



UNITED STATES  
 NUCLEAR REGULATORY COMMISSION  
 WASHINGTON, D. C. 20555

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August 10, 1979

OFFICE OF THE  
 CHAIRMAN

Docket Nos. 50-213/245  
 336/423

The Honorable Ella Grasso  
 Governor of Connecticut  
 Hartford, Connecticut 06115

Dear Governor Grasso:

As promised in my May 11, 1979 letter, I am providing a more detailed response to your May 7, 1979 letter requesting information about the nuclear power plants in Connecticut. First, let me assure you that I and the other Commissioners and the staff of the Nuclear Regulatory Commission (NRC) are endeavoring to take all necessary and appropriate actions to assure that the health and safety of the public will not be endangered by the operation of any nuclear power facility. This, of course, is the basic charter of the NRC. We are keenly aware of our responsibility to assure that other operating nuclear plants are adequately protected from the causes of the Three Mile Island Unit 2 (TMI-2) accident. You may be assured that we are conducting a thorough review of this and other recent events experienced at operating nuclear power plants.

Following the TMI-2 accident, we immediately initiated a review of the other operating plants, starting with the facilities designed by the same manufacturer as TMI-2 (Babcock & Wilcox), next looking at the same reactor type, Pressurizer Water Reactors, designed by other manufacturers and finally the Boiling Water Reactors. The reviews were initiated by a series of bulletins issued to all nuclear power facility licensees which identified actions to be taken by the licensees.

The reactor type, designer and status of the nuclear power plants located in Connecticut are identified below.

<u>PLANT</u>	<u>TYPE</u>	<u>DESIGNER</u>	<u>STATUS</u>
Millstone Unit 1	BWR	General Electric	Resumed Operation on June 27, 1979 Following Refueling/Maintenance Outage
Millstone Unit 2	PWR	Combustion Engineering	Resumed Operation on May 18, 1979

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<u>PLANT</u>	<u>TYPE</u>	<u>DESIGNER</u>	<u>STATUS</u>
Millstone Unit 3	PWR	Westinghouse	Under Construction
Connecticut Yankee (Haddam Neck)	PWR	Westinghouse	Operating

Millstone Units 1 and 2 completed their refueling/maintenance outages and were returned to operation on June 27 and May 18, 1979, respectively. Haddam Neck has been operating at full power since March, 1979.

Enclosed is a discussion of the results of our reviews of the above facilities and responses to your specific inquiries.

With respect to Millstone Unit 3, the Construction Permit, CPPR-113, was issued on August 9, 1974. Construction was estimated to be about 25% complete in May 1979. The latest available information indicated that the applicant will tender its application for an Operating License in the Spring of 1983 to support fuel loading in December 1985.

The major emphasis of the current staff effort is focused on nuclear power plants that presently have operating licenses. However, the results of the staff's investigations will also be applied to plants that are currently under construction and plants for which construction permits have been applied for but not yet issued. Therefore, before Millstone Unit 3 begins operation, consideration will have been given to the lessons learned from TMI-2.

I wholeheartedly endorse your views on candor and openness in nuclear power development in this country. We at NRC are, of course, not involved in the development of nuclear power, but rather with its regulation. The NRC has striven to be as open as any government agency. The entire licensing process requires, and is designed to require, the openness you espouse. No complex technology can be entirely problem-free, and surely the problems of nuclear power have, especially lately, been widely discussed. The NRC is committed to continue to address these problems, and will continue with whatever efforts are necessary to improve the safety record of nuclear power in this country.

As the enclosed responses to your questions indicate, we are dedicated to assuring that nuclear power facilities in this country are operated without undue risk to the health and safety of the public; however, it must be recognized that it is not possible to anticipate all future

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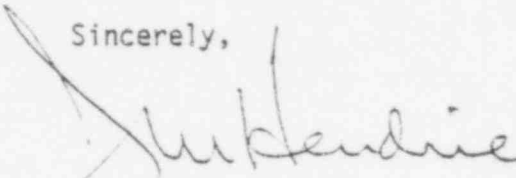
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problems that could occur. You have my assurance that I am personally satisfied that the nuclear facilities in your State, as in all other States, are determined by the regulatory process to be safe before they are permitted to operate or return to operation following a shutdown. I trust this is responsive to your concerns.

Sincerely,



Joseph M. Hendrie  
Chairman

Enclosure:  
Responses to Inquiry of  
Governor Grasso

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RESPONSES TO INQUIRY OF GOVERNOR GRASSO

1. Assurances that actions to be taken by licensees under order of the Nuclear Regulatory Commission Information and Enforcement Bulletins 79-06, 79-06A, 79-06B and 79-08 have been fully implemented by the licensee of the two plants in question.

RESPONSE:

IE Bulletin 79-06B, applicable to Millstone Unit 2, was sent to Northeast Nuclear Energy Company (NNECO) on April 14, 1979. By letter dated April 24, 1979, NNECO responded to the Bulletin for Millstone Unit 2. Based on their response, subsequent discussions with NNECO, and information supplementing their original response, we have concluded that the requirements of the Bulletin have been satisfied (Staff Safety Evaluation attached). Onsite inspection of the implementation of applicable Bulletin immediate action items was completed prior to startup of the facility on May 28, 1979.

With regard to Millstone Unit 1, IE Bulletin 79-08 was sent to NNECO on April 14, 1979. The Bulletin specified the actions to be taken by BWR licensees to avoid an accident similar to that which occurred at TMI-2 on March 28, 1979. By letter dated April 24, 1979, NNECO responded to the Bulletin for Millstone Unit 1. It should be noted that the potential for occurrence of an incident similar to the TMI-2 incident at Millstone Unit 1 is greatly reduced by the basic design of the plant. Millstone Unit 1 is a BWR, whereas TMI-2 is a PWR with once-through steam generators.

We have evaluated the NNECO response to IE Bulletin 79-08 and the information provided to the licensee by the reactor vendor (the General Electric Company) for use in responding to the Bulletin. We conclude that the licensee has correctly interpreted IE Bulletin No. 79-08. In addition, we conclude that the actions taken by the licensee demonstrate an understanding of the concerns arising from the TMI-2 accident in reviewing their implications on Millstone Unit 1 operations, and provide added assurance for the protection of the public health and safety during plant operation. A Safety Evaluation Report documenting our evaluation of Millstone Unit 1 is expected to be published in August 1979, at which time a copy will be forwarded to you. Our review and inspection of procedure modifications that have been completed at Millstone Unit 1 was completed prior to returning the facility to operation.

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Based on the above, we are satisfied that the licensee of Millstone Units 1 and 2 has provided satisfactory responses to the Bulletins related to the TMI-2 accident to assure that they may be operated without undue risk to the health and safety of the public.

Connecticut Yankee Atomic Power Company (CYAPCO) responded to IE Bulletin 79-06A and Rev. 1 thereto by letter dated April 24, 1979. After reviewing their response, a meeting was held with representatives from CYAPCO on May 11, 1979. Clarifications of our requirements and of their responses were obtained from the meeting and supplemental information was provided by CYAPCO letters dated May 14, 18 and 31 and June 26, 1979. Based upon the information supplied by CYAPCO, we have concluded that they have complied with the requirements and guidelines of IE Bulletin 79-06A, which gives additional protection to the health and safety of the public. We expect to issue our evaluation in about one month. We will send you a copy of our final Safety Evaluation of the CYAPCO response to the Bulletin when it is completed.

Our Inspection and Enforcement Region I staff will provide your staff with information about Millstone 3 when it is available.

2. Information concerning other directives or recommendations from the NRC, or from the reactor and equipment manufacturers, regarding the safe operation of these units; in addition, your opinion as to whether these directives or recommendations have been followed.

RESPONSE:

We have discussed the directives or recommendations from reactor manufacturers to NNECO regarding the safe operation of these units. These recommendations are of two types. One type concerns those recommendations to assist the utility in response to the Bulletin and the other concerns longer-term recommendations of possible improvements to provide added assurance for safety. The first type of recommendations are reflected in the NNECO response to the Bulletin and thus have been evaluated by the staff. The others are under evaluation by the NNECO for possible future design changes which will be submitted for staff review if the determination is made that such changes are desirable. Most of these potential changes are part of the overall ongoing staff evaluation of the lessons learned from the TMI-2 incident. The results of our evaluations may require such design changes as recommended by the vendors to NNECO. Examples of design changes being proposed by reactor vendors and licensees include such items as:

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1. Modification of the reactor protection system logic to actuate safety injection solely on low pressurizer pressure.
2. Modification of the Containment Isolation logic such that a safety injection signal will initiate isolation of non-essential systems.
3. Modification to permit reactor coolant pump operation with a coincident safety injection and/or containment isolation signal.

During the first seven months of 1979, additional IE Bulletins, copies attached, have been transmitted to the licensees of all nuclear power facilities with an operating license or construction permit.

All of these issues identified in the attached Bulletins are being actively evaluated. For Millstone Units 1 and 2 the applicable issues identified prior to the end of their recent refueling outages were resolved to our satisfaction prior to startup from the outages. The applicable issues, with the exception of Bulletin 79-01, are being resolved for Haddam Neck on an expedited basis. Bulletin No. 79-01 will be resolved in the Systematic Evaluation Program for Haddam Neck.

IE Bulletin No. 79-05 was omitted because it is applicable only to facilities designed by Babcock & Wilcox (B&W). There are no B&W designed operating nuclear facilities in Connecticut.

3. Knowledge of other actions the Nuclear Regulatory Commission anticipates taking concerning nuclear plant operations, equipment and training programs as a result of the Three Mile Island accident and other nuclear incidents.

RESPONSE:

Other NRC actions as a result of the accident at TMI-2 include the following:

1. Preparation of a report applicable primarily to Babcock & Wilcox plants discussing ways to improve the response of these plants to incidents similar to the events at TMI-2. A copy of this report, NUREG-0560, recommending changes in procedures, equipment, and operator training, is attached.
2. Preparation of reports similar to that described above but applicable to Westinghouse and Combustion Engineering plants. These reports are expected to be available in September 1979.

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3. Initiation of a longer term study to assess the lessons learned from the events at TMI-2 to identify any indicated changes in NRC licensing requirements and to the licensing process itself. A Task Force directed by a Division Director has been established to implement this effort.
4. Preparation of a report covering recommended changes in NRC requirements and guidance to licensees for qualification of nuclear reactor operators and licensee practices for operator training and testing. This report is before the Commission for consideration.
5. Continuation of the investigation of the TMI-2 accident. This investigation may provide further input to other tasks listed herein.

In addition to this staff effort, the Commission has instituted a Special Inquiry to review and report on the TMI-2 accident. The attached Statement of Policy describes in detail the objectives and scope of work of this Special Inquiry.

6. A Special Task Force on Emergency Planning was established. A preliminary report has been made to the Commissioners and the final recommendations of the Task Force are expected this month. It is expected that the final report will include recommendations for extensive upgrading of emergency planning from licensee notifications through licensee and federal, state and local government agencies response. The NRC Office of State Programs has initiated an accelerated program of regional team assistance to State governments in preparing State radiological emergency response plans with the goal of obtaining NRC concurrence.

In addition, the NRC is considering the adoption of additional regulations which will establish as conditions of power reactor operation increased emergency readiness for public protection in the vicinity of nuclear power reactors on the part of both the licensee and local and state authorities. On July 17, 1979, the Commission published in the Federal Register an advance notice of proposed rulemaking requesting public comments on what items should be included in the rule (copy attached).

We would be pleased to provide copies of the remaining reports when completed, if so desired.

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In addition to the reviews discussed above, the Advisory Committee on Reactor Safeguards (ACRS) is examining the TMI-2 accident and its relationship to other plants. They have made various recommendations in their letters of April 7, 17 and 20, 1979 (copies attached), which are characterized by the ACRS as generic in nature applying to all PWRs.

The ACRS letter of April 20, 1979 states "None are intended to require immediate changes in operating procedures or plant modifications of operating PWR's. Such changes should be made only after study of their effects on overall safety. Such studies should be made by the licensees...and by the NRC staff." These recommendations will be considered in the studies described above.

On May 2, 1979, a loss-of-feedwater transient occurred at the Oyster Creek BWR, which resulted in the water level in the reactor vessel decreasing below allowable limits for a short period of time. This event is currently being reviewed to determine its potential occurrence at other facilities. We have made a preliminary evaluation of the possibility of a similar incident occurring at Millstone Unit 1. While our review of this incident is still in progress, we can state that the potential for such an incident to occur at Millstone Unit 1 is minimal, because of the difference in design of Oyster Creek and Millstone Unit 1. The jet pumps in Millstone Unit 1 alter the coolant flow paths within the reactor vessel so as to preclude the sequence of events which occurred at Oyster Creek. This incident is unique to BWRs therefore a similar incident could not occur at Millstone Unit 2 or Haddam Neck.

4. Knowledge of any problems we may anticipate with our nuclear power plants in the near and long-term future.

RESPONSE:

In response to your fourth specific request, a major thrust of our regulations, review guidance, and the review process itself, is to anticipate possible problems and to assure to the extent possible that plants are designed to prevent occurrence of these problems and/or to mitigate the consequences of these events if they were to occur. Two efforts directed toward identifying and resolving such problems are described below.

A Systematic Evaluation Program (SEP) of eleven older operating plants is in progress. The objectives of this program are to identify significant safety deficiencies, assess adequacy of safety margins, identify deviations from current licensing criteria on significant safety considerations, make balanced decisions relative to any required safety improvements and document the results of the reviews. This program and the schedule for its completion is discussed at length in the attached "Report on the Systematic Evaluation of Operating Facilities," dated November 25, 1977.



In response to Section 410 of the Energy Reorganization Act of 1974, we submitted to the Congress NUREG-0510, "Identification of Unresolved Safety Issues Relating to Nuclear Power Plants." A copy of this report is attached for your information. This report covers 17 unresolved safety issues which are being examined to ascertain whether our requirements should be modified for new and operating plants. Such issues are considered on a generic basis only after the staff has made an initial assessment for individual plants and has made a determination that the safety significance of the issues do not prohibit continued operation or require licensing action while the long-term generic review is underway.

Attachments:

1. Evaluation of Millstone Unit 2  
Response to IE Bulletin 79-06B
2. IE Bulletin 79-01
3. IE Bulletin 79-02
4. IE Bulletin 79-03
5. IE Bulletin 79-04
6. IE Bulletin 79-06C
7. IE Bulletin 79-07
8. IE Bulletin 79-09
9. IE Bulletin 79-10
10. IE Bulletin 79-11
11. IE Bulletin 79-12
12. IE Bulletin 79-13
13. IE Bulletin 79-14
14. IE Bulletin 79-15
15. IE Bulletin 79-16
16. IE Bulletin 79-17
17. NUREG-0560
18. Statement of Policy
19. Advance Notice of Rulemaking  
dtd 7/17/79
20. ACRS letter, 4/7/79
21. ACRS letter, 4/17/79
22. ACRS letter, 4/20/79
23. Report on the Systematic  
Evaluation of Operating  
Facilities, 11/25/77
24. NUREG-0510

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