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FREDERICK H. WINSTON (1853-1886)
SILAS H. STRAWN (1891-1946)

1400 L STREET, N.W.
WASHINGTON, D.C. 20005-3502

(202) 371-5700

FACSIMILE (202) 371-5950

5

CHICAGO OFFICE
35 WEST WACKER DRIVE
CHICAGO, ILLINOIS 60601
(312) 558-5600

NEW YORK OFFICE
125 WATER STREET
NEW YORK, NY 10038-4981
(212) 289-2500

April 25, 1994



Mr. Samuel J. Chilk
Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Re: Proposed Rule on "Codes and Standards for Nuclear
Power Plants; Subsection IWE and Subsection IWL,"
59 Fed. Reg. 979 (1994)

Dear Mr. Chilk:

On January 7, 1994, the Nuclear Regulatory Commission ("NRC") published for comment a proposed rule titled "Codes and Standards for Nuclear Power Plants; Subsection IWE and Subsection IWL." 59 Fed. Reg. 979 (1994). The proposed rule would incorporate by reference two new sections of American Society of Mechanical Engineers Boiler and Pressure Vessel Code ("ASME Code") Section XI (Subsections IWE and IWL) into the existing requirements of 10 C.F.R. § 50.55a, "Codes and Standards," and would require licensees to expedite implementation of the containment examinations.

On behalf of the Nuclear Utility Backfitting and Reform Group ("NUBARG"),^{1/} we appreciate the opportunity to provide our views on this important rulemaking. We support the positions taken by the Nuclear Energy Institute ("NEI") and have limited our comments to concentrate on the backfitting aspects of the rule. Specifically, our comments focus on the NRC's conclusion that a backfitting analysis need not be prepared for this rule based on the "compliance exception" of 10 C.F.R. § 50.109(a)(4)(i). 59 Fed. Reg. at 982.

^{1/} NUBARG consists of the nuclear utilities listed in the Attachment hereto, each of which owns or operates a power reactor licensed by the NRC. NUBARG actively participated in the development of the NRC's backfitting rule and has closely monitored its implementation.

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In summary, NUBARG believes that the application of the compliance exception to this rulemaking is inappropriate and that the NRC must perform the required backfitting analysis. The proposed rule would have a major impact on licensees, both in terms of the resource burden and personnel exposure from the extensive and highly prescriptive new inspection requirements. In NUBARG's view, the proposed rule redefines what methods are necessary to demonstrate compliance with existing regulatory requirements governing containment inspection and testing. Therefore, the proposed rule constitutes a backfit for which a cost-benefit analysis should be performed.

I. Discussion

A. A Backfitting Analysis Should Be Performed For The Proposed Rule

Backfitting is defined by 10 C.F.R. § 50.109(a)(1) to include "a new or amended provision in the Commission rules. . . ." The compliance exception states that a backfitting analysis is not required where the Commission finds that a modification "is necessary to bring a facility into compliance with a license or the rules or orders of the Commission, or into conformance with written commitments by the licensee." 10 C.F.R. § 50.109(a)(4)(i).

The Statement of Considerations to the 1985 final backfit rule explains that:

The compliance exception is intended to address situations in which the licensee has failed to meet known and established standards of the Commission because of omission or mistake of fact. It should be noted that new or modified interpretations of what constitutes compliance would not fall within the exception and would require a backfit analysis and application of the [cost-benefit] standard.

50 Fed. Reg. 38079, 38103 (1985).

The proposed rule would add extremely detailed (and in some respects duplicative) new containment and tendon examinations into current inservice inspection ("ISI") requirements. Specifically, the proposed rule would incorporate by reference two new sections of ASME Code Section XI (Subsections IWE and IWL) into the existing requirements of 10 C.F.R. § 50.55a, "Codes and

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Standards," and require licensees to expedite implementation of the containment examinations. The Statement of Considerations accompanying the proposed rule notes that the proposed regulation would impose "more detailed requirements" for "enhanced ISI examinations . . . to supplement existing regulations." 59 Fed. Reg. at 979 (emphasis added). The NRC seems to recognize, therefore, that the proposed rule would impose a backfit on licensees by adding a new regulatory burden to the existing rules governing containment and tendon inspections.

Accordingly, the NRC should address the new requirements in a straightforward manner as a backfit by performing the requisite cost-benefit analysis. It would be inherently inconsistent for the NRC to adopt a new rule to compel compliance with existing rules. If existing rules already mandate the actions contemplated in the proposed rule, compliance can be compelled without a new rulemaking. At a minimum, the proposed rule reflects a redefinition of how to demonstrate compliance with existing standards -- a new interpretation of existing rules -- which constitutes a backfit under the definition in Section 50.109(a)(1).

B. Use of the Compliance Exception is Inappropriate

In our view, the compliance exception may be appropriate where the NRC can show that: (1) licensees generally are not maintaining compliance with an explicit regulatory requirement, or (2) there is a broad-based concern with the operability of containment structures throughout the industry. We address these two points in turn.

The Statement of Considerations accompanying the proposed rule refers to three general regulatory provisions governing containment design, testing, and inspections, namely 10 C.F.R. Part 50, Appendix A, General Design Criteria 16 and 53, and Part 50, Appendix J. However, the NRC does not suggest that licensees in general are in violation of these provisions. In fact, the Staff emphasized in SECY-93-328 that the proposed rule does not mean that "licensees who have not yet adopted the provisions of Subsection IWE and Subsection IWL are in non-compliance now or until they do implement these provisions." SECY-93-328, at 4. The Statement of Considerations does not cite instances where relevant NRC enforcement action was taken against licensees. Therefore, the NRC's reliance on the compliance exception cannot be based on any widespread failure of licensees to comply with the current rules governing containment design, testing, or inspections.

A second possible justification for the NRC's application of the compliance exception would arise if there is a broad-based concern with the continued operability of containment structures. Under General Design Criterion 16, licensees must establish an essentially leak-tight barrier against the uncontrolled release of radioactivity into the environment. Based on this requirement, containments were designed and constructed with an allowance for some corrosion or degradation over the projected life of the plant. It is therefore not surprising that, as noted in the Statement of Considerations, "[o]ver one-third of the operating containments have experienced corrosion or other degradation." 59 Fed. Reg. at 979.

The appropriate issue for the purpose of the compliance exception to the backfitting rule is whether the existing containment structures are suffering from unanticipated and excessive corrosion and degradation such that their pressure-retaining and leak-tight capability might be compromised. However, as noted in NEI's comments, this type of industry-wide concern has not been shown to exist. Apart from specific issues (e.g., corrosion in the sand cushion region of some BWRs), there do not appear to be significant instances where structural deterioration has so affected a containment's integrity or leak-tightness that the containment structure may not have been able to adequately perform its safety function. Accordingly, NUBARG believes that it is inappropriate to apply the compliance exception to this proposed rulemaking.

C. The Current Regulatory Regime Is Adequate To Identify And Remedy Problems Associated With Containment Degradation And Corrosion

Even assuming that compliance concerns exist, a new highly prescriptive rulemaking is unnecessary if the current regulatory regime is adequate to resolve these concerns. The NRC states in the Statement of Considerations that "[a]lmost one-half of these occurrences were found by the NRC through its inspections or audits of plant structures, or by licensees because they were alerted to a degraded condition at another site." 59 Fed. Reg. at 979-80. A close examination reveals that the existing regulatory framework has proven quite effective for identifying and remedying problems related to containment degradation and corrosion.

First, it is important to note the layers of protection already provided by the existing regulatory regime. The regulations require, for example, visual examinations prior to containment leak rate testing, integrated leak rate testing, visual

surveillance tests of the drywell, continuous monitoring for potential leak paths, and augmented visual and ultrasonic thickness examinations where degradation has been identified by the licensee or based on industry experience at other plants. NRC oversight of licensee compliance also serves an important function by facilitating the dissemination of information regarding containment degradation and corrosion (e.g., Information Notices 86-99, 88-82, and 89-79, and Generic Letter 87-05). We also observe that the NRC already has the authority to take additional steps through the issuance of orders and/or enforcement actions to ensure compliance with the containment integrity requirements.

Because of this existing network of safeguards, the vast majority of issues related to containment degradation and corrosion are identified and resolved by licensees. Table 3 of SECY-93-328 indicates that the NRC identified containment problems before plant personnel in four instances (Oyster Creek, Nine Mile Point 1, Three Mile Island 1, and Trojan) out of the twenty-seven cases cited. Moreover, as noted in NEI's comments, the NRC has already taken steps to address these isolated occurrences. In particular, the two instances involving greater corrosion than the others, namely Oyster Creek and Nine Mile Point 1, involved unique scenarios and appropriate corrective actions have already been implemented. Moreover, we understand that a generic model containment inspection program has been developed to address the degradation mechanism in question.

D. The Analysis Of The Proposed Rule As A Cost-Justified Safety Enhancement Contains Significant Weaknesses

Enclosure 6 of SECY-93-328 included an analysis purporting to show that the proposed rule would result in a substantial increase in safety and that the direct and indirect costs of implementation are justified in view of this increased protection. The NRC did not rely upon this safety enhancement rationale in the proposed rule. Nevertheless, for the NRC's benefit, NUBARG offers the following observations on the analysis.

SECY-93-328 includes a discussion of the costs of the proposed backfit, as required under 10 C.F.R. § 50.109(a)(3). However, the safety enhancement analysis fails to quantify the anticipated safety benefits. Instead, the Staff notes in conclusion that its assessment is consistent with the Staff Requirements Memorandum on SECY-93-086, "Backfit Considerations," which states that the substantial increase criterion is flexible enough to allow for qualitative arguments.

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But the analysis does not address, either quantitatively or qualitatively, the extent that the proposed rule may lower containment failure probabilities or result in person-rem savings. Moreover, NEI questions in its comments whether the proposed examinations will actually increase the confidence level in containment integrity because Subsections IWE and IWL do not address the most credible failure mechanisms (e.g., the failure of drywell bellows in BWR Mark I containments, which is most effectively detected through Appendix J testing).

The uncertainty surrounding the anticipated safety benefits of the proposed rule is particularly significant in light of the foreseeable costs. The NRC's safety enhancement analysis estimates that each licensee will be required to spend over one million dollars per plant during the first ten year interval. Information that we received from licensees indicates that the Staff's estimates of the resources required to develop the revised ISI plans and implement the periodic inspections are conservative. Furthermore, the NRC's estimate does not consider the costs associated with exemption requests which would be inevitable because of the different types of containment designs and environmental conditions that exist at each facility.^{2/} The NRC also did not appear to consider the very significant impact of accelerating the examinations to within a five year period or the costs of any supplemental augmented inspections resulting from the rule.

The NRC's safety enhancement analysis also minimized the impact of differences in facility type and design on the need for the proposed new regulation as required under Section 50.109(c). NUBARG believes that such an assessment would lead to the conclusion that the most significant cases of degradation have been the result of unique factors (e.g., clogged drain lines in sandbed region, lack of coating on inside surface of torus shell) and do

^{2/} The Staff recently took steps to address the high number of requests for exemption from the requirements of Appendix J. The Staff noted that "[o]ne of the most troublesome aspects of the present Appendix J is the number of exemptions that the staff must process because of the detailed requirements in the regulation. This consumes considerable staff and licensee resources." SECY-94-036, "Staff Plans For Revising 10 C.F.R. Part 50, Appendix J, 'Containment Leakage Testing,' And For Handling Exemption Requests," at 3. As noted by NEI, the highly prescriptive approach adopted in the proposed rule contrasts with the NRC's current efforts to adopt more performance based regulations in this area.

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not indicate a generic, industry-wide problem justifying the proposed rule.

E. An Environmental Impact Statement Should be Prepared Before Implementing the Proposed Rule

The NRC determined that, if adopted, the proposed rule would not be a major federal action significantly affecting the quality of the human environment and, consequently, that an environmental impact statement ("EIS") is not required. 59 Fed. Reg. at 982. However, the NRC's Environmental Assessment and Finding of No Significant Environmental Impact ("FONSEI") fails to provide an analysis of worker radiation exposure. See SECY-93-328, at Enclosure 3. In NUBARG's view, this omission renders the NRC's determination inadequate. The NRC must meaningfully consider whether an EIS is needed in light of the person-rem occupational exposure that may result from implementation of the proposed rule as required under 10 C.F.R. § 51.22(b)(9).^{3/}

The NRC's Environmental Assessment and FONSEI states, without analysis, that "there should be no significant increase in individual or cumulative occupational radiation exposure." SECY-93-328, Enclosure 3, at 4. Although the NRC provided no further discussion of this issue in its Environmental Assessment and FONSEI, the Staff's safety enhancement justification briefly addresses the occupational exposure which may result from implementation of the proposed rule. SECY-93-328, Enclosure 6, at 9. In this document, the Staff explains that its conclusion that the proposed rule would not result in significant occupational exposure is based on a containment liner examination at the Monticello plant, which resulted in a 20 millirems exposure.

The NRC does not articulate its rationale for extrapolating the person-rem exposure industry-wide from a single containment liner examination at the Monticello plant. In light of the unique reactor design and environment at each facility, the person-rem exposure that would result from implementation of the proposed rule may vary plant by plant. Indeed, information that we have received from licensees indicates that implementation of the proposed rule could result in occupational exposure industry-wide on the order of 5,000 person-rem during a ten year interval.

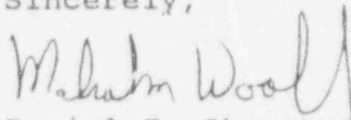
^{3/} Occupational exposure is also an important factor to consider in the backfitting analysis under Section 50.109(c).

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NUBARG recognizes that the level of worker exposure from implementation of the proposed rule is uncertain. In the face of this uncertainty, however, an EIS is needed. The NRC confronted a similar situation in Virginia Electric Power Co. (Surry Nuclear Power Station Units 1 and 2), 11 NRC 405 (1980). The case involved a comparison of the impact of the radiation exposure resulting from the proposed steam generator repairs (estimated at 2070 person-rems per unit) with the net savings in total occupational exposure resulting from operation using repaired steam generators instead of defective ones. The NRC stressed that, "even if on balance the result of the federal action is beneficial, the proper criterion on which to base the decision whether to prepare an EIS is the significance of the action." 11 NRC at 406. The Commission concluded that an EIS was needed because the NRC was unable to determine whether the occupational radiation exposure involved was significant. Id. Similarly, because the occupational exposure which may result from implementation of the proposed rule may be significant, the NRC should prepare an EIS before adopting the proposed regulation.

NUBARG appreciates the opportunity to comment on the proposed rule. As requested in the Federal Register, a copy of this letter is provided in an electronic format on the attached 5.25 inch diskette for your convenience.

Sincerely,


Daniel F. Stenger
Malcolm D. Woolf

Counsel to the Nuclear Utility
Backfitting and Reform Group

Attachment

NUBARG Members

Baltimore Gas & Electric Company

Carolina Power & Light Company

Centerior Energy Corporation
(representing Cleveland Electric
Illuminating Company and Toledo
Edison Company)

Commonwealth Edison Company

Entergy Operations, Inc
(representing Arkansas Power & Light,
System Energy Resources, Inc., and
Louisiana Power & Light)

Florida Power & Light Company

Florida Power Corporation

New York Power Authority

Niagara Mohawk Power Corporation

Northeast Utilities

Pennsylvania Power & Light Company

PECO Energy Company

Rochester Gas & Electric Corporation

Texas Utilities

Washington Public Power Supply System