

## Attachment I

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  $5.2 \times 10^4$  scfm during the first 450 seconds after a LOCA and at a rate of  $4.9 \times 10^4$  scfm thereafter. This can be compared to the allowable release rate for primary containment of approximately 1.7 scfm.

#### Cause for the Deficiency

The condition exists because the engineer did not recognize the relief valve had to serve a containment isolation boundary function, besides being a relief valve for RHR system equipment. Vendor drawings were evaluated only for the code related relief valve function without recognizing the hole in the bonnet constituted a containment leakage path.

#### 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 November 1, 1983.

Action to Prevent Recurrence

Burns and Roe has reviewed all relief valves which can serve as the containment boundary and determined no other similar condition exists on WNP-2.



