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BOUCHEY,G.D. Washington Public Power Supply System
RECIP.NAME RECIPIENT AFFILIATION
SOHWENCER,A. Licensing Branch 2

SUBJECT: Confirms telcon re heat removal capacity of spent fuel pool cooling sys. Heat exchanger analysis indicates that fuel pool will not boil w/one div of fuel pool cooling.

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February 18, 1982
G02-82-216
SS-L-02-PLP-82-006

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
SPENT FUEL POOL COOLING HEAT EXCHANGER CAPACITY

The purpose of this letter is to confirm information provided by telephone call to Mr. J.N. Ridgley of your staff concerning the heat removal capacity of the Spent Fuel Pool Cooling System.

An evaluation of the maximum spent fuel temperature was done using ASB TP 9.2 decay heat generation rates, and it was determined that one pump and one heat exchanger is capable of maintaining the fuel pool below 175°F. This evaluation was made using the fouled overall heat transfer coefficient reported by the heat exchanger manufacturer and the flow provided by one pump. The NTU effectiveness method was used to determine the new heat exchanger outlet temperature. The results of the heat exchanger analysis indicated that the fuel pool would not boil with one division of fuel pool cooling.

The heat load considered in the one train analysis (one heat exchanger and one pump) consisted of the total load from 12 refuelings, with the newest cycle decayed 20 days. The 20-day decay time was used because the RHR system is used for fuel pool cooling until the reactor head is replaced following refueling. Twenty days is the minimum time expected for the isolation of RHR from fuel pool cooling after refueling.

Very truly yours,

G. D. Bouchey
Deputy Director, Safety and Security

PLP/jca

cc: R Auluck - NRC
WS Chin - BPA
R Feil - NRC Site
JN Ridgley - NRC

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S1/0