PP&L

PENNSYLVANIA POWER & LIGHT COMPANY

EMERGENCY OPERATIONS FACILITY

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Telephone: 717-542-2181

March 28, 1984

Mr. James Jamison
Battelle Pacific Northwest Labs
P.O. Box 999
Richland, WA 99352

Dear Jim:

Enclosed is a revised scenario for the April 4, 1984 Susquehanna SES exercise. Detail is provided for those areas where based upon technical plant data, participants will be expected to make a decision in terms of classifying the event. This data, as found in the scenario, is provided on 15 minute intervals via the Unit Monitoring Console (UMC) as the participants would view the data in real life. Unit Monitoring Consoles are available to the Control Room operator, Technical Support Center staff, and EOF staff. For purposes of expediting your receipt of this scenario, 15 minute data for the entire duration of the exercise is not included herein, only that portion along with a description of expected actions pertinent to the participant assessment portion of the scenario. For an approximately 10 hour exercise, I am sure you are aware, much of this 15 minute data does not change or does not impact the decision making process.

You will note that we revised the timeline slightly to allow for increased time participation by our EOF and MOC personnel. The purpose is to provide the opportunity for participants to bring the emergency condition to a reasonable conclusion.

If you have any questions or problems, please do not hesitate to give me a call at (717) 542-3233 or (717) 759-3955.

Sincerely,

Charles R. Wike, Jr.

Charles R. Wike, Jr.
Supervisor-Nuclear Emergency Planning

CRW:mm

cc: Ed Woltner
U. S. NRC
Region I
631 Park Avenue
King of Prussia, Pa 19406

IE35

CONTENTS

SUSQUEHANNA STEAM ELECTRIC STATION
OBJECTIVES FOR 1984 NRC OBSERVED EXERCISE

1. To provide the basis for an approximately 8 hour utility-state radiological emergency exercise. This exercise will include participation by Susquehanna SES, Pennsylvania Power & Light Allentown, and the Commonwealth of PA Department of Environmental Resources/Bureau of Radiation Protection.

2. To exercise the overall SSES Emergency Plan, and on a modified scale the Radiological Emergency Response Plan of the Commonwealth of Pennsylvania (DER/BRP).

3. To determine the cause of the emergency condition, terminate the condition with consideration for appropriate engineering safeguards and radiological controls, and place the plant in a safe condition.

4. To test and exercise SSES site communications associated with a plant radiological emergency. To test, via simulated communications networks, the capability to coordinate SSES, Commonwealth, NRC and federal agency emergency response personnel.

5. To perform a limited site personnel accountability.

6. To perform timely and accurate calculations for gaseous and liquid releases.

7. To evaluate the ability to deploy and control emergency response teams both in-plant and offsite.

8. To test communications, activation, functional operation and coordination of the Operations Support Center, Technical Support Center, Emergency Operations Facility, Media Operations Center and General Office Support Facilities.

9. To test the ability of SSES personnel to adequately respond to a contaminated injury incident.

10. To test the ability of SSES personnel to demonstrate Personnel and Equipment contamination control, including appropriate decontamination procedures.

11. To test the ability of PP&L's Emergency Organization to provide timely and accurate protective action recommendations, including coordination of these recommendations with appropriate offsite authorities.

12. To test the ability of the plant to effectively use the post accident sampling station.

13. To demonstrate an effective exercise critique program.

14. To test the ability of the Berwick and Geisinger Hospitals to adequately respond to the emergency.

15. To test the ability of local ambulance companies to adequately respond to the emergency.

16. To demonstrate a limited site evacuation.

C O N F I D E N T I A L

APRIL 4 EMERGENCY PLAN EXERCISE

PROPOSED TIMELINE

TIME	EVENT
0800	START EXERCISE
	ALERT - Based on liquid release greater than 10 x tech. specs.
	Activate TSC
	Perform limited accountability
0830	TSC operational
0900	SITE EMERGENCY - Based on failure to SCRAM resulting in fuel damage and de- graded containment conditions. Water level remains below TAF for five minutes
	Activate EOF
	Perform limited evacuation
0915	Reactor sump leak
1000	Contaminated Injured
1130	EOF operational
	Security problem
1300	Leak outside containment starts
1530	GENERAL EMERGENCY - Based on projected integrated dose
	Recommend Evacuation
1800	TERMINATE DRILL

Emergency Plan Exercise
April 4, 1984

INITIAL CONDITIONS

*1. Unit 1 is at 100% power and has been operating at this level continuously for the past month.

*2. Unit 2 is in startup testing phase. Currently shutdown for drywell cooling modifications.

3. Primary Coolant Activity levels are 0.15 Ci/ml.

*4. Unit 1 is in the 17th month of its first full 18 month fuel cycle.

*5. Preventive Maintenance was performed on relays in panels 1C617, 1C618, 1C609, 1C611, 1C620, 1C622 and 1C623 during the last forced outage. The relays were cleaned, relubricated and functionally tested.

6. ESW flow balancing and water hammer testing were completed during the last shift.

7. Diesel Fuel Oil shipment is scheduled for this shift.

8. Auxiliary Boiler A is out of service due to failure of its feed pump.

9. The Unit 1 Offgas Recombiner temperatures have been erratic, though the system continues to function.

10. RWCU Phase Separator Tanks A&B are out of service and both RWCU Backwash receiving tanks are full. RWCU is in service but goes out intermittently on filter high delta P. Vessel conductivity has started to rise slowly. Work is planned for this morning to repair the inlet valve to phase separator A. It appears the eductors are fouled on phase separator B.

11. All Liquid Radwaste Collection Tanks and the Surge Tank are filled to capacity. After the release in progress liquid radwaste processing should be able to start again. At 2000 on April 3, 1984 a decision was made to not pump the Rx Building sump to Radwaste until room is available in liquid radwaste.

*12. The inventory of the Unit 1 Spent Fuel Pool is as indicated in Attachment 1.

13. Liquid Radwaste release in progress (started at 0720) (see attached data).

14. CRD pump A is out of service for pump seal replacement (work is in progress).

15. Liquid Radwaste Effluent radiation monitor (RE06433) is out of service for pump motor replacement (work in progress).

C O N F I D E N T I A L

April 4, 1984 Emergency Plan Exercise

Re: Liquid Release Scenario

SYSTEM: Liquid Radwaste

ACTIVITY: There is to be a planned release of liquid radwaste from Tanks (A & B) and (C & D) respectively. All four tanks are full to capacity (11,000 gal each).

PROCEDURE: Plant Chemistry will collect routine samples from each of the four tanks to ensure that radioactivity levels are below the maximum permissible concentration as specified in 10CFR20 Appendix B, Table II, Column 2 before being released to the Susquehanna River.

PLAN: Chemistry results will show that tanks A & B may be released 4/4/84. (Tanks are arranged to release effluents in tandem.) However, tanks C & D will require additional decay time or dilution as activity levels are above 10 times MPC.

ACTION: At 0720 on 4/4/84 liquid radwaste tanks C & D will be released to the River. The release will be discontinued at 0800 when chemistry realizes the wrong tanks were released. Chemistry will calculate actual concentration of release to river and report findings that ~90 x Tech Spec concentrations were released.

LIQUID DISCHARGE DATA SHEET

Section 1: Release Data

Time of initial release into river (A) 0720

Release termination time (B) 0800

Total release time (C) 40 min.

Sample location Blowdown line

Section 2: Determination of Activity in River at Danville

Part A - Complete if sample was taken from blowdown line

Activity of blowdown sample (L) Co-58 Co-60 MN-54
3E-3 1.5E-3 3E-3 μCi/ml.

Riverwater depth (from gauge at Biological Lab) 8.1 ft.

Dispersion factor to Danville (from Table 1) (M) 260

Activity in river at Danville (N) = $\frac{L}{M}$ = 1.15E-5 5.8E-6 1.15E-5 μCi/ml.

Maximum volume released (time x 200 gal/min) 8,000 gal

Part B - Complete if sample was taken from waste stream entering directly into the blowdown (includes sample taken from spray pond).

Activity of sample (H) uCi/ml.

Rate of waste stream released into blowdown (I) = gal/min.

Rate of blowdown discharge (J) = gal/min.

Blowdown Dilution Factor (K) = $\frac{J}{I}$ =

Activity of blowdown (L) = $\frac{H}{K}$ = uCi/ml.

River water depth (from gauge at Biological Lab) ft.

Dispersion factor to Danville (from Table 1) (M) _____

Activity in river at Danville (N) = $\frac{L}{M}$ = _____ uCi/ml.

Part C - Complete if sample was taken from waste stream entering the spray pond before being released to blowdown line

Volume of release into spray pond (D) _____ gal.

Volume of spray pond (E) assume 25,000,000 gal.

Spray Pond Dilution Factor (F) = $\frac{E}{D}$ _____

Activity of Sample (G) _____ uCi/ml.

Activity of volume in Spray Pond (H) = $\frac{G}{F}$ _____ uCi/ml.

Rate of release into blowdown (I) _____ gal/min.

Rate of blowdown discharge (J) _____ gal/min.

Blowdown Dilution Factor (K) = $\frac{J}{I}$ = _____

Activity of blowdown (L) = $\frac{H}{K}$ = _____ uCi/ml.

River water depth (from gauge at Biological Lab) _____ ft.

Dispersion factor to Danville (from Table 1) (M) _____

Activity in river at Danville (N) = $\frac{L}{M}$ = _____ uCi/ml.

NOTE: If a sample is taken from the river below the discharge, assume the activity in the river at Danville is the same as the activity of the sample.

Section 3: Time of Arrival at Danville

Transit time to Danville (from Table 1) (P) 9 hrs.

Time of Arrival at Danville (P+A) 1620 ~~1700~~ 4/4/84

Section 4: Recommendations

1 Notify Danville Water Authority of liquid release
2 Notify Pa DER/BRP of release

From Appendix B:

Nuclide	MPC (μCi/ml)
Co-58	1E-4
Co-60	5E-5
Mn-54	1E-4

Activity at Danville*:

Nuclide	Concentration (μCi/ml)
Co-58	1.15E-5
Co-60	5.8E-6
Mn-54	1.15E-5

* NOTE: Activity levels are all below MPC at Danville.

Simulated Accountability: Security personnel will be dispatched to Accountability Roster pick-up locations to obtain Prepositioned Accountability Rosters. One Plant employee will be reported missing which will necessitate the Security Controller to check the Security Data Management System and determine the individual's last known location. A check with the individual's supervisor will indicate the missing person's last known location is the Circ Water Pump House. Security will be dispatched to find the missing individual. Exercise participant will be in Circ Water Pump House and will be easily identifiable as a player. After being found the missing employee will report to accountability station and accountability demonstration will be complete.

C O N F I D E N T I A L

April 4, 1984 Emergency Plan Exercise

Re: Detailed Technical Scenario

Time	Event
0855	Spurious Feedwater Transient

The feedwater level control system malfunctions momentarily causing a feedwater flow increase and subsequent Reactor Vessel level increase to 47 inches. The high level alarm is received in the control room but no operator action is needed as level returns to normal at 37".

0900 MSIVs Close on High Steamline Radiation

The feedwater transient caused an increase in Condensate Demin flow and foreign matter was shaken loose. The material passes through the Reactor Vessel and is activated. High radiation is sensed in the Main Steam lines and the Main Steam Isolation Valves close.

0900:01 ATWS

The Reactor fails to SCRAM on the closure of the MSIVs. The full core display, four rod display, RSCS "Full in" and OD7 all indicate that no rods have scrammed. (The SCRAM relays, C72-K14A-H, have de-energized but are stuck in the energized position. The new lubrication has liquified due to the heat generated by the constantly energized relay coils. The lubricant has fouled the relay contacts.)

The backup SCRAM valves C12-F110A&B do not open because their power supply fuses have been blown for some time.

0900:05 Fuel Damage

Reactor Pressure increases rapidly and most safety relief valves open. Reactor power increases very sharply. (Peaks at ~1500%.) Serious fuel damage occurs.

The Reactor fails to SCRAM on high pressure but the Recirculation Pump Trip (RPT) breakers open on high reactor pressure. Recirc Pumps stop and Reactor Power decreases to ~30%. The energy is being discharged to the Suppression Pool.

HPCI and RCIC initiate at level "2", "low, low level" and inject the Reactor Vessel but their flow is insufficient initially to stop the level decrease. Level drops below the level 1 Low, Low, Low setpoint and the RHR and Core Spray pumps start. Reactor pressure is still high so the RHR and CS pumps cannot inject into the RPV. The ADS 105 second timer has started.

Water level drops below the top of the active fuel (TAF). Cold water injected by HPCI and RCIC causes sudden pressure drops and voiding in the core. Water is expelled from the core and subsequent rewetting causes additional fuel damage. Level oscillations are reversed. Water level remains below TAF for five minutes causing additional fuel damage. HPCI and RCIC recover level to above TAF. Operators reset the ADS timer so no ADS occurs.

0915:00 Reactor SCRAM

Fifteen minutes after the MSIV closure the Reactor SCRAMS. The operators should attempt to open the RPS power supplies, 1Y201A,B, per EO-00-014, Step 4.1.2. If operator action does not occur before fifteen minutes, the Reactor will SCRAM. The K14 relays will fall open sequentially as they cool and each of the 4 rod groups will SCRAM.

HPCI restores vessel level. Conditions stabilize, level normal, pressure high, high radiation in the Suppression Pool and High drywell pressure. The operator has deenergized the RPS power supplies 1Y201 A,B.

Detailed Control Room ATWS Scenario

Initial Conditions at t = 0900

Reactor Level = 37" (following FW controller malfunction)
Rx Power = 100%
Reactor Pressure = 1020 psia/1005 psig
Reactor Temp = 545°F
Supp. Pool Temp. = 75°F
All Relief valves closed
All MSIV's open
Both Recirc pumps = 100% speed

At 0900

Get Hi Main Steam Line Rad Trip signal
All MSIV's close
All Turbine stop & control valves close
Get auto SCRAM indication
Recirc pumps trip on EOC RPT

Get the following annunciators
- RPT SYS A (B) TRIP
- MAIN STEAM LINE HI RAD TRIP A (B)
- MAIN STEAM LINE NOT FULLY OPEN TRIP A (B)
- TURBINE STOP VALVE CLOSURE TRIP A (B)
- TURBINE CONTROL VALVE FAST CLOSURE TRIP A (B)

Don't get: REACTOR AUTO SCRAM A (B)

Full core display same as before isolation
OD7 same as before isolation

At 0900^{+} - seconds after MSIV's close

Rx Power = offscale
Rx Pressure = 1110 psig
All Relief valves except K&M open
Water drops, then swells

Get the following additional annunciators:
- RECIRC PUMP HI PRESS/LO LEVEL TRIP
- RX VESSEL HIGH PRESS TRIP A (B)
- RX VESSEL LOW LEVEL TRIP A (B)
- NEUTRON MONITORING SYSTEM TRIP A (B)

MAIN STEAM LINE HI RAD TRIP clears

Immediate operator actions should be from EO-00-01
- Place mode switch to shutdown - no change in rod status
  Get RX MANUAL SCRAM SYS (A) (B) annunciator

The following annuniciators clear
- RPT SYST A (B) TRIP
- MAIN STEAM LINE NOT FULLY OPEN TRIP
- TURBINE STOP VALVE CLOSURE TRIP
- TURBINE CONTROL VALVE PAST CLOSURE TRIP

- Arm and depress manual SCRAM switches -
  no change in rod status
  Get MANUAL SCRAM SWITCH ARMED A (B)

- EO-00-01 directs operator to EO-00-014

Between 0900 & 0905

Rx Power drops linearly to 8% at 0905 (average 30%)
Avg steam flow = 2.83 mlb/hr
HPCI and RCIC start at -38 use 200,000 lb/hr steam
input 2 mlb/hr water (5600 gpm)
Relief valves ABCDE&H cycle
Water drops continuous after swell reaching TAF at 0905
Supp pool temp rises to 116°F by 0905
Get DRYWELL PRESS HI TRIP A (B)

Operator actions based on EO-00-014
- Can't start second CRD pump (its OOS)
- Sends NPO to open RPS breakers
- Sends NPO to isolate & bled SCRAM air header

One of these should be complete by 0915

These annunciators clear:
- RECIRC PUMP HI PRESS LO LEVEL TRIP (then trips again at -129)
- NEUTRON MONITORING SYSTEM TRIP A (at 15% power)

Between 0905 & 0910

Rx Power steady at 8%
Steam flow = 750,000 lb/hr
HPCI & RCIC in service { use 200,000 lb/hr steam
input 2 mlb/hr water (5000 gpm)
Relief valves B&E cycle
Water level drops below TAF and oscillates
while chugging of HPCI water in the overheated core takes place
it stops chugging and returns to TAF at 0910
Suppression pool temp rises linearly to 129°F by 0910

Between 0910 & 0915

@ 0910 operator throttles HPCI to maintain level just above TAF
Rx Power = 10%
Steam flow = 943,000 lb/hr
HPCI/RCIC in service { use 72,000 lb/hr
input 943,000 lb/hr (2000 gpm)

Relief valves open - E (operator open manually at 0910)
Water level steady just above TAF
Supp pool temp rises to 145°F by 0915
Before 0915 operator
- puts A Loop of RHR in Supp pool cooling (per EO-00-023)
- initiates drywell cooling
Operator should not have to initiate SBLC (per EO-00-014)

At 0915

Rx SCRAM - Full core display & OD-7 confirm all rods in
Power = 0
Steam flow = 300,000 lb/hr
E Relief valve manually open
HPCI/RCIC in service
Water level rises rapidly
Supp pool temp = 145°F
Drywell pressure = 18.5 psia
Drywell temp = 250°F
Cont. Rad Monitor = 10^3R
A Loop of RHR in Supp Pool Cooling at 10,000 gpm

By 0930

Rx water level is +35" steady
HPCI has been secured
RCIC is maintaining level pumping 600 gpm
RX WATER LEVEL HI TRIP } reset
RX PRESS HI TRIP }
Drywell coolers are in service
HI DRYWELL PRESS TRIP IS ONLY TRIP SIGNAL PRESENT

Operators will continue to cool down through the open relief valve at 100°F/hr

At 0930

B Loop of RHR put in Supp Pool Cooling
A Pump of core spray in service discharging to Supppression Pool for Suppression Pool mixing

At 1230

B Loop of RHR is put in shutdown cooling
E Relief valve is closed

REACTOR WATER LEVEL

0800-0855 ss @ +35"

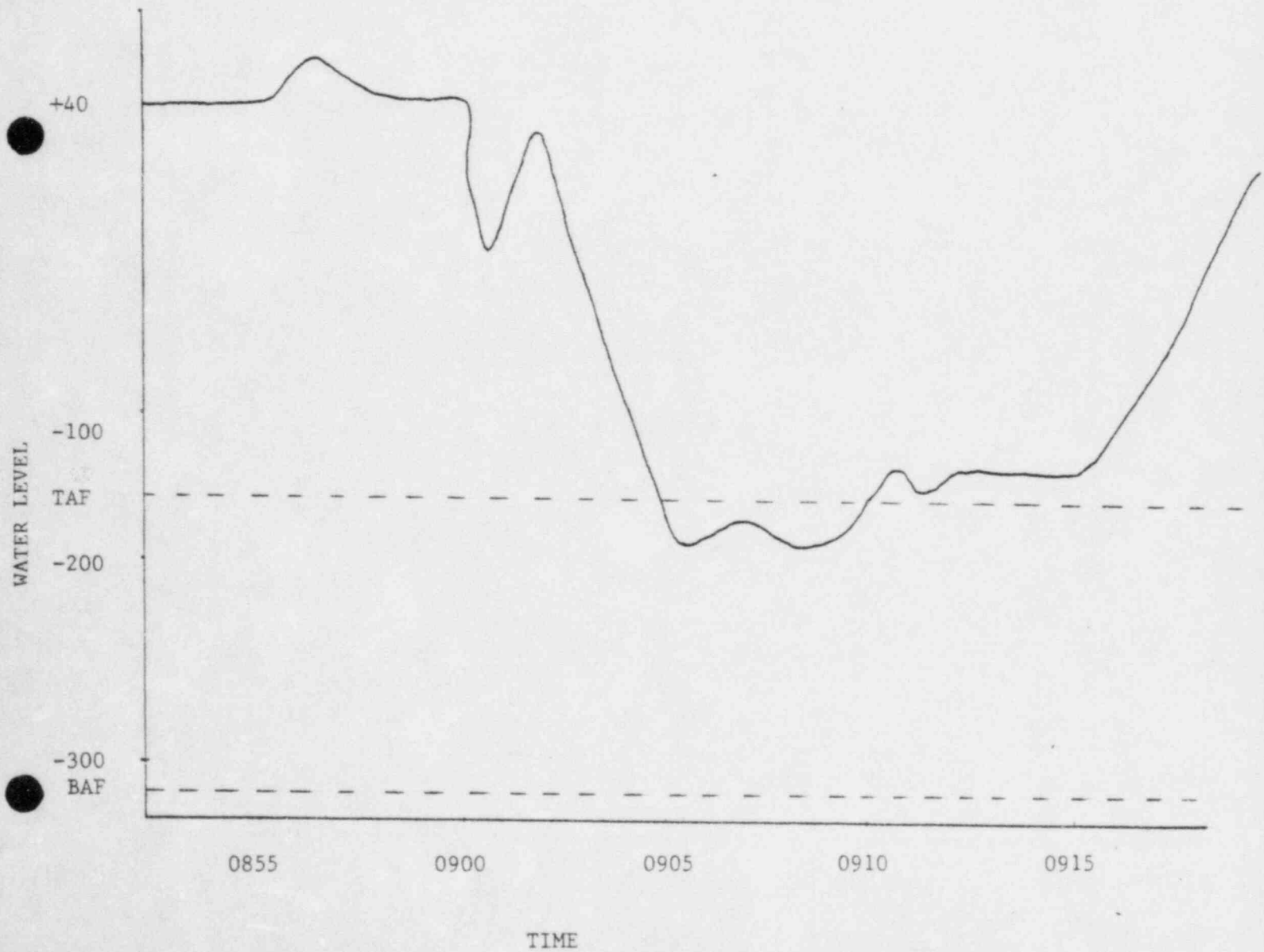
0855 FW level control failure, level increases to +47 and returns to ss at +37"

0900-0915 (MSIV closure) voids collapse with pressure spike get level spike down, level returns but drops quickly as relief valves open, RCIC and HPCI start at -38

RCIC and HPCI can't keep up, water level continues to drop to TAF and then below. RCIC and HPCI start to recover and level steadies out at just above TAF

Steam flow = combined HPCI and RCIC flow

0915 After SCRAM operator returns level to normal range with RCIC and level remains at +35 for the remainder of the exercise



REACTOR POWER

0800-0855 ss @ 100%

0855 Slight power increase during Feedwater transient

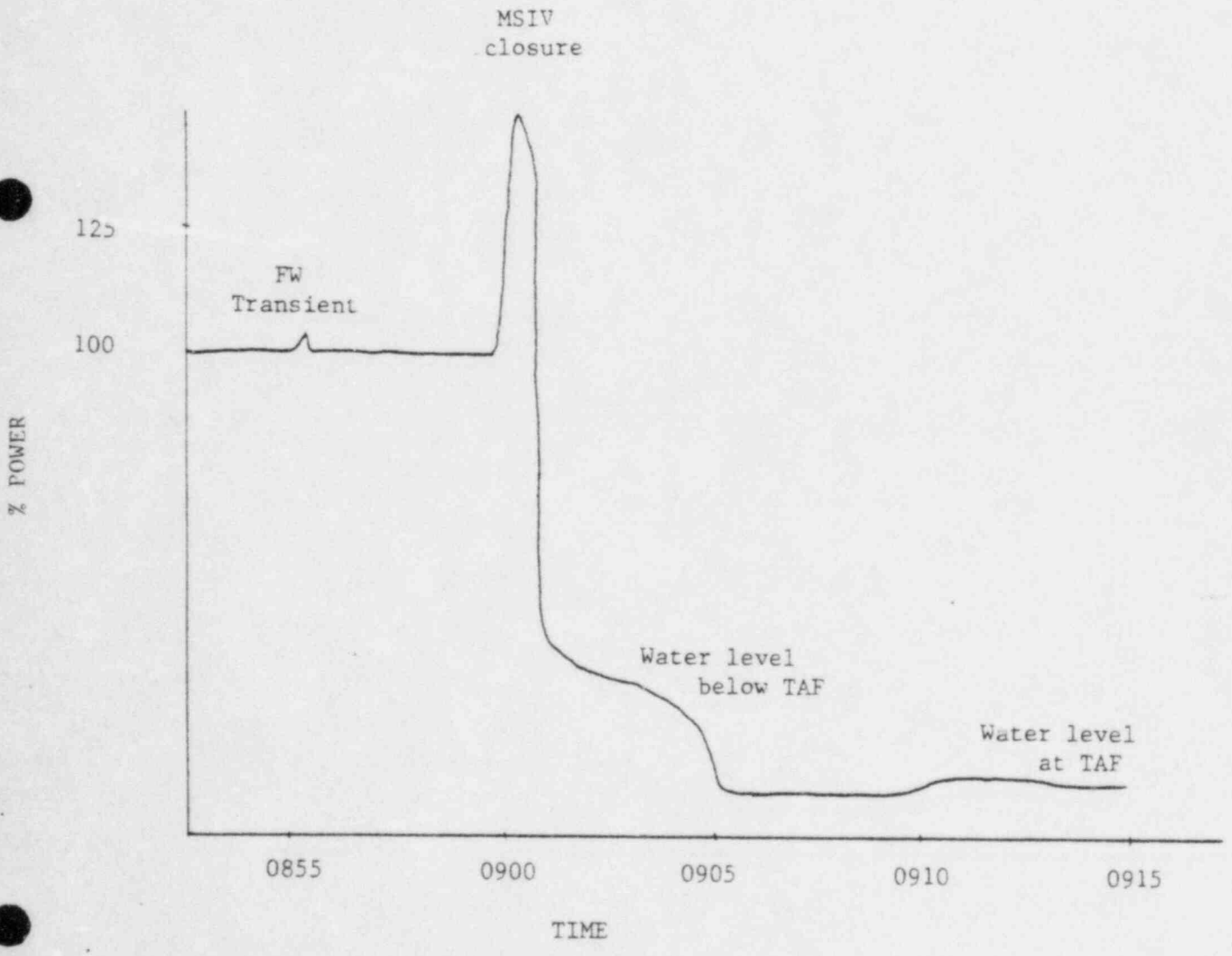
0900-0915 (MSIV isolation without SCRAM) Power initially spikes off scale with void collapse and pressure spike

After ATWS recirc runback- power reduces to 30%

Power drops slowly at first as level drops, then drops suddenly when water reaches TAF to 8%

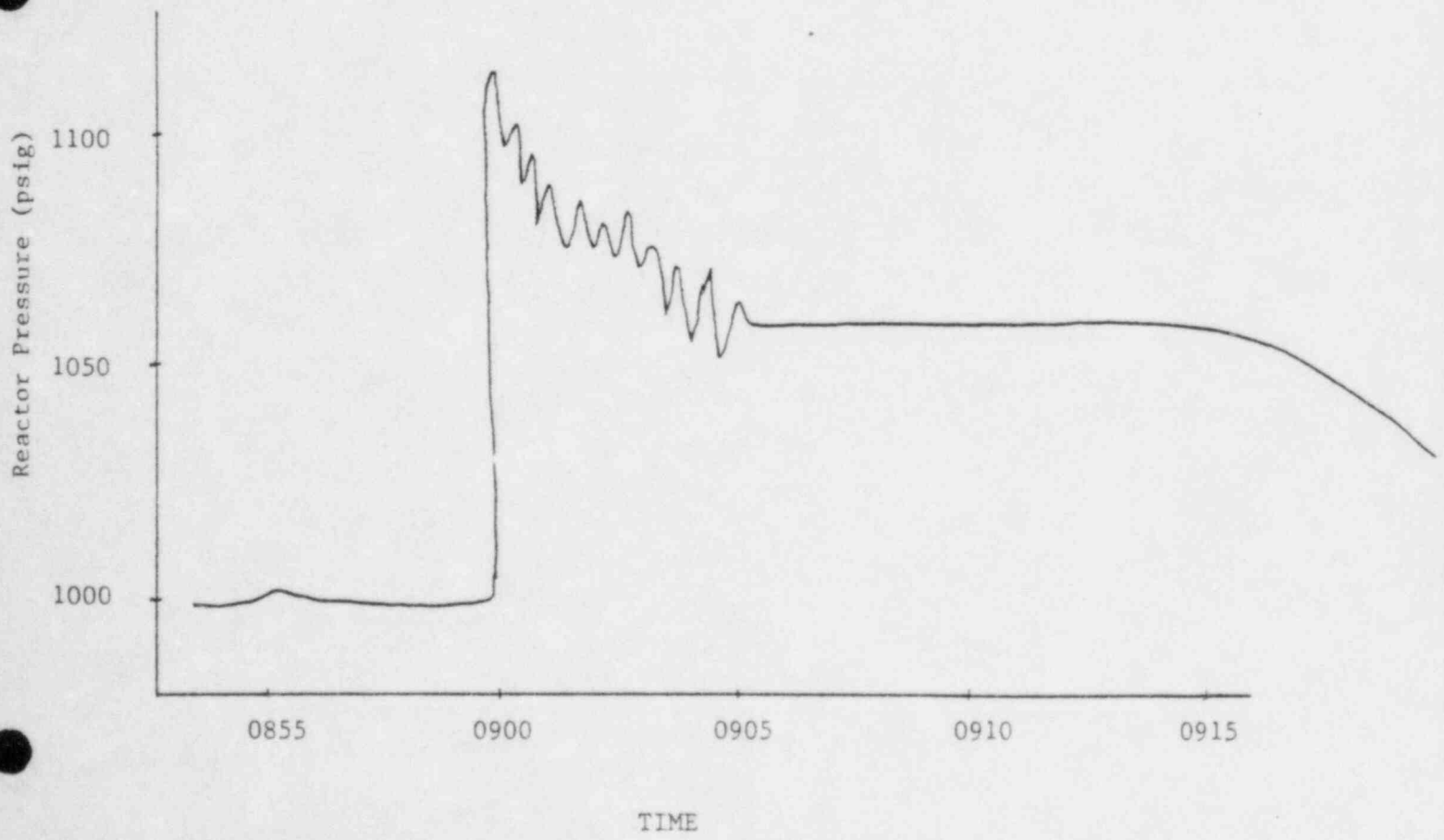
RCIC & HPCI recover water level to TAF, power increases to equilibrium level at 10%

0915 Reactor SCRAMS- power drops immediately to zero and remains there for remainder of exercise



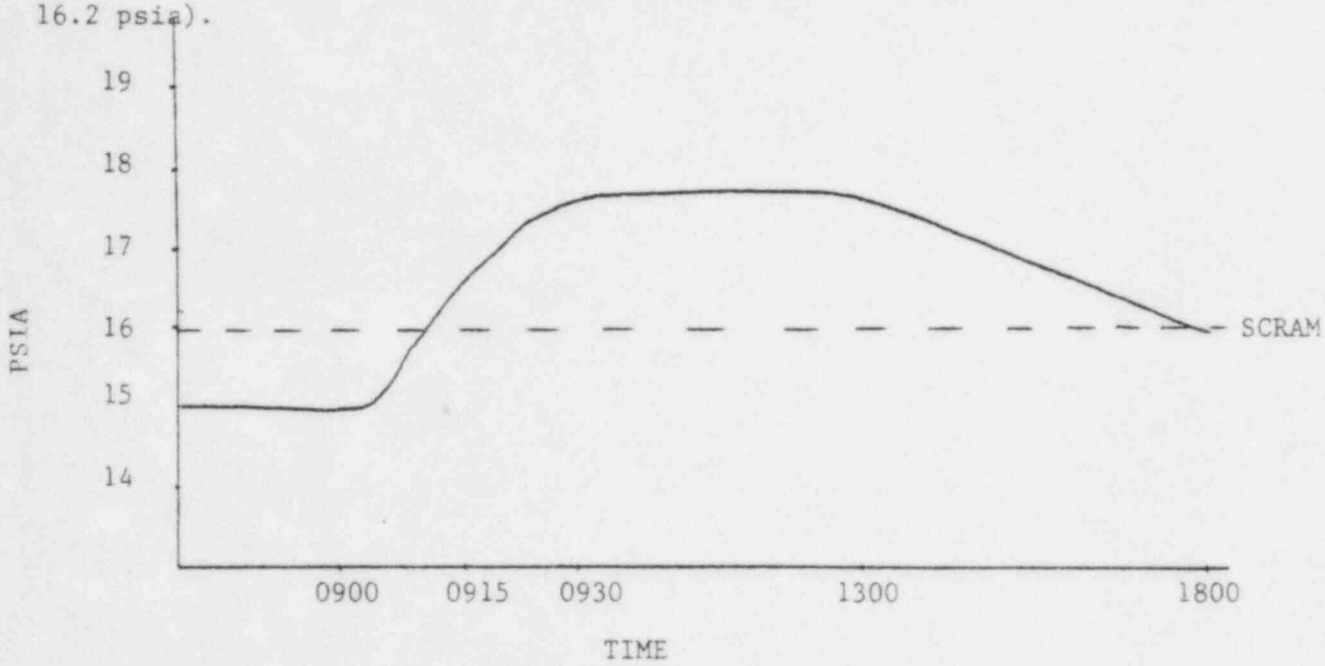
REACTOR PRESSURE

0800-0855	ss @ 1000 psig
0855	Feedwater transient slight pressure increase during power increase
0900-0915	(MSIV isolation) Pressure spikes to 1110, all relief valves except K&M open
	After ATWS recirc runback, all but six relief valves close. ABCDE & H cycle open, average pressure at 1090
	When water level drops below TAF, only B&E relief valves cycle, pressure rapidly cycles between 1050 and 1080, operator opens B & E to stop cycling, pressure steady at 1060
0915	After SCRAM cooldown is at 100°/hr., pressure decreases at corresponding rate for the remainder of the exercise, operator leaves E valve manually open.



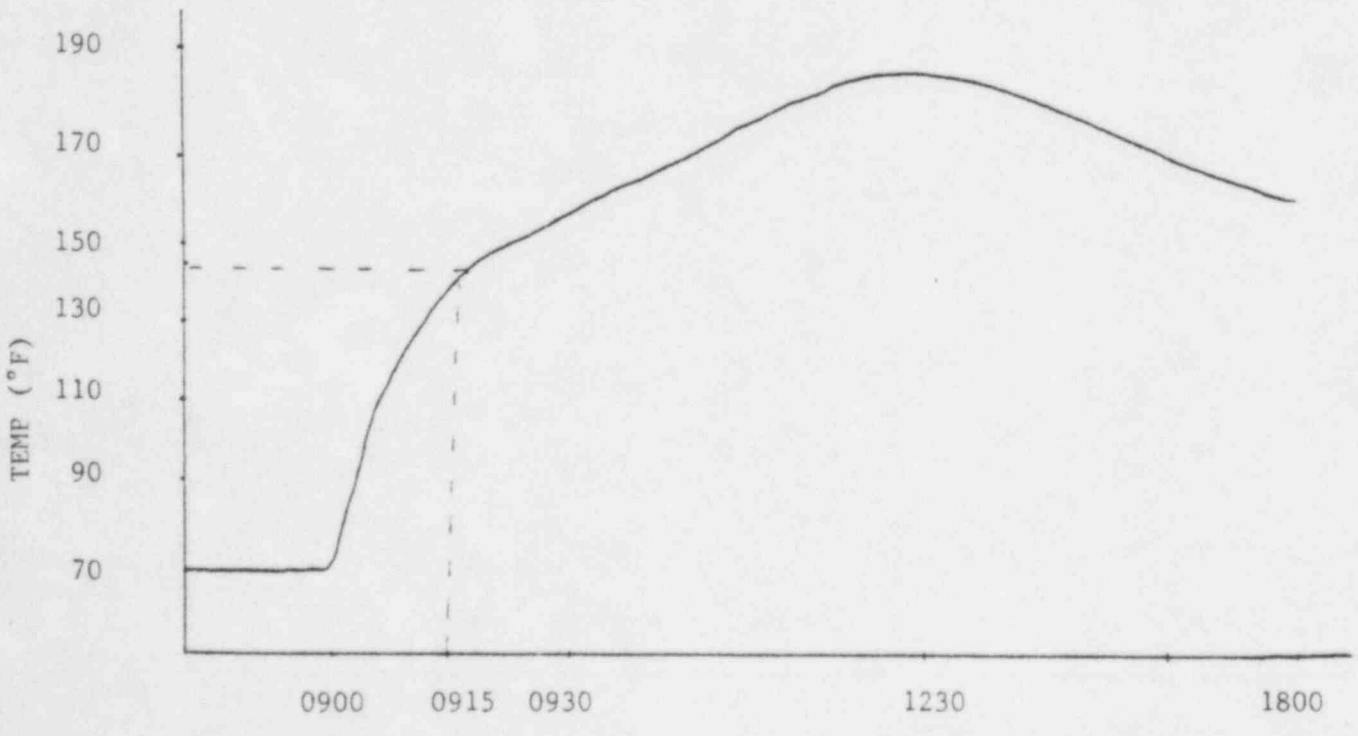
DRYWELL PRESSURE

0800-0855 ss at 15 psia
After relief valves start to open, pressure increases steadily and peaks at 18.5 psia at 0930. Pressure remains at 18.5 psia until primary containment leak starts at 1300. Pressure slowly decays to SCRAM setpoint level (1.5 psig/ 16.2 psia).



SUPPRESSION POOL TEMPERATURE

After relief valves start to open temperature increases steadily and reaches 145° by 0915. Operator starts suppression pool cooling at 0900. Temperature continues to rise as reactor cools down. Temperature peaks at 187° at 1230. After relief valve closes temperature slowly decreases to 165° by 1800.



Simulated Evacuation: Two Security evaluators will role play groups evacuating the plant area through the designated exit portal. They will evaluate Security actions during the preparation phase to expedite personnel departures; update Security control on evacuation progress and insure that entry credentials are collected.

C O N F I D E N T I A L

April 4, 1984 Exercise Scenario
Reactor Sump Leak

Recent evidence indicates that radwaste collection tank instrumentation has been giving faulty level indication. The level gauge currently reads 90% capacity on the last available collection tanks. It is believed that the tank may be only 50% full. Maintenance is currently being performed on the level gauge instrumentation in the radwaste mixing tank room.

The Reactor building sump on elevation '645 is filled to capacity (2708 gal.) and has been allowed to back up through the floor drain valve pits on elevation '645.

At 0915 hours, valves XV 1F011B and 1F011A fail to seat properly allowing leakage of Reactor water to the Reactor building sump. Water from the CRD SCRAM discharge line is flowing into the sump at the rate of one gallon per minute. The activity of the Reactor water is just over 2000 μCi/cc and is backing up through the floor drain valve pits resulting in elevated airborne activity levels. The activity is recirced through the Reactor building Zone I via the ventilation system resulting in average building dose rates of about 5 mR/hr.

Two hours later (1115) the damage control team should be successful in manually closing one of the drain valves.

Contaminated/Injured Patient Drill
Berwick Hospital/Geisinger Medical Center

Time: Approximately 1000 (one victim will call into Control Room)

General Location: Radwaste Building Elevation '646
RADWASTE COLLECTION TANK ROOM A&B

Background: Maintenance is being performed on the level element in a radwaste collection tank room. 2 Maintenance personnel working on scaffolding 5.5 meters above floor. One of the pins falls out of scaffold. Both workers fall. One victim ends up under material with lacerations on forehead and a compressed cervical vertebrae on the spinal cord. Second victim will end up on top of scaffold material with lacerations to forehead and a broken right hip. 2nd victim can call the Control Room via radio. Both victims will remain conscious.

Expected Response: Health Physics Tech and Operator for Search and Rescue Team will be sent from Technical Support Center.

Team will notify Shift Supervisor who in turn will have a prompt response to accident. Ambulance from Hunlock Creek and Shickshinny will transport injured individuals. Both individuals will go to Berwick Hospital. Victim with serious injury will then be Life Flighted to Geisinger. (Life Flight can not land at Susquehanna; closest location for landing is Berwick.)

Medical: Victim 1 should be a suspected neck injury. Initial Primary survey of the patient shows:

Arms: No feeling or reaction to pain or movement
Trunk: No feeling or reaction to pain or movement
Legs: No feeling or reaction to pain or movement
Paralysis in legs and arms.

Initial vital signs:

Pulse: 68
Respirations: 14 shallow and irregular
Blood pressure: 90/70
Skin Temp: cool
Skin color: pale
Pupils: slow but equal to react

If treated properly pulse will rise to 72; respirations will become regular and about 19; blood pressure will increase to 120/80. If treatment is not appropriate vital signs will remain about the same as initial.

A cervical collar (or equivalent) should be applied. The patient should be immobilized and transported out of the area. (Transportation is optional.) Must be transferred from Berwick Hospital to Geisinger Medical Center.

Victim 2 should be a suspected right hip injury. Initial primary survey of this patient shows right foot and leg rotated out. Secondary survey shows tenderness in right hip area.

Initial vital signs:

Pulse: 130 faint
Respirations: 25 deep
Blood pressure: 90/60
Skin Temp: cool
Skin color: pale
Pupils: normal response
Victim is somewhat unresponsive when first aiders arrive.

If treated properly pulse will return to about 80; respirations will become strong and return to 20; blood pressure will become 128/95. If treatment is not appropriate, victim will continue to deteriorate

A traction splint should be applied and victim treated for shock.

RADIOLOGICAL INFORMATION

1. General area readings are 1 Rad/hr at scene of accident, 300 mR/hr at egress point.

2. Contamination levels are 150K cpm to 200 mRad smearable throughout area.

3. Both victims have been working in this area intermittently for 1 hr. 45 min. prior to accident.

"VICTIM #1"

INSTRUMENTS

	E140-N Beta & Gamma	RO-2 Beta & Gamma (open window)	RO-2 Gamma
Protective Clothing (Outer)			
Front	150,000 cpm	20 mRad/hr	10 mR/hr
Back	(Saturated)	150 mRad/hr	75 mR/hr
NOTE: If outer PC's are removed the inner contamination levels are:			
Front	20,000 cpm	3 mRad/hr	1 mR/hr
Back	5,000 cpm	1 mRad/hr	.5 mR/hr
Initial prior to decon			
Face	50,000 cpm	7 mRad/hr	3 mR/hr
Hair (Front)	10,000 cpm	2 mRad/hr	1 mR/hr
Nasal Smear	10,000 cpm	2 mRad/hr	1 mR/hr
Mouth Smear	10,000 cpm	2 mRad/hr	1 mR/hr
Neck Area	10,000 cpm	2 mRad/hr	1 mR/hr
Body (Chest)	2,000 cpm	1 mRad/hr	1 mR/hr

1st Decon

Face	5,000 cpm	
Hair (Front)	1,000 cpm	
Nasal Smear	5,000 cpm	(If irrigated or nose can be blown)
Mouth Smear	5,000 cpm	(If rinsed)
Neck Area	5,000 cpm	
Body (Chest)	1,200 cpm	(If properly protected while deconning face & neck)

2nd Decon

Face	500 cpm
Hair (Front)	100 cpm
Nasal	2,500 cpm
Mouth	2,500 cpm
Neck	500 cpm
Body (Chest)	100 cpm

E140-N
Beta & Gamma

3rd Decon

Face	<100 cpm
Hair (Front)	<100 cpm
Nasal	1,000 cpm
Mouth	1,000 cpm
Neck	<100 cpm
Body (Chest)	<100 cpm

4th Decon (if necessary)

Nasal	200 cpm
Mouth	200 cpm

"VICTIM 2"

INSTRUMENTS

	E140-N Beta & Gamma	RO-2 Beta & Gamma (open window)	RO-2 Gamma
Protective Clothing (Outer)			
Front	150,000 cpm	20 mRad/hr	2 mR/hr
Back			
Note: If outer PC's are removed the inner contamination levels are:			
Front	20,000 cpm	3 mRad/hr	1 mR/hr
Back	5,000 cpm	1 mRad/hr	.5 mR/hr
Initial prior to decon			
Face	30,000 cpm	4 mRad/hr	2 mR/hr
Hair (Front)	5,000 cpm	1 mRad/hr	.5 mR/hr
Nasal Smear	10,000 cpm	2 mRad/hr	1 mR/hr
Mouth Smear	10,000 cpm	2 mRad/hr	1 mR/hr
Neck Area	10,000 cpm	2 mRad/hr	1 mR/hr
Chest	2,000 cpm	<1 mRad/hr	<1 mR/hr

1st Decon

Face	3,000 cpm	
Hair (Front)	500 cpm	
Nasal Smear	5,000 cpm	(If irrigated or nose can be blown)
Mouth Smear	5,000 cpm	(If rinsed)
Neck Area	500 cpm	
Chest	200 cpm	(If properly protected while doconing face & neck)

E140-N
Beta & Gamma

2nd Decon

Face	300 cpm
Hair (Front	<100 cpm
Nasal	2,500 cpm
Mouth	2,500 cpm
Neck	<100 cpm
Chest	<100 cpm

3rd Decon

Face	<100 cpm
Hair (Front	<100 cpm
Nasal	1,000 cpm
Mouth	1,000 cpm
Neck	<100 cpm
Chest	<100 cpm

4th Decon (if necessary)

Nasal	200 cpm
Mouth	200 cpm

April 4, 1984
SSES Emergency Drill

BACKGROUND INFO
INJURY SCENARIO

Terry Soya
Age 29

-- Maintenance Dept. (PP&L)

- Employed (PP&L) April 1979

- Prior to PP&L employment -
  U.S. Navy - Machinist - 6 yrs.

Personal Status

- Married
- 2 children

  Boy - 6 yrs. old
  Girl - 3 yrs. old

residence - Hazleton, Pa.

John Meyer
Age 28

-- Health Physics Dept. (PP&L)

- Employed (PP&L) July 1982

- Prior to PP&L employment
  Peach Bottom Atomic Power Plant (4 yrs)
  (Health Physics Technician)

Personal Status

- single

- residence - Berwick, Pa

April 4, 1984 SSES Emergency Drill

MESSAGE FROM INJURED HP TO CONTROL ROOM

Control Room, Control Room, "THIS IS A DRILL" "THIS IS A DRILL" There has been an accident in the Phase Separator Tank Room. Send a first aid team. I think I broke my hip and Terry can't move. "THIS IS A DRILL" "THIS IS A DRILL"

April 4, 1984
SSES Emergency Drill

Injury Scenario

INITIAL CONDITIONS

Valve on influent valve HV06620A to Phase Separator Tank A is stuck closed. RWCU filter demins keep going out on hi DP. Valve must be rapaired to allow resin processing. If the valve is not repaired the plant may have to shut down due to high conductivity in Rx coolant.

One maintenance person and one HP Tech are dispatched at 0800 to investigate and repair the valve.

An extension ladder is necessary to reach the valve. All equipment is obtained and the HP and Maintenance worker enter the A phase separator tank room at 0830, equipped with a UHF radio.

At 1000 the Maintenance worker while standing on the ladder attempts tr reposition himself and slips and falls causing his tools and himself to land on top of the HP Tech.

CIVIL DISTURBANCE (SECURITY)

SCENARIO: (1130 Hrs) Two/three individuals demonstrating against nuclear power lay across the entry doors to the North Gatehouse and prevent plant employees from entering and proceeding to their work location. The demonstrators refuse to move or cooperate with the responding Security Force necessitating State Police assistance.

1300 Leak Outside of Primary Containment

A 1" suppression pool instrument line breaks off between containment and the excess flow check valve. The break is at valve XV15775B (wide range suppression pool level B, reference leg). This break will result in a slow venting of the suppression pool air space and drywell into the Reactor Building

The airborne levels in the Rx Building will prevent any attempt to stop the leak. Only depressurizing primary containment will stop the leak.

The location of the break can be diagnosed from instrument readings following the break. The B wide range suppression pool level indication will be approximately 10 feet higher than the indication on the A wide range instrument and the 2~~nd row~~ narrow range instruments.

SUPPRESSION POOL DATA

	840	850	900	910
IODINE-131	0 E0	1.5 E1	2.4 E1	3 E1
IODINE-132	0 E0	1.6 E1	2.5 E1	3 E1
IODINE-133	0 E0	3.3 E1	5.3 E1	6.5 E1
IODINE-134	0 E0	1.7 E1	2.5 E1	2.7 E1
IODINE-135	0 E0	2.7 E1	4.4 E1	5.3 E1
CESIUM-137	0 E0	5.2 E0	8.5 E0	1.1 E1

	920	930	940	950
IODINE-131	3.4 E1	3.6 E1	3.8 E1	3.9 E1
IODINE-132	3.2 E1	3.2 E1	3.2 E1	3.1 E1
IODINE-133	7.8 E1	7.7 E1	8 E1	8.2 E1
IODINE-134	2.6 E1	2.5 E1	2.3 E1	2 E1
IODINE-135	5.9 E1	6.2 E1	6.3 E1	6.4 E1
CESIUM-137	1.2 E1	1.3 E1	1.3 E1	1.4 E1

	1000	1010	1020	1030
IODINE-131	3.9 E1	4 E1	4 E1.	4 E1
IODINE-132	3 E1	2.9 E1	2.8 E1	2.6 E1
IODINE-133	8.2 E1	8.3 E1	8.3 E1	8.3 E1
IODINE-134	1.8 E1	1.6 E1	1.4 E1	1.2 E1
IODINE-135	6.4 E1	6.3 E1	6.2 E1	6.2 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

	1040	1050	1100	1110
IODINE-131	4 E1	4 E1	4 E1	4 E1
IODINE-132	2.5 E1	2.4 E1	2.3 E1	2.2 E1
IODINE-133	8.2 E1	8.2 E1	8.2 E1	8.1 E1
IODINE-134	1.1 E1	9.6 E0	8.4 E0	7.3 E0
IODINE-135	6.1 E1	6 E1	5.9 E1	5.8 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

	1120	1130	1140	1150
IODINE-131	4 E1	4 E1	4 E1	4 E1
IODINE-132	2.1 E1	2 E1	.9 E1	1.8 E1
IODINE-133	8.1 E1	8 E1	8 E1	8 E1
IODINE-134	6.4 E0	5.5 E0	4.9 E0	4.3 E0
IODINE-135	5.7 E1	5.6 E1	5.5 E1	5.4 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

	1200	1210	1220	1230
IODINE-131	4 E1	4 E1	4 E1	4 E1
IODINE-132	1.7 E1	1.6 E1	1.5 E1	1.4 E1
IODINE-133	7.9 E1	7.9 E1	7.8 E1	7.8 E1
IODINE-134	3.8 E0	3.3 E0	2.9 E0	2.6 E0
IODINE-135	5.3 E1	5.2 E1	5.1 E1	5 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

	1240	1250	1300	1310
IODINE-131	4 E1	4 E1	4 E1	4 E1
IODINE-132	1.4 E1	1.3 E1	1.2 E1	1.2 E1
IODINE-133	7.7 E1	7.7 E1	7.7 E1	7.6 E1
IODINE-134	2.2 E0	2 E0	1.7 E0	1.5 E0
IODINE-135	4.9 E1	4.8 E1	4.8 E1	4.7 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

	1320	1330	1340	1350
IODINE-131	4 E1	4 E1	4 E1	4 E1
IODINE-132	1.1 E1	1.1 E1	1 E1	9.6 E0
IODINE-133	7.6 E1	7.5 E1	7.5 E1	7.5 E1
IODINE-134	1.3 E0	1.2 E0	1 E0	8.9 E-1
IODINE-135	4.6 E1	4.5 E1	4.4 E1	4.4 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

	1400	1410	1420	1430
IODINE-131	4 E1	4 E1	4 E1	4 E1
IODINE-132	9.2 E0	8.7 E0	8.3 E0	7.9 E0
IODINE-133	7.4 E1	7.4 E1	7.3 E1	7.3 E1
IODINE-134	7.8 E-1	6.8 E-1	6 E-1	5.2 E-1
IODINE-135	4.3 E1	4.2 E1	4.1 E1	4.1 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

	1440	1450	1500	1510
IODINE-131	4 E1	3.9 E1	3.9 E1	3.9 E1
IODINE-132	7.5 E0	7.1 E0	6.8 E0	6.4 E0
IODINE-133	7.3 E1	7.2 E1	7.2 E1	7.1 E1
IODINE-134	4.6 E-1	4 E-1	3.5 E-1	3.1 E-1
IODINE-135	4 E1	3.9 E1	3.7 E1	3.6 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

	1520	1530	1540	1550
IODINE-131	3.9 E1	3.9 E1	3.9 E1	3.9 E1
IODINE-132	6.1 E0	5.8 E0	5.5 E0	5.2 E0
IODINE-133	7.1 E1	7.1 E1	7 E1	7 E1
IODINE-134	2.7 E-1	2.4 E-1	2.1 E-1	1.8 E-1
IODINE-135	3.7 E1	3.7 E1	3.6 E1	3.5 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

	1600	1610	1620	1630
IODINE-131	3.9 E1	3.9 E1	3.9 E1	3.9 E1
IODINE-132	5 E0	4.7 E0	4.5 E0	4.3 E0
IODINE-133	6.9 E1	6.9 E1	6.9 E1	6.8 E1
IODINE-134	1.6 E-1	1.4 E-1	1.2 E-1	1.1 E-1
IODINE-135	3.5 E1	3.4 E1	3.4 E1	3.3 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

REACTOR WATER DATA

	840	850	900	910
IODINE-131	5.4 E2	3.6 E2	2.4 E2	1.7 E2
IODINE-132	8.2 E2	5.9 E2	3.5 E2	1.6 E2
IODINE-133	1.2 E3	7.8 E2	5.2 E2	3.6 E2
IODINE-134	7.1 E2	4.1 E2	2.4 E2	1.5 E2
IODINE-135	1 E3	6.5 E2	4.3 E2	2.9 E2
CESIUM-137	1.9 E2	1.2 E2	8.4 E1	5.8 E1

	920	930	940	950
IODINE-131	1.2 E2	9 E1	7.1 E1	6 E1
IODINE-132	1.1 E2	8 E1	6.1 E1	4.8 E1
IODINE-133	2.6 E2	1.9 E2	1.5 E2	1.3 E2
IODINE-134	9.3 E1	6.1 E1	4.3 E1	3.1 E1
IODINE-135	2.1 E2	1.5 E2	1.2 E2	9.9 E1
CESIUM-137	4.2 E1	3.2 E1	2.5 E1	2.1 E1

	1000	1010	1020	1030
IODINE-131	5.3 E1	4.6 E1	4.2 E1	4.0 E1
IODINE-132	4 E1	3.5 E1	3.1 E1	2.9 E1
IODINE-133	1.1 E2	1 E2	9.4 E1	9 E1
IODINE-134	2.4 E1	1.9 E1	1.6 E1	1.3 E1
IODINE-135	8.5 E1	7.7 E1	7.1 E1	6.7 E1
CESIUM-137	1.8 E1	1.7 E1	1.6 E1	1.5 E1

	1040	1050	1100	1110
IODINE-131	4.2 E1	4.1 E1	4.1 E1	4 E1
IODINE-132	2.6 E1	2.5 E1	2.3 E1	2.2 E1
IODINE-133	8.7 E1	8.5 E1	8.3 E1	8.2 E1
IODINE-134	1.1 E1	9.9 E0	9.6 E0	7.4 E0
IODINE-135	6.4 E1	6.2 E1	6 E1	5.9 E1
CESIUM-137	1.5 E1	1.5 E1	1.4 E1	1.4 E1

	1120	1130	1140	1150
IODINE-131	4 E1	4 E1	4 E1	4 E1
IODINE-132	2.1 E1	2 E1	1.9 E1	1.8 E1
IODINE-133	8.2 E1	8.1 E1	8 E1	8 E1
IODINE-134	6.5 E0	5.7 E0	5 E0	4.3 E0
IODINE-135	5.7 E1	5.6 E1	5.5 E1	5.4 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

	1200	1210	1220	1230
IODINE-131	4 E1	4 E1	4 E1	4 E1
IODINE-132	1.7 E1	1.6 E1	1.5 E1	1.4 E1
IODINE-133	7.9 E1	7.9 E1	7.8 E1	7.8 E1
IODINE-134	3.8 E0	3.3 E0	2.9 E0	2.6 E0
IODINE-135	5.3 E1	5.2 E1	5.1 E1	5 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

	1240	1250	1300	1310
IODINE-131	4 E1	4 E1	4 E1	4 E1
IODINE-132	1.4 E1	1.3 E1	1.2 E1	1.2 E1
IODINE-133	7.7 E1	7.7 E1	7.7 E1	7.6 E1
IODINE-134	2.2 E0	2 E0	1.7 E0	1.5 E0
IODINE-135	4.9 E1	4.8 E1	4.8 E1	4.7 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

	1320	1330	1340	1350
IODINE-131	4 E1	4 E1	4 E1	4 E1
IODINE-132	1.1 E1	1.1 E1	1 E1	9.6 E0
IODINE-133	7.6 E1	7.5 E1	7.5 E1	7.5 E1
IODINE-134	1.3 E0	1.2 E0	1 E0	8.9 E-1
IODINE-135	4.6 E1	4.5 E1	4.4 E1	4.4 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

	1400	1410	1420	1430
IODINE-131	4 E1	4 E1	4 E1	4 E1
IODINE-132	9.2 E0	8.7 E0	8.3 E0	7.9 E0
IODINE-133	7.4 E1	7.4 E1	7.3 E1	7.3 E1
IODINE-134	7.8 E-1	6.6 E-1	6 E-1	5.2 E-1
IODINE-135	4.3 E1	4.2 E1	4.1 E1	4.1 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

	1440	1450	1500	1510
IODINE-131	4 E1	3.9 E1	3.9 E1	3.9 E1
IODINE-132	7.5 E0	7.1 E0	6.8 E0	6.4 E0
IODINE-133	7.9 E1	7.2 E1	7.2 E1	7.1 E1
IODINE-134	4.6 E-1	4 E-1	3.5 E-1	3.1 E-1
IODINE-135	4 E1	3.9 E1	3.9 E1	3.8 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

	1520	1530	1540	1550
IODINE-131	3.9 E1	3.9 E1	3.9 E1	3.9 E1
IODINE-132	6.1 E0	5.8 E0	5.5 E0	5.2 E0
IODINE-133	7.1 E1	7.1 E1	7 E1	7 E1
IODINE-134	2.7 E-1	2.4 E-1	2.1 E-1	1.9 E-1
IODINE-135	3.7 E1	3.7 E1	3.6 E1	3.5 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

	1600	1610	1620	1630
IODINE-131	3.9 E1	3.9 E1	3.9 E1	3.9 E1
IODINE-132	5 E0	4.7 E0	4.5 E0	4.3 E0
IODINE-133	6.9 E1	6.9 E1	6.9 E1	6.8 E1
IODINE-134	1.6 E-1	1.4 E-1	1.2 E-1	1.1 E-1
IODINE-135	3.5 E1	3.4 E1	3.4 E1	3.3 E1
CESIUM-137	1.4 E1	1.4 E1	1.4 E1	1.4 E1

GAS SAMPLE DATA

	840	850	900	910
KRYPTON-83M	2.4 E1	2.3 E1	2.1 E1	2 E1
KRYPTON-85M	9.2 E0	9 E0	8.8 E0	8.6 E0
KRYPTON-85	3.3 E-1	3.2 E-1	3.2 E-1	3.2 E-1
KRYPTON-87	1.2 E1	1.1 E1	9.8 E0	9.7 E0
KRYPTON-88	2.1 E1	2 E1	1.9 E1	1.9 E1
KRYPTON-89	1.3 E0	1.4 E-1	1.6 E-2	1.9 E-3
XENON-131M	2.3 E-1	2.3 E-1	2.3 E-1	2.3 E-1
XENON-133M	1.1 E0	1.1 E0	1.1 E0	1.1 E0
XENON-133	4.6 E1	4.6 E1	4.6 E1	4.6 E1
XENON-135M	2.1 E0	1.4 E0	5.6 E-1	5.4 E-1
XENON-135	4.1 E1	4.1 E1	4 E1	4 E1
XENON-137	2 E0	9.2 E-1	5.2 E-2	9.5 E-3
XENON-138	6.3 E0	5.. E0	3.1 E0	1.9 E0

	920	930	940	950
KRYPTON-83M	1.9 E0	1.8 E0	1.7 E0	1.6 E0
KRYPTON-85M	8.3 E0	8.1 E0	7.9 E0	7.7 E0
KRYPTON-85	3.2 E-1	3.2 E-1	3.2 E-1	3.2 E-1
KRYPTON-87	8.2 E0	7.4 E0	6.8 E0	6.2 E0
KRYPTON-88	1.8 E0	1.7 E0	1.6 E0	1.6 E0
KRYPTON-89	2.1 E-4	2.4 E-5	2.8 E-6	3.2 E-7
XENON-131M	2.3 E-1	2.3 E-1	2.3 E-1	2.3 E-1
XENON-133M	1.1 E0	1.1 E0	1.1 E0	1.1 E0
XENON-133	4.6 E0	4.6 E0	4.6 E0	4.6 E0
XENON-135M	3.4 E-1	2.2 E-1	1.4 E-1	8.9 E-2
XENON-135	3.9 E0	3.9 E0	3.8 E0	3.8 E0
XENON-137	1.4 E-3	2.2 E-4	3.6 E-5	5.9 E-6
XENON-138	1.2 E0	7.1 E-1	4.9 E-1	2.7 E-1

	1000	1010	1020	1030
KRYPTON-83M	1.5 E0	1.4 E0	1.3 E0	1.2 E0
KRYPTON-85M	7.5 E0	7.3 E0	7.1 E0	7 E0
KRYPTON-85	3.2 E-1	3.2 E-1	3.2 E-1	3.2 E-1
KRYPTON-87	5.7 E0	5.2 E0	4.7 E0	4.3 E0
KRYPTON-88	1.5 E1	1.5 E1	1.4 E1	1.3 E1
KRYPTON-89	3.6 E-8	4.1 E-9	4.7 E-10	5.4 E-11
XENON-131M	2.9 E-1	2.9 E-1	2.8 E-1	2.8 E-1
XENON-133M	1.1 E0	1.1 E0	1.1 E0	1.1 E0
XENON-133	4.6 E1	4.6 E1	4.6 E1	4.6 E1
XENON-135M	5.6 E-2	3.5 E-2	2.2 E-2	1.4 E-2
XENON-135	3.7 E1	3.7 E1	3.6 E1	3.6 E1
XENON-137	9.5 E-7	1.5 E-7	2.5 E-8	4 E-9
XENON-138	1.6 E-1	10 E-2	6.1 E-2	3.7 E-2

	1040	10E0	1100	1110
KRYPTON-83M	1.1 E0	1.1 E0	10 E-1	9.4 E-1
KRYPTON-85M	6.8 E0	6.6 E0	6.4 E0	6.3 E0
KRYPTON-85	3.2 E-1	3.2 E-1	3.2 E-1	3.1 E-1
KRYPTON-87	3.9 E0	3.6 E0	3.3 E0	3 E0
KRYPTON-88	1.9 E1	1.2 E1	1.3 E1	1.1 E1
KRYPTON-89	6.2 E-12	7 E-13	8 E-14	9.2 E-15
XENON-131M	2.3 E-1	2.3 E-1	2.3 E-1	2.3 E-1
XENON-133M	1.1 E1	1.1 E0	1.1 E0	1.1 E0
XENON-133	4.6 E1	4.6 E1	4.6 E1	4.6 E1
XENON-135M	9 E-3	5.7 E-3	3.6 E-3	2.3 E-3
XENON-135	3.5 E1	3.5 E1	3.5 E1	3.4 E1
XENON-137	6.5 E-10	1.1 E-10	1.7 E-11	2.8 E-12
XENON-138	2.3 E-2	1.4 E-2	8.5 E-3	5.2 E-3

	1120	1130	1140	1150
KRYPTON-83M	8.8 E-1	8.8 E-1	7.8 E-1	7.3 E-1
KRYPTON-85M	6.1 E0	6 E0	5.8 E0	5.7 E0
KRYPTON-85	3.2 E-1	3.2 E-1	3.2 E-1	3.2 E-1
KRYPTON-87	2.7 E0	2.5 E0	2.3 E0	2.1 E0
KRYPTON-88	1.1 E1	1.1 E1	1 E1	9.7 E0
KRYPTON-89	1 E-15	1.2 E-16	1.4 E-17	1.6 E-18
XENON-131M	2.3 E-1	2.3 E-1	2.3 E-1	2.3 E-1
XENON-133M	1.1 E0	1.1 E0	1.1 E0	1.1 E0
XENON-133	4.6 E1	4.6 E1	4.6 E1	4.6 E1
XENON-135M	1.4 E-3	9.2 E-4	5.8 E-4	3.7 E-4
XENON-135	3.4 E1	3.6 E1	3.3 E1	3.2 E1
XENON-137	4.5 E-13	7.3 E-14	1.2 E-14	1.9 E-15
XENON-138	3.2 E-3	2 E-3	1.2 E-3	7.3 E-4

	1200	1210	1220	1231
KRYPTON-83M	6.8 E-1	6.4 E-1	6 E-1	5.7 E-1
KRYPTON-85M	5.5 E0	5.4 E0	5.2 E0	5.1 E0
KRYPTON-85	3.2 E-1	3.1 E-1	3.1 E-1	3.2 E-1
KRYPTON-87	1.9 E0	1.7 E0	1.6 E0	1.4 E0
KRYPTON-88	9.8 E0	9.7 E0	9.4 E0	9.2 E0
KRYPTON-89	1.8 E-19	3 E-20	2.3 E-21	2.6 E-22
XENON-131M	2.3 E-1	2.3 E-1	2.3 E-1	2.3 E-1
XENON-133M	1.1 E0	1.1 E0	1.1 E0	1.1 E0
XENON-133	4.6 E1	4.6 E1	4.6 E1	4.5 E1
XENON-135M	2.3 E-4	1.5 E-4	9.4 E-5	6 E-5
XENON-135	3.2 E1	3.2 E1	3.1 E1	3.1 E1
XENON-137	3.1 E-18	5 E-17	8.1 E-18	1.3 E-18
XENON-138	4.5 E-4	2.7 E-4	1.7 E-4	1 E-4

	1240	1250	1300	1310
KRYPTON-83M	5.3 E-1	5 E-1	4.7 E-1	4.4 E-1
KRYPTON-85M	5 E0	4.8 E0	4.7 E0	4.6 E0
KRYPTON-85	3.2 E-1	3.2 E-1	3.2 E-1	3.2 E-1
KRYPTON-87	1.3 E0	1.2 E0	1.1 E0	1 E0
KRYPTON-88	7.9 E0	7.6 E0	7.3 E0	7 E0
KRYPTON-89	3 E-23	3.4 E-24	3.9 E-25	4.5 E-26
XENON-131M	2.3 E-1	2.3 E-1	2.3 E-1	2.3 E-1
XENON-133M	1.1 E0	1.1 E0	1.1 E0	1.1 E0
XENON-133	4.5 E1	4.5 E1	4.5 E1	4.5 E1
XENON-135M	3.8 E-8	2.4 E-8	1.5 E-8	9.6 E-9
XENON-135	3 E1	3 E1	3 E1	2.9 E1
XENON-137	2.1 E-19	8.5 E-20	5.6 E-21	5.1 E-22
XENON-138	6.3 E-8	3.9 E-8	2.4 E-8	1.4 E-8

	1320	1330	1340	1350
KRYPTON-83M	4.1 E-1	3.9 E-1	3.6 E-1	3.4 E-1
KRYPTON-85M	4.5 E0	4.4 E0	4.3 E0	4.2 E0
KRYPTON-85	3.2 E-1	3.2 E-1	3.2 E-1	3.2 E-1
KRYPTON-87	9.1 E-1	8.9 E-1	7.6 E-1	7 E-1
KRYPTON-88	6.7 E0	6.5 E0	6.2 E0	6 E0
KRYPTON-89	5.1 E-27	5.9 E-28	6.7 E-29	7.6 E-30
XENON-131M	2.8 E-1	2.8 E-1	2.8 E-1	2.8 E-1
XENON-133M	1 E0	1 E0	1 E0	1 E0
XENON-133	4.5 E1	4.5 E1	4.5 E1	4.5 E1
XENON-135M	6.1 E-6	3.9 E-6	2.4 E-6	1.6 E-6
XENON-135	2.9 E1	2.9 E1	2.8 E1	2.8 E1
XENON-137	1.5 E-22	2.4 E-23	3.9 E-24	6.3 E-25
XENON-138	8.6 E-6	5.4 E-6	3.3 E-6	2 E-6

	1400	1410	1420	1430
KRYPTON-83M	3.2 E-1	3 E-1	2.8 E-1	2.7 E-1
KRYPTON-85M	4 E0	3.9 E0	3.8 E0	3.7 E0
KRYPTON-85	3.2 E-1	3.2 E-1	3.2 E-1	3.2 E-1
KRYPTON-87	6.3 E-1	5.9 E-1	5.6 E-1	4.8 E-1
KRYPTON-88	5.7 E1	5.5 E0	5.3 E0	5.1 E0
KRYPTON-89	8.7 E-31	10 E-32	1.1 E-32	1.3 E-33
XENON-131M	2.3 E-1	2.3 E-1	2.3 E-1	2.3 E-1
XENON-133M	1 E0	1 E0	1 E0	1 E0
XENON-133	4.5 E1	4.5 E1	4.5 E1	4.5 E1
XENON-135M	9.8 E-7	6.2 E-7	3.9 E-7	2.5 E-7
XENON-135	2.7 E1	2.7 E1	2.7 E1	2.6 E1
XENON-137	1 E-25	1.6 E-26	2.7 E-27	4.3 E-28
XENON-138	1.2 E-6	7.6 E-7	4.6 E-7	2.8 E-7

	1440	1450	1500	1510
KRYPTON-83M	2.5 E-1	2.3 E-1	2.2 E-1	2.1 E-1
KRYPTON-85M	3.6 E0	3.6 E0	3.5 E0	3.4 E
KRYPTON-85	3.2 E-1	3.2 E-1	3.2 E-1	3.2 E-1
KRYPTON-87	4.4 E-1	4 E-1	3.7 E-1	3.4 E-1
KRYPTON-88	4.9 E0	4.7 E0	4.5 E0	4.3 E0
KRYPTON-89	1.5 E-34	1.7 E-35	1.9 E-36	2.2 E-37
XENON-131M	2.3 E-1	2.3 E-1	2.3 E-1	2.3 E-1
XENON-133M	1 E0	1 E0	1 E0	1 E0
XENON-133	4.5 E1	4.5 E1	4.5 E1	4.5 E1
XENON-135M	1.6 E-7	1 E-7	6.4 E-8	4 E-8
XENON-135	2.6 E1	2.6 E1	2.5 E1	2.5 E1
XENON-137	7 E-29	1.1 E-29	1.8 E-30	3 E-31
XENON-138	1.7 E-7	1.1 E-7	6.5 E-8	4 E-8

	1520	1530	1540	1550
KRYPTON-83M	1.9 E-1	1.8 E-1	1.7 E-1	1.6 E-1
KRYPTON-85M	3.3 E0	3.2 E0	3.1 E0	3 E0
KRYPTON-85	3.2 E-1	3.2 E-1	3.2 E-1	3.2 E-1
KRYPTON-87	3.1 E-1	2.8 E-1	2.5 E-1	2.3 E-1
KRYPTON-88	4.2 E0	4 E0	3.8 E0	3.7 E0
KRYPTON-89	2.5 E-38	0 E0	0 E0	0 E0
XENON-131M	2.8 E-1	2.8 E-1	2.8 E-1	2.8 E-1
XENON-133M	1 E0	1 E0	1 E0	1 E0
XENON-133	4.5 E1	4.5 E1	4.5 E1	4.5 E1
XENON-135M	2.6 E-8	1.6 E-8	1 E-8	6.5 E-9
XENON-135	2.5 E1	2.5 E1	2.4 E1	2.4 E1
XENON-137	4.8 E-32	7.8 E-33	1.3 E-33	2.1 E-34
XENON-138	2.4 E-8	1.8 E-8	9.1 E-9	5.6 E-9

	1600	1610	1620	1630
KRYPTON-83M	1.5 E-1	1.4 E-1	1.3 E-1	1.2 E-1
KRYPTON-85M	3 E0	2.9 E0	2.8 E0	2.7 E0
KRYPTON-85	3.2 E-1	3.2 E-1	3.2 E-1	3.2 E-1
KRYPTON-87	2.1 E-1	1.9 E-1	1.8 E-1	1.6 E-1
KRYPTON-88	3.5 E0	3.4 E0	3.3 E0	3.1 E0
KRYPTON-89	0 E0	0 E0	0 E0	0 E0
XENON-131M	2.3 E-1	2.3 E-1	2.3 E-1	2.3 E-1
XENON-133M	1 E0	1 E0	1 E0	1 E0
XENON-133	4.5 E1	4.5 E1	4.5 E1	4.4 E1
XENON-135M	4.1 E-9	2.6 E-9	1.7 E-9	1.1 E-9
XENON-135	2.4 E1	2.3 E1	2.3 E1	2.3 E1
XENON-137	3.3 E-35	5.4 E-36	9.7 E-37	1.4 E-37
XENON-138	3.4 E-9	2.1 E-9	1.3 E-9	7.9 E-10

PLANT DATA

First leak starts at 0900 in Sump Room and lasts 120 minutes.

Second leak starts at 1300 in CRD Room and lasts 210 minutes.

Assume the HVL for these energies is one inch of concrete. Therefore, if a wall is greater than 9" thick, assume no dose on the other side.

Assume all doors into secondary containment reduce the dose to 59% of the interior dose rate. This is the contact dose on the door.

Stairwells; assume doses are 0.1% of airborne dose in zones I and III.

DOSE RATES DROM VARIOUS PIPES

Pipe Diameter (inches)	Contact Dose Rate (R/hr)	1 ft (R/hr)	3 ft (R/hr)	6 ft (R/hr)
1	33	0.45	0.13	0.05
2	59	1.7	0.51	0.2
4	100	6.4	2.0	0.79
6	140	13.0	4.4	1.8
8	170	22.0	7.5	3.0
10	200	32	11	4.7
12	220	88	16	6.5
24	350	190	52	23
36	450	280	130	47

Assume all pipes aer 500 cm long

TYPE OF ACCIDENT	RELEASE WITH FUEL DAMAGE
TME REACTOR SHUTDOWN AT	840
IME RELEASE STARTS	900
DURATION OF RELEASE	120 MINUTES
VOLUME OF COMPARTMENT A	3.5 E8 CC
VENTILATION RATE OF COMP. A	5.7 E7 CC/MINUTE
VOLUME OF COMPARTMENT B	10 E10 CC
VENTILATION RATE OF COMP. B	2.8 E8 CC/MINUTE
IODINE-131 SOURCE RELEASE	8 E2 UCI/MINUTE
NOBLE GAS SOURCE RELEASE	1.6 E3 UCI/MINUTE

1 st release

Rate of leak: 1 gallon per minute

↳ Conc of this water is

40 u Ci/cc of I-131

.4 u Ci/cc of Noble.

↳ Assume .5% of Iodine goes water

100% of Noble goes water

TYPE OF ACCIDENT	RELEASE WITH FUEL DAMAGE
THE REACTOR SHUTDOWN AT	840
TIME RELEASE STARTS	1300
DURATION OF RELEASE	210 MINUTES
VOLUME OF COMPARTMENT A	2.8 E9 CC
VENTILATION RATE OF COMP. A	5.7 E8 CC/MINUTE
VOLUME OF COMPARTMENT B	10 E10 CC
VENTILATION RATE OF COMP. B	2.8 E8 CC/MINUTE
IODINE-131 SOURCE RELEASE	1.3 E8 UCI/MINUTE
NOBLE GAS SOURCE RELEASE	5.2 E7 UCI/MINUTE

2nd Release

Rate: 330 GPM (210 minutes)

Conc: 100 uCi/cc of I-131

40 uCi/cc of Nobles

Release: 100% Iodine

100% Noble

Sump Room

COMPARTMENT A

TIME	IODINE-131 UCI/CC	NOBLES UCI/CC	W.B. DOSE RATE MREM/HR
900	0 E0	0 E0	0 E0
910	0 E0	0 E0	0 E0
920	9.6 E-5	1.4 E-4	0 E0
930	9.9 E-5	1.5 E-4	8.8 E2
940	10 E-5	1.5 E-4	8.5 E2
950	10 E-5	1.5 E-4	8.1 E2
1000	10 E-5	1.5 E-4	7.8 E2
1010	10 E-5	1.5 E-4	7.5 E2
1020	10 E-5	1.5 E-4	7.2 E2
1030	10 E-5	1.5 E-4	6.9 E2
1040	10 E-5	1.5 E-4	6.7 E2
1050	10 E-5	1.5 E-4	6.4 E2
1100	10 E-5	1.5 E-4	6.2 E2
1110	10 E-5	1.5 E-4	5.9 E2
1120	10 E-5	1.5 E-4	5.8 E2
1130	10 E-5	1.5 E-4	5.7 E2
1140	2 E-5	2.9 E-5	1.1 E2
1150	6.3 E-6	9.4 E-6	0.4 E1
1200	6.3 E-6	9.4 E-6	8.3 E1
1210	6.3 E-6	9.4 E-6	8.2 E1
1220	6.3 E-6	9.4 E-6	8.1 E1
1230	6.3 E-6	9.4 E-6	8.1 E1
1240	6.3 E-6	9.3 E-6	8.1 E1
1250	6.3 E-6	9.3 E-6	8.0 E1
1300	6.2 E-6	9.3 E-6	8.0 E1
1310	9.9 E-4	4.2 E-2	1.8 E4
1320	0 E-3	1.3 E-1	5.6 E4
1330	4.9 E-3	[illegible]	[illegible]
1340	[illegible]	[illegible]	[illegible]
1350	[illegible]	[illegible]	[illegible]
1400	[illegible]	[illegible]	[illegible]
1410	[illegible]	[illegible]	[illegible]
1420	[illegible]	[illegible]	[illegible]
1430	[illegible]	[illegible]	[illegible]
1440	[illegible]	[illegible]	[illegible]
1450	[illegible]	[illegible]	[illegible]
1500	[illegible]	[illegible]	[illegible]
1510	[illegible]	[illegible]	[illegible]
1520	[illegible]	[illegible]	[illegible]
1530	[illegible]	[illegible]	[illegible]
1540	[illegible]	[illegible]	[illegible]
1550	[illegible]	[illegible]	[illegible]
1600	[illegible]	[illegible]	[illegible]
1610	[illegible]	[illegible]	[illegible]
1620	[illegible]	[illegible]	[illegible]
1630	[illegible]	[illegible]	[illegible]
1640	[illegible]	[illegible]	[illegible]
1650	[illegible]	[illegible]	[illegible]

Secondary Containment

COMPARTMENT B

TIME	IODINE-131 UCI/CC	NOBLES UCI/CC	W.B. DOSE RATE MREM/HR
900	0 E0	0 E0	0 E0
910	0 E0	0 E0	0 E0
920	6.2 E-7	9.2 E-7	5.6 E0
930	1 E-6	1.6 E-6	9.3 E0
940	1.5 E-6	2.2 E-6	1.3 E1
950	1.9 E-6	2.8 E-6	1.6 E1
1000	2.3 E-6	3.5 E-6	2.0 E1
1010	2.8 E-6	4.1 E-6	2.4 E1
1020	3.2 E-6	4.7 E-6	2.7 E1
1030	3.6 E-6	5.4 E-6	3.1 E1
1040	4 E-6	6 E-6	3.4 E1
1050	4.4 E-6	6.6 E-6	3.8 E1
1100	4.9 E-6	7.3 E-6	4.2 E1
1110	5.3 E-6	7.9 E-6	4.5 E1
1120	5.7 E-6	8.5 E-6	4.9 E1
1130	6.1 E-6	9.1 E-6	5.2 E1
1140	6.3 E-6	9.4 E-6	5.4 E1
1150	6.3 E-6	9.4 E-6	5.4 E1
1200	6.3 E-6	9.4 E-6	5.4 E1
1210	6.3 E-6	9.4 E-6	5.4 E1
1220	6.3 E-6	9.4 E-6	5.4 E1
1230	6.3 E-6	9.4 E-6	5.4 E1
1240	6.3 E-6	9.3 E-6	5.4 E1
1250	6.3 E-6	9.3 E-6	5.4 E1
1300	6.2 E-6	9.3 E-6	5.4 E1
1310	9.9 E-4	4.2 E-2	2.4 E3
1320	3 E-3	1.3 E-1	7.4 E3
1330	4.9 E-3	2.1 E-1	1.2 E4
1340	6.8 E-3	2.9 E-1	1.7 E4
1350	8.7 E-3	3.7 E-1	2.1 E4
1400	1.1 E-2	4.5 E-1	2.6 E4
1410	1.2 E-2	5.3 E-1	3.0 E4
1420	1.4 E-2	6.1 E-1	3.5 E4
1430	1.6 E-2	6.9 E-1	3.9 E4
1440	1.8 E-2	7.6 E-1	4.3 E4
1450	2 E-2	8.4 E-1	4.8 E4
1500	2.1 E-2	9.2 E-1	5.2 E4
1510	2.3 E-2	9.9 E-1	5.6 E4
1520	2.5 E-2	1.1 E0	6.1 E4
1530	2.7 E-2	1.1 E0	6.5 E4
1540	2.8 E-2	1.2 E0	6.9 E4
1550	3 E-2	1.3 E0	7.4 E4
1600	3.2 E-2	1.3 E0	7.8 E4
1610	3.3 E-2	1.4 E0	8.2 E4
1620	3.5 E-2	1.5 E0	8.7 E4
1630	3.6 E-2	1.6 E0	9.1 E4
1640	3.8 E-2	1.6 E0	9.5 E4
1650	4 E-2	1.7 E0	9.9 E4
1700	4.1 E-2	1.8 E0	1.0 E5
1710	4.3 E-2	1.8 E0	1.0 E5

Secondary

ISOTOPE	TIME			
	900	1000	1100	1200
IODINE-131	2.3 E-7	2.3 E-6	5 E-6	6.4 E-6
IODINE-132	2.6 E-7	2 E-6	3.1 E-6	3 E-6
IODINE-133	5.1 E-7	4.9 E-6	1 E-5	1.3 E-5
IODINE-134	3 E-7	1.4 E-6	1.4 E-6	7.9 E-7
IODINE-135	4.3 E-7	3.9 E-6	7.5 E-6	8.7 E-6
KRYPTON-83M	5.6 E-9	5 E-8	7.7 E-8	7.4 E-8
KRYPTON-85M	2.1 E-8	2.4 E-7	4.6 E-7	5.5 E-7
KRYPTON-85	7.9 E-10	1 E-8	2.3 E-8	3.2 E-8
KRYPTON-87	2.7 E-8	2 E-7	2.7 E-7	3.2 E-7
KRYPTON-88	4.8 E-8	4.9 E-7	8.7 E-7	9.6 E-7
KRYPTON-89	2.1 E-9	8.8 E-14	4.3 E-19	1.3 E-24
XENON-131M	5.2 E-10	6.6 E-9	1.5 E-8	2.1 E-8
XENON-133M	2.7 E-9	3.4 E-8	7.5 E-8	1 E-7
XENON-133	1.1 E-7	1.4 E-6	3.1 E-6	4.4 E-6
XENON-135M	4.7 E-9	4.2 E-9	6.2 E-10	5.4 E-11
XENON-135	9.6 E-8	1.1 E-6	2.4 E-6	3.1 E-6
XENON-137	3.5 E-9	1.1 E-12	4.4 E-17	1.1 E-21
XENON-138	1.0 E-8	1.3 E-8	1.6 E-9	1.1 E-10
TOTAL IODINE	1.7 E-6	1.4 E-5	2.7 E-5	3.2 E-5
MEV/CC-IODINE	2.5 E-4	1.8 E-5	3.1 E-5	3.3 E-5
TOTAL NOBLE	3.4 E-7	3.6 E-6	7.3 E-6	9.5 E-6
MEV/CC-NOBLE	2 E-7	1.8 E-6	3.4 E-6	3.9 E-6
	0 E0	0 E0	0 E0	0 E0

ISOTOPE	TIME			
	1300	1400	1500	1600
IODINE-131	6.3 E-6	1.1 E-2	2.1 E-2	3.1 E-2
IODINE-132	2.2 E-6	2.7 E-3	4 E-3	4.4 E-3
IODINE-133	1.2 E-5	2 E-2	3.8 E-2	5.6 E-2
IODINE-134	3.6 E-7	2.7 E-4	2.9 E-4	1.7 E-4
IODINE-135	7.9 E-6	1.3 E-3	2.1 E-2	2.9 E-2
KRYPTON-83M	5.5 E-9	2 E-3	2.8 E-3	3 E-3
KRYPTON-85M	5.1 E-7	2.3 E-2	4.1 E-2	5.5 E-2
KRYPTON-85	3.5 E-8	1.8 E-1	3.9 E-3	6 E-3
KRYPTON-87	1.4 E-7	4.1 E-3	5 E-3	4.5 E-3
KRYPTON-88	8.1 E-7	3.3 E-2	5.5 E-2	6.8 E-3
KRYPTON-89	3.1 E-30	3.6 E-31	1.7 E-30	0 E0
XENON-131M	2.3 E-8	1.2 E-3	2.5 E-3	3.6 E-3
XENON-133M	1.1 E-7	5.7 E-3	1.2 E-2	1.8 E-2
XENON-133	4.7 E-6	2.4 E-1	5.1 E-1	7.9 E-1
XENON-135M	3.9 E-12	1.3 E-8	1.8 E-9	1.8 E-10
XENON-135	3.1 E-6	1.5 E-1	3 E-1	4.3 E-1
XENON-137	2.2 E-26	2.1 E-26	7.9 E-31	2.2 E-35
XENON-138	6.5 E-12	1.8 E-8	2 E-9	1.6 E-10
TOTAL IODINE	2.9 E-5	4.6 E-2	8.5 E-2	1.2 E-1
MEV/CC-IODINE	2.9 E-5	4.8 E-2	7.6 E-2	1 E-1
TOTAL NOBLE	9.5 E-6	4.6 E-1	9.3 E-1	1.4 E0
MEV/CC-NOBLE	3.6 E-6	1.6 E-1	2.9 E-1	4 E-1
	0 E0	0 E0	0 E0	0 E0

ISOTOPE	TIME			
	1700	1800	1900	2000
IODINE-131	4.2 E-2	5.2 E-2	0 E0	0 E0
IODINE-132	4.3 E-3	4 E-3	0 E0	0 E0
IODINE-133	7.2 E-2	8.7 E-2	0 E0	0 E0
IODINE-134	1 E-4	5.7 E-5	0 E0	0 E0
IODINE-135	3.4 E-2	3.9 E-2	0 E0	0 E0
KRYPTON-83M	2.3 E-3	2.4 E-3	0 E0	0 E0
KRYPTON-85M	6.4 E-2	8.9 E-2	0 E0	0 E0
KRYPTON-85	8.2 E-3	1 E-2	0 E0	0 E0
KRYPTON-87	3.5 E-3	2.6 E-3	0 E0	0 E0
KRYPTON-88	7.2 E-2	7.1 E-2	0 E0	0 E0
KRYPTON-89	0 E0	0 E0	0 E0	0 E0
XENON-131M	5.2 E-3	6.5 E-3	0 E0	0 E0
XENON-133M	2.5 E-2	3 E-2	0 E0	0 E0
XENON-133	1.1 E0	1.3 E0	0 E0	0 E0
XENON-135M	1.6 E-11	1.3 E-12	0 E0	0 E0
XENON-135	5.4 E-1	6.2 E-1	0 E0	0 E0
XENON-137	0 E0	0 E0	0 E0	0 E0
XENON-138	1.2 E-11	7.6 E-13	0 E0	0 E0
TOTAL IODINE	1.5 E-1	1.9 E-1	0 E0	0 E0
MEV/CC-IODINE	1.3 E-1	1.5 E-1	0 E0	0 E0
TOTAL NOBLE	1.8 E0	2.1 E0	0 E0	0 E0
MEV/CC-NOBLE	4.9 E-1	5.4 E-1	0 E0	0 E0
	0 E0	0 E0	0 E0	0 E0

)

SPING DATA

RELEASE DATA

TIME	IODINE UCI/MIN	NOBLES UCI/MIN
1510	1.3 E3	5.6 E7
1520	1.4 E3	6.1 E7
1530	1.5 E3	6.5 E7
1540	1.6 E3	6.9 E7
1550	1.7 E3	7.3 E7
1600	1.8 E3	7.7 E7
1610	1.9 E3	8.1 E7
1620	2 E3	8.5 E7
1630	2.1 E3	8.9 E7
1640	2.2 E3	9.2 E7
[illegible]	2.3 E3	9.6 E7
[illegible]	2.4 E3	10 E7
1710	2.5 E3	10 E7
1720	2.6 E3	1.1 E8
1730	2.7 E3	1.1 E8
1740	2.8 E3	1.1 E8
1750	2.9 E3	1.2 E8
1800	3 E3	1.2 E8

SPING ISOTOPIC

ISOTOPE	TIME			
	POO	1000	2100	1200
IODINE-131	4.6 E-11	4.6 E-10	7.7 E-10	1.8 E-9
IODINE-132	5.3 E-11	3.9 E-10	6.3 E-10	5.9 E-10
IODINE-133	1 E-10	9.3 E-10	2.1 E-9	2.6 E-9
IODINE-134	6 E-11	2.8 E-10	3.7 E-10	1.6 E-10
IODINE-135	8.6 E-11	7.8 E-10	1.8 E-9	1.7 E-9
KRYPTON-83M	1.1 E-9	8.9 E-9	1.8 E-8	1.8 E-8
KRYPTON-85M	4.3 E-9	4.7 E-8	9.2 E-8	1.1 E-7
KRYPTON-85	1.4 E-10	1 E-9	4.6 E-9	6.8 E-9
KRYPTON-87	5.4 E-9	4.1 E-8	9.8 E-8	4.3 E-8
KRYPTON-88	9.7 E-9	9.8 E-8	1.7 E-7	1.9 E-7
KRYPTON-89	4.2 E-10	1.7 E-14	8.4 E-20	2.6 E-25
XENON-131M	1 E-10	1.3 E-9	3 E-9	4.2 E-9
XENON-133M	5.3 E-10	6.7 E-9	1.5 E-8	2.1 E-8
XENON-133	2.2 E-8	3.9 E-7	6.2 E-7	8.7 E-7
XENON-135M	9.4 E-10	8.4 E-10	1.2 E-10	1.1 E-11
XENON-135	1.9 E-8	2.0 E-7	4.8 E-7	6.3 E-7
XENON-137	7.1 E-10	3.2 E-13	8.9 E-18	2.3 E-22
XENON-138	3.6 E-9	2.6 E-9	3.1 E-10	2.3 E-11
TOTAL IODINE,	3.5 E-10	2.9 E-9	5.4 E-9	6.3 E-9
MEV/CC-IODINE	5 E-10	3.7 E-9	6.2 E-9	6.7 E-9
TOTAL NOBLE	6.6 E-8	7.1 E-7	1.5 E-6	1.9 E-6
MEV/CC-NOBLE	4 E-8	3.6 E-7	6.7 E-7	7.9 E-7
	0 E0	0 E0	0 E0	0 E0

ISOTOPE	TIME			
	1300	1400	1510	1610
IODINE-131	1.8 E-9	2.1 E-6	4.2 E-6	6.8 E-6
IODINE-132	4.4 E-10	5.5 E-7	7.9 E-7	8.8 E-7
IODINE-133	2.5 E-9	4 E-6	7.7 E-6	1.1 E-5
IODINE-134	7.1 E-11	5.5 E-8	4.9 E-8	3.8 E-8
IODINE-135	1.6 E-9	2.4 E-6	4.2 E-6	5.7 E-6
KRYPTON-83M	1.1 E-8	8.9 E-4	5.7 E-4	6 E-4
KRYPTON-85M	1 E-7	4.6 E-3	8.9 E-3	1.1 E-2
KRYPTON-85	7 E-9	3.6 E-4	7.7 E-4	1.2 E-3
KRYPTON-87	2.7 E-8	8.2 E-4	10 E-4	9 E-4
KRYPTON-88	1.6 E-7	6.7 E-3	1.1 E-2	1.4 E-2
KRYPTON-89	6.2 E-31	7.2 E-32	3.4 E-37	0 E0
XENON-131M	4.5 E-9	2.3 E-4	5 E-4	7.7 E-4
XENON-133M	2.2 E-8	1.1 E-3	2.4 E-3	3.7 E-3
XENON-133	9.3 E-7	4.8 E-2	1 E-1	1.6 E-1
XENON-135M	7.6 E-13	2.6 E-9	8.6 E-10	8.7 E-11
XENON-135	6.2 E-7	3 E-2	5.9 E-2	8.6 E-2
XENON-137	4.4 E-27	4.1 E-27	1.6 E-31	4.5 E-36
XENON-138	1.3 E-12	3.6 E-9	3.9 E-10	3.2 E-11
TOTAL IODINE	5.8 E-9	9.2 E-6	1.7 E-5	2.4 E-5
MEV/CC-IODINE	5.6 E-9	5.6 E-6	1.5 E-5	2.1 E-5
TOTAL NOBLE	1.9 E-6	9.3 E-2	1.9 E-1	2.7 E-1
MEV/CC-NOBLE	7.2 E-7	2.2 E-2	5.9 E-2	8.1 E-2
	0 E0	0 E0	0 E0	0 E0

ISOTOPE	TIME			
	1700	1800	1900	2000
IODINE-131	8.3 E-6	1 E-5	0 E0	0 E0
IODINE-132	8.6 E-7	9 E-7	0 E0	0 E0
IODINE-133	1.4 E-5	1.7 E-5	0 E0	0 E0
IODINE-134	2 E-5	1.1 E-8	0 E0	0 E0
IODINE-135	6.9 E-6	7.7 E-6	0 E0	0 E0
KRYPTON-83M	3.6 E-4	4.8 E-4	0 E0	0 E0
KRYPTON-85M	1.3 E-3	1.4 E-3	0 E0	0 E0
KRYPTON-85	1.6 E-3	2 E-3	0 E0	0 E0
KRYPTON-87	7.1 E-4	5.1 E-4	0 E0	0 E0
KRYPTON-88	1.4 E-2	1.4 E-2	0 E0	0 E0
KRYPTON-89	0 E0	0 E0	0 E0	0 E0
XENON-131M	1 E-3	1.3 E-3	0 E0	0 E0
XENON-133M	4.9 E-3	6.1 E-3	0 E0	0 E0
XENON-133	2.1 E-1	2.7 E-1	0 E0	0 E0
XENON-135M	3.2 E-13	2.6 E-13	0 E0	0 E0
XENON-135	1.1 E-1	1.2 E-1	0 E0	0 E0
XENON-137	0 E0	0 E0	0 E0	0 E0
XENON-138	2.3 E-12	1.5 E-13	0 E0	0 E0
TOTAL IODINE	3.1 E-5	3.6 E-5	0 E0	0 E0
MEV/CC-IODINE	2.5 E-5	2.9 E-5	0 E0	0 E0
TOTAL NOBLE	3.6 E-1	4.8 E-1	0 E0	0 E0
MEV/CC-NOBLE	9.7 E-2	1.1 E-1	0 E0	0 E0
	0 E0	0 E0	0 E0	0 E0

APRIL WEATHER FORECAST

FAIR CONDITIONS WITH WINDS FROM THE NORTHEAST AT ABOUT 3MPH.

A HIGH PRESSURE FRONT IS MOVING IN FROM THE NORTH PASSING THROUGH WILKES BARRE AROUND NOON. THIS FRONT IS BRINGING VERY STABLE CONDITIONS WITH MODERATING TEMPERATURES AND CLEAR SKIES

PROBABILITY OF PRECIPITATION = NEAR ZERO PERCENT

APRIL 4, 1984 WEATHER REPORT

0600 - 1510

Wind from 45° (NE)

$\Delta T = -0.5$

sigma theta = 10.0

wind speed = 3 mph

1511 - 1800

Wind from 0° (N)

$\Delta T = 3.0$

sigma theta = 1.0

wind speed = 1 mph

TYPE OF ACCIDENT	RELEASE WITH FUEL DAMAGE
THE REACTOR SHUTDOWN AT	900
THE AFFECTED SECTOR	S
WIND FROM SECTOR	N
WIND FROM DIRECTION	0 DEGREES
WIND SPEED	1 MPH
STABILITY CLASS	G
PRECIPITATION RATE	0 INCHES/HR

1510 - 1820

MULTIPLICATION VALUES TABLE A

CENTER MILES	0.1 MILES	0.25 MILES	0.5 MILES	1.1 MILES
.33	8.6 E-4	0 E0	0 E0	0 E0
.429	1.2 E-2	0 E0	0 E0	0 E0
1	2.7 E-1	2.6 E-3	0 E0	0 E0
1.5	4.3 E-1	5.7 E-2	1.1 E-5	0 E0
2	7.6 E-1	1.8 E-1	1.1 E-3	0 E0
2.5	8.3 E-1	3.2 E-1	1.1 E-2	0 E0
3	8.6 E-1	4.4 E-1	3.5 E-2	0 E0
3.5	9.1 E-1	5.4 E-1	6.4 E-2	5 E-5
4	9.3 E-1	6.1 E-1	1.4 E-1	4.2 E-4
4.5	9.4 E-1	6.7 E-1	2.1 E-1	1.8 E-3
5	9.5 E-1	7.2 E-1	2.7 E-1	5.8 E-3
6	9.6 E-1	7.9 E-1	3.9 E-1	2.4 E-2
7	9.7 E-1	8.4 E-1	5.3 E-1	5.9 E-2
8	9.8 E-1	8.7 E-1	6.7 E-1	1.1 E-1
9	9.8 E-1	8.9 E-1	8.0 E-1	1.7 E-1
10	9.8 E-1	9.1 E-1	8.9 E-1	2.3 E-1

DATA SET TABLE 1

DISTANCE (MILES)	TIME P01	P10	P50	P90
.33	0 0	0 0	0 0	0 0
.42F	0 0	0 0	0 0	0 0
1	0 0	0 0	0 0	0 0
1.5	0 0	0 0	0 0	0 0
2	0 0	0 0	0 0	0 0
2.5	0 0	0 0	0 0	0 0
3	0 0	0 0	0 0	0 0
3.5	0 0	0 0	0 0	0 0
4	0 0	0 0	0 0	0 0
4.5	0 0	0 0	0 0	0 0
5	0 0	0 0	0 0	0 0
6	0 0	0 0	0 0	0 0
7	0 0	0 0	0 0	0 0
8	0 0	0 0	0 0	0 0
9	0 0	0 0	0 0	0 0
10	0 0	0 0	0 0	0 0

DISTANCE (MILES)	TIME P40	P50	100	101
.33	0	0	0	0
	0	0	0	0
.429	0	0	0	0
	0	0	0	0
1	0	0	0	0
	0	0	0	0
1.5	0	0	0	0
	0	0	0	0
2	0	0	0	0
	0	0	0	0
2.5	0	0	0	0
	0	0	0	0
3	0	0	0	0
	0	0	0	0
3.5	0	0	0	0
	0	0	0	0
4	0	0	0	0
	0	0	0	0
4.5	0	0	0	0
	0	0	0	0
5	0	0	0	0
	0	0	0	0
6	0	0	0	0
	0	0	0	0
7	0	0	0	0
	0	0	0	0
8	0	0	0	0
	0	0	0	0
9	0	0	0	0
	0	0	0	0
10	0	0	0	0
	0	0	0	0

DISTANCE	TIME			
MILES	1020	1030	1040	1050
.33	0	0	0	0
	0	.1	.1	.1
.429	0	0	0	0
	0	0	0	0
1	0	0	0	0
	0	0	0	0
1.5	0	0	0	0
	0	0	0	0
2	0	0	0	0
	0	0	0	0
2.5	0	0	0	0
	0	0	0	0
3	0	0	0	0
	0	0	0	0
3.5	0	0	0	0
	0	0	0	0
4	0	0	0	0
	0	0	0	0
4.5	0	0	0	0
	0	0	0	0
5	0	0	0	0
	0	0	0	0
6	0	0	0	0
	0	0	0	0
7	0	0	0	0
	0	0	0	0
8	0	0	0	0
	0	0	0	0
9	0	0	0	0
	0	0	0	0
10	0	0	0	0
	0	0	0	0

DISTANCE (MILES)	TIME 1100	1110	1120	1130
.33	0	0	0	0
	.1	.2	.2	.2
.429	0	0	0	0
	.1	.1	.1	.1
1	0	0	0	0
	0	0	0	0
1.5	0	0	0	0
	0	0	0	0
2	0	0	0	0
	0	0	0	0
2.5	0	0	0	0
	0	0	0	0
3	0	0	0	0
	0	0	0	0
3.5	0	0	0	0
	0	0	0	0
4	0	0	0	0
	0	0	0	0
4.5	0	0	0	0
	0	0	0	0
5	0	0	0	0
	0	0	0	0
6	0	0	0	0
	0	0	0	0
7	0	0	0	0
	0	0	0	0
8	0	0	0	0
	0	0	0	0
9	0	0	0	0
	0	0	0	0
10	0	0	0	0
	0	0	0	0

DISTANCE	TIME			
MILES	1140	1150	1200	1210
.08	0 .2	0 .2	0 .2	0 .2
.429	0 .1	0 .1	0 .1	0 .1
1	0 0	0 0	0 0	0 0
1.5	0 0	0 0	0 0	0 0
2	0 0	0 0	0 0	0 0
2.5	0 0	0 0	0 0	0 0
3	0 0	0 0	0 0	0 0
3.5	0 0	0 0	0 0	0 0
4	0 0	0 0	0 0	0 0
4.5	0 0	0 0	0 0	0 0
5	0 0	0 0	0 0	0 0
6	0 0	0 0	0 0	0 0
7	0 0	0 0	0 0	0 0
8	0 0	0 0	0 0	0 0
9	0 0	0 0	0 0	0 0
10	0 0	0 0	0 0	0 0

DISTANCE (MILES)	TIME 1220	1230	1240	1250
.33	0	0	0	0
	.2	.2	.2	.2
.429	0	0	0	0
	.1	.1	.1	.1
1	0	0	0	0
	0	0	0	0
1.5	0	0	0	0
	0	0	0	0
2	0	0	0	0
	0	0	0	0
2.5	0	0	0	0
	0	0	0	0
3	0	0	0	0
	0	0	0	0
3.5	0	0	0	0
	0	0	0	0
4	0	0	0	0
	0	0	0	0
4.5	0	0	0	0
	0	0	0	0
5	0	0	0	0
	0	0	0	0
6	0	0	0	0
	0	0	0	0
7	0	0	0	0
	0	0	0	0
8	0	0	0	0
	0	0	0	0
9	0	0	0	0
	0	0	0	0
10	0	0	0	0
	0	0	0	0

DISTANCE (MILES)	TIME 1300	1310	1320	1330
.3	0	0	2.5	7.5
	0	.2	32.2	96
.429	0	0	1.8	5.4
	0	.1	23.5	69.9
1	0	0	0	.5
	0	0	0	7.2
1.5	0	0	0	0
	0	0	0	0
2	0	0	0	0
	0	0	0	0
2.5	0	0	0	0
	0	0	0	0
3	0	0	0	0
	0	0	0	0
3.5	0	0	0	0
	0	0	0	0
4	0	0	0	0
	0	0	0	0
4.5	0	0	0	0
	0	0	0	0
5	0	0	0	0
	0	0	0	0
6	0	0	0	0
	0	0	0	0
7	0	0	0	0
	0	0	0	0
8	0	0	0	0
	0	0	0	0
9	0	0	0	0
	0	0	0	0
10	0	0	0	0
	0	0	0	0

DISTANCE		TIME		
(MILES)	1340	1350	1400	1410
.35	12.3	17.2	20.9	25.5
	158	220.1	282.2	344.3
.429	8.9	12.4	15.1	18.5
	115.2	160.5	205.7	251
1	1.6	2.7	3.7	4.5
	21.5	35.4	49.2	63.1
1.5	.3	.9	1.4	2
	4	11.8	19.5	27.2
2	0	.2	.6	.9
	0	2.6	7.7	12.8
2.5	0	0	.1	.4
	0	0	1.9	5.6
3	0	0	0	0
	0	0	0	1.4
3.5	0	0	0	0
	0	0	0	0
4	0	0	0	0
	0	0	0	0
4.5	0	0	0	0
	0	0	0	0
5	0	0	0	0
	0	0	0	0
6	0	0	0	0
	0	0	0	0
7	0	0	0	0
	0	0	0	0
8	0	0	0	0
	0	0	0	0
9	0	0	0	0
	0	0	0	0
10	0	0	0	0
	0	0	0	0

DISTANCE (MILES)	1420	1430	1440	1450
.3	29	33.3	36.6	40.8
	400.8	462.8	519.3	564.4
.429	21	24.2	26.6	29.6
	292.1	337.4	378.5	411.4
1	5.5	6.3	7.2	7.9
	77	89.7	103.5	116.2
1.5	2.4	3	3.4	3.9
	34.8	42.5	49.5	57.1
2	1.3	1.6	1.9	2.2
	17.8	22.8	27.8	32.4
2.5	.6	.9	1.1	1.3
	9.2	12.8	16.4	20
3	.3	.5	.7	.8
	4.3	7	9.8	12.5
3.5	0	.2	.4	.5
	1.1	3.4	5.6	7.8
4	0	0	.2	.3
	0	.9	2.8	4.6
4.5	0	0	0	.1
	0	0	.8	2.3
5	0	0	0	0
	0	0	0	.7
6	0	0	0	0
	0	0	0	0
7	0	0	0	0
	0	0	0	0
8	0	0	0	0
	0	0	0	0
9	0	0	0	0
	0	0	0	0
10	0	0	0	0
	0	0	0	0

DISTANCE (MILES)	1500	TIME 1510	
.35	43.9	46.9	
	620.9	677.3	
.429	31.8	34	
	452.6	493.7	
1	8.8	9.5	
	126.3	138.9	
1.5	4.3	4.8	
	64.1	69.7	
2	2.5	2.7	
	37.4	41.9	
2.5	1.5	1.8	
	23.3	26.9	
3	1	1.1	
	15.3	17.8	
3.5	.6	.8	
	10	12.2	
4	.4	.5	
	6.4	8.2	
4.5	.2	.3	
	3.9	5.4	
5	.1	.2	
	2	3.3	
6	0	0	
	0	.5	
7	0	0	0
	0	0	0
8	0	0	0
	0	0	0
9	0	0	0
	0	0	0
10	0	0	0
	0	0	0

Wind Shift at 1511

TYPE OF ACCIDENT	RELEASE WITH FUEL DAMAGE
THE REACTOR SHUTDOWN AT	900
THE AFFECTED SECTOR	SW
WIND FROM SECTOR	NE
WIND FROM DIRECTION	45 DEGREES
WIND SPEED	3 MPH
STABILITY CLASS	(D)
PRECIPITATION RATE	0 INCHES/HR

900 - 1510

MULTIPLICATION VALUES TABLE B

CENTER MILES	0.1 MILES	0.25 MILES	0.5 MILES	1.0 MILES
.25	0 E0	0 E0	0 E0	0 E0
.341	0 E0	0 E0	0 E0	0 E0
1	2.4 E-4	0 E0	0 E0	0 E0
1.5	1.8 E-2	0 E0	0 E0	0 E0
2	9.3 E-2	0 E0	0 E0	0 E0
2.5	2 E-1	4.8 E-5	0 E0	0 E0
3	3.2 E-1	7.8 E-4	0 E0	0 E0
3.5	4.2 E-1	4.5 E-3	0 E0	0 E0
4	5.1 E-1	1.4 E-2	0 E0	0 E0
4.5	5.8 E-1	3.2 E-2	0 E0	0 E0
5	6.3 E-1	5.8 E-2	1.2 E-5	0 E0
6	7.2 E-1	1.3 E-1	2.8 E-4	0 E0
7	7.8 E-1	2.1 E-1	2 E-3	0 E0
8	8.2 E-1	3 E-1	7.7 E-3	0 E0
9	8.5 E-1	3.7 E-1	2 E-2	0 E0
10	8.8 E-1	4.4 E-1	3.9 E-2	0 E0

DATA SET TABLE 2

DISTANCE (MILES)	TIME 1510	1520	1530	1540
.25	0	0	396.6	426.3
	0	0	5954.6	6412.6
.341	0	0	0	366.1
	0	0	0	5562.2
1	0	0	0	0
	0	0	0	0
1.5	0	0	0	0
	0	0	0	0
2	0	0	0	0
	0	0	0	0
2.5	0	0	0	0
	0	0	0	0
3	0	0	0	0
	0	0	0	0
3.5	0	0	0	0
	0	0	0	0
4	0	0	0	0
	0	0	0	0
4.5	0	0	0	0
	0	0	0	0
5	0	0	0	0
	0	0	0	0
6	0	0	0	0
	0	0	0	0
7		0	0	0
		0	0	0
8		0	0	0
		0	0	0
9		0	0	0
		0	0	0
10		0	0	0
		0	0	0

DISTANCE (MILES)	1550	1600	1610	1620
.25	448.4	469.9	490.8	511.2
	6870.7	7328.7	778e.8	8244.8
.341	393.6	414	433.9	453.3
	5990	6417.9	6845.8	7273.6
1	0	0	189	203.4
	0	0	3122.4	3362.6
1.5	0	0	0	0
	0	0	0	0
2	0	0	0	0
	0	0	0	0
2.5	0	0	0	0
	0	0	0	0
3	0	0	0	0
	0	0	0	0
3.5	0	0	0	0
	0	0	0	0
4	0	0	0	0
	0	0	0	0
4.5	0	0	0	0
	0	0	0	0
5	0	0	0	0
	0	0	0	0
6	0	0	0	0
	0	0	0	0
7	0	0	0	0
	0	0	0	0
8	0	0	0	0
	0	0	0	0
9	0	0	0	0
	0	0	0	0
10	0	0	0	0
	0	0	0	0

DISTANCE (MILES)	TIME 1630	1640	1650	1700
.25	581.1	550.4	569.3	581.4
	8702.9	9160.9	9619	10077
.341	472.2	490.6	508.6	526.1
	7701.5	8129.4	8557.2	8985.1
1	214.2	224.7	235	245
	3602.8	3843	4083.2	4323.4
1.5	0	123.8	133.3	140.5
	0	2173.7	2341	2508.2
2	0	0	0	0
	0	0	0	0
2.5	0	0	0	0
	0	0	0	0
3	0	0	0	0
	0	0	0	0
3.5	0	0	0	0
	0	0	0	0
4	0	0	0	0
	0	0	0	0
4.5	0	0	0	0
	0	0	0	0
5	0	0	0	0
	0	0	0	0
6	0	0	0	0
	0	0	0	0
7	0	0	0	0
	0	0	0	0
8	0	0	0	0
	0	0	0	0
9	0	0	0	0
	0	0	0	0
10	0	0	0	0
	0	0	0	0

DISTANCE (MILES)	TIME 1710	1720	1730	1740
.25	599.4	617	609.8	663
	10535	10993.1	11451.1	11909.2
.341	537.3	554.1	570.4	563.8
	9412.9	9840.8	10268.7	10696.5
1	254.8	264.4	273.7	279.9
	4563.6	4803.8	5043.9	5284.1
1.5	147.5	154.4	161.1	167.6
	2675.4	2842.6	3009.8	3177
2	87.3	94.1	99.2	104.2
	1625.4	1750.4	1875.5	2000.5
2.5	0	0	0	64.9
	0	0	0	1278.9
3	0	0	0	0
	0	0	0	0
3.5	0	0	0	0
	0	0	0	0
4	0	0	0	0
	0	0	0	0
4.5	0	0	0	0
	0	0	0	0
5	0	0	0	0
	0	0	0	0
6	0	0	0	0
	0	0	0	0
7	0	0	0	0
	0	0	0	0
8	0	0	0	0
	0	0	0	0
9	0	0	0	0
	0	0	0	0
10	0	0	0	0
	0	0	0	0

DISTANCE (MILES)	TIME 1750	1800	1810	1820
.25	655.4	648	699	691.3
	12367.2	12825.3	13283.3	13741.4
.341	613.1	606.2	599.4	646.6
	11124.4	11552.2	11980.1	12408
1	286.8	297.6	294.5	320.5
	5524.3	5764.5	6004.7	6244.9
1.5	174.1	180.4	184.5	190.6
	3344.2	3511.4	3678.6	3845.9
2	109.2	114	118.7	123.3
	2125.5	2250.6	2375.6	2500.6
2.5	70	73.9	77.7	81.4
	1377.2	1475.6	1574	1672.4
3	0	0	50.2	54.2
	0	0	1044	1124.3
3.5	0	0	0	0
	0	0	0	0
4	0	0	0	0
	0	0	0	0
4.5	0	0	0	0
	0	0	0	0
5	0	0	0	0
	0	0	0	0
6	0	0	0	0
	0	0	0	0
7	0	0	0	0
	0	0	0	0
8	0	0	0	0
	0	0	0	0
9	0	0	0	0
	0	0	0	0
10	0	0	0	0
	0	0	0	0

April 4 Emergency Plan Exercise
Expected Participant Actions

Time	Expected Action	Triggering Data
0805	Shift Supervisor will declare an Alert and assume the role of Emergency Director	See Attachment A
0920	Emergency Director will declare Site Emergency	See Attachment B
0930	Reactor Coolant Leak will be detected	See Attachment C
1005	Shift Supervisor WILL send Search and Rescue Team to Contaminated Injury	See Attachment D
1320	Recovery MANAGER WILL DECLARE General EMERGENCY & RECOMMEND SHELTERING	See Attachment E
1530	Recovery Manager WILL RECOMMEND EVACUATION	See Attachment F

Attachment A

SHIFT SUPERVISOR DECLARES ALERT

At 0800 a referee representing himself as the Chemistry foreman will call the control room and make the following report:

"~~I have order the liquid radwaste~~

"We have discovered that the paperwork for the liquid radwaste release was incorrect and we released the wrong sample tanks. I called the radwaste control room and had the release terminated. We have calculated the actual concentration of the release and it was about 90 times Tech Spec concentrations."

It is expected that this information will be immediately relayed to the Shift Supervisor. It is also expected that by 0805 the Shift Supervisor will have classified this event as an ALERT based on EP-IP-001 Radiological Effluent Release EAL (Report of release > 10 times Tech Specs). The Shift Supervisor should immediately assume the role of Emergency Director and declare an ALERT, initiating all subsequent actions.

The referee representing the Chemistry foreman will be available to answer any detailed question the control room may have.

EMERGENCY DIRECTOR DECLARES SITE EMERGENCY

Between 0900 and 0915 the plant will undergo a major transient due to an ATWS which results in significant fuel damage. Both the control room and the TSC will be aware of the fuel damage from the indication of ~~high~~ elevated drywell pressure and elevated containment radiation, as shown on the data sheets on figure 1 and 2. Both the control room and the TSC will be aware that ~~the~~ Reactor water level was below the Top of Active Fuel (TAF) for approximately 5 minutes from the ~~indicated~~ indication on the SPDS display depicted on figure 3.

It is expected that by 0920 the Emergency Director will have classified this event as a SITE EMERGENCY based on EP-IP-001 Fuel cladding Degradation (containment rad monitor greater than 400rem) or Loss of Reactor Vessel Inventory (water level below ~~the~~ TAF for greater than 3 minutes). The Emergency Director should immediately declare a SITE EMERGENCY initiating all ~~subsequent~~ actions.

SPDS UNIT 1
CONTAINMENT STATUS

FUNCTION	VALUE
DRYWELL PRESSURE	-.3 PSIG
DRYWELL TEMPERATURE	122° F
DRYWELL OXYGEN CONCENTRATION	0 %
DRYWELL HYDROGEN CONCENTRATION	0 %
SUPPRESSION CHAMBER PRESSURE	.3 PSIG
SUPPRESSION POOL WATER TEMPERATURE	75 °F
SUPPRESSION POOL WATER LEVEL	23 FT

FIGURE 3-7

Attachment B
Figure 1 pg. 1

SPDS UNIT 1
CONTAINMENT STATUS

PARAMETER	VALUE	
DRYWELL PRESSURE	2.3	PSIG
DRYWELL TEMPERATURE	150	DEG F
DRYWELL OXYGEN CONCENTRATION	0	PERCENT
DRYWELL HYDROGEN CONCENTRATION	0	PERCENT
SUPPRESSION CHAMBER PRESSURE	3.3	PSIG
SUPPRESSION POOL BULK TEMPERATURE	145	DEG F
SUPPRESSION POOL WATER LEVEL	24	INCH

Attachment B
Figure 1 Pg 2

FIGURE 3-7

SEQUOYAH UNIT 1
CONTAINMENT STATUS

PARAMETER	VALUE	
DRYWELL PRESSURE	3.8	PSIG
DRYWELL TEMPERATURE	150.6	DEG F
DRYWELL OXYGEN CONCENTRATION	0	PERCENT
DRYWELL HYDROGEN CONCENTRATION	0	PERCENT
SUPPRESSION CHAMBER PRESSURE	4.8	PSIG
SUPPRESSION POOL BULK TEMPERATURE	151.6	DEG F
SUPPRESSION POOL WATER LEVEL	23	FEET

LOG SHEET OF

FIGURE 3-7

Attachment B
Figure 1 pg 3

UNIT 1, PAGE 1 OF 1 GROUP POINT DISPLAY SERVICES

GROUP NUMBER: 13 PROC RAD MONITOR (E-PLAN DISPLAY)

POINT NO.	DESCRIPTION	ALARM STATE	IS NOW	HAS LAST	HIGH LIMIT	LOW LIMIT	UNITS
HAR07	RBCCH RAD		OK, 1 BK, 1		NONE	NONE	CPS
HAR08	SW EFFLUENT RAD				NONE	NONE	CPS
HAR01	CONTHM ACC RANG HI RAD A		1.2		NONE	NONE	R/HR
HAR02	CONTHM ACC RANG HI RAD B		1.2		NONE	NONE	R/HR
HAR05	OFFGAS PRETREAT RAD A		1		NONE	NONE	MR/H
HAR06	OFFGAS PRETREAT RAD B		1.6		NONE	NONE	MR/H
HAR01	MAIN STEAM LINE RAD A		18		NONE	NONE	MR/H
HAR02	MAIN STEAM LINE RAD B		18		NONE	NONE	MR/H
HAR03	MAIN STEAM LINE RAD C		18		NONE	NONE	MR/H
HAR04	MAIN STEAM LINE RAD D		18		NONE	NONE	MR/H

Attachment B
Figure 2, Pg 1

UNIT 1, PAGE 1 OF 1 GROUP POINT DISPLAY SERVICES

GROUP NUMBER: 13 PROC RAD MONITOR (E-PLAN DISPLAY)

POINT NO.	DESCRIPTION	ALARM STATE	NOM	HAS LAST	HIGH LIMIT	LOW LIMIT	UNITS
HAR07	RBCCH RAD		BK,1 BK,1		NONE	NONE	CPS
HAR08	SW EFFLUENT RAD				NONE	NONE	CPS
HAR01	CONTMN ACC RANG HI RAD A		1/100		NONE	NONE	R/HR
HAR02	CONTMN ACC RANG HI RAD B		1/100		NONE	NONE	R/HR
HAR05	OFFGAS PRETREAT RAD A		1		NONE	NONE	HR/H
HAR06	OFFGAS PRETREAT RAD B		1.6		NONE	NONE	HR/H
HAR01	MAIN STEAM LINE RAD A		18		NONE	NONE	HR/H
HAR02	MAIN STEAM LINE RAD B		18		NONE	NONE	HR/H
HAR03	MAIN STEAM LINE RAD C		18		NONE	NONE	HR/H
HAR04	MAIN STEAM LINE RAD D		18		NONE	NONE	HR/H

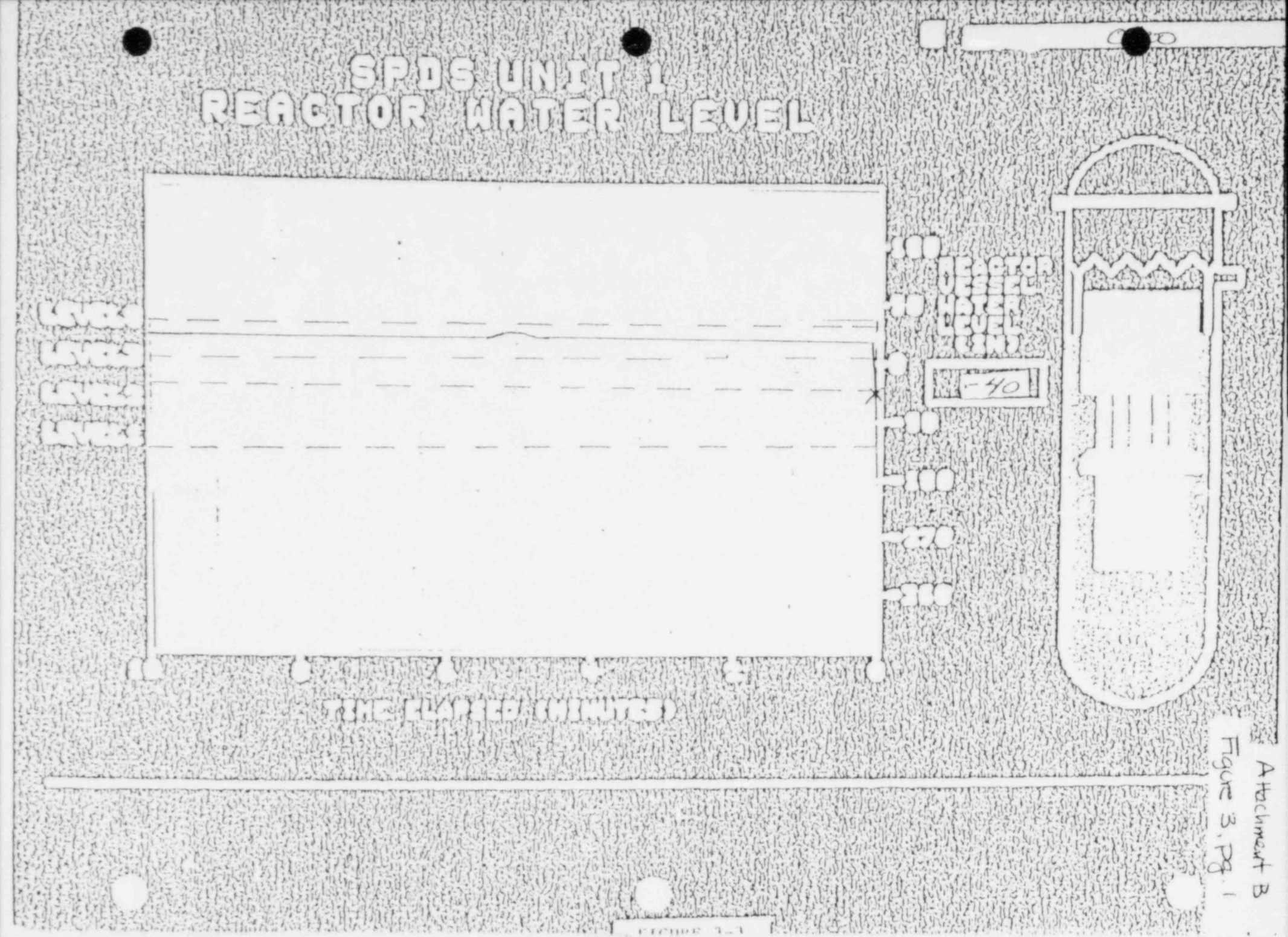
Attachment B
Figure 2, pg 2

UNIT 1, PAGE 1 OF 1 GROUP POINT DISPLAY SERVICES

GROUP NUMBER: 13 PROC RAD MONITOR (E-PLAN DISPLAY)

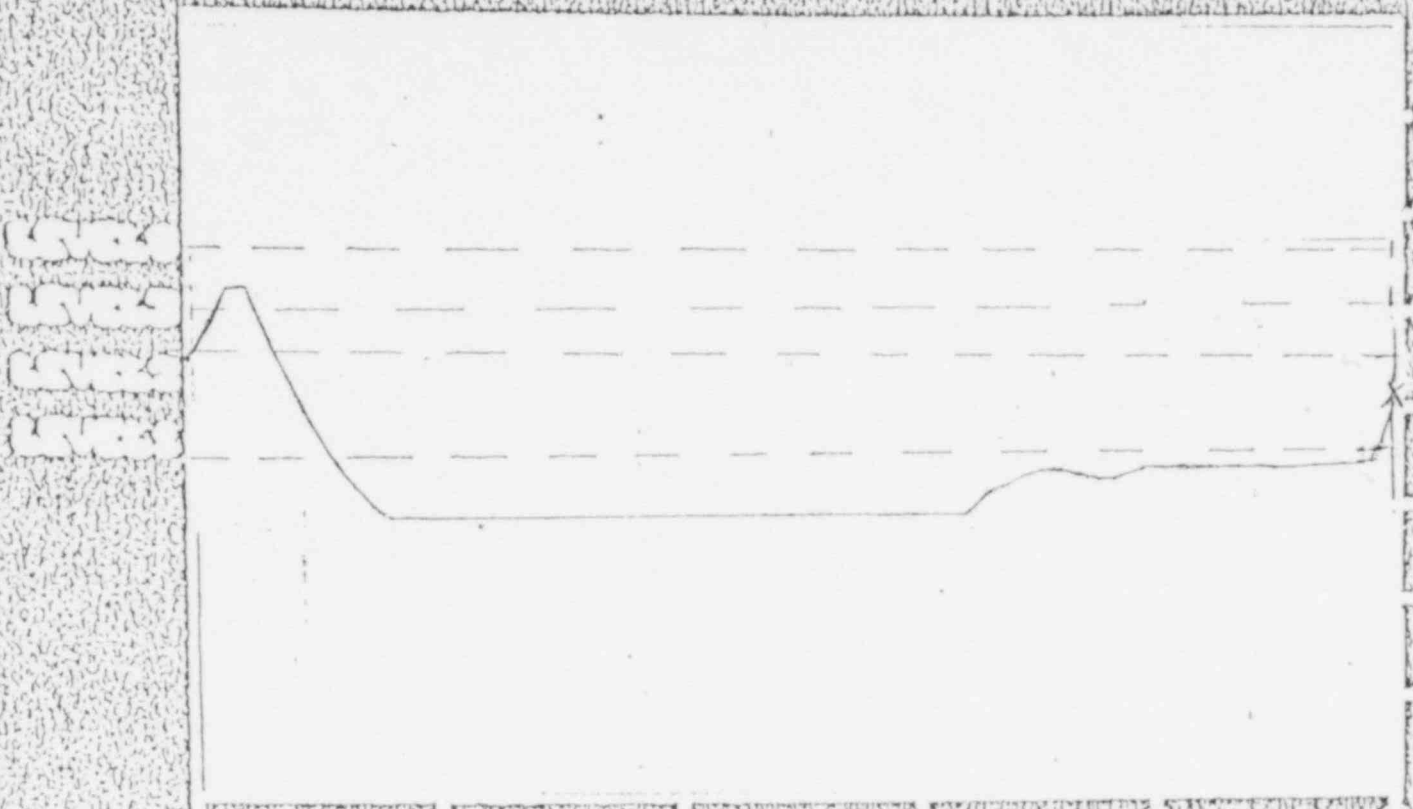
POINT NO.	DESCRIPTION	ALARM STATE IS NON	HAS LAST	HIGH LIMIT	LOW LIMIT	UNITS
HAR07	RPCCH RAD	BK,1		NONE	NONE	CPS
HAR08	SW EFFLUENT RAD	BK,1		NONE	NONE	CPS
HAR01	CONTMN ACC RANG HI RAD A	1000		NONE	NONE	R/HR
HAR02	CONTMN ACC RANG HI RAD B	1000		NONE	NONE	R/HR
HAR05	OFFGAS PRETREAT RAD A	1		NONE	NONE	MR/H
HAR06	OFFGAS PRETREAT RAD B	1.6		NONE	NONE	MR/H
HAR01	MAIN STEAM LINE RAD A	18		NONE	NONE	MR/H
HAR02	MAIN STEAM LINE RAD B	18		NONE	NONE	MR/H
HAR03	MAIN STEAM LINE RAD C	18		NONE	NONE	MR/H
HAR04	MAIN STEAM LINE RAD D	18		NONE	NONE	MR/H

Attachment B
Figure 2, Pg 3

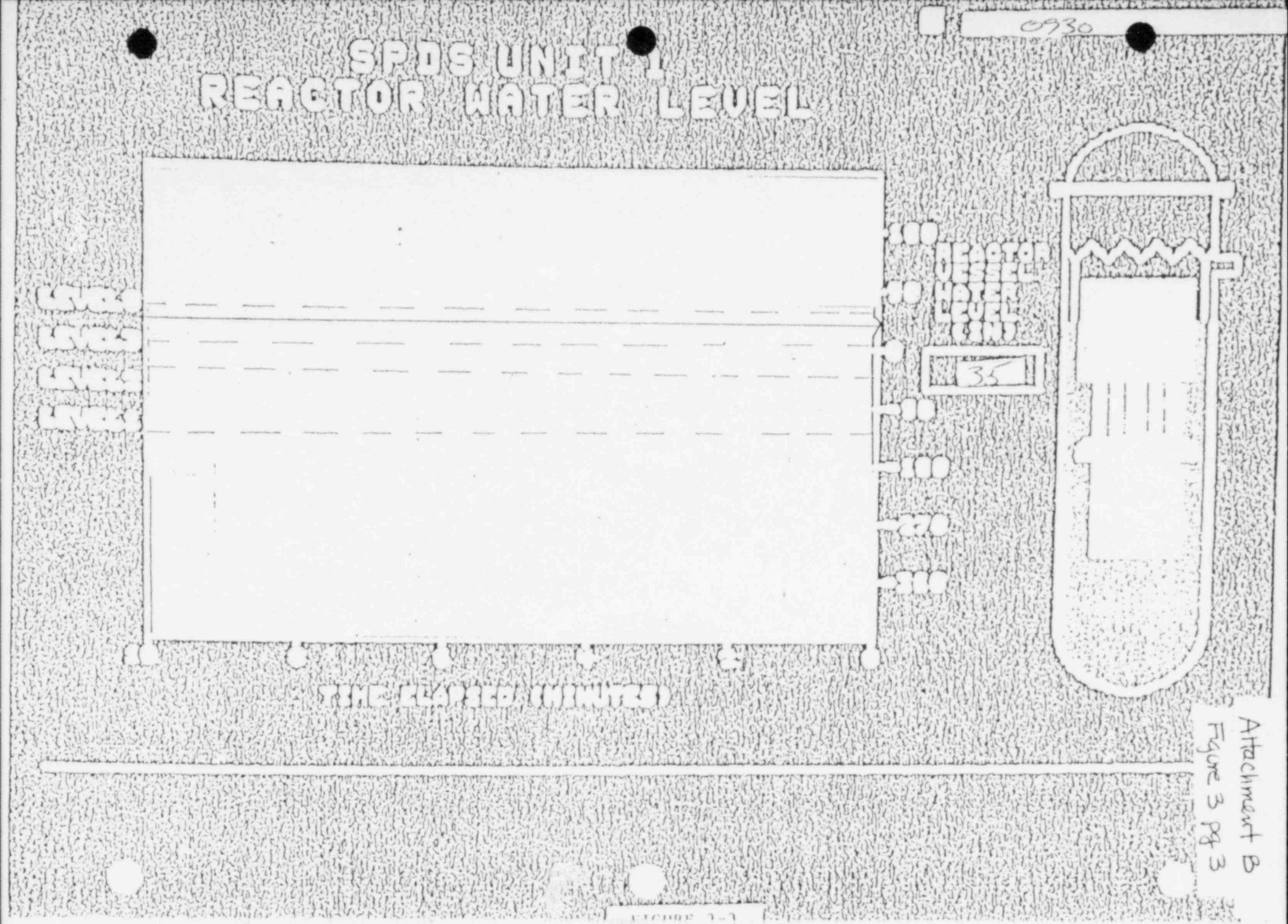


Attachment B
Figure 3, Pg. 1

SPDS UNIT 1
REACTOR WATER LEVEL



Attachment B
Figure 3, Pg 2



Attachment B
Figure 3 pg 3

Attachment C

Reactor Coolant Leak Detected

~~At 0930 both the conta~~

Following the SCRAM at 0915 the scram discharge drain valve will fail to seat properly, resulting in approximately a 2 gpm leak of highly radioactive reactor coolant into the reactor building sump. At 0930 both the control room and TSC should recognize the leak location based on the area radiation monitor readings depicted on figure 1.

After recognition of the reactor coolant leak the Emergency Director should consider upgrading to a General Emergency based on EP-IP-001, Loss of Rx Vessel Inventory (Failure of reactor pressure isolation valves to isolate coolant break outside containment and reactor water level below TAF greater than 3 minutes) It is expected he will not declare a General Emergency based on the size of the leak and possibility for quickly isolating the leak. Also it is expected no Protective Action will be recommended because the offsite doses resulting from the leak are nil.

0900

UNIT 1, PAGE 1 OF 1 GROUP POINT DISPLAY SERVICES

GROUP NUMBER: 15 RX BLDG AREA RAD MONIT (E-PLAN DISPLAY)

POINT NO.	DESCRIPTION	ALARM STATE	IS NOW	HIGH LIMIT	LOW LIMIT	UNITS
PAR04	ARM-04-RX BLDG SUMP ROOM			15.0	NONE	MR/H
PAR25	ARM-25-RHR ROOM A			15.0	NONE	MR/H
PAR01	ARM-01-RHR ROOM B			15.0	NONE	MR/H
PAR02	ARM-02-RCIC ROOM			4.00	NONE	MR/H
PAR03	ARM-03-HPCI ROOM			4.00	NONE	MR/H
PAR36	AM-36-RR ACCESS BAY			4.00	NONE	MR/H
PAR16	ARM-16-REM SHDN ROOM			4.00	NONE	MR/H
PAR06	ARM-06-CRD SOUTH			15.0	NONE	MR/H
PAR09	ARM-09-CRD REPAIR ROOM			15.0	NONE	MR/H
PAR05	ARM-05-CRD NORTH			15.0	NONE	MR/H
PAR41	ARM-41-TIP CHAMBER SHLD			15.0	NONE	MR/H
PAR26	ARM-26-TIP DRIVE AREA			15.0	NONE	MR/H
PAR10	ARM-10-STBY LIQ CNTL ARE			15.0	NONE	MR/H
PAR08	ARM-08-RHCU RECIRC AREA			4.00	NONE	MR/H
PAR13	ARM-13-NEW FUEL VAULT			4.00	NONE	MR/H
PAR11	ARM-11-SAMPLE ROOM			4.00	NONE	MR/H
PAR12	ARM-12-UPPER RR BAY			4.00	NONE	MR/H
PAR14	ARM-14-SPENT FUEL POOL			15.0	NONE	MR/H
PAR15	ARM-15-REFUEL FLR-NORTH			4.00	NONE	MR/H
PAR42	ARM-42-REFUEL FLR-WEST			4.00	NONE	MR/H

B7

Attachment C
Figure 1, Pg 1

UNIT 1, PAGE 1 OF 1 GROUP POINT DISPLAY SERVICES

GROUP NUMBER: 15 RX BLDG AREA RAD MONIT (E-PLAN DISPLAY)

POINT NO.	DESCRIPTION	ALARM STATE IS NOW	HIGH LIMIT	LOW LIMIT	UNITS
PAR04	ARM-04-RX BLDG SUMP ROOM	BZ	15.0	NONE	MR/H
PAR25	ARM-25-RHR ROOM A	OFFSCALE	15.0	NONE	MR/H
PAR01	ARM-01-RHR ROOM B	BZ	15.0	NONE	MR/H
PAR02	ARM-02-RCIC ROOM	BZ	4.00	NONE	MR/H
PAR03	ARM-03-HPCI ROOM	BZ	4.00	NONE	MR/H
PAR36	AM-36-RR ACCESS BAY	BZ	4.00	NONE	MR/H
PAR16	ARM-16-REM SHDN ROOM	BZ	4.00	NONE	MR/H
PAR06	ARM-06-CRD SOUTH	OFFSCALE	15.0	NONE	MR/H
PAR09	ARM-09-CRD REPAIR ROOM	BZ	15.0	NONE	MR/H
PAR05	ARM-05-CRD NORTH	OFFSCALE	15.0	NONE	MR/H
PAR41	ARM-41-TIP CHAMBER SHLD	OFFSCALE	15.0	NONE	MR/H
PAR26	ARM-26-TIP DRIVE AREA	OFFSCALE	15.0	NONE	MR/H
PAR10	ARM-10-STBY LIQ CNTL ARE	BZ	15.0	NONE	MR/H
PAR08	ARM-08-RHCU RECIRC AREA		4.00	NONE	MR/H
PAR13	ARM-13-REM FUEL VAULT		4.00	NONE	MR/H
PAR11	ARM-11-SAMPLE ROOM		4.00	NONE	MR/H
PAR12	ARM-12-UPPER RR BAY		4.00	NONE	MR/H
PAR14	ARM-14-SPENT FUEL POOL		15.0	NONE	MR/H
PAR15	ARM-15-REFUEL FLR-NORTH		4.00	NONE	MR/H
PAR42	ARM-42-REFUEL FLR-WEST		4.00	NONE	MR/H

Attachment C
Figure 1, Pg 2

0930

UNIT 1, PAGE 1 OF 1 GROUP POINT DISPLAY SERVICES

GROUP NUMBER: 15 RX BLDG AREA RAD MONIT (E-PLAN DISPLAY)

POINT NO.	DESCRIPTION	ALARM STATE	IS NOW	HIGH LIMIT	LOW LIMIT	UNITS
PAR04	ARM-04-RX BLDG SUMP ROOM		8.9 E2	15.0	NONE	MR/H
PAR25	ARM-25-RHR ROOM A		OFFSCALE	15.0	NONE	MR/H
PAR01	ARM-01-RHR ROOM B		OFFSCALE	15.0	NONE	MR/H
PAR02	ARM-02-RCIC ROOM		9.3	4.00	NONE	MR/H
PAR03	ARM-03-HPCI ROOM		9.3	4.00	NONE	MR/H
PAR36	AM-36-RR ACCESS BAY		9.3	4.00	NONE	MR/H
PAR16	ARM-16-REM SHDN ROOM		9.3	4.00	NONE	MR/H
PAR06	ARM-06-CRD SOUTH		OFFSCALE	15.0	NONE	MR/H
PAR09	ARM-09-CRD REPAIR ROOM		9.3	15.0	NONE	MR/H
PAR05	ARM-05-CRD NORTH		OFFSCALE	15.0	NONE	MR/H
PAR41	ARM-41-TIP CHAMBER SHLD		OFFSCALE	15.0	NONE	MR/H
PAR26	ARM-26-TIP DRIVE AREA		OFFSCALE	15.0	NONE	MR/H
PAR10	ARM-10-STBY LIQ CNTL ARE		9.3	15.0	NONE	MR/H
PAR08	ARM-08-RHCU RECIRC AREA		9.3	4.00	NONE	MR/H
PAR13	ARM-13-NEW FUEL VAULT		9.3	4.00	NONE	MR/H
PAR11	ARM-11-SAMPLE ROOM		9.3	4.00	NONE	MR/H
PAR12	ARM-12-UPPER RR BAY		9.3	4.00	NONE	MR/H
PAR14	ARM-14-SPENT FUEL POOL		9.3	15.0	NONE	MR/H
PAR15	ARM-15-REFUEL FLR-NORTH		9.3	4.00	NONE	MR/H
PAR42	ARM-42-REFUEL FLR-WEST		9.3	4.00	NONE	MR/H

Attachment C
Figure 1, pg 3

0505.JDS BOP-26

Attachment D

SEARCH & RESCUE TEAM ACTIVATED

At 1000 a referee representing himself as a maintenance worker will call the control room ~~via~~ and TSC via radio and make the following report:

> "control room, control room; This is a drill, this is a drill, There has been an accident in the phase ~~seperator~~ separator tank room. Send a first aid team. I think I broke my hip and Terry can't move. This is a drill, This is a drill."

It is expected that ~~the Shift Supervisor will~~ this information will be immediately relayed to the Shift Supervisor and Emergency Director. It is expected that by 1005 the Shift Supervisor and Emergency Director will have conferred and ~~will~~ take the steps necessary to ~~dispatch~~ dispatch the search and rescue team.

The referee representing the maintenance worker will be available to answer detailed questions.

Attachment E

RECOVERY MANAGER DECLARES GENERAL EMERGENCY & RECOMMENDS SHELTERING

At 1300 a containment instrument line breaks, ~~The EOF, TSC, and Control Room~~ allowing highly radioactive gases in containment to slowly leak into the reactor building. The EOF, TSC and control room should recognize the leak based on the area radiation readings depicted on Figure 1. The location of the leak can be surmised from the ~~anomaly~~ abnormal reading on Suppression Pool level depicted in Figure 2.

It is expected ~~the~~ that this information will be immediately relayed to the Recovery Manager. By 1320 it is expected that the Recovery Manager will have classified this event as a General Emergency based on EP-IP-001, Fuel Cladding degradation (Containment radiation greater than 400 Rem and indication of loss of primary containment). The Recovery Manager should declare a General Emergency ~~and~~ initiating all subsequent actions

It is expected that by ~~1315~~ 1330 the radiological ~~does~~ ~~dose~~ dose projection personnel in the EOF will have determined that the ~~projected integrated~~ fence line ~~dose~~ dose is above the guideline levels for sheltering but below the dose for evacuation. This information will be immediately relayed to the Recovery Manager and by ~~1320~~ 1335 the Recovery Manager should recommend Sheltering ~~and~~, initiating all subsequent actions.

UNIT 1, PAGE 1 OF 1 GROUP POINT DISPLAY SERVICES

GROUP NUMBER: 15 RX BLDG AREA RAD MONIT (E-PLAN DISPLAY)

POINT NO.	DESCRIPTION	ALARM STATE	IS NOW	HIGH LIMIT	LOW LIMIT	UNITS
PAR04	ARM-04-RX BLDG SUMP ROOM		28	15.0	NONE	MR/H
PAR25	ARM-25-RHR ROOM A		OFFSCALE	15.0	NONE	MR/H
PAR01	ARM-01-RHR ROOM B		OFFSCALE	15.0	NONE	MR/H
PAR02	ARM-02-RCIC ROOM		28	4.00	NONE	MR/H
PAR03	ARM-03-HPCI ROOM		28	4.00	NONE	MR/H
PAR36	AM-36-RR ACCESS BAY		28	4.00	NONE	MR/H
PAR16	ARM-16-REM SHDN ROOM		28	4.00	NONE	MR/H
PAR06	ARM-06-CRD SOUTH		OFFSCALE	15.0	NONE	MR/H
PAR09	ARM-09-CRD REPAIR ROOM		28	15.0	NONE	MR/H
PAR05	ARM-05-CRD NORTH		OFFSCALE	15.0	NONE	MR/H
PAR41	ARM-41-TIP CHAMBER SHLD		OFFSCALE	15.0	NONE	MR/H
PAR26	ARM-26-TIP DRIVE AREA		OFFSCALE	15.0	NONE	MR/H
PAR10	ARM-10-STBY LIQ CNTL ARE		28	15.0	NONE	MR/H
PAR08	ARM-08-RHCU RECIRC AREA		28	4.00	NONE	MR/H
PAR13	ARM-13-NEW FUEL VAULT		28	4.00	NONE	MR/H
PAR11	ARM-11-SAMPLE ROOM		28	4.00	NONE	MR/H
PAR12	ARM-12-UPPER RR BAY		28	4.00	NONE	MR/H
PAR14	ARM-14-SPENT FUEL POOL		28	15.0	NONE	MR/H
PAR15	ARM-15-REFUEL FLR-NORTH		28	4.00	NONE	MR/H
PAR42	ARM-42-REFUEL FLR-WEST		28	4.00	NONE	MR/H

Attachment E
Figure 1 Pg 1

UNIT 1, PAGE 1 OF 1 GROUP POINT DISPLAY SERVICES

GROUP NUMBER: 15 RX BLDG AREA RAD MONIT (E-PLAN DISPLAY)

POINT NO.	DESCRIPTION	ALARM STATE	IS NOW	HIGH LIMIT	LOW LIMIT	UNITS
PAR04	ARM-04-RX BLDG SUMP ROOM		OFFSCALE	15.0	NONE	MR/H
PAR25	ARM-25-RHR ROOM A			15.0	NONE	MR/H
PAR01	ARM-01-RHR ROOM B			15.0	NONE	MR/H
PAR02	ARM-02-RCIC ROOM			4.00	NONE	MR/H
PAR03	ARM-03-HPCI ROOM			4.00	NONE	MR/H
PAR36	AM-36-RR ACCESS BAY			4.00	NONE	MR/H
PAR16	ARM-16-REM SHDN ROOM			4.00	NONE	MR/H
PAR06	ARM-06-CRD SOUTH			15.0	NONE	MR/H
PAR09	ARM-09-CRD REPAIR ROOM			15.0	NONE	MR/H
PAR05	ARM-05-CRD NORTH			15.0	NONE	MR/H
PAR41	ARM-41-TIP CHAMBER SHLD			15.0	NONE	MR/H
PAR26	ARM-26-TIP DRIVE AREA			15.0	NONE	MR/H
PAR10	ARM-10-STBY LIQ CNTL ARE			15.0	NONE	MR/H
PAR08	ARM-08-RHCU RECIRC AREA			4.00	NONE	MR/H
PAR13	ARM-13-NEW FUEL VAULT			4.00	NONE	MR/H
PAR11	ARM-11-SAMPLE ROOM			4.00	NONE	MR/H
PAR12	ARM-12-UPPER RR BAY			4.00	NONE	MR/H
PAR14	ARM-14-SPENT FUEL POOL			15.0	NONE	MR/H
PAR15	ARM-15-RFUEL FLR-NORTH			4.00	NONE	MR/H
PAR42	ARM-42-RFUEL FLR-WEST			4.00	NONE	MR/H

Attachment E
Figure 1 pg 2

UNIT 1, PAGE 1 OF 1 GROUP POINT DISPLAY SERVICES

GROUP NUMBER: 15 RX BLDG AREA RAD MONIT (E-PLAN DISPLAY)

POINT NO.	DESCRIPTION	ALARM STATE	IS NOW	HIGH LIMIT	LOW LIMIT	UNITS
PAR04	ARM-04-RX BLDG SUMP ROOM		OFFSCALE	15.0	NONE	MR/H
PAR25	ARM-25-RHR ROOM A			15.0	NONE	MR/H
PAR01	ARM-01-RHR ROOM B			15.0	NONE	MR/H
PAR02	ARM-02-RCIC ROOM			4.00	NONE	MR/H
PAR03	ARM-03-HPCI ROOM			4.00	NONE	MR/H
PAR36	AM-36-RR ACCESS BAY			4.00	NONE	MR/H
PAR16	ARM-16-REM SHDN ROOM			4.00	NONE	MR/H
PAR06	ARM-06-CRD SOUTH			15.0	NONE	MR/H
PAR09	ARM-09-CRD REPAIR ROOM			15.0	NONE	MR/H
PAR05	ARM-05-CRD NORTH			15.0	NONE	MR/H
PAR41	ARM-41-TIP CHAMBER SHLD			15.0	NONE	MR/H
PAR26	ARM-26-TIP DRIVE AREA			15.0	NONE	MR/H
PAR10	ARM-10-STBY LIQ CNTL ARE			15.0	NONE	MR/H
PAR08	ARM-08-RHCU RECIRC AREA			4.00	NONE	MR/H
PAR13	ARM-13-NEW FUEL VAULT			4.00	NONE	MR/H
PAR11	ARM-11-SAMPLE ROOM			4.00	NONE	MR/H
PAR12	ARM-12-UPPER RR BAY			4.00	NONE	MR/H
PAR14	ARM-14-SPENT FUEL POOL			15.0	NONE	MR/H
PAR15	ARM-15-REFUEL FLR-NORTH			4.00	NONE	MR/H
PAR42	ARM-42-REFUEL FLR-WEST			4.00	NONE	MR/H

Attachment E
Figure 1 pg 3

1300

UNIT 1, PAGE 1 OF 1 GROUP POINT DISPLAY SERVICES

GROUP NUMBER: 18 OPERATIONS PARAMETERS LVLS, FLOWS, PRESS

POINT NO.	DESCRIPTION	ALARM STATE	IS NOW	WAS LAST	HIGH LIMIT	LOW LIMIT	UNITS
CSL01	COND STORAGE TANK 1 LVL		71		NONE	NONE	%
NRL01	REFUEL WATER STORAGE LVL		51.6		NONE	NONE	%
NDL01	DEMIN WTR STOR TANK LVL		19.1		NONE	NONE	%
THL01	CONDENSER HOTWELL LEVEL		4.7		6.00	4.00	FEET
NAL01	SUPPRESSION POOL LEVEL A		22.5		24.0	22.0	FEET
NCL01	COOLING TOWER LEVEL		5.5		NONE	NONE	FEET
NFP02	RX PRESS WIDE RANGE		919		1030.	NONE	PSIG
NRL01	RX LVL SHTDWN RANGE		9.8		NONE	NONE	INCHES
NRT01	RECIRC PP A SUCT TEMP		505.		NONE	NONE	DEG F
NRT02	RECIRC PP B SUCT TEMP		505.		NONE	NONE	DEG F
NFL01	RX NARROW RANGE LVL A		9.8		39.	NONE	INCHES
CRF02	COND REJECT FLOW		5.1		NONE	200.	GPH
CMF03	COND MAKEUP FLOW		0		NONE	NONE	GPM
CDF09	COND DEMIN DSCH HDR FLOW		8819		NONE	NONE	GPH
CPT02	SPL COND DISCHARGE TEMP		130.		135.	NONE	DEG F
CPP01	COND PUMP DSCH PRESS		640		660.	510.	PSIG
FPP07	RFP DSCH TO HDR PRESSURE		998		NONE	NONE	PSIG
THP01	CONDENSER A PRESS		2.1		5.0	NONE	IN HGA
NLT01	RX BOTTOM HEAD TEMP		535.		480	NONE	DEG F
NJF01	JET PP TOTAL CORE FLOW		13.8		NONE	NONE	MLBS/H

Attachment E
Figure 2, pg 1

UNIT 1, PAGE 1 OF 1 GROUP POINT DISPLAY SERVICES

GROUP NUMBER: 18 OPERATIONS PARAMETERS LVLS, FLOWS, PRESS

POINT NO.	DESCRIPTION	ALARM STATE	IS NOW	HAS LAST	HIGH LIMIT	LOW LIMIT	UNITS
CSL01	COND STORAGE TANK 1 LVL		71		NONE	NONE	%
NRL01	REFUEL WATER STORAGE LVL		51.6		NONE	NONE	%
NDL01	DEMIN WTR STOR TANK LVL		19.1		NONE	NONE	%
THL01	CONDENSER HOTWELL LEVEL		4.7		6.00	4.00	FEET
NAL01	SUPPRESSION POOL LEVEL A		32.5		24.0	22.0	FEET
NCL01	COOLING TOWER LEVEL		5.5		NONE	NONE	FEET
NFP02	RX PRESS WIDE RANGE		919		1030.	NONE	PSIG
NBL01	RX LVL SHTDWN RANGE		9.8		NONE	NONE	INCHES
NRT01	RECIRC PP A SUCT TEMP		505.		NONE	NONE	DEG F
NRT02	RECIRC PP B SUCT TEMP		505.		NONE	NONE	DEG F
NFL01	RX NARROW RANGE LVL A		9.8		39.	NONE	INCHES
CRF02	COND REJECT FLOW		5.1		NONE	200.	GPM
CMF03	COND MAKEUP FLOW		0		NONE	NONE	GPM
CDF09	COND DEMIN DSCH HDR FLOW		8819		NONE	NONE	GPM
CPT02	SPC COND DISCHARGE TEMP		130.		135.	NONE	DEG F
CPP01	COND PUMP DSCH PRESS		640		660.	510.	PSIG
FPP07	RFP DSCH TO HDR PRESSURE		998		NONE	NONE	PSIG
THP01	CONDENSER A PRESS		2.1		5.0	NONE	IN HGA
NLT01	Rx Bottom Head Tmp Temp		505.		480	NONE	DEG F
NJF01	JET PP TOTAL CORE FLOW		13.8		NONE	NONE	MLBS/H

Attachment E
Figure 2, Pg 2

UNIT 1, PAGE 1 OF 1 GROUP POINT DISPLAY SERVICES

GROUP NUMBER: 18 OPERATIONS PARAMETERS LVLS, FLOWS, PRESS

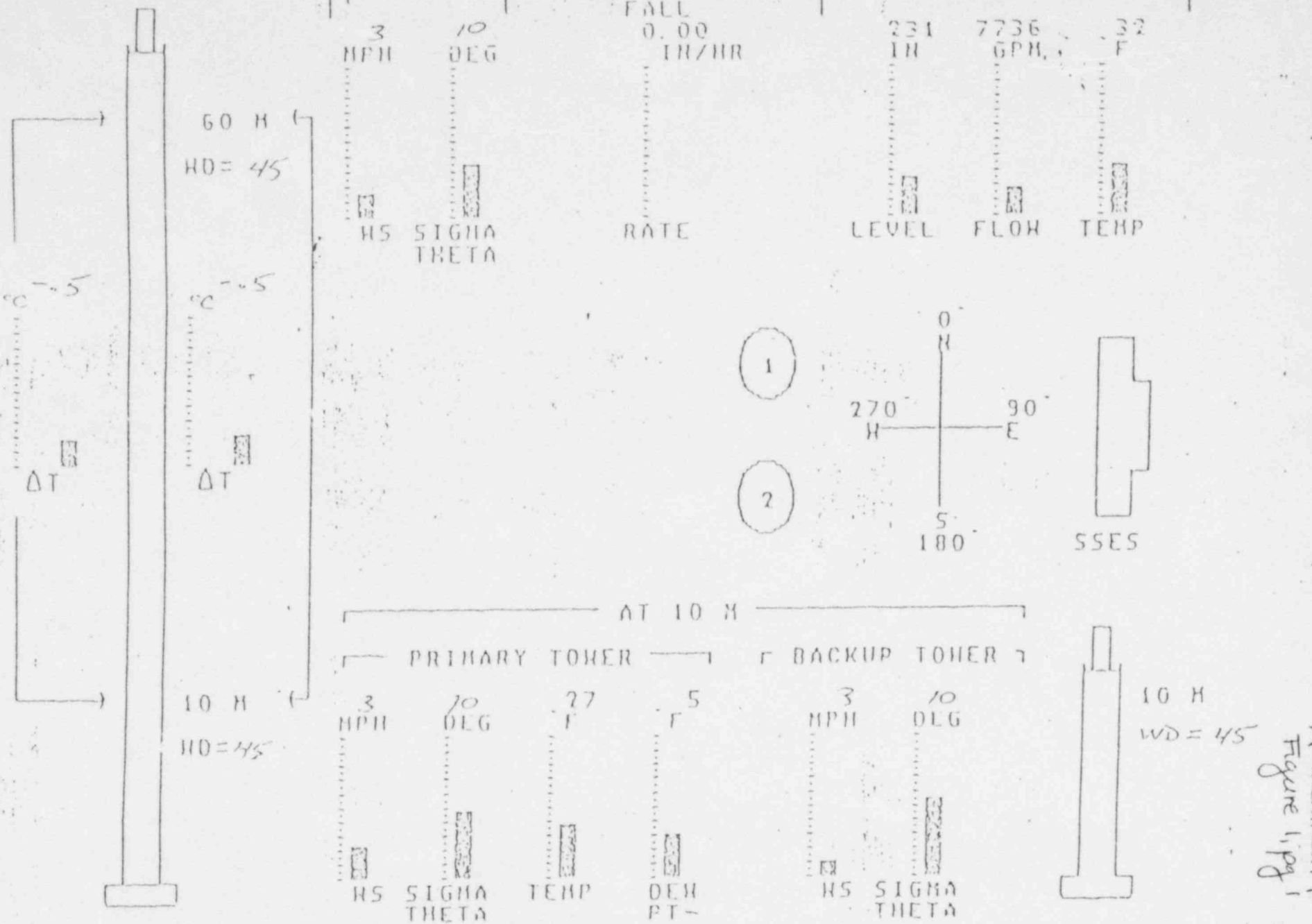
POINT NO.	DESCRIPTION	ALARM STATE	IS NOW	HAS LAST	HIGH LIMIT	LOW LIMIT	UNITS
CSL01	COND STORAGE TANK 1 LVL		71		NONE	NONE	%
HRL01	REFUEL WATER STORAGE LVL		51.6		NONE	NONE	%
HDL01	DEMIN WTR STOR TANK LVL		19.1		NONE	NONE	%
THL01	CONDENSER HOTWELL LEVEL		4.7		6.00	4.00	FEET
HAL01	SUPPRESSION POOL LEVEL A		32.5		24.0	22.0	FEET
HCL01	COOLING TOWER LEVEL		5.5		NONE	NONE	FEET
HFP02	RX PRESS WIDE RANGE		919		1030.	NONE	PSIG
HBL01	RX LVL SHTDWN RANGE		9.8		NONE	NONE	INCHES
NRT01	RECIRC PP A SUCT TEMP		505.		NONE	NONE	DEG F
NRT02	RECIRC PP B SUCT TEMP		505.		NONE	NONE	DEG F
HFL01	RX NARROW RANGE LVL A		9.8		39.	NONE	INCHES
CRF02	COND REJECT FLOW		5.1		NONE	200.	GPM
CMF03	COND MAKEUP FLOW		0		NONE	NONE	GPM
CDF09	COND DEMIN DSCH HDR FLOW		8819		NONE	NONE	GPM
CPT02	SPL COND DISCHARGE TEMP		130.		135.	NONE	DEG F
CPP01	COND PUMP DSCH PRESS		640		660.	510.	PSIG
FPP07	RFP DSCH TO HDR PRESSURE		998		NONE	NONE	PSIG
THP01	CONDENSER A PRESS		2.1		5.0	NONE	IN HGA
NLT01	RX BOTTOM HEAD TEMP		505.		480	NONE	DEG F
HJF01	JET PP TOTAL CORE FLOW		13.8		NONE	NONE	MLBS/H

Attachment E
Figure 2, pg3

RECOVERY MANAGER RECOMMENDS EVACUATION

At 1511 the general weather conditions change. The EOF should recognize the change based on the data depicted in Figure 1. By ~~1530~~ 1525 the first dose projections with the new weather conditions should be calculated. The results of ~~these~~ this calculation ~~would~~ should indicate the ~~gen~~ guidelines for ~~Evacuation~~ Evacuation have been exceeded.

This information should be immediately relayed to the ~~Em~~ Recovery Manager. It is expected that by 1530 the Recovery Manager will recommend Evacuation initiating all subsequent actions.



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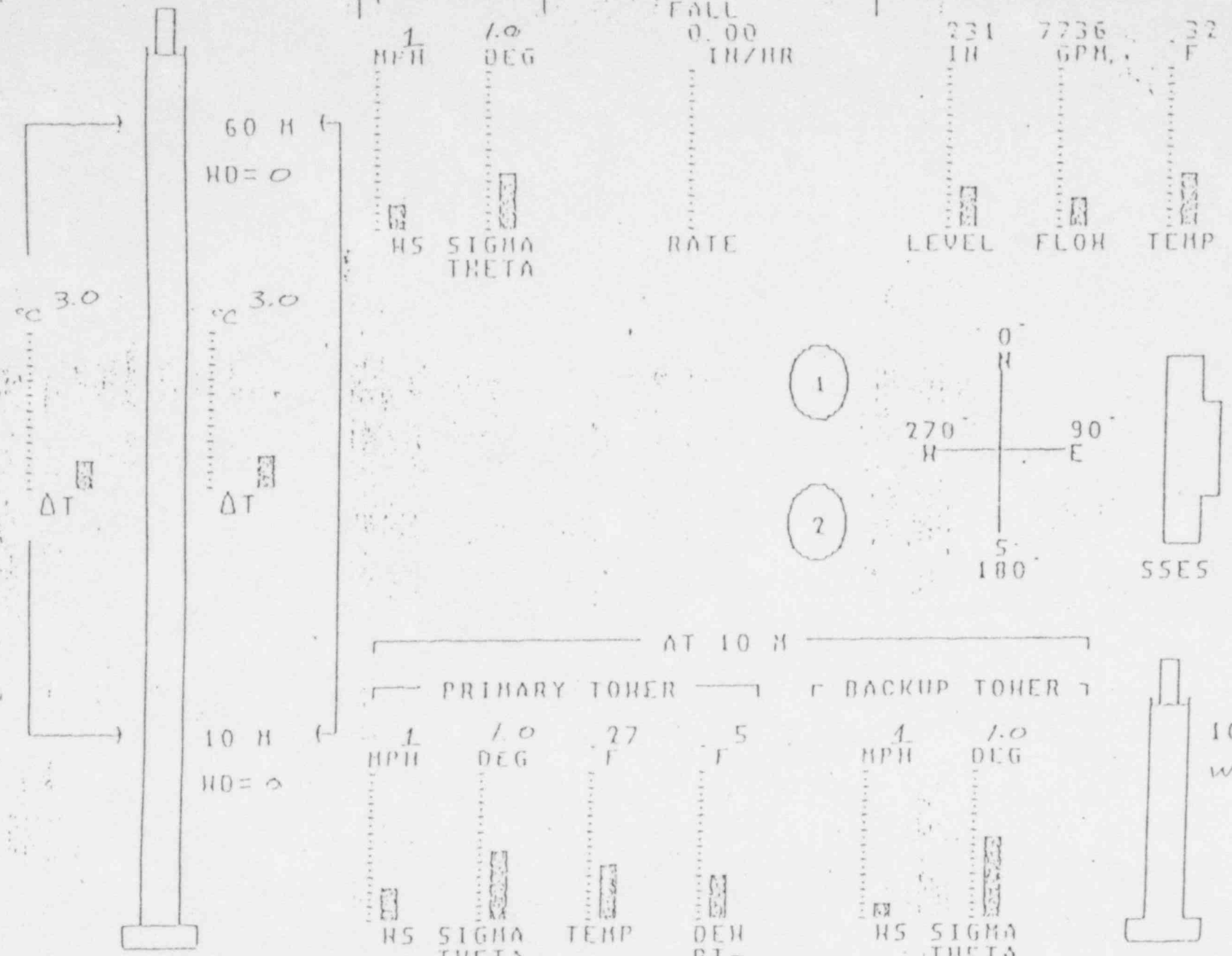
ENVIRONMENTAL CONDITIONS

Attachment F
Figure 1, pg 1

1500



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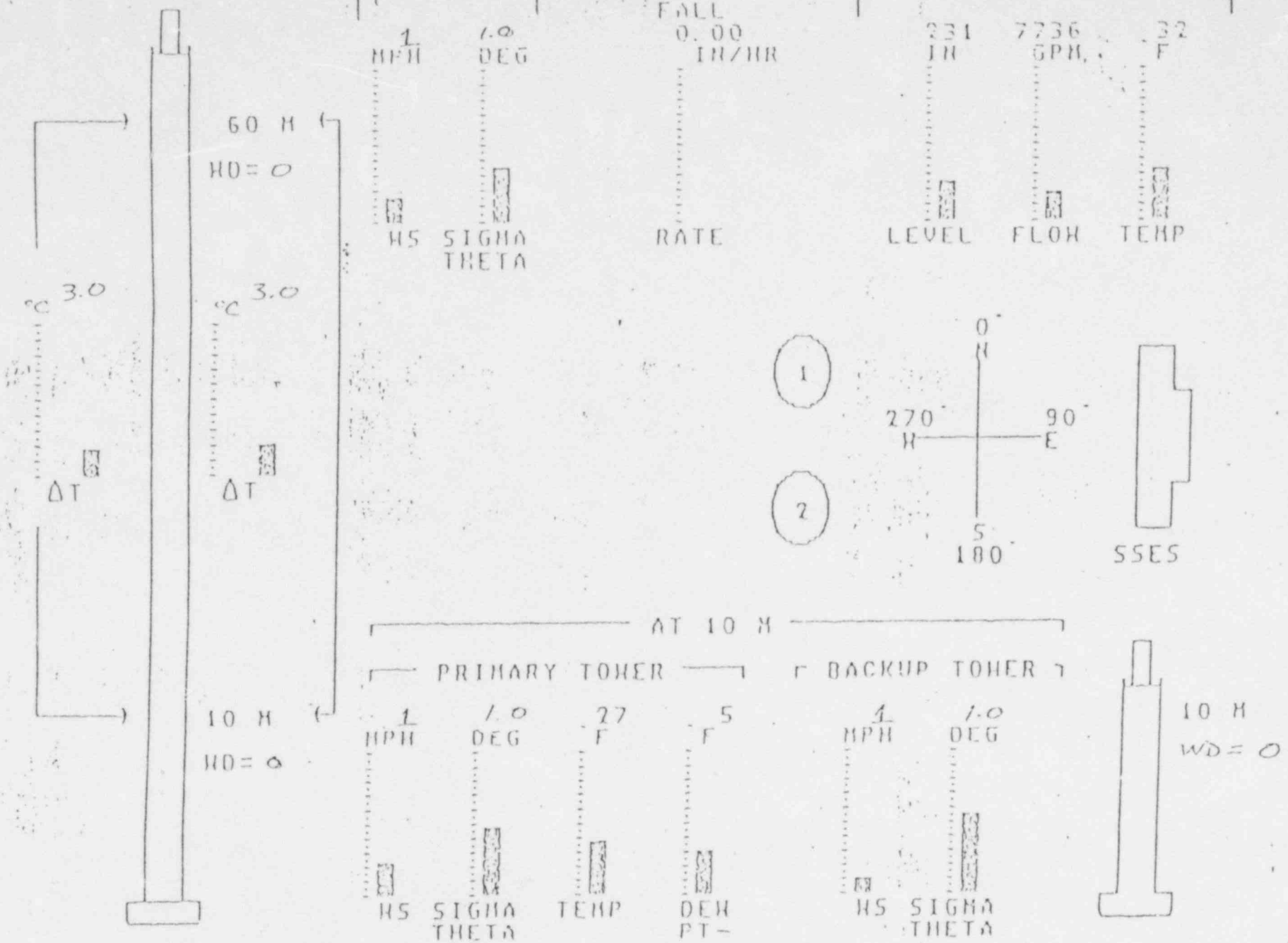
ENVIRONMENTAL CONDITIONS

Attachment F
Figure 1, Pg 2

1515



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ENVIRONMENTAL CONDITIONS

Attachment F
Figure 1, Pg 3

1530

April 4, 1984
SSES Emergency Drill

Confidential

G.O. Scenario

Time	Event
1200	A fire develops in a building 2 doors up from PP&L Annex 6 (Van Scivers Bldg). Assistant Fire Chief notifies PP&L that unless the fire department is able to contain the fire soon, Annex 6 may have to be evacuated.
1330	A large crowd is gathered in the general area of the fire. Fire Dept. requests permission to use the lobby of Annex 6 as a first aid station.
1430	Crowd hears of nuclear accident at SSES. Individuals begin to throw rocks at the windows of Annex 6. Allentown Police are summoned immediately and station patrolmen outside the building.
1600	Asst. Fire Chief notified PP&L that the fire has been extinguished. Police disperse large crowd from area.