

NORTHEAST UTILITIES

THE CONNECTICUT LIGHT AND POWER COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
HOLYOKE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

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October 14, 1982
Docket No. 50-245
B1055

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

References: (1) W. G. Counsil letter to D. M. Crutchfield dated
October 12, 1982.

Gentlemen:

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

In Reference (1), Northeast Nuclear Energy Company (NNECO) provided the Staff with additional information concerning the design of the control rod drive system at Millstone Unit No. 1. Reference (1) stated that since both sides of the push button select relay (incorrectly identified as the rod select relay) and holding coil are switched, single failures cannot cause more than one rod to be selected. Subsequent discussions between NNECO and the NRC staff have identified the fact that this may not be entirely true and that all potential single failures were not considered in the earlier review. Therefore, NNECO has reviewed the rod control circuitry at Millstone Unit 1 and concluded the following.

While only one push button select relay (previously identified as the rod select relay) may be selected at a time, a single contact of the push button select relay is used to energize the rod select relay. It is conceivable, therefore, that a single electrical or mechanical failure could cause the rod select relay contacts to remain closed after its push button select relay has been deenergized. This would permit a second rod select relay to be selected, however, no more than two (of 145) rod select relays could be selected as a result of a single failure. It should be noted that this single failure would only cause two rods to be selected; actual rod movement, either in or out, requires an additional operator action.

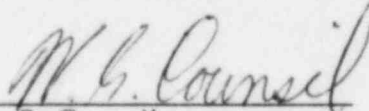
Station operating procedure OP 302 directs the operator to monitor the rod position indicators during all periods of rod motion for indication of abnormal rod motion. Abnormal rod motion is defined as motion in the wrong direction, motion when no motion is intended, or motion of a rod not selected. Once the rod is selected by momentarily depressing the push button on the rod-select matrix, the operator is directed to observe that the push button illuminates and the rod selection indicator above the position display for the selected rod is illuminated. Finally, the operator is cautioned to continuously monitor nuclear instrumentation during rod movement.

It must be pointed out that while a contact of the push button select relay lights the lamps in the illuminated select push button, it is a contact of the rod select relay which lights the rod selection indicator on the display board directly in front of the operator. Thus, this failure scenario would cause two rod selection indicators to be lighted while only one rod select push button would be lighted. Since the operator is instructed to monitor the status of the display board, this failure of a rod select relay would be immediately noticed. Actual movement of more than one rod at a time would thus require an additional failure (i.e. operator error). Therefore, NNECO concludes that there is no credible single failure which could cause inadvertent movement of more than one control rod at a time.

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

Very truly yours,

Northeast Nuclear Energy Company

A handwritten signature in cursive script that reads "W. G. Council". The signature is written in dark ink and is positioned above the printed name.

W. G. Council
Senior Vice President