

UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D. C. 20555

August 17, 1988

Docket No. 50-155

Mr. Kenneth W. Berry Director, Nuclear Licensing Consumers Power Company 1945 West Parnall Road Jackson, Michigan 49201

Dear Mr. Berry:

SUBJECT: MODIFICATION OF PREVIOUS COMMITMENT TO REPLACE FEEDWATER CHECK VALVE (VFW-305) RESILIENT SEAL (TAC 68215)

In a letter dated May 25, 1983, Consumers Power Company (CPC) discussed adding an Anchor-Darling dual seat ten-inch check valve (VFW-305) to the feedwater line to correct the past poor performance of the feedwater check valve with respect to containment integrity. The letter stated that the new design was chosen to enhance the ability of the valve to seat with low pressure air applied. The letter also stated that CPC conducted an informal survey of four nuclear power plants using Anchor-Darling dual seat check valves in their feedwater systems and found that a failure had been caused by crud impingement on the soft seat. To alleviate the concern about soft seat failure, CPC committed to replacing the soft seat on the valve each refueling outage until performance determines that another frequency is appropriate.

In your letter dated April 18, 1988, you pointed out that NRC IE Information Notice No. 84-12, "Failure of Soft Seat Vaive Seals," was issued about eight months after you installed VFW-305. That Information Notice was issued because of concern over failures of LaSalle County Nuclear Plant's dual seat vaive seals, one of which failed at the vulcanized seam. You reviewed the performance of VFW-305, stating that local leak rate tests (LLRTs) improved since the June 1983 original installation, as follows:

 07/84 as-found LLRT - leak rate 10.8% of the maximum allowable containment leak rate technical specification limit

Griginal seat with vulcanized seal replaced after the LLRT by an Anchor-Darling-provided seat with molded seal.

o 10/85 as-found LLRT - leak rate 0.5% of the technical specification limit

OFOI

Replaced seat with similar seat.

 0 01/87 as-found LLRT - leak rate 1.008% of the technical specification limit

Replaced seat with similar seat.

SS081S0414 SS0817 PDR ADOCK 05000155 P PDC You stated your belief that the above leak rates are not excessive for a ten-inch check valve and indicate acceptable performance. In October 1985, the valve was subject to a successful containment integrated leak rate test, further indicating satisfactory performance of the seats.

You also stated that durometer testing of the resilient seat indicates that the hardness of the seal is relatively unchanged over the period of one cycle, with measurements from 69 to 73.5, as compared to the manufacturer's original record of 70. Additionally, you stated that your current information from the valve manufacturer indicates testing of the seal material (Stillman compound) at 420°F revealed only slight swelling over a period of 18 months with no substantial degradation; your application is at about 375°F, which you feel should extend the period for similar performance.

Based on the review of the information in your letter dated April 18, 1988, the NRC staff finds that your May 25, 1983 commitment has been fulfilled. Valve VFW-305 should be incorporated into your normal preventive maintenance program. Prudent testing of the valve and examination and replacement of its seats and seals should continue.

Sincerely,

Signed by Thomas V. Wambach fr.r/

Wayne E. Scott, Jr., Project Manager Project Directorate III-1 Division of Reactor Projects - III, IV, V & Special Projects

cc: See next page

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Komas V. Wand

Wayne E. Scott, Jr., Project Manager Project Directorate III-1 Division of Reactor Projects - III, IV, V & Special Projects

cc: See next page

Mr. Kenneth W. Berry Consumers Power Company

Big Rock Point Plant

CC:

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