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General Offices: 212 West Michigan Avenue, Jackson, Michigan 49201, Area Code 517 788-0550

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Dr George W. Knighton  
Division of Reactor Licensing  
US Nuclear Regulatory Commission  
Washington, DC 20555



DOCKET 50-255, LICENSE DPR-6  
PALISADES PLANT, HEAT REJECTED TO THE LAKE

Following initial operation of the closed cycle cooling system at out Palisades Plant, Abnormal Occurrences 75-6, 75-7 and 75-13 were reported. These occurrences, which were associated with short periods of heated discharge above 5°F and/or 0.5 billion Btu (British thermal units) per hour, have been examined with respect to our Palisades license and other docketed information. This examination involved a review of the heated discharge from the Palisades Plant to determine which of the above limits apply and to determine the type of reporting required when these limits are exceeded. Based on this review, we have concluded that some of the recently reported abnormal occurrences were incorrectly classified and were not reportable. The conclusions drawn from this review are summarized as follows:

1. Heated discharge controlled by the Technical Specifications.

Technical Specifications Paragraph 3.9.9 and the Special Technical Specifications concerning the 5°F temperature increase and the 0.5 billion Btu per hour heat rejection rate apply only to the closed cycle (condenser) cooling system. They do not apply to the service water system or other discharges.

Early in the planning and discussion of the closed cycle condenser cooling system, it was recognized that the service water system must perform certain safety functions and operate when the condenser cooling system is shut down. Therefore, it was concluded that service water should not be dependent on the condenser closed cycle cooling system for operation.

During design of the closed cycle cooling system provisions were made to use as much service water as practical as cooling tower makeup water (thereby minimizing heat rejected to the lake). This has resulted in mixing of the service water with the closed cycle cooling system water in the makeup basin with some of this mixture being discharged to the lake. We intend to continue this mode of operation, thereby minimizing the heat rejected to the lake. However, the heat content of the service water will be subtracted from the total heat discharge for the purpose of showing compliance with the plant heat discharge limits.

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2. Reporting requirements when heat rejected to lake exceeds the limits specified in the Technical Specifications.

We have concluded that, while the heat rejection specifications are currently located in Section 3 (limiting condition of operation), they were placed there as an expediency and that they should appropriately be placed in a separate appendix devoted to environmental consideration (presently being suggested by the NRC).

Our reasons for arriving at this conclusion are based on the AEC Regulatory Staff's August 30, 1974 Environmental Evaluation associated with Amendment 6, Technical Specifications Change 10. The following is extracted from Page 8 of the Environmental Evaluation:

"In the event one of the cooling tower blowdown dilution pumps is out of service, the temperature measurements shall be recorded continuously. In the event the increase in temperature exceeds the maximum limit of 5°F for the temperature differential of the blowdown water specified in Specification 3.9.9 by more than 20% for more than 12 hours, the temperature of the blowdown water shall be recorded continuously and the  $\Delta T$  of the discharge water temperature over the dilution water intake temperature shall be determined hourly and the results reported in the Semiannual Operating Report. Action shall be initiated by the licensee to determine the cause of any temperature excess and the expected resolution of the condition. Appropriate corrective action, including power reduction, will be taken by the licensee if the limits specified in Specification 3.9.9 are exceeded for any period of more than 24 hours. Furthermore, the licensee shall notify the AEC of the problem and the course of action taken to resolve the problem."

From this statement, we have concluded that we are required to report any increase in temperature associated with the condenser cooling system, which occurs for more than 12 hours and is more than 20% over the 5°F limit, in the Semiannual Operating Report. In addition, if the limits specified in 3.9.9 are exceeded for more than 24 hours, an appropriate power reduction will be made and the NRC will be notified. Thus in the future, we will report in this manner rather than that of Abnormal Occurrences 75-6, 75-7 and 75-13.

The Palisades Plant heated dischargers are also controlled by the Michigan Water Resources Commission under the National Pollution Discharge Elimination System (NPDES). These limits apply to all discharge and the plant will continue to meet the requirements of this permit.

Ralph B. Sewell (Signed)

Ralph B. Sewell  
Nuclear Licensing Administrator

CC: JGKeppler, USNRC  
RAPurple, USNRC  
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