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SUBJECT: Responds to NRC Bulletin 89-001, Suppl 2, "Failure of Westinghouse Steam Generator Tube Mechanical Plugs."

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JUL 31 1991

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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

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63

RESPONSE TO NRC BULLETIN 89-01 SUPPLEMENT 2
FAILURE OF WESTINGHOUSE STEAM GENERATOR TUBE MECHANICAL PLUGS

Gentlemen:

Carolina Power & Light Company (CP&L) hereby submits the following response to NRC Bulletin 89-01 Supplement 2 as applicable for the H. B. Robinson Steam Electric Plant, Unit 2 (HBR2) and the Shearon Harris Nuclear Power Plant (SHNPP).

RESPONSE TO ACTIONS REQUESTED

~~Item 1:~~ Addressees are requested to verify that information contained in Table 2 of Reference 4 for their plants is correct for plugs fabricated from group 2 heats. (Addressees have previously verified similar information for group 1 plugs in response to the original bulletin.) The specific information to be verified is the number of Westinghouse mechanical plugs installed in the hot-leg and cold-leg side of each steam generator, categorized by heat number and date of installation. The plug operating temperatures for each plant given in this Table should also be verified. If information from this Table is incorrect, addressees should provide correct information. Addressees are requested to so state if their plants have not installed Westinghouse mechanical plugs from group 2 heats.

Item 1 Responses:

HBR2 - HBR2 has not installed Westinghouse mechanical plugs from group 2 heats.

SHNPP - The information in Table 2 of Reference 4 was verified as correct. This data included the number of plugs, heat number, date of installation and operating temperatures.

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SHNPP currently has eight (8) Westinghouse mechanical plugs fabricated from Inconel 600 (Group 2, Heat NX2387) installed in Steam Generator "1C", four each in the hot-leg and cold-leg side. Per Table 2 of Reference 4, the subject plugs in the hot-leg and cold-leg side of Steam Generator "1C" are acceptable for service until the year 1997 and 2126 respectively. An engineering evaluation has been initiated to provide for appropriate repair or replacement. It is currently planned to perform the repair or replacement of the four plugs in the hot-leg side during SHNPP Refueling Outage #5 scheduled for 1994.

Item 2: Addressees are requested to take the following actions, to be implemented initially during any refueling outage or extended outage (greater than four weeks) which ends 60 days or more following receipt of this bulletin and during all future refueling outages. For the period of time between receipt of the bulletin and 60 days, the actions requested in the original version of this bulletin continue to be applicable for plugs fabricated from group 1 heats.

- a) Addressees should implement appropriate remedial actions (i.e., repair and/or replacement) for all plugs whose estimated lifetime in item 2b, below does not extend to the next refueling outage.

Item 2a Responses:

HBR2 - Not applicable to HBR2 for Group 2 heats based on the response to Item 1.

As stated in CP&L's response to NRC Bulletin 89-01, HBR2 Steam Generator "C" has one hot leg tube and one cold leg tube plug (one plug in each end of the same steam generator tube) supplied from heat number 4523 (Group 1 heat). These plugs were installed in December 1988. During the 1990 Refueling Outage, which was completed in March 1991, a plug-in-plug (PIP) repair was made to the mechanical plugs installed in Steam Generator "C". This is considered to be a permanent repair/corrective action in response to NRC Bulletin 89-01. There are no plans to remove these plugs for examination or future inspection.

Since HBR2 has completed corrective actions to address the installed Group 1 mechanical tube plugs, and no tube plugs from Group 2 heats have been installed, the Actions Requested, Item 2, from NRC Bulletin 89-01 Supplement 2, are not considered applicable to HBR2. Therefore, no further action is planned or considered necessary.

SHNPP - Not applicable to SHNPP based on the response to Item 1.

- b) Remaining lifetime estimates (in effective full power days (EFPD)) are given in Table 2 of Reference 4 in the column entitled "Remain EFPD to MIN." These remaining lifetime estimates are relative to reference dates given in the column entitled "Reference CALC Dates." These remaining lifetime estimates may be used directly. These estimates should be adjusted to reflect any corrections noted in Actions Requested, item 1.

Item 2b Responses:

HBR2 - Not applicable to HBR2 based on the response to Item 1.

SHNPP - No adjustments were required based on the response to Item 1.

- c) For refueling outages or extended outages ending prior to November 30, 1991, remedial actions for plugs fabricated from NX-5222 may be deferred until the next scheduled refueling outage.

Item 2c Responses:

HBR2 - Not applicable to HBR2 based on the response to Item 1.

SHNPP - Not applicable to SHNPP. SHNPP does not have plugs fabricated from Heat NX-5222.

- d) Installation of Westinghouse mechanical plugs fabricated from Inconel 600 should be discontinued.

Item 2d Responses:

HBR2 - Westinghouse mechanical plugs fabricated from Inconel 600 material will be excluded from future installation at HBR2.

SHNPP - Westinghouse mechanical plugs fabricated from Inconel 600 material will be excluded from future installation at SHNPP.

- e) If for any refueling outage, the addressee does not plan to satisfy items 2a to 2d above, an alternative plan for insuring plug integrity, with appropriate technical justification, should be submitted to the NRC at least 30 days before the end of the refueling outage.

Item 2e Responses:

HBR2 - HBR2 will comply with Item 2 e).

SHNPP - SHNPP will comply with Item 2 e).

- f) Prior to any plug repairs or replacement, addressees are reminded that their responsibilities under ALARA require analysis of the various plug repair or replacement methods. In choosing a plug repair or replacement method, the licensee should consider the accessibility of the plugs and the dose reduction benefit of using robotic manipulators. Prior to plug repair or replacement, the licensee should consider steam generator decontamination and/or local shielding to reduce working area dose rates.

Item 2f Responses:

HBR2 - Not applicable to HBR2 based on the response to Item 1.

SHNPP - The evaluation and planning for replacement or repair of the eight Westinghouse mechanical plugs installed in Steam Generator "1C" will consider available options, radiation exposure and ALARA.

Please refer any questions regarding this submittal to Mr. Steven Chaplin at (919) 546-6623.

Yours very truly,



G. E. Vaughn

GEV/SDC

cc: Mr. S. D. Ebnetter
Mr. L. Garner (NRC-HBR)
Mr. R. Lo
Ms. B. L. Mozafari
Mr. J. E. Tedrow

G. E. Vaughn, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, contractors, and agents of Carolina Power & Light Company.

My commission expires: 9/23/95

