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November 23, 1987

Re: Indian Point Unit No. 2
Docket No. 50-247

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Susceptibility of Indian Point Unit No. 2 (IP-2) Steam Generators to High Cycle Fatigue Tube Failure

The purpose of this letter is to transmit information and material presented during a meeting on November 12, 1987 between NRC staff, Con Edison and representatives from Westinghouse. At that meeting we presented the results of the investigation and evaluations we have undertaken to determine whether the Indian Point Unit No. 2 (IP-2) steam generators may be susceptible to a tube failure similar to the one that occurred at North Anna-1 on July 15, 1987. Upon receiving notification from Westinghouse that IP-2, based upon a very preliminary review, may be susceptible to the North Anna type generator tube failure mechanism (i.e. high cycle fatigue), we initiated several plant-specific analyses with Westinghouse to more accurately determine which tubes, if any, might be susceptible. Thermal-hydraulic, fatigue and vibration analyses that incorporated an accurate determination of anti-vibration bars (AVB) insertion depths were performed for IP-2 steam generators Nos. 22 and 24. The results of these analyses were discussed at the November 12, 1987 meeting and a report is provided in Attachment A. Based on these analyses, we have concluded that steam generators 22 and 24 are not susceptible to tube fatigue rupture at the top support plate similar to that which occurred at North Anna 1, and that accordingly no modification or preventative tube plugging is required.

Similar analyses for steam generator Nos. 21 and 23 are ongoing and will be completed after AVB insertion depths are verified for these generators by analyzing eddy current data. Therefore, the eddy current testing program planned during the current refueling and maintenance outage has been expanded to allow us to determine the AVB location in steam generators 21 and 23. The final results of our evaluation of steam generators 21 and 23 will be provided to the NRC by a separate letter following the conclusion of the testing program and analyses, along with a description of any modifications and corrective actions, which may be indicated by our conclusions.

We have also assessed our primary to secondary leak detection capability to assure that IP-2 systems and procedures are capable of producing leak rate

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data that would allow for positive detection and timely corrective actions before any fatigue-induced gross tube failure were to occur. A description of our overall capability and the administratively imposed leak rate limits, together, with their associated corrective actions, are provided in Attachment B.

Additionally, Attachment C provides our updated response to fifteen (15) questions requested by the NRC Region I office.

Based upon the foregoing inquiries and actions undertaken to date, we are unaware of any information which would suggest that the steam generators of IP-2 are particularly susceptible to the tube failure mechanism experienced at North Anna 1.

Please contact us if you have any questions on this matter.

Very truly yours,

Murray Selman

Attachments

cc: Ms. Marylee M. Slosson
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