

November 25, 1998

Dr. Carl A. Paperiello, Director
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

REFERENCE: New Programmatic Criteria in NUREG-1520 (Standard Review Plan)

Dear Dr. Paperiello:

At the September 29, 1998 *NRC-Nuclear Industry Workshop on Part 70 Regulation* the Nuclear Energy Institute (NEI)¹ agreed to cite specific examples of new programmatic criteria which have been included in the proposed NUREG-1520. NEI believes these new criteria in the Standard Review Plan (SRP) are not required by the rule itself and are also not needed to create a risk-informed performance-based regulatory program for Part 70 licensees. Ten areas of principal concern in the SRP have been identified:

- (1) Quality Assurance Criteria
- (2) Training and Qualifications
- (3) Fire Safety
- (4) Decommissioning
- (5) Human-Systems Interfaces
- (6) Organization and Administration
- (7) Emergency Management
- (8) Configuration Management
- (9) Maintenance
- (10) Nuclear Criticality Safety

NEI is concerned that new prescriptive, programmatic criteria introduced in the SRP without any specific basis in 10 CFR Part 70 will become *de facto* regulatory requirements. Although we recognize the SRP is only intended to be a staff

¹ NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

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guidance document to ensure consistency in license application reviews, the SRP acceptance criteria can over time become minimum standards ('lowest rung on the acceptance ladder'). The prescriptiveness of the draft SRP language is of particular concern. Though possibly not intended, it often appears to prejudge the need to implement new programs and practices *before* an Integrated Safety Analysis (ISA) establishes their need. In accordance with a risk-informed, performance-based regulatory approach, the SRP should reflect the philosophy that the licensee will propose appropriate programmatic activities based upon the risk significance identified in the ISA, and that the reviewer should expect a sound justification for each proposal from the licensee.

NEI also believes that if the NRC were to more clearly distinguish between what information is expected in a license application for a new fuel cycle operation versus that required for the renewal of an existing license, the guidance provided to the NRC reviewer in the SRP might be different and more in line with the current industry proposals.

The Enclosure to this letter discusses in detail each area of concern. NEI would welcome a meeting with you and your staff to discuss our concerns and to address the new programmatic elements in the draft SRP. We look forward to assisting the NRC in modifying the proposed revisions to 10 CFR 70 and to preparing an SRP that effectively supports a risk-informed, performance-based approach to nuclear fuel cycle facility regulation.

Sincerely,
[signed]
Marvin S. Fertel

Enclosure

cc: The Honorable Shirley A. Jackson, Chairman, NRC
The Honorable Greta J. Dicus, Commissioner, NRC
The Honorable Nils J. Diaz, Commissioner, NRC
The Honorable Edward McGaffigan, Jr., Commissioner, NRC
The Honorable Jeffrey S. Merrifield, Commissioner, NRC
Dr. William D. Travers, Executive Director for Operations, NRC

ENCLOSURE

NUCLEAR ENERGY INSTITUTE (NEI) IDENTIFICATION OF NEW PROGRAMMATIC CRITERIA IN NUREG-1520 (STANDARD REVIEW PLAN)

I. Introduction

NEI has expressed concern about the programmatic criteria contained in the earlier draft NUREG-1520 "*Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility*" (SRP) and now in the current draft SRP (June, 1998). NEI's July 2, 1996 testimony before the Nuclear Regulatory Commission (NRC) noted that the prior draft SRP contained "significant new programmatic criteria in areas such as quality assurance, maintenance, chemical safety, fire protection, training, and human factors." NEI did not disagree with the need to establish programs tailored to risk, but rather with the prescriptiveness of the guidance provided in the SRP. In SECY-97-137, the NRC Staff appeared to have acknowledged our concern and indicated that:

"In response to licensees' concerns, staff is now proposing that, rather than require multiple safety programs . . . licensees have the flexibility to determine, based on the ISA results, the specific elements of the safety program that would be needed." [SECY-97-137, Attachment 1, p.3]

NEI presumed from this comment that the revised draft SRP would eliminate references to new programmatic criteria required for licensee compliance with Part 70. NEI also anticipated that the NRC would permit licensees to determine, based on the results of their own Integrated Safety Analyses (ISA), whether any changes would be required in their existing programs, procedures and practices in order to provide reasonable assurance that the consequences of concern set forth in §70.60(B) of the rule would not be exceeded.

Continued inclusion of these new programmatic criteria in the latest draft SRP was one of the principal reasons that NEI's subsequent testimony before the Commission on August 25, 1998 expressed concern that much of the progress achieved to date had been "illusory," and that the draft SRP was a "significant departure from how we understood our rulemaking petition was being

dispositioned” [August 25, 1998 Commission meeting transcript, Testimony of Marvin Fertel].

Furthermore, industry experience with NRC Staff application of some of these new criteria in individual licensing dockets -- without the benefit of a formal rule change or even a final SRP -- is one of the principal reasons NEI has consistently advocated inclusion of an immediately-effective backfit provision in the revised rule.

NEI agrees that licensees should be required by rule and/or license condition to modify their existing programs, procedures or practices, as necessary, to provide reasonable assurance that the consequences of concern of §70.60(b) will not be exceeded. However, the decision to expand or modify existing programs, procedures or practices or to adopt entirely new ones should be based upon the results of the ISA. It is this aspect of the SRP -- ***prejudgment of the need to establish new programs and practices*** -- with which NEI has the greatest difficulty.

In response to the concern expressed by NEI at the September 29, 1998 *NRC-Industry Workshop on Part 70 Regulation* that the draft SRP inappropriately creates *de facto* new substantive regulatory standards that go beyond the existing, as well as the proposed, requirements of Part 70, the NRC requested NEI to identify its areas of greatest concern. Ten areas where new, proposed regulatory standards which neither are justified in the rulemaking package nor constitute a risk-informed, performance-based regulatory approach have been identified and are discussed in the balance of this Enclosure. NEI does not argue with the need for a licensee to address each of these areas in a license. Rather, it solely objects to addressing the implied requirements already embedded in the proposed SRP.

II. New Programmatic Criteria

II.1 Quality Assurance Criteria (Draft SRP §11.3)

The draft SRP includes criteria for licensee quality assurance (QA) programs which are drawn directly from ANSI/ASME NQA-1-1994 “*Quality Assurance Requirements for Nuclear Facility Applications*” (NQA-1). SRP Acceptance Criteria specifically reference NQA-1 and Section 9.1 of NUREG-1200 “*Standard Review Plan for the Review of a License Application for a Low-Level Radioactive Waste Disposal Facility*,” which addresses QA during design, construction and operation. According to the SRP, the intent of listing the 18 NQA-1 criteria is to establish “reasonable assurance of the implemented QA principles in the design, construction, operation, maintenance, modification, and decommissioning phases of a facility’s life.” [Draft SRP §11.3.3]. The SRP mandates that all 18 criteria are to be addressed for both high and

intermediate risk accident sequences, although their application is to be graded according to risk [Draft SRP §11.3.4.3].

These provisions create significant new regulatory expectations and criteria. Imposition of NQA-1 as a requirement for compliance with 10 CFR Part 70 is a new programmatic requirement. Part 70 currently contains no explicit QA requirements, except for plutonium processing and fuel cycle facilities which must meet 10 CFR Part 50, Appendix B standards [10 CFR §§ 70.22(f), 70.23(b)]. The draft regulation would require that items relied on for safety and safety controls meet “quality standards . . . commensurate with the importance of the safety functions performed.” [Draft 10 CFR § 70.60 (d)(3)(vi)]. While the NRC’s Branch Technical Position on Management Controls/Quality Assurance for Fuel Cycle Facilities, 54 Fed. Reg. 11590 (March 21, 1989) advises licensees to put in place various QA functions (including an effective management organization, plant safety committees, procedural controls, surveillance, inspection and audit programs, and training programs), it does not specify implementation of a full NQA-1 QA program¹. The SRP “prejudges” that a licensee’s quality program, must conform to the NQA-1 criteria.

Imposition of NQA-1 on fuel facility licensees would necessitate radical changes in virtually all affected licensees’ quality programs. The NRC’s own draft Regulatory Analysis predicts that under the draft rule and SRP, five of seven affected Part 70 licensees would be given “essentially no credit for existing [QA] measures, and that an entirely new program would have to be established.” [SECY-98-185, Attachment 3, Regulatory Analysis (Draft), p.20]

The imposition of NQA-1 on Part 70 licensees, whether on a graded basis or otherwise, is a substantial change in practice and policy. It should not be injected as a new “expectation” either in an SRP, or through informal case-by-case licensing action, unless specifically included as a Part 70 rule requirement.

Reference to NUREG-1200 on “design” and “construction” activities creates QA criteria for design and construction of non-plutonium Part 70 facilities. This is a new programmatic requirement that is not embodied in the Part 70 rule and that is not consistent with licenses that have been issued. Under existing regulations, only plutonium processing and fuel cycle facilities have been subjected to design and construction requirements in the licensing process [10 CFR §§ 70.22(f), 70.23(b)]. Licenses issued under Part 70 are for the possession and use of special nuclear material, rather than for the construction and operation of facilities. Accordingly, most Part 70

¹ NQA-1 is cited as a reference in the Branch Technical Position (BTP).

licensees have designed and constructed their facilities without NRC review and approval of design criteria or activities, or construction practices. NRC licensing reviews have been focused on the as-designed, as-built facility and its ability to assure safe possession and use of radioactive material. The creation of QA criteria for design and construction of Part 70 facilities is not a requirement of the Part 70 rule. The SRP does not address how existing licensed facilities would have to comply with these new design and construction requirements.

Quality Assurance programs and measures should be appropriate to the level of risk of a potential accident sequence or appropriate to the level of responsibility of a staff position. Quality Assurance programs must be graded and implemented according to *risk*. For example, the number of NQA-1 criteria which an individual program must address – even for high and intermediate risk events – can only be established following completion of the appropriate ISA.

II.2 Training and Qualification (Draft SRP §11.4)

The draft SRP establishes the elements of a “Systems Approach to Training” (SAT) program as the acceptance criterion for licensees’ training and qualification programs. It references NUREG-1220, Rev. 1 “*Training Review Criteria and Procedures*” as the primary regulatory reference document [Draft SRP §§ 11.4.4, 11.4.7]. In addition, the SRP states that the Staff is to ensure that personnel have the knowledge and skills necessary “to design [and] construct” the facility [Draft SRP §11.4.1].

The SRP introduces two new programmatic requirements: adoption of SAT and requiring staff to be knowledgeable in the design and construction of the facility. These concepts have only been applied as a licensing requirement for certain specific job categories at commercial nuclear power plants under 10 CFR 50. There is no requirement in the Part 70 rule which requires such a comprehensive level of staff training as that mandated in the SRP.

Risk-informed, performance-based regulation grants a licensee the latitude to establish the content, detail and comprehensiveness of its staff training and qualification program. The scope of the program will be established based upon the results of the ISA and specifically by the graded level of *risk* associated with each operator task and the required level of responsibility. If the results of the ISA indicate a need for enhanced training of certain equipment operators (i.e. a “vulnerability” exposed by the ISA), due to the licensee’s reliance on actions by those operators to prevent excessive radiation exposures, the licensee will determine the most

appropriate way to address the training needs (e.g. increase the frequency of the operators' training, expand the content of the training, or impose new qualification requirements). Such actions may be adequate and effective in addressing the identified vulnerability in the context of the licensee's existing training program. A SAT program may not be warranted.

Imposition of SAT criteria for nuclear power plant operators is required by a specific regulation (10 CFR §50.120) which establishes SAT as a formal regulatory requirement for certain designated categories of personnel. Proposed Part 70 revisions set a new and higher standard for performance (SAT) in the absence of a Part 70 regulation (analogous to Part 50.120) and before the results of an ISA demonstrate the need for that level of performance.

Extreme care should be taken in referring to NUREG-1220, a regulatory guidance document created for nuclear power plant licensees, as the basic regulatory reference for Part 70 facilities. The SRP does not justify how operator knowledge and skills in "design" and "construction" activities at non-plutonium licensed fuel cycle facilities enhances health and safety. Adoption of such standards represents a significant departure from current licensing practice and the rulemaking package does not discuss the implications of this change. Different training requirements may be appropriate for new fuel cycle facilities, particularly if a new process or technology is to be used where there is a dearth of operating, safety and performance history. The SRP should differentiate between the staff training and qualification requirements for new and existing fuel cycle facilities.

The Qualifications, Training and Human Performance Requirements detailed in the SRP are very prescriptive and cumbersome, are inconsistent with current industry practice and will result in only a marginal positive impact on the effectiveness of facility training programs. Such requirements should only be established by the licensee using the results of the ISA.

II.3 Fire Safety (Draft SRP §7.0)

The draft SRP includes in its acceptance criteria provisions governing the development of a formal and comprehensive "Fire Protection Program" (FPP), performance of Fire Hazards Analyses (FHAs), and development of specific Pre-Fire Plans (PFP). It also establishes the "most current versions of . . . nationally recognized codes and standards" as the basis for Staff reviews [Draft SRP § 7.4.3], and lists as references, 58 National Fire Protection Association (NFPA) codes and several

other standards. The requirement for an FPP, FHA and PFP constitutes a new set of programmatic requirements.

Licensees currently have in place controls to prevent, detect and mitigate fires. Part 70 does not require a licensee to establish formal FPPs, to perform detailed FHAs, or to put in place specific PFPs as a license compliance condition. Unless the *risk* of an accident sequence justifies, or a specific provision written into the Part 70 rule mandates this comprehensive level of fire safety, FPPs, FHAs and PFPs may not be warranted.

In NRC Generic Letter 95-01 “*NRC Staff Technical Position on Fire Protection for Fuel Cycle Facilities*” (January 26, 1995), the NRC directed licensees to describe how they intended to implement the guidance set forth in its Branch Technical Position (BTP) on Fire Protection for Fuel Cycle Facilities,” 57 Fed. Reg. 35607 (Aug. 10, 1992), which calls for conduct of FHAs and for the preparation of PFPs. In response, NEI and a number of licensees stated that the Generic Letter appeared to establish new requirements. NEI, in particular, stated:

There is no extant regulation nor order that requires . . . Part 70 licensees to prepare pre-fire plans [or] to conduct fire hazard analyses. [Letter Felix M. Killar, Jr. to Robert F. Burnett, February 23, 1995].

The listing of 58 NFPA codes and the statement that the “*most current versions*” of those codes will be utilized as the basis for Staff reviews clearly creates new regulatory expectations that may be very costly to achieve and may require licensees to continually upgrade their facilities to meet newly-developed industry codes without any commensurate reduction in risk. Requiring facilities to be constructed in accordance with NFPA codes that are current at the time of construction is not an unreasonable regulatory demand. The SRP prejudices that application of these codes is necessary without the benefit of any ISA results, and thus departs from a risk-informed, performance-based approach to regulation.

II.4 Decommissioning (Draft SRP §10.0)

NEI’s comments on this portion of the SRP presume that the chapter on decommissioning is intended to apply to the review of new, renewed, amended or

“resubmitted”¹ license applications for operating facilities, and not to facilities that have permanently shutdown and intend to decommission.

The stated purpose of this portion of the draft SRP is to ensure that an

“applicants’ plans for decommissioning . . . provide reasonable assurance that the applicant will be able to decommission the facility safely and in accordance with NRC requirements.” [Draft SRP § 10.1 (emphasis added)].

The SRP discusses Reg. Guide 3.65, “*Standard Format and Content of Decommissioning Plans for Licensees under 10 CFR Parts 30, 40, and 70,*” and various other guidance documents. These documents are used primarily, if not exclusively, to review detailed decommissioning plans that are not required to be submitted until after a licensee has ceased active operations and intends to decommission its facility. Such plans, filed close to the time that actual decommissioning activities are expected to occur, must provide detailed information on, among other things, proposed release criteria for land and facilities, survey methods and criteria, procedures for radiological protection during the decommissioning process, and plans for waste disposal. By contrast, at present, licensees at operating facilities must simply submit a cost estimate for decommissioning and provide financial assurance through a decommissioning funding plan, as part of a licensing submittal.

At the time of license application the SRP requires submission of a detailed decommissioning plan and detailed procedures to minimize contamination to the environment. This constitutes a new programmatic requirement.

Forecasting the methodologies or technologies to be used to decommission a facility 20 to 40 years in the future is an unreasonable requirement. Technologies which might be used for decontamination of equipment and soils may not yet be commercially available at the time of license application. The implication of this portion of the SRP is that the detailed review criteria applicable to decommissioning plans will become regulatory review criteria for “applicants” for licenses, renewals, amendments or resubmittals. Application of those review criteria at this early stage is premature and unnecessary.

¹ Draft 10 CFR §70.62(a)(1) requires existing licensees to resubmit new applications within four years of the effective date of the rule, even if their licenses are not due to expire.

NEI believes that this entire chapter should be removed from the SRP and placed in a Regulatory Guidance document

II.5 Human-System Interfaces (Draft SRP §11.6)

The draft SRP requires “[f]ormal evaluation of human-system interfaces” and requires licensees to have a formal process for “design, evaluation, implementation, maintenance, and modification of human-system interfaces” [Draft SRP §§ 11.6.3, 11.6.4.3]. This includes periodic human-system interface reviews, employment of human-system interface “specialists,” development of human-system “standards” and creation of an “inventory” of such interfaces. This portion of the SRP is a new programmatic requirement. It creates an entirely new and complex set of criteria that will require licensees to establish detailed programs and procedures to formally analyze interfaces between personnel and systems. Additionally, it prejudices that control of human-system interfaces is needed, regardless of the results of the ISA. The draft SRP departs from a risk-informed, performance-based approach to regulation.

II.6 Organization and Administration (Draft SRP §2.0)

There are several aspects of this chapter of the SRP that create new expectations and go well beyond the rule and existing practice. First, this portion of the SRP provides for NRC Staff review of the applicant’s organizational structure and policies governing “design” and “construction” activities and the qualifications of design and construction personnel [Draft SRP §2.3]. Licenses issued under Part 70 are not for the construction and operation of facilities, but rather for the possession and use of special nuclear material. Therefore, specifying policies on design and construction in the SRP is unwarranted. This represents a substantial change in policy and practice.

Second, the SRP provides for NRC Staff review of the “experience” and “availability” of personnel for decommissioning of licensed facilities [Draft SRP §2.4.3]. Again, review of such details associated with the actual decommissioning process at the licensing stage is premature. What contractors and personnel will be available in 20 to 40 years to oversee decommissioning cannot reasonably be expected to be known now. This constitutes an unnecessary new requirement.

Finally, the SRP calls for NRC review and approval of internal licensee mechanisms for reporting safety concerns and for their investigation, assessment and resolution. The SRP anticipates that the NRC will make an affirmative determination that the license applicant “*promotes an open environment that*

supports safety and is absent of any chilling effect that discourages prompt and open reporting of safety concerns” [Draft SRP §2.4.3]. This aspect of the SRP goes far beyond even NRC regulation of reactor licensees. Part 70 licensees clearly have an obligation under 10 CFR §70.7 not to discriminate against employees for raising safety concerns or for otherwise engaging in protected activities. Enforcement action may be taken by the NRC for violations. All licensees have programs to report and dispose of safety concerns and to ensure an open environment for raising such concerns. However, neither reactor nor materials licensees have been required, as part of a license review or otherwise, to establish such programs, nor has the NRC ever to NEI’s knowledge imposed “lack of a chilling environment” as a licensing standard. In early 1998 the NRC considered, but withdrew, a proposal to impose additional requirements to ensure that licensees maintain a “safety-conscious work environment” (SCWE). The NRC concluded that its existing non-binding Policy Statement on “*Freedom of Employees in the Nuclear Industry to Raise Safety Concerns Without Fear of Retaliation*” and its regulations prohibiting discrimination (e.g. 10 CFR §70.7) are sufficient [63 Fed. Reg. 6235 (Feb. 6, 1998)]. Under those policies and regulations, the NRC has established certain “expectations” for its licensees and has given itself the enforcement tools to respond if discrimination, or the potential for discrimination occurs. Furthermore, the NRC’s Executive Director for Operations recently proposed to the Commission that it “consider the possibility of discontinuing any agency efforts to independently assess SCWE” [SECY-98-176 “Proposed Options for Assessing a Licensee’s Safety Conscious Work Environment” (July 21, 1998)]. The Commission ultimately decided to continue the existing Staff practice of using inspection and enforcement techniques to ensure a SCWE [Staff Requirements Memorandum (September 1, 1998)]. Imposing licensing standards for the maintenance of a SCWE goes well beyond existing practice and requirements and is inconsistent with the Commission’s February and September policy determinations.

II.7 Emergency Management (Draft SRP §8.0)

This portion of the SRP calls for the licensee to establish an adequate emergency response training program, not only for onsite workers, but also for “offsite emergency response personnel” in order to ensure that such personnel have adequate “knowledge of the emergency plan, assigned duties, and effectively respond to an actual emergency.” The licensee must provide the “topics and general content” of the training used for “offsite emergency response personnel” [Draft SRP §8.4.3.2.11]. Part 70 currently requires that licensees provide a “brief description of [among other things] any special instructions and orientation tours the licensee would offer to fire, police, medical and other emergency personnel,” but it does not require formal training of such personnel [10 CFR §70.22(i)(3)(x)]. NRC’s own

analysis did not identify significant off-site risks. The language of the draft SRP appears, therefore, to go beyond existing requirements and suggests an emergency response training program that is more akin to those established for commercial nuclear power plants.

The design of an Emergency Management program must be based on the risks that could be posed to public health and safety and the environment by the facility and its operation. Until such risks are assessed in an ISA, the components and requirements of an emergency management plan can not be accurately defined. The SRP must allow the licensee to establish appropriate emergency response measures and to determine the extent of training which should be provided to “offsite emergency response personnel.”

II.8 Configuration Management (Draft SRP §11.1)

This portion of the SRP creates detailed new criteria for the establishment of a formal configuration management program. NEI has not yet assessed all of the implications of the new configuration management criteria, but one of the most significant, and entirely new requirements, is the expectation that licensees will be required to “reconstitute” their “designs” [Draft SRP §11.1.3(6), 11.1.5.26]. In particular:

- *licensees must reconstitute “the current design bases, supporting analyses, requirements, and documentation that support items important to safety”;*
- *if documentation has not “kept pace” with the as-built plant configuration, licensees must “walk down systems, update drawings and specifications, perform new calculations and analyses, and otherwise rebuild the design bases.” [Draft SRP §§ 11.1.4.3, 11.1.5.2].*

The provisions constitute a new programmatic requirement. Provisions for design bases reconstruction go well beyond existing requirements and, in fact, substantially exceed the requirements applied to nuclear power plants. Part 70 licenses do not “license” the design of a facility and so there should be no requirement to perform a reconstitution. Unless dictated by the results of an ISA, reconstitution of facility design documents may not in itself likely result in any significant improvement to safety.

Operators of new and existing fuel cycle facilities should commit to a configuration management program in their licenses. However, the requirement that current

licensees now undertake a major design reconstitution after their facilities have been safely operated for many years, seems unnecessary. Justification of how this action might improve facility safety is lacking.

II.9 Maintenance (Draft SRP §11.2)

This portion of the SRP creates entirely new requirements patterned after commercial nuclear power plant requirements and guidance for maintenance programs. It appears to apply the concepts of preventive and corrective maintenance to “human performance” and activities, and references a wide range of guidance documents applicable to reactor maintenance programs. [Draft SRP §§ 11.2.4.3, 11.2.7]. For example, corrective and preventive maintenance practices are to be applied to “items relied on for safety” -- which are defined in the draft regulation (10 CFR §70.4) to include “activities of personnel” [Draft SRP §11.2.4.3]. The discussion of preventive maintenance specifically discusses “requalification and retraining of personnel” [Draft SRP § 11.2.4.3]. This is a unique and to the best of our knowledge, unprecedented extension of the concept of a nuclear facility maintenance program. It is not clear what additional requirements this would add over the proposed training program criteria in SRP §11.4.

The requirement for a nuclear power plant maintenance program is required by a specific regulation (10 CFR §50.65). In the absence of a corresponding requirement in the Part 70 rule, the NRC should not attempt to impose a highly prescriptive maintenance program either through the SRP or as a license condition.

The draft SRP contains very extensive requirements related to maintenance. For example, the draft SRP appears to require preventive maintenance and post maintenance functional tests, regardless of whether such activities are needed to ensure the proper functioning of items relied on for safety as identified by the ISA. As a result, the draft SRP departs from a risk-informed, performance-based approach to regulation.

II-10 Nuclear Criticality Safety (Draft SRP §5.0)

This portion of the SRP calls for adherence to the well-established principle of “double contingency protection” in order to provide for adequate nuclear criticality safety and includes a definition of “double contingency protection” that is inconsistent with American National Standard ANSI/ANS-8.1. The SRP goes well beyond accepted international and nuclear industry practice by assigning specific, quantitative, numerical frequencies to each of the two controlled parameters or

controls as an acceptance criterion, presumably in order to determine that a particular nuclear criticality accident is “highly unlikely.”

In particular, the SRP indicates that one controlled parameter or control should have a frequency of failure no greater than 10^{-3} per year, and the other controlled parameter or control should have a frequency of failure no greater than 10^{-2} per year [Draft SRP §5.4.6]. Neither ANSI nor, to the best of our knowledge, the NRC has adopted this quantitative approach to criticality safety in the past. Instead, it has been a well-accepted practice for the determination as to whether there are at least two “unlikely,” independent and concurrent process changes necessary before a nuclear criticality might occur (i.e. double contingency protection) to be made on the basis of the expertise, experience and judgment of nuclear criticality safety experts on a deterministic basis.

Risk-informed, performance-based regulation allows a licensee to determine the *risk* of potential nuclear criticalities in his facility. The *risk* of a nuclear criticality from each credible accident sequence will be assessed in the facility’s ISA. Results of the ISA will guide the licensee in selecting and implementing nuclear criticality mitigative practices and measures that are appropriate to the level of the risk.

Adoption of these new quantitative standards will add considerably to the cost and complexity of performing nuclear criticality safety analyses. Furthermore, adherence to the traditional methods of applying the double contingency protection principle will still enable licensees to evaluate and determine whether a nuclear criticality is “unlikely” as required by the draft rule. In industry’s view, if adherence to the double contingency protection principle is confirmed, then it follows that a nuclear criticality event would be “highly unlikely.”

III. Conclusions

The June 1998 draft SRP contains references to a wide range of new regulatory expectations and standards that have not been justified in the rulemaking package and are not consistent with a risk-informed, performance-based regulatory program. The rulemaking record is replete with explanations as to the purpose of the requirements to perform ISAs, to adopt consequences of concern, to identify items relied on for safety, and to assure that such items remain available and reliable. It does not, however, explain at all the bases for the determination that the wide range of new programmatic criteria in the draft SRP is necessary or appropriate. Furthermore by generically prescribing such criteria, without the benefit of ISA

results, the draft SRP runs counter to the effort to establish a risk-informed, performance-based regulatory regime. As NEI stated in its July, 1996 testimony before the Commission, it believes that fundamental changes are required to both the draft Part 70 rule and the draft SRP before either can be adopted as regulatory standards or guidance.

Ref: I:\Files\Part70\SRP Programmatic Comments(30-10-98a