



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

November 4, 1996

The Honorable Charles F. Bass
United States House of Representatives
Washington, DC 20515-2902

Dear Congressman Bass:

I am responding to your letter of September 18, 1996, concerning issues raised by your constituent John C. Calhoun. It appears that the article in *TIME* magazine has led your constituent and others who have written to us to believe that as a result of problems at Millstone we are close to having our own Chernobyl. That is not the case.

The design, construction, and operation of the spent fuel pool at Millstone and other U.S. commercial reactors incorporate several features that make the type of catastrophic accident suggested by the *TIME* article improbable. At U.S. reactors, before spent fuel is removed from the reactor vessel, it is maintained submerged in water and is held in the reactor vessel to allow the heat and radioactivity levels of the spent fuel to decay before it is transferred to the spent fuel pool. This holding period significantly reduces the threat from a potential release of radioactive material. Strict control of the quantity and location of the spent fuel once it is transferred to the spent fuel pool ensures that the nuclear fission process does not occur and that the only energy released from the fuel is from radioactive decay (decay heat). Spent fuel pools are designed to prevent a loss of water level to ensure water covers and cools the fuel. Spent fuel pools also have multiple means of cooling the spent fuel to remove the residual decay heat, and the design characteristics of spent fuel pools provide ample time for operators to take recovery actions before adverse conditions would be experienced. Therefore, the potential for total failure of all cooling and makeup water systems is unlikely. Finally, the spent fuel pools are also designed to withstand earthquakes without damage.

Regarding the impacts of the accident at Three Mile Island, the NRC implemented an extensive program of backfits to upgrade U.S. plants to correct deficiencies identified as a result of that accident. The action plans after the Three Mile Island accident included consideration of the recommendations of both the Kemeny and Rogovin Commissions. The actions plans were outlined in NRC's NUREG-0737, "Clarification of TMI Action Plan Requirements," dated November 1980.

The fundamental issue with the spent fuel pool at Millstone concerned the operational limits of the spent fuel pool heat removal system as it relates to the core offloading practices documented in the Millstone Unit 1 Updated Final Safety Analysis Report (UFSAR). The licensee, Northeast Utilities, was routinely removing the entire core and placing it in the spent fuel pool during plant refueling outages. However, the UFSAR stated that the normal practice during refueling outages would entail only partial-core offloads. Though the spent fuel pool was analyzed to be able to support a full core offload, this evaluation, as described in the UFSAR, was defined as an

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emergency core offload. Although the NRC staff was concerned by the failure of the licensee to identify earlier that spent fuel pool operations were not being conducted as described in the UFSAR, it has not found that the operations posed an undue risk to public health and safety. Since becoming aware of this issue, the licensee has modified the spent fuel pool cooling system to improve its capacity, performed a reanalysis of the heat removal for full-core offloads, and obtained a license amendment to allow full-core offloads in the future.

The NRC staff shares your constituent's concern about the ongoing problems associated with Millstone. It has spent significant resources in recent years trying to effect satisfactory improvements in technical and personnel areas at this facility. Although I believe the *TIME* article could have presented a more balanced view regarding the Millstone issues, the NRC staff is evaluating the issues raised in the article to determine where NRC activities can be improved. Some issues regarding alleged wrongdoing on the part of the utility are being investigated by the NRC's Office of Investigations. Also, concerns about failures on the part of the NRC have been forwarded to the NRC's Office of the Inspector General. Your constituent may be assured that the NRC has been and remains totally committed to its mission of protecting public health and safety. Furthermore, the NRC staff has a number of initiatives that it has taken or is taking regarding Millstone; a summary of each is provided for your information in the attached enclosure.

Your constituent questioned whether the NRC, on the basis of its portrayal in *TIME* article, is carrying out its mission to concentrate on safety only, not on promotion of nuclear power. As mandated by the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended, and other applicable statutes, NRC is responsible for licensing and regulating nuclear facilities and materials. The promotion of nuclear power is not included in this mission.

With regard to your constituent's concern that nominees to the Commission by the President must be approved by the "industry" to be confirmed and that a former NRC Commissioner now sits on the Northeast Utilities Board of Directors, the fact is that Commissioners are nominated by the President and confirmed by the Senate. Neither NRC nor the nuclear industry has any jurisdiction in this process. Further, it is true that a former Commissioner is on the Northeast Utilities Board of Directors; however, conflict-of-interest laws impose strict limits on the dealings of Commissioners with the NRC after retirement.

The Honorable Charles F. Bass

- 3 -

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I trust that your constituent's concerns have been addressed. If Mr. Calhoun or any other of your constituents has further concerns or questions please do not hesitate to contact us.

Sincerely,

Original signed by
James M. Taylor

James M. Taylor
Executive Director
for Operations

Enclosure: As stated

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NAME	RZimmerman	JMoore	FMiraglia	JTaylor	
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James M. Taylor
Executive Director
for Operations

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OFFICE	ADPR	OGC	DRPE:D(A)	EDO	
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NRC ACTIONS ADDRESSING COMPREHENSIVE LESSONS LEARNED FROM MILLSTONE EXPERIENCE

Millstone-Specific Actions

- In January 1996, a senior NRC regional manager was assigned to oversee NRC's monitoring of Millstone operations. Similarly, at NRC Headquarters, a senior manager was assigned licensing responsibility solely for the Northeast Utilities plants. Additionally, the NRC increased the number of resident inspectors at Millstone from five to six.
- A senior Headquarters manager led a team which evaluated the history of how Northeast Utilities and the NRC have handled employee concerns and allegations related to licensed activities at Millstone. The review included in-depth case studies of selected employee concerns and allegations to identify root causes, common patterns among cases, and lessons learned. A report on the team's review was issued October 24, 1996, and concluded that the work environment and failures of licensee management are primary reasons for continuing problems in the employee concerns program at Millstone. Concurrent with issuing this report, the NRC issued an order that directs Northeast Utilities to devise and implement a comprehensive plan for handling safety concerns raised by Millstone employees and for assuring an environment free from retaliation and discrimination. The NRC also ordered Northeast Utilities to contract for an independent third party to oversee its corrective action plan for the employee concerns program. The independent third-party must have expertise necessary to audit reviews of employee concerns, monitor corrective actions, recognize weaknesses in approaches, audit investigations into discrimination complaints, and conduct employee surveys. Further, the members of the independent third-party organization must not have had any direct previous involvement with activities at the Millstone Station, and the team members' technical qualifications must be approved by the NRC, along with its oversight plan. The report and the licensee's response to report findings will be reviewed for restart issues, as well as potential enforcement actions.
- A senior Headquarters manager led a team which evaluated the January 1996 Northeast Utilities layoffs. The group was chartered with determining whether there is any evidence to suggest that employees engaged in protected activities were likely discharged for raising concerns. This review team's report is currently being reviewed.
- On December 13, 1995, the NRC issued a letter to the licensee for Millstone Unit 1 requiring it to inform the NRC, pursuant to Section 50.54(f) of Title 10 of the Code of Federal Regulations (10 CFR), of actions it would be taking at Millstone Unit 1 to ensure that future operation of that facility would be conducted in accordance with the terms and conditions of the plant's operating license, the Commission's regulations, and the Updated Final Safety Analysis Report (UFSAR). On February 22, 1996, the licensee issued Adverse Condition Report 7007 "Event Response Team Report," which describes in detail the underlying causes for numerous inaccuracies contained in Millstone Unit 1's UFSAR. On March 7 and April 4, 1996, the NRC issued similar letters to the licensee requiring it to inform the NRC, pursuant to 10 CFR 50.54(f), of

actions it would be taking at Millstone Units 2 and 3 to ensure that future operation of the facilities would be conducted in accordance with the terms and conditions of each plant's operating license, the Commission's regulations, and each plant's UFSAR.

- In February 1996, the NRC staff informed Northeast Utilities that a special team inspection would be conducted at Millstone to evaluate the methods and processes Northeast Utilities had used to handle degraded and potentially nonconforming plant conditions, including issues affecting the operability of plant equipment. This effort focused on Millstone Units 2 and 3 but was expanded to include the Haddam Neck plant. The team's report addressing concerns with respect to Haddam Neck was issued on July 31, 1996. The report for Millstone was issued on September 20, 1996.
- In January 1996, the NRC placed the Millstone facility on NRC's "Watch List" as a Category 2 facility. Plants in this category have been identified as having weaknesses that warrant increased NRC attention. The NRC staff based its actions on the numerous problems identified by both the NRC and the licensee, associated NRC enforcement actions, and the repeated failure of the licensee's corrective action programs to prevent recurrence of these problems. In June 1996, at the direction of the Commission, the staff informed Northeast Utilities that the Millstone site had been designated a Category 3 facility. Plants in this category have significant weaknesses that warrant keeping the plant shut down until the licensee can demonstrate to the NRC that adequate programs have been established and implemented to ensure substantial improvement. This would also require the NRC staff to obtain Commission approval by vote before restart.
- To ensure that the NRC restart review efforts provide objective measures of restart readiness for each Millstone unit, the NRC staff will follow the process outlined in NRC Inspection Manual Chapter 0350, "Staff Guidelines for Restart Approval." This process will provide assurance that the Millstone units can meet NRC regulations and requirements. If the Commission approves restart, each unit will be placed in Watch List Category 2, where they will remain until they have demonstrated that satisfactory performance can be sustained.
- Because of concerns about the history of programmatic weakness and failures to implement effective corrective actions in the area of design and configuration control, the NRC staff identified a need for an independent review to verify the adequacy of the licensee's efforts. On August 13, 1996, the licensee submitted its plan and commitment for an independent review. On August 14, 1996, the NRC staff issued the Confirmatory Order Establishing Independent Corrective Action Verification Program, which confirmed the licensee's commitment to conduct this independent review for each of the Millstone units.
- The NRC has established a Special Projects Office within the Office of Nuclear Reactor Regulation to oversee inspection and licensing activities at the Millstone site. In addition to licensing and inspection activities, the Office will be responsible for (1) oversight

of the ICAVP, (2) oversight of NU's corrective actions related to safety issues involving employee concerns, and (3) inspections necessary to implement NRC oversight of the plant's restart activities.

Generic Actions

- The staff reviewed the current licensing basis for the spent fuel pool decay heat removal system and the core offloading practices at all operating reactor facilities. On the basis of the information collected and reviewed, the specific actions taken by the licensees, and the commitments made during this review, the NRC staff concluded that the refueling operating practices are consistent with the licensing basis for the spent fuel pool decay heat removal systems at all plants, or will be consistent before the next refueling outage. However, in its survey, the staff determined that licensees of 9 sites (involving 15 units) needed to modify their licensing basis or plant practices to ensure that their refueling practices are clearly within the analytic bounds described in each facility's UFSAR. This finding indicates that these plants may have performed refueling operations that were inconsistent with their licensing basis. As a result, the staff is evaluating the need for enforcement action, as appropriate, to address the instances of noncompliance with the UFSAR.
- The staff is reviewing the adequacy of NRC's regulatory guidance for changes made to facilities and their operations to ensure that future operations are conducted in accordance with regulations governing the changes that can be made without prior staff approval.
- The staff is conducting a broad-based review of program and inspection guidance associated with oversight of the UFSAR, nonconforming conditions related to the UFSAR, 10 CFR 50.59 evaluations, and licensee corrective action verification.

ACTION

EDO Principal Correspondence Control

10/25/96

FROM:

DUE: 10/17/96

EDO CONTROL: GT96754

DOC DT: 09/18/96

FINAL REPLY:

Rep. Charles F. Bass

TO:

Dennis Rathbun, OCA

FOR SIGNATURE OF :

** GRN **

CRC NO: 96-1034

Executive Director

DESC:

ROUTING:

ENCLOSES LETTER FROM JOHN C. CALHOUN, JR., RE
SAFETY ISSUES AT NUCLEAR POWER PLANTS

Taylor
Milhoan
Thompson
Blaha

DATE: 10/04/96

ASSIGNED TO:

CONTACT:

NRR

Miraglia

SPECIAL INSTRUCTIONS OR REMARKS:

NRR RECEIVED: OCTOBER 4, 1996

NRR ACTION: DRPE:VARGA

NRR ROUTING: MIRAGLIA
THADANI
ZIMMERMAN
SHERON
MARTIN
BOHRER

ACTION

DUE TO NRR DIRECTOR'S OFFICE

BY O.L. X, 1996

13

OFFICE OF THE SECRETARY
CORRESPONDENCE CONTROL TICKET

PAPER NUMBER: CRC-96-1034 LOGGING DATE: Sep 30 96
ACTION OFFICE: EDO
AUTHOR: REP CHARLES BASS
AFFILIATION: U.S. HOUSE OF REPRESENTATIVES
ADDRESSEE: RATHBUN
LETTER DATE: Sep 18 96 FILE CODE:
SUBJECT: SAFETY ISSUE AT NUCLEAR POWER PLANTS
ACTION: Signature of EDO
DISTRIBUTION: CHAIRMAN
SPECIAL HANDLING: OCA TO ACK
CONSTITUENT: JOHN CALHOUN
NOTES: 18
DATE DUE: Oct 18 96
SIGNATURE: . DATE SIGNED:
AFFILIATION:

FILED ON: EDO

10/4/96

9:00 AM

EDO -- GT96754