CATEGORY 1

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ACCESSION NBR:9807020058 DOC.DATE: 98/06/26 NOTARIZED: NO DOCKET #
FACIL:50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana M 05000315
AUTH.NAME AUTHOR AFFILIATION
MALIN,D. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
SAMPSON,J.R. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 98-029-00:on 980422,SFP ventilation sys was noted inoperable.Caused by design deficiency.Safety evaluation successfully performed & appropriate surveillance testing completed.W/980626 ltr.

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TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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American Electric Power
Cook Nuclear Plant
One Cook Place
Bridgman, MI 49106
616 465 5901

AMERICAN ELECTRIC POWER

June 26, 1998

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Operating Licenses DPR-58
Docket No. 50-315

Document Control Manager:

In accordance with the criteria established by 10 CFR 50.73 entitled Licensee Event Report System, the following report is being submitted:

98-029-00

Sincerely,

John R. Sampson

J. R. Sampson
Site Vice President

/mbd

Attachment

c: C. J. Paperiello (Acting), Region III
J. R. Sampson
P. A. Barrett
S. J. Brewer
R. Whale
D. Hahn
Records Center, INPO
NRC Resident Inspector

IE22

NRC Form 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104

EXPIRES 04/30/98

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Cook Nuclear Plant Unit 1	50-315	1 of 3

TITLE (4)

Spent Fuel Pool Ventilation Inoperable Due to Original Design Deficiency

EVENT DATE (5)			LER NUMBER (6)					REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER			REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
											Cook Unit 2	50-316
04	22	98	98	--	029	--	00	06	26	98	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)			
		20.2201 (b)	20.2203(a)(2)(v)	50.73(a)(2)(i)	50.73(a)(2)(viii)
POWER LEVEL (10)	00	20.2203(a)(1)	20.2203(a)(3)(i)	X 50.73(a)(2)(ii)	50.73(a)(2)(x)
		20.2203(a)(2)(i)	20.2203(a)(3)(ii)	50.73(a)(2)(iii)	73.71
		20.2203(a)(2)(ii)	20.2203(a)(4)	50.73(a)(2)(iv)	OTHER
		20.2203(a)(2)(iii)	50.36(c)(1)	50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
		20.2203(a)(2)(iv)	50.36(c)(2)	50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Mr. Douglas Malin, Nuclear Fuels Manager	616/697-5065

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	YES (If Yes, complete EXPECTED SUBMISSION DATE).	X NO				

Abstract (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

In April 1998, with Units 1 and 2 in Mode 5, plant personnel writing the Radiation Monitoring System Design Basis Document (DBD) questioned a statement made in response to Question 9.4 of the SAR. This question requested evidence that the response time of the charcoal absorber bypass damper after a high radiation signal was received was adequate to prevent a potential "puff release" to the environment. After researching existing documentation and performance of a scoping calculation, it was determined that the 3 second response time of the bypass damper was unacceptable since a release would reach the bypass damper in less than 3 seconds, thus rendering the Spent Fuel Pool Ventilation system inoperable. Since this condition was previously unknown, no compensatory actions had been historically taken. On May 27, 1998, this condition was determined to be reportable under 10CFR50.73(a)(2)(ii), as operation prohibited by the plant's Technical Specifications.

The root cause of this condition is a design deficiency, which has been present since plant construction. The Spent Fuel Pool Ventilation system was declared inoperable. The analysis of record for fuel handling accidents will be updated, as will the applicable section(s) in the UFSAR. Once the analysis has been updated, a 10CFR50.59 Safety Evaluation successfully performed, and the appropriate surveillance testing completed, the ventilation system will be declared operable.

Evaluation of this condition determined that even without the charcoal bed in service, the consequences of a postulated fuel handling accident are bounded by the current analysis of record. Therefore, this condition was determined to be of no safety significance.

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TEXT *(If more space is required, use additional copies of NRC Form (366A)* **(17)**

CONDITION PRIOR TO EVENT.
Unit 1 was in Mode 5, Cold Shutdown
Unit 2 was in Mode 5, Cold Shutdown

DESCRIPTION OF EVENT
In April 1998, plant personnel writing the Radiation Monitoring System (RMS) Design Basis Document (DBD) questioned the required response time of the Spent Fuel Pool Area monitor, known as R-5. Documentation could not located that supported the following statement made in response to Question #9.4 in the SAR:

"Exhausted air from the spent fuel pit will reach the charcoal filter bypass dampers in 4 seconds (based on the shortest path). The time elapsed from receiving a high radiation signal at the radiation monitor to the full shut position of the carbon filter bypass damper is less than 3 seconds."

The investigation revealed that there is little existing documentation on this original design feature. After an extensive search, it was determined that no information could be located which supported, or provided a basis for, the statement in the SAR.

A scoping calculation was performed for the time expected for a release from the pool to reach the dampers. This calculation indicated that the time was less than 1 second, much less conservative than the 4 seconds stated in the SAR. Since the response time for the combination of monitor and bypass damper movement is stated to be less than 3 seconds, and no test data indicating that it is faster than 1 second could be located, the system was considered to be inoperable.

CAUSE OF EVENT
This condition is attributed to a deficiency in the original design. As no documentation of the original postulated air transport time versus time for damper operation could be located, it is not possible to determine the basis for the design of the system.

ANALYSIS OF EVENT
On May 27, 1998, with both Unit 1 and Unit 2 in Mode 5, it was concluded that this event was reportable under 10CFR50.73(a)(2)(i)(B), as an operation prohibited by the plant Technical Specifications. This conclusion was reached because the Spent Fuel Pool Ventilation system was inoperable from time of plant startup and has remained inoperable. Technical Specification 3.9.12, which prohibits fuel movement with the system inoperable, was violated whenever fuel was moved without the charcoal filter being in service. Although the Spent Fuel Pool Radiation Monitor successfully passed its surveillance testing, the system responded in a time frame greater than assumed for the design basis.

Evaluation of this condition revealed that the charcoal filter serves contributes little to the lowering of radiation levels released to the environment as a result of a fuel handling accident. Even without the benefits of charcoal absorption, the consequences of such an accident are bounded by the current analysis of record for a fuel handling accident in containment. As an ample margin exists between the bounding analysis value and the 10CFR100 limits, this condition has been determined to be of no safety significance.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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TEXT *(If more space is required, use additional copies of NRC Form (366A)* **(17)**

ANALYSIS OF EVENT (cont'd)
The delay in determining the reportability of this condition is due largely to the scarcity of information pertaining to this design feature. No documentation or calculation could be found to support the response time and air transit times reported in the response to Question #9.4 of the SAR. A preliminary determination originally concluded that the condition was not reportable because there was no commitment or surveillance to time damper travel. The reportability ultimately hinged on the results of the scoping calculation. The final determination of reportability was made when the results of the calculation were provided and proved to be less conservative than the value reported in response to Question #9.4 of the SAR.

CORRECTIVE ACTIONS
The spent fuel pool ventilation system was declared inoperable.

The analysis of record and UFSAR section(s) for fuel handling accidents in the Auxiliary Building will be updated so that no credit is taken for the charcoal absorption when determining off-site dose consequences.

Once the analysis is updated, a 10CFR50.59 Safety Evaluation successfully performed, and required surveillances completed, the ventilation system will be declared operable. Until that time the system will remain inoperable.

FAILED COMPONENT IDENTIFICATION
Not Applicable

PREVIOUS SIMILAR EVENTS
None