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SUBJECT: Forwards background info & justification amend 1 to Code
 Relief Request 4 for Class 1 RPV lower head & closure head
 dollar plate welds for Cook Nuclear Plant Units 1 & 2 third
 10-yr interval ISI plan.

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October 21, 1998

AEP:NRC:0969BN

Docket Nos: 50-315
50-316

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Washington, D. C. 20555-0001

Gentlemen:

Donald C. Cook Nuclear Plant Units 1 & 2
RELIEF REQUEST FOR THE THIRD TEN-YEAR IN-SERVICE INSPECTION PLAN

References:

1. Letter, AEP:NRC:0969AJ, "Donald C. Cook Nuclear Plant Units 1 and 2, RELIEF REQUESTS FOR THE THIRD TEN-YEAR IN-SERVICE INSPECTION PLAN", dated January 25, 1996.
2. Letter, John B. Hickman, NRC to E. E. Fitzpatrick, AEP, "REQUEST FOR ADDITIONAL INFORMATION REGARDING THE D. C. COOK NUCLEAR PLANT, UNITS 1 AND 2 THIRD 10-YEAR INTERVAL INSERVICE INSPECTION PROGRAM PLAN AND ASSOCIATED REQUESTS FOR RELIEF (TAC NOS. M94871 and M94872), dated January 14, 1998.
3. Letter, AEP:NRC:0969BK, "Donald C. Cook Nuclear Plant Units 1 and 2, ADDITIONAL INFORMATION REGARDING THIRD 10-YEAR INTERVAL INSERVICE INSPECTION PROGRAM PLAN", dated July 8, 1988.

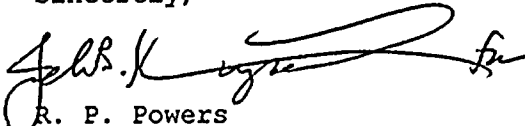
Cook Nuclear Plant's third ten year in-service inspection plan, together with its associated relief request, was transmitted to the NRC in reference 1. Subsequent to this submittal, reference 2 transmitted a request for additional information regarding the test plan and the relief requests. Reference 3 responded to the request for additional information. As part of the response, we stated that we would revise relief request number 4 for both units to correct a mis-statement regarding the examination of meridional welds. The previous relief request had stated that one meridional weld would be examined, whereas the accessible length of all meridional welds will be examined.

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PDR ADDCK 05000315
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The relief request, which is being submitted under the provisions of 10 CFR 50.55a(g)(5)(iii), is attached to this letter.

Sincerely,


R. P. Powers
Vice President

/jmc

Attachment

c: J. A. Abramson
J. L. Caldwell, w/attachment
MDEQ - DW & RPD
NRC Resident Inspector, w/attachment
J. R. Sampson, w/attachment

bc: T. P. Beilman, w/attachment
E. R. Eckstein/D. R. Hafer/K. R. Baker
J. J. Euto
FOLIO, w/attachment
B. J. Hickie
G. Honma
J. B. Kingseed/G. P. Arent/M. J. Gumns
J. F. Stang, Jr., - NRC Washington, DC, w/attachment

ATTACHMENT TO AEP:NRC:0969BN

BACKGROUND INFORMATION AND JUSTIFICATION AMENDMENT 1 TO CODE
RELIEF REQUEST #4 FOR CLASS 1 RPV LOWER HEAD AND CLOSURE HEAD
DOLLAR PLATE WELDS FOR THE COOK NUCLEAR PLANT UNITS 1 AND 2
THIRD 10-YEAR INTERVAL

I System/Component for Which Relief Is Requested

All class 1 reactor pressure vessel lower and closure head dollar plate welds for units 1 & 2.

II Code Requirements

In accordance with the Code of Federal Regulations Title 10, (a) paragraph 50.55(a)(g)(5)(iv), ASME Section XI, 1989 edition, no addenda, Table IWB-2500, Examination Category B-A requires that circumferential and meridional head welds be volumetrically examined during each 10-year interval for the accessible length of weld.

III Basis for Code Relief

The implementation of code requirements as written and interpreted in the 1989 edition of the ASME Section XI code for volumetric examination of the lower and closure head dollar plate welds is impractical due to limited access caused by the control rod drive mechanism (CRDM) head penetrations and CRDM heat shroud for the closure head and the instrumentation penetrations for the lower head dollar plate welds.

IV Alternative Method

It is proposed that, in lieu of the volumetric examination requirements of ASME section XI for class 1 vessel head welds, the results of the system leakage test and VT-2 examination of all welds conducted during each refueling outage be used as a means of assessing the dollar plate weld integrity. Any through-wall leakage detected during these examinations would provide an early indication of a defective weld. These examinations will be conducted in accordance with ASME Section XI, IWB-2500, Category B-P and Code Case N-498-1, which has been previously approved by the NRC for use at the plant, reference 1.

V Justification for Granting Code Relief

Volumetric examination of the accessible length of the dollar plate welds for both heads is not possible due to examination limitations created by interference of the CRDM heat shroud and CRDM penetrations on the closure head dollar plate welds and the instrument penetrations located in the lower head. Removal of the CRDM heat shroud and metallic insulation from the closure head would be required to perform a limited exam on those lengths of weld between CRDM penetrations. Radiation exposure to remove the shroud and conduct a limited volumetric examination is

significant and would offset the benefits of conducting a limited ultrasonic examination. Access to the lower head dollar plate welds from the inside diameter of the vessel is not possible with the automated examination equipment due to instrumentation penetrations. Access from beneath the vessel to conduct a volumetric examination after removing metallic insulation is also limited due to the penetrations and also would result in unacceptable radiation exposures due to removal of and re-installation of insulation and the ultrasonic examination activities.

Relief was requested and granted for units 1 and 2 during our first and second 10-year intervals, references 2 and 3. There are no known reported industry failures of these welds based on input from our second 10-year interval ISI vendor. It is therefore concluded that the code relief requested above will not endanger life or property or otherwise compromise common defense and security.

References

1. Letter, C. A. Carpenter to E. E. Fitzpatrick, "D. C. Cook, Units 1 and 2, Requesting Approval of Code Case N-498-1 as an Alternative to the Required Hydrostatic Pressure Test", dated July 5, 1995.
2. Letter, S. A. Varga to J. Dolan, "Safety Evaluations Related to Requests for Relief from Inservice Inspection Requirements", dated April 15, 1983.
3. Letter, T. G. Colburn to M. P. Alexich, "Safety Evaluation Report of the Inservice Inspection Programs for D. C. Cook Units 1 and 2", dated January 24, 1991.