



LONG ISLAND LIGHTING COMPANY

SHOREHAM NUCLEAR POWER STATION

P.O. BOX 618, NORTH COUNTRY ROAD • WADING RIVER, N.Y. 11792

JOHN D. LEONARD, JR.
VICE PRESIDENT - NUCLEAR OPERATIONS

AUG 14 1987

SNRC-1366

Mr. W. T. Russell, Regional Administrator
U. S. Nuclear Regulatory Commission
Region I
631 Park Avenue
King of Prussia, PA 19406

Reportable Defect - 10CFR Part 21
Two Inch 90° Elbow - Forged Steel Fittings
Shoreham Nuclear Power Station - Unit 1
Docket No. 50-322

Dear Mr. Russell:

In accordance with the requirements of 10CFR Part 21.21 (b) (2) and (3) LILCO hereby submits this written report.

- 1) On August 11, 1987, Mr. C. A. Daverio of my staff notified Mr. Curt Cowgill of the NRC Region I office that LILCO discovered the subject defect and after evaluation, concluded that it was reportable.
- 2) The basic component(s) containing defects in the form of rejectable indications are two inch, 6000 lb. socket weld ninety degree (90°), forged steel (ASME SA-105) elbows and 1 1/2" tees.
- 3) These forged steel fittings were purchased from Guyon Alloys, Inc., 950 South Fourth Street, Harrison, New Jersey 07029, on LILCO purchase order number 345637, dated December 13, 1978. LILCO documentation indicates that the subject fittings were manufactured by the Standard Fittings Co., P.O. Box 1268, Opelousas, Louisiana 70570 and inspected by X-Ray Inspection, Inc., P.O. Box 51651, Lafayette, Louisiana 70505.

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- 4) The inspection process (magnetic particle) used by X-Ray Inspection Inc., to test these components appears to have failed to detect and evaluate the acceptability of linear indications on the fittings described in this written report. These indications were determined to be rejectable on the basis of our analysis, which concluded that minimum wall would have been violated if these indications were ground down. The identified components were ordered to ASME Section III, Subsection NB (July 1, 1977, including winter addenda through December 31, 1977) requirements.

A potential for creating a substantial safety hazard existed in that the defective components could have been installed in the reactor coolant pressure boundary or a safety related system. If these defective components were installed in either service, it could have created a potential for leakage from the reactor coolant boundary or from safety related systems which are required to mitigate accidents.

- 5) The preliminary information identifying the potential defect was obtained on May 7, 1987, and documented in LILCO Deficiency Report (LDR) 87-110, for heat 22X; LDR 87-194, for heat 27Y and LDR 87-218 for heat 23I.
- 6) The initial and subsequent defects were found in material forged from two heats (43 pieces in heat 22X, 107 pieces in heat 27Y). Of the 43 elbows from heat 22X, one has been installed in the reactor water cleanup system. A liquid penetrant inspection was performed on the installed elbow and the results show that it is acceptable for use, based on the acceptance standards of NB-2546.3. Indications which exceeded the acceptance standards of NB-2545.3/2546.3 were considered relevant indications and required further evaluation. Indications which, based on our analysis and evaluation, would have violated minimum wall if the indications were ground down were considered rejectable. A magnetic particle inspection was performed on the remaining forty-two (42) elbows in heat 22X. The results of this inspection showed that twenty (20) of these forty-two (42) elbows had relevant indications, five (5) of the twenty (20) elbows contained indications that were rejectable. A sample population of 41 elbows out of a total of 107 forged from heat 27Y were magnetic particle inspected, the results of which revealed that ten (10) of these elbows had relevant indications, two (2) of which were rejectable. A review of all pertinent isometric drawings for safety related systems allows us to conclude that none of the 107 elbows forged from heat 27Y are installed in safety related service.
- 7) The forty-two (42) remaining elbows forged from material of heat 22X are in the warehouse as are ninety-nine (99)

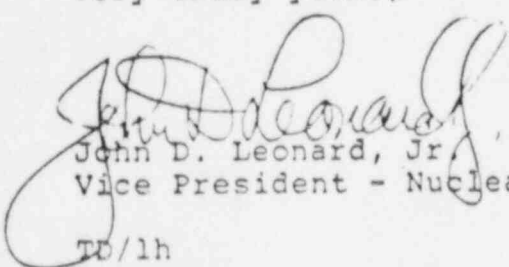
elbows from heat 27Y. These elbows have all been placed on hold.

In addition to the identified defect(s), LILCO has performed magnetic particle inspection on fifteen (15) of one hundred (100), 1 1/2" 6000 lb. socket weld forged steel (ASME SA-105) tees, from heat 23I. The same documentation that certified the magnetic particle inspection for the defective elbows was used to certify these tees. This inspection resulted in one (1) of the fifteen (15) tees being rejected due to unacceptable linear indications found during inspection. Of the one hundred (100) tees received, ninety-nine (99) have been accounted for and are in the warehouse. A thorough search through all of the isometric drawings for the safety related systems where these tees could have been installed allows us to conclude that the remaining one (1) is not installed in a safety related service. All of the remaining (99) tees in the warehouse have also been placed on hold.

Existing plant documents will be reviewed in an attempt to locate the above identified nine fittings which have been confirmed not to be installed in safety related systems. A determination will be made as to the adequacy of these nine (9) fittings. This determination will be based on magnetic particle/liquid penetrant inspection or an engineering analysis. It is our intent to complete this determination by September 30, 1987.

If additional information is required, please do not hesitate to contact this office.

Very truly yours,



John D. Leonard, Jr.
Vice President - Nuclear Operations

TD/lh

cc: R. Lo
C. Warren
Document Control Desk