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BOUCHEY,G.D. Washington Public Power Supply System
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SCHWENCER,A. Licensing Branch 2

SUBJECT: Submits addl info re suppression pool temp transient analysis.Reactor decay heat would be transferred to suppression pool in event of single failure.

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February 2, 1982
G02-82-138

Docket No. 50-397

Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Schwencer:

Subject: NUCLEAR PROJECT NO. 2
SUPPRESSION POOL TEMPERATURE TRANSIENT
ANALYSIS AND IN-PLANT SRV TEST

Reference: Letter, G02-81-524, GD Bouchey to A Schwencer, dated December 15, 1981

The reference letter transmitted the results of the suppression pool temperature transient analysis for WNP-2 and presented the basis for our conclusion that the scope of the in-plant SRV test for WNP-2 should be limited to measurement of pool temperature distribution. Subsequently, we were asked to provide additional information on these two (2) issues, as indicated below:

(a) "Explain why a single failure will not disable both the RHR Shutdown cooling function and one (1) RHR loop in the suppression pool cooling mode"

Response:

As discussed in the report transmitted with the reference, loss of the shutdown cooling mode and one RHR heat exchanger is assumed for cases 1a, 2a and 3c. This reflects an electrical division failure which disables either the inboard or outboard containment isolation valve on the RHR shutdown cooling line, and one of the two RHR Heat exchangers. In this situation, WNP-2 would use the alternate shutdown cooling path whereby reactor decay heat would be transferred to the suppression pool through the main steam relief valves, and then to the ultimate heat sink (spray ponds) through the RHR heat exchangers using the available loop of the suppression pool cooling mode of the RHR system. This is discussed in more detail in FSAR Section 15.2.9 and in Appendix I, LRG Issue RSB-8.

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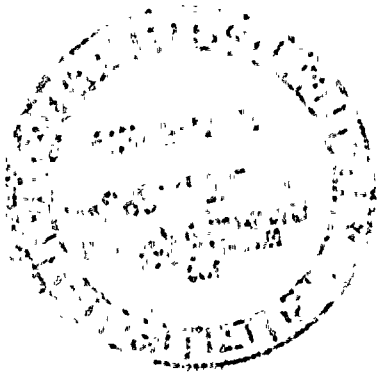

(b) "Compare the distance between quenchers and pool bottom at WNP-2 versus Caorso"

Response:

In Caorso, the distance between the bottom of the quencher arms and the surface of the flat bottom of the containment is approximately 4'-4 3/4".

In WNP-2, the outer row of quenchers is positioned above the sloping pool bottom. The shortest distance between the pool bottom and the outward-pointing quencher arms, measured perpendicular to the surface of the sloping pool bottom, ranges from 4"-5½" to 4'-6½".

The average distance from quencher arm to pool bottom for the outer row of quenchers, calculated by integrating over the length of the inward-pointing and outward-pointing quencher arms, would be much greater than this due to the sloping pool bottom. In conclusion, at no point in the WNP-2 plant is the quencher arm closer to the pool bottom than at Caorso and the average quencher arm to pool bottom distance is much larger than at Caorso. Also, as pointed out in the reference, the outer row of quenchers is further from the containment wall than at Caorso. Therefore, since bubble pressure attenuates with distance, using Caorso test pressures applied directly to the WNP-2 containment walls and pool bottom is conservative.

Very truly yours,

GD Bouchey

G. D. Bouchey
Deputy Director, Safety and Security

EAF/jca

cc: R Auluck - NRC
WS Chin - BPA
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