

November 9, 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
 November 8, 1989 - MEETING 89-39

On November 8, 1989, we conducted an Operating Reactors Events meeting (89-39) to brief senior managers from NRR, AEOD, RES, Commission staff, and regional offices on selected events that occurred since our last meeting on November 1, 1989. Enclosure 1 lists the attendees.

Enclosure 2 presents the significant elements of the discussed events. We identified one significant event for input into the NRC performance indicator program.

Original signed by:
 Charles J. Haughney

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

Enclosures:
 As stated

cc w/Encl.:
 See Next Page

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 OPERATING
 EXPERIENCES

DFC : EAB/DOEA	: C: EAB/DOEA	:	:	:	:	:
NAME : MLReardon	: CJHaughney	:	:	:	:	:
DATE : 11/ /89	: 11/9 /89	:	:	:	:	:

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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, FIV
J.B. Martin, RV
W. Kane, RI
L. Reyes, RII
E. Greenman, RIII
S. Collins, RIV
R. Zimmerman, RV
S. Varga, NRR
B. Eoger, NRR
C. Lainas, NRR
G. Holahan, NRR
F. Congel, NRR
E. Weiss, AEOD
B. Clayton, EDO
J. Lieberman, OE
J. Guttmann, SECY
A. Thadani, NRR
J. Richardson, NRR
S. Rubin, AEOD
J. Forsyth, INPO
R. Barrett, NRR
M. Harper, AEOD
R. Newlin, GPA
J. Roe, NRR
H. Alderman, ACRS

B. Siegel, NRR



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

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A handwritten signature in cursive script that reads "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 (89-39)

November 8, 1989

<u>NAME</u>	<u>ORGANIZATION</u>	<u>NAME</u>	<u>ORGANIZATION</u>
R. Woodruff	NRR/DOEA	C. Haughney	NRR/DOEA
P. Bobe	AEGD/DSP	C. Thomas	DLPQ
R. Borchardt	OEDO	L. Plisco	NRR
L. Norrholm	OCM/KC	J. Craig	NRR/PD3-2
E. Chow	RES/DSIR/SAIB	B. Siegel	NRR/PL3-2
R. Perfetti	OE	W. Troskoski	OE
D. Fischer	NRR/DOEA	J. Partlow	NRR/ADP
B. Grimes	NRR/DRIS		

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.

OPERATING REACTORS EVENTS BRIEFING 89-39
EVENTS ASSESSMENT BRANCH
LOCATION: 16B-11, WHITE FLINT
WEDNESDAY, NOVEMBER 8, 1989, 11:00 A.M.

DRESDEN 2 & 3

INOPERABLE HPCI SYSTEMS

DRESDEN 2 AND 3
INOPERABLE HPCI SYSTEMS

OCTOBER 23, 1989

PROBLEM

HOT FEEDWATER LEAKED INTO THE INJECTION PIPE OF THE HPCI SYSTEM CREATING STEAM VOIDS, PROBABLE WATER HAMMERS, AND POSSIBLE THERMAL FATIGUE.

CAUSE

HOT FEEDWATER LEAKAGE PAST THE INJECTION CHECK VALVE, THE INJECTION VALVE, AND AT LEAST ONE OTHER VALVE TO THE CST.

SAFETY SIGNIFICANCE

THE POTENTIAL EXISTS FOR FAILURE OF HPCI PIPING, STEAM BINDING OF THE HPCI PUMP, AND LOSS OF ONE OF TWO FEEDWATER LINES.

DISCUSSION

- ° AT UNIT 2, ON 2/21/89, THE TEMPERATURE IN THE HPCI PUMP AND TURBINE CUBICLE WAS HIGHER THAN NORMAL.
- ° ON 5/11/89, AN AXIAL TEMPERATURE GRADIENT WAS FOUND IN THE HPCI SYSTEM.
- ° ON 10/23/89 WITH THE UNIT AT 100% POWER, THE TEMPERATURE AT A POINT BETWEEN THE INJECTION AND ISOLATION VALVES WAS 275° F AND PRESSURE WAS 47 PSIA.
- ° A STEAM POCKET HAD PROBABLY FORMED ON THE UPSTREAM SIDE OF THE INJECTION VALVE.
- ° LOOSE PIPE SUPPORTS AND DAMAGE TO CONCRETE SURFACES INDICATE THAT WATER HAMMERS HAVE PROBABLY OCCURRED.
- ° THERMAL FATIGUE MAY HAVE CAUSED DAMAGE TO THE PIPE WALL.

CONTACTS: ERIC W. WEISS AND
ROGER W. WOODRUFF

SIG EVENT YES

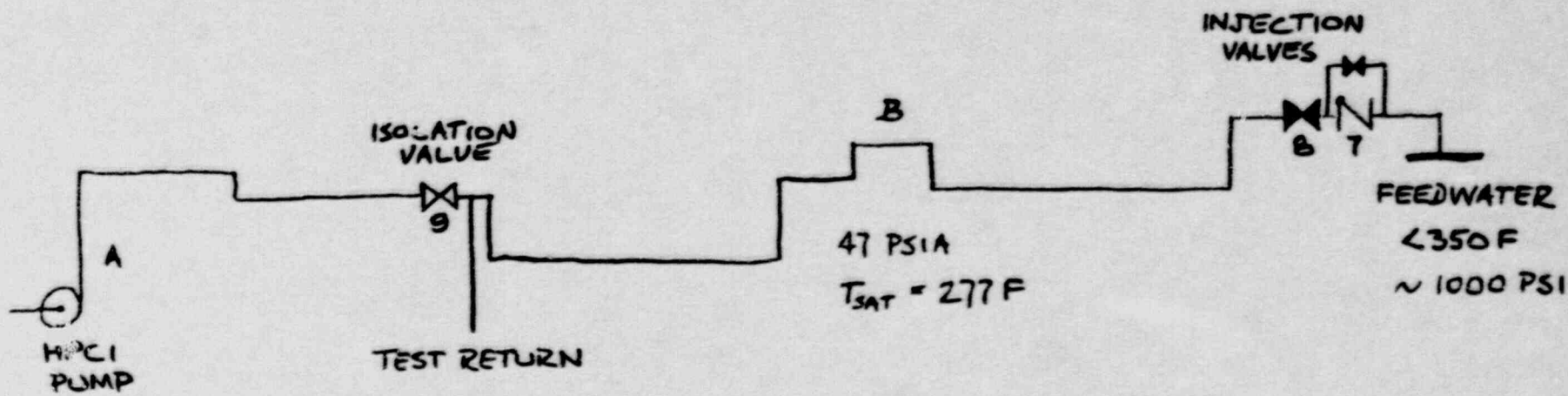
REFERENCES: 50.72 #16920, 16978, 16983; MORNING REPORTS 10/24/89, 11/1/89, 11/3/89, 11/6/89; PNO 111-89-71

- ° UNDER SIMILAR CIRCUMSTANCES, THROUGH WALL PIPE CRACKS OCCURRED AT FARLEY AND TWO FOREIGN REACTORS.
- ° THE LICENSEE HAS NOT INSPECTED HPCI PIPING IN THE VICINITY OF THE INJECTION VALVES AND THE FEEDWATER PIPING.
- ° THE ISOLATION VALVE HAS BEEN CLOSED, THE INJECTION VALVE HAS BEEN OPENED AND UNIT 2 CONTINUES TO OPERATE.
- ° A SIMILAR BUT LESS SIGNIFICANT PROBLEM WAS FOUND IN UNIT 3 AND THE SYSTEM WAS DECLARED INOPERABLE.
- ° QUAD CITIES DESIGN IS SIMILAR AND IT'S PERFORMANCE IS BEING REVIEWED.

FOLLOWUP

- ° AN AIT WAS DISPATCHED AND HAS COMPLETED THEIR INSPECTION.
- ° THE LICENSEE WILL:
 - REEVALUATE THE PIPE HANGER INSPECTION PROGRAM.
 - DEVISE A MONITORING PROGRAM FOR INJECTION VALVE LEAKAGE.
 - DETERMINE THE ROOT CAUSE OF VALVE LEAKAGE.
 - ULTRASONICALLY INSPECT PIPING WALLS IN THE VICINITY OF THE INJECTION VALVES AND FEEDWATER PIPING.
- ° NRR WILL PREPARE AN INFORMATION NOTICE.

	<u>A</u>	<u>B</u>
5/11	140 F	160 F
5/19	175 F	220 F
10/23	246 F	275 F



DRESDEN 2 - HIGH PRESSURE
COOLANT INJECTION LINE