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 AUTH.NAME AUTHOR AFFILIATION
 CUTTER,A.B. Carolina Power & Light Co.
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 Affecting Safety-Related Equipment."
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A. B CUTTER

Vice President

Nuclear Services Department

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

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
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SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63

BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2
DOCKET NOS. 50-325 & 50-324/LICENSE NOS. DPR-71 & DPR-62

RESPONSE TO NRC GENERIC LETTER 89-13
SERVICE WATER SYSTEM PROBLEMS AFFECTING SAFETY-RELATED EQUIPMENT

Gentlemen:

Carolina Power & Light Company (CP&L) hereby submits the response to NRC Generic Letter 89-13 as applicable for the H. B. Robinson Steam Electric Plant, Unit No. 2 (HBR2), the Shearon Harris Nuclear Power Plant (SHNPP), and the Brunswick Steam Electric Plant, Unit Nos. 1 and 2 (BSEP).

HBR2, SHNPP, and BSEP already have a number of programs and practices in place which address many of the issues raised in Generic Letter 89-13. Where necessary, these programs and practices will be enhanced or supplemental programs developed to address service water system problems. Actions indicated below will be completed by startup from the next scheduled refueling outage for each Unit (currently September 1990 for HBR2, March 1991 for SHNPP, and June 1990 and May 1991 for BSEP Unit Nos. 1 and 2, respectively).

RESPONSE TO ACTIONS REQUESTED

Item I:

For open-cycle service water systems, implement and maintain an ongoing program of surveillance and control techniques to significantly reduce the incidence of flow blockage problems as a result of biofouling by the following:

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Item I(a):

Visually inspect the intake structure (by divers or dewatering) once per refueling cycle for biofouling organisms, sediment, and corrosion. Remove any accumulations.

Response to Item I(a):

HBR2, SHNPP, and BSEP will perform visual inspections of their respective intake structures during their next scheduled refueling outages. Subsequent inspection frequencies for each of the Units will be based upon the results of these inspections.

Item I(b):

Continuously chlorinate the system whenever the potential for a macroscopic biofouling species exists.

Response to Item I(b):

HBR2, SHNPP, and BSEP will chlorinate or provide an equivalent treatment program whenever the potential for macroscopic biofouling species exists, except when the system is undergoing maintenance. Implementation and documentation of this activity will be in place prior to startup from their next scheduled refueling outages.

Item I(c):

Periodically flush and flow test redundant and infrequently used cooling loops at maximum design flow to ensure they are not fouled or clogged. Other components should be tested on a regular schedule to ensure the same. Service water cooling loops should be filled with chlorinated water or equivalent before layup.

Response to Item I(c):

HBR2, SHNPP, and BSEP will have procedures in place to periodically flush redundant and infrequently used cooling loops at flow rates as close as practical to maximum design flow. The loops will be flow tested at normal system flow rates to determine if loop performance has degraded due to fouling or clogging. The initial frequency of testing will be once each fuel cycle, but after three tests, a minimum testing frequency will be established for each of the Units. Likewise, other components will be tested on a regular schedule. Where flushing or flow testing of loops is not possible or practical, alternate measures of inspection and/or maintenance will be implemented. Initial testing will be completed prior to startup from their next scheduled refueling outages. HBR2 and SHNPP will fill the service water cooling loops with chlorinated water or equivalent before layup or provide other adequate protection of piping and components within the system during layup. The BSEP cooling loops are filled with either chlorinated water or deep well water before layup, depending upon the material of construction for the individual cooling loops.

Item I(d):

Samples of water and substrate should be collected annually to determine if asiatic clams have populated the water source. If detected, then discontinue and modify actions for Item I(b).

Response to Item I(d):

HBR2 and SHNPP will collect samples of water and substrate on an annual basis to determine if asiatic clams have populated their respective water sources. BSEP utilizes a marine water source; therefore, this item is not applicable. The HBR2 and SHNPP programs will be in place and initial sampling will be completed prior to startup from their next scheduled refueling outages.

Item II:

Conduct a test program to verify the heat transfer capability of all safety-related heat exchangers cooled by service water. Testing should be done with necessary and sufficient instrumentation, though the instrumentation need not be permanently installed. Corrective actions should be taken before the initial tests. If the heat transfer capability of an individual heat exchanger cannot be verified by tests, then a program of frequent inspection and maintenance should be utilized.

Response to Item II:

HBR2, SHNPP, and BSEP will develop test programs to verify the heat transfer capability of safety-related heat exchangers cooled by open-cycle service water systems. These programs will ensure that necessary corrective actions are taken before the initial tests. If the heat transfer capability of individual heat exchangers cannot be verified by tests, then a program of frequent inspection and maintenance will be developed. These programs will be documented and the initial testing completed prior to startup from the next scheduled refueling outages for the respective Units.

Item III:

Ensure by establishing a routine inspection and maintenance program for open-cycle service water piping and components that corrosion, erosion, protective coating failure, silting, and biofouling cannot degrade the performance of the safety-related systems supplied by service water.

Response to Item III:

HBR2, SHNPP, and BSEP will establish routine inspection and maintenance programs for open-cycle service water piping and components to preclude corrosion, erosion, protective coating failure, silting, and biofouling which

could degrade the performance of the safety-related systems supplied by service water. These programs will be documented and in place prior to startup from their next scheduled refueling outages.

Item IV:

Confirm that the service water system will perform its intended function in accordance with the licensing basis for the plant. This confirmation should include a review of the ability to perform required safety functions in the event of failure of a single active component. Confirmation should also include a recent system walkdown (within the past two years).

Response to Item IV:

A single failure review has been completed for BSEP and will also be performed for HBR2 and SHNPP. HBR2, SHNPP, and BSEP will conduct system walkdowns based upon guidance to be developed by CP&L's Nuclear Engineering Department. The single failure reviews and system walkdowns will be completed and documented prior to startup from the next scheduled refueling outages for the respective Units.

Item V:

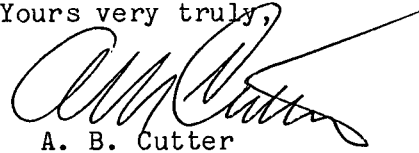
Confirm that maintenance practices, operations and emergency procedures, and training that involves the service water system are adequate to ensure that safety-related equipment cooled by service water will function as intended and that operators of the equipment will perform effectively. Confirmation should include recent reviews (within the past two years).

Response to Item V:

Reviews will be conducted of the HBR2, SHNPP, and BSEP maintenance practices, operations and emergency procedures, and training that involves the service water system. They will be completed and documented prior to startup from the next scheduled refueling outages for the respective Units. Revisions to procedures and training plans will be made based upon the review recommendations and will be scheduled in accordance with the priority systems of the Units.

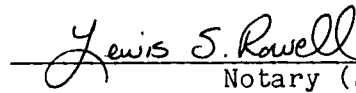
If you have any questions concerning this information, please contact
Mr. L. I. Loflin at (919) 546-6242.

Yours very truly,


A. B. Cutter

LSR/ecc (569CRS)

A. B. Cutter, 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.


Notary (Seal)

My commission expires: 7/12/94

cc: Mr. R. A. Becker
Mr. S. D. Ebnetter
Mr. L. Garner (NRC - HBR)
Mr. R. Lo
Mr. W. H. Ruland
Mr. J. E. Tedrow
Mr. E. G. Tourigny

