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RULES AND DIRECTIVES BRANCH USNRC

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Chief, Rulemaking, Directives, and Editing Branch
Division of Administrative Services
Office of Administration
Mail Stop T6D59
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: BWXT Comments Regarding Revisions to NRC Enforcement Policy

Dear Mr. Lesar:

This letter is in regards to the Federal Register/Vol. 72, No. 16, which allowed input to the proposed revisions to NRC's Enforcement Policy. BWX Technologies, Inc. (BWXT) appreciates the opportunity to comment on the proposed revisions. BWXT supports the reorganization to differentiate between conventional and non-conventional enforcement processes and believes the current policy provides a general framework for determining significance of violations. However, the Supplements to the policy are not necessarily risk-informed and do not realize the benefit of changes to 10CFR70 and the completion of the Integrated Safety Analysis (ISA). To this end, BWXT is providing the recommendations for general and specific changes to the supplements. These comments are provided in the Enclosure.

BWXT appreciates the opportunity to comment on this important policy and would welcome the opportunity to meet and provide more detailed information to support our position.

Sincerely,

Bay Cole for Leah Morrell

Leah R. Morrell
Manager, Licensing & Safety Analysis
(Licensing Officer)

Enclosure
c: NRC, Resident Inspector
NRC, WC Gleaves
NRC, Region II

Administrative Review	
BOKidd	3/15/07
Signature	Date

E-RIDS = ADM-03
Add = M. Schwartz (MES)

SUNSI Review Complete
Template = ADM-013

ENCLOSURE

BWXT COMMENTS
Regarding Revisions to NRC Enforcement Policy
Federal Register/Vol. 72, No. 16

General Comments

It is unclear why the proposed supplement content does not include a specific subsection to item D. Fuel Cycle and Materials Operations for Fuel Fabrication Facilities. This appears to be an omission. Another alternative for this item would be to consolidate into a single subsection all examples for licensees who must comply with Subpart H of 10CFR70. This would allow for a consistent set of examples whose risk significance would be based largely on the ISA.

The distinction between the material control and accounting aspects of Safeguards (proposed Section E) and physical security aspects (proposed Section C.1) is potentially confusing. The current Supplement has a combined Safeguards Section which would seem to allow for greater consistency. Separating this into two sections may actually detract from the close relationship of security and material control.

In order to take advantage of the completed ISAs at Fuel Fabrication Facilities, BWXT believes the following considerations need to be factored into the Supplements containing examples of violations and determination of the severity level.

- **Non-Compliance severity should align with safety significance unless there are other contributing factors**.

  Suggested alignment such that all non-compliance severity is consistently aligned with the 70.61 performance requirements as follows:

  Severity Level 1: Actual occurrence of a High Consequence Event

  Severity Level 2: Actual occurrence of Intermediate Consequence Event

  Loss of all safety controls preventing a High Consequence Event

  Severity Level 3: Loss of all safety controls preventing an Intermediate Consequence Event

  Loss of safety controls that goes undetected such that long term (weeks) operation of the facility outside performance requirements of 70.61 occurred

  Severity Level 4: Loss of safety controls (IROFS) that goes undetected such that short term (days) operation of the facility outside performance requirements of 70.61 occurred

Minor Violation: Loss of safety controls (IROFS) that is immediately detected such that no significant operation of the facility outside performance requirements of 70.61 occurred

Loss of safety controls (IROFS) that did not result in operation outside 70.61 performance requirements

Note: The term loss of safety controls includes failure to follow a procedure that implements an administrative safety control (IROFS)

- **Non-Compliance severity should recognize and align with "predicted" failures developed during the ISA.**

Accident scenarios developed during the ISA are based on predicted reliability of various safety controls (IROFS). Traditionally, safety controls in the nuclear industry with predicted reliability are engineered features or pieces of equipment. During the development and implementation of Subpart H to 10CFR70 it was recognized that administrative controls were also important to prevent a High or Intermediate Consequence event. Therefore, during ISA scenario development, a qualitative assessment of reliability of both engineered and administrative controls was performed. The outcome of this analysis is a qualitatively predicted failure frequency which is subsequently found acceptable by NRC during the licensing process. From a philosophical standpoint, it seems inappropriate for violations to be issued when predicted failures occur at the predicted rate given they are promptly detected and corrected by the licensee through a corrective action program and there is adequate feedback into the ISA. Implementing this philosophy into the enforcement policy would close the loop on enforcement of the Risk Informed and Performance Based licensing process in 10CFR70 Subpart H.

Discussion Example (procedure compliance):

One of the primary outcomes of the ISA is the identification of IROFS which are required to meet the performance requirements. The regulation also allows for the identification of additional IROFS to provide margin and defense in depth. During the ISA evaluations, IROFS are also assumed to have some failure frequency based on their robustness. The failure of an IROFS has varying levels of safety and compliance significance based on the accident scenario being protected against and what fails. For example, passive engineered features would be expected to be very robust and fail very infrequently. Administrative features would be expected to be less robust and have a higher predicted failure frequency thus likely have a greater defense-in-depth application. In all cases however, the failure of an IROFS is a predicted event. Taking this example further, it is rare to find a license requirement that a piece of hardware (IROFS) shall not fail. Thus when hardware failure occurs there is generally not a violation because it is difficult to identify specifically what was done "wrong" (out of compliance). In contrast, all licenses have a requirement to follow procedures and virtually all administrative IROFS are implemented by procedures. In this case failure to follow the procedure is always a "violation" of the license however, it seems from a Subpart H standpoint this violation should be considered minor at most. In fact, to call it more than minor penalizes the licensee for providing an overall robust safety basis.

- **Radiation exposure performance standards should be reasonably consistent across the supplements.**

  The severity level examples in the Health Physics Supplements (10CFR20) should be reviewed and aligned with the performance criteria of 10CFR70.61 as well as 10CFR20 and other regulations that set forth radiation performance standards (e.g. 10 CFR100). For example, if the occurrence of an intermediate consequence event (e.g. 25 rem to a worker) has a certain enforcement threshold, that would have to be more severe than an exposure in excess of 10 CFR 20 (e.g. 5 rem to a worker). While absolute consistency may not be possible due to the variety of license types, the current alignment can be greatly improved.

- **All supplement sections should provide examples of Minor Violations in order to provide inspection guidance on what is to be considered minor.**

  Without guidance inspectors could be very reluctant to place an observed violation into this category. Industry experience on severity determination is the guidance in the supplements is relied on very heavily by the inspectors in determining severity levels and that, absent specific guidance, the inspectors struggle with severity determination. With no list of examples from which to draw insight, there can be reluctance to use the Minor Violation category.

Specific Comments on Supplement Content

The following comments are provided to address specific issues in the existing supplements that should be addressed with this revision to the Policy.

Supplement III – Safeguards

B. Severity Level II

1. The term "threat" needs a definition which should be based on risk significance. For example, the unauthorized entry is determined to have significant potential to be known and exploited by an adversary in order to gain tactical benefit. The threat of concern should be required to have substantial linkage to the Design Basis Threat in order to be a basis for this violation.

C. Severity Level III

2. "Facsimiles" should be limited to those that are capable of being detected through the required technological search processes.

3. The term "threat" needs a definition which should be based on risk significance. For example, the unauthorized entry is determined to have significant potential to be known and exploited by an adversary in order to gain tactical benefit. The threat of concern should be required to have substantial linkage to the Design Basis Threat in order to be a basis for this violation.

6. The significance of the failure should be risk-based, i.e. predictable, observable, and exploitable in terms of substantial linkage to the Design Basis Threat.

D. Severity Level IV

2. Clarify that a response is not untimely or inadequate if it complies with NRC approved security plans.

Supplement IV - Health Physics

The severity levels should incorporate consistency with the occurrence of a High or Intermediate Consequence event as defined by 10 CFR 70, Subpart H. For example, an Intermediate consequence event would correspond to worker dose of 25 rem, public dose of 5 rem and release of 5000 times Table 2. The current Severity Level 1 examples in the enforcement policy are 25 rem worker dose, 1 rem public dose and 50 times the release concentration limits. These inconsistencies need to be reconciled throughout this section and the Health Physics Supplement to synergize with Subpart H.

The following specific comments are provided.

A. Severity Level I

1. This should be revised to align with a High Consequence event of 100 Rem to a worker.

4. This should be revised to align with a High Consequence event of 25 Rem to a member of the public.

5. This should be dose based and align with a High Consequence event of 25 Rem to a member of the public.

6. This should be revised to be dose consequence based versus an arbitrary factor greater than a regulatory limit.

B. Severity Level II

1. This should be revised to align with an Intermediate Consequence event of 25 Rem to a worker.

4. This should be revised to align with an Intermediate Consequence event of 5 Rem to a member of the public.

5. The release criteria should align with an Intermediate Consequence or 5000 times Table 2.

6. This should be revised to be dose consequence based versus an arbitrary factor greater than a regulatory limit.

C. Severity Level III

No specific comments

D. Severity Level IV

4. This should be reworded to align with regulatory requirements and not establish ALARA as a "Standard of Care."

Supplement V – Transportation

The severity levels should incorporate consistency with the occurrence of a High or Intermediate Consequence event as defined in 10 CFR 70. They should also be dose based versus some arbitrary factor above NRC limits.

The following specific comments are provided.

A. Severity Level I

1. This should be revised to align with a High Consequence event with a dose of 25 Rem to the public.

2. This should be a dose consequence based determination and should align with a High Consequence of 25 Rem to the public.

3. This should be a dose consequence based determination and should align with a High Consequence of 25 Rem to the public.

B. Severity Level II

1. This should be revised to align with an Intermediate Consequence event with a public dose of 5 Rem.

2. This should be a dose consequence based determination and should align with an Intermediate Consequence of 5 Rem.

3. This should be a dose consequence based determination and should align with an Intermediate Consequence of 5 Rem.

C. Severity Level III

1. This should be revised to align more with exposures to the public in excess of 10CFR20 limits.

2. This should be revised to align more with exposures to the public in excess of 10CFR20 limits.

Supplement VI – Fuel Cycle and Materials Operations

The following specific comments are provided to incorporate alignment with Subpart H of 10CFR70.

(Note: these comments are relevant to licensees who must comply with 10CFR70, Subpart H, and may not apply to other licensees)

A. Severity Level I

1. This is inconsistent with the Severity Level 1 examples in the Health Physics Supplement and is not aligned with High or Intermediate consequences defined in 10CFR70. Ten times the limits in a license is a somewhat arbitrary limit and is not risk informed. Examples should be dose based and aligned with regulatory performance criteria of Subpart H. Recommend alignment with the actual occurrence of a High Consequence Event.

2. This does not apply the principles of the ISA or the above discussion regarding severity level of a failed IROFS. It also does not align with the current A.3 where the event actually occurs.

6. This needs to be revised to be consistent with the Chemical Safety aspects of subpart H of 10CFR70 and the 10CFR70 definition of Hazardous Chemicals Produced from Licensed Materials. It should also align with the actual occurrence of a High Consequence Event".

B. Severity Level II

1. Similar comment to A.1 above except it should align with the actual occurrence in an Intermediate Consequence event.

2. This does not apply the principles of the ISA of the above discussion regarding severity level of a failed IROFS.

4. This should be reworded to be consistent with the ISA concepts and should align with the potential occurrence any High Consequence Event not just a criticality accident.

5. If B.4 is aligned with High Consequence Events as defined in 10CFR70, B.5 may not be needed.

C. Severity Level III

3. This seems overly generic and may not be risk-informed depending upon the activity performed. For example, if an individuals training to use a respirator lapses by a few days, the risk would be minimal.

4. This should be reworded and considered in risk perspective related to potential for a High or Intermediate Consequence event.

11. This does not apply the principles of the ISA or the above discussion

regarding severity level of a failed IROFS.

12. This does not apply the principles of the ISA or the above discussion regarding severity level of a failed IROFS.

16. This should be reworded and made consistent with failures to meet 70.61 performance requirements for any accident type, not just criticality.

D. Severity Level IV

8. This needs to incorporate philosophy discussed earlier regarding IROFS failures.

Suggest adding a Section E that provides examples of Minor violations that is consistent with the ISA and concept of predicted failures discussed above.

Supplement VII – Miscellaneous Matters

No comments

Supplement VIII – Emergency Preparedness

No comments