Detroit

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July 7, 1981
EF2-54,010

Mr. James G. Keppler, Director
Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Dear Mr. Keppler:

Reference: Enrico Fermi Power Plant, Unit 2
USNRC Licensing Docket 50-341
USNRC IE Bulletin 81-03 (4-10-81)

Subject: Detroit Edison Response to NRC IE Bulletin 81-03

The enclosed Detroit Edison internal report number EF2-53,917 is herein transmitted to you in response to IE Bulletin 81-03, "Flow Blockage of Cooling Water to Safety System Components by Corbicula sp. (Asiatic Clams) and Mytilus sp. (Mussels)". The conclusion of this report is that Corbicula (Asiatic Clams) have been found in Lake Erie in the proximate area of Fermi 2; however, no evidence of these clams has been found on the Fermi 2 site. The potential for these clams to get onto the Fermi 2 site does exist. Therefore, we are committed to establish a program to prevent and detect future plugging of safety systems by these clams. The development and details of this program have not as yet been established. They will be completed and reported upon either prior to or during initial startup of Fermi 2.

Mytilus sp. (Mussels), as identified in the Bulletin, is a salt water bivalve. Therefore, it will not be a problem at Fermi 2.

Commitmentwise, this letter constitutes the Company's final report on IE Bulletin 81-03. Should you require additional information from Detroit Edison in this matter, please advise us.

Very truly yours,

DAWells

JDR:mb
Enclosure

cc: Director
Office of Inspection and Enforcement

Mr. Bruce Little, Resident Inspector
U. S. Nuclear Regulatory Commission

Mr. L. L. Kintner
Division of Project Management
Office of Nuclear Reactor Regulation

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The foregoing statements and the enclosed report are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.

D A Wells

Donald A. Wells, Manager
Quality Assurance

Subscribed and sworn to before me this 8th day of July, 1981.

Suzanne E. Kromath
Notary Public

SUZANNE E. KROMATH
Notary Public, Wayne County, Mich.
My Commission Expires Nov. 24, 1982

Detroit

DETROIT EDISON RESPONSE

TO

IE BULLETIN 81-03

FLOW BLOCKAGE OF COOLING WATER

TO SAFETY SYSTEMS COMPONENTS BY CORBICULA

ENRICO FERMI ATOMIC POWER PLANT, UNIT 2

APRIL 10, 1981

DOCKET NO. 50-341

JUNE 1981

IE BULLETIN 81-03: FLOW BLOCKAGE OF COOLING WATER TO SAFETY SYSTEM COMPONENTS BY CORBICULA (ASIATIC CLAMS) AND MYTILUS (MUSSELS)

This Bulletin requested that the possibility of Corbicula sp (Asiatic Clams) and Mytilus sp (Mussels) at the Enrico Fermi Atomic Power Plant, Unit 2 (Fermi 2) site be investigated. This response discusses the questions directed to Holders of Construction Permits. The responses to these requests are numbered in the same manner as the Bulletin.

HOLDERS OF CONSTRUCTION PERMITS

1. Determine whether Corbicula sp. or Mytilus sp. is present in the vicinity of the station by completing items 1 and 4 above that apply to operating licenses (OL).

   1. Determine whether Corbicula sp. or Mytilus sp. is present in the vicinity of the station (local environment) in either the source or receiving water body. If the results of current field monitoring programs provide reasonable evidence that neither of these species is present in the local environment, no further action is necessary except for items 4 and 5 in this section for holders of operating licenses.

RESPONSE

Corbiclua sp. (Asiatic Clams) has been found in Lake Erie in the cooling water discharge canal at the Monroe Power Plant, a coal-fired plant. This location is approximately 6 miles SSW of Fermi 2, both which are on the western basin of Lake Erie. These clams were first discovered in the fall of 1980 at a maximum density of about 15 individuals per square foot. They were again found on May 14, 1981. Monroe Power Plant has a once-through cooling system; where Fermi 2 has a closed-cycle cooling system. Fermi 2 takes water from Lake Erie for service water and for the cooling cycle make-up supply. Discharge or blowdown of the circulating water reservoir is into Lake Erie. However, no discharge to the lake has occurred to date.

Mytilus sp. (Mussels), as identified in the Bulletin, is a salt water clam. Therefore, it is not a problem at Fermi 2.

   2. If it is unknown whether either of these species is present in the local environment or is confirmed that either is present, determine whether fire protection or safety-related systems that directly circulate water from the station source or receiving water body are fouled by clams or mussels or debris consisting of their shells. An acceptable method of confirming the absence of organisms or shell debris consists of opening and visually examining a representative sample of components in potentially affected safety systems and a sample of locations in potentially affected fire protection systems. The sample shall have included a distribution of components with supply and return piping of various diameters which exist in the potentially affected system. This inspection shall have been conducted since the last clam or mussel spawning season or within the nine-month period preceding the date of this Bulletin. If the absense of organisms or shell debris has been confirmed by such an inspection or another method which the licensee shall describe in the response (subject to NRC evaluation and acceptance), no further action is necessary except for items 4 and 5 of actions applicable to holders of an operating license.

RESPONSE

Within the last month, three locations in which these clams could be expected to be found were visually inspected and sampled. On June 2, 1981, the fire

protection ring header (yard loop) was opened for a valve replacement. This allowed visual inspection and sediment sampling of the 12 inch diameter ring leader. No clams or shell fragments were found. On June 10, 1981, the reactor building closed cooling water heat exchanger shell side was opened for maintenance. A sample of silt and sludge was removed and examined. No clams or clam shell fragments were found. On June 5, 1981, 29 bottom samples were taken from the cooling water pond using a Ponar grab sampler. Samples were taken along 4 transects across the pond and no clams or shell fragments were found. Although the cooling pond and the reactor building closed cooling water systems are not safety-related systems, these systems have been filled for an adequate amount of time.

3. If clams, mussels or shells were found in potentially affected systems or their absence was not confirmed by action in item 2 above, measure the flow rates through individual components in potentially affected systems to confirm adequate flow rates; i.e, flow blockage or degradation to an unacceptably low flow rate has not occurred. To be acceptable for this determination, these measurements shall have been made within six months of the date of this Bulletin using calibrated flow instruments. Differential pressure (DP) measurements between supply and return lines for an individual component and DP or flow measurements for parallel connected individual coolers or components are not acceptable if flow blockage or degradation could cause the observed DP or be masked in parallel flow paths.

   Other methods may be used which give conclusive evidence that flow blockage or degradation to unacceptably low flow rates has not occurred. If another method is used, the basis of its acceptance for this determination shall be included in the response to this Bulletin.

RESPONSE

No clams and no evidence of clams was found on the Fermi 2 site. Therefore, item 3 does not require action.

4. Describe methods either in use or planned (including implementation date) for preventing and detecting future flow blcokage or degradation due to clams or mussels or shell debris. Include the following information in this description:

   a. Evaluation of the potential for intrusion of the organisms into these systems due to low water level and high velocities in the intake structure expected during worst case conditions.

   b. Evaluation of effectiveness of prevention and detection methods used in the past or present or planned for future use.

RESPONSE

a. Fermi 2 has a closed cycle cooling system. During low water periods, intake water can be totally taken from the circulating water reservoir with no water intake from the lake. Therefore, we anticipate no intrusion of clams into the system during high intake velocities due to low water levels.

b. The prevention and detection method will be determined to be effective if no evidence of clams or clam shell fragments are found during inspections or during safety system tests.

2. If these organisims are present in the local environment and potentially affected systems have been filled from the station source or receiving water body, determine whether infestation has occurred.

RESPONSE

The Corbicula sp. has been found in the Fermi 2 source water which is Lake Erie. They were found a few miles south of the Fermi 2 site at the Monroe Power Plant (coal-fired) in the cooling water discharge canal. However, no evidence has been found that would indicate that there has been any infestation of the Corbicula sp. into Fermi 2.

3. Describe the actions taken in items 1 and 2 above for construction permit holders and include the following information:

a. Applicable portions of the environmental monitoring program including last sample date and results.

b. Components and systems affected.

c. Extent of fouling if any existed.

d. How and when fouling was discovered.

e. Corrective and preventive actions.

RESPONSE

a. Quarterly benthos samples were taken for a one-year period with the last sample taken in January 1977. The data collected was defined in the Fermi 2 Environmental Report (Operating License Stage) Volume 2. The results collected from the six sampling stations showed no evidence of Corbicula sp. in these areas.

b. No components or systems have been affected due to the presence of Corbicula sp.

c. No fouling has occurred due to the presence of Corbicula sp.

d. No fouling has been found due to Corbicula sp.

e. A program will be established to prevent the fouling of safety systems by Corbicula sp.