

Jersey Central Power & Light Company

MADISON AVENUE AT PUNCH BOWL ROAD • MORRISTOWN, N. J. 07960 • 539-6111

June 28, 1973

Mr. A. Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
United States Atomic Energy Commission
Washington, D. C. 20545



Dear Mr. Giambusso:

Subject: Oyster Creek Station
Docket No. 50-219
Containment Spray System Failure

The purpose of this letter is to report a failure of containment spray system #2 automatic reset circuitry due to a failed relay coil 16K22B; additionally, failure of containment spray pump 51C to manually start upon actuating the key lock and control switch in the control room. This event is considered to be an abnormal occurrence as defined in the Technical Specifications, Paragraph 1.15.D. Notification of this event as required by the Technical Specifications was made to AEC Region I, Directorate of Regulatory Operations on Monday, June 18, 1973.

Following successful performance of the containment spray system automatic initiation test, the system was returned to normal standby readiness. However, about an hour and a half later, an odor of overheated insulation was detected by an electrician performing routine inspection in the 460 switchgear room, in which containment spray logic panel ER8B is located. The odor was traced to relay 16K22B which performs the function of automatically resetting the system to a standby condition when the mode switch is returned to "automatic". The relay was found in the de-energized state when it normally should have been energized.

Relay details are as follows:

Manufacturer: General Electric
Model: CR282D
Type: 125 VDC TDPU

Upon replacing the coil and series resistor on the relay, the system was placed in the "dynamic test" mode and an operability check attempted on containment spray pump 51C. However, the pump did not start. Pump 51D, in the same system, was checked and found to start satisfactorily.

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June 28, 1973

The failure of relay 16K22B is thought to have been caused by an internal breakdown of the coil insulation resulting in an "open" in the coil windings.

The pump starting failure was traced to a wire which had broken off from the key lock switch. This broken wire may have contributed to a previous failure of containment spray system #2 which was reported by Mr. I. R. Finrock, Jr. in his letter of August 11, 1972 to Mr. A. Giambusso. The wire failure was noted to occur at the break in insulation near the terminal connection. This break was not detectable in the inspection reported in the referenced letter.


The circuitry and components associated with relay 16K22B were checked to eliminate any external cause for the failure. The coil and series resistor on 16K22B were replaced. In order to check the automatic reset capability of the system, the system mode switch was then placed in "dynamic test" and a surveillance test initiated. During this test, the broken wire on the key lock switch was found and reconnected and the mode switch returned to "automatic". The system returned to a standby condition and the relay was verified to be energized. Further voltage checks were made on the relay and found to be satisfactory.

In each of the two above cases, the containment spray system would have functioned normally had it been called upon for emergency service. Following the failure of relay 16K22B, the system would not have "reset" automatically if the mode switch had been moved out of "automatic" to some other mode. The operator, however, would have been aware of this failure due to the presence of the "disabled" alarm and could have reset the system manually.

The failures of relay coil 16K22B and the broken key lock switch wire were isolated events which do not indicate the need for any further action.

Enclosed are forty (40) copies of this report.

Very truly yours,



Donald A. Ross
Manager, Nuclear Generating Stations

DAR:cs
Enclosures

cc: Mr. J. P. O'Reilly, Director
Directorate of Regulatory Operations, Region I

ABNORMAL OCCURRENCE

REPORT NO. 73-12

SUBJECT: Violation of the Technical Specification, para. .

(or)

Failure of Containment Spray System 2, to automatically reset to the operable mode upon returning the mode switch to automatic due to a burned relay, 16K22B. Additionally, failure of Containment Spray Pump 51C to start upon actuating the key lock and control switch in the Control Room due to a disconnected wire on the key lock switch.

This event is considered to be an abnormal occurrence as defined in the Technical Specifications, para. 1.15D. Notification of this event as required by the Technical Specifications, para. 6.6.B was made to AEC Region I Directorate of Regulatory Operations on Monday June 18, 1973.

SITUATION:

Following successful performance of the Containment Spray System automatic initiation test, the system was returned to normal standby readiness. However, about an hour and a half later, an odor of burned insulation was detected in the 460SWGR Room, in which is located Containment Spray logic panel ER8B. The odor was traced to relay 16K22B which performs the function of automatically resetting the system to a standby condition when the mode switch is returned to "automatic". The relay was found in the de-energized state when it normally should have been energized.

Upon replacing the coil and series resistor on the relay, the system was placed in the "Dynamic Test" mode and an operability check attempted on Containment Spray Pump 51C. However, the pump did not start. Pump 51D, in the same system, was checked and found to start satisfactorily. Voltage checks were made across the key lock switch and the problem was determined to exist at that point. Further checking revealed a loose wire broken off one of the key lock terminals.

Handwritten:
16K22B
50-217

CAUSE:

The premature failure of relay 16K22B is thought to have been caused by an internal breakdown of the coil insulation resulting in an "open" in the coil windings. The pump starting failure was traced to a wire which had become disconnected from the key lock switch.

REMEDIAL ACTION:

The circuitry and components associated with relay 16K22B were checked to eliminate any external cause for the failure. The coil and series resistor on 16K22B were replaced. The system mode switch was then placed in "Dynamic" test, a surveillance test run during which time the loose wire on the key lock switch was found and tightened, and the mode switch returned to "automatic". The system returned to a standby condition and the relay was checked to be energized. Further voltage checks were made on the relay and found to be satisfactory.

SAFETY SIGNIFICANCE:

In each of the two above cases, the Containment Spray System would have functioned normally had it been called upon for service. Following the failure of relay 16K22B, the system would not have "reset" automatically if the mode switch had been moved out of "automatic" to some other mode, then back to "automatic". The operator, however, would have been aware of this failure due to the presence of the "disabled" alarm, and could have reset the system manually.

Prepared by: R. B. Reeves, Jr. Date: June 19, 1973

R. B. Reeves, Jr.

MEMO ROUTE SLIP		See me about this.	For concurrence.	For action.
Form AEC-94 (Rev. May 11, 1947) AEC M 0240		Note and return.	For signature.	For information.
TO (Name and unit)	INITIALS	REMARKS		
H. D. Thornburg, Chief, FS&EB	DATE	Licensee: Jersey Central Power & Light Co.		
		Docket No.: 50-219		
		Abnormal Occurrence: TWX dated 6/18/73 (40-73-12)		
TO (Name and unit)	INITIALS	REMARKS		
RO:HQ (5) DR Central Files (1) Regulatory Standards (3) Dir. of Licensing (13)	DATE	The attached report from the subject licensee is		
		forwarded in accordance with RO Manual Chapter 1000		
TO (Name and unit)	INITIALS	REMARKS		
RO Files	DATE	The action taken by the licensee is considered		
		appropriate. Followup will be performed during		
		the next inspection as appropriate. Copies of		
FROM (Name and unit)	REMARKS			
<i>D. L. Capton</i> D. L. Capton, RO:I		the report have been forwarded to the PDR, Local		
		PDR, NSIC, DTIE and State representatives. The		
		licensee will submit a 10 day written report to		
PHONE NO.	DATE	Licensing.		
	6/20/73			

USE OTHER SIDE FOR ADDITIONAL REMARKS

GPO: 1971 O - 445

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