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# Washington Public Power Supply System

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REGION V I&E

Docket No. 50-503

June 22, 1984  
G03-84-402

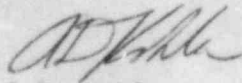
U.S. Nuclear Regulatory Commission, Region V  
Office of Inspection and Enforcement  
1450 Maria Lane, Suite 260  
Walnut Creek, California 94596 - 5368

Attention: Mr. T.W. Bishop, Director  
Division of Resident Reactor Projects  
and Engineering Programs

Subject: **POTENTIAL 10CFR50.55(e) DEFICIENCY**  
**LOW PRESSURE SAFETY INJECTION PUMP FAILURES**  
**D/N #52**

On May 23, 1984, The Supply System notified your office of a potential 10CFR50.55(e) deficiency concerning the subject condition. An investigation is in progress; however, sufficient data is not available at this time to determine the cause. Attached is a Supply System approved interim report.

It is anticipated that a final report will be provided to your office by June 30, 1985. Should you have any questions or desire further information, please contact me directly.



A.D. Kohler  
WNP-3 Program Director

DRC/mam

Attachment

cc: Mr. J.A. Adams - BPA  
Mr. D. Smithpeter - BPA  
Mr. S.F. Swearngin - BPA  
Ebasco, Elma  
Mr. R.D. Hill, Puget Sound Power & Light Company  
Mr. P. Inman, The Washington Water Power Company  
Mr. B.D. Withers, Portland General Electric Company  
Mr. E.M. Burton, Pacific Power & Light Company  
Mr. M.K. Yates, Ebasco, New York  
Mr. A.A. Tuzes, Combustion Engineering

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WASHINGTON NUCLEAR PROJECT NO. 3

(DOCKET NO. 50-508)

10CFR50.55(e) DEFICIENCY  
INTERIM REPORT

LOW PRESSURE SAFETY INJECTION  
(LPSI)  
PUMP FAILURES

(D/N NO. 52)

Description of Deficiency

The Palo Verde Nuclear Generating Station LPSI pumps, as originally supplied, have experienced several instances of failure to start when energized. The investigation so far has established the root cause of the problem as excessive shaft deflection due to high magnetic forces in the motor during start-up. This causes the impeller to contact the casing ring sometimes preventing shaft acceleration. The WNP-3 LPSI pumps may also be subject to this type of failure. The WNP-3 and PVNGS LPSI motors have identical rotors, bearing systems, and electrical characteristics. The hydraulic portions of the pumps are also identical.

Safety Implications

The LPSI pump provides low pressure injection during a LOCA and also provides reactor coolant system flow to the shutdown heat exchanger during shutdown cooling. There are two LPSI pumps provided per plant. The likelihood of losing two pumps simultaneously by this mode of failure is remote and subsequent restart of a pump after a failure to start has been successful. However, since the potential of this type of failure has been identified, reliability of the ECCS and SDCS can be affected.

Corrective Action

When the PVNGS investigation is completed, corrective action will be proposed for the WNP-3 LPSI pumps.