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DOCKET NUMBER 50-220

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TO: Mr. Edson G. Case

FROM: Niagara Mohawk Power Corp.
Syracuse, New York
Donald P. Dise

DATE OF DOCUMENT 12/16/77

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DESCRIPTION

Consists of info. concerning the qualification test program for the electrical connectors used at Nine Mile Point Unit No. 1.

ENCLOSURE

PLANT NAME: Nine Mile Point Unit No. 1
RJL 12/20/77 (2-P)

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NIAGARA MOHAWK

Donald P. Dise
Vice President
Engineering

NIAGARA MOHAWK POWER CORPORATION/300 ERIE BOULEVARD WEST, SYRACUSE, N.Y. 13202/TELEPHONE (315) 474-1511

December 16, 1977

Mr. Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

DEC 19 1977
U S NUCLEAR REGULATORY COMMISSION
Mail Section

Re: Nine Mile Point Unit 1
Docket No. 50-220
DPR-63

Dear Mr. Case:

Our November 28 and 30, 1977 letters provided information regarding the qualification test program for the electrical connectors used at Nine Mile Point Unit 1. The Phase 1 test program has been completed.

Electrical connectors satisfactorily passed the simulated loss of coolant accident environment test. The final Phase 1 report will be provided by January 9, 1978. The following preliminary information describes the Phase 1 test program.

The simulated loss of coolant accident exposure included two rapid rises in pressure and temperature to 300°F and in excess of 43 psig. This was followed by 27.7 hours of decreasing temperatures and pressures to a final level of 115°F and 5 psig. A high humidity condition was provided in the test vessel by maintaining a pool of water at a temperature a few degrees higher than the test vessel atmosphere.

The electrical connectors were checked for insulation resistance from pin to pin and pin to shell before, during and after the test. The insulation resistance readings before the test were about 10^{12} ohms. These readings during the test dropped to between 10^{9} to 10^{10} ohms and then increased to 10^{11} to 10^{12} ohms after the test. The insulation resistance was measured after application of 500 volts D.C. for one minute.

Additionally, the 4 pin #8 (power) electrical connector was energized at 660 volts A.C. for about 60 seconds during the peak initial transients and after the test. The 28 pin #16 and 19 pin #16 (control) electrical connectors were energized at 660 volts A.C. for the entire test (27.7 hours) except while checking insulation resistance.

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Following the test, a visual inspection of the connectors indicated:

1. The cable connectors and insulative boots were intact. The boot area on one end of the 4 pin #16 deformed, but there was no indication the boot failed to protect the insulated conductors.

2. All cables were flexible but the outer jacket showed evidence of being somewhat stiffer and had shrunk slightly in diameter.

Very truly yours,

NIAGARA MOHAWK POWER CORPORATION

Donald P. Dise

Donald P. Dise
Vice President-Engineering

NLR/szd

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