

Washington Public Power Supply System

P.O. Box 968 3000 George Washington Way Richland, Washington 99352 (509) 372-5000
Docket No. 50-397

May 17, 1983
G02-83-436

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
10CFR50.55(e) POTENTIALLY REPORTABLE CONDITIONS #216, RHR
RELIEF VALVE VENTS; #223, STANDBY LIQUID CONTROL SYSTEM
(SLCS); AND #232, LPCS AND RHR SUPPORT PIN RECEPTACLES

References: a) Telecon dated October 22, 1982, R.T. Johnson to John
Elin
b) Telecon dated January 27, 1983, L.C. Floyd to R. Dodds
(QA2-83-029)
c) Telecon dated January 21, 1983, L.C. Floyd to John
Elin (QA2-83-023)

In accordance with the provisions of 10CFR50.55(e), your office was informed by telephone, of the above subject conditions. Attachments A and B provide the Project's interim reports on Conditions #216, RHR Relief Valve Vents and #223, Standby Liquid Control System (SLCS). Attachment C provides our final report for Condition #232, LPCS and RHR Support Pin Receptacles. We will continue to provide your office with quarterly updates on Conditions 216 and 223.

If you have any questions or desire further information regarding these subjects, please contact Roger Johnson, WNP-2 Project QA Manager, (509) 377-2501, extension 2712.

C. S. Carlisle
C. S. Carlisle
Program Director, WNP-2

Attachments: (3) As stated

cc: W.S. Chin, BPA
A. Forrest, Burns and Roe - HAPO
N.D. Lewis, EFSEC
WNP-2 Files/917B/917Y
A. Toth, NRC Resident Inspector
Document Control Desk, NRC

ATTACHMENT A

WASHINGTON PUBLIC POWER SUPPLY SYSTEM NUCLEAR PROJECT NO. 2 DOCKET NO. 50-397 LICENSE NO. CPPR-93 10CFR50.55(e) CONDITION #216 RHR RELIEF VALVE VENTS

INTERIM REPORT

Description of Deficiency

There are 4 RHR relief valves which have a 2" vent hole on the valve body. The valves are RHR-V-55A, RHR-V-95A, RHR-V-55B, and RHR-V-95B. These valves are situated such that the failure of a single motor operated valve, RCIC-V-113, would allow an open leakage path from the wetwell (primary containment) directly to the reactor building (secondary containment).

The attached sketch illustrates the situation. Containment penetration X-116 is an open path into the wetwell's gaseous volume. In the steam condensing mode, RHR-V-55A (or B) and RHR-V-95A (or B) protect the RHR heat exchanger from over-pressurization. In order to accommodate condensation in the line between these valves and containment, a vacuum breaker has been installed that consists of penetration X-116, RCIC-V-113, RHR-V-102, RHR-V-101A (or B), RHR-V-103A (or B), and RHR-V-179A (or B).

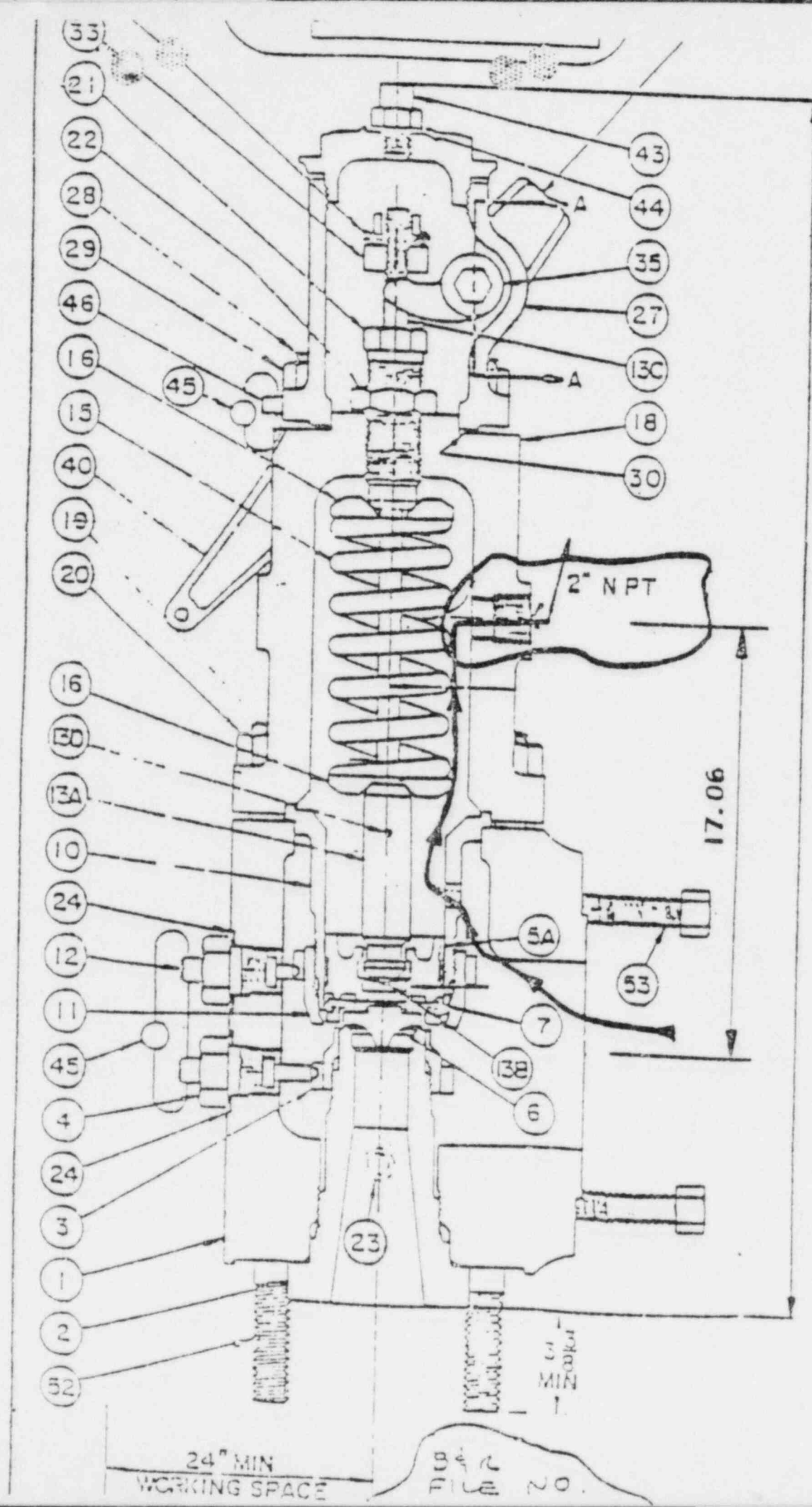
All of these valves are normally open. Upon a containment isolation signal, the only valve to close would be RCIC-V-113. If it failed to close, and a LOCA had occurred, the wetwell would pressurize, and the wetwell atmosphere would vent down this path. Details of the RHR relief valve show that a flow path exists which would allow the wetwell atmosphere to vent directly to secondary containment.

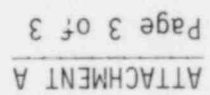
Safety Implication

Burns and Roe has estimated the gaseous release from these four paths at 5.2×10^4 scfm during the first 450 seconds after a LOCA and at a rate of 4.9×10^3 scfm thereafter. This can be compared to the allowable release rate for primary containment of approximately 1.7 scfm.

Corrective Action

After a review of possible corrective actions, including incorporation of a bellows seal, the Project has decided to remove the relief valves, eliminate the containment leakage path, and deactivate the steam condensing mode of the RHR system. Supply System and Burns and Roe Engineering are preparing the necessary Project Engineering Directives and FSAR changes to implement the corrective action. We will continue to provide your office with quarterly updates on this subject. The next report will be submitted by August 17, 1983.





ATTACHMENT B

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
NUCLEAR PROJECT NO. 2
DOCKET NO. 50-397
LICENSE NO. CPPR-93
10CFR50.55(e) CONDITION #223
STANDBY LIQUID CONTROL SYSTEM (SLCS)

INTERIM REPORT

Description of Deficiency

The Standby Liquid Control System (SLCS) is a backup system for safe shut-down which receives supply power from AC and DC safety-related buses. General Electric electrical elementary diagrams have one loop of SLCS equipment powered and controlled from safety-related (Class 1E) electrical buses, while the other loop of equipment is not. Power supplies which are not safety-related are connected to safety-related buses without isolators and control circuits within various panels are not separated: both of which are requirements of the WNP-2 Electrical Separation Criteria.

Safety Implication

The system, as designed, does not meet single failure criteria per current FSAR statements, either mechanically or electrically. Electrical Separation Criteria has been violated concerning prime circuits which degrades the reliability of a safety-related electrical division. These conditions may preclude the SLCS from performing its intended function and, electrically, could cause failure of safety-related circuits through interfaces with non safety-related circuits.

Corrective Action

General Electric has clarified the design requirements of the SLCS and submitted recommended document changes to preclude misinterpretation of the system's function and the licensing commitments. Corrective action is proceeding in accordance with this clarification as follows:

Completed:

- o System electrical design has been issued to bring the system into compliance with electrical separation criteria.

In Progress:

- o Loop A electrical shall be fully qualified to meet safety-related Class 1E requirements, including Quality Class I and Seismic Category I requirements.
- o The existing design documentation shall be brought in compliance with the above.

Construction, equipment qualification and necessary document revisions are scheduled to be complete before fuel load.

We will continue to provide your office with quarterly updates. The next report will be submitted on or before August 17, 1983.

ATTACHMENT C

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
NUCLEAR PROJECT NO. 2
DOCKET NO. 50-397
LICENSE NO. CPPR-93
10CFR50.55(e) #232
LPCS-RHR SUPPORT PIN RECEPTACLE

FINAL REPORT

Description of Deficiency

Bottom casing support pin receptacles were not installed in accordance with vendor's operation and maintenance manual requirement for safety-related pumps, RHR-P-2A, B and C and LPCS-P-1.

Safety Implication

Safety-related pumps involved perform essential safe shutdown functions and must have high reliability and capability to function in conjunction with seismic event. The support pin receptacle was intended as a safeguard to assure these functions.

Engineering analysis has determined that due to the existing physical piping and pump configuration, the receptacle is not required to mitigate seismic reactions. Evaluations of operating vibration data by Engineering concluded that the equipment installation is satisfactory operationally without the pin receptacle.

The Engineering evaluation (identified in GEWP-2-83-83) has substantiated that the deficiency does not require extensive redesign or repair for the affected components to meet the criteria stated in the FSAR. The condition is therefore, considered not reportable.

Corrective Action

No corrective action is required based on the Engineering evaluation.