

ACCELERATED DOCUMENT DISTRIBUTION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9304190199 DOC. DATE: 93/04/12 NOTARIZED: NO DOCKET #
 FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana M 05000315
 50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana M 05000316
 AUTH. NAME AUTHOR AFFILIATION
 FITZPATRICK, E. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
 RECIP. NAME RECIPIENT AFFILIATION
 Document Control Branch (Document Control Desk)

SUBJECT: Provides description of findings during that outage as well
 1992 Unit 1 refueling outage.

DISTRIBUTION CODE: A001D COPIES RECEIVED: LTR 1 ENCL 0 SIZE: 2
 TITLE: OR Submittal: General Distribution

NOTES:

	RECIPIENT		COPIES			RECIPIENT		COPIES	
	ID CODE/NAME		LTTR	ENCL		ID CODE/NAME		LTTR	ENCL
	PD3-1 LA		1	1		PD3-1 PD		1	1
	DEAN, W		2	2					
INTERNAL:	NRR/DE/EELB		1	1		NRR/DORS/OTSB		1	1
	NRR/DRCH/HICB		1	1		NRR/DSSA/SCSB		1	0
	NRR/DSSA/SPLB		1	1		NRR/DSSA/SRXB		1	1
	NUDOCS-ABSTRACT		1	1		OC/LFMB		1	0
	OGC/HDS2		1	0		REG FILE 01		1	1
EXTERNAL:	NRC PDR		1	1		NSIC		1	1

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK,
 ROOM P1-37 (EXT. 504-2065) TO ELIMINATE YOUR NAME FROM DISTRIBUTION
 LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTTR 16 ENCL 130

MA-4
 dbp



AEP:NRC:1170E

Donald C. Cook Nuclear Plant Units 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
PRESSURIZER SAFETY VALVE POSITION INDICATOR
ACOUSTIC MONITORING SYSTEM
ROOT CAUSE ANALYSIS AND DESIGN REVIEW RESULTS

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Attn: T. E. Murley

April 12, 1993

Dear Dr. Murley:

In the safety evaluation report (SER) issued by the NRC staff as Amendment No. 161 to the facility operating license for the Donald C. Cook Nuclear Plant Unit 1, it was noted that we would be performing a detailed root cause analysis and design review of the pressurizer safety valve position indicator acoustic monitoring system (or acoustic valve monitoring system, AVMS), during the February 1992 Unit 2 refueling outage. Contained in this letter is a description of our findings during that outage as well as the 1992 Unit 1 refueling outage.

The root cause of our recent AVMS difficulties is the method of the monthly surveillance test. The test (channel check) relies on the detection of low level vibrations by a monitoring system which is designed to detect flow-induced vibrations of orders of magnitude higher than the vibrations present during normal plant operation. Normal background vibration levels in the vicinity of the AVMS accelerometers are typically at or below the system's detection threshold. If a background signal is not observed on an AVMS channel during the monthly channel check, that channel is declared inoperable. This leads to AVMS channels being declared inoperable although it is likely that the channels would perform their intended function should a pressurizer safety valve open.

To improve channel checks, an investigation is currently being performed to determine the feasibility, scope, and installation schedule of a new channel check test circuit. The system currently under consideration involves placement of one or more oscillators near the AVMS sensors. This test circuit is still under development by the equipment vendor and is not immediately available. Other solutions, including one in which the AVMS is replaced with a system that would provide direct pressurizer safety valve position indication, are also being evaluated.

190017

9304190199 930412
PDR ADDCK 05000315
P PDR

Aool
1/10

As an interim measure, we have modified the surveillance test procedure to cycle a block valve for the power operated relief valves (PORV) if necessary, as this event produces a low level noise or vibration in proximity to the AVMS accelerometers that is somewhat higher than normal background vibration.

In addition to the low background signal detection problems, the Unit 2 pressurizer safety valve acoustic monitor 2-QR-107C had spurious alarms. The spurious alarms were caused by the combination of a loose signal cable and a charge converter (amplifier) found performing outside the vendor specification. To correct the loose cable, lock wire is being used to secure the cable to the accelerometer and insulation was adjusted to reduce interference with the accelerometers and cabling. The charge converter in this circuit had been in service for five years. The charge converter had passed operational tests during the previous outages and was within the specified replacement frequency. As a conservative measure, all AVMS charge converters in both units were replaced.

In previous correspondence (letter number AEP:NRC:1170D, dated August 12, 1992), we have requested changes to the Cook Nuclear Plant Technical Specifications (T/Ss) which would permit continued operation with any two of the three AVMS channels operable. Any one of the existing three AVMS channels is capable of detecting the open position of any of the three pressurizer safety valves (i.e., if one pressurizer safety valve opens, all three AVMS channels will indicate valve opening in the control room). Operator response to an open pressurizer safety valve does not require the operator to know which valve or how many valves are open. The proposed T/S changes, therefore, would improve plant availability, through decreased vulnerability to a single AVMS channel failure or malfunction, without compromising safety.

In light of the above, we request expedited approval of the T/S change request submitted to the NRC Staff in our letter AEP:NRC:1170D. Approval of the T/S change request would provide a reduction in the monthly risk of shutdown.

Sincerely,



E. E. Fitzpatrick
Vice President

dr

cc: A. A. Blind - Bridgman
J. R. Padgett
G. Charnoff
NFEM Section Chief
A. B. Davis - Region III
NRC Resident Inspector - Bridgman