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Vice President

Indian Point 1&2

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September 10, 1979
Indian Point Unit Nos. 1 and 2
Docket Nos. 50-3
50-247

U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Washington, D. C. 20555
Attention: Director, Division of Reactor
Construction Inspection

Dear Sir,

This letter is being provided in response to a July 11, 1979 letter which forwarded IE Bulletin No. 79-15. This bulletin requested information regarding deep draft pumps in safety related systems in the Indian Point Unit Nos. 1 and 2 plants.

With respect to Indian Point Unit No. 1, the unit was shutdown on October 31, 1974 and is presently in the defueled condition awaiting a decision by the Company whether or not to install an emergency core cooling system in accordance with the Commission's regulations. The information requested in the bulletin will be provided if an affirmative decision is reached to return the unit to service.

With respect to Indian Point Unit No. 2, the requested information for deep draft pumps in safety related systems is presented below:

Service Water Pumps

- | | |
|-------------------|--|
| 1. Number | -Six |
| 2. Manufacturer | -Layne-Bowler |
| Model | -350-SW20K2 Vertiline Life-Line A
(vertical 3-stage centrifugal) |
| Capacity | -5000 gpm at 220 TDH |
| Plant application | -Supply river cooling water to various heat loads in both the safety related and non safety related portions of the plant. |

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3. Overall pump dimensions - 38 1/2' length, excluding motor
- 14" suction and discharge flanges
- 20-7/8" max. O.D. of bowl assembly
1 15/16" shaft diameter
- 36" square and 44" square mounting plates
- approximately 29" height, suction to discharge
- 28" minimum submergence
- 13" diameter of impeller

4 and 5. The summary of startup, testing, routine maintenance history, operational problems and major repair efforts are listed below for the service water pumps:

- a) Damage to pump shafts (3 occurrences). - Pump shafts were replaced; with new shafts new upper and lower wear rings (bowl) were made. (Excessive vibrations were noted just prior to damage of pump shafts).
- b) Shaft bearings replaced.
- c) Pump seals replaced.
- d) Packing rings replaced, stuffing box repacked.

6. The longest interval that each pump has been available for operation without corrective maintenance appears below:

<u>Pump No.</u>	<u>Longest Operating Interval</u>
21	1 yr. 10 mos.
22	9 mos.
23	2 yrs. 7 mos.
24	3 yrs. 8 mos.
25	2 yrs. 2 mos.
26	1 yr. 8 mos.

The data for number of cycles of operation, duration of cycles, etc. is not in a readily accessible form.

Four (4) new pumps fabricated by the Aurora Pump Company are available for installation at the Indian Point Unit No. 2 plant. The four (4) new pumps have improved features

which are expected to reduce maintenance and increase the operating interval; these new pumps will be placed into service on a maintenance schedule basis. The Aurora Pump Company has acquired the Layne Bowler Co., which was the manufacturer of the original pumps. The pump-flow characteristics remain unchanged, and the improved maintenance features are listed below:

- a) Hard surfaced (colmonoy) packing box sleeves added to improve wear resistance.
- b) Type 304L stainless steel impellers replacing bronze impellers to improve resistance to erosion and permit welding repairs.
- c) Column pipe casing wall thickness increased to 1/2" from 3/8" to reduce vibrations.
- d) Open line shaft design changed to enclose line shaft with colmonoy hard surfaced shaft sleeves and cutless fluted rubber bearings.
- e) Laval separator used for bearing water filtration is nickel plated inside and outside. Installation valving and piping is stainless steel.

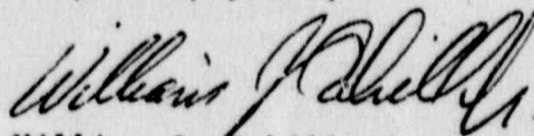
For normal power operation, at least one (1) service water pump of three on the essential header, and at least two (2) service water pumps of three on the non-essential header, are operating continuously. The operation of the service water system during normal power operation is in effect a long term-continuous test of the service water pumps.

Recirculation Pumps

- 1. Number - Two
- 2. Manufacturer - Ingersoll Rand Company, Cameron Pump Division
 - Model - 24 APK - 3 Stage
 - Capacity - 3000 GPM at 350 TDH
 - Plant application - Recirculation inside containment of primary coolant from the recirculation sump to RHR system and into the reactor vessel following a postulated LOCA.
- 3. Overall pump dimensions - Approximately 16' length, excluding motor
 - 36" square mounting plate
 - 23" max. O.D. of bowl assembly
 - 2 3/4" shaft diameter
 - 18 3/4" diameter of impeller
- 4, 5 & 6 The recirculation pumps are not used during normal power operation. A surveillance test of approximately 20 minutes duration at miniflow conditions is performed during each refueling outage. (The miniflow test is a reduced flow test where water is drawn from the recirculation sump into the recirculation pump and then discharged into a 2" miniflow line and then returned to the recirculation sump). There have been no problems or repairs for the recirculation pumps since the plant began operation in 1973.

Should you have additional questions, we would be pleased to discuss them with you.

Very truly yours,



William J. Cahill, Jr.
Vice President

cc: Mr. Boyce H. Grier, Director
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