

*J. Keppler TIC*

DAIRYLAND POWER COOPERATIVE

La Crosse, Wisconsin

54601

September 18, 1979

In reply, please  
refer to LAC-6500

DOCKET NO. 50-409

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

SUBJECT: DAIRYLAND POWER COOPERATIVE  
LA CROSSE BOILING WATER REACTOR (LACBWR)  
PROVISIONAL OPERATING LICENSE NO. DPP-45  
IE BULLETIN NO. 79-15 -  
DEEP PUMP DEFICIENCIES

Reference: (1) NRC Letter, Keppler to Linder,  
dated July 11, 1979

Gentlemen:

Our response to requests in the subject bulletin enclosed with  
Reference 1 are submitted with this letter as Attachment 1.

If there are any questions concerning this matter, please contact  
us.

Very truly yours,

DAIRYLAND POWER COOPERATIVE

Frank Linder, General Manager

FL:JOB:af

cc: J. Keppler, Reg. Dir., NRC-DRO III

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IN BULLETIN NO. 79-15NRC REQUEST

1. The number of deep draft pumps similar to those shown in Figures 1 and 2 utilized in safety related applications in each facility.

DPC RESPONSE

Presently at LACBWR, we have in service eight deep draft pumps of similar design to those shown. Of these eight, only two are utilized in a safety related system.

NRC REQUEST

2. Manufacturer, model, capacity and plant application.

DPC RESPONSE

The two pumps were manufactured by the Worthington Corporation. They are identical and have the Model No. 12H-110-5 stage. The pump ratings are 750 gpm at a 320-foot head. The diesel driven pumps are the backup source of water for the Alternate Core Spray and Fire Protection Systems and are kept in a standby mode.

NRC REQUEST

3. Overall dimensions of the pumps.

DPC RESPONSE

From the bottom of the right angle drive to the bottom of the strainer measures 27 feet 6 inches. The bowl diameter is 11.5 inches, and the column pipe is 8 inches in diameter.

NRC REQUEST

4. Summary of startup, testing and routine maintenance history.

DPC RESPONSE

LACBWR Preoperational Test No. 38-04-1 of the alternate core spray system was performed October 6 and again October 16, 1967. Test data from both pumps exceeded design specifications.

The annual test of the alternate corespray as specified by LACBWR Technical Specifications, Section 2.4.7.3 and Section 4.2.2.18 is performed during normal shutdowns. Acceptance criteria for this test is the flow at PI 38-37-801 is greater than or equal to 900 gpm with the pressure at PI 38-35-801 of 90 psi. Both pumps have exceeded this criteria on all tests.

In May 1976, pump 1A was removed from service for a general inspection. It was placed back in service in July, 1976. A post maintenance test was performed and the pump again met design specifications.

In May 1979, a special flow test was performed and both pumps again met design specifications.

These pumps are not part of our Preventive Maintenance Program. There is nothing on these pumps that requires routine servicing.

#### NRC REQUEST

5. *Operational problems and major repair efforts.*

#### DPC RESPONSE

During the general inspection of pump 1A in May 1976, it was discovered that the clearances between the casing wear ring and the impeller seal ring exceeded the manufacturer's specifications. The impeller seal rings were built-up using a bronze spray metal and machined to within manufacturer's specifications. Other items replaced included a suction case and suction case bearing. Prior to then, the pump had not experienced any operational problems. It has not experienced any problems since.

Pump 1B has never experienced any operational problems and has never been removed from service.

#### NRC REQUEST

6. *The longest interval that each pump has been available for operation without corrective maintenance. Identify the number of cycles of operation during this interval, the duration of each cycle and the operating mode(s) (recirculation, rated flow, etc.). Identify the longest continuous operation at or near rated flow conditions for each pump and the status of the pump operability at the end of the run.*

#### DPC RESPONSE

Pump 1A was available for operation from October 16, 1967, until May 26, 1976, when it was removed from service for inspection. Pump 1B has been available for service since its preoperational test on October 16, 1967.

During the period October 1967 to May 1976, pump 1A had performed 16 annual and 14 semi-annual tests of the alternate core spray. Also, 78 monthly tests of the diesel fire pump were completed. During the performance of the annual test, the pump is run under rated flow conditions for approximately 1 hour. The semi-annual and monthly tests are ran for less than 20 minutes while the flow is being recirculated. The diesels also start automatically when the HPSW pressure falls below 60 psi. When this happens, the pump runs for a short period and is then shut down. This condition occurs frequently during summer months. We estimated 1250 starts for pump 1A during this period.

Since October 1967, pump 1B has performed 20 annual, 21 semi-annual, and 116 monthly tests. It also starts on low HPSW pressure. We have estimated 1775 automatic starts for pump 1B.

During the period May 7 to May 17, 1979, while the electric HPSW pump was being replaced, pumps 1A and 1B were run alternately. Pump 1B ran one 2-day interval continuously during this period. Pump 1A ran a 1-day interval. This is the longest continuous operation for either pump. Flow test on both pumps was performed May 19, 1979, and both met design specifications.