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FACIL:50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana & 05000315
AUTH.NAME AUTHOR AFFILIATION
ALEXICH,M.P. Indiana & Michigan Electric Co.
RECIP.NAME RECIPIENT AFFILIATION
DENTON,H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Requests relief from provisions of ASME Boiler & Pressure Vessel Code Section XI,Subsection IWC-5000 for auxiliary spray to RCS & pressurizer.One oversize drawing encl. Aperture card available in PDR.Fee paid.

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INDIANA & MICHIGAN ELECTRIC COMPANY

P.O. BOX 16631
COLUMBUS, OHIO 43216

July 15, 1985
AEP:NRC:0070U

Donald C. Cook Nuclear Plant Unit No. 1
Docket No. 50-315
License No. DPR-58
INSERVICE INSPECTION PRESSURE TEST-CODE RELIEF

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Denton:

This submittal and its attached flow diagram are made pursuant to 10 CFR 50.55a(g)(6)(i). Code relief is requested from the provisions of ASME Boiler and Pressure Vessel Code Section XI, subsection IWC-5000. This request is in addition to those requested in our letter of May 17, 1985 (AEP:NRC:0070R). We request code relief and alternate tests as proposed for the following piping section:

1. Auxiliary Spray to Reactor Coolant System and Pressurizer, CVCS - Reactor Letdown and Charging System, Drawing 1-5129

   Piping Boundaries:

   Valves QRV-51 CS-326
   Valves QRV-61 CS-322
   Valves QRV-62

   ISI Code Class 2 Requirement:

   For a design pressure of 2735 psig, Article IWC-5000 of the ASME Code, Section XI, requires that the piping be tested at a pressure of 3418 psig, and a temperature not less than 100°F.

   Code Relief Request:

   It is proposed to test the above section of piping at a pressure of 2800 psig.

   Basis for Code Relief:

   In order to perform the pressure test in this ISI Class 2 Section of piping, valve QRV-51 has to be used as an isolation valve. This 1,500 lb. class, air-operated, control valve is

A047
1/1
~/check
$150.00

designed to withstand a test pressure of 3418 psig in the open position. However, it cannot be used as an isolation valve because it was designed for a differential pressure of 1200 psig.

The valve cannot be kept closed during pressure testing at 3418 psig without extensive, temporary rigging. The modification would require: (1) removal of the air operator and installation of a "strong back" to keep the valve closed during the testing, (2) removal of the strong back after the testing, and (3) re-installation of the air operator on the valve and restoring the valve to operable condition before returning to service. The valve is located inside the re-generative heat exchanger room which is a very high radiation area and plant personnel would be subjected to radiation exposure of 5 to 7 man rems.

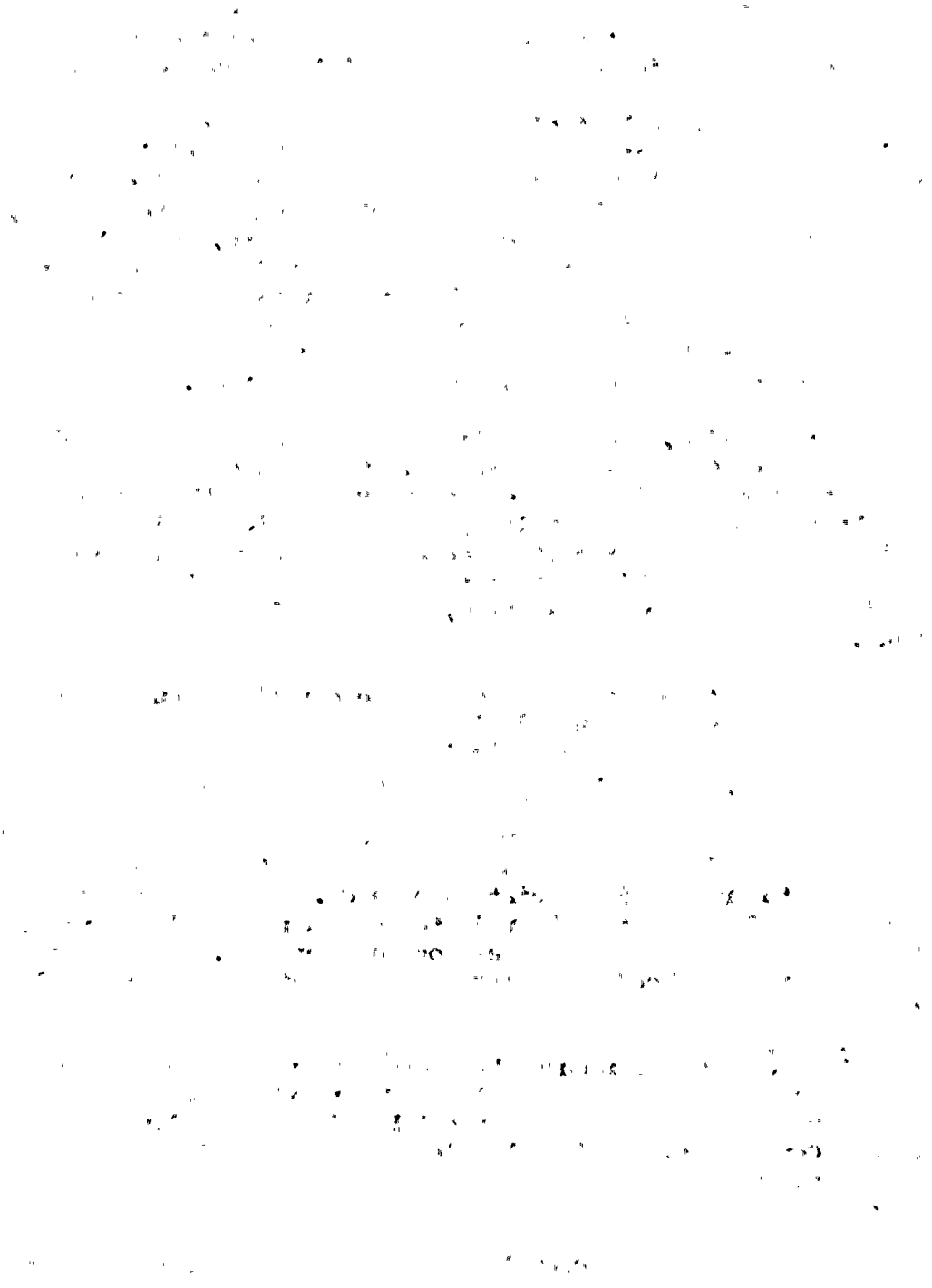
As an alternative, the possibility of using a freeze seal plug downstream of QRV-51 was considered. This would involve extensive working time in the Pressurizer Relief Tank area close to the pressurizer spray valves, which is a high radiation area. This alternative was rejected because plant personnel would be subject to an even higher radiation exposure of 8.5 man rems during the formation, monitoring, and removal of the freeze seal plug.

We believe that this is a reasonable code relief request since the proposed test pressure is in fact higher than the normal operating pressure of 2235 psig in the approximately 30 feet long section of piping for which code relief is requested.

We are requesting the relief because the above piping system cannot be tested to ASME Code requirements without modifying the System and/or exposing personnel to unnecessary radiation hazards. In order to avoid unnecessary delays and to restore the unit to power on a timely basis, we are requesting a response from the NRC as soon as possible. If you have any questions or concerns about the material contained herein, please do not hesitate to call us.

Although this code relief request has been reviewed by appropriate technical and managerial personnel at both AEPSC and the Plant, this document has not yet been reviewed in concert by either our Plant or Corporate Safety Committees. It is scheduled to be reviewed by both committees shortly, and if those reviews result in any changes, we will notify you accordingly.

A check in the amount of $150.00 is attached with this letter for the NRC processing of the request.



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

Very truly yours,

M. P. Alexich
Vice President RBK 7/15/85

cm

Attachments

cc: John E. Dolan (w/o attachments)
W. G. Smith, Jr. - Bridgman (w/attachments)
R. C. Callen (w/o attachments)
G. Bruchmann (w/o attachments)
G. Charnoff (w/o attachments)
NRC Resident Inspector - Bridgman (w/attachments)

DWG. NO. 1-5129

INSIDE REACTOR CONTAINMENT
OUTSIDE REACTOR CONTAINMENT

ELEV. 608'-0"
ELEV. 612'-0"
ELEV. 633'-0"
EL. 609'-6"
EL. 587'-0"

LETDOWN PIPE ORIFICE RO-100
LETDOWN PIPE ORIFICES RO-106
LETDOWN HEAT EXCHANGER (HE-14)
REGENERATIVE HEAT EXCHANGER (HE-12)
TO COMPONENT COOLING SYS. SEE DWG Nº 5135, J/2. ISI INSPECTION TO CL.3
TO FLR. DRAIN
FROM RESIDUAL HEAT REMOVAL SYSTEM. SEE DWG. 5145, L/5
TO PRESSURIZER RELIEF TANK. SEE BKT. "G-9" ON DWG. 5128A, E/6.
FROM COMPONENT COOLING SYSTEM SEE DWG Nº 5135, J/2. ISI INSPECTION TO CL.3
TO DEMINERALIZERS. SEE DWG 5130, A/2
FAIL TO FILTER
SV-32, SET AT 200 PSIG
TO REACTOR COOLANT DRAIN TK. INLET HDR. SEE DWG. 5131, D/2
ALT. CHARGING LINE TO LOOP 1 COLD LEG SEE DWG. 6128, C/3
NORMAL CHARGING LINE TO LOOP 4 COLD LEG SEE DWG Nº 5128, K/5.
AUX. SPRAY TO REACTOR COOLANT SYSTEM PRESSURIZER. SEE SK. "G-9" ON DWG Nº 5128A, 6/6.
3" LET DOWN FROM LOOP 4. SEE DWG Nº 5128, M/6.
TO REACTOR COOLANT DRAIN TANK. SEE DWG. 5137A, D/2
ISOLATION VALVE TEST CONN.
NORM. FROM EXCESS LET DOWN HEAT EXCHANGER SEE DWG 5135A, D/2
ISI INSPECTION TO CL.2
ISI INSPECTION TO CODE CL.2
TO VOLUME CONTROL TANK. SEE DWG. 5129A, G/4 ISI INSPECTION TO CL.2.
FROM SAMPLING SYSTEM SEE DWG. 5141, K/5.
1/2" FROM FAILED FUEL DETECTOR. SEE DWG. 5141B, L/2
FROM REFUELING WATER STORAGE TANK. SEE DWG. Nº 5144, E/6. ISI INSPECTION TO CODE CL.2.
TO PRESSURIZER RELIEF TANK SEE DWG. 5128A, D/6
TO REACTOR COOLANT PUMPS SEAL WATER CIRCUIT (4 PUMPS) SEE SK "D-3" ON DWG. 5128A, B/5
SEAL WATER INJECTION FILTERS (QC-107)
CENTRIFUGAL CHARGING PUMP "W"
150 GPM DESIGN
3800 FT. HEAD
350 GPM MAX.
650 HP
(PP-50)
CENTRIFUGAL CHARGING PUMP "E"
150 GPM DESIGN
3800 FT HEAD
550 GPM MAX.
650 HP
MAX. DISCH. PRESS. 2740 PSIG
(PP-50)
RECIPROCATING CHARGING PUMP 88 GPM 2500 PSIG (PP-49)
CHARGING PUMP CROSS TIE. SEE DWG. 2-5123, G/5
TEE POG TEMPORARY STRAINER STN-37
TEE POG TEMPORARY STRAINER STN-38
TEE POG TEMPORARY STRAINER STN-39
ISI INSPECTION TO CODE CLASS 3 (TYP.)
COMPONENT COOLING WATER TO & FROM MECH. SEAL HEAT EXCHANGER & BEARING & GEAR OIL COOLERS. SEE DWG. 5135A, E/7 (TYPICAL)
5" COMPONENT COOLING WATER TO & FROM FLUID DRIVE COOLER & BEARING OIL COOLER. SEE DWG. D-1135, G/D. ISI INSPECTION TO CODE CL.3
2" FROM PRIMARY WATER & BORIC ACID FILTERS, SEE DWG. 5131, F/5.
1" FROM CHEMICAL MIXING TANK SEE DWG. 5129A, K/6.
4" FROM VOLUME CONTROL TANK SEE DWG. 5129A, K/6
6" FROM RESIDUAL HEAT EXCHANGER "E" SEE DWG. 5143, H/5
4" BACK-UP CROSS-TIE. SEE DWG. 5142, H/9
2" TO SEAL WATER HEAT EXCHANGER. SEE DWG. 5129A, G/7
4" TO BORON INJECTION TANK. SEE DWG. 5142, R/7
4" TO BORON INJECTION TANK SEE DWG. 5142, G/6.
REACH ROD REQUIRED
REACH ROD REQ'D.
REACH ROD ENGAGED
NOTE LOCATED AT LOW POINT OF LINE
LOCATE AT LOW POINT OF LINE.
NOTE "A" Q/2
SIM.
SIM. TO A
SIM. TO B
SIM. TO C
SIM. TO D
SIM. TO E
SIM. TO F
SIM. TO G
SIM. TO H
SIM. TO J
SIM. TO K
SIM. TO L
SIM. TO M
SIM. TO N
SIM. TO P
SIM. TO Q
SIM. TO R
SIM. TO S
SIM. TO T
SIM. TO U
SIM. TO V
SIM. TO W
SIM. TO X
SIM. TO Y
SIM. TO Z
SIM. TO AA
SIM. TO BB
SIM. TO CC
SIM. TO DD
SIM. TO EE
SIM. TO FF
SIM. TO GG
SIM. TO HH
SIM. TO JJ
SIM. TO KK
SIM. TO LL
SIM. TO MM
SIM. TO NN
SIM. TO PP
SIM. TO QQ
SIM. TO RR
SIM. TO SS
SIM. TO TT
SIM. TO UU
SIM. TO VV
SIM. TO WW
SIM. TO XX
SIM. TO YY
SIM. TO ZZ
SIM. TO AAA
SIM. TO BBB
SIM. TO CCC
SIM. TO DDD
SIM. TO EEE
SIM. TO FFF
SIM. TO GGG
SIM. TO HHH
SIM. TO JJJ
SIM. TO KKK
SIM. TO LLL
SIM. TO MMM
SIM. TO NNN
SIM. TO PPP
SIM. TO QQQ
SIM. TO RRR
SIM. TO SSS
SIM. TO TTT
SIM. TO UUU
SIM. TO VVV
SIM. TO WWW
SIM. TO XXX
SIM. TO YYY
SIM. TO ZZZ
SIM. TO AAAA
SIM. TO BBBB
SIM. TO CCCC
SIM. TO DDDD
SIM. TO EEEE
SIM. TO FFFF
SIM. TO GGGG
SIM. TO HHHH
SIM. TO JJJJ
SIM. TO KKKK
SIM. TO LLLL
SIM. TO MMMM
SIM. TO NNNN
SIM. TO PPPP
SIM. TO QQQQ
SIM. TO RRRR
SIM. TO SSSS
SIM. TO TTTT
SIM. TO UUUU
SIM. TO VVVV
SIM. TO WWWW
SIM. TO XXXX
SIM. TO YYYY
SIM. TO ZZZZ

CODE RELIEF NO. 5

LUBE OIL INSTRUMENTATION AT CENTRIFUGAL CHARGING PUMPS

INSTRUMENT NO.		FUNCTION
EAST	WEST	
LPS-270	LPS-272	START-STOP AUX PUMP 8 PSI DECR., 10 PSI INCR. PRESS.
LPA-270	LPA-272	ANNUNCIATES IN CONTROL ROOM AT 8 PSI DECR. PRESS.
LPI-270	LPI-272	0-30 PSI RANGE AT OIL FILTER INLET
LPI-271	LPI-273	0-30 PSI RANGE AT OIL FILTER OUTLET
LTI-270	LTI-272	ON THRUST BEARING HOUSING
LTA-270	LTA-272	OIL TEMP. ALARMS 145°F LOW AT COOLER DISCH. MANIFOLD. W/INDICATOR 0-200°F.
LTI-275	LTI-277	OIL COOLER OUTLET TEMP. 0-250° F
LPI-274	LPI-275	SPEED INCREASER L.O. HEAT EXCH. OUTLET

SKETCH "H-9" MISC. PIPING AT CENTRIFUGAL CHARGING PUMPS

SKETCH "L-9" MISC. PIPING AT RECIPROCATING CHARGING PUMP

NOTE: FOR MISC PIPING AT PUMPS SEE SKETCH "H-9" & "L-9"

GENERAL NOTES

LEGEND
MAIN FLOW
AUX. FLOW

FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOLS NOT EXPLAINED ON THIS DWG AND FOR MARK NUMBER CODES SEE DWG 5104.

SEISMIC CLASS I, EXCEPT AS NOTED

VALVE NOTED "A" B/3 VALVE OPENS AT 600 PSID

ALL VALVES, EQUIPMENT & INSTRUMENTATION SUPPLIED BY (W) (WESTINGHOUSE) EXCEPT AS NOTED.

1. FOR CODE CLASS 2&3 INSTRUMENT CONNECTIONS, THE ISI BOUNDARY EXTENDS TO & INCLUDES THE FIRST ROOT VALVE.
2. FOR CODE CLASS 2&3 VENTS & DRAINS, THE ISI BOUNDARY EXTENDS TO & INCLUDES THE FIRST NORMALLY CLOSED VALVE.
3. RR INDICATES REACH ROD REQUIRED.

NOTE: THIS DWG MADE UNIQUE FOR UNIT "1" AND SUPERSEDES DWG. 1-2-5129 REV. 0

HAND OPERATED VALVE IDENTIFICATION NUMBERS

1. ONLY "UNIQUE VALVE NUMBERS" APPEAR ON THIS DRAWING. SEE SEPARATE VALVE IDENTIFICATION LIST FOR EQUIVALENT DESIGN (MCR) NUMBERS.
2. "TAG" NUMBERS MODIFIED FOR DRAWING USE AS FOLLOWS: TAG Nº: 2-NRV-NCB-W APPEARS AS: NRV-NCB-W
3. INSTRUMENT ROOT VALVE MARK Nº'S NOT SHOWN ON DRAWING (SEE VALVE IDENTIFICATION LIST) DERIVED BY ADDING TO INSTRUMENT NUMBER:
FOR SINGLE INSTRUMENTS
FOR DOUBLE IMPULSE LINE/UPSTREAM
DOWNSTREAM

FOR MICROFILM STATUS SEE REVISION RECORD FOR THIS DWG.

DATE	BY	APPROVED
3-21-85	29	

FOR REVISION DESCRIPTION SEE SEPARATE REVISION RECORD FOR THIS DRAWING

INDIANA & MICHIGAN ELECTRIC CO.
DONALD C. COOK NUCLEAR PLANT
INDIANA MICHIGAN

FLOW DIAGRAM CVCS - REACTOR LETDOWN & CHARGING

SHEET NO. 1 SHEET 1 OF 3

DR. NO. 1-5129-29

AMERICAN ELECTRIC POWER SERVICE CORP. 2 BROADWAY NEW YORK

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