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Washington Public Power Supply System

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Docket No. 50-397

REGISTRY

June 21, 1982
G02-82-549

Mr. R. H. Engelken
U.S. Nuclear Regulatory Commission
Region V
1450 Maria Lane, Suite 210
Walnut Creek, California 94596

Subject: NUCLEAR PROJECT NO. 2
10CFR50.55(e) REPORTABLE CONDITION #137 - SPRAY POND LEAKAGE

Reference: Letter #G02-81-0325, dated October 1, 1981, R. G. Matlock
to R. H. Engelken, same subject

The final report regarding leakage from the Spray Ponds was provided by the reference letter. This correspondence is provided to inform you of the subsequent events which we have taken toward a final resolution of this reportable 10CFR50.55(e) condition.

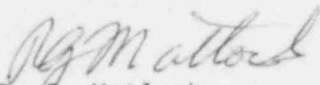
The Supply System implemented leakage detection methods used on dams to inspect the Spray Ponds while the ponds were filled during the Winter of 1981/1982. This inspection determined that the majority of the leakage from the ponds was in the construction joint between the floor slab sections and the foundation. Based on these findings, engineering direction has been issued and is being implemented to repair this construction joint. We had subsequently issued engineering direction to replace the expansion joints between the floor slab sections. We eliminated consideration of the use of a cement base chemical sealant to seal the walls and floors based on the Architect Engineer's recommendations.

We consider implementation of the corrective action described will satisfactorily reduce to the anticipated level, the loss of water from the Spray Ponds.

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Additional information relative to this 10CFR50.55(e) condition may be obtained, if required, by contacting Roger Johnson at (509) 377-2501, extension 2712.

Attached is our revised final report on this matter.


R. G. Matlock
Program Director, WNP-2

JGT/kd

Attachment: Final Report

cc: W.S. Chin, BPA - Site
R.A. Feil, NRC Resident Inspector
A. Forrest, Burns and Roe - HAPO
N.D. Lewis, NRC
J. Plunkett, NUS Corp.
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FINAL REPORT
SUPPLY SYSTEM NUCLEAR PROJECT NO. 2
DOCKET NO. 50-397
LICENSE NO. CPPR-93
10CFR50.55(e) REPORTABLE CONDITION #137
SPRAY POND LEAKAGE

Nature of Deficiency

In early January, 1981, Ultimate Heat Sink Spray Pond "A" was filled with water. After a few days, it was observed that the water level had dropped. Water level and evaporation data were then taken to determine if a leak existed. A leakage rate of approximately 65 gpm was identified. Subsequently, more data was taken on leakage rates from both spray ponds, indicating 40 gpm for Spray Pond "A" and 80 gpm for Spray Pond "B".

Burns and Roe Civil Engineering devised and recommended test programs to identify leakage paths. Supply System's Startup group completed tests to establish the rate of leakage through the base and walls. Results of tests on the pond floors and the walls accounted for only 20% of the total leakage estimated by the Supply System in March, 1981. The pools were filled during the winter of 1981-1982, after some repairs had been implemented to facilitate Startup testing. During this period, divers examined both walls and floors of the spray pond, utilizing the equivalent of a dye to pinpoint specific leak locations. This inspection identified as the primary point of leakage, the construction joints between the floor slab and the footing.

Safety Significance

The leakage rate that has been noted to date is not sufficient to pose a "significant safety hazard". However, it cannot be guaranteed that the leakage rate would not increase significantly either during a seismic event or during operation due to some form of degradation.

Corrective Action

The Supply System has directed correction of the leakage determined to exist in both spray ponds. The corrective measures have included: removing and replacing the original expansion joint sealant and backing with expandable cork and polysulfide joint sealant; providing a 1" x 5/8" saw notch at the horizontal construction joint with a bond breaker at the notch bottom and the remainder filled with joint sealant; and other instruction as necessary to accomplish proper implementation of this direction.

Water level and evaporation records will continue to be taken by the Supply System to ensure the sealant process is successful.