

# CATEGORY 1

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9609300174      DOC. DATE: 96/09/19      NOTARIZED: NO      DOCKET #  
 FACIL: 50-261 H.B. Robinson Plant, Unit 2, Carolina Power & Light Co      05000261  
 AUTH. NAME      AUTHOR AFFILIATION  
 KRICH, R.M.      Carolina Power & Light Co.  
 RECIP. NAME      RECIPIENT AFFILIATION  
                          Document Control Branch (Document Control Desk)

SUBJECT: Requests one time authorization for proposed alternative to Relief Request No. 13 conditions of third 10-yr ISI program plan, allowing partial disassembly of "A" RCP to effect repairs w/o full disassembly of pump casing internals.

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
	PD2-1 LA	1 1	PD2-1 PD	1 1
	MOZAFARI, B	1 1		
INTERNAL:	AEOD/SPD/RAB	1 1	<u>FILE CENTER</u> 01	1 1
	NRR/DE/EMEB	1 1	NUDOCS-ABSTRACT	1 1
	OGC/HDS3	1 0	RES/DET/EMEB	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 13 ENCL 12

C  
A  
T  
E  
G  
O  
R  
Y  
  
1  
  
D  
O  
C  
U  
M  
E  
N  
T

**Carolina Power & Light Company**

Robinson Nuclear Plant  
3581 West Entrance Road  
Hartsville SC 29550

RNP File No: 14506  
Serial: RNP-RA/96-0168

**SEP 19 1996**

United States Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

**H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261/LICENSE NO. DPR-23  
REQUEST FOR ONE-TIME AUTHORIZATION FOR A PROPOSED  
ALTERNATIVE TO THE CONDITIONS SPECIFIED IN THE APPROVAL  
FOR RELIEF REQUEST NO. 13 OF THIRD TEN-YEAR INSERVICE  
INSPECTION PROGRAM PLAN**

Gentlemen:

Carolina Power & Light (CP&L) Company requests one time NRC authorization for a proposed alternative to the conditions specified in the NRC approval for Relief Request No. 13, "Request for Relief No. 13, Examination Category B-L-1 and B-L-2, Items B12.10 and B12.20, Pump Casing Welds and Internal Surfaces," of the Third Ten-Year Inservice Inspection (ISI) Program Plan for the H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2. The relief request approval was issued by the NRC in its letter dated October 19, 1992. The circumstance for which a one-time NRC authorization for the proposed alternative to the Program is requested is to allow partial disassembly of the "A" Reactor Coolant Pump (RCP) to effect repairs without full disassembly of the pump casing internals. Full disassembly of the "A" RCP would necessitate extraordinary measures due to the need to further drain down the Reactor Coolant System (RCS) during core offload in order to remove the diffuser adapter and casing adapter. These pump casing internals must be removed in order to perform the visual examination of the interior surface of the RCP casing, and to perform a volumetric examination of the pump casing welds required by the conditions specified in the NRC approval of Relief Request No. 13.

Only a partial disassembly of the "A" RCP is planned, and therefore internal surfaces of the RCP casing will not be made accessible. The proposed alternative to the Third Ten-Year ISI Program Plan is to not perform the examinations required by the approval for Relief Request No. 13, because the interior of the RCP casing will not be made accessible. The proposed alternative to the Third Ten-Year ISI Program Plan is needed to avoid excessive levels of occupational radiation dose exposure to maintenance and examination personnel and preclude an extension of the current refueling outage critical path that would result from the "A" RCP repairs.

9609300174 960919  
PDR ADDCK 05000261  
Q PDR

ray 151 and SC 23 Hartsville SC

AD47  
11

This request for concurrence is similar to our request made by letter dated June 6, 1995, with NRC authorization documented in letter dated June 9, 1995, for a one time change to the approval for Relief Request No. 13 for the "C" RCP.

By letter dated August 1, 1991, CP&L submitted specific relief requests from the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section XI, for the Third Ten-Year ISI Program Plan. In our submittal, Relief Request No. 13 included proposed alternative methods to performing the volumetric examination of RCP casing welds (i.e., Examination Category B-L-1, "Pressure Retaining Welds in Pump Casings," Item 12.10), and from visual (i.e., VT-3) examination of the internal surfaces of the RCP casing (i.e., Examination Category B-L-2, "Pump Casings," Item 12.20). In Relief Request No. 13, alternative examinations were proposed as follows.

1. Perform visual examination on the exterior of the pump casing during hydrostatic pressure testing required by IWB-5000, "System Pressure Tests."
2. Perform a surface examination of the welds on the outside surface to the extent practicable and as access permits.
3. If maintenance or operational problems are encountered which require disassembly of the pump, the pump interior surface will be visually examined. The need for performance of a volumetric examination would be re-evaluated at a later time.

By letter dated October 19, 1992, the NRC issued its Safety Evaluation (SE) for the Third Ten-Year ISI Program Plan granting Relief Request No. 13, with conditions specified in the Technical Evaluation Report (TER) attached with the NRC SE. Section 3.1.5.2, "Request for Relief No. 13, Examination Category B-L-1 and B-L-2, Items B12.10 and B12.20, Pump Casing Welds and Internal Surfaces," of the NRC TER identified three (3) conditions in the conclusions to the NRC approval. Condition 1 of the conclusions to NRC approval of Relief Request No. 13 imposes an ASME B&PV Code required VT-3 visual examination of the internal surfaces of the pump and a volumetric examination of the pump interior casing welds if an RCP is disassembled for repair or maintenance.

The proposed alternative to Condition 1 of the conclusions to NRC approval of Relief Request No. 13, is to not perform the ASME B&PV Code required volumetric and VT-3 visual examinations. The bases for this proposed alternative is that the interior surface of the pump casing will not be made accessible by a full disassembly of the RCP, and to avoid excessive radiation dose exposure.

Early in the current Refueling Outage (RO) 17, during disassembly of drip pans for the "A" RCP, accumulation of boron precipitation was observed on "A" RCP flange studs. This indication was later evaluated as a leak in the "A" RCP main flange gasket. The current plan is to partially disassemble the "A" RCP as necessary to effect any needed repairs to RCP studs and main flange gasket. The planned partial disassembly of the "A" RCP does not include disassembly of the pump casing internals.

At this time, our planned partial disassembly of the "A" RCP will consist of examination of the "A" RCP flange and gasket, and partial disassembly of the pump, and examination and partial replacement of RCP components including the impeller, shaft, thermal barrier, and main flange, in order to replace the main flange gasket. The RCP main flange studs will be replaced if needed. The RCP diffuser adapter and casing adapter, which completely obscure the internal pump casing surface and welds from view, will not be removed as part of the partial disassembly of the "A" RCP. A drawing of the RCP is attached. If the defuser adapter and casing adapter were to be removed to permit the inspections required by Condition 1 of the conclusion to the NRC approval of Relief Request No. 13, an additional occupational radiation exposure dose of 10 person-rem is estimated for the required examinations in addition to the seven (7) person-rem occupational radiation exposure now estimated for the planned RCP repairs. These estimates are based on an actual exposure of approximately 40 person-rem incurred the last time that the required examinations were performed on the "B" RCP casing in 1982 and the actual occupational exposure of 7 person-rem dose incurred in 1995 during repair of the "C" RCP. Also, the examinations required by Condition 1 of the conclusion to NRC approval of Relief Request No. 13 would have to be performed during core offload to accommodate the low RCS water level necessary to assure a dry examination surface. The containment would essentially be evacuated during the volumetric examinations due to the high dose rate that occurs during the radiographic exposures. As a result, the offload period of the refueling outage will be extended by approximately eight days to accommodate the required examinations.

Partial disassembly of the RCP, without removal of the RCP diffuser adapter and casing adapter will not involve maintenance activities that will degrade the condition of the pump casing. Experience with past examinations of the RCPs at HBRSEP Unit No. 2, has not revealed indications of crack initiation and propagation in the RCP casings that would necessitate an examination of the "A" RCP during this unplanned activity. In 1982, the "B" RCP was examined visually and volumetrically in accordance with the First Ten-Year Interval ISI Program and was found acceptable. In 1990, all three welds on the "C" RCP were examined by external visual and dye penetrant methods and were found acceptable. Furthermore, as a result of our experience during the last refueling outage, the "A" RCP main flange studs were retensioned during RO 16.

In Westinghouse Electric Corporation topical reports WCAP-13045, "Compliance to ASME Code Case N-481 of the Primary Loop Pump Casings of Westinghouse Type Nuclear Steam Supply Systems," (Proprietary), and WCAP-13044 (Non-Proprietary), submitted to the NRC by letter dated October 25, 1991, the Westinghouse Owners Group states that there is no history of cracking failure in the RCS, which includes the RCP pump casing, in Westinghouse type plants. The operating history as of the publication of WCAP-13045 in September 1991, totals over 450 reactor-years including five plants each having over 17 years of operation and 15 other plants each with over 12 years of operation.

The partial disassembly of the "A" RCP is now scheduled in parallel with the overall schedule of RO 17. If one-time NRC authorization is not obtained for the proposed alternative to Condition 1 of the conclusions to NRC approval of Relief Request No. 13 to the Third Ten-Year ISI Program Plan, the current refueling outage will be extended by approximately eight days. This extension would result from the required removal of the "A" RCP diffuser adapter and casing adapter in order to perform a VT-3 visual examination of the internal casing surface and to perform volumetric examination of the internal surface welds that can only be performed during core off load at a low reactor water level. Additionally, the disassembly, preparation, examination, and reassembly of the pump would also result in high levels of radiation exposure to maintenance and examination personnel.

We are currently evaluating ASME B&PV Code Case N-481, "Alternate Examination Requirements for Cast Austenitic Pump Casings," and WCAP-13045 for site specific applicability at HBRSEP, Unit No. 2. However, our evaluation is not expected to be completed prior to the end of RO 17.

In conclusion, we are requesting one-time NRC authorization of a proposed alternative to Condition 1 NRC approval of Relief Request No. 13 to our Third Ten-Year ISI Program Plan to perform examinations of the RCP casing interior upon full disassembly of the RCP in accordance with 10 CFR 50.55a(3)(ii). NRC authorization of the proposed alternative on a one-time basis will result in no examinations of the RCP casing interior during the planned partial disassembly of the "A" RCP. NRC authorization of the proposed alternative on a one-time basis is requested because performance of the required visual and volumetric examinations, which would necessitate further disassembly of the "A" RCP to remove the defuser and casing adapters, would result in an unnecessary extension of the refueling outage and would involve significant additional occupational radiation exposure.

Please refer any questions regarding this submittal to Mr. A. L. Garrou at (803) 857-1544.

Very truly yours,



R. M. Krich  
Manager - Regulatory Affairs

ALG/klb

Attachment

c: Mr. S. D. Ebnetter, Regional Administrator, USNRC, Region II  
Ms. B. L. Mozafari, USNRC Project Manager, HBRSEP  
Mr. J. Zeiler, USNRC Resident Inspector, HBRSEP

