

REGULATOR INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8103100369 DOC. DATE: 81/03/04³ NOTARIZED: NO DOCKET #
 FACIL: 50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana & 05000316
 AUTH. NAME AUTHOR AFFILIATION
 RISCHLING, R. L. Indiana & Michigan Electric Co.
 RECIP. NAME RECIPIENT AFFILIATION
 Region 2, Atlanta, Office of the Director

SUBJECT: Updated LER 81-001/04X-1: on 810112, there was no apparent
 flow through radiation monitor R-19 from steam generator 21.
 Caused by bad diaphragm in roto-meter flow regulator. Flow
 meters to radiation monitor to be modified.

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05000316

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	A/D PLANT SYS10	1	1	A/D RAD PROT 11	1	1
	A/D SFTY ASSE12	1	1	ACC EVAL BR 14	1	1
	AEOD	3	3	ASLBP/J. HARD	1	1
	AUX SYS BR 15	1	1	CHEM ENG BR 16	1	1
	CONT SYS BR 17	1	1	CORE PERF BR 18	1	1
	DIR, ENGINEER I20	1	1	DIR, HUM FAC S21	1	1
	DIR, SYS INTEG22	1	1	EFF TR SYS BR23	1	1
	EQUIP QUAL BR25	1	1	GEOSCIENCES 26	1	1
	I&C SYS BR 29	1	1	I&E 05	2	2
	JORDAN, E./IE	1	1	LIC GUID BR 30	1	1
	MATL ENG BR 32	1	1	MECH ENG BR 33	1	1
	MPA	3	3	NRC PDR 02	1	1
	OP EX EVAL BR34	3	3	OR ASSESS BR 35	1	1
	POWER SYS BR 36	1	1	RAD ASSESS BR39	1	1
	REACT SYS BR 40	1	1	REG FILE 01	1	1
	REL & RISK A 41	1	1	SFTY PROG EVA42	1	1
	STRUCT ENG BR44	1	1	SYS INTERAC B45	1	1
EXTERNAL:	ACRS 46	16	16	LPDR 03	1	1
	NSIC 05	1	1	TERA: DOUG MAY	1	1

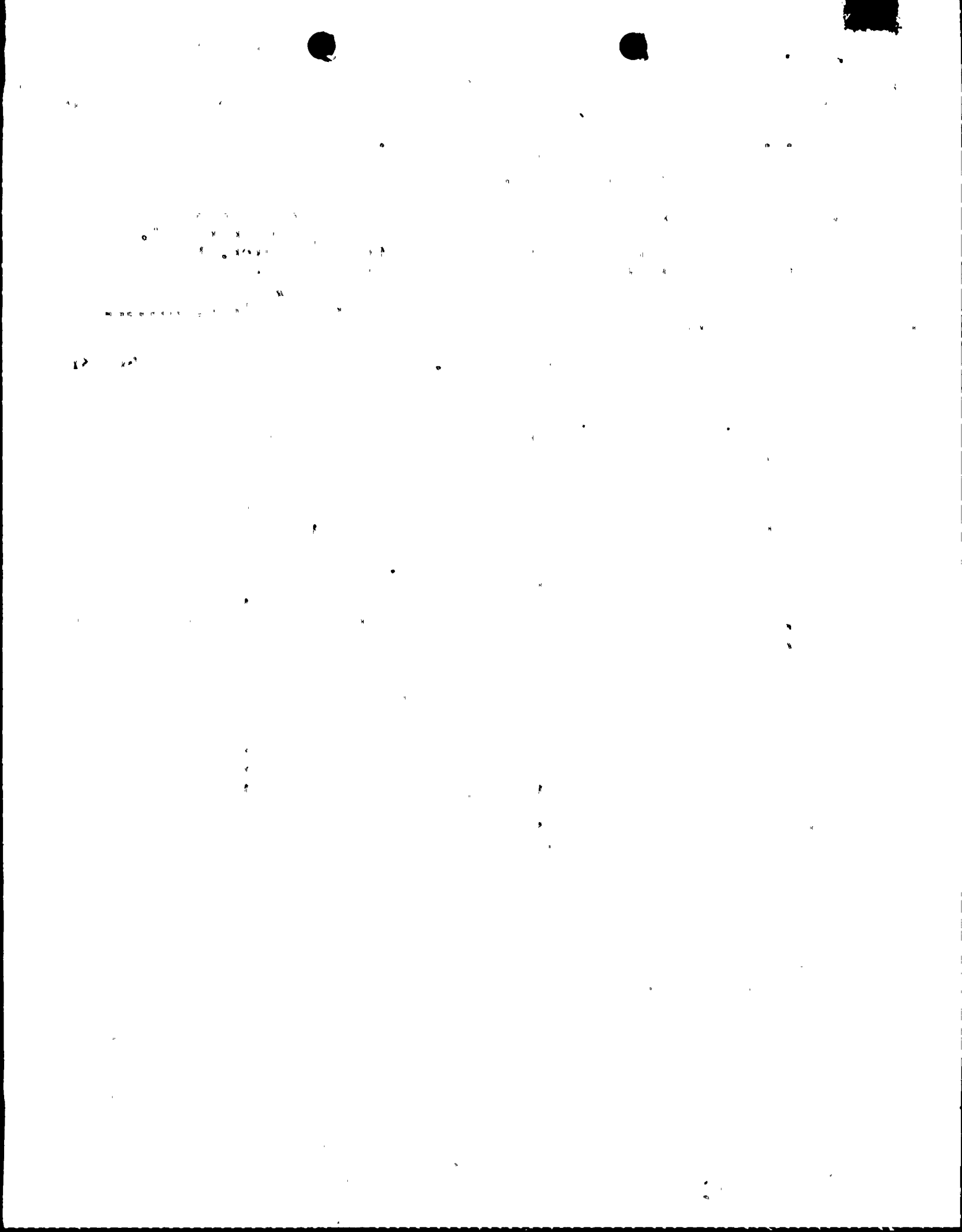
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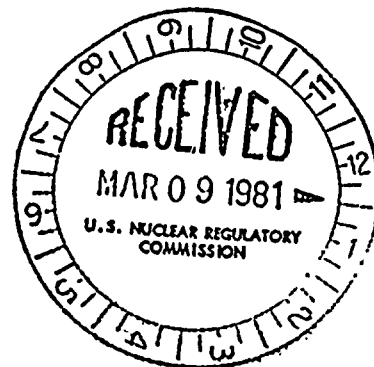


INDIANA & MICHIGAN ELECTRIC COMPANY

DONALD C. COOK NUCLEAR PLANT
P.O. Box 458, Bridgman, Michigan 49106
(616) 465-5901

March 3, 1981

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-74
Docket No. 50-316

Dear Mr. Keppler:

Pursuant to the requirements of the Appendix A Technical Specifications,
the following report/s are submitted:

RO 81-001/04X-1.

Sincerely,

D.V. Shaller

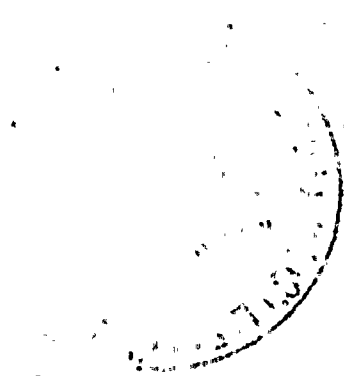
for D.V. Shaller
Plant Manager

/bab

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REPORT SOURCE

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

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

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

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

7 8 0

ACTIVITY CONTENT
RELEASED OF RELEASE AMOUNT OF ACTIVITY (35) LOCATION OF RELEASE (36)
1 6 M (33) M (34) SEE CAUSE DESCRIPTION S. G. BLOWDOWN STARTUP FLASH TANK TO ATMOS
7 8 9 10 11 45 80

1		9		Z		(42)		N/A		(43)	
TYPE		DESCRIPTION									

7 8 9 10 80
PUBLICITY
ISSUED DESCRIPTION (45) N/A
NRC USE ONLY

NRC USE ONLY

7	8	9	10	68	69	80
2	0	N	(44)	N/A		
ISSUED		DESCRIPTION				

NAME OF PREPARER R.L. Rischling

PHONE: (616) 465-5901

ATTACHMENT TO LER #81-001/04X-1

SUPPLEMENTAL TO CAUSE DESCRIPTION

This incident was reported to Mr. E. Swanson of the NRC on January 22, 1981.

On January 22, 1981, it was determined that on January 12, at approximately 2200, there was no apparent flow through radiation monitor R-19 from number 21 steam generator. During normal operation, the blowdown effluent would also pass through the steam generator blowdown treatment demineralizers where radiation monitor R-24 is located between the second and third demineralizers. However, while investigating the flow meter problem, the steam generator startup blowdown flash tank was in service, thus making R-19 the only radiation monitor that was monitoring the blowdown effluent. The startup blowdown flash tank was in service to reduce secondary system chemical contamination from condenser inleakage.

As Unit 2 has been experiencing a primary to secondary leak, routine daily samples are taken for leak rate determination and effluent release quantification. The activity of the blowdown from the steam generator number 21 was known prior to the incident and the activity levels were lower than had been determined the previous several months. The startup blowdown flash tank was in service for 5 hours and 18 minutes, during which time the blowdown from only number 21 steam generator was unmonitored prior to release to the environment. Flow from the other three steam generators continued to be monitored during this time period. Releases were calculated based on data taken on January 12, 1981, and the following results obtained:

<u>Parameter</u>	<u>Activity</u> (u Ci/cc)	<u>Release</u> <u>Concentration</u> (u Ci/cc)	<u>Total Release</u> (m Ci)
	⁻⁵	⁻⁹	
Gross beta gamma	1.94×10	2.04×10	1.75
	⁻⁶	⁻¹⁰	
Tritium	5.62×10	6.07×10	0.506
	⁻⁷	⁻¹¹	
Iodine-131	4.82×10	5.20×10	0.043

These results are considered conservative as the use of the startup blowdown flash tank has a dilution effect on all parameters by discharging larger blowdown volumes and replacing it via a high makeup flow. This is evident by data taken at 0115 hours on January 13, 1981, during the release, which shows all activities had decreased. These samples were part of the plants routine daily analysis program. The results are listed below:

<u>Parameter</u>	<u>Activity</u> (u Ci/cc) 1-12-81	<u>Activity</u> (u Ci/cc) 1/13/81
	-5	-5
Gross beta-gamma	1.94×10	1.33×10
	-6	-6
Tritium	5.62×10	5.37×10
	-7	-7
Iodine - 131	4.82×10	3.13×10

During the release, no other alarms or indications of increased primary to secondary leakage were noted. Radiation monitors R-15, steam jet air ejector, and R-33 gland seal exhaust, gave no indication of increased activity.

Estimates or releases were made assuming a constant 500 gallons per day primary to secondary leak rate with coincident 1% failed fuel in the core and using the worst case meteorological data. It was also assumed that all activity remains in solution until reaching the startup blowdown flash tank. Under these hypothetical worst case conditions, the following exposure rates would exist at the site boundary:

8.0×10^{-7} R/hr whole body from noble gases
 3.0×10^{-7} R/hr from iodines with a thyroid dose rate
of 2.5×10^{-4} R/hr.

These estimates would yeild an integrated whole body dose of 0.0047 mR and an integrated thyroid dose of 1 mR. The estimated release under these hypothetical conditions would be 0.023% of technical specifications or noble gases and 13% of technical specifications for radioiodines. The summation of all radioiodines in the liquid release would be 46.5% of technical specifications.

In an effort to prevent reoccurrence of this problem, a design change (RFC No. 12-1825) was initiated to modify the flow meters to the radiation monitor, R-19 to include a loss of flow alarm. In addition, a departmental standing order, TS0-021, was written to provide accurate responses if the condition were to exist again prior to completion of the design change. This information has been distributed to all plant departments.

Although the incident allowed unmonitored effluent to be released to the environment, sufficient data is available to indicate that during the release the levels of radioactivity were low enough not to pose a threat to the health of safety of the public.

The sole purpose in revising this LER is to correct a typographical error for the value stated as the whole body dose rate from iodines under hypothetical worst case conditions.

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