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DAVIS, A. B. Region 3, Ofc of the Director

SUBJECT: Responds to NRC Bulletin 88-002, "Rapidly Propagating Fatigue Cracks in Steam Generator Tubes," requiring util to implement an enhanced primary to secondary leak rate monitoring program.

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April 4, 1988

Mr. A. B. Davis
Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Dear Mr. Davis:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
NRC Bulletin No. 88-02: Rapidly Propagating Fatigue Cracks in Steam Generator Tubes

Reference: 1) Letter dated February 5, 1988 from C.E. Rossi to all Holders of Operating Licenses or Construction Permits.

By letter dated February 5, 1988 (reference 1), Wisconsin Public Service Corporation (WPSC) received NRC Bulletin No. 88-02 entitled "Rapdily Propagating Fatigue Cracks in Steam Generator Tubes". The bulletin requires WPSC to implement an enhanced primary to secondary leak rate monitoring program and document such in a written response. This letter provides the requested information. As agreed upon with our NRC Project Manager this information is being provided on April 4 versus within the 45 days required by the bulletin.

The primary method to detect steam generator primary to secondary leakage at the Kewaunee Nuclear Power Plant utilizes a condenser air ejector radiation monitor (R-15) with alarm capabilities. The R-15 annunciation in the control room provides early detection of a primary to secondary leak. Upon actuation of the alarm, an air ejector sample will be drawn to confirm the indication.

The R-15 alarm setpoint is normally 700 cpm which under typical KNPP condenser air inleakage and reactor coolant system (RCS) activity conditions correlates to less than a ten (10) gallon per day leak. Alarm setpoint adjustments can be made if a leak is detected to enable recognition (alarm) of further tube degradation.

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When the R-15 monitor indicates an upward trend we typically implement our leak rate calculation procedure (RC-C-88) to determine the leak rate in gallons per day. If the leak rate increases to greater than 10 gallons per day further tube degradation will be assumed to occur as presented in Figure 1 of the bulletin and the amount of time available before we would need to start a power reduction to a level of 50 percent power or less will be calculated. Operations personnel will be informed of the potential for power reduction based on projected leakage and that updates on power reduction requirements will be provided periodically. Subsequent R-15 monitor trending or leak rate calculations will be utilized in conjunction with Figure 1 of the bulletin to revise or confirm the projected power reduction requirements. This will ensure that the plant is at or below the 50 percent power level five hours before the tube rupture is projected to occur. Should the leak rate continue to increase beyond 500 gallons per day, Technical Specification 3.1.d.2 requires that action be taken to reduce the leak rate within four (4) hours or be in a cold shutdown condition within the next thirty six (36) hours.

If R-15 is out of service, the frequency of condenser air ejector sample acquisition will be increased to once per twelve (12) hours in accordance with Technical Specification Table 7.2. If the sample analysis indicates an increase of activity the leak rate calculation procedure will be performed. The same power reduction and shutdown criteria as stated above will be applied.

In summary, WPSC has primary to secondary leakage detection capabilities that are sufficiently sensitive to provide early notice of leakage. Administrative limits have been formulated which will ensure that commencement and completion of plant power reductions will occur within the time limitations specified in NRC Bulletin No. 88-02.

Very Truly Yours,

D. C. Hintz
Vice President - Nuclear Power

DSN/mjm

cc - US NRC Document Control Desk
Mr. Robert L. Nelson, US NRC

Subscribed and Sworn to
Before Me This 4th Day
of April 1988

Darlene L. Yanda
Notary Public, State of Wisconsin

My Commission Expires:
06-25-90