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SUBJECT: Provides results of flow-incuded vibrational wear of bottom mounted instrumentation thimble tubes insp. Design change to replace all present-design thimble w/chrome plated tubes, will be implemented in 1999 during refueling outages.

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January 5, 1998

AEP:NRC:1059G

Docket Nos.: 50-315
50-316

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

Gentlemen:

Donald C. Cook Nuclear Plant Units 1 and 2
BOTTOM MOUNTED INSTRUMENTATION THIMBLE TUBE 1997
WEAR INSPECTION RESULTS

The purpose of this letter is to provide the NRC with an updated status regarding flow-induced vibrational wear of bottom mounted instrumentation thimble tubes. Information on this topic was previously provided in our submittal AEP:NRC:1059F, dated July 30, 1996.

During the 1992 refueling outages, fifteen thimble tubes were replaced in unit 1, and twenty-two thimble tubes were replaced in unit 2. The replacement thimble tubes were chrome plated at axial locations corresponding to the lower core plate and fuel assembly lower nozzle area. During the 1997 unit 1 and unit 2 refueling outages, an eddy current inspection was performed on all thimble tubes. After three cycles of operation for each unit, the chrome plated thimble tubes show no indications of wear on the plated portions of the tubes. Active indications of wear continued to be observed on the other thimble tubes. These results reconfirm our conclusion based on the eddy current inspections during the 1994 refueling outages that the chrome plating is an effective engineered solution to vibration-induced thimble tube wear.

We informed the NRC staff in our submittal AEP:NRC:1059E, dated November 23, 1994, that we intend to implement a design change to replace all present-design thimble tubes with chrome plated tubes. Although less severe, wear indications have also subsequently been observed at axial tube locations corresponding to the lower core support dome and diffuser plate in the lower internals. The new thimble tubes will be chrome plated over a longer length to impede wear from occurring at these additional locations.

As stated in our last letter, AEP:NRC:1059F, we had originally anticipated implementation of the design change on both units during the refueling outages of 1997; however, we have elected to postpone implementation for one operating cycle. The reasons for this scheduling change were: 1) an analysis of thimble tube wear rates showed that one additional operating cycle could be achieved without significantly increasing the risk of a thimble tube failure and without significant loss of flux mapping locations; and 2) outage planning for other activities which required the lower internals to be removed during the 1997 refueling outages made implementation of this change less desirable until a later date.

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Based on the 1997 eddy current results, reconfirmation of item 1 was achieved.

It is our intention that this design change will be implemented on both units during the upcoming refueling outages currently projected to occur in 1999.

We will continue to keep the NRC staff informed of developments in this area.

Sincerely,



E. E. Fitzpatrick
Vice President

/vlb

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