



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

December 14, 1990

Docket No. 50-440

Mr. Michael D. Lyster
Vice President Nuclear - Perry
The Cleveland Electric Illuminating
Company
10 Center Road
Perry, Ohio 44081

Dear Mr. Lyster:

SUBJECT: FEEDWATER NOZZLE WELD INDICATIONS - PERRY UNIT 1
(TAC NO. 79022)

During the current refueling outage (RFO-2), the Cleveland Electric Illuminating Company (CEI) performed inservice examinations at the Perry Nuclear Power Plant (PNPP), Unit 1, in accordance with the requirements of Section XI of the ASME Code and NRC Generic Letter 88-01, "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping." These examinations identified indications in the welds of two feedwater nozzles (N4E and N4C) that require evaluation per the ASME Code to support continued plant operation without repair. By letter dated November 26, 1990, CEI submitted the results of the ultrasonic inspections and the required crack growth evaluation. Additional information was provided by your staff in conference calls conducted on November 15 and December 3, 1990.

The two identified indications are circumferentially-oriented and are located near the junctions of the feedwater nozzle safe-end and Inconel 182 buttering. The depth of each indication is approximately 0.15 inches; the lengths of the indications are 2.9 inches and 1.6 inches for the N4C and N4E nozzles, respectively. Your evaluation projected that the larger (bounding) crack could grow to a depth of 0.45 inch and a length of 9.0 inches over the course of the next 18-month operating cycle (Cycle 3). Based on a calculated Code-allowable flaw depth of 0.65 inch at the end of Cycle 3 operation, your evaluation determined that operation through Cycle 3 is acceptable. You further indicated that additional ultrasonic examinations of the welds will be performed at the next refueling outage.

The NRC staff has reviewed the information provided in your November 26, 1990 letter and in the conference calls referred to above. In addition, the staff has also performed an independent calculation and has concluded that there is reasonable assurance the structural integrity of the feedwater nozzle to safe-end welds will be maintained at least through mid-cycle operation (approximately October 1991), and on that basis, that restart from the current outage is acceptable. However, additional information is needed for the NRC staff to

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Mr. Michael D. Lyster

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complete its evaluation and determine the acceptability of operating the plant for the duration of Cycle 3. Specifically, your analysis assumed a crack growth rate less conservative than the value typically used by the staff in evaluating crack growth in Inconel 182 weld material. Therefore, you are requested to provide more detailed justification for use of that assumption and to address options for obtaining actual or representative crack growth data during the cycle. This additional information should also include those items discussed with your staff in the December 3, 1990 conference call. This information is requested within 45 days of plant startup for Cycle 3.

Following review of this additional information, the NRC staff will issue a safety evaluation addressing plant operation with the existing indications for the duration of Cycle 3.

The reporting requirements in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under Public Law 96-511.

Sincerely,

original signed by
James R. Hall, Sr. Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

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Perry Nuclear Power Plant
Unit Nos. 1 and 2

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