


To: James P. O'Reilly  
Directorate of Regulatory Operations  
Region :  
631 Park Avenue  
King of Prussia, Pennsylvania 19406

From: Jersey Central Power & Light Company  
Oyster Creek Nuclear Generating Station Docket #50-219  
Forked River, New Jersey 08731

Subject: Preliminary Abnormal Occurrence Report No. 73-33

The following is a preliminary report being submitted  
in compliance with the Technical Specifications,  
paragraph 6.6.2.

Preliminary Approval:

  
\_\_\_\_\_  
J. T. Carroll, Jr.                      Date 12/26/73

cc: Mr. A. Giambusso

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SUBJECT: Violation of the Technical Specifications, paragraph 3.1.A.3. The high flow setpoints on the steam and condensate lines of the Isolation Condensers were found to trip at  $\Delta P$  values in excess of those as stated in Technical Specification Table 3.1.1.H ( $\leq 20$  psid - steam,  $\leq 27$  inches  $\Delta P$  H<sub>2</sub>O - Condensate).

This event is considered to be an abnormal occurrence as defined in the Technical Specifications, paragraph 1.15A. Notification of this event, as required by the Technical Specifications, paragraph 6.6.2.a, was made to AEC Region I, Directorate of Regulatory Operations, by telephone on Friday, December 21, 1973, at 1635, and by telecopier on Wednesday, December 26, 1973, at 0955.

SITUATION: On Friday, December 21, 1973, while performing surveillance testing on the Isolation Condenser High Flow sensors (two each per condensate and steam line per condenser), four of the sensors were found to trip at setpoints in excess of their respective limits. Specifically, the sensors of concern and their corresponding "as found" setpoints are as follows:

Condensate

"A" Condenser 1B11A1 - 29" of water  
1B11A2 - 31" of water  
1B11B2 - 29" of water

Steam

"B" Condenser 1B05B1 - 22 psid

CAUSE: The cause of this event is yet to be determined.


REMEDIAL ACTION:

Upon discovery of the condition, the instrument technician performing the surveillance test reset the affected d/p sensors to their required values ( $\leq 27$  inches H<sub>2</sub>O on condensate and  $\leq 20$  psid on the steam).

SAFETY SIGNIFICANCE:

The safety implication of this event is minimal, since the sensors were operable and would have performed their function. Past data has shown that upon initiating the condensers, the condensate line senses d/p in excess of 60 inches of water; therefore, although the setpoint had drifted, the new value was well within the range of the expected signal and the sensor was capable of performing its protective action.

Prepared by:

  
J. L. Sullivan, Jr.


Date:

12/24/73

# Jersey Central Power & Light Company



MADISON AVENUE AT PUNCH BOWL ROAD - MORRISTOWN, N. J. 07960 • 201-539-6111

MEMBER OF THE  
General  Public Utilities Corporation

December 24, 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  
125V DC Power Interruption

The purpose of this letter is to report to you a momentary interruption of 125V DC power supplying instrumentation associated with various safeguard systems. This event is considered to be an abnormal occurrence as defined in the Technical Specifications, paragraph 1.15D and G. It is not considered a Technical Specification violation because the power interruption was on the order of milliseconds and the transfer switch performed as designed. Notification of this event, as required by the Technical Specifications, paragraph 6.6.2.a, was made to the AEC, Region I, Directorate of Regulatory Operations, by telephone on Friday, December 14, 1973, and by telecopier that same day.

An electrical ground had developed on 125V DC distribution bus "A" resulting in electricians being called in at approximately 2300, December 13, 1973 to troubleshoot and repair this problem. Electrical grounds of this nature have been an infrequent problem in the past and, as of this time, no approved procedures have been developed. It is common knowledge that any interruption of power to power panel "E" results in adverse effects regarding service to safeguard instrumentation. Consequently, the electrician, who had performed this same maintenance activity of troubleshooting and repair on occasion in the past, proceeded to place a jumper in a position that would parallel the "A" and "B" distribution buses. This, then, provided non-interruptable alternate feed to power panel "E" and by actuating the "break before make" throwover switch, it could be determined if the ground was in the "E" power panel by observing the indicating lights on the "B" bus. However, the electrician placed the jumper in the wrong position and effectively did not have the buses paralleled as desired. Upon pushing the local button for transferring the "E" power panel from the "A" to the "B" bus, there was a momentary interruption of power on the order of milliseconds, caused by the normal action of the "break before make" switch, with the following results:

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1. Operating CRD pump "A" tripped due to loss of power to low pump suction trip circuit. Operator immediately restarted pump.
2. "B" isolation condenser isolated due to loss of power to pipe-break monitoring system. Operator immediately reset isolation condenser isolation button and valving realigned properly for normal standby service.
3. Clean-up system isolated due to loss of power to relaying associated with this function. Operator returned system to service as per normal procedure.
4. DC power was lost to logic channel "C" (Core Spray System No. I) and logic channel "D" (Core Spray System No. II) for the brief interval. These channels immediately reset automatically requiring no operator action. Logic channels "A" and "B" were not effected and the redundant equipment in each system was available.
5. DC power was lost to the logic channels of Containment Spray System No. I. Again, with the rapid restoration of power, the logic was automatically restored. The redundant System No. II was not effected and would have operated if necessary. No operator action required.
6. A trouble alarm was received on both diesel generators, but was immediately reset from the control room and was strictly due to loss of DC power to the alarm relay and had no effect on automatic operation of the diesel generators.
7. Lost DC power to main steam isolation valves, but had no effect on valve operation since AC power was still available and permitted valves to stay open.
8. DC power was lost to miscellaneous annunciators and panels, but did not have any additional effect on the safe operation of the plant.

The cause of the interruption of the 125V DC power to panel "E" was the improper placement of the jumper used to parallel the "A" and "B" distribution buses.

Restoration of the equipment to normal status was accomplished through the automatic reset function of effected instrumentation. As noted above, the isolation condenser, CRD pump, clean-up system and miscellaneous alarm functions were manually reset and restored to normal service immediately.

As the interval of time involved in this incident was on the order of milliseconds and all effected systems were reset immediately or within several seconds where operator action was required, the safety significance of this event

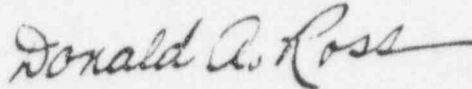
December 24, 1973

was minimal. In the case of the isolation condenser, design redundancy was lost for the interval prior to the operator resetting the system. However, the redundant isolation condenser was available and would have performed if required.

To avoid a reoccurrence of this type in the future, the following action is being taken: Ground location procedures for the DC buses will be written and implemented, including a coded system that will tell the operator which switches may be operated depending on plant conditions and Technical Specification requirements. The administrative controls concerning jumpering and the lifting of leads are presently being reviewed and revised to prevent repetition of this event.

Enclosed are forty copies of this report.

Very truly yours,



Donald A. Ross  
Manager, Nuclear Generating Stations


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cc: Mr. J. P. O'Reilly, Director<sup>✓</sup>  
Directorate of Regulatory Operations, Region I

# Jersey Central Power & Light Company



MADISON AVENUE AT PUNCH BOWL ROAD • MORRISTOWN, N. J. 07960 • 201-539-6111

MEMBER OF THE  
General  Public Utilities Corporation

December 24, 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  
Instrument Set Point Drift

This letter serves to report a violation of the Technical Specifications, paragraph 2.3.7, low pressure main steam line pressure switches were found to trip at a pressure less than 850 psig. This event is considered to be an abnormal occurrence as defined in the Technical Specifications, paragraph 1.15A. Notification of this event as required by the Technical Specifications, paragraph 6.6.2.a, was made to Mr. E. Greenman, AEC Region I, Directorate of Regulatory Operations, on Wednesday, December 12, 1973, during his site visit, and by telecopier on Thursday, December 13, 1973.

On Thursday, December 6, 1973, while performing a surveillance test on the main steam line low pressure switches, RE23A, B, C, and D, all four switches were found to trip at a pressure below the minimum required set point of 850 psig. The "as found" trip values were recorded as follows:

RE23A - 835 psig  
RE23B - 835 psig  
RE23C - 800 psig  
RE23D - 820 psig

Manufacturer data pertinent to the switches is as follows:

Meletron Corp. (subsidiary of Barksdale)  
Los Angeles, California  
Pressure Actuated Switch  
Model 372  
Catalog No. 372-6SS49A-793  
Range 850 G Dec.  
Proof Psi 1750 G

At this time, the cause of this drift has not been determined. Plant personnel have contacted the manufacturer who acknowledged that problems of set point drift with instruments of this type have been recognized. Currently,

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the manufacturer is conducting a study with General Electric Company to investigate and resolve this drift problem. The results of this study are to be reported to the AEC by the manufacturer.

All four switches were reset to conform with the Technical Specification requirement of >850 psig.

The significance of this event is indicated in the bases of the Technical Specifications. "The low pressure isolation of the main steam lines at 850 psig was provided to give protection against fast reactor depressurization and the resulting rapid cooldown of the vessel. Advantage was taken of the scram feature which occurs when the main steam line isolation valves are closed to provide for reactor shutdown so that high power operation at low reactor pressure does not occur, thus providing protection for the fuel cladding integrity safety limit." The temperature difference for saturated steam at 850 psig and 800 psig is less than 8°F, thus the resulting vessel cooldown effect is considered negligible.

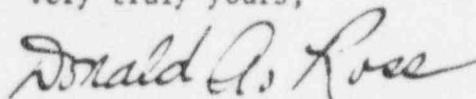
With regards to power operation below 850 psig and the attendant effects on the fuel cladding integrity safety limit, power level must be limited when pressure is less than 600 psig or flow is less than 10% to 354 MWt or approximately 18.3% of rated. As stated in the Technical Specifications, "The value is applicable to ambient pressure and no flow conditions. For any greater pressure or flow conditions there is increased margin." The fuel cladding integrity safety limit curve has been developed and is applicable for pressure in excess of 600 psig. Therefore, whether a reactor scram occurs at 850 psig or 800 psig has little safety significance since no severe restrictions on critical heat flux are imposed unless the reactor pressure is less than 600 psig.

The following actions are planned to avoid recurrence of this event:

1. Evaluate vendor recommendations as soon as they are available to possibly reduce or eliminate the sensor drift problem.
2. During various normal plant operating evolutions, measurements of "hydraulic noise" in main steam line sensing lines will be made. Based on the amount of "hydraulic noise" present, an operating set point will be selected above 850 psig which will provide some reasonable operating margin to avoid spurious trips and still tolerate some downward drift in instrument set point.

Enclosed are forty copies of this report.

Very truly yours,



Donald A. Ross  
Manager, Nuclear Generating Stations

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cc: Mr. J. P. O'Reilly. Director ✓