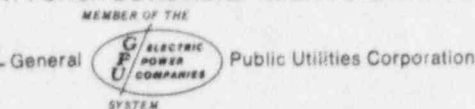


Jersey Central Power & Light Company



MADISON AVENUE AT PUNCH BOWL ROAD • MORRISTOWN, N. J. 07960 • 2. -535-6111



December 10, 1973

Mr. W. G. Martin, Chief
Materials and Plant Protection Branch
Directorate of Regulatory Operations, Region I
United States Atomic Energy Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Mr. Martin:

This letter is in reply to your letter of November 16, 1973 to Mr. Ivan R. Finfrock regarding the inspection conducted by Mr. Devlin on October 11, 1973 at the Oyster Creek Nuclear Generating Station.

The enclosure to your letter lists eight deficiencies which relate to the physical protection of the plant. We wish to emphasize that a complete new security plan and set of procedures have been written and will be put into effect no later than January 1, 1974. The format and content of the new security plan is based primarily on the "American National Standard Industrial Security for Nuclear Power Plants", ANSI N18.17-1973. For the interim period, we have taken action to correct the specific deficiencies noted in your enclosure as follows:

Item 1: The inspectors were able to enter and exit from the site, passing by a manned control point in a private and in a government vehicle without being stopped or challenged.

Action Taken: The policy now in effect is that all vehicles entering or leaving the site must stop at the main gate. If the security guard on duty recognizes all of the personnel in the vehicle as employees at Oyster Creek, he will wave them through. Anyone entering the site who is not personally recognized by the guard is required to show proper identification. If the person or persons requesting access to the site are visitors, they are required to sign in and out. The person who is to meet the visitor must be contacted by telephone before access is granted to determine the validity of their need for access. They are also required to wear a yellow colored visitor's badge in plain sight at all times and be escorted by a company representative at all times. ✓

When the new procedures are fully implemented, the above requirements will be even more stringent. Properly color coded badges will be required to be worn in plain sight at all times by all personnel. Oyster Creek personnel will wear a photo identification card in plain sight at all times.

Item 2: The inspectors were able to walk through a second gate at the side of the facility and return to the entrance of the administration building without being challenged.

Action Taken: The policy in effect now at Oyster Creek is that the only points of entry to the protected areas of the site will be through the main gate and/or the north gate. The requirements previously described apply to these gates. All other gates have had locks installed on them and intrusion alarms connected.

Temporary use has been granted to the southwest gate to allow construction workers to gain access to the land where the new Forked River plant is being built. The gate is kept locked and the intrusion alarm connected at all times when not in use. Two permanent access roads to the new site are presently being constructed which will not pass through any portion of the protected area at Oyster Creek.

Item 3: The watchman on duty in the main lobby did not ask for any identification or inquire as to the reason why we were not wearing "visitor badges", an indication that he was not aware of visitor control procedures or the procedures are not generally enforced.

Action Taken: The renewed emphasis in security already in effect and the new procedures that will go into effect in the near future should correct the above deficiency. The new procedures will be stringently enforced.

Item 4: The fence alarm which should be relied upon to detect intruders was found not fully operational and, although this condition was indicated on the alarm monitor panel, no action was taken to correct it. This condition existed over a period of at least three eight-hour shifts.

Action Taken: Work orders have been submitted to have all security equipment deficiencies corrected, including the intrusion alarm system. A set of procedures to cover intrusion alarms is now in effect. A 24-hour roving guard is now available to investigate all intrusion alarms.

A record of all intrusion alarms is being kept. When an alarm is received, it is noted on the log if it is a test or an actual alarm. If an alarm condition exists, it is investigated by the roving guard. The intrusion alarm record indicates the date and time the alarm was received, the guard involved with the alarm, the area the alarm was received in, the cause of the alarm, and the action taken.

Item 5: Electronic surveillance equipment (CCTV) is not being properly maintained in a fully operational condition.

Action Taken: As previously indicated, corrective maintenance action is in the process of taking place. New parts have been ordered to increase the quality of our electronic surveillance equipment.

Item 6: The perimeter fence which constitutes the primary and only barrier to the protected area and all vital equipment is defective due to poor installation at the railroad gate and due to soil erosion at the intake and discharge canals.

Action Taken: Work orders have been submitted to correct all washed out areas from under the security fencing. All fencing that needs maintenance is being attended to.

Item 7: Vital areas and equipment are not afforded any additional protection as witnessed by the following conditions:

- (a) The pedestrian gate at the diesel generator building is not secured and the diesel generator control panel was open.
- (b) Ground level exterior doors are not locked and there is no procedure or schedule for locking these doors during night hours. The side door at the front of the main building, at the bottom of the stairwell that leads to the third level thereby affording access to the control room and other vital areas, cannot be locked because the key cylinder had been removed. This condition was not realized by the maintenance supervisor.

Action Taken: The security measures necessary to provide additional protection for vital areas of the plant are in the process of being implemented.

Although the pedestrian gate by the emergency diesel generator building is currently locked, there is no need for locking it since there is free access to that area by other paths of travel. It is now required, instead, that the engine access doors and switchgear doors be locked when not in use. The door locking requirements are being enforced.

New locks have been ordered for all doors that lead into a vital area. These locks will be the type which lock from the outside automatically when the door closes. All doors that are capable of being locked are kept locked when not in use. The security guards are directing special attention to the areas which cannot be locked at the present time.

Mr. Martin

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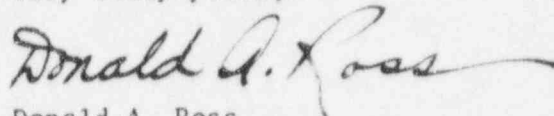
December 10, 1973

Item 8: No written procedures or instructions on the subject of physical protection or security were available for review at the site.

Action Taken: As previously stated, a complete new set of security regulations and procedures have been written and will go into effect in the near future.

It is believed that the effectiveness of the plant protection program has been greatly improved by the above actions and will be further enhanced by the implementation of the new security plan and procedures.

Very truly yours,



Donald A. Ross
Manager, Nuclear Generating Stations

cs

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

OYSTER CREEK NUCLEAR GENERATING STATION
FORKED RIVER, NEW JERSEY 08731

Abnormal Occurrence
Report No. 50-219/74/1

Report Date:

January 14, 1974

Occurrence Date:

January 4, 1974

Identification of Occurrence:

Violation of the Technical Specifications, paragraph 2.3.7, low pressure main steam line pressure switch (RE23C) was found to trip at a pressure less than 850 psig. Additionally, in the investigation and review of this event by the PORC, it was determined that an instrument sensing line head correction of 9 to 10 psig was not accounted for in the original switch trip set point of 850 psig, thus resulting in a condition whereby all the RE23 sensors have been set in violation of this specification since initial startup. This event is considered to be an abnormal occurrence as defined in the Technical Specifications, paragraph 1.15A and G.

Conditions Prior to Occurrence:

The plant was operating at steady state power.

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

Power - Core, 1830 MWt
Elec., 642 MWe (g)
Flow - Recirc., 60.2×10^6 #/hr.
Feed., 6.77×10^6 #/hr.
Stack Gas - 24,000 μ Ci/sec.

Description of Occurrence:

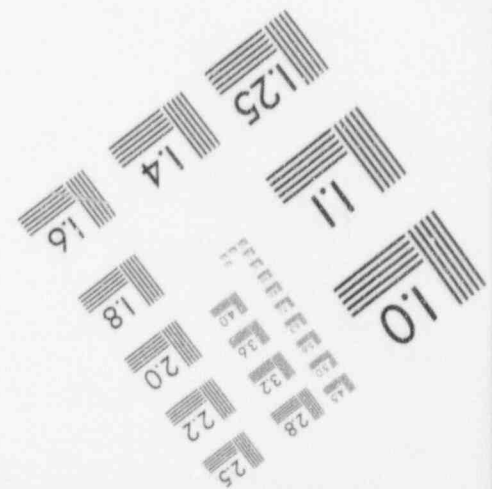
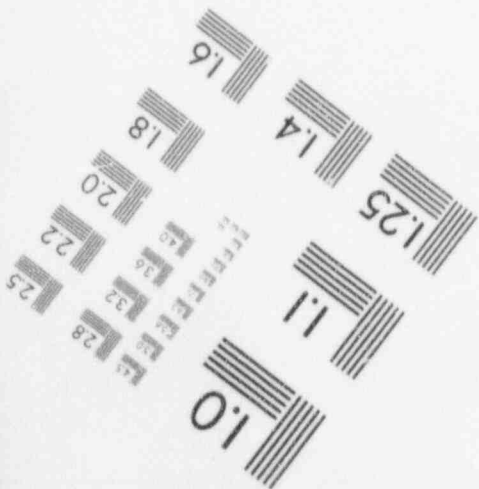
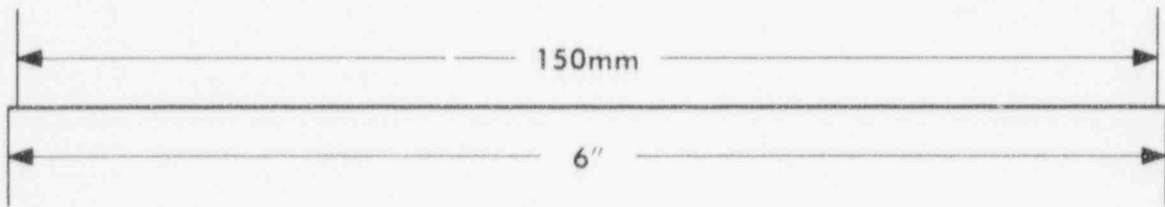
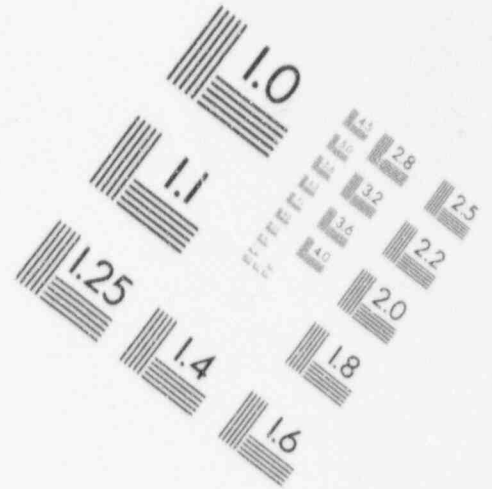
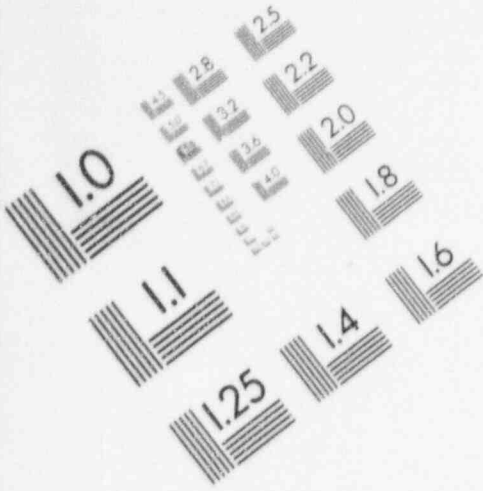
On Friday, January 4, 1974, at 1105, while performing routine surveillance testing on the four main steam line low pressure switches, it was discovered that RE23C tripped at 841 psig. This was 9 psig below its set point of 850 psig. As part of the review process for this occurrence, it was discovered that the 850 psig set pressure did not take into account the instrument sensing line head correction. To account for this factor, the switch settings should have been as follows:

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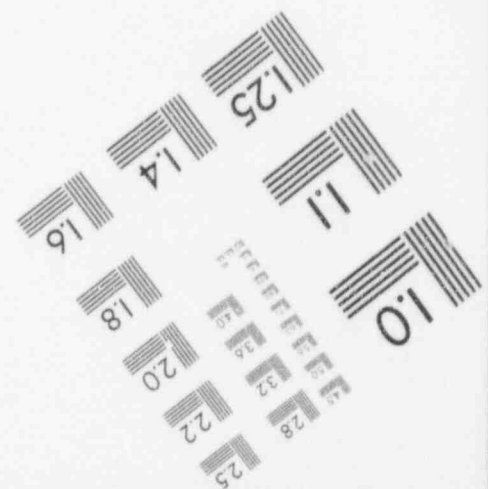
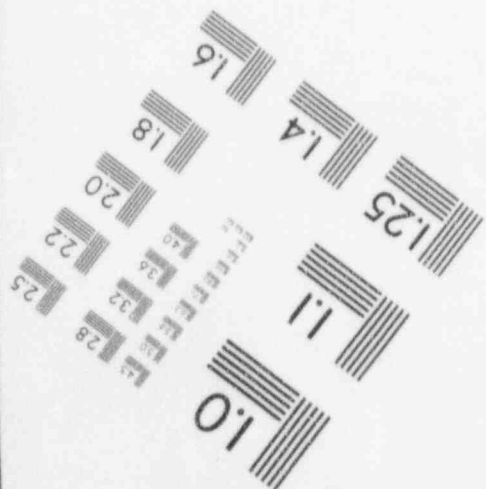
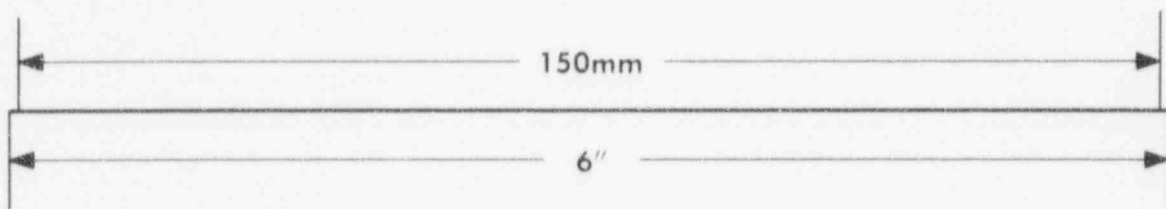
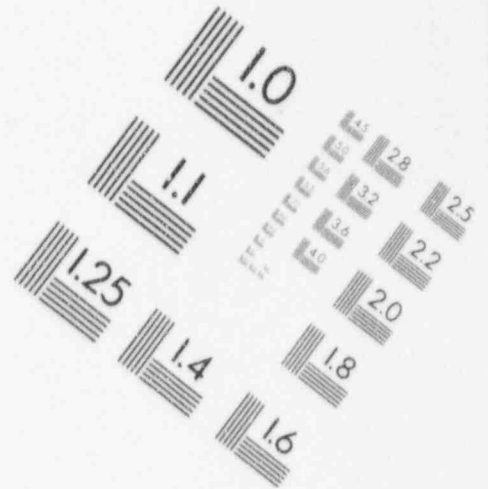
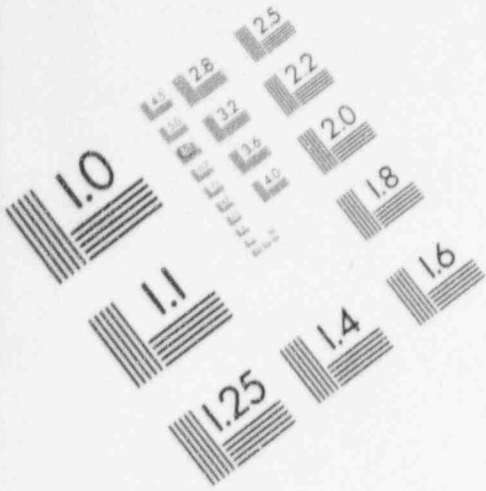
IMAGE EVALUATION TEST TARGET (MT-3)



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(716) 265-1600

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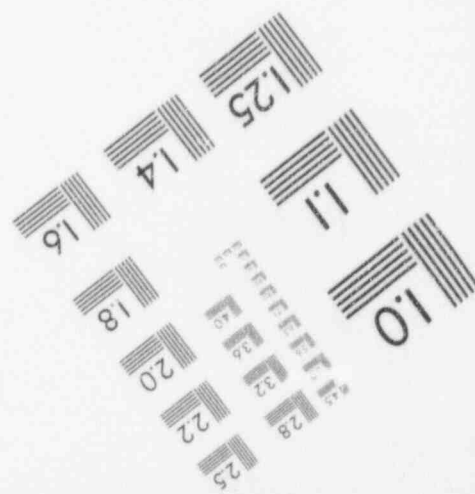
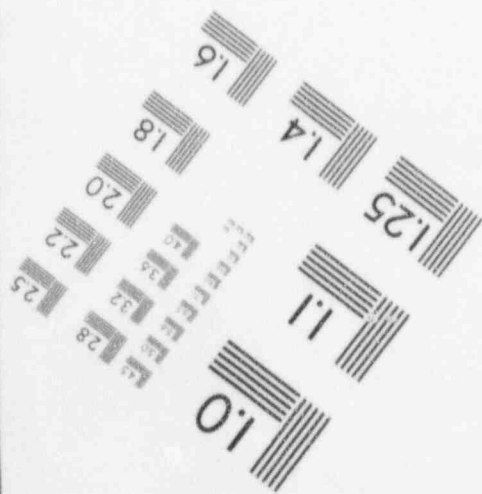
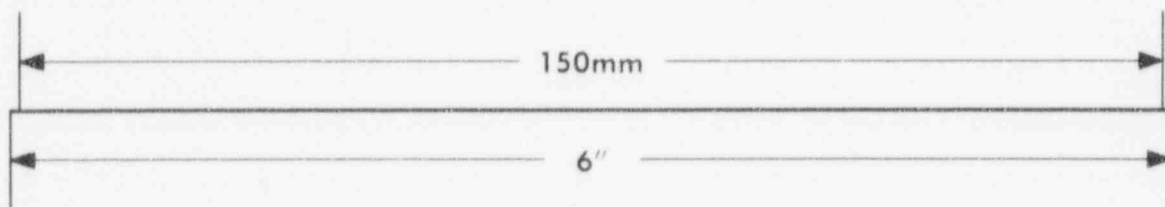
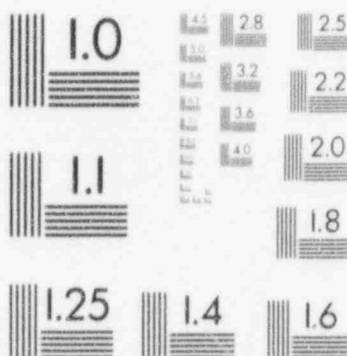
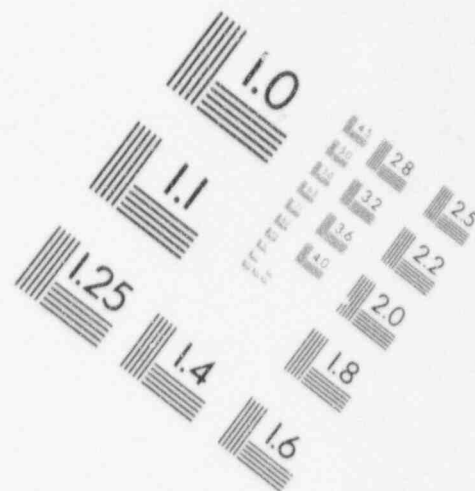
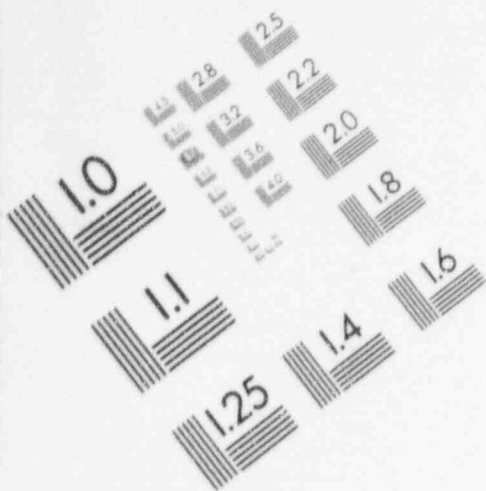
IMAGE EVALUATION TEST TARGET (MT-3)



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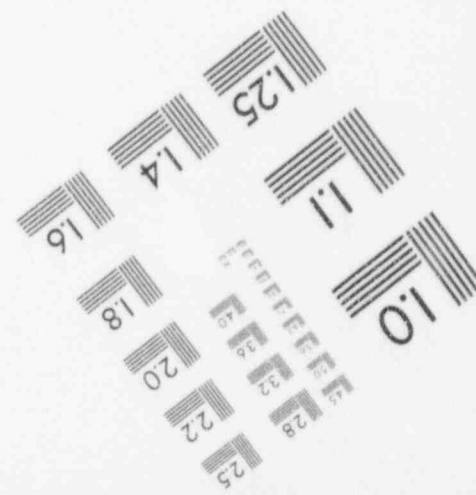
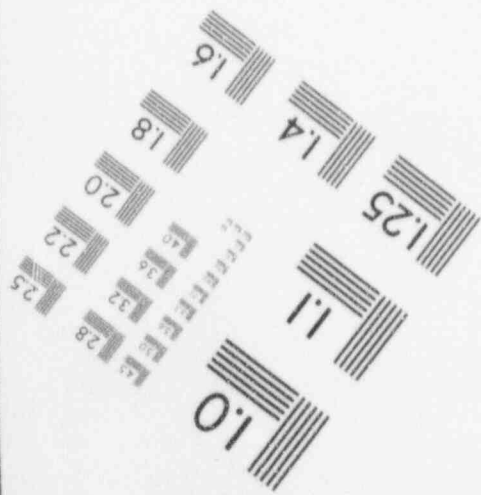
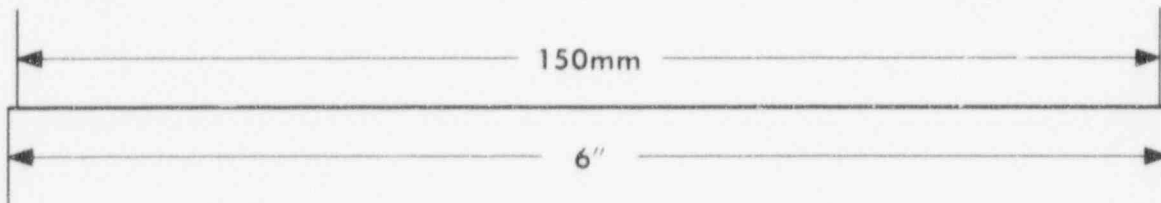
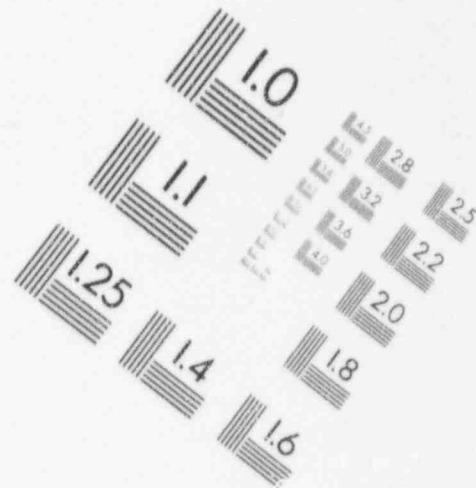
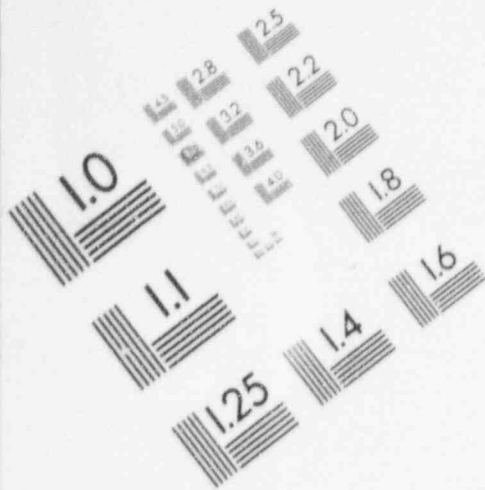
IMAGE EVALUATION TEST TARGET (MT-3)



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IMAGE EVALUATION TEST TARGET (MT-3)



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RE23A - 859 psig
RE23B - 860 psig
RE23C - 859 psig
RE23D - 860 psig

As found switch settings were:

RE23A - 850 psig
RE23B - 851 psig
RE23C - 841 psig
RE23D - 851 psig

Apparent Cause of Occurrence:

Design, procedure and unusual service condition are factors contributing to the cause of this event.

Sensor drift is a recognized problem and work is in progress to formulate a final solution. An investigative program has been initiated by the manufacturer, but as yet, a formal report of the results has not been issued.

The failure to properly account for the instrument sensing line head pressure has been attributed to an apparent improper application of the Technical Specification requirements.

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 pressures approximately 9-10 psi below the specified minimum value of 850 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 9-10 psi lower than normal reactor isolation and scram set point has no threatening effect whatsoever on the fuel cladding integrity.

The effects of a too rapid cooldown due to the lower isolation set pressure are inconsequential since there is only about 1°F difference between the saturation temperature for 850 psig and 840 psig.

The adverse safety effect of RE23C actuating at 841 psig is in the loss of system redundancy. The other three sensors, RE23A, B, and D, would have limited the adverse consequences to those previously discussed.

Corrective Action:

The pressure switch RE23C, upon discovery of the condition, was recalibrated and checked to actuate at 852 psig.

The following actions are planned to prevent repetition of this event:

1. Evaluate "hydraulic noise" data collected and conduct further testing to determine whether, as an interim measure, the operating set point can be increased above the 850 psig plus head correction value, and still provide some reasonable operating margin to avoid spurious trips. (Letter to Mr. A. Giambusso from Mr. D. A. Ross, dated December 24, 1973.) It should be noted that the sensors have not been recalibrated to take into consideration the head correction factor as of this time. In making this decision, consideration was given to the test data already collected and the very minimal adverse safety significance of a 9-10 psi lower than required set pressure.
2. To insure the avoidance of spurious trips, pursue an investigation into the basis for the steam line low pressure setting of 850 psig and develop a Technical Specification change to lower the set point if results of transient analyses indicate this possibility.
3. Evaluate vendor recommendations as soon as they are available to possibly reduce or eliminate the sensor set point drift problem. (Letter to Mr. A. Giambusso from Mr. D. A. Ross, dated December 24, 1973.)

Failure Data:

Manufacturer data pertinent to these switches are as follows:

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

ADDENDUM TO ABNORMAL OCCURRENCE REPORT NO. 50-219/74/1

On Thursday, January 10, 1974, prior to recalibrating the low pressure main steam line sensors to take the head correction factor into account, a surveillance check was again performed on these sensors. In addition, set point repeatability of the sensors was also checked by observing two consecutive trip points on the test. The following results were obtained:

	<u>Test #1</u>	<u>Test #2</u>	<u>Test #3</u>	<u>Final "As Left" Set Point</u>
RE23A	832	840	---	860
RE23B	845	840	---	860
RE23C	855	875	875	860
RE23D	845	845	---	860

Upon reviewing the results of this surveillance check on Friday, January 11, 1974, it was decided to perform the check again for repeatability. The "as found" set points of this calibration check yielded the following results:

	<u>Before Calibration</u>		<u>After Calibration</u>
	<u>Test #1</u>	<u>Test #2</u>	
RE23A	862	862	860
RE23B	860	860	860
RE23C	860	860	860
RE23D	850	851	860