

Other data for info:

- No plans to restart turbine. No more energy feed to "A" S.G.
- EPA approved to archive today with a two thanks analysis grab
- Fed agency daily summary to be issued & distributed by IE - but DOE or EPA would sign agreement.

150 190

3: Unit 1 Motor driv. pumps - being reinstalled to system - motor in shop - checking out windings/bearings - expect to reinstall by 260700 with exception of coupling - realign/test by noon tomorrow - (motor was not a problem - pump was

Unit 1 Div. Wat. Diesel - working dumps only - head removed - cylinders out - Cummins to bring tools

Unit 2 Rx Wat drained - tendency now - no prob - in commission.

1615 - Relayed Ltr concerns - (Chindasy) - shared by Libowski, & about "Oxygen Lancing" method of cutting penetrations in Aux bldg - method is Mg - O_2 flame (≥5000° & concrete melts @ ≈ 1400°C (≈2500°F) - flame turns cement into gypsum + water :- concrete is dehydrated & water boils out of concrete surface @ ≥7" from lanced hole in test block - [sketch] In Aux bldg = rebar (crit. limit on temp is 1100° F) - extent of propagation of greater than code allowable temp of rebar is unknown to NRC - no analysis of structural impact available yet ... Chindasy & Libowski consider oxygen lancing unacceptable - John Collins, NRR, attempt to set up meeting with (W) - Chindasy also feels coring would be almost as fast as O_2 lance

2611 00 Discussed O_2 Lancing with (W) - Frank Sciaraga On Andrews : B&R - Oshan Michoda, Harold Canton : GPU - Alex Makitka Basic concerns are on heat propagation & to extent - effect on rebar & rebar to concrete interfaces & how soon propagation will explode Core boring alternative identified by (W) as 21-25 days (unacceptable to Shelby) - (W) Continues with qualification of method / operators & obtaining research factor on method - NRR & IE Const people and B&R (Michoda) have satisfaction here - Shelby directive was to do what can be done but

the problem - but need the holes cut & don't wait 25 days.

Call Chaudhary, RI for "O_2 Lancing". - 269-7790 home No. if not still on site.

2300 RCP 2A still on and A OTSG is steaming to main condenser via MSIV bypass line and turbine bypass valve. B OTSG is being drained (since ~9 am) through the normal sample line (~½" OD) to the sample sink. This is giving ~0.25 gpm. A second drain path is being pursued using a ½" OD line off of the normal sample line and directing that to the sample sink. This is expected to drain ~10 gpm.

Pzr P = 647 psig ; Pzr T = 537°F ; Pzr Lvl 247 ; Loop A = 224°F ; Loop B = 222°F ; Cont. Press = -0.7 psig

Thermocouples: 5H = 295°F
5H = 311°F
5G = 282°F
6G = 251°F
9M = 275°F
8G = 252°F

150 192

See attached dose report from CR inspectors for more data.

Shipment of completed work (75 55 get done) [illegible]
Paper circuits made by [illegible]

[illegible] Fridays Exam will be open
book test on [illegible]
We will do pipe rise in [illegible]
it on next [illegible]

Chris and Streiter attended natural circulation testing class. Handouts are on desk for review

Temporary load [illegible] has increased on 1 of the Europa over from the groundwater review to duration of FW-V 26A & FW-1-MA (Exam).

Schedule [illegible] for natural circulation next Tuesday or Wednesday

Now looking Fielding rep for user being DOE tested now. Getting ready to cut into steel tonight or tomorrow

150 193

4/27. 0115 Zero indicator on A OTSG was lost on last watch. Using an optional d/p for level control LT-3 on psp is becoming noisy (spikes).

0300 LT-3 pulled down. Shift turnover stopped.

0430 Question of service air as no signed off procedure could be found. Pulled man on service air out of Aux Bld until procedure was accomplished.

27/1015 – LT-3 Failed between 9:00 & 9:15 a.m. Plans to go to Natural Recirc were for 1100. Using CP 21. last PSZR level was 214"

1130 – Recvd call from Patty McCormick, Gov. Press Sec. – question for reporters – told her our plans were for natural Recirc today. Said received press inquiries – told her I'd call back about whether press conf was planned – found out from NRR that none was planned, & that expected transient on Nat Circ was expected to result in heatup w/ but no boiling in core. – called back but P. McCorm out – left No for her to call back. 150 194

1151 Told P. McCormick that LT-3 failure had resulted in Nat Recirc plans for today – that the transient was expected to heat up slowly – that should remain subcooled – precautions made to monitor & check for noncondensibility of, off-site consequences

1:37 Bypass Valves, "B" SG, being opened now.

1:39 ARMS is seeing something - not quantification - unable to correlate to what is going on.

1:47 Bypass open ~ 20%: no increase @ Condenser air ejector exhaust (748)

2:08 Inbound stats - Xe -.15 mr/hr (7x background), 50 x @40s ft ARMS (5x background)

2:09 RCP 2A vac tripped.

2:42 10^{-8} I in U-2 control - going into masks - Higgins coming out with unnecessary shuffle.

2:53 Masks off - going on MPC hrs - 30 hr

2350 - On [illegible] Seems as though B OTSG temperature temperature is dropping. Drops are to steady off at 70° on T_c. The OTSG is cold, the OTG is cold, and even the RCS cold RCS volume control (pressurizer level) now being done by main bleed.

4/28 0110 secured steaming the B OTSG by shutting the steam bypass valves. This is to see if I^{131} increase was due to SG.

0200 Determined the I^{131} spike to be an incorrect reading. B OTSG still "isolated".

150 195

10 - Polar Sm 9 a.m. mtg

Natural circulation cooling continues on the "A" steam Generator. Core coolant inlet and outlet temperatures are 169°F and 183°F, respectively. The highest incore thermocouple reads 319°F. Good correlation exists between the Heise Gage and Mass Balance Calculation methods of determining pressurizer level.

(Note - the mass balance calculation error is cumulative, & therefore must produce a less accurate result ~~with~~ as time passes - this was not brought out at the meeting) ⇒ LT-3 intermittent valid indication needed to be zero

110 - 9am Status mtg items

① Water buildup in U-2 - too hot to xfer to Unit 1, need Cat Gen II to be finished.

② PSZR level - controversy over most valid method between licensing ops & Engg. (NRC also looking hard @ this) - Arnold directed that ~~error~~ going solid was the less undesirable condition & efforts should be slanted in that direction

③ Cable question on aux Bldg filter had seamus - George Smith & J Cunningham following up.

④ Arnold placed hold on feedwater mod cut into "A" S.G. Bypass. 150 196

⑤ Primary Nat - B&W evals as not significant with ph > 7.5

⑥ Concern ~~of~~ over potential for loss of Nat Recirc expressed due to reduced flow as heat source diminishes. Heat balance to be run.

⑦ A diesel was rolled - B tooling (theirs as ~~A~~ 32.5KV line runs to site - xformer down & grounded to Core Maint)

4/30/79

0000 On natural circulation. B OTSG isola LT3 operating since ~ 8 am. Only level indicator on A OTSG is a temporary one.

See 1800 meeting notes. GPU is reviewing whether or not to proceed to solid circulation of OTSG This is because they might not be needed by the time the system are completed.

Cut per auxiliary building roof ventilation system is expected to be made ~16.00. Still a problem to calibration of monitors. HPs will review data to be provided by GPU in the morning.

2.

0630 Water was transfered in U-1 as follows:
(1) Cap-Gas/Hal TK #1 to WDLT-11A & B
(2) WDLT-9 to Hal TK #2.

5/1/79

0000 On natural circulation. B OTSG being dra and is pressurized with nitrogen. H^2 recombiner secured.

150 197

Feed and steam line modifications & solid secondary cooling are continuing.

Cut is expected to be made any time
for auxiliary building roof ventilation system.
Calibration of monitors is still incomplete but
was supposed to be completed about midnight.

1400 started cut into ventilation stack. 55 has
now orders to place in service.

1730 B MFW is ready to refill.
Coolant sample to be drawn today.

1345 - Delta for 9 am mtg 150 198

① vent stack cut complete - Herbein stalled the balveias NRC is
sat w/ calib of rad sensors - Need to get to him if
that isn't so.

② (W) effort on one bay - DHR system - need regular
input for Court on status / delays / stand - daily 9AM &
5 PM Mtgs (5 vs 6 now.)

③ "A" SG Aux heat removal - on hold: mat'ls, fab, design

④ GPU presented short term recommendations for nat. circ: pri. temp
floating, set by decay heat & secondary conditions; pri press
500 # (procedure to be written today), PZR level ≥250"
& go solid (2 one flood press maint), SG "A" steaming,
400-430", on bypass, SG B isol (secure drain - Arnold
questioning that), RC pump bkrs racked out, interm.
Closed cooling secured, MUT temp ≤150° but as close
as poss., MU water degassed. B&W concerned about
securing seal water flow because could get "ceramic"

pump is started.

011430 Question concerning Aux Filter Cont: conversion of readings to dose; how to operate (esp freq of readings); alarm setpoint basis - all referred to Herbert Hsu AEA - Also referred Theis & concern about cracks & swagelok fittings to Rm Tools, & Glenn Wallin is following that issue too. Higgins called Sm Control Room to see if OK to put system in hse - I said no - C. Smith concurred - J. Cunningham said there reasons shift Sup also was against this. Cunningham met with Sid Parker (a little late) and it received acceptable answers verbally - OP Procedure to go thru PORC yet. It persist is that we've been asking the same questions for 45 days & have been told the answers would be to us shortly. - These questions are simple - what does a reading mean? what readings will be taken and when? what does an alarm mean to operations? Want a system or cautions for standing swagelok fittings?

150 199

TWA

944-7631

Bruce

HARPSTER

150 200

NOTE:

Plant using total flow rate of 218500 cfm.

HP Area Exhaust	Stack Total Flow	Fuel Handling Flow	Prep. Bldg Flow
7000 cfm	~~66,000~~ 66,000 cfm.	42000 cfm	17000 cfm

150 201

Eberline Instrument Readings Unit 2 Vent Radiation Monitor

HPR-219 Readings in μCi/cc

Date	Time	Particulate	I-131	Gas
4/16	2000	1.32×10^{-5}	1.55×10^{-6}	1.08×10^{-3}
	2100	1.19×10^{-5}	8.62×10^{-7}	1.54×10^{-5}
	2200	1.21×10^{-5}	7.97×10^{-7}	6.3×10^{-6}
	2300	1.36×10^{-5}	7.96×10^{-7}	1.02×10^{-6}
	2400	1.56×10^{-5}	7.97×10^{-7}	1.02×10^{-6}
	→ Filter changed			
4/17	0100	4.59×10^{-6}	2.60×10^{-7}	.005
	0200	5.36×10^{-6}	3.70×10^{-7}	0
	0300	6.03×10^{-6}	4.31×10^{-7}	.0
	0400 → 0410 Filter Changed	4.7×10^{-6}	1.30×10^{-7}	0
	0500	5.2×10^{-6}	2.58×10^{-7}	0
	0600	5.5×10^{-6}	3.9×10^{-7}	0
	0700	6.09×10^{-6}	4.98×10^{-7}	
	1000	5.74×10^{-6}	4.1×10^{-7}	
	1315	5.63×10^{-6}	2.5×10^{-7}	0
	1415	5.99×10^{-6}	3.9×10^{-7}	1.0×10^{-6}
	1515	6.43×10^{-6}	5.3×10^{-7}	
	1730	6.76×10^{-6}	3.46×10^{-7}	
	1800	7.4×10^{-6}	5.25×10^{-7}	
	1900	8.07×10^{-6}	7.82×10^{-7}	
	2000	6.50×10^{-6}	1.91×10^{-7}	
	2100	7.84×10^{-6}	4.94×10^{-7}	
	2200	8.5×10^{-6}	7.10×10^{-7}	150 202
	2300	9.78×10^{-6}	1.03×10^{-6}	
	2400 → Filter changed	2.09×10^{-6}	2.19×10^{-7}	
	0100	7.96×10^{-6}	4.82×10^{-7}	
	0200	8.72×10^{-6}	6.03×10^{-7}	
	0300	9.5×10^{-6}	7.5×10^{-7}	

DATE	TIME	PARTICULATE	I_{131}	GASEOUS
4/13	0400	1.2×10^{-5}	1.4×10^{-6}	2.6×10^{-5}
	0430	~~8.3~~ 1.4×10^{-5}	2.1×10^{-6}	8.3×10^{-5}
	0500	1.21×10^{-5}	1.65×10^{-6}	4.05×10^{-5}
	0600	9.10×10^{-6}	6.26×10^{-7}	1.61×10^{-5}
	0700	8.98×10^{-6}	6.04×10^{-7}	8.98×10^{-6}
	0815	9.01×10^{-6}	3.06×10^{-7}	2.98×10^{-6}
	0930	8.93×10^{-6}	5.14×10^{-7}	MDA 8×10^{-6}
	1100	8.42×10^{-6}	4.4×10^{-7}	MDA 8×10^{-6}
	1215	8.24×10^{-6}	3.06×10^{-7}	MDA 8×10^{-6}
	1430	8.48×10^{-6}	5.01×10^{-6}	2.84×10^{-7}

150 203