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MURRAY R. EDELMAN
VICE PRESIDENT
NUCLEAR

February 13, 1985
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Mr. B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Perry Nuclear Power Plant, Units 1 & 2
Dockets Nos. 50-440; 50-441
Spent Fuel Pool Cooling
and Cleanup System

Dear Mr. Youngblood:

This letter provides information to address the SER requirement, Section 9.1.3 (p.9-6, attached), for a Technical Specification for the Fuel Pool Cooling and Cleanup System.

The SER states that "the spare pump will be operated periodically in accordance with plant Technical Specifications." This testing is performed as required by Technical Specification 4.0.5 which provides for inservice inspection and testing of ASME Code Class I, II, and III components in accordance with ASME Section XI. In addition, Perry administrative procedure OAP-0206, Rotation of Operating Equipment, requires the fuel pool cooling and cleanup pumps to be rotated into service on a monthly basis. This procedure provides assurance that both pumps will be available at all times.

The SER also states that we have committed to running the RHR system of the shutdown reactor in the Fuel Pool Cooling mode until the normal system can maintain the temperature limit. Since all fuel has to be unloaded from the vessel to get into this condition, there are no Technical Specifications requirements for ECCS systems. Thus, two loops of RHR system can be used to remove all of the decay heat from the pool. Technical Specifications currently require all ECCS to be operable in Operational Condition 1, 2, & 3. This prevents reactor start-up while the RHR system is in the Fuel Pool Cooling mode, as mentioned in paragraph 5.

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The requirement for a Technical Specification related to the fuel pool cooling and cleanup system does not presently exist in the Standard Technical Specifications. We feel that a specific Technical Specification for the Fuel Pool Cooling and Cleanup System is not required, since the SER requirements are addressed elsewhere in the Perry Technical Specifications.

We believe that this information is responsive to staff concerns, and request the SER be changed to delete these requirements for Technical Specifications for the Fuel Pool Cooling and Cleanup Systems.

Very truly yours,

Murray R. Edelman
Vice President
Nuclear Group

MRE:njc

Attachment

cc: Jay Silberg, Esq.
J. Stefano
J. Grobe
S. Brown

The various components of the system are located in shielded cubicles or are separated from other moderate- and high-energy piping systems. Thus, the requirements of GDC 4 and the guidelines of Regulatory Guide 1.13, Position C.2, are satisfied.

The system serves the shared fuel storage facility with sufficient redundancy of equipment and conservative design that the requirements of GDC 5 are met.

The system is accessible for routine visual inspection of the system components. One fuel pool cooling pump is in operation at all times. The spare pump will be operated periodically in accordance with plant Technical Specifications. Thus, the requirements of GDC 45, "Inspection of Cooling Water Systems," and GDC 46, "Testing of Cooling Water Systems" are satisfied.

The spent fuel pool cooling system will maintain the fuel pool water temperature at 127°F with a heat load based on decay heat generation from 4020 fuel assemblies (maximum storage) and both cooling trains in operation. This is the normal discharge from 9 years of operation of Units 1 and 2. If one pump and heat exchanger were lost under these conditions, the temperature would rise to 160°F maximum for a short period. The applicant has committed to running the residual heat removal (RHR) system of a shutdown reactor to maintain temperatures below 150°F until the normal system could maintain the temperature below 150°F.

In the case of an abnormal heat load when the full core of one unit must be unloaded, the RHR system of the affected unit would be used to maintain the temperature of the fuel pool below 150°F. Under these conditions, the RHR system could maintain a fuel pool temperature of 106°F. Again, the RHR system would be used until the normal system could maintain the temperature below 150°F. The reactor of the unit whose RHR system is providing pool cooling, will not be started up. The Perry Technical Specifications will prevent reactor startup when the RHR system is providing fuel pool cooling. Heat loads for the above storage modes are based on BTP ASB 9-2, "Residual Decay Energy for Light Water Reactors for Long-Term Cooling."

No connections are provided to the spent fuel pool that may cause the pool water to be drained below a safe shielding level. All lines that connect to the pool and extend below the safe level of the pool water are equipped with syphon breakers, check valves, or other means to prevent inadvertent pool drainage. The nonsafety-related nuclear closed cooling water system provides cooling water to the fuel pool heat exchanger under normal conditions. Backup cooling is available in emergency conditions from the emergency (seismic Category I) closed cooling water system which transfers spent fuel pool heat loads to the ultimate heat sink (refer to Sections 9.2.1, 9.2.2, and 9.2.5). In addition, the residual heat removal system can be utilized to supplement the fuel pool cooling system by providing additional cooling during shutdown as described above. Thus, the requirements of GDC 44, "Cooling Water," are met.

Normal makeup to the pool is provided by the nonsafety-related condensate and refueling water storage and transfer system to replace losses from leakage through the liner and evaporation. Emergency makeup is supplied by the redundant loops of the seismic Category I emergency service water system. Thus, t requirements of GDC 61, and the guidelines of Regulatory Guide 1.13, Position C-6, concerning fuel pool design are satisfied.