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

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Docket No. 50-245
A02497

Mr. Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

References: (1) W. G. Counsil letter to D. G. Eisenhut, dated March 1, 1982.

(2) W. G. Counsil letter to Commissioner Hendrie, dated March 19, 1981.

(3) H. R. Denton letter to W. G. Counsil, dated May 10, 1982.

(4) R. C. Haynes letter to W. G. Counsil, dated July 2, 1982.

(5) R. W. Starostecki letter to W. G. Counsil, dated July 7, 1982.

Gentlemen:

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 1
ADDITIONAL INFORMATION SUPPORTING
EXEMPTION REQUEST FROM APPENDIX R

Northeast Nuclear Energy Company (NNECO) provided to the NRC Staff in Reference (1) an assessment of the fire protection features at Millstone Unit No. 1 pursuant to the requirements of 10CFR50.48 and Appendix R to 10CFR Part 50. In addition, our evaluation of the deviations from Appendix R for each fire zone and proposed design modifications or proposed exemptions from the requirements of Appendix R were also provided. NNECO had previously requested an exemption from the schedular requirements of 10CFR50.48(c)(5), specifically for additional time to complete the actions described above, in Reference (2).

The Staff granted the schedular exemption request documented in Reference (3) upon the condition that the submittal be complete as defined in Reference (3). Reference (3) also provided NNECO a grace period of 60 days in which to provide any supplemental information to that of Reference (1) in order to comply with the requirements of the exemption.

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The purpose of this document is to provide supplemental information to complement that contained in Reference (1) such that the conditions accompanying the Reference (3) exemption are fulfilled. The insight gained by interacting with the Staff on the Haddam Neck Plant has been utilized during the preparation of this submittal.

Specifically, the following information is provided within this document.

- Section I/Appendix A - Revised and expanded discussions of each exemption request.
- Section II - Administrative controls.
- Section III - Discussion of intervening combustibles.
- Section IV - A revised compliance summary including a discussion of the schedule for proposed modifications.
- Appendix A - Revised safe shutdown Fire Zone Analyses.
- Appendix B - Intervening combustibles.
- Appendix C - Compliance status.

Condition (1)a of Reference (3) is fulfilled in that concise statements of NNECO's exemption requests are provided in Appendix A. Regarding the revised discussion on the exemption requests, the information provided is intended to fulfill conditions (1) b, and (1) c of Reference (3). Condition (2) does not apply as alternative or dedicated shutdown systems are not being proposed.

I. Fire Zone Analysis

Section VII of Reference (1) provided an evaluation of each fire zone at Millstone Unit No. 1 for compliance with the provisions of Appendix R. Where compliance with Appendix R did not exist, modifications were proposed to bring the fire zone into compliance or an exemption from specific requirements of III.G.2 of Appendix R was and is being requested pursuant to 10CFR 50.48 (c)(6) and 10CFR 50.12(a).

Since the Reference (1) submittal, each exemption request has been re-evaluated. Several revised modifications have been engineered which have resulted in compliance for several fire zones. Each exemption request is described in Appendix A with additional discussions to support NNECO's remaining exemption requests. It should be noted that in addition to the original seven fire zones for which NNECO had requested an exemption from the specific requirements of Appendix R, re-evaluations have resulted in the need for exemptions in ten specific fire zones. This change is the result of the identification of additional safe shutdown equipment in Fire Zones R-2D, T-5C, and T-19D for which existing fire protection features have been judged to fulfill the intent of Section III.G.2 of Appendix R but for which an exemption is required.

The fire zone analysis for each exemption is presented in a format identical to that of Reference (1). This will facilitate comparison of the discussions for each fire zone between Reference (1) and this document. Appendix A provides specific fire zone analyses for the following areas:

o Reactor Building	Area R-2A, R-2B, R-2C, R-2D
o Turbine Service Equipment Area	Area T-5C
o Cable Vault	Area T-16
o Switchgear Area	Area T-19A, T-19B, T-19C, T-19D, T-19E
o Control Room	Area T-21

The ten exemption requests are described in Appendix A and supersede the exemption requests of Reference (1). The ten areas for which NNECO requests exemptions from specific requirements of Section III.G.2 of Appendix R are:

o Reactor Building	Area R-2A, R-2D
o Cable Vault	Area T-16
o Switchgear	Areas T-19A, T-19B, T-19C, T-19D, T-19E
o Control Room	Area T-21
o Turbine Service Equipment Area	Area T-5C

II. Administrative Controls

Currently, administrative controls are used to ensure proper performance of safety systems and compliance with NRC regulations. Examples include:

- o maintaining proper boron concentrations and levels in various tanks for safety-related applications,
- o mitigating actions in the event of undervoltage conditions,
- o personnel radiation exposure limitations, and
- o implementing the security plan and the safeguards contingency plan

NNECO proposes to add a customized administrative technical specification to control the quantity and use of flammable liquids in specific fire areas at Millstone Unit No. 1. This proposal was discussed at great lengths during a May 13, 1982 meeting with the Staff at which time the advantages and disadvantages were reviewed.

NNECO proposes to restrict flammable liquids from the control room, cable vault. Specifically, Technical Specifications would require written permission from the shift supervisor or supervising control operator prior to introducing flammable liquids in excess of one-half pint into the two areas described above. The Technical Specifications would also require that these liquids to be contained in suitable containers which would be non-spillable and have flame arrestors in the nozzles. Container volume would be limited to one quart, independent of the safety features of the containers.

The key provision of these administrative controls would be the requirement to post a dedicated fire watch with appropriate fire fighting equipment to monitor the activity which utilizes the flammable liquids.

Signs would be posted at all entrance ways to the fire areas for which these requirements apply providing additional assurance that the flammable liquid restriction will be adhered to.

Elevating flammable liquid controls to the level of Technical Specifications will provide for higher visibility to both NNECO personnel as well as NRC personnel. As such, they would be more readily enforceable. Controls such as proposed herein effectively reduce the potential for fire in the two fire areas described above and add another layer of fire protection defense-in-depth to these zones. Limiting the quantity of flammable liquids available to a fire as well as providing a dedicated fire watch would limit any potential damage which may occur should a fire initiate during the use of such liquids.

As stated during the meeting, the Staff's major concern in granting any credit for such a proposal is the difficulty associated with quantifying the reduction in risk associated with the use of such controls. We recognize that the rate of success in the implementation of such controls is highly variable throughout the industry. We note that several reviews have recently been conducted at Millstone Unit No. 1 which focused on personnel performance. The Systematic Assessment of Licensee Performance (SALP) as well as Institute of Nuclear Power Operations (INPO) audits have been completed. The results of these audits support NNECO's proposal that credit for administrative controls at Millstone Unit No. 1 should be granted. Specifically, the following comments were taken from the SALP report for NNECO issued in Reference (4).

> 6.b. FIRE PROTECTION and HOUSEKEEPING
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> "The Resident Inspectors observed housekeeping and fire protection controls during routine inspections. No items of noncompliance were identified. The response of licensee personnel, including the shift fire brigade, to several small fires was satisfactory. Performance of the Fire Detection/Suppression Surveillance Test Program has improved.

The NRC has concluded in Reference (4) that NNECO's Fire Protection and Housekeeping performance level is Category 1 which states:

> "Category 1: Reduced NRC attention may be appropriate. Licensee management attention and involvement are aggressive and oriented toward nuclear safety; licensee resources are ample and effectively used such that a high level of performance with respect to operational safety or construction is being achieved."

The transmittal letter of Reference (4) states:

> "Overall, we find that management attention at your facilities is aggressively oriented toward nuclear safety. Effective use of ample resources has resulted in a high level of performance in operational safety and construction activities."

In addition, a recent inspection by the office of Inspection and Enforcement was conducted at the Millstone Nuclear Power Station. The results of this inspection have been forwarded to NNECO in Reference (5) and state, in part, the following:

> "Plant Housekeeping Controls
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> Storage of material and components was observed with respect to prevention of fire and safety hazards. Plant housekeeping was evaluated with respect to controlling the spread of surface and airborne contamination. There were no unacceptable conditions identified.
>
> Fire Protection/Prevention
>
> The inspector examined the condition of selected pieces of fire fighting equipment. Combustible materials were being controlled and were not found near vital areas. Selected cable penetrations were examined and fire barriers were found intact. Cable trays were clear of debris. There were no unacceptable conditions identified."

In further support of our proposal, we advance our view that the credit being requested in this regard is not conceptually different from that granted by the Staff for other safety-related applications identified above. It would be incongruous for the Staff to accept this approach for certain applications and reject it for others.

NNECO's proposed administrative controls for flammable liquids will add another level of fire protection to the control room and cable vault. This added control on flammable liquid introduction into these areas together with the existing and proposed fire protection features described in Appendix A for these areas, will provide equivalent protection to that achieved by fulfilling the requirements of Section III.G.2 of Appendix R to 10CFR50. NNECO proposes these additional restrictive administrative controls to support the exemption requests for fire areas T-16, and T-21. A formal license amendment application will be docketed upon resolution of the exemption requests for these fire areas.

Figures 1 and 2 are illustrative of the Technical Specification Administrative Controls which have been described herein.

III. Intervening Combustibles

Section III.G.2 of Appendix R to 10CFR50 specifies the means for ensuring that redundant trains of safe shutdown equipment, located in the same fire area, remain free of fire damage. Item b identifies detection, automatic suppression and separation of safe shutdown equipment by 20 feet with no intervening combustibles or fire hazards as one means of compliance with Section III.G.2.

Recognizing that all materials are combustible at sufficiently elevated temperatures, the provision "no intervening combustible or fire hazards" of Section III.G.2.b of Appendix R is subject to interpretation. To ensure Staff cognizance of the approach utilized in our fire hazard evaluations, NNECO presents a discussion in Appendix B regarding the interpretation of intervening combustibles in the context of compliance with Section III.G.2.b of Appendix R.

The basis for the definition presented in Appendix B is a consideration of the credible fire which would be expected to occur in any given fire area at Millstone Unit No. 1.

Several of the conclusions presented both in Reference (1) and in Appendix A have been based on an evaluation of intervening combustibles present in each fire zone. NNECO has requested exemptions in several fire zones from the requirement of Section III.G.2.b of Appendix R for "no intervening combustibles". In these instances, the evaluation of the specific fire zone concluded that the intervening combustibles present do not compromise the integrity of the redundant safe shutdown equipment in the zone.

IV. Compliance Summary

To complement the information presented in the Fire Zone Analyses presented in Section I above, a revised synopsis of the current compliance status on a fire zone specific basis is provided as Appendix C. It is NNECO's intention to provide the Staff with a revised schedule for the completion of the modifications identified in the attached summary after a review of all fire protection modifications at the Haddam Neck Plant and Millstone Unit Nos. 1 and 2 can be accomplished. This review will establish an optimum fire protection modification implementation schedule for all three of the Northeast Utilities operating nuclear power plants which is compatible with each of the plant's scheduled outages.

This approach will enable Northeast Utilities to better utilize its engineering and construction manpower such that the proposed fire protection modifications can be implemented on a timely and cost effective schedule. The schedules for the fire protection modifications will be provided to the Staff following the completion of supplemental submittals for both the Haddam Neck Plant and Millstone Unit No. 2. As a result of completing this integrated evaluation, we anticipate that additional schedular exemption requests will be necessary.

With the docketing of this submittal, NNECO concludes that the requirements of 10CFR50.48(c)(5) for submitting plans to comply with 10CFR50.48(c)(2) and 50.48(c)(3) have been fulfilled. Given the extensive interrelationship between modifications resulting in compliance and those associated with exemption requests, it is not practical to provide detailed implementation schedules at this time. For those modifications associated with fire zones involving exemption requests, we interpret 10CFR to mean that the schedule is tolled pursuant to 50.48(c)(6). For those modifications identified which would result in compliance with 10CFR50.48 and Appendix R, a schedular exemption from the requirements of 10CFR50.48(c)(5) is requested pursuant to 10CFR50.48(c)(6) and 10CFR50.12(a). We are confident that reasonable schedules can be developed promptly after the Staff responds to the proposals contained herein. Such schedules would reflect the results of an integrated evaluation of previously committed plant modifications and other resource considerations in concert with recently articulated Commission policy in this regard.

Subsequent to submitting the enclosed report, NNECO will continue verification of the information provided to the Staff. In the event that any clarification of this information is found to be necessary, NNECO will provide such clarification as expeditiously as possible.

We remain prepared to interact with the Staff as necessary to bring this issue to resolution.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

W. G. Counsil

W. G. Counsil
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J. P. Cagnetta

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