

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

W. L. STEWART
VICE PRESIDENT
NUCLEAR OPERATIONS

March 22, 1983

Mr. Richard C. DeYoung, Director
Office of Inspection and Enforcement
Attn: Mr. Edward L. Jordan, Director
Division of Engineering and
Quality Assurance
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

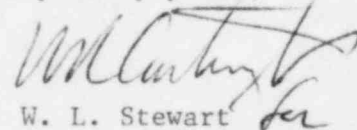
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License Nos. NPF-4
NPF-7

Gentlemen:

Subject: IE Bulletin 81-03 - Flow Blockage of Cooling Water to Safety
Components by Corbicula SP.(Asiatic Clam) and Mytilus SP.(Mussel)

We have received your letter concerning the subject bulletin and the attached request for additional information. The enclosure to this letter provides responses to the specific areas referenced. To facilitate your review, the numbering is the same as that used in the IE Bulletin and your letter.

Very truly yours,


W. L. Stewart

Attachment

cc: Mr. James P. O'Reilly
Regional Administrator
Region II

IE11

8303280056 830322
PDR ADOCK 05000338
Q PDR

NORTH ANNA UNITS 1 AND 2
RESPONSE TO IEB 81-03
ADDITIONAL INFORMATION

2. Upon notification of the potential for clogging of plant water systems by Corbicula shells or shell debris, the following sites were visually inspected.
 - A. May 5, 1981 - The Unit 1 and Unit 2 fire system piping strainers.
Results: No evidence of Corbicula shells or shell debris.
 - B. May 15, 1981 - Circulating Water Intake Structure (Unit 2).
Results: No evidence of Corbicula shells or shell debris.
 - C. May 15, 1981 - Service Water Reservoir (Units 1 and 2).
Results: No evidence of Corbicula shells in dredge sample, however, Corbicula have been observed by divers while inspecting the reservoir spray piping.

In addition to the above, more recent inspections of Service Water and Bearing Cooling Water System supply piping to various components were conducted to determine the extent of iron bacteria infestation. The following components and piping were visually examined with no evidence of the Corbicula shells or shell debris.

- A. Service Water pump (1-SW-P-1B) discharge line (20"-WS-7-151-03)
 - B. Air conditioning condenser (1-HV-E-4B)
 - C. Penetration cooling coil Service Water header piping (3" O. D.)
 - D. Various Service Water piping (3" O. D. and under)
 - E. Recirculation Spray Heat Exchanger (1-RS-E-1A)
 - F. Component Cooling Heat Exchanger (1-CC-E-1A)
 - G. 16" O. D. Service Water supply piping to Recirculation Spray Heat Exchangers
 - H. Bearing Cooling piping to Steam Generator Feed pump seals and oil coolers.
3. A periodic test was generated and approved November 16, 1982 which is currently employed to monitor the performance of various Service Water supplied equipment. Although Corbicula have not been found in potentially affected safety related piping systems, this procedure could identify a possible flow restriction caused by Corbicula intrusion. The following component and associated parameters are monitored.

- A. Charging Pump (HHSI) lube oil cooler outlet temperatures
 - B. Service Water header discharge flow
 - C. Air conditioning condenser flows and temperatures
 - D. Pipe penetration cooling coil temperatures
 - E. Service Water header temperatures
 - F. Component Cooling Heat Exchangers Delta T and Delta P
 - G. Service Water supply flow to Charging Pump (HHSI)
 - H. Visual inspection of the Service Water reservoir spray nozzles
4. The periodic monitoring program implemented September 1, 1981 involved adding steps to existing periodic tests on systems that could be potentially contaminated with Corbicula. These new steps require an inspection for Corbicula and/or shell debris if and when the particular system is opened for maintenance. In addition, a Maintenance Department Administrative Procedure was generated to provide for inspections of plant water systems opened for maintenance in order to observe corrosion and/or the presence of Corbicula. These inspections are performed by a qualified Chemistry Technician. To date, no evidence of Corbicula infestation has been noted.
5. b. See items 2 and 3 above
- c. See items 2 and 3 above
- d. See items 2 and 3 above
- e. See item 4.b above