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SUBJECT: Provides background info for WPPS's projected static head hydrotest on ANSI B31.1 radioactive equip & floor drain sys rather than previously specified 225 psig test.

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G02-78-270
December 20, 1978

Docket No. 50-397

Mr. S. A. Varga, Chief
Light Water Reactor Branch 4
Division of Project Management
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: WPPSS NUCLEAR PROJECT NO. 2
HYDROTEST OF RADIOACTIVE DRAIN PIPING

Reference: 1) LL Humphreys to A. Giambasso, "Definition of Extent of Radwaste System and Code Classification of Radwaste System," dated April 17, 1973.

2) VA Moore to LL Humphreys, same subject, dated May 8, 1973.

Dear Mr. Varga:

This letter is to inform the NRC of WPPSS intent to perform a static head hydrotest on the ANSI B31.1 radioactive equipment and floor drain system rather than a previously specified 225 psig test. The background information for this decision is as follows:

WPPSS had previously requested the clarification on the definition of the Liquid Radwaste System Code boundaries (Reference 1). It was stated that the radioactive floor drain piping and radioactive equipment drain piping to the sumps should meet ANSI B31.1.

The NRC responded in reference 2 stating the following concerns:

1. ANSI B31.1 specifically excludes floor drain systems

2. ANSI B31.1 does not require documentation

3. ANSI B31.1 is not adequate for pipes penetrating the drywell deck and the containment

However, the NRC did concur in reference 2 with designating this drain piping as ANSI B31.1 with the additional requirement of material certification, hydrotesting and liquid penetrant inspection. Reference 2

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further stated the understanding that this drain piping would have a design pressure of 150 psig. Based on this design pressure, the hydrotest pressure is 225 psig.

The 150 psig design pressure was selected by WPPSS based on the rating of the pipe to be used in the drain system rather than system operating/design related pressures. The portions of the radioactive floor and equipment drain systems that are classified ANSI B31.1, and are being addressed here, are the drain collection system outside primary containment. These are open, atmospheric systems. These systems, consequently, have an atmospheric design pressure and require a static head hydrotest.

This design pressure is being modified at this time due to a problem with testing the drain system. To conduct a hydrotest at 225 psig requires high pressure plugs for the drain openings. However, due to the configuration and schedule change from the embedded floor drain fitting to drain piping, it is impossible to use these high pressure plugs without extensive grinding of the floor fitting. This could present the potential for creating leaks that would be very difficult to detect as they would be at the fitting. This problem does not exist with the plugs to be used with the static head test.

The resolution to the NRC's initial concerns are still being adhered to as a system leak test is being performed, material certification and non destructive testing are required; and this change does not apply to drain piping within containment. The FSAR is being modified to reflect the change from a 225 psig hydrotest to a static head test for the ANSI B31.1 radioactive floor and equipment drains outside primary containment.

Very truly yours,

DL Renberger

D. L. RENBERGER
Assistant Director
Technology

DLR:BMB:cph

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