

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 02M-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:

LPDR'S

ATHENS, AL**W/ENCL

TIC**W/ENCL

NSIC**W/ENCL

ACRS CAT B**W/16 ENCL

COPIES NOT SUBMITTED PER
REGULATORY GUIDE 10.1

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

CONTROL NBR: 780460011

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

ack
hr

Journal of Management Studies, 20(6), 791-806.

[illegible][illegible]

1. 1990年12月25日，在《人民日报》发表署名文章《中国要实行“大开放”》，指出：“中国要实行‘大开放’，必须首先实行‘大开放’，必须首先实行‘大开放’，必须首先实行‘大开放’。”

[illegible]

1. The first group of variables includes the demographic characteristics of the respondents, such as age, gender, and education level. These variables are used to control for potential confounding factors that may influence the relationship between the independent and dependent variables.

^a The number of subjects who were included in each group was as follows: 10 in the control group; 10 in the low-dose group; 10 in the medium-dose group; 10 in the high-dose group.

[illegible][illegible][illegible][illegible]

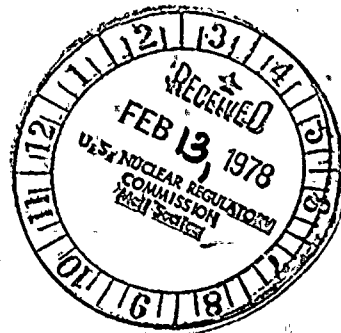
• $\int_0^1 \frac{1}{x} dx = \infty$ (divergent integral) \Rightarrow $\int_0^1 \frac{1}{x} dx = \lim_{\epsilon \rightarrow 0^+} \int_{\epsilon}^1 \frac{1}{x} dx = \lim_{\epsilon \rightarrow 0^+} \left[\ln x \right]_{\epsilon}^1 = \lim_{\epsilon \rightarrow 0^+} (0 - \ln \epsilon) = \lim_{\epsilon \rightarrow 0^+} (-\ln \epsilon) = \infty$

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 BPRO-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 DEPARTMENT



Mr. James E. O'Reilly, Director
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Room 3117
333 Broadway Street, N.W., Suite 1317
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

URGENT MATTER - SECURITY - FROM THE NUCLEAR DIVISION -
RE: 30-206 - SECURITY - INFORMATION - SECURITY - INFORMATION
RE: 30-206 - SECURITY - INFORMATION - SECURITY - INFORMATION

The enclosed report provides details concerning the items shown
on the 30-206 which are found to be critical and the fact that the
Department of Technical Specification 4.7.1 during normal operation.
This report is submitted in accordance with the provisions of
Technical Specification Section 4.7.2.2.(2).

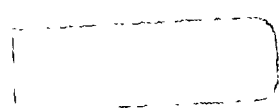
Very truly yours,

TO THE NUCLEAR DIVISION

J. E. Fox
Director of Public Protection

Enclosure
cc (Enclosure):
Director (3)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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



2 / 2000
1/10

EXHIBIT A

NAME OF PREPARER

PHONE:

LICENSEE EVENT REPORT

EXHIBIT A

CONTROL BLOCK:

Q	L	B	R	F	3	(2)	O	O	-	O	O	O	O	-	O	O	(3)	4	I	I	I	I	(4)		(5)				
LICENSEE CODE										LICENSE NUMBER										LICENSE TYPE					CAT 58				

CON'T

REPORT SOURCE	L	(6)	O	5	O	O	O	2	9	K	(7)	O	I	O	I	7	8	(8)	O	2	O	6	7	8	(9)
DOCKET NUMBER										EVENT DATE					REPORT DATE										

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

[0] [2] During normal operation, torus oxygen sensor O₂M-76-42 was found to be
[0] [3] erratic and did not meet the requirements of T.S. 4.7.H. A redundant torus
[0] [4] hydrogen sensor was operating properly. Previous occurrences were reported
[0] [5] on BFRO's 296/7618, 259/7624, 260/775, 296/777, 260/7710, 296/7716, and
[0] [6] 296/7719. There was no effect on the public health or safety.
[0] [7]
[0] [8]

SYSTEM CODE	S	E	(11)	CAUSE CODE	E	(12)	CAUSE SUBCODE	G	(13)	COMPONENT CODE	I	N	S	T	R	U	(14)	COMP. SUBCODE	E	(15)	VALVE SUBCODE	Z	(16)								
LER/O REPORT NUMBER		(17) EVENT YEAR				SEQUENTIAL REPORT NO.				OCCURRENCE CODE		REPORT TYPE		REVISION NO.																	
ACTION TAKEN	E	(18)	C	(19)	EFFECT ON PLANT	Z	(20)	SHUTDOWN METHOD	Z	(21)	HOURS	0	0	0	0	(22)	ATTACHMENT SUBMITTED	N	(23)	NPRD-4 FORM SUB.	Y	(24)	PRIME COMP. SUPPLIER	N	(25)	COMPONENT MANUFACTURER	G	O	8	O	(26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

[1] [0] Torus oxygen sensor - G.E., PN 23991-47C226431-P1 was replaced. All wiring
[1] [1] and connections were inspected and found satisfactory. Calibration of
[1] [2] replacement sensor restored system operability. New improved monitoring
[1] [3] equipment is being purchased to replace the present system.
[1] [4]

FACILITY STATUS	E	(28)	% POWER RELEASED OF RELEASE	0	7	8	(29)	OTHER STATUS	NA	(30)	METHOD OF DISCOVERY	B	(31)	DISCOVERY DESCRIPTION	Inservice Inspection	(32)
ACTIVITY CONTENT	Z	(33)	AMOUNT OF ACTIVITY	NA	(35)	LOCATION OF RELEASE	NA	(36)								

PERSONNEL EXPOSURES NUMBER	0	0	0	(37)	TYPE	Z	(38)	DESCRIPTION	NA	(39)	
PERSONNEL INJURIES NUMBER	0	0	0	(40)	DESCRIPTION	NA					(41)
LOSS OF OR DAMAGE TO FACILITY TYPE	Z	(42)	DESCRIPTION	NA							(43)
PUBLICITY ISSUED	N	(44)	DESCRIPTION	NA							(45)

NRC USE ONLY

NAME OF PREPARER

PHONE:

LICENSEE EVENT REPORT

EXHIBIT A

[illegible]

NAME OF PREPARER

PHONE:

Handwritten notes in the top right corner, including the number "10" and some illegible scribbles.

A single line of extremely faint, illegible text spanning the width of the page.

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 | 3 | 4 | 1 | 1 | 1 | 1 | 4 | 5

LICENSEE CODE 14 LICENSE NUMBER 25 LICENSE TYPE 30 CAT 58

01 | L | 0 | 5 | 0 | 0 | 0 | 2 | 9 | 6 | 7 | 0 | 1 | 0 | 1 | 7 | 8 | 0 | 2 | 0 | 6 | 7 | 8 | 9

REPORT SOURCE 60 DOCKET NUMBER 68 EVENT DATE 74 REPORT DATE 80

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.

07 |

08 |

09 | S | E | 11 | E | 12 | G | 13 | I | N | S | T | R | U | 14 | E | 15 | Z | 16

SYSTEM CODE 9 CAUSE CODE 11 CAUSE SUBCODE 12 COMPONENT CODE 13 COMP. SUBCODE 15 VALVE SUBCODE 16

17 | 7 | 8 | 0 | 0 | 1 | 0 | 3 | L | 0

LER/RO REPORT NUMBER 21 EVENT YEAR 22 SEQUENTIAL REPORT NO. 24 OCCURRENCE CODE 28 REPORT TYPE 30 REVISION NO. 32

ACTION TAKEN 33 FUTURE ACTION 34 EFFECT ON PLANT 35 SHUTDOWN METHOD 36 HOURS 37 ATTACHMENT SUBMITTED 40 NPRO-4 FORM SUB. 42 PRIME COMP. SUPPLIER 43 COMPONENT MANUFACTURER 47

18 | E | 19 | C | 20 | Z | 21 | Z | 22 | 0 | 0 | 0 | 0 | N | 23 | Y | 24 | N | 25 | G | 0 | 8 | 0 | 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.

14 |

15 | E | 28 | 0 | 7 | 8 | NA | B | 31 | Inservice Inspection

FACILITY STATUS 28 % POWER 29 OTHER STATUS 30 METHOD OF DISCOVERY 31 DISCOVERY DESCRIPTION 32

16 | Z | 33 | Z | 34 | NA | NA | NA

ACTIVITY CONTENT RELEASED OF RELEASE 33 AMOUNT OF ACTIVITY 35 LOCATION OF RELEASE 36

17 | 0 | 0 | 0 | 37 | Z | 38 | NA

PERSONNEL EXPOSURES NUMBER 37 TYPE 38 DESCRIPTION 39

18 | 0 | 0 | 0 | 40 | NA

PERSONNEL INJURIES NUMBER 40 DESCRIPTION 41

19 | Z | 42 | NA

LOSS OF OR DAMAGE TO FACILITY TYPE 42 DESCRIPTION 43

20 | N | 44 | NA

PUBLICITY ISSUED DESCRIPTION 44

NAME OF PREPARER

PHONE:

NRC USE ONLY

RECEIVED DOCUMENT
CONTROL DESK

1978 FEB 13 PM 12 00

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BRANCH