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NORTHEAST NUCLEAR ENERGY COMPANY

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August 2, 1982

Docket No. 50-245
A02541

Director of Nuclear Reactor Regulation
Attn: Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
U. S. Nuclear Regulatory Commission
Washington, DC 20555

References (1) D. M. Crutchfield letter to W. G. Counsil dated June 3, 1982.

(2) W. G. Counsil letter to D. M. Crutchfield dated March 24, 1981.

(3) W. G. Counsil letter to D. M. Crutchfield dated October 28, 1981.

Gentlemen:

Millstone Nuclear Power Station Unit No. 1
SEP Topic IV-2, Reactivity Control Systems

In Reference (1), the Staff forwarded the draft evaluation of SEP Topic IV-2, Reactivity Control Systems Including Functional Design and Protection Against Single Failures, for Millstone Unit No. 1. The Reference (1) evaluation was based on the Staff's assumption of similarity between Millstone Unit 1 and Dresden Unit 2. In the Reference (1) evaluation, it was assumed that the design of the control rod drive system precludes operation of more than one control rod at a time, excluding reactor trip. The purpose of this submittal is to confirm the validity of this assumption.

The design of the Control Rod Manual Control System precludes single failures from affecting more than one control rod at a time, since only single rods can be selected for movement. The rod selection circuitry seals in when the individual rod select push-button is depressed. During the rod movement cycle, a second seal-in prevents rod de-selection and selection of another control rod. Upon completion of the rod movement cycle, de-pressing of another rod select push-button de-selects the first selected rod, which then completes the energization and seal-in of the second rod select relay. Since both sides of the individual select push-button holding coils and rod select relays are switched, single failures cannot cause more than one rod to be selected. This precludes a single failure from causing the movement of more than one control rod.

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As indicated in Reference (1), a single failure can cause:

1) a control rod to move more than one notch when a single notch movement is commended,

2) a control rod to drift in or out of the core, or

3) a control rod to fall out of the core.

Analyses to demonstrate the acceptability of the consequences of these inadvertent reactivity insertions have been provided in the FSAR, in subsequent reload submittals, and in the General Electric Licensing Topical Report NEDE-24011, Generic Reload Fuel Application.

The enclosed drawings (drawing nos. 25202-29119, sheets 375-380) of the Rod Manual Control System will substantiate the above conclusions.

We trust the Staff will find the above information sufficient to resolve the concerns of this SEP topic.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

W. G. Counsil

W. G. Counsil
Senior Vice President

J. P. Cagnetta

By: J. P. Cagnetta
Vice President
Nuclear and Environmental Engineering