

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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July 11, 1984

Docket No. 50-423
B11264

Director of Nuclear Reactor Regulation
Mr. B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Reference: (1) B. J. Youngblood to W. G. Council, Draft SER for Millstone Nuclear Power Station, Unit 3, dated December 20, 1983.

Dear Mr. Youngblood:

Millstone Nuclear Power Station, Unit No. 3
Transmittal of a response to the open item (MEB-25)

Attached is Northeast Nuclear Energy Company's (NNECO) response to Mechanical Engineering Branch (MEB) Draft SER open item (MEB-25) concerning testing requirements for the reactor coolant system relief and safety valves. The above response was discussed with and accepted by your Mr. H. Brammer and Mr. G. Hammer, Mechanical Engineering Branch during a telecon with NNECO representatives on July 9, 1984. Based upon the above, this item is considered "confirmatory".

If there are any questions, please contact our licensing representative directly.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY
et. al.

By NORTHEAST NUCLEAR ENERGY COMPANY
Their Agent

W. G. Council
W. G. Council
Senior Vice President

C. F. Sears
By: C. F. Sears
Vice President Nuclear and
Environmental Engineering

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STATE OF CONNECTICUT)
) ss. Berlin
COUNTY OF HARTFORD)

Then personally appeared before me C. F. Sears, who being duly sworn, did state that he is Vice President of Northeast Nuclear Energy Company, an Applicant herein, that he is authorized to execute and file the foregoing information in the name and on behalf of the Applicants herein and that the statements contained in said information are true and correct to the best of his knowledge and belief.

Jennifer J. Powers
Notary Public
My Commission Expires March 31, 1989

Open Items

Mechanical Engineering Branch

MEB-25 Testing Requirements for Reactor Coolant System Relief and Safety Valves (Draft SER Section 3.9.3.2)

In accordance with Item II.D.1 of NUREG-0737, pressurized water reactor and boiling water reactor licensees and applicants are required to conduct testing to qualify the reactor coolant system relief and safety valves, block valves, and associated piping and supports under expected operating conditions for design-basis transients and accidents.

The Electric Power Research Institute (EPRI) was contracted by the PWR Owners Group to develop and carry out a generic test program and to provide the generic test data to be used by the PWR utilities to satisfy the NUREG-0737, Item II.D.1, requirements.

Testing of valves in the EPRI program was completed by December 31, 1981.

By letter dated April 1, 1982, from D. P. Hoffman, Chairman of the PWR Safety and Relief Valve Test Program Subcommittee, the EPRI/PWR Owners Group transmitted the reports to NRC.

On the basis of a preliminary review of the EPRI generic reports, the staff has concluded that they contain data that can be used by the applicant to prepare an Item II.D.1 plant-specific response for the valves and associated piping for Millstone Unit 3.

The staff requires that these plant-specific submittals be made before fuel loading in accordance with the schedule of NUREG-0737 and the September 29, 1981, clarification letter on this matter. Once the staff has received this information, it will report its findings in a supplement to this report.

Response (7/84)

Refer to the revised FSAR Section 5.4.13.2.

Status (7/84)

Confirmatory.

5.4.13 Safety and Relief Valves

5.4.13.1 Design Bases

The pressurizer safety valves are designed to accommodate the maximum surge resulting from complete loss of load. Sizing of the pressurizer safety valves is discussed in Section 5.2.2. The pressurizer power-operated relief valves are designed to limit pressurizer pressure to a value below the fixed high-pressure reactor trip setpoint. They are designed to fail to the closed position on power loss.

5.4.13.2 Design Description

The pressurizer safety valves are of the pop type. The valves are spring loaded, open by direct fluid pressure action, and have back pressure compensation features.

The piping connecting the pressurizer nozzles to their respective safety valves are shaped in the form of a loop seal. Condensate resulting from normal heat losses accumulates in the loop. The water prevents any leakage of hydrogen gas or steam through the safety valve seats. If the pressurizer pressure exceeds the set pressure of the safety valves, they start lifting, and the water from the seal discharges during the accumulation period.

The pressurizer power operated relief valves are solenoid operated valves which are operated automatically or by remote manual control. The pressurizer power operated relief valves are provided with a positive position indication in the control room (open/closed indication lights which are activated by limit switches).

Remotely operated stop valves are provided to isolate the power operated relief valves if excessive leakage develops. The stop valves are also equipped with an automatic low pressure closing feature. Positive position indication (open/closed) for the stop valves is located in the control room.

The power operated relief valves (PORVs), the PORV block valves, and pressurizer level instrumentation are powered from the Class IE AC power system (Section 8.3.1).

Temperatures in the pressurizer safety and relief valve discharge lines are measured and indicated in the control room. An increase in a discharge line temperature is an indication of leakage or relief through the associated valve.

Valves identical to Millstone 3's power operated relief valves (PORVs) and safety valves were tested by NNECo. in a program conducted by EPRI under full flow, expected operating conditions. Power operated relief valve tests were completed in August 1981 and safety valve tests were completed in December 1981. An evaluation program to study the test results has been initiated and the results will be reported to the NRC prior to fuel load.

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Additionally, by letter dated June 1, 1982, from R. C. Youngdahl to H. Denton, reports documenting block valve testing performed by EPRI were transmitted to the NRC. The above reports will be used to prepare Millstone 3 plant-specific information on the block valve operability and the plant-specific submittal will be made prior to fuel load.

NNECO will submit an analysis of the effect of as built relief and safety valve discharge piping on valve operability by fuel load.