

STARK



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

June 21, 1984

MEMORANDUM FOR: Darrell G. Eisenhut, Director  
Division of Licensing

FROM: Richard H. Vollmer, Director  
Division of Engineering

SUBJECT: BOARD NOTIFICATION REGARDING INFORMATION RECEIVED  
FROM FRENCH ON REACTOR COOLANT PUMP SEALS

References:

- (1) Memo from D. Eisenhut to the Commission dated September 21, 1983, Board Notification Regarding Westinghouse Reactor Coolant Pump Seals (BN-83-139)
- (2) Memo from R. Vollmer to D. Eisenhut, dated April 6, 1984, Board Notification Regarding Westinghouse Reactor Coolant Pump Seals

During meetings with Electricite De France (EDF) in Paris, France on April 16-17, 1984 the staff acquired new information relating to reactor coolant pump (RCP) seal behavior as discussed in the memoranda referenced above. EDF conducted RCP seal tests at the 900 MW pump test loop at Gennevilliers during 1983 which convinced them to backfit their plants to provide an emergency source of cooling to the RCP seals, during station blackout conditions. The RCP seals tested are similar if not identical to the Westinghouse seals used in the United States.

The tests were performed with the RCP seal in a stationary configuration, subjected to full reactor coolant temperature and pressure, with no seal cooling. The tests were terminated after several minutes in order to prevent damage to the pump assembly being tested. The rapid rise in seal temperature and leakage flow rate observed during the tests convinced the French that the RCP seal cooling should not be interrupted, except for very short periods of time, during emergencies such as station blackouts. The Gennevilliers test results also showed that with rapid temperature and flow transients the number one stage of the RCP seal would open.

Based on information received from the French and on a recent RES trip report, it is our understanding that the French are providing a steam turbine driven pump to supply emergency cooling for the RCP seals in their smaller plants. In the larger plants they are providing a steam turbine driven generator as a source of emergency power to an existing pump to supply the RCP seal cooling. In addition, a backup gas turbine generator will be installed at each four unit plant site to provide another level of emergency electrical power for cooling the RCP seals.

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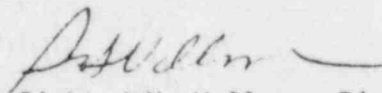
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Darrell G. Eisenhut

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Although the actual test results have not been made available to us at this time, we believe that this additional information should be provided as an update to the referenced board notification.



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