To: James P. O'Reilly
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Region I
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: Abnormal Occurrence Report No. 50-219/74/ 9

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

Preliminary Approval:

J. T. Carroll, Jr. 2/1/74
J. T. Carroll, Jr. Date

cc: Mr. A. Giambusso

B1647

Initial Written Report Date: 2/1/74 Time of Occurrence: 1320

OYSTER CREEK NUCLEAR GENERATING STATION
FORKED RIVER, NEW JERSEY 08731

Abnormal Occurrence
Report No. 50-219/74/ 9

IDENTIFICATION OF OCCURRENCE:

Violation of the Technical Specifications, paragraph 2.3.7, Low Pressure Main Steam Line Pressure Switches (RE23A and D) were found to trip at pressures less than the specified value (850 psig and 10 psig head correction factor).

This event is considered to be an abnormal occurrence as defined in the Technical Specifications, paragraph 1.15A .

CONDITIONS PRIOR TO OCCURRENCE:

X	Steady State Power	____	Routine Shutdown Operation
____	Hot Standby	____	Load Changes During Routine Power Operation
____	Cold Shutdown	____	Other (Specify)
____	Refueling Shutdown		
____	Routine Startup Operation		

The major plant parameters at the time of the event were as follows:

Power - Core, 1902.9 MWt
Elec., 669 MWe (g)
Flow - Recirc., 75.9×10^6 lb/hr
Feed., 7.2×10^6 #/hr
Stack Gas - 23,230 μCi/sec.

DESCRIPTION OF OCCURRENCE:

On Thursday, January 31, 1974, at 1320, while performing routine surveillance testing on the four Main Steam Line Low Pressure Switches, it was discovered that RE23A and RE23D tripped at 858 psig and 856 psig, respectively. This was 2 psig and 4 psig below the setpoint of 860 psig. Although the Technical Specifications call for a Main Steam Line low pressure setpoint of 850 psig, the setpoint for the switches is 860 psig to account for the difference in head between the switches and the Main Steam Line.

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As found switch settings were:

	Test #1	Test #2
RE23A	860 psig	858 psig
RE23B	860 psig	860 psig
RE23C	863 psig	862 psig
RE23D	856 psig	856 psig

Repeatability of the sensors was checked by observing two consecutive trip points.

The pressure switches were then recalibrated and checked to actuate as follows:

	Test #1	Test #2
RE23A	861 psig	861 psig
RE23D	862 psig	861 psig

APPARENT CAUSE OF OCCURRENCE:

X	Design	____	Procedure
____	Manufacture	X	Unusual Service Condition Inc. Environmental
____	Installation/ Construction	____	Component Failure
____	Operator	____	Other (Specify)

Sensor drift is a recognized problem and work is in progress to formulate a final solution. The steps required to achieve this end were delineated in Abnormal Occurrence Report No. 73-30.

ANALYSIS OF OCCURRENCE:

As indicated in the bases of the Technical Specification, "The low pressure isolation of the Main Steam Lines at 850 psig was provided to give protection against fast reactor depressurization and the resultant rapid cooldown of the vessel. Advantage was taken of the scram feature which occurs when the Main Steam 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 adverse consequences of reactor isolation occurring at reactor pressure approximately 4 psi below the specified minimum value of 860 psig is limited to those effects attendant to a greater than normal reactor cooldown rate. The fuel cladding integrity safety limit only comes into effect for power operation at reactor pressures less than 600 psig or for power operation greater than 354 MWt with less than 10% recirculation flow. Therefore, the consequences of a 4 psi lower than normal reactor isolation and scram setpoint has no threatening effect whatsoever on the fuel cladding integrity.

The effects of a too rapid cooldown due to the lower isolation pressure are inconsequential since there is less than 1°F difference between the saturation temperature for 860 psig and 856 psig.

The adverse safety effect of RE23A and RE23D actuating at the as found pressures is in the loss of system redundancy. The other two sensors, RE23B and D, would have functioned normally.

CORRECTIVE ACTION:

Continuing corrective actions being taken at this time are as follows:

1. Investigation is being conducted into the basis for the steam line low pressure setting of 850 psig. Development of a Technical Specification change to lower the setpoint will follow if results of transient analyses indicate this possibility (see Abnormal Occurrence Report No. 73-30).

2. Vendor recommendations to possibly reduce or eliminate the sensor setpoint drift problem will be evaluated as soon as they are available (letter to Mr. A. Giambusso from Mr. D. A. Ross, dated December 24, 1974).

FAILURE DATA: Manufacturer data pertinent to these switches are as follows:

Meletron Corp. (subsidiary of Barksdale)
Los Angeles, California
Pressure Actuated Switch
Model 372
Catalog #372-6SS49A-293
Range 20-1400 psig
Proof Psi, 1750 G

Prepared by: Thomas E. Quintenz Date: 2/1/74