

November 8, 1995

MEMORANDUM TO: Dennis M. Crutchfield, Director  
 Division of Reactor Program Management

FROM: Alfred E. Chaffee, Chief [Original signed by]  
 Events Assessment and  
 Generic Communications Branch  
 Division of Reactor Program Management

SUBJECT: OPERATING REACTORS EVENTS BRIEFING  
 NOVEMBER 8, 1995 - BRIEFING 95-13

On November 8, 1995, we conducted an Operating Reactors Events Briefing (95-13) to inform senior managers from offices of the Commission, AEOD, NRR and regional offices of selected events that occurred since our last briefing on September 27, 1995. Attachment 1 lists the attendees. Attachment 2 presents the significant elements of the discussed events.

Attachment 3 contains reactor scram statistics for weeks ending October 1, October 8, October 15, October 22, October 29, and November 5, 1995. Three significant events were identified for input into the NRC Performance Indicator Program (Attachment 4).

Attachments: As stated (4)

cc w/atts:  
 See next page

CONTACT: Kathy Gray, NRR  
 (301) 415-1166

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OFFICE	PECB:DRPM	E	PECB:DRPM	E	SC/PECB:DRPM	N	C/PECB:DRPM	N
NAME	KGray:kag <i>Ky Gray</i>		NHunemuller <i>NH</i>		RDennis <i>RD</i>		AChaffee <i>AC</i>	
DATE	11/08/95		11/08/95		11/8/95		11/8/95	

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cc:

W. Russell, NRR (O-12G18)  
F. Miraglia, NRR (O-12G18)  
F. Gillespie, NRR (O-12G18)  
R. Zimmerman, NRR (O-12G18)  
A. Thadani, NRR (O-12G18)  
S. Varga, NRR (O-14E4)  
J. Zwolinski, NRR (O-14H3)  
J. Roe, NRR (O-13E4)  
E. Adensam, NRR (O-13E4)  
B. Sheron, NRR (O-7D26)  
G. Lainas, NRR (O-7D26)  
G. Holahan, NRR (O-8E2)  
M. Virgilio, NRR (O-8E2)  
S. Rosenberg, NRR (O-10E4)  
R. L. Spessard, NRR (O-9A2)  
B. Boger, NRR (O-10H5)  
M. Markley, ACRS (T-2E26)  
E. Jordan, AEOD (T-4D18)  
C. Rossi, AEOD (T-4A9)  
F. Congel, AEOD (T-4D28)  
K. Brockman, AEOD (T-4A23)  
S. Rubin, AEOD (T-4D28)  
M. Harper, AEOD (T-4A9)  
V. McCree, EDO (O-17G21)  
J. Gilliland, PA (O-2G4)  
D. Morrison, RES (T-10F12)  
A. Bates, SECY (O-16G15)  
T. Martin, Region I  
R. Cooper, Region I  
S. Ebnetter, Region II  
E. Merschhoff, Region II  
S. Vias, Region II  
H. Miller, Region III  
W. Axelson, Region III  
L. Callan, Region IV  
J. Dyer, Region IV  
K. Perkins, Region IV/WCFO  
S. Newton, INPO  
J. Zimmer, DOE

K. Jabbour (O-14H25)  
H. Berkow (O-14H25)

LIST OF ATTENDEES

OPERATING REACTORS EVENTS FULL BRIEFING (95-13)

NOVEMBER 8, 1995

<u>NAME</u>	<u>OFFICE</u>	<u>NAME</u>	<u>OFFICE</u>
A. CHAFFEE	NRR	D. O'NEAL	NRR
J. CARTER	NRR	J. BONGARRA	NRR
R. DENNIG	NRR	L. VICK	NRR
D. SKEEN	NRR	C. THOMAS	NRR
N. HUNEMULLER	NRR	R. JONES	NRR
E. BENNER	NRR	K. JABBOUR	NRR
K. GRAY	NRR	M. TSCHILTZ	OCM/SJ
B. GRIMES	NRR	J. ROSENTHAL	AEOD
A. CUGGAGE	NRR		

TELEPHONE ATTENDANCE  
(AT ROLL CALL)

Regions

Region I  
Region II  
Region III  
Region IV

Resident Inspectors

B. Holbrook, Hatch

Misc.

T. Ross, Team Leader

Attachment 1

HATCH, UNIT 2  
INADVERTENT DRAINING OF REACTOR VESSEL AND  
ISOLATION OF SHUTDOWN COOLING SYSTEM  
NOVEMBER 2, 1995

PROBLEM

WHILE IN THE COLD SHUTDOWN MODE WITH THE RESIDUAL HEAT REMOVAL (RHR) SYSTEM IN THE SHUTDOWN COOLING MODE, BOTH 'B' RHR PUMP SUCTION VALVES (TORUS AND SHUTDOWN COOLING) OPENED SIMULTANEOUSLY, RESULTING IN AN INADVERTENT DRAINDOWN (OF APPROXIMATELY 60 INCHES OR 12,000 GALLONS) OF THE REACTOR VESSEL TO THE TORUS.

CAUSE

THE ROOT CAUSE WAS MISWIRING OF A LIMIT SWITCH FOR THE SHUTDOWN COOLING SUCTION VALVE (F006B). THE MISWIRING REVERSED THE REMOTE SHUTDOWN PANEL (RSP) INTERLOCK LOGIC FOR THE TORUS SUCTION VALVE (F004B).

SAFETY SIGNIFICANCE

THE SAFETY SIGNIFICANCE OF THIS PARTICULAR EVENT APPEARS TO BE LIMITED. THE SHUTDOWN COOLING CONTAINMENT ISOLATION FUNCTIONED AS DESIGNED, AND MULTIPLE EMERGENCY CORE COOLING SYSTEM (ECCS) MAKEUP SOURCES WERE OPERABLE AS REQUIRED BY TECHNICAL SPECIFICATIONS. REACTOR VESSEL WATER LEVEL REMAINED ABOVE THE TOP OF ACTIVE FUEL (TAF).

CONTACT: N. HUNEMULLER, NRR/DRPM/PECB  
REFERENCE: 10 CFR 50.72 #29548

AIT: NO  
SIGEVENT: TBD

DISCUSSION

- ON OCTOBER 25, 1995, F006B FAILED TO OPERATE FOR UNKNOWN REASONS DURING A TEST FROM THE RSP.
- ON OCTOBER 30, 1995, F004B EXHIBITED IRREGULAR VALVE POSITION INDICATION FOR UNKNOWN REASONS DURING A TEST FROM THE CONTROL ROOM.
- ON NOVEMBER 2, 1995, THE LICENSEE WAS PERFORMING TROUBLESHOOTING TO DETERMINE THE CAUSE OF THE FAILURES.
- TWO NON-LICENSED PLANT EQUIPMENT OPERATORS (PEO) WERE STATIONED AT THE RSP.
- PRIOR TO THE EVENT, REACTOR VESSEL WATER LEVEL WAS +60 INCHES (TAF IS -160 INCHES), AND BOTH F006B AND F004B WERE CLOSED.
- THE LICENSEE BELIEVES THE CONTROL SWITCH ON THE RSP FOR F004B WAS IN THE 'OPEN' (NORMAL) POSITION.
- WHEN THE EMERGENCY TRANSFER SWITCH FOR THE 'B' RHR LOOP SUCTION VALVES WAS OPERATED, F004B DID NOT OPEN BECAUSE THE WIRING ERROR PREVENTED IT FROM OPENING UNLESS F006B WAS OPEN.
- THE OPERATORS DID NOT VERIFY CONTROL SWITCH POSITIONS ON THE RSP BEFORE OR AFTER THE TRANSFER. THE FAILURE OF F004B TO OPEN UPON OPERATION OF THE EMERGENCY TRANSFER SWITCH APPEARED TO CONFIRM THAT THE CONTROL SWITCH WAS IN THE 'CLOSE' POSITION.

- PER DIRECTION FROM THE CONTROL ROOM, THE PEO AT THE RSP OPENED THE F006B VALVE, COMPLETING THE ERRONEOUS 'OPEN' LOGIC FOR F004B AND, INITIATING THE DRAINDOWN.
- THE DRAINDOWN WAS TERMINATED IN APPROXIMATELY 50 SECONDS BY AUTOMATIC CLOSURE OF THE SHUTDOWN COOLING SUCTION ISOLATION VALVES, AS DESIGNED. LEVEL WAS RESTORED IN APPROXIMATELY 25 MINUTES. SHUTDOWN COOLING WAS LOST FOR APPROXIMATELY 30 MINUTES WITH NO INCREASE IN REACTOR TEMPERATURE (42 DAYS AFTER SHUTDOWN WITH ONE-THIRD OF THE CORE BEING NEW FUEL).
- THERE WERE ALSO TWO OTHER MINOR DRAINDOWN EVENTS ON NOVEMBER 2 & 4, 1995, OF 1 TO 2 INCHES EACH, VIA THE RHR PUMP MINIMUM FLOW LINE TO THE SUPPRESSION POOL.

#### FOLLOWUP

- THE LICENSEE ASSEMBLED AN EVENT REVIEW TEAM AND AN NRC SPECIAL INSPECTION TEAM WAS SENT TO THE SITE.
- PRELIMINARY RESULTS FROM THE SPECIAL INSPECTION TEAM:
  - THE ROOT CAUSE WAS MISWIRING OF F006B
  - CONTRIBUTING FACTORS
    - POOR PLANNING AND GUIDANCE
    - INADEQUATE COMMUNICATION AND CONTROL
    - LACK OF SUPERVISION
- FINAL SPECIAL INSPECTION TEAM RESULTS WILL BE DOCUMENTED IN INSPECTION REPORT 50-366/95-23 WHICH IS EXPECTED TO BE ISSUED IN APPROXIMATELY 30 DAYS.

- THE NEED FOR A GENERIC COMMUNICATION WILL BE EVALUATED.
  - THERE ARE NUMEROUS PREVIOUS GENERIC COMMUNICATIONS RELATED TO LOSS OF REACTOR COOLANT INVENTORY WHILE SHUTDOWN.

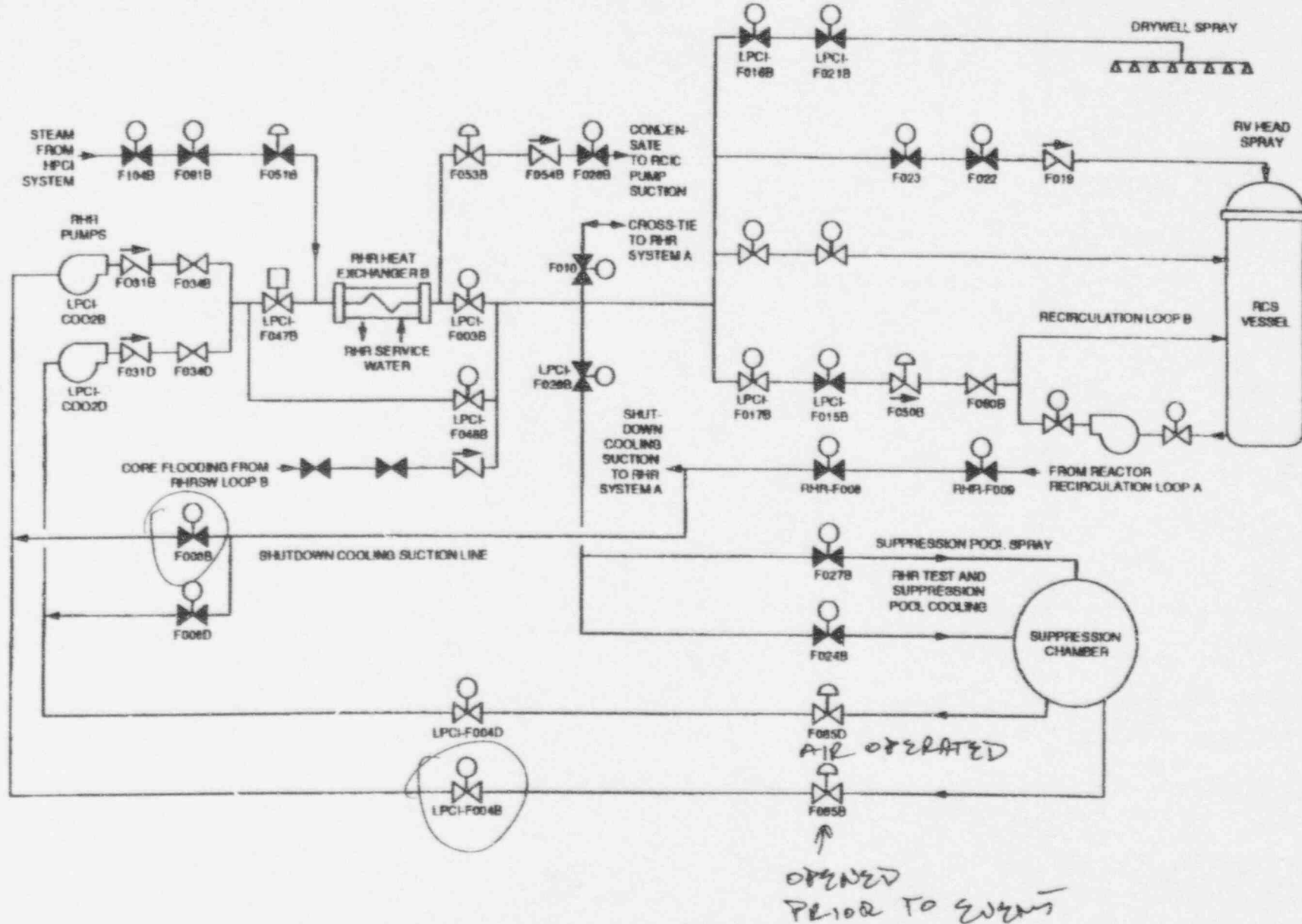


Figure 3.6-4. Hatch Unit 1 Residual Heat Removal System, Train B

3.6-7

2/92



REACTOR SCRAM

Reporting Period: 09/25/95 to 10/01/95

<u>DATE</u>	<u>PLANT &amp; UNIT</u>	<u>POWER</u>	<u>TYPE</u>	<u>CAUSE</u>	<u>COMPLICATIONS</u>	<u>YTD ABOVE 15%</u>	<u>YTD BELOW 15%</u>	<u>YTD TOTAL</u>
09/27/95	MCGUIRE 1	100	SM	Equipment Failure	NO	2	0	2
09/28/95	DRESDEN 3	77	SA	Equipment Failure	NO	3	0	3
09/30/95	BRUNSWICK 1	58	SA	Equipment Failure	NO	3	0	3
10/01/95	MCGUIRE 1	49	SA	Equipment Failure	NO	3	0	3

ATTACHMENT 3

Note: Year To Date (YTD) Totals Include Events Within The Calendar Year Indicated By The End Date Of The Specified Reporting Period

COMPARISON OF WEEKLY SCRAM STATISTICS WITH INDUSTRY AVERAGES

PERIOD ENDING  
10/01/95

<u>SCRAM CAUSE</u>	NUMBER OF SCRAMS	1995 WEEKLY AVERAGE (YTD)	1994 WEEKLY AVERAGE	1993 WEEKLY AVERAGE	1992 WEEKLY AVERAGE	1991* WEEKLY AVERAGE
POWER GREATER THAN OR EQUAL TO 15%						
EQUIPMENT FAILURE*	4	1.99	1.52	1.83	2.62	2
DESIGN/INSTALLATION ERROR*	0	0.15	0.08	0.04	-	0.00
OPERATING ERROR*	0	0.15	0.21	0.27	0.31	0.04
MAINTENANCE ERROR*	0	0.41	0.54	0.52	0.50	-
EXTERNAL*	0	0.23	0.17	0.13	-	-
OTHER*	0	0.05	-	0.02	-	0.62
Subtotal	4	2.98	2.52	2.81	3.43	3.51
POWER LESS THAN 15%						
EQUIPMENT FAILURE*	0	0.13	0.27	0.38	0.42	0.27
DESIGN/INSTALLATION ERROR*	0	0.00	0.02	-	-	-
OPERATING ERROR*	0	0.15	0.08	0.13	0.15	-
MAINTENANCE ERROR*	0	0.10	-	0.02	0.08	-
EXTERNAL*	0	0.00	-	0.04	-	-
OTHER*	0	0.00	-	-	-	0.19
Subtotal	0	0.38	0.37	0.57	0.65	0.46
TOTAL	4	3.36	2.89	3.38	4.08	3.97

<u>SCRAM TYPE</u>	NO. OF SCRAMS	1995 WEEKLY AVERAGE (YTD)	1994 WEEKLY AVERAGE	1993 WEEKLY AVERAGE	1992 WEEKLY AVERAGE	1991 WEEKLY AVERAGE
TOTAL AUTOMATIC SCRAMS	3	2.20	2.19	2.44	3.06	3.25
TOTAL MANUAL SCRAMS	1	1.18	0.69	0.94	1.02	0.69

TOTALS MAY DIFFER BECAUSE OF ROUNDING OFF

\* Detailed breakdown not in database for 1991 and earlier

- EXTERNAL cause included in EQUIPMENT FAILURE

- MAINTENANCE ERROR and DESIGN/INSTALLATION ERROR causes included in OPERATING ERROR

- OTHER cause included in EQUIPMENT FAILURE 1991 and 1990

COMPARISON OF WEEKLY SCRAM STATISTICS WITH INDUSTRY AVERAGES

PERIOD ENDING  
10/08/95

SCRAM CAUSE	NUMBER OF SCRAMS	PERIOD ENDING 10/08/95					1991* WEEKLY AVERAGE
		1995 WEEKLY AVERAGE (YTD)	1994 WEEKLY AVERAGE	1993 WEEKLY AVERAGE	1992 WEEKLY AVERAGE	1991* WEEKLY AVERAGE	
POWER GREATER THAN OR EQUAL TO 15%							
EQUIPMENT FAILURE*	0	1.94	1.52	1.83	2.62	2.83	
DESIGN/INSTALLATION ERROR*	0	0.15	0.08	0.04	-	0.02	
OPERATING ERROR*	0	0.15	0.21	0.27	0.31	0.04	
MAINTENANCE ERROR*	0	0.40	0.54	0.52	0.50	-	
EXTERNAL*	0	0.22	0.17	0.13	-	-	
OTHER*	0	0.05	-	0.02	-	0.62	
Subtotal	0	2.91	2.52	2.81	3.43	3.51	
POWER LESS THAN 15%							
EQUIPMENT FAILURE*	0	0.12	0.27	0.38	0.42	0.27	
DESIGN/INSTALLATION ERROR*	0	0.00	0.02	-	-	-	
OPERATING ERROR*	0	0.15	0.08	0.13	0.15	-	
MAINTENANCE ERROR*	0	0.10	-	0.02	0.08	-	
EXTERNAL*	0	0.00	-	0.04	-	-	
OTHER*	0	0.00	-	-	-	0.19	
Subtotal	0	0.37	0.37	0.57	0.65	0.46	
TOTAL	0	3.28	2.89	3.38	4.08	3.97	

SCRAM TYPE	NO. OF SCRAMS	PERIOD ENDING 10/08/95					1991 WEEKLY AVERAGE
		1995 WEEKLY AVERAGE (YTD)	1994 WEEKLY AVERAGE	1993 WEEKLY AVERAGE	1992 WEEKLY AVERAGE	1991 WEEKLY AVERAGE	
TOTAL AUTOMATIC SCRAMS	0	2.14	2.19	2.44	3.06	3.25	
TOTAL MANUAL SCRAMS	0	1.15	0.69	0.94	1.02	0.69	

TOTALS MAY DIFFER BECAUSE OF ROUNDING OFF

\* Detailed breakdown not in database for 1991 and earlier

- EXTERNAL cause included in EQUIPMENT FAILURE

- MAINTENANCE ERROR and DESIGN/INSTALLATION ERROR causes included in OPERATING ERROR

- OTHER cause included in EQUIPMENT FAILURE 1991 and 1990

REACTOR SCRAM

Reporting Period: 10/09/95 to 10/15/95

<u>DATE</u>	<u>PLANT &amp; UNIT</u>	<u>POWER</u>	<u>TYPE</u>	<u>CAUSE</u>	<u>COMPLICATIONS</u>	YTD ABOVE <u>15%</u>	YTD BELOW <u>15%</u>	YTD <u>TOTAL</u>
10/12/95	HARRIS 1	5	SA	Operating Error	NO	0	1	1

REACTOR SCRAM

Reporting Period: 10/16/95 to 10/22/95

<u>DATE</u>	<u>PLANT &amp; UNIT</u>	<u>POWER</u>	<u>TYPE</u>	<u>CAUSE</u>	<u>COMPLICATIONS</u>	YTD ABOVE <u>15%</u>	YTD BELOW <u>15%</u>	YTD <u>TOTAL</u>
10/17/95	TURKEY POINT 3	100	SM	Maintenance Error	NO	1	1	2

Note: Year To Date (YTD) Totals Include Events Within The Calendar Year Indicated By The End Date Of The Specified Reporting Period

COMPARISON OF WEEKLY SCRAM STATISTICS WITH INDUSTRY AVERAGES

PERIOD ENDING  
10/15/95

SCRAM CAUSE	NUMBER OF SCRAMS	1995 WEEKLY AVERAGE (YTD)	1994 WEEKLY AVERAGE	1993 WEEKLY AVERAGE	1992 WEEKLY AVERAGE	1991* WEEKLY AVERAGE
POWER GREATER THAN OR EQUAL TO 15%						
EQUIPMENT FAILURE*	0	1.90	1.52	1.83	2.62	2.83
DESIGN/INSTALLATION ERROR*	0	0.15	0.08	0.04	-	0.02
OPERATING ERROR*	0	0.15	0.21	0.27	0.31	0.04
MAINTENANCE ERROR*	3	0.39	0.54	0.52	0.50	-
EXTERNAL*	0	0.22	0.17	0.13	-	-
OTHER*	0	0.05	-	0.02	-	0.62
Subtotal	0	2.86	2.52	2.81	3.43	3.51
POWER LESS THAN 15%						
EQUIPMENT FAILURE*	0	0.12	0.27	0.38	0.42	0.27
DESIGN/INSTALLATION ERROR*	0	0.00	0.02	-	-	-
OPERATING ERROR*	1	0.17	0.08	0.13	0.15	-
MAINTENANCE ERROR*	0	0.10	-	0.02	0.08	-
EXTERNAL*	0	0.00	-	0.04	-	-
OTHER*	0	0.00	-	-	-	0.19
Subtotal	1	0.39	0.37	0.57	0.65	0.46
TOTAL	1	3.25	2.89	3.38	4.08	3.97

SCRAM TYPE	NO. OF SCRAMS	1995 WEEKLY AVERAGE (YTD)	1994 WEEKLY AVERAGE	1993 WEEKLY AVERAGE	1992 WEEKLY AVERAGE	1991 WEEKLY AVERAGE
TOTAL AUTOMATIC SCRAMS	1	2.11	2.19	2.44	3.06	3.25
TOTAL MANUAL SCRAMS	0	1.12	0.69	0.94	1.02	0.69

TOTALS MAY DIFFER BECAUSE OF ROUNDING OFF

\* Detailed breakdown not in database for 1991 and earlier

- EXTERNAL cause included in EQUIPMENT FAILURE

- MAINTENANCE ERROR and DESIGN/INSTALLATION ERROR causes included in OPERATING ERROR

- OTHER cause included in EQUIPMENT FAILURE 1991 and 1990

COMPARISON OF WEEKLY SCRAM STATISTICS WITH INDUSTRY AVERAGES

PERIOD ENDING  
10/22/95

<u>SCRAM CAUSE</u>	NUMBER OF SCRAMS	1995 WEEKLY AVERAGE (YTD)	1994 WEEKLY AVERAGE	1993 WEEKLY AVERAGE	1992 WEEKLY AVERAGE	1991* WEEKLY AVERAGE
POWER GREATER THAN OR EQUAL TO 15%						
EQUIPMENT FAILURE*	0	1.85	1.52	1.83	2.62	2.83
DESIGN/INSTALLATION ERROR*	0	0.14	0.08	0.04	-	0.02
OPERATING ERROR*	0	0.14	0.21	0.27	0.31	0.04
MAINTENANCE ERROR*	1	0.40	0.54	0.52	0.50	-
EXTERNAL*	0	0.21	0.17	0.13	-	-
OTHER*	0	0.05	-	0.02	-	0.62
Subtotal	1	2.79	2.52	2.81	3.43	3.51
POWER LESS THAN 15%						
EQUIPMENT FAILURE*	0	0.12	0.27	0.38	0.42	0.27
DESIGN/INSTALLATION ERROR*	0	0.00	0.02	-	-	-
OPERATING ERROR*	0	0.17	0.08	0.13	0.15	-
MAINTENANCE ERROR*	0	0.09	-	0.02	0.08	-
EXTERNAL*	0	0.00	-	0.04	-	-
OTHER*	0	0.00	-	-	-	0.19
Subtotal	0	0.38	0.37	0.57	0.65	0.46
TOTAL	1	3.17	2.89	3.38	4.08	3.97

<u>SCRAM TYPE</u>	NO. OF SCRAMS	1995 WEEKLY AVERAGE (YTD)	1994 WEEKLY AVERAGE	1993 WEEKLY AVERAGE	1992 WEEKLY AVERAGE	1991 WEEKLY AVERAGE
TOTAL AUTOMATIC SCRAMS	0	2.06	2.19	2.44	3.06	3.25
TOTAL MANUAL SCRAMS	1	1.12	0.69	0.94	1.02	0.69

TOTALS MAY DIFFER BECAUSE OF ROUNDING OFF

\* Detailed breakdown not in database for 1991 and earlier

- EXTERNAL cause included in EQUIPMENT FAILURE

- MAINTENANCE ERROR and DESIGN/INSTALLATION ERROR causes included in OPERATING ERROR

- OTHER cause included in EQUIPMENT FAILURE 1991 and 1990

REACTOR SCRAM

Reporting Period: 10/23/95 to 10/29/95

<u>DATE</u>	<u>PLANT &amp; UNIT</u>	<u>POWER</u>	<u>TYPE</u>	<u>CAUSE</u>	<u>COMPLICATIONS</u>	YTD ABOVE 15%	YTD BELOW 15%	YTD TOTAL
10/29/95	DRESDEN 3	90	SM	Other	NO	4	0	4

REACTOR SCRAM

Reporting Period: 10/30/95 to 11/05/95

<u>DATE</u>	<u>PLANT &amp; UNIT</u>	<u>POWER</u>	<u>TYPE</u>	<u>CAUSE</u>	<u>COMPLICATIONS</u>	YTD ABOVE 15%	YTD BELOW 15%	YTD TOTAL
11/05/95	HARRIS 1	100	SA	Equipment Failure	NO	1	1	2

Note: Year To Date (YTD) Totals Include Events Within The Calendar Year Indicated By The End Date Of The Specified Reporting Period

COMPARISON OF WEEKLY SCRAM STATISTICS WITH INDUSTRY AVERAGES

PERIOD ENDING  
10/29/95

<u>SCRAM CAUSE</u>	NUMBER OF SCRAMS	1995 WEEKLY AVERAGE (YTD)	1994 WEEKLY AVERAGE	1993 WEEKLY AVERAGE	1992 WEEKLY AVERAGE	1991* WEEKLY AVERAGE
POWER GREATER THAN OR EQUAL TO 15%						
EQUIPMENT FAILURE*	0	1.81	1.52	1.83	2.62	2.83
DESIGN/INSTALLATION ERROR*	0	0.14	0.08	0.04	-	0.02
OPERATING ERROR*	0	0.14	0.21	0.27	0.31	0.04
MAINTENANCE ERROR*	0	0.39	0.54	0.52	0.50	-
EXTERNAL*	0	0.21	0.17	0.13	-	-
OTHER*	1	0.07	-	0.02	-	0.62
Subtotal	1	2.76	2.52	2.81	3.43	3.51
POWER LESS THAN 15%						
EQUIPMENT FAILURE*	0	0.12	0.27	0.38	0.42	0.27
DESIGN/INSTALLATION ERROR*	0	0.00	0.02	-	-	-
OPERATING ERROR*	0	0.16	0.08	0.13	0.15	-
MAINTENANCE ERROR*	0	0.09	-	0.02	0.08	-
EXTERNAL*	0	0.00	-	0.04	-	-
OTHER*	0	0.00	-	-	-	0.19
Subtotal	0	0.37	0.37	0.57	0.65	0.46
TOTAL	1	3.13	2.89	3.38	4.08	3.97

<u>SCRAM TYPE</u>	NO. OF SCRAMS	1995 WEEKLY AVERAGE (YTD)	1994 WEEKLY AVERAGE	1993 WEEKLY AVERAGE	1992 WEEKLY AVERAGE	1991 WEEKLY AVERAGE
TOTAL AUTOMATIC SCRAMS	0	2.02	2.19	2.44	3.06	3.25
TOTAL MANUAL SCRAMS	1	1.11	0.69	0.94	1.02	0.69

TOTALS MAY DIFFER BECAUSE OF ROUNDING OFF

\* Detailed breakdown not in database for 1991 and earlier

- EXTERNAL cause included in EQUIPMENT FAILURE

- MAINTENANCE ERROR and DESIGN/INSTALLATION ERROR causes included in OPERATING ERROR

- OTHER cause included in EQUIPMENT FAILURE 1991 and 1990



COMPARISON OF WEEKLY SCRAM STATISTICS WITH INDUSTRY AVERAGES

PERIOD ENDING  
11/05/95

<u>SCRAM CAUSE</u>	NUMBER OF SCRAMS	1995 WEEKLY AVERAGE (YTD)	1994 WEEKLY AVERAGE	1993 WEEKLY AVERAGE	1992 WEEKLY AVERAGE	1991* WEEKLY AVERAGE
POWER GREATER THAN OR EQUAL TO 15%						
EQUIPMENT FAILURE*	1	1.79	1.52	1.83	2.62	2.83
DESIGN/INSTALLATION ERROR*	0	0.14	0.08	0.04	-	0.02
OPERATING ERROR*	0	0.14	0.21	0.27	0.31	0.04
MAINTENANCE ERROR*	0	0.39	0.54	0.52	0.50	-
EXTERNAL*	0	0.20	0.17	0.13	-	-
OTHER*	0	0.07	-	0.02	-	0.62
Subtotal	1	2.73	2.52	2.81	3.43	3.51
POWER LESS THAN 15%						
EQUIPMENT FAILURE*	0	0.11	0.27	0.38	0.42	0.27
DESIGN/INSTALLATION ERROR*	0	0.00	0.02	-	-	-
OPERATING ERROR*	0	0.16	0.08	0.13	0.15	-
MAINTENANCE ERROR*	0	0.09	-	0.02	0.08	-
EXTERNAL*	0	0.00	-	0.04	-	-
OTHER*	0	0.00	-	-	-	0.19
Subtotal	0	0.36	0.37	0.57	0.65	0.46
TOTAL	1	3.09	2.89	3.38	4.08	3.97

<u>SCRAM TYPE</u>	NO. OF SCRAMS	1995 WEEKLY AVERAGE (YTD)	1994 WEEKLY AVERAGE	1993 WEEKLY AVERAGE	1992 WEEKLY AVERAGE	1991 WEEKLY AVERAGE
TOTAL AUTOMATIC SCRAMS	1	1.99	2.19	2.44	3.06	3.25
TOTAL MANUAL SCRAMS	0	1.09	0.69	0.94	1.02	0.69

TOTALS MAY DIFFER BECAUSE OF ROUNDING OFF

\* Detailed breakdown not in database for 1991 and earlier

- EXTERNAL cause included in EQUIPMENT FAILURE

- MAINTENANCE ERROR and DESIGN/INSTALLATION ERROR causes included in OPERATING ERROR

- OTHER cause included in EQUIPMENT FAILURE 1991 and 1990

NOTES

1. PLANT SPECIFIC DATA P<sup>RE</sup>SENTED 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. PERSONNEL RELATED PROBLEMS INCLUDE HUMAN ERROR, PROCEDURAL DEFICIENCIES, AND MANUAL STEAM GENERATOR LEVEL CONTROL PROBLEMS.
3. COMPLICATIONS: RECOVERY COMPLICATED BY EQUIPMENT FAILURES OR PERSONNEL ERRORS UNRELATED TO CAUSE OF SCRAM.
4. "OTHER" INCLUDES AUTOMATIC SCRAMS ATTRIBUTED TO ENVIRONMENTAL CAUSES (LIGHTNING), SYSTEM DESIGN, OR UNKNOWN CAUSE.

OEAB SCRAM DATA

Manual and Automatic Scrams for 1987	-----	435
Manual and Automatic Scrams for 1988	-----	291
Manual and Automatic Scrams for 1989	-----	252
Manual and Automatic Scrams for 1990	-----	226
Manual and Automatic Scrams for 1991	-----	206
Manual and Automatic Scrams for 1992	-----	212
Manual and Automatic Scrams for 1993	-----	175
Manual and Automatic Scrams for 1994	-----	10
Manual and Automatic Scrams for 1995	--(YTD 11/05/95)--	106

## OPERATING REACTOR PLANTS SIGNIFICANT EVENTS

SORT&gt; Event Date

QUERY&gt; Event Type SIG &amp; Close Out Date &gt;= 09/19/95 &amp; Close Out Date &lt;= 10/31/95 &amp; Event Type = "SIG"

<u>PLANT &amp; UNIT</u>	<u>DATE OF EVENT</u>	<u>50.72 NUMBER</u>	<u>DESCRIPTION OF EVENT</u>	<u>SIGNIFICANCE</u>	<u>OR BRIEFING</u>	<u>PRESENTER</u>	<u>CLOSEOUT RECORD</u>
SALEM 1,2	06/07/95	28904	500kv bus breaker problems caused two reactor coolant pumps to trip. Potential problems with pressurizer spray and three EDGs inoperable at other unit.	Safety-Related Cooling System		TAPPERT J.	HIGHLIGHT
HOPE CREEK 1	07/08/95	0	The plant entered a configuration in which shutdown cooling flow was unintentionally bypassing the core, with subsequent temperature rise and pressure change.	Safety-Related Cooling System	95-11	HODGE V.	HIGHLIGHT
LIMERICK 1	09/11/95	29316	Licensee manually scrammed the plant due to a spurious open/stuck open SRV. Plant experienced some difficulty with operation of a one RHR pump in pool cooling mode, and possibly exceeded cooldown limits.	Unexpected Plant Performance	95-12	CARTER J.	HIGHLIGHT

**OPERATING REACTORS EVENTS BRIEFING 95-13**

**LOCATION: 0-8 B11, WHITE FLINT  
WEDNESDAY, NOVEMBER 8, 1995, 11:00 A.M.**

**HATCH, UNIT 2**

**INADVERTENT DRAINING OF  
REACTOR VESSEL AND  
ISOLATION OF SHUTDOWN  
COOLING SYSTEM**

**PRESENTED BY:**

**EVENTS ASSESSMENT AND GENERIC COMMUNICATIONS BRANCH  
DIVISION OF REACTOR PROGRAM MANAGEMENT, NRR**