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ACCESSION NBR: 8804270187 DOC. DATE: 88/04/15 NOTARIZED: NO DOCKET #:
 FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana & 05000315
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 RECIP. NAME: MURLEY, T.E. RECIPIENT AFFILIATION: Document Control Branch (Document Control Desk)

SUBJECT: Requests continued code relief for testing of certain valves in inservice testing program. Fee paid.

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AEP:NRC:0969N
10 CFR 50.55a(g)(6)(i)

Donald C. Cook Nuclear Plant Unit 1
Docket No. 50-315
License No. DPR-58
EXTENSION OF CODE
RELIEF FOR RHR VALVES

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

Attn: T. E. Murley

April 15, 1988

Dear Dr. Murley:

Pursuant to discussions with your staff on April 8, 1988, the purpose of this letter is to request continuation of code relief for testing certain valves in the Inservice Testing (IST) Program. These valves, which are part of the residual heat removal (RHR) system, are presently excluded from the quarterly testing requirements of ASME Boiler and Pressure Vessel Code, Section XI, 1983 Edition, Subsection IWV, Article IWV-3000. The exclusion was granted by the NRC in a letter from Mr. D. L. Wiggington (NRC) to Mr. John E. Dolan (AEPSC), dated December 11, 1987. The relief provided by that letter, however, expires on June 30, 1988.

Continuation of relief is necessary since we believe the valves cannot be full- or part-stroke exercised during plant operation without posing significant risks such as inadvertently actuating containment spray. As an alternative to quarterly testing, we propose to continue following the requirement the NRC established in the December 11, 1987, letter which granted our present relief. The requirement is that the valves be tested during outages of sufficient duration when the plant is in a condition for tests to be performed. (Testing frequency would not exceed once per 92 days in the event of frequent outages, however).

The valves affected by this request are:

IMO-330 and IMO-331: Discharge lines from the outlet of the RHR heat exchangers for both the East and West RHR pumps going to the containment spray headers.

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T. E. Murley

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AEP:NRC:0969N

IMO-340: Discharge from the East RHR pump (downstream of the heat exchanger) to the suction of the centrifugal charging pumps.

IMO-350: Discharge from the West RHR pump (downstream of the heat exchanger) to the suction of the safety injection pumps.

The attachment to this letter provides background information and justification for our request. We note that the request is applicable only to Unit 1 of the Cook Nuclear Plant. The present code relief for Unit 2 does not expire until the upcoming refueling outage, which is currently scheduled to begin during the latter part of April 1988. At that time, Unit 2 will begin an outage of approximately 9 months to replace all 4 of the steam generators.

Date When Response Is Needed

Since the present relief for Unit 1 of the Cook Nuclear Plant expires on June 30, 1988, we request that you respond to us by June 27, 1988, in order to avoid an unnecessary unit shutdown. If we are not granted our request, we may be required to bring the unit to at least hot shutdown to perform the tests. This could require an outage of up to 4 days, and thus constitute a burden to our customers.

Pursuant to the requirements of 10 CFR 170.12(c), we have enclosed a check in the amount of \$150.00 for review of the code relief extension request.

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

Sincerely,



M. R. Alexich
Vice President

eh

Attachments

cc: D. H. Williams, Jr.
W. G. Smith, Jr. - Bridgman
R. C. Callen
G. Bruchmann
G. Charnoff
NRC Resident Inspector - Bridgman
A. B. Davis - Region III

Attachment to AEP:NRC:0969N

Background Information and Justification
for Code Relief Extension

Background

In our letter AEP:NRC:0969B, dated October 31, 1986, we requested permanent relief from the quarterly testing requirements of the ASME code for four valves in the residual heat removal (RHR) system. The valves affected by this request were IMO-330, 331, 340 and 350.

The relief was requested because of a change in the interpretation of the operability requirements of Technical Specification 3.5.2. Past testing methodology required closing the RHR cross-tie valves (IMO-314 and/or IMO-324), and thus limited RHR injection from a single pump to 2 loops. Under our present interpretation of operability, a single RHR pump must be able to deliver flow to all reactor coolant loops. As detailed in Attachment 1 to AEP:NRC:0969B, testing of the subject valves is not considered prudent with the RHR cross-tie valves open. Since it is unlikely that testing of the valves can be completed in 1 hour, testing with the cross-tie valves closed would result in commencement of a plant shutdown to fulfill the requirements of T/S 3.0.3.

In a safety evaluation report (SER) dated December 19, 1986, (letter from B. J. Youngblood to John E. Dolan), the NRC granted relief from the quarterly testing requirements, but only until the next scheduled refueling outages. The relief was only granted temporarily because we were revising the accident analyses such that operation of the Cook Nuclear Plant units with the RHR cross-tie valves closed would be supported. These analyses were submitted in our letters AEP:NRC:1024, dated March 23, 1987, and AEP:NRC:1024A, dated May 13, 1987. However, as indicated in our letter AEP:NRC:1024C, dated October 13, 1987, we were informed by our analyst, Westinghouse Electric Corporation (Westinghouse), that the analyses may be inadequate in that the effect that closing the cross-tie valves has on containment long-term calculated pressure was not included in the review.

The relief granted in the December 19, 1986 SER expired for Unit 1 with the Cycle 9-10 refueling outage, which ended in October 1987. The valves were successfully tested during the refueling outage, which meant that the next required quarterly test would have been due by December 13, 1987. Because we were unable to resolve the containment long-term pressure issue by that date, we submitted our letter AEP:NRC:0969I on November 20, 1987 asking that our previous relief for Unit 1 be extended. (No further relief was necessary for Unit 2, since the refueling outage currently scheduled for late April 1988 will last for 9 months due to replacing all 4 steam generators.)

During the course of the NRC's review of our November 20, 1987, request, additional information was requested on valves IMO-340 and -350. This information was submitted via our letter AEP:NRC:0969L, dated December 9, 1987. In that letter, we noted that relief from the quarterly test requirements for those two valves may still be necessary even after the cross-tie analyses are completed. In AEP:NRC:0969L, we committed to investigate this possibility, and to inform the NRC at the time the remaining analyses are submitted whether permanent relief will be necessary.

The code relief extension requested in AEP:NRC:0969L was granted by the NRC via an SER dated December 11, 1987. In that SER, the NRC extended the relief for Unit 1 through June 1988. Also in that SER, we were requested to submit the containment analyses for NRC review by March 1988.

In our letter AEP:NRC:0969M, dated January 18, 1988, we provided the NRC with a proposed course of action for completing the containment analyses necessary to support closure of the RHR cross-tie valves. We proposed to provide to the NRC by March 31, 1988, a qualitative evaluation, prepared by Westinghouse, which would assess the effect of RHR cross-tie closure on long-term containment integrity. The qualitative evaluation would have drawn upon Westinghouse's experience with other ice condenser plants and the benefits of later analytical models. The qualitative evaluation was to be followed, at a later date, by a plant specific containment analysis performed by Westinghouse as part of a program we are undertaking to allow operation of Unit 1 at reduced temperatures and pressures (The analysis will bound both of the Cook Nuclear Plant units). During subsequent discussions with your staff, we were informed that the NRC preferred that we submit the plant specific analysis only, but on an expedited schedule.

As discussed with your staff during a telephone conversation on April 7, 1988, Westinghouse is scheduled to deliver the containment analyses to us by June 30, 1988. The analyses will be transmitted to the NRC after we have completed our review. We expect that they will be transmitted to the NRC by September 1, 1988. Your staff has informed us they expect their review to be completed by January 1989. For this reason, we are requesting extension of our present code relief until January 31, 1989.

Justification for Relief

10 CFR 50.55 a(g)(5)(iii) allows licensees to submit requests for relief from a requirement of the ASME code if the requirement is impractical for the facility. Reasons why it is not possible to test valves IMO-330, -331, -340 and -350 were provided previously

in our original code relief request letter, AEP:NRC:0969B, dated October 31, 1986. Additional information on valves IMO-340 and -350 was provided in our letter AEP:NRC:0969L, dated December 9, 1987. The reasons provided in those letters remain applicable to our present request for code relief extension.

The inservice testing requirements for these valves date from 1981. Our review of the test results has determined that there were no failures in any of the subject Unit 1 valves. As discussed above, the Unit 1 valves were tested during the Cycle 9-10 refueling outage, which ended in October 1987. Based on the test results, we believe that extension of the code relief for IMO 330, 331, 340, and 350 will not endanger life or property or the common defense and security.