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March 12, 1990

WRITER & DIRECT DIAL

Mr. Samuel J. Chilk Secretary U.S. Nuclear Regulatory Commission Washington, D.C. 20555

> Subj: Proposed Rule, Fracture Toughness Requirements For Protection Against Pressurized Thermal Shock Events, 54 Fed. Reg. 52,946 (Dec. 26, 1989)

Dear Mr. Chilk:

In accordance with the above-referenced Proposed Rule, the following comments are submitted on behalf of the Nuclear Utility Backfitting and Reform Group ("NUBARG").1/ Our comments are limited to a single issue: the application of the NRC's backfitting rule, 10 C.F.R. § 50.109, to the proposed changes to the Pressurized Thermal Shock ("PTS") rule.

Summary of Position

NUBARG generally agrees with the need to modify the PTS calculation method as discussed in the proposed rule. NUBARG does not believe, however, that the NRC should invoke the "adequate protection" exception to the backfitting rule. Many plants are so far away from the PTS screening criterion that it cannot fairly be said that the new PTS calculations are necessary for those plants to continue to provide adequate protection of the public health and safety. NUBARG further believes that the rule should contain flexibility to allow such plants to justify exemptions where redoing the PTS calculations would not appreciably alter the conclusion with respect to vulnerability of the reactor vessel to pressurized thermal shock. The rule should also allow flexibility in the schedule for the new PTS calculations, especially for those licensees who just performed PTS calculations in the last few years and are not approaching the screening criterion.

1/ NUBARG, which consists of the 25 nuclear utilities listed in the attachment hereto, actively participated in the development of the NRC backfitting rule and has followed its implementation closely.

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Discussion

On December 26, 1989, the NRC proposed amendments to its regulations to change the method for calculating the amount of radiation embrittlement that a reactor vessel receives. The current PTS rule (10 C.F.R. § 50.61) sets up a screening criterion that establishes a limiting level of embrittlement beyond which the plant cannot continue to operate without justification based on a plant-specific analysis. The proposed amendments would update the method for calculating the amount of embrittlement for comparison to the screening criterion. As a result, the amended rule would require licensees to recalculate the amount of embrittlement for their plants.

NUBARG generally agrees with the <u>reason</u> advanced by the NRC to update the PTS calculations. The stated reason for the proposed change to the PTS rule is that the NRC believes that it has significant new information about radiation embrittlement. In its <u>Federal Register</u> notice of the proposed amendments, the Commission stated that recent findings have shown that embrittlement is occurring faster than originally predicted by the PTS rule for <u>some</u> reactor vessel materials. The NRC has recognized that without the changes to the PTS rule, about half of the plants will be operating with a reduced margin of safety.2/ Accordingly, the NRC proposed to amend the PTS rule to incorporate new and more accurate correlations due to new plant surveillance data.

NUBARG also agrees with the NRC's determination that implementation of the proposed amendments is a backfit, since the amendments would modify the procedures required to operate a facility. 10 C.F.R. § 50.109(a)(1). Under the backfitting rule, where the Commission has determined that an amended provision of the NRC's rules constitutes a backfit, the Commission is required to perform a "systematic and documented analysis" to justify its requirement that licensees perform the backfit. 10 C.F.R. § 50.109(a)(2).

The Commission, however, in its analysis concerning the proposed rule, invoked the "adequate protection" exception to the backfitting rule, 10 C.F.R. § 50.109(a)(4)(ii). The Staff concluded that the backfit requirements contained in the proposed amendments "are necessary to ensure that the facility provides adequate protection to the public health and safety, and, therefore, that a backfit analysis is not required and the cost-

^{2/} The NRC's Regulatory Analysis for the proposed changes to the PTS rule states that "[0]f the 61 PWR's tabulated, RTpts would actually decrease in 33 cases if the PTS rule were amended."

benefit standards of 10 C.F.R. § 50.109(a)(3) do not apply." 54 Fed. Reg. at 52,948. As a result, the NRC did not perform a "systematic and documented analysis" to justify the imposition of the backfit on licensees.

For the following reasons, NUBARG believes that the use of the "adequate protection" exception to the backfitting rule is inappropriate. The NRC has acknowledged that certain plants are not in danger of reaching the screening criterion. Evidence indicates that new calculations may not be justified for certain classes of plants. In the Regulatory Analysis for Rev. 2 to Regulatory Guide 1.99, "Radiation Embrittlement of Reactor Vessel Materials," the NRC stated that "[I]f Revision 1 is retained as the basis for pressure-temperature limits, <u>about half of the plants will be operating with limits that provide a reduced</u> <u>margin of safety</u> against vessel fracture . . . " (Emphasis added.) As this statement implies, even without a change in the PTS calculations, about half of the plants <u>would not</u> be operating with reduced safety limits.

Accordingly, we do not believe that it is fair to conclude across the board that plants will present an undue risk unless the new calculations are performed. For those plants that are well below the screening criterion, this is demonstrably not so. Rather than making an across-the-board finding that the rule change is needed for "adequate protection," the better approach would be to perform a backfitting analysis, using existing information justifying the rule change. Our review of the existing information (e.g., "Regulatory Analysis For Proposed Amendment of the PTS Rule, 10 C.F.R. § 50.61"; Reg. Guide 1.99, Rev. 2, "Embrittlement of Reactor Vessel Materials," May 1988, and supporting Regulatory Analysis) indicates that the support for a backfitting analysis has already been assembled and that the analysis could be performed readily based on this information.3/

NUBARG further recommends that additional flexibility be built into the rule, especially for plants that do not present a The NRC's backfitting analysis should take into account, among other considerations, "the potential impact of differences in facility type, design or age on the relevancy and practicality of the proposed backfit." 10 C.F.R. § 50.109(c)(8). The backfitting analysis should therefore consider plant-specific differences in vulnerability to PTS based on facility design, age, etc. The analysis may be important in that it may show that new calculations are not justified for certain classes of plants -- or at least that exemptions to the new calculation requirement could be appropriate.

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significant PTS concern. For example, the NRC should incorporate as part of the rule, or at least as a part of the Statement of Considerations accompanying the rule, a mechanism by which licensees are permitted to perform a proliminary analysis to determine whether new PTS calculations are truly necessary for their plants. In this way, the revised rule could allow flexibility for plants that are well below the screening criterion to seek exemptions from the requirement to redo the PTS calculations. Some plants may be so far below the screening criterion that a change in calculations is not necessary for that plant to maintain adequate protection of the health and safety of the public. The costs of recalculation for these plants could far outweigh the benefits provided by new calculations. For such plants, the NRC should recognize that they have an opportunity to seek exemptions from the new rule under 10 C.F.R. § 50.12.4/

In addition, the rule should allow flexibility in the scheduling for the new PTS calculations. Under the proposed revisions to the rule, licensees will be required to submit their new PTS calculations within six months after the effective date of the rule. 54 Fed. Reg. at 52,948. Such a short schedule is not necessary or appropriate for those licensees who have recently (within the past few years) performed PTS calculations which showed the reactor vessel to be well within the PTS screening criterion. For such plants, the rule should allow the licensee to be able to agree with its NRC project manager on an appropriate schedule for submittal of new PTS calculations.5/

- 4/ The rule, as proposed, however, may make it more difficult for these licensees to request justifiable exemptions from the PTS rule. By concluding that the rule change is necessary to provide the minimum level of "adequate protection" required by the Atomic Energy Act, it may be more difficult for the NRC to make the requisite findings under 10 C.F.R. § 50.12 to grant an exemption. To grant an exemption under 10 C.F.R. § 50.12, the NRC must find that the exemption will not result in "undue risk" to public health and safety -- that is to say that "adequate protection" will be maintained. The NRC should therefore be careful in adopting the proposed rule not to suggest that exemptions cannot be justified.
- 5/ In this regard, the rule should allow the schedule to be worked out with the project managers on a basis that is consistent with the schedule for capsule removal and analysis.

Conclusion

NUBARG generally agrees with the proposed rule, but believes that the NRC should not invoke the "adequate protection" exception of the backfitting rule. Further, the rule should allow for additional flexibility for plants well below the PTS screening criterion to seek exemptions from the requirement to redo the PTS calculations or at least to work out a more reasonable schedule for submittal of the new calculations.

Sincere

Nicholas S. Reynolds Daniel F. Stenger Counsel to Nuclear Utility Backfitting and Reform Group

Attachment

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NUBARG Members

Arkansas Power & Light Company Baltimore Gas & Electric Company Cleveland Electric Illuminating Company Commonwealth Edison Company Consolidated Edison Company of New York, Inc. Duke Power Company Florida Power & Light Company Florida Power Corporation Nebraska Public Power District New York Power Authority Niagara Mohawk Power Corporation Northeast Utilities Pennsylvania Power & Light Company Philadelphia Electric Company Portland General Electric Company Rochester Gas and Electric Corporation System Energy Resources, Inc. TU Electric Toledo Edison Company Washington Public Power Supply System Yankee Atomic Electric Company (representing also Public Service Company of New Hampshire, New Hampshire Yankee Division, Maine Yankee Atomic Power Company, and Vermont Nuclear Power

Corporation).

5