NORTHEAST UTILITIES

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

General Offices • Selden Street, Berlin, Connecticut

P.O. BOX 270
HARTFORD, CONNECTICUT 06141-0270
(203) 666-6911

November 5, 1982

Docket No. 50-245
B10602

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) B. H. Grier letter to W. G. Counsil, dated July 18, 1980 transmitting Supplement No. 1 to I & E Bulletin No. 80-17.

(2) W. G. Counsil letter to B. H. Grier, dated August 15, 1980.

(3) W. G. Counsil letter to B. H. Grier, dated September 19, 1980.

(4) W. G. Counsil letter to B. H. Grier, dated September 26, 1980.

(5) V. Stello, Jr. letter to W. G. Counsil, dated October 2, 1980.

(6) W. G. Counsil letter to D. G. Eisenhut, dated March 20, 1981.

(7) W. G. Counsil letter to D. M. Crutchfield, dated April 10, 1981.

Gentlemen:

Millstone Nuclear Power Station, Unit No. 1
Continuous Monitors in the
Scram Discharge System

A001

In Reference (1), Northeast Nuclear Energy Company (NNECO) was requested to install a system to continuously monitor water levels in all scram discharge volumes. The design installed was to represent the design with the highest level of reliability compatible with installation by September 1. 1980. If installation by September 1, 1980 was not possible, we were requested to submit documentation detailing why such installation could not be completed by September 1, 1980 and to commit to a firm schedule for installation. We informed the NRC Staff in Reference (2) that installation of a continuous monitoring, recording and alarm system by September 1, 1980 was not possible due to the unavailability of equipment, short delivery time required, and performance requirements specified by the NRC Staff for this monitoring equipment. Additionally, we maintained that then-existing capability provided more than adequate assurance of scram discharge system operability in the interim until installation was completed. We also provided a schedule for modifications.

In Reference (3), we reiterated our commitment to install a continuous UT monitoring system on the scram discharge volumes (SDVs). We also indicated our intentions to implement major design improvements in the scram discharge system (SDS) based upon criteria being jointly developed by the BWR Owners' Group Ad-Hoc Committee on I & E Bulletin No. 80-17 and the NRC Staff. Since the continuous UT monitoring system was not part of the long-term design improvement criteria, we believed it was likely that the final SDS configuration would invalidate the need for the interim continuous UT monitoring system. Furthermore, we specifically stated that the planned installation of an interim continuous UT monitoring system should provide the additional assurance that we are taking measures responsive to NRC Staff concerns. We committed to install the continuous UT monitoring system on the SDVs prior to returning to power operation following the then-upcoming (i.e., October 4, 1980) refueling outage in Reference (4).

A confirmatory order was issued to NNECO as licensee for Millstone Unit No. 1 in Reference (5). Section II of this order states that I & E Bulletin No. 80-17 and its supplements were issued to provide adequate assurance that licensees could maintain scram capability at all times during an interim period of operation until an ultimate resolution is achieved by changes in system design and operating procedures. With respect to the SDV continuous UT monitors, we committed to satisfy the requests of Supplement No. 1 to I & E Bulletin No. 80-17 in References (3) and (4) in the manner identified above. The NRC Staff's confirmatory order indicates that the purpose of the order is to confirm our commitments, which the order specifically states as being documented in References (3) and (4). Specifically, Section III of Reference (5) ordered in part that:

> Prior to restart following the refueling outage scheduled for October 4, 1980 the licensee shall:
>
> a) Install and make operable a system to continuously monitor water levels in all SDVs.

b) The installed system shall provide for level-indication, with an associated alarm in the control room, for each SDV. This equipment shall provide sufficient information to the reactor operator such that if water accumulates in either SDV the decision about actions to be taken can be made in a timely fashion from the control room.

Therefore, based upon our commitments made in References (3) and (4), the wording of the confirmatory order itself, and the very nature of a confirmatory order, it is our interpretation that the intent of the confirmatory order was only to require SDV continuous monitors as an interim measure until the long-term modifications to the SDS were implemented. Continuous UT monitors on both SDVs were installed prior to start-up from our 1980-1981 refueling outage.

The true purpose of the SDV continuous UT monitors can be derived by reviewing the NRC Staff's Generic Safety Evaluation Report (SER) regarding the BWR Scram Discharge System, dated December 1, 1980. There are several places within the Generic SER where the purpose of the continuous UT monitors can be found. Some of the more significant points are discussed here. Detailed evaluations of BWR licensees' responses to the I & E Bulletin No. 80-17 requirements are contained in plant-specific, short-term evaluations in Appendix B to the Generic SER. The Generic SER (page 3) states that these evaluations as well as additional requirements as specified in the SER (i.e., automatic air header dump on degraded air) form the interim basis for continued operation pending final corrective action. This concept is repeated on several occasions throughout the SER.

On page 22, inadequate hydraulic coupling between the SDV headers and the scram discharge instrument volume (SDIV) is identified as the most significant design deficiency that may cause water to accumulate undetected in the SDV. The SER continues to state that until changes are implemented to improve the design of the hydraulic coupling between the SDV headers and the SDIV, detection of any significant accumulation of water in the SDV is provided by directly monitoring the SDV. The SER then reiterates that this detection measure is required through I & E Bulletin No. 80-17 and the confirmatory orders.

Quite significantly, the SER (page 30 and Appendix B) identifies five (5) plants as having adequate communication between the SDV and the SDIV, such that some of the bulletin requirements were not required. Specifically, these plants were not required to intall continuous monitors for the SDVs and therefore did not receive confirmatory orders. Clearly, the purpose of the continous SDV monitors was to detect accumulation of water in the SDV for these plants postulated not to have adequate hydraulic coupling between the SDV and the SDIV.

In Reference (6) and (7), we committed to modifying the SDS at Millstone Unit No. 1 during the current refueling outage. These modifications are based upon the evaluation criteria developed by the BWR Owners' Group Ad-Hoc Committee on I & E Bulletin No. 80-17 and the NRC Staff, and the NRC Staff's Generic SER. These modifications will hydraulically couple each SDV with its own SDIV.

(All two (2) inch piping between the SDVs and the SDIVs has been replaced with six (6) inch piping in addition to the installation of a second SDIV.) These modifications will be completed prior to start-up from the current refueling outage.

In conclusion, since the purpose of the continuous UT monitors for the SDVs was to detect accumulation of water in SDVs for those plants with postulated inadequate communication between the SDV and the SDIV and since plant modifications are being made during this refueling outage to provide adequate hydraulic coupling, we have determined that continuous UT monitors are no longer necessary from a safety standpoint. This determination comports with both the NRC Staff and our own docketed correspondence, including the confirmatory order. As such, we plan to achieve criticality on or about Novmeber 10, 1982 without continuous UT monitors installed on the SDVs.

As previously mentioned, the original intent of the confirmatory order was to require continuous UT monitors as an interim measure until long-term modifications were made. It is emphasized that the confirmatory order required the installation of a system to continuously monitor water levels in all SDVs. The installation system shall provide for level-indication, with an associated alarm, in the control room, for each SDV. Since the SDVs will now be hydraulically coupled to the SDIV, the SDV and SDIV are in essence one and the same volume. Each SDIV has a total of six (6) water level monitors; one (1) low water level alarm, one (1) intermediate water level rod block and four (4) high scram monitors. Therefore, each SDVs will be continuously monitored by the SDIV instrumentation. In this light, the intent of the confirmatory order will continue to be fulfilled.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

W. G. Counsil
Senior Vice President

cc: R. C. Haynes