

Duquesne Light Company

Beaver Valley Power Station
P.O. Box 4
Shippingport, PA 15077-0004

SUSHIL C. JAIN
Senior Vice President
Nuclear Services
Nuclear Power Division

(412) 393-5512
Fax (724) 643-8069

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U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

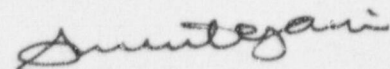
**Subject: Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, License No. DPR-66
Reply to RAI on Inservice Testing (IST) Program
Relief Request PRR-5 (TAC No. MA2114)**

By letter dated June 11, 1998, Duquesne Light Company (DLC) submitted a new pump relief request PRR-5 for the ~~third~~ ten-year interval for the Beaver Valley Power Station, Unit No. 1 (BV-1) IST Program. PRR-5 requested relief to use expanded ranges for flow and discharge pressure for the Diesel Generator (D/G) Fuel Oil Transfer Pumps at BV-1. Based on NRC review, a Request for Additional Information (RAI) for this submittal was issued on August 11, 1998. This NRC RAI requested a response to two questions concerning the DLC submittal.

Enclosed is the DLC response to the two questions identified in the RAI. Based on this response, DLC concludes that the fuel oil transfer pumps should remain in the BV-1 IST Program and continue to be tested in accordance with OM-6 and the approved relief requests. Proposed pump relief request PRR-5 is still considered necessary due to the design and application of the pumps. //

If you have any questions on this submittal, please contact Mr. S. H. Hobbs at (412) 393-5203. A047

Sincerely,



Sushil C. Jain

9810230220 981015
PDR ADOCK 05000334
P PDR

c: Mr. D. S. Brinkman, Sr. Project Manager
Mr. D. M. Kern, Sr. Resident Inspector
Mr. H. J. Miller, NRC Region I Administrator



Enclosure

Response to Request for Additional Information (RAI)
Relief Request PRR-5 for Third 10-Year Inservice Testing (IST) Interval
Beaver Valley Power Station, Unit No. 1 (BV-1)

The NRC requested additional information to facilitate the review of Proposed Revision 1H (Pump Relief Request PRR-5) to the BV-1 IST Program. Proposed Revision 1H requested relief to use expanded ranges for flow and discharge pressure for the Diesel Generator (D/G) Fuel Oil Transfer Pumps at BV-1. The RAI contained two questions:

Question #1

Regulatory Guide 1.26, "Quality Group Classifications and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants," provides guidance on classification of equipment according to national standards (e.g., the ASME Code). Section 2.2 of NUREG-1482 discusses the scope of the IST program and specifically lists the diesel fuel oil system identified in PRR-5 as being outside the scope of Regulatory Guide 1.26. Discuss the applicability of the above guidelines with regard to whether the pumps identified in this relief request are outside the scope of the IST program.

Response #1

The D/G Fuel Oil Transfer Pumps at BV-1 take suction on the underground fuel oil storage tank and deliver fuel oil to the auxiliary fuel oil day tank. During diesel operation, as the auxiliary fuel oil day tank level decreases, the fuel transfer switch activates the fuel oil transfer pump to maintain normal level. The auxiliary day tank and engine mounted tank together contain approximately 900 gallons of fuel oil, which is sufficient to supply D/G operation for approximately 4 -5 hours. Therefore, the fuel oil transfer pumps must be capable of delivering fuel oil to the auxiliary day tank to ensure continued operation of the D/G.

These pumps were included in the original BV-1 IST Program, effective October 28, 1976. They are supplied with an emergency power source and perform a function in shutting down the reactor and in mitigating the consequences of an accident, by ensuring continued operation of the D/Gs. These pumps are listed as QA Category 1, ASME Class 3, even though they are not "water-, steam- or radioactive-waste-containing components."

Reg Guide 1.26 states that it does not cover systems such as instrument and service air, diesel engine and its generators and auxiliary support systems, diesel fuel, emergency and normal ventilation, fuel handling, and radioactive waste management systems, but

that these systems should be designed, fabricated, erected, and tested to quality standards commensurate with the safety function to be performed.

NUREG-1482, Section 2.2 states, "If the FSAR indicates that a system or component is Code Class 1, 2, or 3, the system or component is within the scope of 10 CFR 50.55a. If the FSAR states that a system or component is designed, fabricated, and maintained as code class at the option of the Owner as permitted by Paragraph IWA-1320(e), then the application of the requirements in Section XI are also optional."

The BV-1 UFSAR does not list an ASME Class for these components and it does not state whether the class 3 designation is required or optional. They are listed in the UFSAR as Quality Assurance Category I and Seismic Category I. The system piping, however, has been designated as piping class Q3 on piping drawings. UFSAR, Section 6.2 states that "All line numbers on flow diagrams and piping drawings for "Nuclear" systems will have a suffix, Q1, Q2 and Q3 to indicate the line's appropriate piping class."

The D/G fuel oil system piping was originally designed and fabricated as piping class Q3, which BV-1 has determined will be treated as equivalent to ASME Class 3. The UFSAR does not specifically state that this classification is optional. Therefore, even though these pumps may not be required to be class 3 per the guidance in Reg Guide 1.26, they have historically been considered class 3 and have always been included in the BV-1 IST Program. The system is also considered to be class 3 in the BV-1 Inservice Inspection Program.

In conclusion, these pumps are considered class 3 components that are supplied with emergency power, that perform a function in shutting down a reactor to cold shutdown and mitigate the consequences of an accident, and in accordance with 10 CFR 50.55a, should remain in the BV-1 IST Program.

Question #2

Section 3.4 of NUREG-1482 states that testing of a major component is an acceptable means of testing a component subassembly; however, the licensee is responsible for establishing the basis for the adequacy of the testing for assuring the operational readiness of the component subassemblies. For PRR-5, address (1) whether the diesel generator and the diesel fuel oil transfer pumps can be considered as the major component and the component subassemblies, respectively, and (2) the applicability of NRC guidelines in Section 3.4 of NUREG-1482 for the pumps in this relief request.

Response #2

The fuel oil transfer pumps at BV-1 are tested in conjunction with the D/G test. During the test, the D/G burns fuel oil from the day tank. After the diesel is shut down, the fuel oil transfer pumps are run, one-at-a-time, to refill the day tank, at which time the required IST data is obtained. The fuel oil transfer pumps are not physically located on the skid with the emergency diesel generator. In addition, they are equipped with an emergency power source and discharge pressure gauges. Flow is calculated using the change in day tank level. Vibration data is also obtained on the pumps. Therefore, these pumps have not been considered skid-mounted.

- (1) These pumps may be considered subassemblies of the emergency diesel generator. The safety function of the fuel oil transfer pumps is to supply fuel oil to the D/G day tanks. Without the transfer pumps, the emergency diesel generators would not be able to continue to operate. Once the fuel in the day tank and engine mounted tank is exhausted, the D/G would be unable to continue to operate. Although these pumps are subassemblies of the emergency diesel generators, they have not historically been considered skid-mounted or component subassemblies.
- (2) NUREG-1482, Section 3.4, "Skid-Mounted Components and Component Subassemblies," states: "The staff has determined that the testing of the major component is an acceptable means for verifying the operational readiness of the skid-mounted and component subassemblies if the licensee documents this approach in the IST Program." The testing of the D/G itself, however, would not necessarily verify the operational readiness of the fuel oil transfer pumps. There are two 100% capacity pumps for each D/G. If the pumps are tested by the D/G test run, only one pump could be tested at a time and the flow rate could not be verified. A qualitative test could be developed that would ensure the pumps could maintain level while the D/G was in operation; however, the monthly test does not run the diesel at full load and the capability of the transfer pumps to supply the D/G at full load would not necessarily be verified.

Therefore, in order to ensure these pumps are capable of performing their safety function, they should continue to be tested as separate components, not as subassembly components of the Diesel Generator.

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Conclusion

The fuel oil transfer pumps should remain in the BV-1 IST Program and continue to be tested in accordance with OM-6 and the approved relief requests. Proposed pump relief request PRR-5 is still considered necessary due to the design and application of the pumps.