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 FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana M 05000315

AUTH. NAME: FITZPATRICK, E. AUTHOR AFFILIATION: Indiana Michigan Power Co.
 RECIP. NAME: MURLEY, T.E. RECIPIENT AFFILIATION: Document Control Branch (Document Control Desk)

SUBJECT: Discusses info re NRC Bulletin 88-002, "Rapidly Propagating Fatigue Cracks In SG Tubes."

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AEP:NRC:1056E

Donald C. Cook Nuclear Plant Unit 1
Docket No. 50-315
License No. DPR-58
NRC BULLETIN NO. 88-02, "RAPIDLY PROPAGATING
FATIGUE CRACKS IN STEAM GENERATOR TUBES"

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

Attn: T. E. Murley

January 28, 1994

Dear Dr. Murley:

Reference: Letter, AEP:NRC:1056A, E. E. Fitzpatrick (AEP) to
Dr. T. E. Murley (NRC), NRC Bulletin 88-02, "Rapidly
Propagating Fatigue Cracks in Steam Generator
Tubes", dated October 16, 1992

In our October 16, 1992, submittal, Indiana Michigan Power Company committed to implement a program for Unit 1 to minimize the probability of a rapidly propagating fatigue failure of a steam generator tube, the program to be based on analysis performed by Westinghouse Electric Corporation. Westinghouse Electric Corporation has performed the evaluation for tube vibration induced fatigue for Donald C. Cook Nuclear Plant Unit 1 steam generator tubes. The evaluation utilized operating conditions specific to Unit 1 to account for the plant specific nature of the tube loadings and response, including reviews of eddy current data to establish anti-vibration bar locations. The potential for vibration induced fatigue of Unit 1 tubes was evaluated for current operating conditions, and projected conditions for 30% steam generator tube plugging.

The results of the Westinghouse evaluation identified a total of five tubes in three steam generators that may require preventive or corrective action under the above referenced operating conditions. Projected tube fatigue usage factors indicate that all five tubes are acceptable for operation through the current fuel cycle, which is scheduled to end in February 1994. The fatigue usage factor for tube R8C35 (Row 8, Column 35) in SG11 (Unit 1 steam generator number 1), while still less than 1.0, is

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Dr. T. E. Murley

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projected to eventually exceed 1.0 under current operating conditions during the remainder of Cook Nuclear Plant Unit 1 operating license. As a preventive/corrective measure, this tube will be removed from service during the upcoming refueling outage.

The four remaining tubes, R8C60 and R9C35 in SG12, R8C35 and R9C60 in SG13, are projected to have an acceptable fatigue usage factor of less than 1.0 for the current operating conditions, but could exceed 1.0 if tube plugging levels reached 30%. Current plugging levels for these steam generators are:

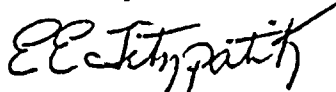
Steam Generator Number 11	10.2%
Steam Generator Number 12	7.0%
Steam Generator Number 13	6.9%

The four tubes will be evaluated for preventive or corrective measures if steam generator tube plugging levels approach 30% in the respective steam generator. All tubes in steam generator number 4 were found to be acceptable. The plugging level for the steam generator number 14 is 6.3%.

Details of the Westinghouse evaluation are contained in WCAP-13814, dated December 1993, which will be on file at Cook Nuclear Plant site.

This letter is submitted pursuant to 10CFR50.54(f), and, as such, an oath statement is attached.

Sincerely,



E. E. Fitzpatrick
Vice President

RGV/cad

Attachment

cc: A. A. Blind
G. Charnoff
J. B. Martin - Region III
NFEM Section Chief
NRC Resident Inspector - Bridgman
J. R. Padgett

STATE OF OHIO)
COUNTY OF FRANKLIN)

E. E. Fitzpatrick, being duly sworn, deposes and says that he is the Vice President of licensee Indiana Michigan Power Company, that he has read the forgoing response concerning Bulletin 88-08, "Thermal Stresses in Piping Connected to Reactor Coolant Systems," and that said contents are true to the best of his knowledge and belief.

E. E. Fitzpatrick

Subscribed and sworn to before me this 1st

day of February, 19 94.

Rita D. Hill

NOTARY PUBLIC
RITA D. HILL
NOTARY PUBLIC, STATE OF OHIO
MY COMMISSION EXPIRES 6-22-94