



Nebraska Public Power District

COOPER NUCLEAR STATION
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TELEPHONE (402) 825-3811

NLS950057

February 6, 1995

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

Dear Sir:

Cooper Nuclear Station Licensee Event Report 95-001 is forwarded as an attachment to this letter.

Sincerely,


J. T. Herron
Plant Manager

/nr

Attachment

cc: L. J. Callan
G. R. Horn
J. H. Mueller
R. G. Jones
R. A. Sessoms
K. C. Walden
INPO Records Center
NRC Resident Inspector
R. J. Singer
CNS Training
CNS Quality Assurance
R. L. Koch

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PDR ADDCK 05000298
S PDR

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LICENSEE EVENT REPORT (LER)

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

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB 7714), 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.

FACILITY NAME (1)
COOPER NUCLEAR STATIONDOCKET NUMBER (2)
05000298PAGE (3)
1 OF 3

TITLE (4) Surveillance Testing of Detection System Supervisory Circuits

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
01	07	95	95	-- 001 --	00	02	06	95	FACILITY NAME	DOCKET NUMBER
OPERATING MODE (9)		N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
POWER LEVEL (10)		000	20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)	
			20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)	
			20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER	
			20.405(a)(1)(iii)		X 50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		(Specify in Abstract below and in Text, NRC Form 366A)	
			20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)			
			20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)			

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Art Alford, Senior Staff Nuclear Licensing & Safety Eng.	(402) 825-3811

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
D	IC	DET	K120	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

During installation of design change (DC) 94-0302, three Diesel Generator (DG) carbon dioxide (CO2) photoelectric detector supervisory circuits failed to annunciate when deenergized. The failure to annunciate was due to sticking contacts which were cleaned and retested satisfactorily. An investigation into the incident determined that the supervisory circuits were not being tested every six months as required by Technical Specification 4.14.B.

The CO2 photoelectric detectors are part of a non-proprietary in-house system design which contains loss of power relays. These relays were not included in the surveillance procedures when the system was originally installed in 1979.

On February 1, 1995, during the ongoing review of other potentially missed surveillances on supervisory circuits, it was discovered that the supervisory circuits associated with the fire detectors serving the Service Water Pump (SWP) room Halon systems were also not being tested every six months per the Technical Specifications. This review is continuing.

Per NUREG-1022, the cause of this event is attributed to Defective Procedure, NUREG-1022 code D, specifically an inadequate Design Change Process.

This also satisfies the Special Report requirement of Technical Specification 3.14.B.2.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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COOPER NUCLEAR STATION	05000298	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 3
		95	-- 001 --	00	

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

Plant Status

The plant was in cold shutdown at the time of the event.

Event Description

During a clearance order being hung for a design change, three DG CO2 photoelectric detector loss of power supervisory circuits failed to annunciate when deenergized. The detectors' internal trouble relay was determined as the cause. When the detectors' trouble relay is deenergized, its contacts are designed to open and annunciate in the control room. However, when the DG CO2 detectors' trouble relay was deenergized, the contacts remained closed. The detectors' contacts were cleaned and retested satisfactorily.

The DG CO2 detection system and supervisory circuit is of an in house non-proprietary design that does not have an Underwriter's Laboratories (UL) listing. The supervisory circuit for each detector consists of a loss of power relay integral to the detector itself which annunciates within the plant status computer (RONAN) system. Supervisory meter relays provide annunciation of overall CO2 system power failure. These meter relays are tested every 18 months. This system was installed in 1979.

On February 1, 1995, during the ongoing review of other potentially missed surveillances on supervisory circuits, it was discovered that the supervisory circuits associated with the fire detectors serving the Service Water Pump (SWP) room Halon systems were also not being tested every six months per the Technical Specifications. This review is continuing.

Of ten available supervisory circuits, seven are tested by CNS procedures; however, the supervisory circuit associated with the Halon system detectors themselves is one of the three not tested. The other two are ground fault and pull station supervisory circuits that are not required to be tested by Technical Specifications. For the SWP Halon system, the test procedure was originally developed and is routinely performed by an outside vendor that has little familiarity with CNS Technical Specification requirements. Recognition of the Technical Specification requirement for testing the detector supervisory circuits therefore went unnoticed by the test performers. This system was installed in 1985.

Cause

The root cause is an inadequate design change process. The design change process in use at the time did not provide checklists or other steps in the procedure to assure that appropriate Technical Specification surveillance requirements are incorporated into plant procedures. Checklists have been provided since 1988.

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

Safety Significance

Although not all of the detector supervisory circuits were tested as required by the Technical Specifications, the alarm functions and system supervisory circuits have been tested and verified operable as required by Surveillance Procedures. By not testing the individual detector supervisory circuits, had a detector lost power or continuity, it may not have been immediately identified. However, the ability to initiate CO2 or Halon, as applicable, was not compromised. Based on the above, the safety significance of this event is minimal.

Corrective Action

A fire watch was posted in the DG fire areas and was maintained until the detection system was declared operable.

A temporary procedure change notice to the surveillance procedure was written, the DG CO2 detector supervisory circuits were tested and declared operable, and then the fire watch was released.

An hourly firewatch patrol was established for the SWP room. The SWP room Halon detector supervisory circuit will be verified operable by March 1, 1995.

A surveillance testing validation program, the purpose of which is to review the surveillance testing methods and scope against the Technical Specifications requirements, including fire detection supervisory circuits, is in progress. The Fire Protection surveillance validation will be completed by June 1, 1995.

The design change process has been significantly improved since these systems were originally installed, no additional action is planned.

Similar Events

None.

The following table identifies those actions committed to by the District in this document. Any other actions discussed in the submittal represent intended or planned actions by the District. They are described to the NRC for the NRC's information and are not regulatory commitments. Please notify the Licensing Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

[illegible]