Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

July 9, 1981

Mr. James G. Keppler, Director
Directorate of Inspection and
Enforcement - Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Byron Station Units 1 and 2
Braidwood Station Units 1 and 2
LaSalle County Station Units 1 and 2
Response to IE Bulletin 81-03
Concerning Flow Blockage Due to
Corbicula and Mytilus
NRC Docket Nos. 50-454/455,
50-456/457 and 50-373/374

Reference (a): J. G. Keppler letter to Cordell Reed dated April 10, 1981.

(b): T. J. Rausch letter to J. G. Keppler dated May 26, 1981.

(c): E. D. Swartz letter to J. G. Keppler dated June 4, 1981.

Dear Mr. Keppler:

References (b) and (c) provided the Commonwealth Edison Company response to the subject Bulletin for our Dresden, Quad Cities and Zion Stations. The enclosure to this letter provides the Reference (a) requested 90 day report for our Byron, Braidwood and LaSalle County Stations.

To the best of my knowledge and belief, the statements contained herein and in the enclosure are true and correct. In some respects, these statements are not based on my personal knowledge but upon information furnished by other Commonwealth Edison employees. Such information has been reviewed in accordance with Company practice and I believe it to be reliable.

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Please address any further questions you may have regarding this matter to this office.

Very truly yours,

E. Douglas Swartz
Nuclear Licensing Administrator

Enclosure

cc: Director, Office of Inspection
and Enforcement, Washington, D.C.
Region III Inspector - Byron
Region III Inspector - Braidwood
Region III Inspector - LaSalle

SUBSCRIBED AND SWORN to
before me this 9th
day of July, 1981

Rosalie A. Prieto
Notary Public

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ENCLOSURE

Commonwealth Edison Company
Byron Station Units 1 and 2
Braidwood Station Units 1 and 2
LaSalle County Station Units 1 and 2
Response to I.E. Bulletin 81-03

BYRON and BRAIDWOOD UNITS 1 and 2 RESPONSE:

Item 1

This item requires the holders of construction permits to complete items 1 and 4 that apply to holders of operating licenses.

1. Our Environmental Affairs Department has confirmed that Asiatic clams have not been found in the Rock River which is the source of water for Byron Station. Therefore, they do not foresee any problems at Byron with clam infestation. However, such problems are anticipated at Braidwood Station. Asiatic clams have been found in the Kankakee River, the water source for Braidwood, and there is a possibility that they will colonize in the cooling lake. With regard to Mussels, our Environmental Affairs Department has informed us that this species will not be a problem at Byron or Braidwood. Mussels are a salt water species similar to Asiatic clams and cannot live in fresh water which is used in the cooling systems at Byron and Braidwood Stations.

4a. Clams can easily enter the intake structure when they are in the larvae stage. Although microscopic in size, these larvae pass through the traveling screens and infest the cooling water. Beyond the larvae stage, the clams can be easily carried along by river currents or pipeline flow. As they grow larger inside water systems, they can seriously degrade waterflow in the pipelines.

4b. If clam intrusion becomes a significant problem at Byron and Braidwood Stations, appropriate actions will be taken to detect and prevent flow blockage. At the present time, Byron is not expected to have a clam problem. At Braidwood, the extent of the problem is unknown because the lake presently does not have any heat load and the growth rate that the clams will demonstrate during plant operation cannot be accurately determined. As a result of filling the Braidwood lake during the clams' non-spawning season, there is a possibility that the lake has not yet been infested. Since the filling of the lake was completed, no sizable quantity of river water has been additionally pumped into it.

Chemical treatment of cooling water systems and Amertap condenser cleaning systems are currently planned to be used at both sites.
If future sampling indicates that clam intrusion has occurred, additional surveillance, cleaning and chemical treatment programs will be initiated. These programs may include the following:

a. periodic inspection and cleaning of condenser waterboxes and heat exchangers cooled by service water.

b. monitoring of flow degradation in heat exchangers through the use differential pressure guages.

c. monitoring of containment temperature (which reflects the effectiveness of the Reactor Containment Fan Coolers).

d. addition of hypochlorite to cooling water systems and heat exchangers.

The exact measures taken to prevent flow degradation will be determined by the severity of the problem. These methods have been proven effective at our Dresden, Zion and Quad Cities Stations. Continuous chlorination for two to three weeks during the beginning and the end of the spawning season has helped reduce the clam problems experienced at TVA stations. Any newly developed methods of clam control that are proven effective will also be considered for use at Byron and Braidwood Stations.

Items 2 and Item 3

The only systems at Braidwood that have been filled with lake water are the Fire Protection System and the Make-up Demineralizers. Flow blockage is not likely to occur in the Fire Protection System since it contains larger pipes and no heat exchangers. Procedures will include periodic inspections and operation of this system. The Make-up Demineralizers have only recently been placed in service and not enough time has passed for any blockage to occur. Also, the water that is used in the demineralizers is sent through a chlorination system that kills an emoves organisms from it.

Since clams are not present at Byron, it is not necessary to determine if infestation has occurred.

LASALLE COUNTY STATION RESPONSE

Item 1

This item requires the holders of construction permits to complete items 1 and 4 that apply to holders of operating licenses.

1. Our Environmental Affairs Department has confirmed that Asiatic clams have been found in the Illinois River which is the source of water for LaSalle Station. There is a possibility that they will colonize in the cooling lake. With regard to Mussels, our Environmental Affairs Department has informed us that this species will not be a problem at LaSalle. Mussels are a salt water species similar to Asiatic clams and cannot live in fresh water which is used in the cooling systems at LaSalle Station.

4a. Clams can easily enter the intake structure when they are in the larvae stage. Although microscopic in size, these larvae pass through the traveling screens and infest the cooling water. Beyond the larvae stage, the clams can be easily carried along by river currents or pipeline flow. As they grow larger inside water systems, they can seriously degrade waterflow in the pipelines.

4b. If clam intrusion becomes a significant problem at LaSalle Station, appropriate actions will be taken to detect and prevent flow blockage, such as indicated in FSAR 9.2.9.4 wherein the primary containment chilled water system has the chiller refrigerant suction and condensing pressures, compressor lubricant pressure, and water pressure differential across the condensers and evaporators of each chiller periodically monitored to ensure that all normally operating equipment is functioning properly.

If future sampling indicates that clam intrusion has occurred, additional surveillance, cleaning and chemical treatment programs will be initiated. These programs may include the following:

a. periodic inspection and cleaning of condenser waterboxes and heat exchangers cooled by service water.

b. monitoring of flow degradation in heat exchangers through the use differential pressure guages.

c. monitoring of containment temperature.

d. addition of hypochlorite to cooling water systems and heat exchangers.

The exact measures taken to prevent flow degradation will be determined by the severity of the problem. These methods have been proven effective at our Dresden, Zion and Quad Cities Stations. Continuous chlorination for two to three weeks during the beginning and the end of the spawning season has helped reduce the clam problems experienced at TVA stations. Any newly developed methods of clam control that are proven effective will also be considered for use at LaSalle Station.

Items 2 and 3

The Fire Protection System is flushed periodically and to date, the strainers have not shown any evidence of clams or shell debris. Other systems have not been in use long enough for any clams to grow and produce blockage.

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