

August 25, 1978

SECY-78-342A

COMMISSIONER ACTION

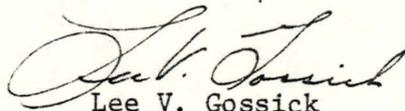
FOR: The Commissioners

FROM: Lee V. Gossick, Executive
Director for Operations

SUBJECT: PROPOSED REPLY TO MESSERS NADER AND ABBOTTS (RESPONSE TO
COMMISSIONER ACTION ITEM SECY-78-342)

PURPOSE: In response to your memorandum of August 3, 1978 providing the comments of Chairman Hendrie and Commissioner Bradford on SECY-78-342, the staff has modified the proposed reply to Messers Nader and Abbotts. Marginal markings have been placed in the right hand margin to indicate where changes have been made to the previously proposed letter.

RECOMMENDATION: That the Commission approve the letter to Messers Nader and Abbotts.



Lee V. Gossick
Executive Director for
Operations

Enclosure:
Dft Response to Messers Nader
and Abbotts

Commissioners' comments should be provided directly to the Office of the Secretary by c.o.b. Thursday, September 7, 1978.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT August 31, 1978, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

DISTRIBUTION

Commissioners
Commission Staff Offices
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Mr. Ralph Nader
Mr. John Abbotts
Public Interest Research Group
2000 P Street, N.W.
Suite 711
Washington D.C. 20036

Dear Messrs. Nader and Abbotts:

Your letter of June 5, 1978 requests (1) that the NRC prohibit licensing individual plants until each and every generic issue of significance to public health and safety relevant to the plant has been resolved, and (2) that the Commission become a force within the Administration recommending withdrawal of the proposed Nuclear Siting and Licensing Act of 1978. The basis for these requests set forth in your letter and the attached report prepared by Mr. Abbotts are a number of allegations regarding the NRC's handling of generic technical issues in the licensing process. A case study of one particular issue, the issue of providing adequate protection against postulated ruptures in high energy piping systems located outside of the containment building, was provided as an example to support your allegations.

We have reviewed your requests and the supporting information and cannot agree that licensing of individual plants should be prohibited until all generic issues are resolved or that the Commissioners' previous positions on the proposed Nuclear Siting and

Messrs. Nader and Abbotts

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Licensing Bill should be altered. The basis for this decision is provided in the Staff discussion of your allegations provided in Enclosure 1. The Commissioners' testimony before Congress on the Administration's Nuclear Siting and Licensing Bill is provided as Enclosure 2 (note that the Commission is divided in its support of some aspects of the Bill).

In addition, the attachment to your letter included some comments on the staff's Task Action Plan for Task A-16. I have received a letter from Dr. H. W. Wood, the Task Manager for Task A-16, that may be of interest to you. It is also enclosed as Enclosure 3.

Sincerely,

Joseph M. Hendrie
Chairman

- Enclosures: (Enclosures 2 & 3 are identical with those in SECY-78-342 & therefore not enclosed here.)
1. NRC Staff Discussion of Allegations by Messrs. R. Nader and J. Abbotts regarding NRC's Handling of Generic Technical Issues in the Licensing Process
 2. Commissioners' Testimony on Nuclear Siting and Licensing Bill
 3. Ltr to Chairman Hendrie from Dr. H. W. (Roy) Woods dated June 27, 1978

ENCLOSURE 1

NRC STAFF DISCUSSION OF ALLEGATIONS BY MR. RALPH NADER AND MR. JOHN ABBOTTS REGARDING NRC'S HANDLING OF GENERIC TECHNICAL ISSUES IN THE LICENSING PROCESS

The licensing approach to generic issues is as follows. The NRC continuously evaluates the safety requirements used in its reviews against new information as it becomes available. Information related to the safety of nuclear power plants comes from a variety of sources including experience from operating reactors, results from ongoing research, NRC staff and ACRS safety reviews, vendor, architect/engineer and utility design reviews and members of the public. Each time a new concern or safety issue is identified from one or more of these sources, the need for immediate action to assure continued safe plant operation of licensed facilities is assessed. This assessment includes consideration of the generic implications of the issue.

In assessing the need for action on licensed facilities, each new safety issue is viewed from the perspective of maintaining adequate safety margins through the overall philosophy of defense-in-depth. The safety significance of specific issues is assessed by determining how each issue fits into the overall framework of defense-in-depth and to what extent uncertainty about a particular issue might imply inadequate safety margins. The Commission relies on staff judgment in deciding when

safety margins have been reduced to the point that action is required. The Commission has requested the staff to articulate the criteria and bases upon which continued operation of nuclear power plants is judged to be acceptable when reductions in safety margins occur by reviewing its present practices and procedures for making such judgments. Public comments on this matter will be invited when the criteria and bases become available.

In some cases, immediate action is taken to assure adequate safety margins are maintained e.g., the derating of boiling water reactors as a result of the channel box wear problem in 1975. In other cases, interim measures, such as modifications to operating procedures or increased equipment surveillance, may be sufficient to allow further study of the issue prior to making licensing decisions. In most cases, however, the initial assessment indicates that immediate licensing actions ~~(or changes in licensing criteria)~~ are not necessary. This is because the Commission's standards and regulations as implemented through the licensing process ensure that large margins of safety are incorporated in the plant design. Nonetheless, further study may be deemed appropriate to make judgments as to whether existing NRC staff requirements should be modified to address the issue for new plants or if backfitting is appropriate for the long term operation of plants already under construction or in operation. In some cases, the further study may be a short term effort resulting in the relatively

rapid development of a generic solution for implementation on operating plants or in the licensing process. When longer term studies are appropriate, the issue is included in NRR's program for the resolution of generic issues and assigned to a priority category based on its judged importance. As indicated above, such issues are included in the NRC program only after the staff has made an initial assessment for individual plants and has made a determination that the safety significance of the issue permits continued operation or licensing actions while the longer term generic review is underway.

In January 1978, the Office of Nuclear Reactor Regulation (NRR) issued a report, NUREG-0410, that listed 133 generic issues and described the NRC generic issues program. This report was provided to Congress in response to the reporting requirements of Section 210 of the Energy Reorganization Act of 1974, as amended. Although Congress requested an "Unresolved Safety Issues Plan," the NRC program is considerably broader than the plan required by Section 210. It includes staff generic tasks for the resolution of environmental issues, for the development of improvements in guidance to applicants regarding existing staff requirements, for maintaining or improving the staff capabilities to perform independent audit calculations, for performing studies to confirm current staff requirements or to determine whether or not current staff requirements can be relaxed.

Of the 130 Category A, B and C generic tasks identified in NUREG-0410, only about 40 are for the purpose of determining whether or not staff safety requirements require upgrading. Of these 40, not all are applicable to each type of reactor design and some are applicable to older reactors only, i.e., newer plants have already eliminated the potential problem through design improvements. Thus the number of "generic safety issues" applicable to a particular plant that could potentially result, and certainly not all will, in modifications after construction or operation is not nearly so great as implied by Messrs. Nader and Abbotts.

The Task Action Plans for all Category A generic tasks have been approved by the Office of Nuclear Reactor Regulation's Technical Activities Steering Committee and effort has been initiated on most of the Category A tasks. NRR expects to issue Revision 2 to NUREG-0371 entitled, "Approved Task Action Plans, Category A Tasks", later this year. As part of Revision 2 to NUREG-0371 each Task Action Plan will be revised to include a discussion providing the basis for continued plant operation and licensing pending completion of the task.

An express purpose of establishing the priority categories utilized in the NRC generic issues program was to aid NRC management in assigning available resources to those generic tasks that are judged to be most important. The judgments regarding the assignment of issues to the various categories was a result of an extensive internal review process described in NUREG-0410. In accordance with these priority category assignments, Task Action Plans and schedules will be developed for the lower priority (Category B and C) tasks as resources become available. NRR expects to issue a new report, NUREG-0471, (~~in July~~) that will provide, among other things, a description of each of the Category B, C and D issues.

The entire generic issue process from issue identification and initial assessment of the safety of operating plants to final decisions on proposed changes to current requirements both assures that plant operation and licensing does not present an undue risk to the health and safety of the public and allows orderly, balanced and informed decision making. Although this process may for some particular issues be a long one, we believe that because of the complexity of many of the technical issues being considered such instances of extended time for resolution are to be expected and that the process overall fulfills the Commission's regulatory responsibilities.

With regard to the particular issue of protection against postulated ruptures in high energy line fluid systems located outside of containment, on October 25, 1972, an anonymous letter was sent to the ACRS that listed 13 items alleged to represent unresolved safety matters on both the Kewaunee and Prairie Island projects. One of these items dealt with the consequences of postulated ruptures in fluid systems located outside the containment. In particular, the letter expressed concern regarding the postulated rupture of a steam line and the consequences resulting from the release of steam on safety equipment necessary for safe shutdown of the reactor plant. This matter is the subject of General Design Criterion 4 of 10 CFR 50, Appendix A.

On December 13, 1972, the AEC issued a press release (P-429) indicating that it had made requests by letter to all utilities with operating nuclear plants and those under review for operating licenses to assess the effects of postulated breaks in the steam and feedwater systems outside the containment. This request was sent by A. Giambusso, Deputy Director of Reactor Projects and it included the criteria and requirements for evaluating existing designs for postulated high energy line breaks.

Subsequently, in early 1973, the staff met with licensees and applicants to make a reasonable estimate of the impact of modifications on plants to mitigate the consequences of such postulated piping ruptures. These actions dealt with corrective actions for plants in advanced stages of construction and operation. Analyses presented by licensees of operating facilities provided information concerning areas containing high energy lines, equipment such as instrumentation in close proximity of such lines, structural loading anticipated from pipe whip, and environmental conditions resulting from the postulated high energy line break. The licensees further proposed corrective measures to prevent or mitigate the consequences of the event. The proposed modifications varied in degree from installing barriers and pipe restraints to relocation of equipment or piping. As an interim measure, the staff required an augmented inservice inspection program in areas of high energy lines for those facilities which required extended time to complete the proposed modifications.

A review and evaluation of high energy line breaks outside of containment was incorporated in the licensing review for all facilities receiving operating licenses after 1972. The staff review of high energy line breaks outside of containment for all other facilities presently operating has been completed and a Safety Evaluation Report addressing high energy line breaks has been issued for these plants except for the Ginna plant. Although the Safety Evaluation Report for Ginna has not yet been issued, the staff review is essentially complete and a number of modifications have already been made at the plant.

On July 12, 1973, the staff issued another letter sent by J. F. O'Leary, Director of Licensing to applicants, reactor vendors, and architect/engineers on the subject of postulated piping failures outside containment. The purpose of the letter was to set forth clearer guidance to the industry for newer plants to consider rearrangement of piping layouts to cope with the potential consequences of high energy line failures outside the containment. Thus the O'Leary letter set forth an acceptable implementation of General Design Criterion 4 as applied to new plants with respect to the design of structures, systems, and components important to safety and located outside of containment.

In November 1975, the NRR staff published its Standard Review Plan. Sections 3.6.1 and 3.6.2 contain the review areas that deal with the plant design for protection against the effects of postulated failures in fluid system piping located outside the containment. These review plans are in use today for construction permit and operating license reviews and provide the documented basis for resolution of the related ACRS generic item (Item IIA-3 in the Committee's letter of February 24, 1977 providing its Status Report No. 5 on generic items).

Based on the discussion above, the staff has concluded that the technical issue of protection against high energy line ruptures outside of containment has been resolved and the resolution implemented (with the exception of finalizing the Ginna review and evaluation as noted above). To imply, as Messrs. Nader and Abbotts do, that resolution of this issue must be supported by evidence that no further changes to our safety requirements related to this issue will occur and no further studies related to piping integrity will be undertaken is simply not consistent with our responsibilities. Although the technical issue is resolved, the NRC staff must continuously monitor the effectiveness and the impact of its requirements and improve them where improvement is needed. In this regard, there are several staff activities ongoing at this time related to the high energy line break issue that could result in further refinement of current staff requirements. The first is the

current effort to update and clarify NRR's Standard Review Plan. We anticipate that minor modifications to Sections 3.6.1 and 3.6.2 will be made during this process.

Secondly, NRC's Office of Nuclear Regulatory Research has been requested to conduct a safety research program to develop data related to pipe break mechanisms, jet impingement loads, pipe whip effects and definition of the most probable mode of pipe rupture. The results of this research program will be used to determine if refinement of current criteria for postulating piping ruptures and evaluating their effects should be made. If refinements are made they are expected to be toward relaxation of current requirements by removing unnecessary conservatism.

Finally, the staff has initiated Task A-18. Task A-18 includes three subtasks. Subtask 1 involves combining the present staff pipe rupture design criteria for use inside and outside containment to provide a more consistent regulatory position. Subtask 2 involves refining and clarifying current criteria for use in the break exclusion region. (This Subtask includes in its entirety Task B-16). Subtask 3, as well as parts of the longer term research program discussed above, is directed at assuring that the design of safety systems provides the proper balance between the structural restraint necessary to absorb accident loads and the flexibility desirable for normal operation.

In summary, the staff has concluded that the question of protection against high energy line ruptures outside of containment has been resolved and that current requirements result in designs that adequately protect the health and safety of the public. In addition follow on activities related to the high energy line issue may result in some further refinements of the criteria. However, we believe that such activities are appropriate and responsive to the need to continually monitor and improve current requirements.

Based on the foregoing discussions of the NRC's handling of generic issues and the handling of the high energy line issue in particular, we recommend that Mr. Nader's and Mr. Abbott's requests not be granted.