

Q 05/05/78

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)
DISTRIBUTION FOR INCOMING MATERIAL 50-316

REC: KEPPLER J G ORG: SHALLER D V DOCDATE: 04/26/78
NRC IN & MI PWR DATE RCVD: 05/02/78

DOCTYPE: LETTER NOTARIZED: NO COPIES RECEIVED
SUBJECT: LTR 1 ENCL 1
FORWARDING LICENSEE EVENT REPT (RO 50-316/78-011) ON 03/18/78 CONCERNING WHEN
FEEDWATER FLOW TO NO. 1 STEAM GENERATOR WAS STOPPED, CHECK VALVE 2-FW138-1
STUCK OPEN ALLOWING WATER FROM STEAM GENERATOR TO RETURN TO THE AUXILIARY
FEEDWATER SYSTEM... W/ATT L

PLANT NAME: COOK - UNIT 2 REVIEWER INITIAL: XJM
DISTRIBUTOR INITIAL: *OL*

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

NOTES:
1. SEND 3 COPIES OF ALL MATERIAL TO I&E

INCIDENT REPORTS
(DISTRIBUTION CODE A002)

FOR ACTION: BR CHIEF KNIEL**W/4 ENCL

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
 K SEYFRIT/IE**W/ENCL

NRC PDR**W/ENCL
MIPC**W/3 ENCL
HOUSTON**W/ENCL
EEB**W/ENCL
BUTLER**W/ENCL
TEDESCO**W/ENCL
BAER**W/ENCL
VOLLMER/BUNCH**W/ENCL
ROSA**W/ENCL

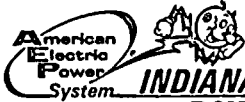
EXTERNAL: LPDR'S
 ST. JOSEPH, MI**W/ENCL
 TIC**W/ENCL
 NSIC**W/ENCL
 ACRS CAT B**W/16 ENCL

COPIES NOT SUBMITTED PER
REGULATORY GUIDE 10.1

DISTRIBUTION: LTR 45 ENCL 45
SIZE: 1P+1P+4P

CONTROL NBR: 781240059
A0460

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



INDIANA & MICHIGAN POWER COMPANY

DONALD C. COOK NUCLEAR PLANT
P.O. Box 458, Bridgman, Michigan 49106

IS HRC
DISTRIBUTION SERVICES
BRANCH

1978 MAY 11 PM 2 29

RECEIVED DISTRIBUTION
SERVICES UNIT

April 26, 1978

Mr. J.G. Keppler, Regional Director
Office of Inspection and Enforcement
United States Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL

Operating License DPR-74
Docket No. 50-316

Dear Mr. Keppler:

Pursuant to the requirements of the Appendix A Technical Specifications
the following reports are submitted:

RO 78-011/03L-1
RO 78-013/03L-1
RO 78-016/03L-0
RO 78-017/03L-0.

Sincerely,

D.V. Shaller
Plant Manager

/bab

cc: J.E. Dolan
R.W. Jurgensen
R.F. Kroeger
R. Kilburn
R.J. Vollen BPI
K.R. Baker RO:III
R.C. Callen MPSC
P.W. Steketee, Esq.
R. Walsh, Esq.
G. Charnoff, Esq.
J.M. Hennigan
G. Olson
J.F. Stietzel
PNSRC
Dir., IE (30 copies)
Dir., MIPC (3 copies)

MAY 1 1978

1002
11

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CONTROL BLOCK: 1 2 3 4 5 6 ①

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

① ② ③ ④ ⑤
7 8 9 M I D C C 2 ② 0 0 - 0 0 0 0 0 - 0 0 ③ 4 1 1 1 1 ④ ⑤
8 9 LICENSEE CODE 14 15 LICENSE NUMBER 25 26 LICENSE TYPE 30 57 CAT 58

CON'T

① ② ③ ④ ⑤
7 8 9 REPORT SOURCE L ⑥ 0 5 0 0 0 3 1 6 ⑦ 0 3 1 8 7 8 ⑧ 0 4 2 6 7 8 ⑨
60 61 DOCKET NUMBER 68 69 EVENT DATE 74 75 REPORT DATE 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES ⑩

① ② Unit 2 was in Mode 3. The Turbine Driven Aux. Feedwater Pump was being used to
③ maintain steam generator water level. When feedwater flow to number 1 steam
④ generator was stopped, check valve 2-FW138-1 stuck open allowing water from steam
⑤ generator to return to the Auxiliary Feedwater System. Tech. Spec. 3.7.1.2.
⑥
⑦
⑧① ② ③ ④ ⑤
7 8 9 SYSTEM CODE S H ⑪ CAUSE CODE X ⑫ CAUSE SUBCODE Z ⑬ COMPONENT CODE V A L V E X ⑭ COMP. SUBCODE C ⑮ VALVE SUBCODE A ⑯
17 LER/RO REPORT NUMBER ⑰ EVENT YEAR 7 8 ⑱ SEQUENTIAL REPORT NO. 0 1 1 ⑲ OCCURRENCE CODE 0 3 ⑳ REPORT TYPE L ㉑ REVISION NO. 1 ㉒
ACTION TAKEN X ⑲ FUTURE ACTION Z ㉓ EFFECT ON PLANT Z ㉔ SHUTDOWN METHOD Z ㉕ HOURS 0 0 0 0 ㉖ ATTACHMENT SUBMITTED N ㉗ NPRD-4 FORM SUB. N ㉘ PRIME COMP. SUPPLIER A ㉙ COMPONENT MANUFACTURER A 5 8 5 ㉚

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS ㉛

① ② ③ ④ ⑤
7 8 9 ① ② The cause of the check valve sticking was not determined. Reverse flow in the aux.
③ feedwater system was stopped by shutting 2-FM0-211. Valve 2-FM0-211 was then
④ cycled several times and reverse flow through the check valve did not recur.
⑤
⑥① ② ③ ④ ⑤
7 8 9 FACILITY STATUS B ㉛ % POWER 0 0 0 ㉜ OTHER STATUS N/A ㉝ METHOD OF DISCOVERY A ㉞ DISCOVERY DESCRIPTION Operator Observation ㉟
① ② ③ ④ ⑤
7 8 9 ACTIVITY RELEASED Z ㊱ CONTENT OF RELEASE Z ㊲ AMOUNT OF ACTIVITY N/A ㊳ LOCATION OF RELEASE N/A ㊴
① ② ③ ④ ⑤
7 8 9 PERSONNEL EXPOSURES NUMBER 0 0 0 ㊵ TYPE Z ㊶ DESCRIPTION N/A ㊷
① ② ③ ④ ⑤
7 8 9 PERSONNEL INJURIES NUMBER 0 0 0 ㊸ DESCRIPTION N/A ㊹
① ② ③ ④ ⑤
7 8 9 LOSS OF OR DAMAGE TO FACILITY TYPE Z ㊺ DESCRIPTION N/A ㊻
① ② ③ ④ ⑤
7 8 9 PUBLICITY ISSUED N ㊼ DESCRIPTION N/A ㊽

NAME OF PREPARER R.S. Keith

NRC USE ONLY
68 69 80
PHONE: (616) 465-5901

CONTROL BLOCK:

1	2	3	4	5	6	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	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
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(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0	1	M	I	D	C	C	2	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 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

CON'T

0	1	L	0	5	0	0	0	3	1	6	7	0	3	1	9	7	8	0	4	2	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 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 | During surveillance testing, the air starting check valve for 2CD diesel generator,

0 3 | cylinder #5, rear bank, broke in two. This caused the gaskets on the air start line

0 4 | to be blown out. 2CD diesel was tagged out for repairs, removing it from an operable

0 5 | status as required by Technical Specification 3.8.1.1. Although the diesel was shut

0 6 | down, no significant safety hazard existed since the gaskets were in the air start

0 7 | system and normal diesel operation was not adversely affected. In addition, the ac-

0 8 | companying diesel generator AB was available as a redundant power source during the

2CD outage. 80

0	9	E	E	11	E	12	B	13	E	N	G	I	N	E	14	Z	15	Z	16	7	8	0	1	3	0	3	L	1
---	---	---	---	----	---	----	---	----	---	---	---	---	---	---	----	---	----	---	----	---	---	---	---	---	---	---	---	---

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 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 | The cause of the event was a fractured air starting check valve, Worthington Part No.

1 1 | 560060D-1. The valve was fractured in two places along its stem. The broken valve

1 2 | was replaced as were the damaged gaskets on the air start line. Operational test of

1 3 | the repaired air start system and 2CD diesel generator was successful. (Continued on

1 4 | Attachment 1).

1	5	B	28	0	0	0	29	N/A	B	31	Operator Observation
---	---	---	----	---	---	---	----	-----	---	----	----------------------

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 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

NAME OF PREPARER M.S. Brown

PHONE: (616) 465-5901

Attachment 1

(27) Cause Description and Corrective Actions continued:

No air start gaskets on other diesel generators showed any similar damage and no further actions are planned.

CONTROL BLOCK:

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0	1	M	I	D	C	C	2	2	0	0	0	0	0	0	0	0	0	0	0	0	3	4	1	1	1	1	4			5
7	8	14						15	25												26	30				57	58			
		LICENSEE CODE							LICENSE NUMBER													LICENSE TYPE					CAT			

0	1	REPORT SOURCE										DOCKET NUMBER										EVENT DATE										REPORT DATE									
7	8	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80																			

0 2 | THE REACTOR WAS AT 2% POWER. THE 0730 SAMPLE OF THE SOUTH BORIC ACID STOR-

0 3 | AGE TANK REVEALED BORIC ACID CONCENTRATION OF 22,870 PPM. TECH. SPEC. 3.1

0 4 | .2.8 MAXIMUM LIMIT IS 22,500 PPM. THE MAXIMUM CONCENTRATION IS BASED ON

0 5 | PREVENTING PRECIPITATION FROM SOLUTION AT A MINIMUM SOLUTION TEMPERATURE

0 6 | OF 145°F. MINIMUM SOLUTION TEMPERATURE UNTIL THE CONCENTRATION WAS RED-

0 7 | UCED TO WITHIN ALLOWABLE SPECIFICATION WAS 170°F.

08 | _____ 8

SYSTEM CODE		CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE				COMP. SUBCODE	VALVE SUBCODE
Z	Z	A	B	Z	Z	Z	Z	Z	V
9	10	11	12	13	14	15	16	17	18
LER/RO REPORT NUMBER		EVENT YEAR		SEQUENTIAL REPORT NO.			OCCURRENCE CODE	REPORT TYPE	REVISION NO.
7	8	7	8	0	1	6	0	3	0
21	22	23	24	25	26	27	28	29	30
ACTION TAKEN	FUTURE ACTION	EFFECT ON PLANT	SHUTDOWN METHOD	HOURS		ATTACHMENT SUBMITTED	NPRD-4 FORM SUB.	PRIME COMP. SUPPLIER	COMPONENT MANUFACTURER
X	H	Z	Z	0	0	0	N	N	Z
18	19	20	21	22	23	24	25	26	27
33	34	35	36	37	38	39	40	41	42
43	44	45	46	47	48	49	50	51	52

1 0 | THE CAUSE OF THIS EVENT WAS ADDING A QUANTITY OF 24, 140 PPM BORON TO THE

1 1 | TANK WITHOUT CHECKING THE FINAL MIXED CONCENTRATION. ALL PERSONNEL IN-

1 2 | VOLVED WITH ADDING MAKEUP TO THE BORIC ACID SYSTEM HAVE BEEN INFORMED

1 3 | OF THE REQUIRED CHECKS TO KEEP THE SYSTEM WITHIN ESTABLISHED LIMITS.

1 4 | _____ 80

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

1 5 E 0 0 2 NA B ROUTINE ANALYSIS

ACTIVITY CONTENT
RELEASED OF RELEASE AMOUNT OF ACTIVITY (35)

1 6 Z (33) Z (34) NA

7 8 9 10 11 44

LOCATION OF RELEASE (36)

NA 45 80

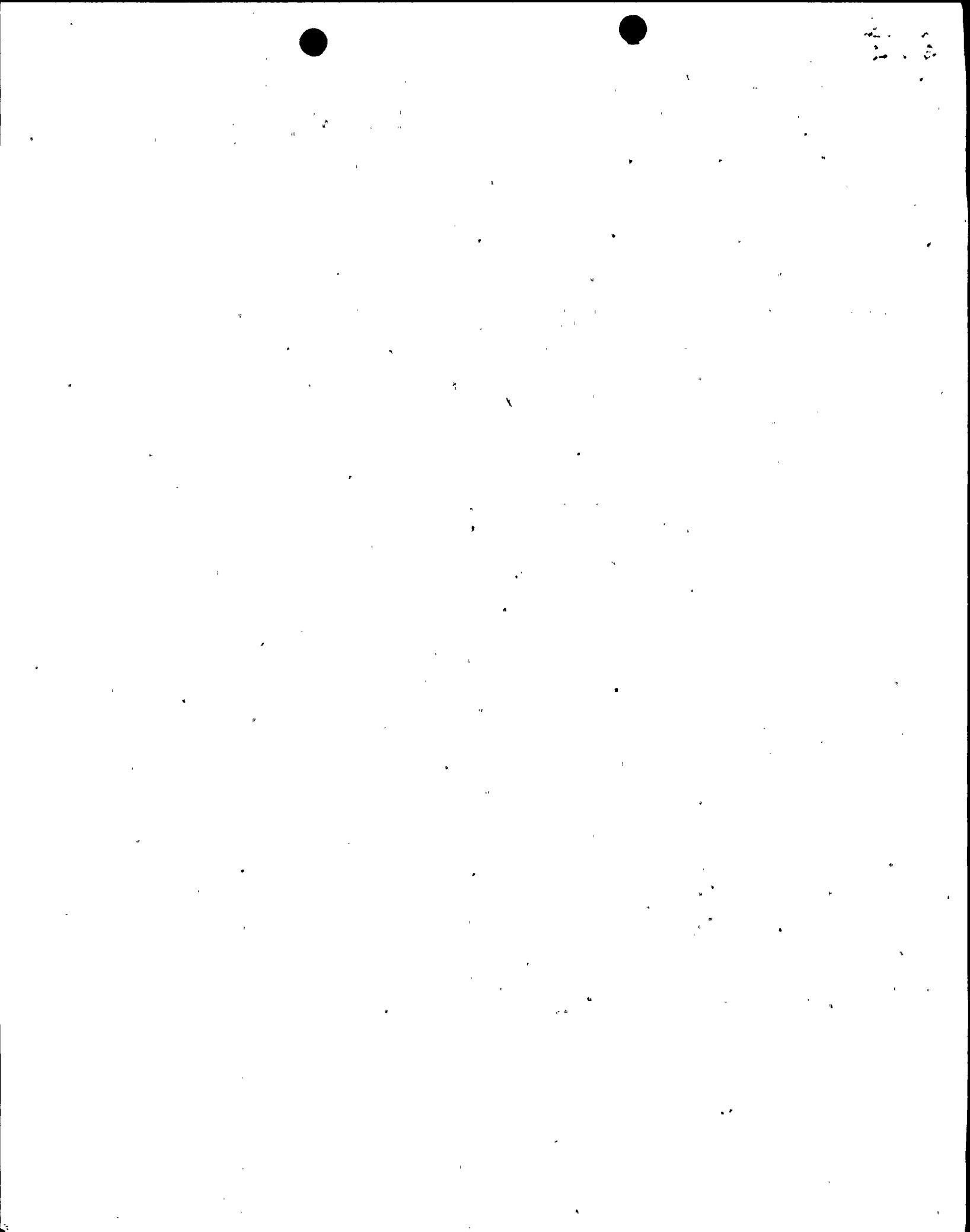
PERSONNEL EXPOSURES									
NUMBER				TYPE	DESCRIPTION				
1	7	0	0	0	37	Z	38	NA	39

PERSONNEL INJURIES							
NUMBER				DESCRIPTION			
1	8	0	0	0	(40)	NA	(41)

1		9		7		8		9		10		80	
LOSS OF OR DAMAGE TO FACILITY (43)													
TYPE				DESCRIPTION									
Z (42)				NA									

PUBLICITY		(45)		NRC USE ONLY											
ISSUED	<div><div>2</div><div>0</div></div>	<div><div>N</div><div>(44)</div></div>	DESCRIPTION												
			NA												

PHONE: (616) 465-5901



LICENSEE EVENT REPORT

CONTROL BLOCK:

1 2 3 4 5 6 ①

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0	1	M	I	D	C	C	2	2	0	0	0	0	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	35	36	37	38

LICENSEE CODE LICENSE NUMBER LICENSE TYPE CAT 58

CON'T

0	1	L	6	0	5	0	0	0	3	1	6	7	0	4	0	1	7	8	8	0	4	2	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	36	37	38

REPORT SOURCE DOCKET NUMBER EVENT DATE REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES ⑩

① ② DURING A NORMAL REACTOR STARTUP THE REACTOR COOLANT LOOP - 1 OVERTEMPERATURE

① ③ AT FAILED. THE APPLICABLE ACTION REQUIREMENTS OF T. S. TABLE 3.3 -1 WERE FULFILLED.

① ④

① ⑤

① ⑥

① ⑦

① ⑧

0	9	I	A	11	E	12	G	13	I	N	S	T	R	U	14	Y	15	Z	16
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

SYSTEM CODE CAUSE CODE CAUSE SUBCODE COMPONENT CODE COMP. SUBCODE VALVE SUBCODE

17	7	8	0	1	7	0	3	L	0	18	0	1	8	0
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35

LER/RO REPORT NUMBER EVENT YEAR SEQUENTIAL REPORT NO. OCCURRENCE CODE REPORT TYPE REVISION NO.

B	18	Z	19	Z	20	Z	21	0	0	0	0	N	23	Y	24	N	25	F	1	8	0	26
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55

ACTION TAKEN FUTURE ACTION EFFECT ON PLANT SHUTDOWN METHOD HOURS ATTACHMENT SUBMITTED NPRD-4 FORM SUB. PRIME COMP. SUPPLIER COMPONENT MANUFACTURER

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS ②⑦

① ⑩ INVESTIGATION REVEALED THAT MODULE 2TY-411.C, MANUFACTURED BY FOXBORO MODEL NO.66RC-

① ⑪ OLA-SPECIAL, REQUIRED REPAIRS. THE MODULE WAS REPAIRED, RECALIBRATED AND INSTALLED

① ⑫ RETURNING THE AFFECTED LOOP TO SERVICE.

① ⑬

① ⑭

1	5	C	28	0	0	0	29	NA	30	A	31	AUDIBLE AND VISUAL ALARM	32
7	8	9	10	11	12	13	14	15	16	17	18	19	20

FACILITY STATUS % POWER OTHER STATUS METHOD OF DISCOVERY DISCOVERY DESCRIPTION

1	6	Z	33	Z	34	NA	35	NA	36
7	8	9	10	11	12	13	14	15	16

ACTIVITY CONTENT AMOUNT OF ACTIVITY LOCATION OF RELEASE

1	7	0	0	0	37	Z	38	NA	39
7	8	9	10	11	12	13	14	15	16

PERSONNEL EXPOSURES TYPE DESCRIPTION

1	8	0	0	0	40	NA	41
7	8	9	10	11	12	13	14

PERSONNEL INJURIES DESCRIPTION

1	9	Z	42	NA	43
7	8	9	10	11	12

LOSS OF OR DAMAGE TO FACILITY TYPE DESCRIPTION

2	0	Z	44	NA	45
7	8	9	10	11	12

PUBLICITY DESCRIPTION

NAME OF PREPARER Jack Rischling

PHONE: 616-465-5901

1.1.13

1.1.13