

# PRIORITY 1

ACCELERATED RIDS PROCESSING

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SUBJECT: Requests NRC concurrence for one time change to conditions specified in approval for Relief Request 13 of third ten-yr ISI program plan to allow replacement of C RCP gasket w/o further disassembly of pump casing internals.

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**Carolina Power & Light Company**

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United States Nuclear Regulatory Commission  
Attention: Document Control Desk  
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H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261/LICENSE NO. DPR-23  
REQUEST FOR NRC CONCURRENCE FOR A ONE TIME CHANGE TO THE  
CONDITIONS SPECIFIED IN RELIEF REQUEST NO. 13 OF THIRD TEN-YEAR  
INSERVICE INSPECTION PROGRAM PLAN

Gentlemen:

Carolina Power & Light (CP&L) Company requests NRC concurrence for a one time change to the conditions specified in the 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 circumstance for which NRC concurrence with the one time change to the Program is requested is to allow replacement of the "C" Reactor Coolant Pump (RCP) gasket without further disassembly of the pump casing internals. Further disassembly of the "C" RCP would necessitate extraordinary measures due to the need to drain down the Reactor Coolant System (RCS) to perform the visual examination of the interior surface of the RCP casing and a volumetric examination of the pump casing welds required by the conditions specified in the Relief Request No. 13 approval. Internal surfaces of the RCP casing will not be made accessible as part of the planned maintenance activity for the "C" RCP. A one time change to the Third Ten-Year ISI Program is needed to avoid additional occupational radiation dose exposure and an extension to the planned outage to replace the "C" RCP pump gasket.

On August 1, 1991, CP&L submitted specific relief requests for plant ISI program from the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, 1986 Edition. In this submittal, Relief Request No. 13 was requested with proposed alternative methods to performing the 10 year 100% volumetric examination of RCP casing welds, and from visual examination of the internal surfaces of the RCP casing. In Relief Request No. 13, alternative examination no. 3 was proposed to

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visually examine the pump internal surface if maintenance or operational problems are encountered which require disassembly of the pump.

On 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 attached with the NRC SE. These conditions impose a ASME Code required VT-3 visual examination of the internal surfaces of the pump and a volumetric examination of the pump casing welds if the internal surfaces are made accessible due to disassembly of a RCP for maintenance or repair.

On June 4, 1995, near the conclusion of refueling outage 16, during performance of the Reactor Coolant System (RCS) leakage inspection required by our ISI program and the ASME Code, Section XI, Paragraph IWB-5221, a leak in the "C" RCP main flange was discovered in the area of the Component Cooling Water inlet to the RCP thermal barrier. A section of gasket approximately two inches of arc length is affected, and the leakage is significantly less than 1/2 gpm. The current plan is to bring the plant to cold shutdown and replace the RCP main flange gasket.

At this time, our planned replacement of the "C" RCP gasket will consist of removal of the pump internals as an assembled unit including the impeller, shaft, thermal barrier, main flange, and main flange gasket. The RCP diffuser adapter and casing adapter, which completely obscure the internal pump casing surface and welds from view, will not be removed to perform this maintenance. A spare, refurbished RCP internals assembly that was previously used in the "C" RCP casing will be installed. A drawing of the RCP is attached. If the defuser adapter and casing adapter were to be removed to permit the inspections required by the conditions in Relief Request No. 13, an additional occupational radiation exposure dose of 10 person-rem is estimated in addition to the 15 person-rem occupational radiation exposure now estimated for the planned replacement. These estimates are based on an actual exposure of approximately 40 person-rem incurred the last time that this examination was performed on the "B" RCP casing in 1982. The planned outage would have to be extended an additional six days to permit disassembly of the pump and the required examinations. Also, the reactor vessel would have to be drained further to achieve the RCS level necessary for the visual and volumetric examinations under dry conditions. The additional reduction in RCS level increases risks from shutdown events by decreasing the time to core uncover in the event that all shutdown cooling capability is lost during the examinations and therefore may necessitate off-loading the reactor core thereby increasing the forced outage length by an additional substantial amount estimated to be nine days.

Removal of the "C" RCP internals without removal of the RCP diffuser adapter and casing adapter as planned 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 "C" RCP during this unplanned forced outage. 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.

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 gasket replacement work to the "C" RCP is scheduled as part of an unplanned forced outage expected to last approximately 16 days. If NRC concurrence is not obtained for this requested one time change to the conditions imposed by Relief Request No. 13 to the Third Ten-Year ISI Program Plan and removal of the "C" RCP diffuser adapter and casing adapter is required solely in order to perform a visual examination of the internal casing surface and to perform volumetric examination of the internal surface welds, the outage would be extended by at most 15 days to accommodate further lowering of reactor water level, to perform additional RCP disassembly, and to perform the examinations.

In conclusion, we are requesting NRC concurrence with a one time change to the conditions imposed by Relief Request No. 13 to our Third Ten-Year ISI Program Plan because performance of the required visual and volumetric examinations, which would necessitate further disassembly of the "C" RCP to remove the defuser and casing adapters, would result in an unnecessary extension of the unplanned forced 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

Attachment

c: Mr. S. D. Ebnetter, Regional Administrator, USNRC, Region II  
Ms. B. L. Mozafari, USNRC Project Manager, HBRSEP  
Mr. W. T. Orders, USNRC Senior Resident Inspector, HBRSEP

