

## Washington Public Power Supply System

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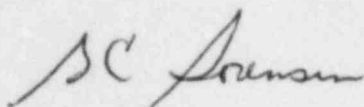
Mr. J. B. Martin  
Regional Administrator  
U.S. Nuclear Regulatory Commission  
Region V  
1450 Maria Lane, Suite 210  
Walnut Creek, California 94596

Subject NUCLEAR PROJECT NO. 2  
DOCKET NO. 50-397 - LICENSE NO. CPPR-93  
10CFR50.55(e) REPORTABLE CONDITION #302  
HIGH PRESSURE CORE SPRAY SYSTEM (HPCS) P-1

Reference: Telecon QA2-83-220, dated 11/30/83, R.T. Johnson to  
Bob Dodds, same subject.

In accordance with the provisions of 10CFR50.55(e), your office was notified by the reference of the subject Condition. Attached is the Project's final report on Condition #302.

If there are any questions regarding this subject, please contact Roger Johnson, WNP-2 Project QA Manager, at (509) 377-2501, extension 2712.



G. C. Sorensen  
Manager, Regulatory Programs

JGT/kd

Attachment: As stated

cc: W.S. Chin, BPA  
N.D. Lewis, EFSEC  
A. Toth, NRC Resident Inspector  
Document Control Desk, NRC

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10CFR50.55E, CONDITION 302  
HIGH PRESSURE CORE SPRAY  
SYSTEM/(HPCS) UNDERVOLTAGE  
RELAY PROBLEM  
FINAL REPORT

Description of the Deficiency:

The modifications covering HPCS second level undervoltage protection produced the potential under certain (power bus voltage) conditions for the HPCS pump to fail to start on a valid initiation signal. The condition was identified and confirmed through Startup Testing.

Safety Implications:

All the emergency core cooling systems including HPCS conform to all licensing requirements and good design practices of isolation, separation and single failure considerations. Safe shutdown can therefore be accomplished without HPCS in service (Ref: Section 6.3.1.1.2, Page 6.3-2 of FSAR).

The condition does represent a deficiency in the final design as approved and released for construction such that the design does not conform to the criteria and basis stated in the Safety Analysis Report Section 8.3, Page 8.3-4a. The condition, therefore, per PMI-4-10 is considered a reportable deficiency.

Cause of the Deficiency:

The second level of UV protection was added by GE at the Supply System's request in response to new NRC requirements. The original modification was defined by GE FDI-TCKZ. As part of the design review and improvement process, FDDR-KK1-1214, Revisions 0 and 1, were issued to adjust dropout voltages and the timing sequence for tripping the main supply circuit breaker and starting the diesel generator. The modifications shown on the FDDR degraded the ability of the undervoltage auxiliary relays to reset on restoration of bus voltage by the diesel generator. This deficiency was identified during testing.

Corrective Action:

The deficiency documented in Startup Problem Report E-3798 has been dispositioned by Supply System Engineering in cooperation with General Electric Engineering, both site and San Jose. GE has issued Field Design Disposition Request (FDDR) KK1-1214, Revision 2 to revise the design by inserting contacts from the normal supply breaker in series with the undervoltage relay contacts.

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The design revision has been implemented and tested and demonstrated to operate in a manner which provides the required undervoltage protection and HPCS pump start on appropriate operational control signals.

Action to Prevent Recurrence:

Startup testing is intended to provide functional verification of the design, and remains a principal tool in identifying potential problems.

The design is unique to WNP-2 and with both design and testing nearing completion, no further action to prevent recurrence is considered necessary.