Nebraska Public Power District

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NLS8800543
November 18, 1988

Nuclear Regulatory Commission
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Washington, D.C. 20555

Gentlemen:

Subject: **NPPD Response to Inspection Report 50-298/88-26**

This letter is written in response to your letter dated October 19, 1988, transmitting Inspection Report 50-298/88-26. Therein you indicated that one of our activities was in violation of NRC requirements.

Following is a statement of the violation and our response in accordance with 10CFR2.201:

STATEMENT OF VIOLATION

10CFR50.49(f) requires that electric equipment important to safety be qualified by testing and/or analysis, to show that the equipment to be qualified is acceptable.

10CFR50.49(k) provides that licensees are not required to equalify electric equipment important to safety in accordance with 50.49 if the Commission has previously required qualification of that equipment in accordance with "Guidelines for Evaluating Environmental Qualification of Class 1E Electrical Equipment in Operating Reactors," November, 1979, (DOR Guidelines). Such qualification was previously required by Commission Memorandum and Order CLI-80-21 on May 23, 1980.

Paragraph 5.2.6 of the DOR Guidelines states that equipment interfaces should be representative of the actual installation in order for the test to be considered conclusive, and an as-built inspection should be performed in the field to verify that the equipment was installed as tested.

Paragraph 5.2.2 of the DOR Guidelines states that the type test should only be considered valid for equipment identical in design and material construction to the test specimen. Any deviations should be evaluated as part of the qualification documentation.

Contrary to the above, during the period of November 3-7, 1986, EQ data packages (EQDP) No. 224 and 31A in the EQ file did not

contain qualification documentation for Okonite T95/35 tape cable splices to Series SMB Limitorque motor operator motor leads with fiberglass braided jackets. The Okonite splices were not qualified by test and/or analysis in accordance with the DOR Guidelines in that similarity between the splice type tested and those installed in motor operators was not established.

This is a Severity Level IV violation. (Supplement I) (298/8628-09)

Reason For Violation:

EQDP 31A documents the qualification of the Limitorque Motor Operator while EQDP 224 documents the Okonite splices.

At the time of the inspection (November, 1986) NPPD considered the documentation contained in EQDP No. 224 sufficient to establish qualification of the Okonite T95/35 tape splice applications. This was based on the successful Limitorque testing of terminal blocks which would be expected to contribute more to leakage current than any postulated wicking action of the braided jacket.

Because the type test documents contained in EQDP 224 only established qualification using the Okonite splice tape over unjacketed non-braided field cable, NPPD subsequently conducted type testing of Okonite splice tape applications over a Limitorque motor lead cable with a fiberglass braided jacket. The testing was conducted for NPPD by Consulting and Development Company, Ltd. (CCL) and sponsored by Patel Engineers in Patel Test Report PEI-TR-870200-02 dated January 23, 1987. The test demonstrated that the test specimen's electrical integrity was maintained through 46 hours of the 100-hour accident test. Even though this splice configuration is only used outside of containment at CNS, it was tested at the higher temperature and pressure profiles found inside containment for conservatism. At these higher temperature-pressure profiles, an anomaly occured after 46 hours that indicated the acceptance criteria of 300 milliamps was exceeded. The test report address this as a random failure of the motor lead wire due to unknown causes. Since the worst case environment outside containment returns to normal ambient within 24 hours, and the maximum temperature and pressure are enveloped by the inside containment profiles, the type testing performed at CCL demonstrates acceptance for applications of Okonite splicing to cable with a braided fiberglass jacket at CNS.

Corrective Steps Taken and Results:

Since all new splicing using Okonite must be in accordance with CNS Maintenance 7.3.26.1 or 7.3.26.2, which are both in compliance with EQDP 224, similar violations will not occur. Therefore, no further corrective action is necessary.

Date When in Full Compliance:

The District affirms that the motor connection configurations at CNS have been maintained in a qualified manner since 1984. However, additional steps to alleviate the NRC's concerns have been completed and incorporated into EQDP 224. The District is currently in full compliance.

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GAT/DEB:kk38.1g

cc: U.S. NRC
Regional Office, Region IV

Senior Resident Inspector
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