

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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June 28, 1985

Docket No. 50-245
A04692

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

- Reference: (1) J. A. Zwolinski letter to W. G. Counsil, dated February 25, 1985.
- (2) W. G. Counsil letter to J. A. Zwolinski, dated March 19, 1985.

Gentlemen:

Millstone Nuclear Power Station, Unit No. 1
Containment Purge and Vent

Reference (1) requested Northeast Nuclear Energy Company (NNECO) to provide additional information concerning containment isolation dependability and containment purge and vent. This request concerned four items, which are discussed below.

Item One:

"... the staff recommends that the licensee install Seismic I debris screens approximately one pipe diameter from the in-board side of the inner isolation valves. Purge/vent lines that open to the wetwell air space do not require debris screens."

Response:

NNECO commits to installing Seismic I debris screens to protect the Millstone Unit No. 1 drywell purge/vent valves. It should be noted that locating the screens approximately one pipe diameter from the valves may not be practical and that an alternate location, such as at the drywell wall penetration, may be required.

Item Two:

"All purge/vent valves must be closed automatically by radiation signals that detect containment radiation."

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Response:

NNECO does not consider the addition of automatic closure of the purge/vent isolation valves to be warranted for Millstone Unit No. 1. Several previous discussions with the NRC Staff indicate the primary Staff basis for such valve closure is an "undetected small LOCA." The staff is of the opinion that such an event can occur particularly within the large PWR containments. The Millstone Unit No. 1 Mark I containment does not lend itself to this type of event. The Millstone I containment is approximately one-tenth the size of the average PWR containment. Furthermore, the NRC Staff has reviewed the consequences of a LOCA while purging (Section 3.3.2.2 of the SER) and has concluded that no unacceptable radiological consequences would occur. Acceptable purge valve isolation would occur, provided debris screens are installed (as committed to under "Item One"). Thus, automatic valve closure on high radiation is not justified.

Item Three:

"Provisions must be made to assure standby gas treatment system (SGTS) integrity following a LOCA."

". . . The staff position is that either the SGTS be modified to withstand the effects created by the environment from a LOCA or that restrictions on purge/vent operations to protect the SGTS during operating modes 1, 2 and 3 be placed in the plant technical specifications. The technical specifications are as follows:

- (a) Use of the purge/vent system through the SGTS shall be limited to 90 hours per year, whenever the plant is above cold shutdown;
- (b) Only one train of the SGTS can be used, at any one time, for filtering containment effluent;
- (c) The SGTS train not in use must be demonstrated operable before purge/vent operations commence through the other SGTS train."

Response:

In lieu of modifications to the SGTS, NNECO proposes to adopt technical specifications for modes 1, 2, and 3 which will accomplish the following:

- (a) Limit the use of the 18-inch valves in the purge/vent system to inerting and deinerting activities through the SGTS in accordance with Technical Specification 3.7.A.6;
- (b) Allow the use of only one train of the SGTS, at any one time, for filtering containment effluent;
- (c) Require that the SGTS train not in use be verified operable before purge/vent operations commence through the other SGTS train.

Restricting purge/vent operations through SGTS to a specified time limit (i.e., 90 hours per year) is not required since the above proposed technical specification would inherently limit purge/vent operations with the 18-inch valve.

Additional plant technical specifications limiting the use of the 2-inch bypass for purge/vent operations are not warranted. The basis is that ongoing NNECO activities which will result in a significant reduction in the amount of purging and venting at Millstone Unit No. 1. Details of these activities are provided below.

Presently, purging is required approximately 1/2 hour per day to maintain a 1.0 psid differential pressure between the drywell and torus (existing plant Technical Specification 3.7.A.2). This activity accounts for the majority of time that the Millstone Unit No. 1 containment vent valves are open during reactor power operation.

In an effort to reduce the amount of containment venting at Millstone Unit No. 1, NNECO is evaluating two activities, either of which will eliminate the need to purge/vent for purposes of maintaining drywell to torus differential pressure.

The first is to install a torus to drywell pump back system. This system will enable the plant operators to maintain the proper drywell to torus 1.0 psid without containment purging and venting. See Reference (2) for further details. The second is to perform further containment response analysis to demonstrate that the drywell to torus air space 1.0 psid is not required.

Thus, it is concluded that present NNECO activities (torus to drywell pump back system and analyses to justify the elimination of the drywell to torus 1.0 psid) will result in a significant reduction in the amount of purging and venting at Millstone Unit No. 1, and further actions in the form of plant technical specifications (beyond those discussed above) are not warranted.

Item Four:

"Purge/vent valves with resilient seat material must be tested, i.e., leakage integrity tests at 3-month intervals."

Response:

Leak testing the Millstone Unit No. 1 purge/vent system valves on 3 month intervals is not warranted. NNECO has reviewed all the maintenance activities on these valves since 1976 and has determined that the resilient seals last at least 3 cycles (4.5 years) and in some cases have lasted more than 5 cycles. On this basis, NNECO will commit to a periodic maintenance program (in lieu of a 3 month test interval) to replace the resilient seal materials of the Millstone Unit No. 1 purge/vent valves once every two fuel cycles.

Schedule:

NNECO proposes the following implementation schedule.

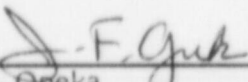
Plant Modifications will be completed prior to the end of the Millstone Unit No. 1 1987 Refuel Outage.

Plant Technical Specification Change Requests (TSCR) will be submitted to NRC approximately 90 days prior to the beginning of the 1987 Refuel Outage. This will allow implementation of the technical specification change prior to the end of the 1987 Refuel Outage (consistent with the plant modifications discussed above). These TSCR's include: (1) technical specification to restrict operation of the purge/vent valves, discussed under Item Three, and (2) TSCR to eliminate the drywell to torus 1.0 psid (provided NNECO analysis can justify).

Plant Maintenance Procedures will be revised prior to the beginning of the Millstone Unit No. 1 1987 Refuel Outage. The revision will specify a periodic maintenance program for the Millstone Unit No. 1 purge/vent valves (as discussed under Item Four).

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



J. F. Opeka
Senior Vice President