

U-601133

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ILLINOIS POWER COMPANY



CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727

February 16, 1988

Docket No. 50-461

Mr. A. Bert Davis  
Regional Administrator  
Region III  
U.S. Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Subject: Clinton Power Station  
Equipment Qualification

Dear Mr. Davis:

Illinois Power's letter from F. A. Spangenberg to A. Bert Davis dated September 11, 1987 (U-601036) provided a schedule for conducting additional tests on the nylon wire nuts inside limitorque operators and AMP butt splices. Enclosed is the preliminary test report for these components. No significant changes are expected in the final report. Please note that this report is proprietary.

The AMP butt splices failed the tests when they were subjected to 100% humidity. As a result, a field walkdown was conducted, and the AMP butt splices in a 100% humidity environment were covered with tape or Raychem, or the termination was reworked to eliminate the splice. The nylon wire nuts were subjected to an environmental qualification test meeting IEEE 323-74 requirements. Two tests were conducted. The first successfully demonstrated an 8 year qualified life at a service temperature of 125°F plus 100 days accident/post-accident conditions. The second test to achieve a 40 year life was unsuccessful. Investigation as to the cause of failure revealed that the nylon material degraded (i.e., cracked) from the extended thermal aging and when exposed to 100% relative humidity (RH) shorted to ground. The second test did, however, demonstrate a 40 year life at 125°F and an 8 year life at 150°F service temperatures without 100% relative humidity.

If you have any questions on these reports, please contact me.

Sincerely yours,

F. A. Spangenberg, III  
Manager - Licensing and Safety

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Enclosures

cc: Clinton Licensing Project Manager  
NRC Resident Inspector  
U.S. Nuclear Regulatory Commission, Document Control Desk  
Illinois Department of Nuclear Safety