

August 24, 1989

MEMORANDUM FOR: Charles E. Rossi, Director  
Division of Operational Events Assessment

FROM: Charles J. Haughney, Chief  
Events Assessment Branch  
Division of Operational Events Assessment

SUBJECT: THE OPERATING REACTORS EVENTS MEETING  
August 23, 1989 - MEETING 89-30

On August 23, 1989, we conducted an Operating Reactors Events meeting (89-30) to brief senior managers from NRR, RES, AEOD, ACRS, Commission staff, and regional offices on selected events that occurred since our last meeting on August 16, 1989. Enclosure 1 lists the attendees.

Enclosure 2 presents the significant elements of the discussed events. Enclosure 3 contains a summary of reactor scrams for the week ending 08/20/89. We identified 2 significant events for input into the NRC performance indicator program.

/s/  
Charles J. Haughney, Chief  
Events Assessment Branch  
Division of Operational Events Assessment

Enclosures:  
As stated

cc w/Encl.:  
See Next Page

DISTRIBUTION  
Central File  
EAB Reading File  
Circulating Copy, EAB Staff  
MLReardon, EAB  
BBenedict, EAB  
LKilgore, SECY  
PDR

8909050409 890824  
PDR ORG NRRB  
PNU

DFDL per Jim McKnight  
9/11/89  
ME

DFX2  
1/1

TDK-5-1  
OPERATING  
EXPERIENCE

DFC	EAB/DOEA	C:EAB/DOEA					
NA	LReardon	CJHaughney					
DATE	08/24/89	08/24/89					

OFFICIAL RECORD COPY

NRC FILE CENTER COPY

cc:

T. Murley, NRR  
F. Miraglia, NRR  
J. Sniezek, NRR  
J. Partlow, NRR  
E. Jordan, AEOD  
J. Taylor, EDO  
E. Beckjord, RES  
W. Russell, RI  
S. Ebnetter, RII  
B. Davis, RIII  
R. D. Martin, RIV  
J. B. Martin, RV  
W. Kane, RI  
L. Reyes, RII  
E. Greenman, RIII  
J. Milhoan, RIV  
R. Zimmerman, RV  
S. Varga, NRR  
B. Boger, NRR  
G. Iainas, NRR  
G. Holahan, NRR  
F. Congel, NRR  
E. Weiss, AEOD  
T. Martin, EDO  
J. Lieberman, OE  
J. Guttmann, SECY  
A. Tharani, NRR  
J. Richardson, NRR  
S. Rubin, AEOD  
J. Forsyth, INPO  
R. Barrett, NRR  
M. Harper, AEOD  
R. Newlin, GPA  
J. Roe, NRR

J. Gitter, NRR  
L. Yandell, NRR  
M. Slosson, NRR  
R. Capra, NRR  
R. Lo, NRR  
E. Adensam, NRR  
G. Dick, NRR  
F. Hebdon, NRR



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

August 24, 1989

MEMORANDUM FOR: Charles E. Rossi, Director  
Division of Operational Events Assessment

FROM: Charles J. Haughney, Chief  
Events Assessment Branch  
Division of Operational Events Assessment

SUBJECT: THE OPERATING REACTORS EVENTS MEETING  
August 23, 1989 - MEETING 89-30

On August 23, 1989, we conducted an Operating Reactors Events meeting (89-30) to brief senior managers from NRR, RES, AEOD, ACRS, Commission staff, and regional offices on selected events that occurred since our last meeting on August 16, 1989. Enclosure 1 lists the attendees.

Enclosure 2 presents the significant elements of the discussed events. Enclosure 3 contains a summary of reactor scrams for the week ending 08/20/89. We identified 2 significant events for input into the NRC performance indicator program.

A handwritten signature in cursive script, reading "Charles J. Haughney".

Charles J. Haughney, Chief  
Events Assessment Branch  
Division of Operational Events Assessment

Enclosures:  
As stated

cc w/Encl.:  
See Next Page



LIST OF ATTENDEESOPERATING REACTORS EVENTS BRIEFING (89-30)

August 23, 1989

<u>NAME</u>	<u>ORGANIZATION</u>	<u>NAME</u>	<u>ORGANIZATION</u>
J. Roe	NRR/DLPQ	T. Novak	AEOD/DSP
J. Sharkey	OEDO	J. Giitter	NRR/PD3-1
P. Eng	NRR/PD3-1	J. Thompson	NRR/DOEA
I. Ahmed	NRR/SICB	R. Azua	NRR/DOEA
R. Karsch	NRR/DOEA	C. Poslusny	NRR/PD4
P. O'Connor	NRR/PD4	S. Newberry	NRR/DEST
P. Baranowsky	NRR/DOEA	E. Brown	AEOD
T. Greene	NRR/DOEA	J. Thoma	NRR/PD3-1
R. Benedict	NRR/DOEA	W. Troskoski	OE
B. Mozafari	NRR/PD2-1	L. Norrholm	OCM/KC
P. Bobe	AEOD/DSP	J. Wechselberger	NRR/DLPQ
J. Guttman	SECY	D. Trimble	OCM/JC
M. Malloy	NRR/CPDP	T. Foley	NRR/DLPQ
D. LaBarge	NRR/DRP1-2	H. Alderman	ACRS
R. Lo	NRR/PD2-1	E. Adensam	NRR/PD2-1
E. Rossi	NRR/DOEA	W. Minners	RES/DSIR
R. Lobel	NRR/DOEA	R. Perfetti	OE
L. Reyes	RII	L. Cunningham	NRR/DREP
G. Lainas	NRR/ADR2	R. Kendall	NRR/DOEA
M. Reardon	NRR/DOEA		



OPERATING REACTORS EVENTS BRIEFING 89-30  
EVENTS ASSESSMENT BRANCH

LOCATION: 12B-11, WHITE HALL  
WEDNESDAY, AUGUST 23, 1989, 11:00 A.M.

COOK UNIT 2

REACTOR TRIP WITH MULTIPLE  
INSTRUMENTATION AND EQUIPMENT  
FAILURES (AIT UPDATE)

ROBINSON UNIT 2

INADEQUATE NPSH FOR AUX FEEDWATER  
PUMPS

SOUTH TEXAS UNIT 1

RADIOACTIVE CONTAMINATION OUTSIDE  
RADIATION CONTROLLED AREA

NINE MILE POINT UNIT 1

CONTAMINATION OF SUB-BASEMENT FROM  
LEAKING RESIN DRUMS (AIT)

COOK UNIT 2  
REACTOR TRIP WITH MULTIPLE INSTRUMENTATION  
AND EQUIPMENT FAILURES (AIT UPDATE)  
AUGUST 14, 1989

PROBLEM

PARTIAL LOSS OF CONTROL ROOM INSTRUMENTATION AND LOSS OF ONE TRAIN OF THE SOLID STATE PROTECTION SYSTEM (SSPS).

CAUSE

FAILURE OF ONE OF FOUR 120 VAC SAFETY RELATED CONTROL ROOM INSTRUMENTATION DISTRIBUTION (CRID) PANELS.

SAFETY SIGNIFICANCE

LOSS OF A SINGLE 120 VAC INSTRUMENT PANEL CAUSED A REACTOR TRIP, LOSS OF SAFETY SYSTEM REDUNDANCY, AND RESULTED IN LOSS OF CONTROL ROOM INSTRUMENTATION (INDICATIONS AND CONTROLS) THAT COMPLICATED POST-TRIP RECOVERY.

DISCUSSION

- o REACTOR WAS OPERATING AT 100% POWER.
- o FUSES BLEW IN A POWER RANGE DETECTOR CIRCUIT SUPPLIED FROM CRID IV.
- o CRID IV AUTOMATICALLY TRANSFERRED FROM ITS NORMAL CLASS 1E SOURCE (250 VDC BUS "AB") TO ITS BACKUP NON-CLASS 1E SOURCE ( 60C VAC BUS "11B"). SEE ATTACHED DIAGRAM.
- o OPERATORS TRANSFERRED CRID IV POWER BACK TO THE NORMAL SOURCE; HOWEVER, VOLTAGE LEVEL HAD DEGRADED TO APPROX 85 VAC.
- o CRID IV LOADS WERE SEPARATED THROUGH ACTUATION OF FUSES/CIRCUIT BREAKERS.
- o REACTOR TRIP OCCURRED.
- o A NUMBER OF RELAYS CHATTERED AND SOME CONTROL ROOM STATUS LIGHTS FLICKERED.
- o ROOT CAUSE DETERMINED TO BE A FAILURE OF A SILICON CONTROLLED RECTIFIER (SCR) IN THE INVERTER STATIC TRANSFER SWITCH.

CONTACT: R. KENDALL

- - AIT: YES  
SIGEVENT: YES

REFERENCES: 10 CFR 50.72 #16318 AND MORNING REPORT 08/15/89

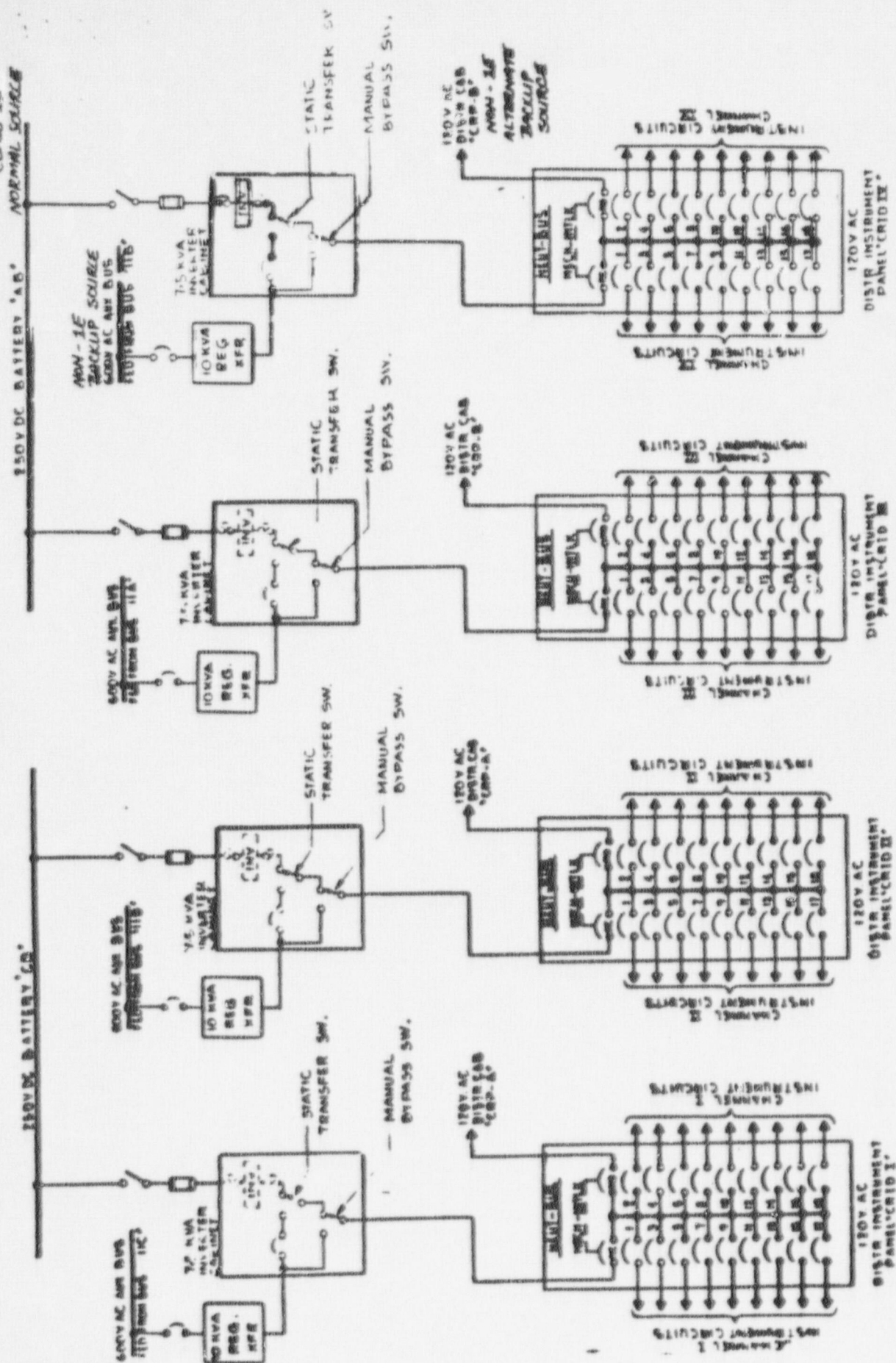
- o EFFECTS OF LOSS OF POWER TO CRID IV LOADS INCLUDED:
  - LOSS OF AUTOMATIC STEAM DUMP VALVE (SDV) CONTROL CAPABILITY AND LOSS OF SDV POSITION INDICATION IN THE CONTROL ROOM.
  - LOSS OF AUTOMATIC CONTROL FOR 2 (OUT OF 4) STEAM GENERATOR (SG) POWER OPERATED RELIEF VALVES (PORVs).
  - LOSS OF ALL FOUR WIDE RANGE STEAM GENERATOR (SG) LEVEL INDICATION CHANNELS (1 PER SG) AND LOSS OF ONE OF THREE NARROW RANGE LEVEL INDICATION CHANNELS PER SG.
  - LOSS OF TRAIN "B" OF THE SOLID STATE PROTECTION SYSTEM (PERFORMS REACTOR TRIP AND ESF INITIATION FUNCTIONS).
  - MONITORING INSTRUMENTATION FOR REACTOR COOLANT PUMP FOR NO. 4
- o 3 CONTROL ROD BOTTOM LIGHTS FAILED (UNRELATED TO CRID IV FAILURE).
- o SG LEVEL DECREASED BELOW THE NARROW RANGE INSTRUMENTS FOR APPROX 15 MINUTES. SG LEVEL WAS RECOVERED ON AUTOMATIC INITIATION OF THE AUXILIARY FEEDWATER (AFW) SYSTEM.
- o PLANT COOLDOWN WAS ACHIEVED USING SG PORVs AND AFW (PRIMARY AND SECONDARY SYSTEM PARAMETERS REMAINED WITHIN EXPECTED BOUNDS FOR A REACTOR TRIP FROM 100% POWER).
- o CRID IV WAS MANUALLY TRANSFERRED TO THE ALTERNATE BACKUP SUPPLY (NON-CLASS 1E 120 VAC LIGHTING PANEL), AND FUSES REPLACED/BREAKERS RESET TO RECOVER INSTRUMENTS AND CONTROLS.
- o LACK OF POWER SUPPLY INDEPENDENCE FOR REDUNDANT WIDE RANGE SG LEVEL INDICATION CHANNELS IS AN UNRESOLVED ITEM FROM THE STAFF'S R.G. 1.97 REVIEW FOR D.C. COOK.
- o THE PLANT OPERATORS ARE TRAINED ON THE SIMULATOR FOR LOSS OF CRID POWER EVENTS. PROCEDURES EXIST FOR RECOVERY FROM LOSS OF CRID POWER EVENTS. THE OPERATORS RESPONDED WELL DURING THE EVENT.

#### FOLLOWUP

AN AUGMENTED INSPECTION TEAM (AIT) DISPATCHED TO THE SITE TO INVESTIGATE THE EVENT HAS COMPLETED ITS INITIAL REVIEW AND IS PREPARING A FINAL REPORT.



CLASS 1E



VITAL INSTRUMENT BUS DISTRIBUTION SYSTEM

## AIT CONCLUSIONS

- THE OPERATORS PERFORMED WELL, UTILIZING EMERGENCY OPERATING PROCEDURES, ABNORMAL OPERATING PROCEDURES AND ALARM RESPONSE PROCEDURES.
- THE ONLY COMPONENTS THAT WERE RENDERED INOPERABLE DURING THIS EVENT WERE A DIRECT RESULT OF THE FAILURE OF A SCR IN THE STATIC SWITCH.
- THE SCR FAILURE WAS UNDETECTABLE, THE RESULT OF A CATHODE TO ANODE FAILURE, RESULTING IN AN OPEN CIRCUIT.
- OTHER FAILURES OF THIS TYPE WERE NOT FOUND AT D. C. COOK (THE CRIDS APPEAR TO HAVE A UNIQUE MODEL NUMBER AND WERE INSTALLED IN 1985) HOWEVER, ANY CONTROL ROOM INSTRUMENT DISTRIBUTION BUS SUPPLIED WITH TWO SOURCES OF POWER WHICH ARE SWITCHED BY A STATIC TRANSFER SWITCH COULD BE SUSCEPTIBLE TO A SIMILAR FAILURE.
- THE FEEDWATER DISCHARGE CHECK VALVE (FW-103) IS AN ATWOOD MORRILL POWER ASSIST TO CLOSE VALVE, DID NOT FAIL, AND WAS NOT RELATED TO THE EVENT.
- TWO CONTROL ROD BOTTOM LIGHTS FAILED, POWERED FROM CRP-3, AND WERE NOT RELATED TO THE EVENT.
- NO SMOKE WAS DETECTABLE IN THE CONTROL ROOM.

ROBINSON UNIT 2  
INADEQUATE NPSH OF AUX FEEDWATER PUMPS  
AUGUST 16, 1989

PROBLEM

INADEQUATE NET POSITIVE SUCTION HEAD (NPSH) FOR THE AUX FEEDWATER PUMPS.

CAUSE

DESIGN DEFICIENCY. ALL THREE PUMPS TAKE SUCTION FROM THE CST THROUGH A COMMON SUCTION LINE. THE SIZE OF THE SUCTION LINE (6 INCHES) LED TO EXCESSIVE HEAD LOSS.

SAFETY SIGNIFICANCE

POSSIBLE LOSS OF ONE OR MORE AUX FEEDWATER PUMPS DUE TO PUMP CAVITATION.

DISCUSSION

- o INADEQUATE NPSH FOR THE AUX FEEDWATER PUMPS UNDER ALL PUMP COMBINATIONS.
- o THIS PROBLEM IS BELIEVED TO EXIST DURING ANY PLANT CONDITION WHERE THE AUX FEEDWATER SYSTEM IS REQUIRED (E.G., NORMAL SHUTDOWN OPERATION AND STEAM LINE BREAK).
  - IN 1986, THE LICENSEE EXPERIENCED A LOSS OF FEEDWATER TRANSIENT IN WHICH INADEQUATE FLOW WAS NOTED. (SEE TABLE 1)

CONTACT: R. AZUA

SIGEVENT: YES

REFERENCES: 10 CFR 50.72s #16375, #16375, AND PNO-11-89-59



- o ON AUGUST 16, 1989, THE LICENSEE BELIEVED THAT THE NPSH PROBLEM EXISTED ONLY WHEN THE STEAM DRIVEN AUX FEEDWATER PUMP WAS IN OPERATION, THUS THEY REMOVED THE STEAM DRIVEN PUMP FROM SERVICE BY DE-ENERGIZING THE BREAKERS TO THE STEAM DRIVEN PUMP STEAM SUPPLY VALVES. THE LICENSEE ENTERED AN LCO WHICH REQUIRES THAT THE PUMP BE RETURNED TO SERVICE WITHIN SEVEN DAYS OR BE IN HOT SHUTDOWN WITHIN SIX HOURS.
- o LICENSEE TECH SPECS REQUIRE A MINIMUM OF 35,000 GALLONS FOR THE AUX FEEDWATER PUMPS TO MAINTAIN HOT SHUTDOWN FOR 2 HOURS. DUE TO THE INADEQUATE NPSH AVAILABLE FOR THE STEAM DRIVEN PUMP AN ADMINISTRATIVE REQUIREMENT TO MAINTAIN CST LEVEL GREATER THAN OR EQUAL TO 60% WAS PLACED INTO EFFECT.
- o QUESTION RAISED DURING THIS REVIEW:
  - 1. WHY DID THE LICENSEE NOT IDENTIFY THE NPSH INADEQUACY FOLLOWING THE 1980 LOSS OF FEEDWATER TRANSIENT. THE LICENSEE HAS BEEN UNABLE TO ANSWER THIS QUESTION YET.
- o ON AUGUST 22, 1989, THE LICENSEE INITIATED A PLANT SHUTDOWN FOLLOWING ADDITIONAL ANALYSIS RESULTS WHICH IDENTIFIED THE MOTOR DRIVEN AUX FEEDWATER PUMPS AS HAVING SIMILAR NPSH PROBLEMS.
- o THE LICENSEE ANTICIPATES THAT REPLACEMENT OF AUX FEEDWATER SUCTION PIPING WITH A LARGER DIAMETER PIPING MAY BE REQUIRED TO IMPROVE NPSH AT RATED FLOW.

#### FOLLOWUP

- o THIS EVENT WILL BE FOLLOWED BY THE REGION II STAFF AND THE RESIDENT INSPECTORS.
- o EAB WILL REVIEW THE POSSIBILITY THAT OTHER PLANTS MAY HAVE NPSH PROBLEMS IN THEIR AUX FEEDWATER SYSTEMS, OR OTHER SAFETY-RELATED PUMPS.

TABLE 1  
H.B. ROBINSON UNIT 2  
AUXILIARY FEEDWATER PUMP FLOWS

	<u>DESIGN FLOW</u>	<u>1986</u> <u>LOSS OF FEEDWATER EVENT</u> <u>RECORDED FLOWS</u>
1. "A" MOTOR DRIVEN AUXILIARY FEEDWATER PUMP	300 GPM	150-200 GPM
2. "B" MOTOR DRIVEN AUXILIARY FEEDWATER PUMP	300 GPM	150-200 GPM
3. STEAM DRIVEN AUXILIARY FEEDWATER PUMP	600 GPM	385 GPM

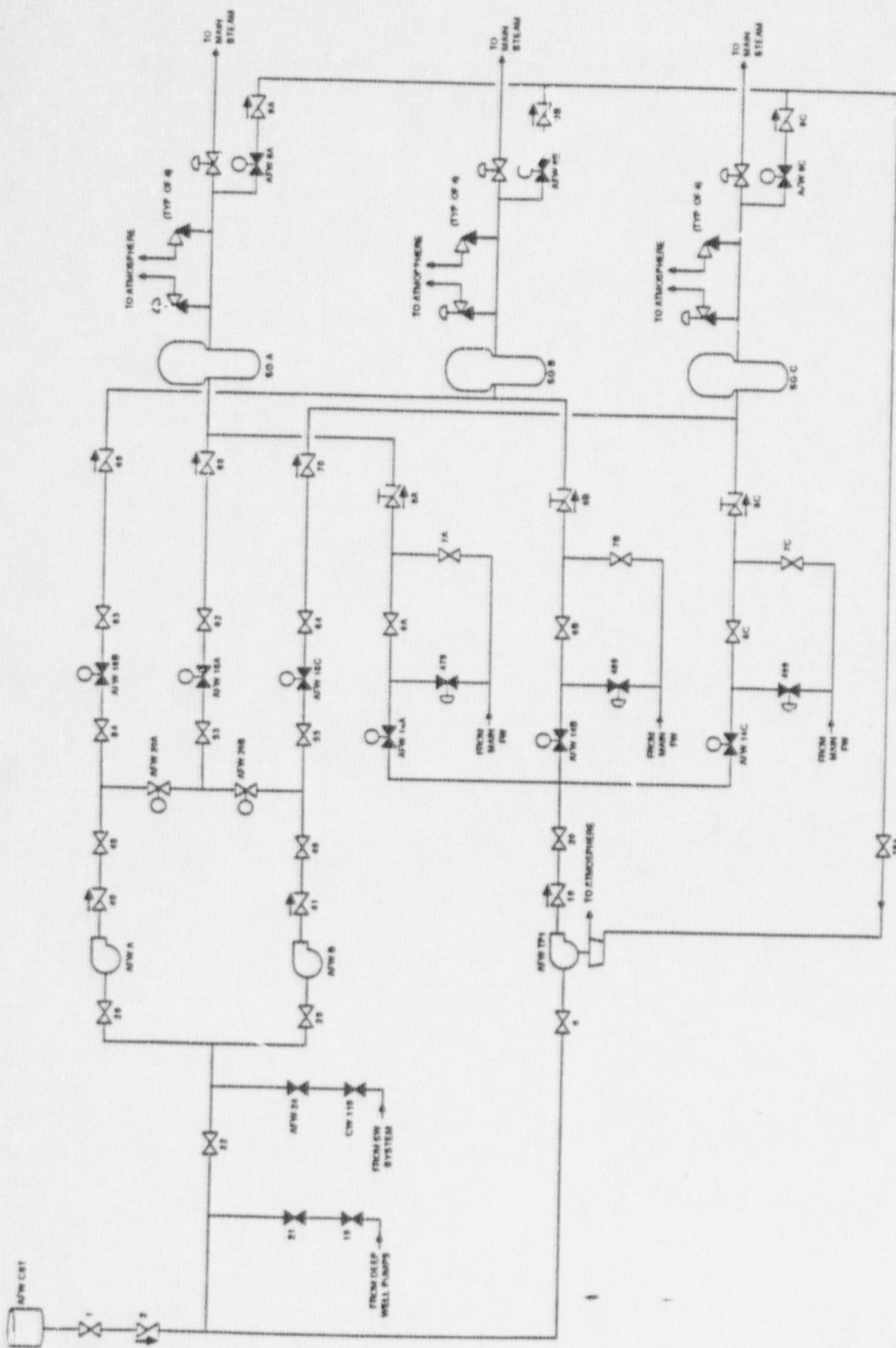


FIGURE 1 H.B. ROBINSON UNIT 2 - AUXILIARY FEEDWATER SYSTEM



H.B. ROBINSON UNIT 2

CONDENSATE STORAGE TANK (CST)

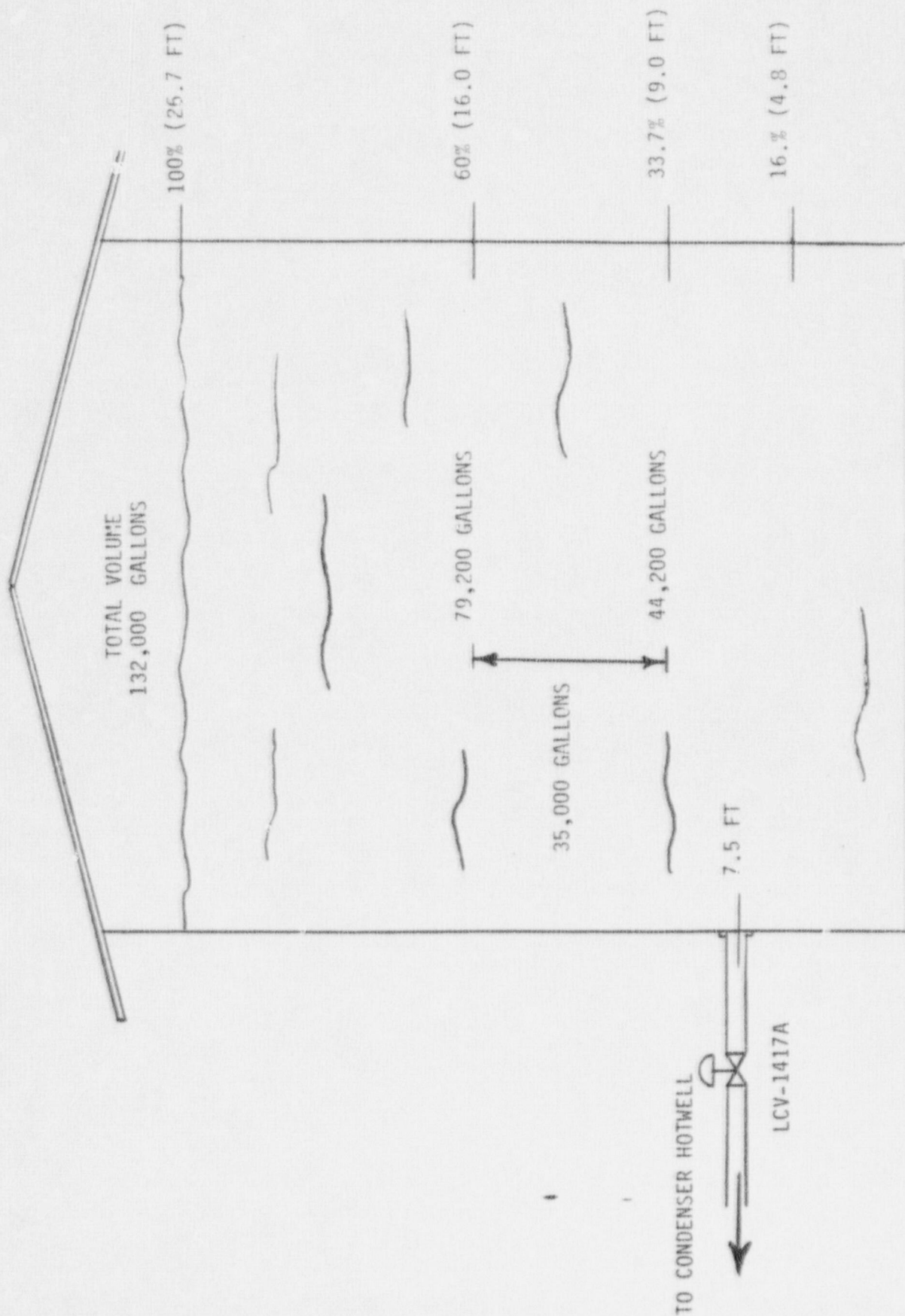


FIGURE 2

SOUTH TEXAS UNIT 1  
RADIOACTIVE CONTAMINATION OUTSIDE RADIATION  
CONTROLLED AREA  
AUGUST 10, 1989

PROBLEM

LICENSEE DISCOVERED CONTAMINATION IN A NORMALLY NON-CONTAMINATED PART OF THE MECHANICAL ELECTRICAL AUXILIARY BUILDING (MEAB) AND IN THE TURBINE BUILDING SUMP.

CAUSE

DESIGN AND OPERATOR ERRORS LED TO CONTAMINATION OF A NORMALLY NON-CONTAMINATED AUXILIARY STEAM CONDENSATE SYSTEM. CONTAMINATION IN THE TURBINE BUILDING SUMP WAS DUE TO A SYSTEM DESIGN ERROR.

SAFETY SIGNIFICANCE

- o ACTIVITY LEVELS IN THE AFFECTED SYSTEMS ARE WELL BELOW ANY REPORTABLE LIMITS. THE SIGNIFICANCE IS THE POTENTIAL FOR CONTAMINATION TO BE RELEASED THRU RADIOACTIVE /NON-RADIOACTIVE SYSTEM INTERFACES AND A LACK OF UNDERSTANDING OF THE IMPORTANCE OF THESE INTERFACES BY PLANT PERSONNEL.
- o THERE WAS THE POTENTIAL FOR THE RELEASE OF RADIOACTIVE MATERIAL TO BE SPREAD THROUGHOUT THE PLANT IN UNRESTRICTED AREAS HAD (A FEW OF) THE PRECURSORS BEEN DIFFERENT.

DISCUSSION

- o FROM AUGUST 10, 1989 TO AUGUST 14, 1989, TWO VALVES IN THE LIQUID WASTE EVAPORATOR SYSTEM WERE INTENTIONALLY LEFT OPEN.
- o DURING THIS PERIOD OF TIME, 1500 GALLONS OF LIQUID WASTE WAS PROCESSED THROUGH THE LIQUID WASTE PROCESS SYSTEM (AT LEAST TWICE).
- o AS A RESULT OF THE TWO VALVES (WL 392 AND WL 349) LEFT IN THE "OPEN" POSITION, THE GAS STRIPPER OVERFLOWED AND SENT LIQUID WASTE THRU THE CONDENSATE RETURN LINES OUTSIDE OF THE RCA TO THE INORGANIC BASIN, LOCATED BETWEEN THE COOLING POND AND THE MEAB.

CONTACT: J. THOMPSON

SIGEVENT: NO

REFERENCES: PRELIMINARY NOTIFICATION PNO-IV-89-51 AND PNO-IV-89-51A  
AND MORNING REPORT 08/22/89

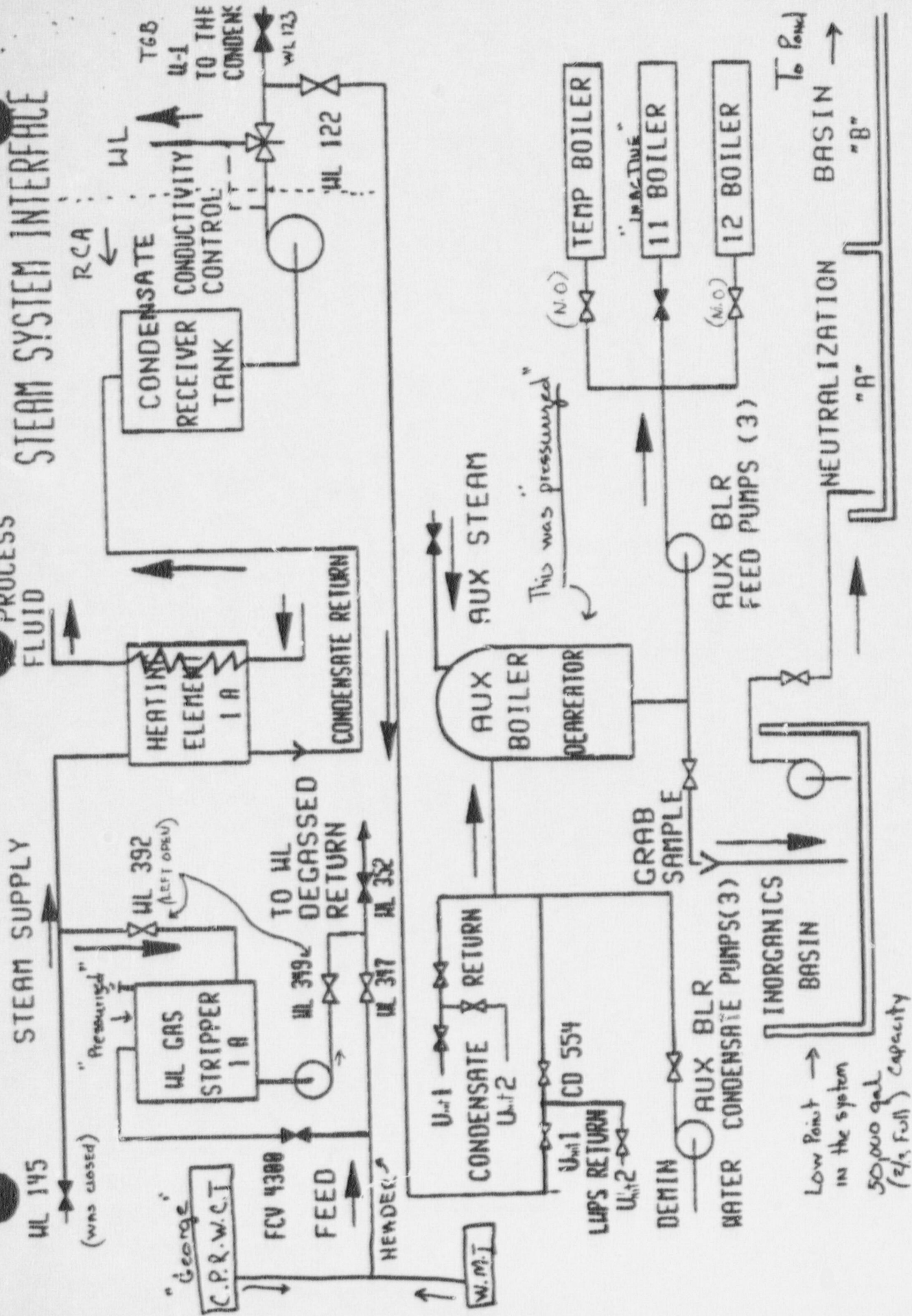
- o THE LICENSEE LEFT THE TWO VALVES IN THE OPEN POSITION ON PURPOSE DUE TO AREA CONTAMINATION CONSIDERATIONS.
- o LIQUID SAMPLES DETECTED CO<sub>58</sub>, MI., AND I PRESENT.
- o CONTAMINATION LEVELS REPORTED WERE  $10^{-4}$  UCI/ML (CO<sub>58</sub>) AND  $10^{-6}$  UCI/ML (GROSS I).
- o LICENSEE HAS ISOLATED THE AFFECTED SYSTEMS AND WILL PERFORM AN ANALYSIS ON THE EXTENT OF THE SYSTEMS (AND/OR POTENTIAL SYSTEMS) INVOLVED.
- o LICENSEE HAS NOTIFIED INPC AND PLANS TO SUBMIT A VOLUNTARY SER.

FOLLOWUP

- o EAB AND RIV WILL CONSIDER ISSUING AN INFORMATION NOTICE ON THIS EVENT FROM A SYSTEMS INTERFACE PERSPECTIVE.
- o THE LICENSEE WILL NOT OPERATE THE AFFECTED SYSTEMS UNTIL CLEANUP IS COMPLETED IN THE NORMALLY NON-RADIOACTIVE PORTIONS OF THE LIQUID WASTE AND SUPPORTING SYSTEMS.



SOUTH TEXAS  
PROCESS  
FLUID



NINE MILE POINT UNIT 1  
CONTAMINATION OF SUB-BASEMENT BY LEAKING DRUMS  
AUGUST 21, 1989

PROBLEM

RESIN STORAGE DRUMS RELEASE RADIOACTIVE MATERIAL.

CAUSE

STANDING WATER IN A ROOM FOR MANY YEARS EVENTUALLY CORRODED THE STORAGE DRUMS.

SAFETY SIGNIFICANCE

- o THERE IS A POSSIBILITY FOR RELEASE OF RADIOACTIVE WASTE PRODUCTS TO THE ENVIRONMENT.
- o WORKER SAFETY COULD BE JEOPARDIZED.

DISCUSSION

- o NINE MILE POINT UNIT 1 IS CURRENTLY DEFUELED. RESTART DATE HAS NOT BEEN DETERMINED.
- o 1978 - THE LICENSEE WAS REQUIRED TO DRAIN A RECIRCULATION LOOP.
- o INSUFFICIENT WATER STORAGE WAS AVAILABLE.
- o OVERFLOW REACTOR WATER WAS DUMPED INTO A RADWASTE BUILDING SUB-BASEMENT.
- o THE ROOM WAS USED FOR 55 GALLON DRUM STORAGE. THE DRUMS WERE FILLED WITH DEMINERALIZER FILTER SLUDGE AND RESINS.
- o EARLIER IN PLANT LIFE THEY HAD FUEL CLADDING DAMAGE WHICH MADE THE STORED MATERIAL UNUSUALLY RADIOACTIVE. APPROX 400 RAD/HR AT THE DRUM SURFACE (RECENT MEASUREMENT).
- o THE FLOODING IN THE ROOM WAS SUFFICIENT TO DISLODGE THE DRUMS.
- o THE LICENSEE HAS MAINTAINED WATER IN THE ROOM FOR AN EXTENDED PERIOD OF TIME.
- o THE DRUMS OR THEIR RETAINING RINGS HAVE NOW CORRODED SPILLING THE CONTENTS ONTO THE FLOOR.
- o THE LICENSEE HAS DEVELOPED BUT NOT IMPLEMENTED CLEAN UP PLANS

FOLLOWUP

AN AUGMENTED INSPECTION TEAM HAS BEEN SENT TO THE SITE (08/23/89)

AIT: YES

CONTACT: R. KARSCH

SIGEVENT: IBL

REFERENCE: 10 CFR 50.72 # 16374

THE OBJECTIVES OF THE INSPECTION ARE:

- O REVIEW THE CIRCUMSTANCES ASSOCIATED WITH THIS EVENT.
- O DETERMINE THE RADIOLOGICAL SAFETY IMPLICATIONS.
- O EVALUATE THE PLANNED CORRECTIVE ACTIONS.



PERFORMANCE INDICATORS SIGNIFICANT EVENTS

PLANT NAME	EVENT DATE	EVENT DESCRIPTION	QTR SIGNIFICANCE
COOK 2	08/14/89	FAILURE OF A 120 VAC INSTRUMENT BUS CAUSED REACTOR TRIP. PARTIAL LOSS OF CONTROL ROOM INSTRUMENTATION AND FAILURE OF ONE TRAIN OF THE PLANT PROTECTION SYSTEM.	1 POTENTIAL FOR OR ACTUAL DEGRADATION OF SAFETY-RELATED EQUIPMENT
GRAND GULF 1	08/14/89	FAILURE OF THE CONDENSER BOOT SEAL RESULTED IN A SCRAM WITH COMPLICATIONS. ONE MSIV FAILED TO CLOSE ON MANUAL AND AUTO DEMAND. ONE CONTROL ROD FAILED TO INSERT BEYOND POSITION 08. SCRAM DISCHARGE VOLUME FAILED TO DRAIN.	1 POTENTIAL FOR OR ACTUAL DEGRADATION OF SAFETY-RELATED EQUIPMENT

REACTOR SCRAM SUMMARY  
WEEK ENDING 08/20/89

1. PLANT SPECIFIC DATA

DATE	SITE	UNIT	POWER	SIGNAL	CAUSE	COMPLI- CATIONS	YTD ABOVE 15%	YTD BELOW 15%	YTD TOTAL
08/14/89	GRAND GULF	1	93 A		EQUIPMENT	Y	2	0	2
08/14/89	DC COOK	1	100 A		EQUIPMENT	Y	1	0	1
08/17/89	WNP	2	67 A		PERSONNEL	N	4	0	4
08/18/89	DCONEE	3	100 A		EQUIPMENT	N	2	0	2
08/19/89	WATERFORD	3	21 A		EQUIPMENT	N	1	0	1
08/20/89	POINT BEACH	2	100 A		EQUIPMENT	N	2	0	2

# 11. COMPARISON OF WEEKLY STATISTICS WITH INDUSTRY AVERAGES

## SCRAMS FOR WEEK ENDING 08/20/89

CAUSE	POWER	NUMBER OF SCRAMS (5)	1989 WEEKLY AVERAGE YTD	1988 WEEKLY AVERAGE	1987 WEEKLY AVERAGE	1986 WEEKLY AVERAGE (10)(4)	1985 WEEKLY AVERAGE (8)(9)
** POWER >15%							
EQUIP. RELATED	15%	5	3.0	2.1	2.5	4.3	5.4
PERS. RELATED(6)	15%	1	1.2	1.0	1.3	1.8	2.0
OTHER(7)	15%	0	0.1	0.5	1.2	0.4	0.6
** Subtotal **		6	4.3	4.6	6.4	6.5	8.0
** POWER <15%							
EQUIP. RELATED	15%	0	0.4	0.5	1.2	1.4	1.3
PERS. RELATED	<15%	0	0.3	0.3	0.6	0.8	0.9
OTHER	<15%	0	0.0	0.1	0.3	0.2	0.2
** Subtotal **		0	0.7	0.9	2.1	2.4	2.4
*** Total ***		6	5.0	5.5	8.5	8.9	10.4

## MANUAL VS AUTO SCRAMS

TYPE	NUMBER OF SCRAMS	1989 WEEKLY AVERAGE YTD	1988 WEEKLY AVERAGE	1987 WEEKLY AVERAGE	1986 WEEKLY AVERAGE	1985 WEEKLY AVERAGE
MANUAL SCRAMS	0	0.8	1.0	1.4	1.0	1.0
AUTOMATIC SCRAMS	6	4.2	4.5	7.0	7.9	9.4



# NOTES

1. PLANT SPECIFIC DATA BASED ON INITIAL REVIEW OF 50.72 REPORTS FOR THE WEEK OF INTEREST. PERIOD IS MIDNIGHT SUNDAY THROUGH MIDNIGHT SUNDAY. SCRAMS ARE DEFINED AS REACTOR PROTECTIVE ACTUATIONS WHICH RESULT IN ROD MOTION, AND EXCLUDE PLANNED TESTS OR SCRAMS AS PART OF PLANNED SHUTDOWN IN ACCORDANCE WITH A PLANT PROCEDURE. THERE ARE 111 REACTORS HOLDING AN OPERATING LICENSE.
2. COMPLICATIONS: RECOVERY COMPLICATED BY EQUIPMENT FAILURES OR PERSONNEL ERRORS UNRELATED TO CAUSE OF SCRAM.
3. PERSONNEL RELATED PROBLEMS INCLUDE HUMAN ERROR, PROCEDURAL DEFICIENCIES, AND MANUAL STEAM GENERATOR LEVEL CONTROL PROBLEMS.
4. "OTHER" INCLUDES AUTOMATIC SCRAMS ATTRIBUTED TO ENVIRONMENTAL CAUSES (LIGHTNING), SYSTEM DESIGN, OR UNKNOWN CAUSE.