



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555

August 10, 1992

Docket No. 50-315

Mr. E. E. Fitzpatrick, Vice President
Indiana Michigan Power Company
c/o American Electric Power
Service Corporation
1 Riverside Plaza
Columbus, Ohio 43216

Dear Mr. Fitzpatrick:

SUBJECT: DONALD C. COOK NUCLEAR PLANT, UNIT 1, NRC BULLETIN 88-02, "RAPIDLY
PROPAGATING FATIGUE CRACKS IN STEAM GENERATOR TUBES"
(TAC NO. M67301)

On February 5, 1988, the staff issued NRC Bulletin 88-02, "Rapidly Propagating Fatigue Cracks in Steam Generator Tubes." The Bulletin requested that holders of operating licenses or construction permits for Westinghouse (W) designed nuclear power reactors, with steam generators having carbon steel support plates, implement actions to minimize the potential for a steam generator tube rupture event caused by a rapidly propagating fatigue crack such as the one that occurred at North Anna Unit 1 on July 15, 1987. You responded to the Bulletin by letter dated March 31, 1988, AEP:NRC:1056, which indicated that D. C. Cook Unit 1 showed evidence of service-induced tube denting. You also provided a program for minimizing the probability of tube rupture as required by the Bulletin's Action Item C.

The staff transmitted to you a request for additional information (RAI) on September 29, 1988, concerning your implementation of Bulletin 88-02. You responded by letter dated January 26, 1990, AEP:NRC:1056A, which revised your position that service-induced denting was not present in the D. C. Cook Unit 1 steam generators based on a detailed evaluation of the previous data and additional data from an April 1989 Eddy Current testing, and that Action Item B (of the Bulletin) rather than Action Item C was applicable to your plant.

On May 9, 1990, the staff transmitted to you a second RAI concerning your revised position of the requirements of the Bulletin. In your response dated June 5, 1990, you evaluated and addressed your basis for arriving at a conclusion stated in the January 26, 1990 letter.

The staff and its contractor's Oak Ridge National Laboratory (ORNL), reviewed your June 5, 1990, response. On August 9, 1991, the staff transmitted to you additional concerns regarding the threshold detection level of magnetite on the steam generator tubes and the amount of magnetite needed for the pinning of tubes. In addition, the staff provided you a copy of the report from ORNL addressing the staff concerns.

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Mr. E. E. Fitzpatrick

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August 10, 1992

In your response to the staff's concerns and subsequent verbal communications, you forwarded the eddy current graphics for a select number of tubes to allow the staff and its contractor to review them. We have reviewed the graphics and the specific findings are contained in the enclosed Safety Evaluation (SE). Based on the SE, we conclude that there is evidence of the presence of magnetite in the tube-to-tube support plate crevices. Therefore, we find that D. C. Cook's, Unit 1 steam generators contain denting as defined in Paragraph A of the Action Requested section of NRC Bulletin 88-02.

Based on these findings and consistent with NRC Bulletin 88-02, we request that you submit a written report determining how you will be making modifications to come into compliance with Bulletin 88-02. Specifically, the report should provide details of how the steam generators at D. C. Cook, Unit 1 will comply with the actions specified in paragraph C of the Actions Requested section of NRC Bulletin 88-02. Within 60 days following receipt of this letter, provide an appropriate schedule for completion of all analyses and modifications to be in full compliance with NRC Bulletin 88-02.

Sincerely,

Original signed by

John F. Stang, Project Manager
Project Directorate III-1
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosure:
Safety Evaluation

cc w/enclosure:
See next page

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Mr. E. E. Fitzpatrick

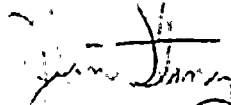
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August 10, 1992

In your response to the staff's concerns and subsequent verbal communications, you forwarded the eddy current graphics for a select number of tubes to allow the staff and its contractor to review them. We have reviewed the graphics and the specific findings are contained in the enclosed Safety Evaluation (SE). Based on the SE, we conclude that there is evidence of the presence of magnetite in the tube-to-tube support plate crevices. Therefore, we find that D. C. Cook's, Unit 1 steam generators contain denting as defined in Paragraph A of the Action Requested section of NRC Bulletin 88-02.

Based on these findings and consistent with NRC Bulletin 88-02, we request that you submit a written report determining how you will be making modifications to come into compliance with Bulletin 88-02. Specifically, the report should provide details of how the steam generators at D. C. Cook, Unit 1 will comply with the actions specified in paragraph C of the Actions Requested section of NRC Bulletin 88-02. Within 60 days following receipt of this letter, provide an appropriate schedule for completion of all analyses and modifications to be in full compliance with NRC Bulletin 88-02.

Sincerely,



John F. Stang, Project Manager
Project Directorate III-1
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosure:
Safety Evaluation

cc w/enclosure:
See next page

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Donald C. Cook Nuclear Plant

cc:

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