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Annette L. Vietti-Cook
Secretary of the Commission
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Ms. Vietti-Cook,

The Nuclear Utility Backfitting and Reform Group ("NUBARG")[1] provides comments on the NRC Staff's re-evaluation of power reactor physical protection regulations and position on a definition of radiological sabotage, as requested in the *Federal Register* on June 9, 2000.[2] In summary, NUBARG agrees that a re-evaluation of the physical protection regulations is appropriate at this time. However, NUBARG is concerned with the NRC's justification for proposing to modify its policy and plans for rulemaking. Particularly, NUBARG disagrees with the NRC Staff's approach to justify changes to the security regulations as "compliance backfits," or to use qualitative elements to demonstrate a "substantial increase" in safety. Additionally, NUBARG fails to find any basis in the regulations that would justify the NRC granting itself an exemption to the backfitting rule (10 C.F.R. § 50.109) according to provisions in 10 C.F.R. § 50.12.

BACKGROUND

The Staff initiated a re-evaluation of its position on physical protection as part of its rulemaking plan for amending 10 C.F.R § 73.55 regarding physical security requirements and testing the ability of power reactor licensees' to respond to safeguards contingency events (*see* SECY-99-241, October 5, 1999). The NRC-stated purpose of the position paper (published for

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1 NUBARG is a consortium of nuclear utilities, operating a substantial number of U.S. nuclear power reactors. NUBARG was formed in the early 1980s and actively participated in the development of the NRC's backfitting rule in 1985. NUBARG has subsequently monitored the NRC's implementation of the backfitting rule and regulatory reform efforts.

2 65 Fed. Reg. 36,649 (2000).

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comment) was "to define precisely what kinds of sabotage-induced events a licensee is expected to protect against."[3] The Staff's actions were intended to implement Option 3 of SECY-99-241, which the Commission approved in its Staff Requirements Memorandum ("SRM") for SECY-99-241.[4] In the SRM, the Commission directed the Staff to prepare position papers for Commission consideration concerning the attributes of the design basis threat and the definition of radiological sabotage. Additionally, the Commission directed the Staff to implement a pilot program for drills and evaluations, paying particular attention to the degree that risk insights can be used to develop target sets, to provide flexibility in the rule, and to consider how to credit operator actions during an attempt at radiological sabotage. The position paper does not address these additional actions.

SECY-99-241 discussed the impact on licensees and the potential benefits of the preferred option (*i.e.*, Option 3). Licensee resources are estimated to be between $50,000 and $75,000 a year for each site to develop target sets and scenarios, and to evaluate these scenarios with periodic participation by security force members. The NRC also noted that resources may be reduced upon development of the target sets and scenarios. In addition, the Staff believes the reduction in regulatory requirements associated with 10 C.F.R. § 73.55 may offset some expenditures. The Staff postulates that changes in the regulations would provide the following benefits:

- Enable the NRC to more effectively measure a licensee's capabilities to protect against an external assault by the design basis threat of radiological sabotage.
- Provide a performance-oriented view toward compliance by scheduled evaluations of the performance of the security force response.
- Provide a more defined and better documented physical security program, implemented and managed by the individual sites.

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3 *Id.* at 36,650.

4 Annette Vietti-Cook to William D. Travers, "Staff Requirements - SECY-99-241 - Rulemaking Plan, Physical Security Requirements for Exercising Power Reactor Licensees' Capability to Respond to Safeguards Contingency Events," November 22, 1999. Option 3 was to "[b]egin a comprehensive review of 10 CFR 73.55, including exercise requirements, and associated security regulations. Initial emphasis would be on resolving issues associated with exercises, such as the meaning of radiological sabotage and the role of an insider."

The Staff also discussed the backfitting implications of the rulemaking in SECY-99-241, indicating its intent to justify the proposed rule through a three-pronged approach:[5]

- Apply the compliance exception provisions in the backfitting rule (10 C.F.R. § 50.109(a)(4)(ii));
- Perform a backfit analysis that relies on qualitative factors for demonstrating a "substantial increase in safety;" and
- Discuss why the proposed rule is a worthwhile improvement, with a request for comment on whether the proposed rule should be adopted as an "exception" (*i.e.*, exemption) to the backfit rule.

NRC STAFF PROPOSAL

The Staff proposed an approach for its re-evaluation of the physical protection regulations and a definition of radiological sabotage by providing design criteria as the basis for physical protection regulations. According to the NRC, the performance criteria are proposed in lieu of providing a definition of radiological sabotage, and are intended to add a risk-informed element to the review of 10 C.F.R. § 73.55, including the exercise requirement. The NRC also states that proposed performance criteria are meant to ensure that a plant retains the capability to shutdown the reactor safely and assure long-term heat removal in the face of a malevolent act by the design basis threat against the facility. Among the criteria proposed by the Staff are the following:

- reactivity control;
- reactor coolant makeup for maintaining reactor and spent fuel pool inventory;
- reactor and spent fuel pool heat removal;
- containment of radioactive materials;
- process monitoring necessary to perform and control the above functions; and
- action necessary to support the operation of the equipment used for safe shutdown.

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5 The Staff references a Staff Requirements Memorandum from Samuel J. Chilk to James M. Taylor and William C. Parler, "SECY-93-086, Backfit Considerations," June 30, 1993, for reliance on qualitative factors and for taking "exception" to the backfit rule. The guidance in this SRM has been incorporated into the Committee to Review Generic Requirements ("CRGR") revised Charter issued to licensees April 19, 1996.

The Staff determined that a definition of radiological sabotage at power reactors in the new rule may not be necessary if the regulation delineates more clearly the performance criteria to be used as the basis for the new physical protection regulations. It also acknowledged that the proposed performance criteria represent a new concept in formulating security programs and align security with other areas of regulation involving plant operations, as well as provide insights into how the remainder of 10 C.F.R. § 73.55 might be revised.

According to the position paper, in the interim period (before the final rule is issued in 2003), the NRC will continue to conduct Operational Safeguards Response Evaluation ("OSRE") inspections or endorse an industry proposal for a self-assessment program. The industry program will be used, on a trial basis, to pilot the performance criteria envisioned in the revised physical protection regulations.

NUBARG COMMENTS ON THE NRC STAFF PROPOSAL

Backfitting Concerns

NUBARG agrees that the proper method of implementing NRC authority in the evaluation of physical protection programs and exercise requirements is through the adoption of regulations. The rulemaking process, when followed strictly, ensures compliance with the provisions of the backfitting rule, 10 C.F.R. § 50.109. However, NUBARG is concerned that the Staff may be circumventing the backfitting rule by imposing additional requirements that have not been adequately justified as providing a "substantial increase" in overall protection of the public health and safety. The three-pronged approach proposed by the Staff appears to be an attempt to justify the rulemaking *in spite of the backfit rule*.

With regard to this three-pronged approach, the legal analysis provided by the Office of General Counsel ("OGC") in SECY-99-241 concludes that "it may not be prudent to rely solely upon the compliance exception" to the backfitting rule, considering that licensees' security programs established to meet the requirements of 10 C.F.R. § 73.55 have been *approved by the NRC* (SECY-99-241). We believe that this is an understatement of the legal limitations regarding the NRC's ability to change its policy without satisfying the backfitting rule. More specifically, we are unable to ascertain an adequate basis for invoking the compliance exception to the backfitting rule. The approved security plans are, by definition, sufficient to protect against a design basis threat. Further, given the robustness of physical security measures at power reactor sites, the risk from security events already is extremely low, making it doubtful that additional exercise requirements can be justified in a risk-informed regulatory environment.

The NRC Staff proposes to apply "qualitative" elements to demonstrate a "substantial increase" in safety. The first element of such an approach is to establish what would constitute a "substantial increase" in safety in the area of physical security, particularly in light of the substantial level of security protection already afforded at nuclear power plants. Further,

while the CRGR Charter[6] provides guidance on qualitative factors, the backfit analysis should include *quantitative* factors to the extent that they are available. For example, the Staff should take into consideration its estimate of licensees' expenditures necessary to implement the new requirements. Indeed, the CRGR Charter states that "[g]enerally, the staff should quantify the benefits of a proposed backfit to the extent feasible. With regard to cases where the safety benefits of a backfit cannot be quantified, or can only be partially quantified, a flexible approach is warranted."[7] Accordingly, if *quantitative* data are available, *qualitative* factors should not be used to justify a backfit.

Finally, the NRC Staff proposes justifying the rulemaking on the premise that the changes are worthwhile and should be adopted primarily for non-safety reasons (*i.e.*, taking exception to the backfitting rule itself). Under this regulatory scheme, the NRC would grant itself an exemption, in accordance with 10 C.F.R. § 50.12, "Specific Exemptions," to the requirements of 10 C.F.R. § 50.109. The "Backfit Analysis" in SECY 99-241 references a June 30, 1993, SRM for SECY-93-086, which states that "it is the judgement of the General Counsel that using 10 CFR 50.12 to promulgate such exceptions is not a sound regulatory approach."[8] In fact, the Commission voted against the Staff's proposal in SECY-93-086:

> [In SECY-93-086, the Staff requested approval to] clearly put the Commission on record that it intends to use its authority pursuant to 10 CFR 50.12(a) to promulgate rules which, as a matter of policy are in the public interest, notwithstanding the provisions of 10 CFR 50.109. . . . OGC disagrees with [the proposed option and] does not believe that [the proposed option] will be workable, since practice to date suggests that rules which are candidates for exemptions will be difficult to distinguish from other rules to which the backfit rule will still apply, and yet such distinctions will be necessary to avoid the exercise of exemption power from appearing arbitrary.[9]

NUBARG believes that any additional requirements imposed upon licensees as a result of amendments to 10 C.F.R. § 73.55 must be justified in accordance with the provisions of 10 C.F.R. § 50.109, and that exempting such amendments from the provisions of 10 C.F.R. § 50.109 simply because the new requirements cannot be otherwise justified is not an appropriate

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6 William D. Travers to the Commission, "Notification of the Revised Charter of the Committee to Review Generic Requirements (CRGR)," November 8, 1999.

7 *Id.* at Appendix D.

8 Samuel J. Chilk, *supra* note 5.

9 James M. Taylor to the Commissioners, SECY-93-086, "Backfit Considerations," April 1, 1993.

use of 10 C.F.R. § 50.12. The intent underlying Section 50.12 is to provide a means to grant exemptions to licensees when circumstances clearly warrant not meeting a particular regulation (*see* 50 Fed. Reg. 50,764 (1985)). NUBARG has identified nothing in the regulatory history indicating that the NRC intended that Section 50.12 could be used to grant itself exemptions from its own regulations.[10] The Administrative Procedure Act governs this type of agency action.

Definition of "Radiological Sabotage"

NUBARG suggests that the industry already understands what is meant by "radiological sabotage" without a specific regulatory definition and without establishing new regulatory performance criteria. In fact, the proposed performance criteria are inconsistent with existing NRC guidance regarding "radiological sabotage." Specifically, NUREG-1178, "Vital Equipment/Area Guidelines Study," defines "successful radiological sabotage" as sabotage resulting in doses in excess of those defined in 10 C.F.R. Part 100. NUREG-1178 appropriately includes protection against "radiological sabotage" in the same category as protection against other major accidents, in ensuring adequate protection of public health and safety. This demonstrates, appropriately, that the requirements for physical security are similar to other design and licensing basis features in Part 50.

As directed in the SRM for SECY-99-241, the Staff should determine how to credit operator actions during an attempt at radiological sabotage. Credit for operator actions in areas other than security already is a mature issue and well understood by licensees.

Interim Actions

The Staff proposes to continue OSRE inspections until the industry, as coordinated by the Nuclear Energy Institute, completes development of a self-assessment program that the NRC could endorse and that could be used as a pilot program for evaluating the proposed performance criteria. Licensees have expressed concern with the potential backfitting implications of the OSREs, as a result of several factors. There generally is a lack of clear objective standards to assess the adequacy of a licensee's contingency response. For example, the regulations do not define the specific skill level and capabilities of the adversaries. As for the performance of the response force, the regulations require that the responders "interpose themselves" between any adversary and vital areas and material access areas, 10 C.F.R. § 73.55(h)(4), but do not provide any other specific criteria to judge the timeliness and effectiveness of response during the OSRE force-on-force exercises. The absence of specific objective criteria creates the potential for subjective assessments by the OSRE team and backfitting if needed discipline is not maintained. NUBARG understands that there have been

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10 In addition, the 1993 SECY paper (*supra* note 5), which was referenced as justifying such a use, notes that the "Commission has not yet chosen to exempt itself from the Backfit Rule on a case specific basis." SECY-93-086, at 7.

instances where the NRC has taken enforcement action for "requirements" that evolved during an OSRE exercise that, heretofore, had not been published as regulatory positions.

Furthermore, the preparation for the OSRE and the exercise itself go beyond the design basis threat. For example, in accordance with 10 C.F.R. §§ 73.1(a)(1)(i)(B) and 73.1(a)(1)((ii), licensees are required to design for an attack with the assistance of "a knowledgeable individual" or "an insider" -- *i.e.*, a single individual. In contrast, before an OSRE exercise, the OSRE team usually requests a tabletop meeting with several members of plant security and operations staff so that the team can learn as much as possible about the plant security plan and licensee response strategies. This knowledge level would appear to exceed the design basis threat.

For these reasons, NUBARG recommends that the NRC discontinue the OSRE inspections in the interim period, pending issuance of the final rule. Inspections of physical protection programs should focus on whether licensees meet the requirements of the NRC-approved physical protection plans. NUBARG also recommends that any pilot program that implements a transition plan to a new rule be limited to trial elements, agreed to by the NRC and the industry, and established in writing, and that no enforcement actions be taken with respect to any such pilot program trial elements. The pilot program would compare to an industry initiative, which is not subject to enforcement unless imposed on licensees by regulation.

Other Considerations

In further implementing the rulemaking plan, NUBARG requests that the Staff consider an important aspect of the regulations regarding physical protection requirements. In formulating the new regulatory requirements, the Staff should consider the NRC's regulations in 10 C.F.R. § 50.13(a) governing design and protective features. Section 50.13(a) specifies that a licensee "is not required to provide for design features or other measures for the specific purpose of protection against the effects of attacks and destructive acts, including sabotage, directed against the facility by an enemy of the United States. . . ." This regulation is based on "the recognition that reactor design features to protect against the full range of the modern arsenal of weapons are simply not practicable and that the defense and internal security capabilities of this country constitute, of necessity, the basic 'safeguards' as respects possible hostile acts by an enemy of the United States." 32 Fed. Reg. 13,445 (1967). Thus, protection against such attacks is considered to be the responsibility of the United States armed forces and law enforcement personnel.

The types of attacks postulated in the OSRE exercises have progressed to approximate an attack by an "enemy of the United States" in that they only could be credibly carried out by the defense or intelligence apparatus of another country or a government-sponsored terrorist organization. NUBARG recommends defining an "enemy of the United States" in terms of a saboteur who has special military weapons and expertise, and that this apparent conflict between 10 C.F.R. § 50.13 and the OSRE exercise expectations not be carried

over into the new regulations for conducting drills and exercises. The NRC should provide clarity in this area so that the characteristics of the adversarial force involved in a design basis threat would be better understood by both the industry and the NRC.

If you have any questions regarding these comments, please contact us.

Sincerely,

Patricia L. Campbell

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Counsel to NUBARG