

Docket No.: 50-423

JUN 5 1985

Mr. John F. Opeka
Senior Vice President
Nuclear Engineering and Operations
Northeast Nuclear Energy Company
P. O. Box 270
Hartford, Connecticut 06141-0270

Dear Mr. Opeka:

Subject: Environmental Assessment

Enclosed for your information is a copy of the "Notice of Environmental Assessment and Finding of No Significant Impact" related to your September 12, 1984 request for an exemption from a portion of the requirements of General Design Criterion 4 for Millstone Nuclear Power Station, Unit 3.

The Notice has been forwarded to the Office of the Federal Register for publication.

Sincerely,

for *B. J. Youngblood*
B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing

Enclosure: As stated

cc: See next page

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UNITED STATES NUCLEAR REGULATORY COMMISSIONNORTHEAST NUCLEAR ENERGY COMPANYDOCKET NO.: 50-423ENVIRONMENTAL ASSESSMENT ANDFINDING OF NO SIGNIFICANT IMPACT

The U. S. Nuclear Regulatory Commission (the Commission) is considering issuance of an Exemption from a portion of the requirements of General Design Criterion 4 (10 CFR 50, Appendix A) to the Northeast Nuclear Energy Company (the applicant) for the Millstone Nuclear Power Station, Unit 3, located at the applicant's site in Waterford, Connecticut.

ENVIRONMENTAL ASSESSMENT:

Identification of Proposed Action: The Exemption would permit the applicant not to consider dynamic loading effects associated with postulated pipe breaks in eight locations per loop in the Millstone Nuclear Power Station, Unit 3 primary coolant system on the basis of advanced calculational methods for assuring that piping stresses would not result in rapid piping failure; i.e., pipe breaks.

Noticed in the Federal Register
on May 29, 1985 (50 FR 21954)

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Need for Proposed Action: The proposed exemption is needed in order to permit the applicants not to install protective devices such as pipe whip restraints and jet shields related to 32 postulated break locations in the primary coolant loops. Analysis shows that pipe breaks, which these devices are designed to protect against, will not occur. On the other hand the presence of these devices increases inservice inspection time in the containment and their elimination would tend to lessen the occupational doses to workers and facilitate inservice inspections. General Design Criterion (GDC) 4 requires that structures, systems and components important to safety shall be appropriately protected against dynamic effects including the effects of discharging fluids that may result from equipment failures, up to and including a double-ended rupture of the largest pipe in the reactor coolant system (Definition of LOCA). In recent submittals the applicant has provided information to show by advanced fracture mechanics techniques that the detection of small flaws by either inservice inspection or leakage monitoring systems is assured long before flaws in the piping materials can grow to critical or unstable sizes which could lead to large break areas such as the double-ended guillotine break or its equivalent. The NRC staff has reviewed and accepted the applicant's conclusion. Therefore, the NRC staff agrees that consideration of the dynamic loading effects associated with a postulated double-ended guillotine break in the primary pressure coolant loop piping need not be required as a design basis accident for pipe protective devices and jet shields. Accordingly, the NRC staff agrees that an exemption from GDC 4 is appropriate.

Environmental Impact of the Proposed Action: The proposed Exemption would not affect the environmental impact of the facility. No credit is given for the restraints and barriers to be eliminated in calculating accident doses to the environment. While the pipe whip restraints and jet impingement barriers would minimize the damage from jet forces and whipping from a broken pipe, the calculated limitation on stresses required to support this Exemption assures that the probability of pipe breaks which could give rise to such forces are extremely small; thus, the pipe whip restraints and jet shields would have no significant effect on overall plant accident risk.

The Exemption does not otherwise affect radiological plant effluent. Likewise, the relief granted does not affect non-radiological plant effluents, and has no other environmental impact. The elimination of the pipe whip restraints and jet impingement shields would tend to lessen the occupational doses to workers inside containment. Therefore, the Commission concludes that there are no significant radiological or non-radiological impacts associated with this Exemption.

The proposed Exemption involves design features located entirely within the restricted area as defined in 10 CFR 20. It does not affect plant non-radioactive effluents and has no other environmental impact. Therefore, the Commission concludes that there are no non-radiological impacts associated with this proposed Exemption.

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Since we have concluded that there are no measurable negative environmental impacts associated with this Exemption, any alternatives would not provide any significant additional protection of the environment. The alternative to the compliance would be to require literal compliance with GDC 4.

Alternative Use of Resources: This action does not involve the use of resources not previously considered in the Final Environmental Statement related to the operation of the Millstone Nuclear Power Station, Unit 3.

Agencies and Persons Contacted: The NRC staff reviewed the applicant's request and applicable documents referenced therein that support this Exemption for the Millstone Nuclear Power Station, Unit 3. The NRC did not consult other agencies or persons.

FINDING OF NO SIGNIFICANT IMPACT

The Commission has determined not to prepare an environmental impact statement for this action. Based upon the environmental assessment, we conclude that this action will not have a significant effect on the quality of the human environment.

For details with respect to this action, see the request for exemption dated September 12, 1984 and additional information provided by the applicant in a letter dated October 18, 1984. These documents, utilized in the NRC staff's technical evaluation of the exemption request, are available for public inspection at the Commission's Public Document Room, 1717 H Street,

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N. W., Washington, D. C., and at the Local Public Document Room at the Waterford Public Library, Rope Ferry Road, Route 156, Waterford, Connecticut. The staff's technical evaluation of the exemption request will be published with the exemption and will also be available for inspection at both locations listed above.

Dated at Bethesda, Maryland this 21st day of May, 1985.

FOR THE NUCLEAR REGULATORY COMMISSION

15/
George W. Knighton, Acting Assistant
Director for Licensing
Division of Licensing

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