

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)
DISTRIBUTION FOR INCOMING MATERIAL

50-296

REC: OREILLY J P
NRC

ORG: FOX H S
TN VALLEY AUTH

DOCDATE: 02/06/78
DATE RCVD: 02/13/78

DOCTYPE: LETTER NOTARIZED: NO
SUBJECT:

COPIES RECEIVED
LTR 0 ENCL 1

LICENSEE EVENT REPT (RO 50-296/78-1) ON 01/01/78 CONCERNING TORUS
OXYGEN SENSOR O2M-76-42 WAS FOUND TO BE ERRATIC AND DID NOT MEET
REQUIREMENTS OF T. S. 4. 7. H.

PLANT NAME: BROWNS FERRY - UNIT 3

REVIEWER INITIAL: XJM
DISTRIBUTOR INITIAL:

***** DISTRIBUTION OF THIS MATERIAL IS AS FOLLOWS *****

INCIDENT REPORTS
(DISTRIBUTION CODE A002)

FOR ACTION: BRANCH CHIEF SWCHENCER**W/4 ENC

INTERNAL:

REG FILE**W/ENCL
I & E**W/2 ENCL
SCHROEDER/IPPOLITO**W/ENCL
NOVAK/CHECK**W/ENCL
KNIGHT**W/ENCL
HANAUER**W/ENCL
EISENHUT**W/ENCL
SHAO**W/ENCL
KREGER/J. COLLINS**W/ENCL
L. CROCKER**W/ENCL

NRC PDR**W/ENCL
MIPC**W/3 ENCL
HOUSTON**W/ENCL
GRIMES**W/ENCL
BUTLER**W/ENCL
TEDESCO**W/ENCL
BAER**W/ENCL
VOLLMER/BUNCH**W/ENCL
ROSA**W/ENCL
K SEYFRIT/IE**W/ENCL

EXTERNAL:

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ATHENS, AL**W/ENCL
TIC**W/ENCL
NSIC**W/ENCL
ACRS CAT B**W/16 ENCL

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REGULATORY GUIDE 10.1

DISTRIBUTION: LTR 46 ENCL 46
SIZE: 1P+1P

CONTROL NBR: 780460011

***** THE END *****

ack
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Second block of faint, illegible text, appearing as a separate paragraph or section.

Third block of faint, illegible text, continuing the document's content.

Fourth block of faint, illegible text, showing further detail or a list of items.

Fifth block of faint, illegible text, possibly a concluding paragraph or signature area.

Sixth block of faint, illegible text, appearing as a separate section or note.

Seventh block of faint, illegible text, continuing the document's content.

Eighth block of faint, illegible text, possibly a final paragraph or footer.

Ninth block of faint, illegible text, appearing as a separate section or note.

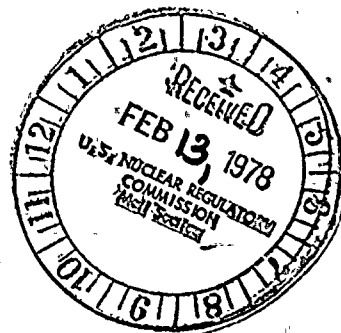
Tenth block of faint, illegible text, possibly a concluding paragraph or signature area.

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

FEB 6 1978

Mr. James P. O'Reilly, Director
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region II
230 Peachtree Street, NW., Suite 1217
Atlanta, Georgia 30303



Dear Mr. O'Reilly:

TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT UNIT 3 -
DOCKET NO. 50-296 - FACILITY OPERATING LICENSE DPR-68 - REPORTABLE
OCCURRENCE REPORT BFRO-50-296/781

The enclosed report provides details concerning the torus oxygen sensor O₂M-76-42 which was found to be erratic and did not meet the requirements of Technical Specification 4.7.H during normal operation. This report is submitted in accordance with Browns Ferry unit 3 Technical Specifications, Section 6.7.2.b.(2).

Very truly yours,

TENNESSEE VALLEY AUTHORITY

H. S. Fox
Director of Power Production

Enclosure

cc (Enclosure):

Director (3)
Office of Management Information and Program Control
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Director (40)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555



A002 / 5 *
0/1

REGULATORY COPY



Mr. James P. O'Reilly, Director
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Room 71
300 Radcliff Street, N.W., Suite 1214
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

ENCLOSURE TO BE OPENED BY THE READER - THIS IS A CONFIDENTIAL COPY - DO NOT DISCLOSE TO ANY OTHER PERSON

The enclosed report provides details concerning the tests of the reactor of the NRE-45 which are found to be critical and the test the requirements of Technical Specification 4.7.1 during normal operation. This report is submitted in accordance with the requirements of Technical Specification 4.7.2.3.(2).

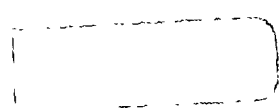
Very truly yours,

TO THE DIRECTOR, NUCLEAR REGULATORY COMMISSION

J. S. Fox
Director of Reactor Protection

Enclosure
cc (Enclosure):
Director (3)
Office of Reactor and Environmental Protection and Program Control
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Director (2)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555



1/10
A003 / 2 *

LICENSEE EVENT REPORT

EXHIBIT A

CONTROL BLOCK: (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

01 ALBRF3 00-000000-0003 411111 05

CON'T REPORT SOURCE L 05000296 70101788 020678

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)
02 During normal operation, torus oxygen sensor O2M-76-42 was found to be
03 erratic and did not meet the requirements of T.S. 4.7.H. A redundant torus
04 hydrogen sensor was operating properly. Previous occurrences were reported
05 on BFR0's 296/7618, 259/7624, 260/775, 296/777, 260/7710, 296/7716, and
06 296/7719. There was no effect on the public health or safety.

09 SE 11 E 12 G 13 INSTRU 14 E 15 Z 16
17 LER/RO REPORT NUMBER 78 23 001 27 03 29 L 31 0 32
ACTION TAKEN FUTURE ACTION EFFECT ON PLANT SHUTDOWN METHOD HOURS ATTACHMENT SUBMITTED NPRO-4 FORM SUB. PRIME COMP. SUPPLIER COMPONENT MANUFACTURER
18 C 19 Z 20 Z 21 0000 22 N 23 Y 24 N 25 G080 26

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)
10 Torus oxygen sensor - G.E. PN 23991-47C226431-P1 was replaced. All wiring
11 and connections were inspected and found satisfactory. Calibration of
12 replacement sensor restored system operability. New improved monitoring
13 equipment is being purchased to replace the present system.

15 E 28 078 29 NA 30 B 31 Inservice Inspection 32
16 4 33 Z 34 NA 35 NA 36
17 000 37 Z 38 NA 39
18 000 40 NA 41
19 Z 42 NA 43
20 N 44 NA 45

NAME OF PREPARER PHONE:



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LICENSEE EVENT REPORT

EXHIBIT A

CONTROL BLOCK: _____ (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

01 | A | L | B | R | F | 3 | 2 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | 0 | 0 | 4 | 1 | 1 | 1 | 1 | 4 | 5
7 8 9 14 15 25 26 30 37 58

CON'T
01 | L | 6 | 0 | 5 | 0 | 0 | 0 | 2 | 9 | 6 | 7 | 0 | 1 | 1 | 0 | 1 | 7 | 8 | 8 | 0 | 2 | 0 | 6 | 7 | 8 | 9
7 8 9 60 61 68 69 74 75 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 | During normal operation, torus oxygen sensor O₂M-76-42 was found to be
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07 |
08 |

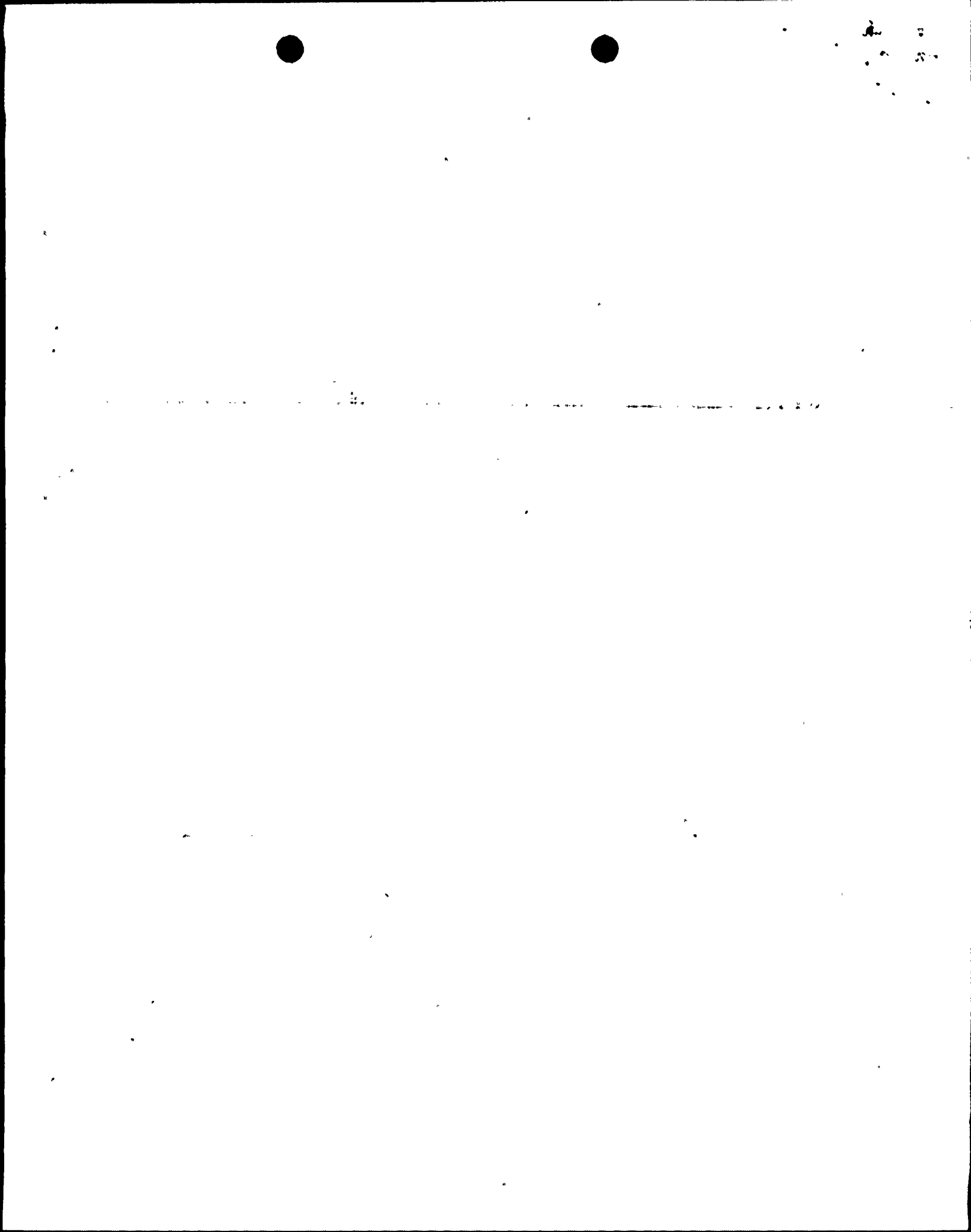
09 | S | E | 11 | E | 12 | G | 13 | I | N | S | T | R | U | 14 | E | 15 | Z | 16 |
7 8 9 10 11 12 13 18 19 20
17 | 7 | 8 | 21 | 22 | 0 | 0 | 1 | 24 | 26 | 0 | 3 | 28 | 29 | L | 30 | 0 | 32 |
21 22 23 24 26 27 28 29 30 31 32
18 | E | 33 | C | 34 | 19 | Z | 35 | 20 | Z | 36 | 21 | 0 | 0 | 0 | 37 | 40 | N | 41 | 23 | Y | 42 | 24 | N | 43 | 25 | G | 44 | 0 | 45 | 8 | 46 | 0 | 47 | 23 |

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12 | replacement sensor restored system operability. New improved monitoring
13 | equipment is being purchased to replace the present system.
14 |

15 | E | 28 | 0 | 7 | 8 | 29 | NA | 30 | B | 31 | Inservice Inspection | 32 |
7 8 9 10 12 13 44 45 46 80
16 | Z | 33 | Z | 34 | NA | 35 | NA | 36 |
7 8 9 10 11 44 45 80
17 | 0 | 0 | 0 | 37 | Z | 38 | NA | 39 |
7 8 9 11 12 13 80
18 | 0 | 0 | 0 | 40 | NA | 41 |
7 8 9 11 12 80
19 | Z | 42 | NA | 43 |
7 8 9 11 12 80
20 | N | 44 | NA | 45 | NRC USE ONLY
7 8 9 10 68 69 80

NAME OF PREPARER _____ PHONE: _____



LICENSEE EVENT REPORT

EXHIBIT A

CONTROL BLOCK: _____ (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

01 | A | L | B | R | F | 3 | 2 | 0 | 0 | - | 0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 3 | 4 | 1 | 1 | 1 | 1 | 4 | 5
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35
LICENSEE CODE LICENSE NUMBER LICENSE TYPE CAT 58

01 | L | 6 | 0 | 5 | 0 | 0 | 1 | 0 | 2 | 9 | 6 | 7 | 0 | 1 | 1 | 0 | 1 | 1 | 7 | 8 | 8 | 0 | 2 | 0 | 6 | 7 | 8 | 9
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35
REPORT SOURCE DOCKET NUMBER EVENT DATE REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

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06 | 296/7719. There was no effect on the public health or safety.
07 |
08 |

09 | S | E | 11 | E | 12 | G | 13 | I | N | S | T | R | U | 14 | E | 15 | Z | 16 |
7 8 9 10 11 12 13 14 15 16 17 18 19 20
SYSTEM CODE CAUSE CODE CAUSE SUBCODE COMPONENT CODE COMP. SUBCODE VALVE SUBCODE
17 | LER/RO REPORT NUMBER | 7 | 8 |
21 22 | EVENT YEAR | 7 | 8 |
23 24 | SEQUENTIAL REPORT NO. | 0 | 0 | 1 |
25 26 27 | OCCURRENCE CODE | 0 | 3 |
28 29 | REPORT TYPE | L |
30 31 | REVISION NO. | 0 |
32
18 | L | 19 | C | 20 | Z | 21 | Z | 22 | 0 | 0 | 0 | 23 | N | 24 | Y | 25 | N | 26 | G | 27 | O | 28 | 8 | 29 | 0 | 30 |
31 32 33 34 35 36 37 38 39 40 41 42 43 44 45
ACTION TAKEN FUTURE ACTION EFFECT ON PLANT SHUTDOWN METHOD HOURS ATTACHMENT SUBMITTED NPRO-4 FORM SUB. PRIME COMP. SUPPLIER COMPONENT MANUFACTURER

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 | Torus oxygen sensor - G.E. PN 23991-47C226431-PI was replaced. All wiring
11 | and connections were inspected and found satisfactory. Calibration of
12 | replacement sensor restored system operability. New improved monitoring
13 | equipment is being purchased to replace the present system.
14 |

15 | E | 28 | 0 | 7 | 8 | 29 | NA | 30 | B | 31 | Inservice Inspection | 32
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
FACILITY STATUS % POWER OTHER STATUS METHOD OF DISCOVERY DISCOVERY DESCRIPTION

16 | Z | 33 | Z | 34 | NA | 35 | NA | 36
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
ACTIVITY CONTENT RELEASED OF RELEASE AMOUNT OF ACTIVITY LOCATION OF RELEASE

17 | 0 | 0 | 0 | 37 | Z | 38 | NA | 39
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
PERSONNEL EXPOSURES NUMBER TYPE DESCRIPTION

18 | 0 | 0 | 0 | 40 | NA | 41
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
PERSONNEL INJURIES NUMBER DESCRIPTION

19 | Z | 42 | NA | 43
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
LOSS OF OR DAMAGE TO FACILITY TYPE DESCRIPTION

20 | N | 44 | NA | 45
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
PUBLICITY ISSUED DESCRIPTION NRC USE ONLY

NAME OF PREPARER _____ PHONE: _____

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LICENSEE EVENT REPORT

EXHIBIT A

CONTROL BLOCK: _____ (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

01	A	L	B	R	F	3	0	0	-	0	0	0	0	0	0	-	0	0	3	4	1	1	1	1	4	5	
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
LICENSEE CODE														LICENSE NUMBER						LICENSE TYPE JO						CAT 58	

01	L	0	5	0	0	0	2	9	6	7	0	1	0	1	1	7	8	8	0	2	0	6	7	8	9	
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
REPORT SOURCE		DOCKET NUMBER						EVENT DATE						REPORT DATE												

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06 296/7719. There was no effect on the public health or safety.

07

08

09	S	E	E	G	I	N	S	T	R	U	E	Z																															
7	8	9	10	11	12	13	14	15	16	17	18	19	20																														
SYSTEM CODE			CAUSE CODE		CAUSE SUBCODE		COMPONENT CODE				COMP. SUBCODE		VALVE SUBCODE																														
17	7	8	0	0	1	0	3	L	0																																		
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
LER/RO REPORT NUMBER		EVENT YEAR		SEQUENTIAL REPORT NO.		OCCURRENCE CODE		REPORT TYPE		REVISION NO.																																	
ACTION TAKEN		FUTURE ACTION		EFFECT ON PLANT		SHUTDOWN METHOD		HOURS		ATTACHMENT SUBMITTED		NPRO-4 FORM SUB.		PRIME COMP. SUPPLIER		COMPONENT MANUFACTURER																											
E		C		Z		Z		0000		N		Y		N		G080																											

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

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14

15	E	0	7	8	NA	B	Inservice Inspection																																				
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
FACILITY STATUS		% POWER			OTHER STATUS			METHOD OF DISCOVERY						DISCOVERY DESCRIPTION																													
ACTIVITY TAKEN		CONTENT OF RELEASE		AMOUNT OF ACTIVITY		LOCATION OF RELEASE																																					
Z		Z		NA		NA																																					
PERSONNEL EXPOSURES NUMBER		TYPE		DESCRIPTION																																							
000		Z		NA																																							
PERSONNEL INJURIES NUMBER		TYPE		DESCRIPTION																																							
000		Z		NA																																							
LOSS OF OR DAMAGE TO FACILITY TYPE		DESCRIPTION																																									
Z		NA																																									
PUBLICITY ISSUED DESCRIPTION		NA																																									
N		NA																																									

NAME OF PREPARER _____ PHONE: _____

RECEIVED DOCUMENT
CONTROL DESK

1978 FEB 13 PM 12 00

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BRANCH