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SUBJECT: Forwards results of eddy current exam of thimble tubes
during 1990 refueling outage & tube testing program.

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AEP:NRC:1059B

Donald C. Cook Nuclear Plant Unit 1
Docket No. 50-315
License No. DPR-58
RESULTS FROM EDDY CURRENT EXAMINATION OF THIMBLE TUBES DURING
1990 REFUELING OUTAGE AND THIMBLE TUBE TESTING PROGRAM

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

Attn: T. E. Murley

November 27, 1990

Dear Dr. Murley:

At an August 29, 1990 meeting with members of your staff to discuss the results of the Unit 2 summer 1990 eddy current examination of the thimble tubes, we committed to provide the results of the Unit 1 autumn 1990 thimble tube eddy current examination. Also, in our letter AEP:NRC:1059 dated October 26, 1988, we committed to provide a thimble tube testing program for Unit 1 based on eddy current results obtained during the autumn 1990 refueling outage. These items are included in this letter.

Attached is a summary of the results from the Unit 1 autumn 1990 eddy current examination. After operating for only one cycle after being replaced, some amount of wear was found on 56 of the 57 thimble tubes. One tube could not be replaced during the previous refueling outage; its location was capped during Cycle 11 operation and therefore no data is available for the 58th thimble tube. The maximum amount of wear found in one tube was 64%. As was noted for the Unit 2 thimble tubes, the worst wear on the majority of the tubes is found at locations corresponding to the fuel assembly bottom nozzle.

During the current refueling outage, we will reposition the 29 thimble tubes that have wear indications in excess of 30% to realign wear surfaces to a location which is free of wear. No tubes will be replaced as the indications for all tubes are below the value provided by Westinghouse Electric Corporation in their finite element analysis of the Cook Nuclear Plant thimble tubes.

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Again, as noted in our letter AEP:NRC:1059A dated October 19, 1990, we are still evaluating the root cause of our thimble tube wear. In the August 29, 1990, meeting we committed to provide the staff with the results of our root cause analysis and long-term recommendations, both of which we indicated would be provided in early 1991.

Finally, with regard to a Unit 1 thimble tube inspection program, we will continue to re-examine the Unit 1 thimble tubes and replace or reposition thimble tubes as necessary during each refueling outage until cyclic wear rates are reduced to reasonable levels as a result of an engineered long-term solution to this problem. At that time, this inspection program will be reviewed and, if necessary or prudent, revised. We will inform you of any such change. This program is identical to the Unit 2 thimble tube inspection program provided to you in our letter AEP:NRC:1059A.

This document has been prepared following Corporate procedures that incorporate a reasonable set of controls to ensure its accuracy and completeness prior to signature by the undersigned.

Sincerely,



M. P. Alexich
Vice President

ldp

Attachment

cc: D. H. Williams, Jr.
A. A. Blind - Bridgman
J. R. Padgett
A. B. Davis - Region III
NRC Resident Inspector - Bridgman
NFEM Section Chief

ATTACHMENT TO AEP:NRC:1059B

D.C. COOK UNIT #1 INCORE THIMBLES

MAXIMUM LOSSES - PERCENT OF WALL

PERCENT WALL LOSS	65% & GREATER	60-64	50-59	40-49	30-39	20-29	LESS THAN 20% & DISTORTION	NO DAMAGE
TUBES	0	3	7	9	10	17	10	1
TUBE NUMBERS		6-J-10 7-F-7 28-C-7	2-J-7 10-L-8 35-B-8 45-N-13 49-D-14 50-R-6 53-R-11	4-H-6 14-H-4 27-C-8 33-C-5 34-H-2 36-J-14 39-B-6 46-J-1 55-N-14	1-J-8 8-K-6 11-G-5 17-G-12 20-E-5 21-E-11 26-H-3 43-H-15 52-L-15 54-A-11	3-G-9 5-F-8 9-H-11 12-E-9 16-M-7 18-L-11 19-L-5 23-D-10 29-N-6 30-F-3 31-D-12 37-P-9 41-N-4 47-A-9 48-P-4 57-B-3 58-B-15	13-L-10 15-D-8 22-K-12 24-H-13 25-N-8 32-L-13 38-K-2 40-F-14 42-D-3 56-N-2	44-R-8
		TUBE	51-F-1	IS CAPPED				