

CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9607010400 DOC. DATE: 96/06/28 NOTARIZED: NO DOCKET #
 FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana M 05000315
 50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana M 05000316
 AUTH. NAME AUTHOR AFFILIATION
 FITZPATRICK, E. American Electric Power Co., Inc.
 RECIP. NAME RECIPIENT AFFILIATION
 Document Control Branch (Document Control Desk)

SUBJECT: Requests relief from requirements of Section XI of ASME
 Code for in-service insp of Unit 1 boron injection line
 downstream of centrifugal charging pumps & Unit 1 safety
 injection line downstream of safety injection pumps.

DISTRIBUTION CODE: A047D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5
 TITLE: OR Submittal: Inservice/Testing/Relief from ASME Code - GL-89-04

NOTES:

RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
PD3-1 LA	1 1	PD3-1 PD	1 1
HICKMAN, J	1 1		
INTERNAL: AEOD/SPD/RAB	1 1	<u>FILE CENTER</u> 01	1 1
NRR/DE/ECGB	1 1	NRR/DE/EMCB	1 1
NRR/DE/EMEB	1 1	NUDOCS-ABSTRACT	1 1
OGC/HDS2	1 0	RES/DET/EMMEB	1 1
RES/DSIR/EIB	1 1		
EXTERNAL: LITCO ANDERSON	1 1	NOAC	1 1
NRC PDR	1 1		

NOTE TO ALL "RIDS" RECIPIENTS:
 PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK,
 ROOM OWFN 5D-5 (EXT. 415-2083) TO ELIMINATE YOUR NAME FROM
 DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTTR 15 ENCL 14

C
A
T
E
G
O
R
Y

1

D
O
C
U
M
E
N
T



AEP:NRC:0969AS

June 28, 1996

Docket Nos.: 50-315
50-316

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

Donald C. Cook Nuclear Plant Unit 2
REQUEST FOR ASME CODE RELIEF-LEAKAGE TESTS

Reference: 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 (TAC NOS.
M91783 AND M91784)", dated July 5, 1995.

Gentlemen:

The purpose of this letter is to request relief from the requirements of Section XI of the ASME Code for the in-service inspection of the Unit 1 boron injection line downstream of the centrifugal charging pumps and the Unit 1 safety injection line downstream of the safety injection pumps. Section XI requires that a hydrostatic test be performed on these lines once during each ten year interval.

A hydrostatic test was performed successfully during the first ten year interval. However, prior to performing the hydrostatic test during the second ten year interval, which ends June 30, 1996, we received approval to implement Code Case N-498-1, which allows the use of a system leakage test in lieu of the hydrostatic test (Reference). We have recently determined that the system leakage test for these lines was conducted using pressures that are lower than the maximum pressure to which the lines might be exposed when required to function and it is impractical to retest them until the next refueling outage, scheduled for January 1997.

We believe that the successful completion of the first interval hydrostatic tests together with both the successful completion of the leakage tests and the acceptable ASME Code examination of sample welds in each system, provide reasonable assurance that the

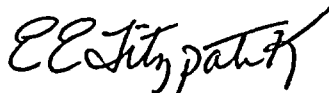
9607010400/960628
PDR ADDCK 05000315
G PDR

A0471/

structural integrity of each system has been maintained and that each system is capable of performing its intended function until the next refueling outage in January 1997.

The relief request attached to this letter is being submitted under the provisions of 10 CFR 50.55a(3)(i) as an alternative test that provides an acceptable level of quality and safety. We request approval of the attached relief request at your convenience.

Sincerely,



E. E. Fitzpatrick
Vice President

llg

Attachment

cc: A. A. Blind
G. Charnoff
H. J. Miller
NFEM Section Chief
NRC Resident Inspector - Bridgman
J. R. Padgett

Attachment to AEP:NRC:0969AS
Background Information and Justification
For Code Relief
For the ISI Hydrostatic Tests
For Cook Nuclear Plant Unit 1

I System Component for which Relief is Requested

Code relief is requested to defer the system leakage or pressure tests that are required to be performed in accordance with ASME Section XI Code Case N-498-1. An internal review of the ISI Hydrostatic Test Program for the second Ten Year ISI Interval revealed that the following Emergency Core Cooling System (ECCS) components were tested at lower than the Code-required test pressures:

1) Unit 1 safety injection (SI) to the reactor coolant system (RCS) cold legs, which includes all of the Class 2 components from the SI pumps to check valves (1-SI-161L1, -161L2, -161L3 and -161L4) and all of the Class 1 components from check valves (1-SI-161L1, -161L2, -161L3 and -161L4) to RCS check valves (1-SI-170L1, -170L2, -170L3 and -170L4).

2) Unit 1 boron injection to the RCS cold legs, which includes all of the Class 2 components from the centrifugal charging pumps to motor operated valves (1-ICM-250 and -251) and all Class 1 components from the motor operated valves (1-ICM-250 and -251) to the RCS check valves (1-SI-142L1, -142L2, -142L3 and -142L4).

II Code Requirements

ASME Code Section XI, 1983 Edition with Summer of 1983 Addenda, Tables IWB/IWC-2500-1, Category B-P/C-H, Items B15.51, B15.61, B15.71, C7.40, C7.60 and C7.80 requires visual (VT-2) examinations during hydrostatic testing of piping, pumps and valves for each ten year interval following the first ten year interval.

ASME Section XI Code Case N-498-1, which was adopted for use at Cook Nuclear Plant in 1995, allows as an alternative to a system hydrostatic test a system leakage test (IWB-5221) in Class 1 Systems and a system pressure test in Class 2 and 3 Systems.

III Basis for Code Relief

The system leakage and system pressure tests were performed at low pressures because of a misinterpretation of the meaning of nominal system operating pressure used in Code Case N-498-1. The interpretation was that the system leakage or pressure tests were to be performed at the nominal operating pressure of the system during normal operation. The test pressure used for the SI line was the discharge pressure of the residual heat removal (RHR) pumps (550 psig) instead of the discharge pressure of the SI pumps (1750 psig) which is the correct nominal system operating pressure. The test pressure used for the boron injection line was the

normal system operating pressure at 100% power, which is less than 100 psig, instead of the discharge pressure of the centrifugal charging pumps (2500 psig) which is the correct nominal system operating pressure.

The system leakage and pressure tests for these components require a unit outage. Performing the tests prior to the next refueling outage would require a unit shutdown with no commensurate safety or quality benefit.

IV Proposed Alternatives

The system leakage and pressure tests for the components in the SI and the boron injection lines will be deferred until the 1997 Unit 1 refueling outage, which will occur in the first period of the Third Ten Year ISI Interval. Until then, the testing that was performed at low pressure during the 1995 Unit 1 RFO will be considered acceptable.

V Justification for Granting of Code Relief

Performing system leakage and pressure tests for the safety injection line and the boron injection line would require a forced unit outage, with no commensurate safety benefit. Hydrostatic tests of the aforementioned components in accordance with the ASME Code Section XI were successfully performed in the first Ten Year ISI Interval, with no leakage observed.

The welds on the components have been examined, using NDE in accordance with the ASME Code Section XI, during the first and second Ten Year ISI Intervals, with no indications found. Also, even though the system leakage and pressure tests were performed during the Unit 1 1995 refueling outage at less than code acceptable pressures, no leakage was observed.

Additionally, the ECCS is conservatively designed for pressures up to 2735 psig. Piping components in the ECCS are constructed of austenitic stainless steel which is a ductile material, making brittle failure unlikely. Failure of this material would most likely be from cracking that, if severe enough, would be detected by the flow monitoring devices. The preceding discussion provides reasonable and sufficient assurance that system integrity has not been compromised and that deferral of the tests will not endanger life or property.

