

A 04/17/78

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)
DISTRIBUTION FOR INCOMING MATERIAL

50-315

REC: KEPPLER J G
NRC

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IN & MI PWR

DOCDATE: 04/07/78
DATE RCVD: 04/14/78

DOCTYPE: LETTER NOTARIZED: NO

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SUBJECT:

LTR 1 ENCL 1

FORWARDING LICENSEE EVENT REPT (RO 50-315/78-001/031-1) ON 12/17/77
CONCERNING UNIT 2 C-D EMERGENCY DIESEL GENERATOR TRIPPED ON OVERSPEED DURING
DIESEL STARTS... W/ATT LER 78-009/03L-1 AND 78-023/03L-0.

PLANT NAME: COOK - UNIT 1

REVIEWER INITIAL: XJM

DISTRIBUTOR INITIAL: *u*

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

INCIDENT REPORTS
(DISTRIBUTION CODE A002)

FOR ACTION: BR CHIEF SCHWENCER**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: 781030109

***** THE END ***** *GN*

D. Lanham

FILE COPY



INDIANA & MICHIGAN POWER COMPANY

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

April 7, 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 60137

Operating License DPR-58
Docket No. 50-315

Dear Mr. Keppler:

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

RO 78-001/03L-1
RO 78-009/03L-1
RO 78-023/03L-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.
G. Olson
J.M. Hennigan
PNSRC
J.F. Stietzel
Dir., IE (30 copies)
Dir., MIPC (3 copies)

APR 10 1978

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

CON'T

0	1
7	8

REPORT SOURCE

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

017-028

SUPPLEMENT TO EVENT

Other previous events include RO-050-0315/76-36;76-55 and 77-42. This RO is a supplement/revision to RO-050-0315/78-01 and RO-050-0315/78-09.

CAUSE

Investigation revealed that the cause of the Unit 2 CD engine overspeed trips to be a spurious activation of the overspeed trip device, (Dynalco-Model RT-2339 Relay Tachometer), caused by switching noise on the 250 V DC power supply system.

A Design Change (RC-DC-02-1520) was implemented adding capacitors from the power input terminals of RT-2339 to ground, which seemed to attenuate the magnitude of the "glitch" causing the overspeed trips.

After this Design Change was installed and other repair work completed, testing resumed on January 18 and another CD Diesel overspeed trip occurred. Another type of filter scheme was tried without much success. Further investigation revealed that the 250 V DC relay actually causing the trips was the "Upper Valve Gear Lube Oil Failure Alarm Time Delay" (62-VGLQF).

Another design change (RFC-DC-12-1527) was written to replace the 24 V DC supply with an AC input. The AC power source is preferred because of better noise immunity. After this installation was completed on January 26, testing resumed.

The magnitude of the glitch on the diesel tachometer was now approximately 20 RPM, this was a 50-100 RPM reduction from the glitches previously observed. Testing resumed to pin point the ultimate source of the problem. The noise being generated by the 250 V DC relay coils possessed frequency components that were being capacitively coupled to and processed by the signal level electronics of the RT 2339 module.

A modification to the RT 2339 module was added to Design Change 12-1527. This consisted of replacing and re-routing the 100 V DC leads and the magnetic pickup leads inside the module with shielded twisted pair instrument cable. The shielded leads replaced 24 gauge unshielded, untwisted stranded wire.

After this installation was completed, testing resumed. Testing consisted of 12 diesel starts, 5 starts specifically for the Design Change test procedure.

Absolutely no meter deflections were observed and no diesel trips occurred, thus, the noise coming into the module on the 100 V DC relay leads was eliminated.

By February 7, 1978 the shielding and power supply modifications were performed and tested successfully on the Emergency Diesels for both Units. It should be noted that there had never been an overspeed incident resulting from a Blackout start signal or any other signal simulated as part of Preoperational Testing.

UPDATE REPORT-PREVIOUS REPORT DATE-01-21-78
LICENSEE EVENT REPORT

U.S. NUCLEAR REGULATORY COMMISSION

CONTROL BLOCK:

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0 1 M I D C C 1 2 0 0 0 0 0 0 0 0 0 0 3 4 1 1 1 1 4 5
7 8 9 14 15 25 26 30 57 CAT 58

CON'T
0 1 REPORT SOURCE L 6 0 5 0 0 0 3 1 5 7 0 1 1 8 7 8 8 0 4 0 7 7 8 9
7 8 60 61 68 69 74 75 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 DURING UNIT 2 PREOPERATIONAL TESTING AND UNIT 1 OPERATION. ON THE DATES OF DEC.17,1978
0 3 JAN.2,7,18 AND 21,1978, THE UNIT 2 C-D EMERGENCY DIESEL GENERATOR(POWER SUPPLY FOR THE
0 4 MOTOR DRIVEN AUXILIARY FEED PUMP FOR UNIT 1,T.S. 3.7.1.2a) TRIPPED ON OVERSPEED DURING
0 5 DIESEL STARTS. IN ALL INSTANCES EXCEPT JAN.21, THE DIESEL WAS RESTARTED AND OPERABLE.
0 6 ON JAN.21, THE DIESEL WAS DECLARED INOPERABLE AT 1510 HOURS AND DETERMINED TO BE
0 7 OPERABLE AT 1907 HOURS ON JAN.22 THEREBY, MEETING THE 72 HOUR LIMIT IN T.S.3.7.1.2.

0 8
7 8 9 80

0 9 SYSTEM CODE CAUSE CODE CAUSE SUBCODE COMPONENT CODE COMP. SUBCODE VALVE SUBCODE
E E 11 B 12 A 13 E N G I N E 14 Z 15 Z 16
7 8 9 10 11 12 13 18 19 20
17 LER/RO REPORT NUMBER EVENT YEAR SEQUENTIAL REPORT NO. OCCURRENCE CODE REPORT TYPE REVISION NO.
7 8 21 22 23 24 26 27 28 29 30 31 32
F 18 Z 19 Z 20 0 0 0 0 22 ATTACHMENT SUBMITTED NPRD-4 FORM SUB. PRIME COMP. SUPPLIER COMPONENT MANUFACTURER
33 34 35 36 37 40 41 23 42 24 43 25 44 47 26

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0
1 1
1 2
1 3
1 4
7 8 9 80

1 5 FACILITY STATUS % POWER OTHER STATUS 30 METHOD OF DISCOVERY DISCOVERY DESCRIPTION 32
F 28 1 0 0 29 NA B 31 TESTING
7 8 9 10 12 13 44 45 46 80

1 6 ACTIVITY CONTENT RELEASED OF RELEASE AMOUNT OF ACTIVITY 35 LOCATION OF RELEASE 36
Z 33 Z 34 NA
7 8 9 10 11 44 45 80

1 7 PERSONNEL EXPOSURES NUMBER TYPE DESCRIPTION 39
0 0 0 37 Z 38 NA
7 8 9 11 12 13 80

1 8 PERSONNEL INJURIES NUMBER DESCRIPTION 41
0 0 0 40 NA
7 8 9 11 12 80

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

2 0 PUBLICITY ISSUED DESCRIPTION 45
Z 44 NA
7 8 9 10 80

NRC USE ONLY

NAME OF PREPARER

Jack Rischling

PHONE: 616- 465-5901

SUPPLEMENT TO EVENT

Other previous events include R0-050-0315/76-36, 76-55 and 77-42. This R0 is a supplement/revision to R0-050-0315/78-01 and R0-050-0315/78-09.

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LICENSEE EVENT REPORT**CONTROL BLOCK:**

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

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

CON'T

0 1
7 8

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

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 DURING PERFORMANCE OF THP STP .204, CONTAINMENT AIR LOCK LEAKAGE TEST ON THE 650 FOOT
0 3 ELEVATION INNER DOOR, THE DOOR SEAL LEAKAGE RATE EXCEEDED THE LIMIT IDENTIFIED IN
0 4 TECHNICAL SPECIFICATION PARAGRAPH 3.6.1.3. THE TEST WAS STOPPED AND THE SEAL WAS
0 5 INSPECTED AND CLEANED. A RETEST WAS SATISFACTORILY PERFORMED IMMEDIATELY FOLLOWING
0 6 THE ABOVE INSPECTION.
0 7
0 8

SYSTEM CODE S D 11		CAUSE CODE X 12		CAUSE SUBCODE Z 13		COMPONENT CODE P E N E T R 14		COMP. SUBCODE A 15		VALVE SUBCODE Z 16	
LER/RO REPORT NUMBER 7 8 17		EVENT YEAR 7 8 21 22		SEQUENTIAL REPORT NO. 0 2 3 24 26		OCCURRENCE CODE 0 3 28 29		REPORT TYPE L 30		REVISION NO. 0 32	
ACTION TAKEN X 18		FUTURE ACTION X 19		EFFECT ON PLANT Z 20		SHUTDOWN METHOD Z 21		HOURS 0 0 0 0 22 37 40		ATTACHMENT SUBMITTED N 23	
NPRD-4 FORM SUB. Y 24		PRIME COMP. SUPPLIER L 25		COMPONENT MANUFACTURER W 3 0 2 26							

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 THE CAUSE WAS DETERMINED TO BE PAINT CHIPS WHICH WERE FOUND ON THE RUBBER SEAL AND

1 1 APPEARED TO BE OBSTRUCTING THE PROPER SEAL OF THE DOOR. THE CHIPS WERE CLEANED OFF AND

1 2 A RETEST WAS PERFORMED. SIGNS ARE BEING CONSTRUCTED WHICH REMIND PERSONNEL TO

1 3 INSPECT THE DOOR SEALS UPON EACH OPENING.

1 4

7	8	9	FACILITY STATUS		% POWER		OTHER STATUS		METHOD OF DISCOVERY		DISCOVERY DESCRIPTION	
1	5	E	28	1	0	0	29	NA	B	31	SURVEILLANCE TEST	
7	8	9	ACTIVITY CONTENT		RELEASED OF RELEASE		AMOUNT OF ACTIVITY		45		LOCATION OF RELEASE	
1	6	Z	33	Z	34	NA		45		NA		
7	8	9	PERSONNEL EXPOSURES		NUMBER		TYPE		DESCRIPTION		39	
1	7	0	0	0	37		38	NA				
7	8	9	PERSONNEL INJURIES		NUMBER		DESCRIPTION		41		NA	
1	8	0	0	0	40							
7	8	9	LOSS OF OR DAMAGE TO FACILITY		TYPE		DESCRIPTION		43		NA	
1	9	Z	42									
7	8	9	PUBLICITY		ISSUED		DESCRIPTION		45		NA	
2	0	N	44									
7	8	9	10		68		69		80		NRC USE ONLY	

NAME OF PREPARER T. P. Beilman

PHONE: 616-465-5901