

December 26, 1995

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

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

SUBJECT: OPERATING REACTORS EVENTS BRIEFING
 DECEMBER 13, 1995 - BRIEFING 95-14

On December 13, 1995, we conducted an Operating Reactors Events Briefing (95-14) to inform senior managers from offices of the ACRS, AEOD, NRR and regional offices of selected events that occurred since our last briefing on November 8, 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 November 12, November 19, November 26, December 3, and December 10, 1995. No significant events were identified for input into the NRC Performance Indicator Program.

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		JCarter		RDennig		AChaffee	S
DATE	12/18/95		12/18/95		12/19/95		12/21/95	S

OFFICIAL RECORD COPY

** See previous concurrences*

1496
DF03
11

0500 40

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-14F4)
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

C. Poslusny (O-14E21)
J. Stolz (O-14E21)

LIST OF ATTENDEES

OPERATING REACTORS EVENTS FULL BRIEFING (95-14)

DECEMBER 13, 1995

<u>NAME</u>	<u>OFFICE</u>	<u>NAME</u>	<u>OFFICE</u>
A. CHAFFEE	NRR	T. CHAN	NRR
J. CARTER	NRR	H. RATHBUN	NRR
R. DENNIG	NRR	M. DAVIS	NRR
W. BURTON	NRR	D. WESSMAN	NRR
K. GRAY	NRR	M. MARKLEY	ACRS
C. POSLUSNY	NRR	E. ROSSI	AEOD

TELEPHONE ATTENDANCE
(AT ROLL CALL)

Regions

Region I
Region II
Region III
Region IV

Resident Inspectors

Misc.

OPERATING REACTORS EVENTS BRIEFING 95-14

**LOCATION: 0-8 B11, WHITE FLINT
WEDNESDAY, DECEMBER 13, 1995, 11:00 A.M.**

SUSQUEHANNA, UNIT 1

**VALVE INTERNALS DAMAGED
BY THERMALLY INDUCED
BONNET PRESSURE**

PRESENTED BY:

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

SUSQUEHANNA, UNIT 1
VALVE INTERNALS DAMAGED BY
THERMALLY INDUCED BONNET PRESSURE
NOVEMBER 11, 1995

PROBLEM

A RETAINING RING LOCATED IN THE BONNET OF THE HIGH PRESSURE COOLANT INJECTION (HPCI) VALVE WAS OBSERVED TO BE BENT.

CAUSE

AN INCREASE IN TEMPERATURE OF FLUID TRAPPED IN THE VALVE BONNET MAY RESULT IN A PRESSURE (FORCE) HIGH ENOUGH TO BEND THE RING.

SAFETY SIGNIFICANCE

A HIGH PRESSURE COULD RESULT IN PRESSURE LOCKING AND VALVE INOPERABILITY. EXCESSIVE PRESSURES COULD RESULT IN VALVE FAILURE (LOSS OF FEEDWATER) COINCIDENT WITH LOSS OF HPCI.

DISCUSSION

- THE BENT RING WAS DISCOVERED WHILE THE LICENSEE WAS PERFORMING CORRECTIVE MAINTENANCE ON THE HPCI AND RCIC ISOLATION VALVES DURING A FORCED OUTAGE.

CONTACT: J. CARTER, NRR/DRPM/PECB
REFERENCE: 10 CFR 50.72 #29659

AIT: NO
SIGEVENT: TBD

- GL 95-07 REQUESTED THAT LICENSEES VERIFY THAT ALL VALVES SUSCEPTIBLE TO PRESSURE LOCKING BE CONFIRMED TO BE OPERABLE
 - LICENSEE PREVIOUSLY DETERMINED THAT HPCI AND RCIC INJECTION VALVES WERE NOT SUSCEPTIBLE TO PRESSURE LOCKING OR THERMAL BINDING; NOW BELIEVE ARE SUSCEPTIBLE TO THERMAL INDUCED PRESSURE LOCKING
 - PLANS WERE MADE TO MAKE A MODIFICATION TO EACH VALVE DURING AN OUTAGE
- THE LICENSEE SHUT DOWN TO REPAIR A PROBLEM WITH THE MAIN GENERATOR
 - PROVIDED OPPORTUNITY TO MAKE MODIFICATION TO THE VALVES
- DURING DISASSEMBLY OF THE HPCI BLOCK VALVE, THE RING WAS OBSERVED TO BE BENT 0.135 INCHES
 - PROBLEMS EXPERIENCED REMOVING BONNET - BEND IN RING WAS OBSERVED
 - RETAINING RING IS A 4 SEGMENT SPLIT RING 15.6 INCHES OD (13.6 INCH ID) X 0.875 INCH THICK
 - VENDOR CALCULATED THAT THE FORCE REQUIRED TO BEND THE RING WAS ABOUT A MILLION POUNDS

- THIS EQUATES TO A PRESSURE OF ABOUT 6000 PSI
 - A PRESSURE OF 2000 PSI COULD PRESSURE LOCK THE VALVE
 - VALVE WAS LAST DISASSEMBLED FOR AN OVERHAUL IN 1992
 - WITH VALVE VENDOR PRESENT, RING WAS REUSED AND NEW GRAPHITE SEAL INSTALLED
 - VALVE HAS NOT BEEN OPERATED AT TEMPERATURE SINCE THAT TIME
 - HAS BEEN OPERATED MANY TIMES "COLD"
- PRESSURE WAS BELIEVED TO HAVE RESULTED FROM HEATUP OF FLUID TRAPPED IN VALVE BONNET
 - VALVE IS 14 INCH FLEX-WEDGE MOTOR-OPERATED PRESSURE-SEAL GATE VALVE MANUFACTURED BY ANCHOR/DARLING
 - SOURCE OF HEAT IS BELIEVED TO BE THE FEEDWATER IN A PIPE LOCATED ABOUT 4 FEET FROM THE HPCI BLOCK VALVE.
 - HAD JUSTIFICATION FOR "COLD" VALVE TESTING
 - MANY OTHER LICENSEES ALSO DO NOT TEST THE VALVES DURING OPERATION

- VALVE NOT ON LICENSEES LIST OF VALVES DETERMINED TO BE SUSCEPTIBLE
 - GE SIL 368 SUPPLEMENT 1 IDENTIFIED HPCI AND RCIC VALVES
 - FOCUSED ON PRESSURE INDUCED SUSCEPTIBILITY

FOLLOWUP

- REGION I MADE A SURVEY OF SOME OTHER PLANTS IN REGION I
 - ALL HAD VALVES ON LIST AS BEING SUSCEPTIBLE
 - NOT ALL LICENSEES HAD MADE INTENDED MODIFICATIONS
 - OPERABILITY TESTING IS NOT DONE AT POWER
 - ONE HAD VALVE OPEN DURING CHALLENGE
- ANALYSIS SHOWED THAT NO VALVE DAMAGE WOULD BE EXPECTED BY CALCULATED PRESSURE/FORCES; NONE OBSERVED.
- LICENSEE HAS RE-EVALUATED JUSTIFICATION FOR COLD TESTING AND NOW PLANS QUARTERLY TESTING.
- INFORMATION NOTICE BEING DRAFTED TO ALERT LICENSEES TO POTENTIAL FOR UNDETECTED LOCKUP AND VALVE DAMAGE, IF VALVE NOT YET MODIFIED.

REACTOR SCRAM

Reporting Period: 11/06/95 to 11/12/95

<u>DATE</u>	<u>PLANT & 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>
11/07/95	SURRY 2	100	SA	Equipment Failure	NO	4	0	4
11/09/95	CALVERT CLIFFS 1	100	SM	Equipment Failure	NO	2	0	2
11/11/95	NORTH ANNA 2	100	SA	Equipment Failure	NO	1	0	1

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
11/12/95

<u>SCRAM CAUSE</u>	NUMBER OF SCRAMS	PERIOD ENDING 11/12/95				
		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*	3	1.82	1.52	1.83	2.62	2.83
DESIGN/INSTALLATION ERROR*	0	0.13	0.08	0.04	-	0.02
OPERATING ERROR*	0	0.13	0.21	0.27	0.31	0.04
MAINTENANCE ERROR*	0	0.38	0.54	0.52	0.50	-
EXTERNAL*	0	0.20	0.17	0.13	-	-
OTHER*	0	0.07	-	0.02	-	0.62
Subtotal	3	2.73	2.52	2.81	3.43	3.51
POWER LESS THAN 15%						
EQUIPMENT FAILURE*	0	0.11	0.27	0.30	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	3	3.09	2.89	3.38	4.08	3.97

<u>SCRAM TYPE</u>	NO. OF SCRAMS	PERIOD ENDING 11/12/95				
		1995 WEEKLY AVERAGE (YTD)	1994 WEEKLY AVERAGE	1993 WEEKLY AVERAGE	1992 WEEKLY AVERAGE	1991 WEEKLY AVERAGE
TOTAL AUTOMATIC SCRAMS	2	1.99	2.19	2.44	3.06	3.25
TOTAL MANUAL SCRAMS	1	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

REACTOR SCRAM

Reporting Period: 11/13/95 to 11/19/95

<u>DATE</u>	<u>PLANT & 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>
11/15/95	SOUTH TEXAS 2	90	SA	Equipment Failure	NO	2	0	2
11/16/95	BIG ROCK POINT 1	22	SA	Operating Error	NO	1	0	1
11/16/95	SAINT LUCIE 1	100	SM	Equipment Failure	NO	2	0	2
11/16/95	CALVERT CLIFFS 1	100	SM	Equipment Failure	NO	3	0	3
11/19/95	COMANCHE PEAK 1	100	SA	Maintenance Error	NO	3	0	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
11/19/95

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*	3	1.84	1.52	1.83	2.62	2.83
DESIGN/INSTALLATION ERROR*	0	0.13	0.08	0.04	-	0.02
OPERATING ERROR*	1	0.15	0.21	0.27	0.31	0.04
MAINTENANCE ERROR*	1	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	5	2.78	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	0.15	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	0.35	0.37	0.57	0.65	0.46
TOTAL	5	3.13	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	3	2.02	2.19	2.44	3.06	3.25
TOTAL MANUAL SCRAMS	2	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

REACTOR SCRAM

Reporting Period: 11/20/95 to 11/26/95

<u>DATE</u>	<u>PLANT & 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>
11/26/95	PALO VERDE 1	100	SA	Equipment Failure	NO	2	0	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
11/26/95

<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	1.12	1.52	1.83	2.62	2.83
DESIGN/INSTALLATION ERROR*	0	0.13	0.08	0.04	-	0.02
OPERATING ERROR*	0	0.5	0.21	0.27	0.31	0.04
MAINTENANCE ERROR*	0	0.13	0.54	0.52	0.50	-
EXTERNAL*	0	0.11	0.17	0.13	-	-
OTHER*	0	0.0	-	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	0.15	0.08	0.13	0.15	-
MAINTENANCE ERROR*	0	0.08	-	0.02	0.08	-
EXTERNAL*	0	0.00	-	0.04	-	-
OTHER*	0	0.00	-	-	-	0.19
Subtotal	0	0.34	0.37	0.57	0.65	0.46
TOTAL	1	3.07	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	1.08	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: 11/27/95 to 12/03/95

<u>DATE</u>	<u>PLANT & 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>
11/28/95	FARLEY 2	100	SA	Maintenance Error	NO	2	2	4
11/28/95	DIABLO CANYON 1	50	SM	Maintenance Error	NO	2	0	2
12/02/95	PEACH BOTTOM 3	100	SA	Equipment Failure	NO	3	0	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
12/03/95

<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	1.81	1.52	1.83	2.62	2.83
DESIGN/INSTALLATION ERROR*	0	0.12	0.08	0.04	-	0.02
OPERATING ERROR*	0	0.15	0.21	0.27	0.31	0.04
MAINTENANCE ERROR*	2	0.42	0.54	0.52	0.50	-
EXTERNAL*	0	0.19	0.17	0.13	-	-
OTHER*	0	0.06	-	0.02	-	0.62
Subtotal	3	2.75	2.52	2.81	3.43	3.51
POWER LESS THAN 15%						
EQUIPMENT FAILURE*	0	0.10	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	0.08	-	0.02	0.08	-
EXTERNAL*	0	0.00	-	0.04	-	-
OTHER*	0	0.00	-	-	-	0.19
Subtotal	0	0.33	0.37	0.57	0.65	0.46
TOTAL	3	3.08	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	2	1.99	2.19	2.44	3.06	3.25
TOTAL MANUAL SCRAMS	1	1.08	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: 12/04/95 to 12/10/95

<u>DATE</u>	<u>PLANT & 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>
12/05/95	COMANCHE PEAK 2	100	SM	Equipment Failure	NO	2	0	2
12/07/95	COOK 1	32	SM	Equipment Failure	NO	2	0	2
12/08/95	VERMONT YANKEE 1	80	SA	Operating Error	NO	1	0	1
12/08/95	SEQUOYAH 1	100	SM	Equipment Failure	NO	3	1	4
12/09/95	PALO VERDE 1	40	SA	Other	NO	3	0	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
12/10/95

<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*	3	1.83	1.52	1.83	2.62	2.83
DESIGN/INSTALLATION ERROR*	0	0.12	0.08	0.04	-	0.02
OPERATING ERROR*	1	0.16	0.21	0.27	0.31	0.04
MAINTENANCE ERROR*	0	0.41	0.54	0.52	0.50	-
EXTERNAL*	0	0.18	0.17	0.13	-	-
OTHER*	1	0.08	-	0.02	-	0.62
Subtotal	5	2.78	2.52	2.81	3.43	3.51
POWER LESS THAN 15%						
EQUIPMENT FAILURE*	0	0.10	0.27	0.38	0.42	0.27
DESIGN/INSTALLATION ERROR*	0	0.00	0.02	-	-	-
OPERATING ERROR*	0	0.14	0.08	0.13	0.15	-
MAINTENANCE ERROR*	0	0.08	-	0.02	0.08	-
EXTERNAL*	0	0.00	-	0.04	-	-
OTHER*	0	0.00	-	-	-	0.19
Subtotal	0	0.32	0.37	0.57	0.65	0.46
TOTAL	5	3.10	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	2	1.99	2.19	2.44	3.06	3.25
TOTAL MANUAL SCRAMS	3	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

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. 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	-----	150
Manual and Automatic Scrams for 1995	--(YTD 12/10/95)--	153