

March 11, 2008

MEMORANDUM TO: Deborah A. Jackson, Chief  
Technical Support Branch  
Special Projects and Technical Support Directorate  
Division of Fuel Cycle Safety  
and Safeguards  
Office of Nuclear Material Safety  
and Safeguards

FROM: Dennis Morey, Inspector **/RA, Deborah Jackson for/**  
Technical Support Branch  
Special Projects and Technical Support Directorate  
Division of Fuel Cycle Safety  
and Safeguards  
Office of Nuclear Material Safety  
and Safeguards

SUBJECT: SUMMARY OF THE PUBLIC MEETING WITH THE NUCLEAR ENERGY  
INSTITUTE TO DISCUSS RECOMMENDED CHANGES TO NRC  
ENFORCEMENT POLICY

On February 27, 2008, staff from Fuel Cycle Safety (FCSS) and Safeguards and Region II met with nuclear industry (fuel facility and Nuclear Energy Institute (NEI)) representatives in a working group to discuss Nuclear Regulatory Commission (NRC) enforcement policy related to fuel cycle facilities. The meeting was held via telephone conference to discuss proposed NRC Fuel Cycle Enforcement Policy Supplements and Implementing Guidance.

#### MEETING SUMMARY

The group agreed that proposed supplement language and examples for Severity Level 1 violations were adequate. Industry expressed concern regarding the wording for Severity Level II, III, and IV violations where categorization involves estimating the change in risk due to the upset condition (examples B1, C1, C2, and D1). Industry was concerned that the proposed wording did not allow sufficient latitude to assign less significant issues to lower level enforcement categories.

Contact: Dennis Morey, NMSS/FCSS  
(301) 492-3112

Dennis Morey expressed his concern regarding industry's rewording of proposed examples involving risk estimation, which relied on the duration of the upset condition as part of the means to determine severity level. Mr. Morey was concerned that incorporating duration into the policy level document would artificially constrain risk estimation by placing excessive emphasis on only one of the key elements of the process, "duration."

Industry representatives were concerned that, without some sort of duration qualifier, an IROFS failure that lasted three seconds could be assigned to escalated enforcement due to an overly literal interpretation of the enforcement policy.

The group proposed that a flowchart detailing the decision making process be created for review in the next meeting.

Manuel Crespo noted that the language used for D1 was narrowly defined because the language for the higher severity examples appeared to have precedence.

The workgroup appeared to be near agreement with the specific examples used for each severity level in the proposed Implementing Guidance. The workgroup participants found that integrating the Supplement language into the Implementing Guidance assisted in determining whether the examples were representative of the Supplement violation statements. The group plans additional review of the proposed Implementing Guidance.

#### PARTICIPANTS

Steve Shilthelm	BWX Technologies
Mike Boren	USEC
Nancy Parr	Westinghouse
Randy Shackelford	Nuclear Fuel Service
Dennis Morey	NRC HQ/FCSS - Chair
Christopher Tripp	NRC HQ/FCSS
Manuel Crespo	NRC - Region II
Janet Schlueter	NEI

#### PROPOSED FUTURE ACTIONS

The group discussed when to reconvene. Industry representatives stated they would provide a rewording of the supplement examples for changes in risk (B1, C1, C2, and D1). The industry representatives will provide revised language for the next meeting. Mike Boren will provide reworded input to non-Part 70 policy and examples such as examples B3 and C3.

D. Jackson

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#### NEXT GROUP MEETING

The working group tentatively plans to hold a meeting during April 2008 in the Atlanta Region II office.

Enclosure:

Consolidated Supplement IX Policy  
and Implementing Guidance Proposals –  
Fuel Cycle Operations (NEI)

D. Jackson

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**NEXT GROUP MEETING**

The working group tentatively plans to hold a meeting during April 2008 in the Atlanta Region II office.

Enclosure:

Consolidated Supplement IX Policy  
and Implementing Guidance Proposals –  
Fuel Cycle Operations (NEI)

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<b>OFFICE</b>	TSB	TSB	TSB
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## CONSOLIDATED SUPPLEMENT IX POLICY AND IMPLEMENTING GUIDANCE PROPOSALS - FUEL CYCLE OPERATIONS

This consolidated working document provides the **policy statements proposed by NRC (green) and Industry (blue) (bold)**, and examples of violations (in italics) in each of the four severity levels to assist in determining the appropriate severity level for violations in the area of fuel cycle operations. In each instance it is assumed that there is a demonstrable underlying violation for each example, without which this enforcement guidance is not applicable. Additionally, this table does not address factors that can impact the regulatory process (such as willfulness or self identification) which can increase or decrease the severity.

### A) Severity Level I Violations involve, for example:

- 1) **IND: For licensees under 10 CFR Part 70, Subpart H, a high-consequence result occurs.**

**NRC: Under 10 CFR Part 70, Subpart H, a high-consequence result occurs.**

- i) A criticality accident occurs.*  
*ii) An exposure to licensed materials or hazardous chemicals produces from licensed materials to a member of the public or a worker in excess of the high consequence thresholds*

- 2) **IND: For licensees not under 10 CFR Part 70, Subpart H, a consequence commensurate with a Part 70 High Consequence occurs from licensed materials or hazardous chemicals produced from licensed materials.**

**NRC: Significant injury or loss of life occurs due to a loss of control over licensed activities comparable to the occurrence of a high-consequence result.**

- i) A criticality accident occurs.*  
*ii) An exposure to licensed materials or hazardous chemicals produces from licensed materials to a member of the public or a worker resulting in serious long lasting health effects or a loss of life, respectively*

*Other SL I examples from existing Enforcement Policy Supplement VI proposed by NRC*

- The failure of a system designed to prevent or mitigate a serious safety event to be operable when required to perform its design function.*
- A nuclear criticality accident or violation or application of a safety limit as defined in 10 CFR 76.4, Technical Safety Requirements.*

Enclosure

**B) Severity Level II Violations involve, for example:**

- 1) IND: For licensees under 10 CFR Part 70, Subpart H, operations have occurred over a significant period of time or without adequate licensee recognition such that the risk of a high-consequence sequence changes from Highly Unlikely to less than Unlikely (Note that loss of an IROFS or the occurrence of a contingency does not necessarily change the overall risk)**

**NRC: Under 10 CFR Part 70, Subpart H, a high-consequence sequence is now “not unlikely.”**

- i) Loss of all controls (IROFS) protecting against a high consequence event (e.g., a criticality accident) identified in the ISA*
- ii) Failure to implement any control over a credible high consequence event due to a failure to comply with approved ISA procedures or processes. This does not apply to failures that were not identified through the ISA process (e.g., previously unidentified failure scenario). See Minor violations section.*
- iii) The unrecognized failure of a sole IROFS for a period that exceeds the established testing or inspection interval and without which a high-consequence accident is now “not unlikely.”*

- 2) IND: For licensees under 10 CFR Part 70, Subpart H, an Intermediate-Consequence result occurs.**

**NRC: Under 10 CFR Part 70, Subpart H, an intermediate-consequence result occurs**

- i) Loss of all controls protecting against a high consequence event (e.g., a criticality accident) identified in the ISA*
- ii) An exposure to licensed materials or hazardous chemicals produces from licensed materials to a member of the public or a worker resulting in mild transient health effects or serious long lasting health effects, respectively*

- 3) IND: For licensees not under 10 CFR Part 70, Subpart H, a consequence commensurate with a Part 70 Intermediate Consequence occurs from licensed materials of hazardous chemicals produced from licensed materials.**

**NRC: The substantial potential for injury occurs due to a loss of control over licensed activities comparable to a significant change in the risk of a medium-consequence result or to a change in the risk of a high-consequence event occurring**

- i) Loss of all controls protecting against a criticality accident identified in the safety analysis*

- ii) *An exposure to licensed materials or hazardous chemicals produces from licensed materials to a member of the public or a worker resulting in mild transient health effects or serious long lasting health effects, respectively*
- iii) *The unrecognized failure for a period that exceeds the established testing or inspection interval of the control(s) implemented for a singly contingent scenario (e.g., moderation control)*

*Other SL II examples from existing Enforcement Policy Supplement VI proposed by NRC*

- *The failure of a system designed to prevent or mitigate a serious safety event to be operable.*
- *The failure to establish, implement, or maintain all criticality controls for a single nuclear criticality scenario such that a nuclear criticality accident was possible.*
- *The potential for a significant injury or loss of life due to a loss of control over licensed or certified activities, including chemical processes that are integral to the licensed or certified activity, whether radioactive material is released or not (e.g., movement of liquid UF<sub>6</sub> cylinder by unapproved methods).*

**C) Severity Level III Violations involve, for example:**

- 1) IND: For licensees under 10 CFR Part 70, Subpart H, operations have occurred over a significant period of time or without adequate licensee recognition such that the risk of a high-consequence sequence changes from Highly Unlikely to Unlikely (Note that loss of an IROFS or the occurrence of a contingency does not necessarily change the overall risk).**

**NRC: Under 10 CFR Part 70, Subpart H, a high-consequence sequence is now “unlikely.”**

- i) *The unrecognized failure of a non-sole IROFS for a period that exceeds the established testing or inspection interval and without which the consequence of a high-consequence accident is now “unlikely.*
- ii) *Failure of an IROFS such that only a single administrative IROFS (e.g., piece count, mass limit, spacing control) remains with no credit for initiating or enabling events and no reliable defense-in-depth (e.g., no extremely conservative reflection modeled, no uncredited procedural controls, etc.).*

- 2) **IND: For licensees under 10 CFR Part 70, Subpart H, operations have occurred over a significant period of time or without adequate licensee recognition such that the risk of an intermediate-consequence sequence changes from Unlikely to less than Unlikely (Note that loss of an IROFS or the occurrence of a contingency does not necessarily change the overall risk).**

**NRC: Under 10 CFR Part 70, Subpart H, an intermediate-consequence sequence is now “not unlikely.”**

- i) *The unrecognized failure of an IROFS for a period that exceeds the established testing or inspection interval and without which the consequence of an intermediate-consequence accident is now “not unlikely.”*
- ii) *Need some solid examples to help put “now not unlikely” into context*

- 3) **IND: For licensees not under 10 CFR Part 70, Subpart H, the substantial potential for injury occurs comparable to a significant change in risk of an intermediate consequence result or to a change in the risk of a high consequence event occurring.**

**NRC: The substantial potential for injury occurs due to a loss of control over licensed activities comparable to a significant change in the risk of a medium-consequence result or to a change in the risk of a high-consequence event occurring.**

- i) *Failure of detection equipment leading to personnel exposure to hazardous chemicals (e.g., HF gas)*

*Other SL III examples from existing Enforcement Policy Supplement VI proposed by NRC*

- The failure of a system designed to prevent or mitigate a serious safety event to be able to perform its intended function under certain conditions.*
- A significant failure to comply with the action statement for a Technical Safety Requirement Limiting Condition for Operation where the appropriate action was not taken within the required time.*
- Failure to comply with NRC regulations resulting in a substantial potential for exposures due to radiation or contamination, or releases, including releases of toxic material, from licensed or certified activities in excess of regulatory limits.*
- A significant failure to meet the requirements of 10 CFR 76.68, including a failure such that a required certificate amendment was not sought.*

- *Failure of the certificate holder to conduct adequate oversight of contractors resulting in the use of products or services that are of defective or indeterminate quality and that have safety significance.*
- *Equipment failures caused by inadequate or improper maintenance that substantially complicates recovery from a plant transient.*
- *Failure to establish, maintain, or implement all but one criticality control (or control systems) for a single nuclear criticality scenario, such that a nuclear criticality accident was possible.*

**D) Severity Level IV Violations involve, for example:**

**1) IND: For licensees under 10 CFR Part 70, Subpart H, A failure to meet the performance requirements of 10 CFR 70.61, or Appendix A to 10 CFR Part 70, that does not result in a Severity Level I, II, or III violation**

**NRC: A failure to meet the requirements of 10 CFR 70.61, or Appendix A to 10 CFR Part 70, that does not result in a Severity Level I, II, or III violation and does not have a material impact on safety or licensed activities.**

- Frequent or repetitive instances of a failure to adequately complete a required IROFS inspection or test.*
- Failures of IROFS occurring at frequencies greater than anticipated in the facility ISA.*
- Failures of IROFS not discovered (but existent) during routine testing or inspections due to poor test or inspection quality.*
- Failure to make a timely notification required under Appendix A for an event or condition that is one-hour reportable.*

**2) IND: A failure to safety systems or controls such that an unacceptable operational safety profile has not been maintained that does not result in a Severity Level I, II, or III violation**

**NRC: NA**

- Frequent or repetitive failures to comply with a non-IROFS administrative control (procedure or posting) that does not result in an actual safety consequence (such as intake of radioactive material, radiological contamination of skin, etc.).*
  - Failure to sign work permits as required, but otherwise compliant with permit.*
  - Failure to adequately perform personal surveys, but not resulting in contamination.*
  - Failures to wear gloves as required, but not resulting in contamination.*
  - Failures recalibrate safety instruments on-time.*

Other SL IV examples from existing Enforcement Policy Supplement VI proposed by NRC

- *A less significant failure to comply with the Action Statement for a Technical Safety Requirement Limiting Condition for Operation when the appropriate action was not taken within the required time.*
- *Failure to establish, implement, or maintain a criticality control (or control system) for a single nuclear criticality scenario.*

**E) Minor Violations involve, for example:**

- 1) IND: For licensees under 10 CFR Part 70, Subpart H, a failure to meet the requirements of 10 CFR 70.61, or Appendix A to 10 CFR Part 70, that does not result in a Severity Level I, II, or III violation and does not have a material impact on safety or licensed activities.**

**NRC: A failure to meet the requirements of 10 CFR 70.61, or Appendix A to 10 CFR Part 70, that does not result in a Severity Level I, II, or III violation and does not have a material impact on safety or licensed activities.**

- i) Failure to make a timely notification required under Appendix A for an event or condition that is twenty-four hour reportable.*
- ii) Discovery of a new accident scenario requiring controls, which is not a result of non-compliance with the safety review process required by the facility ISA program.*
- iii) Discovery of a deficiency in an IROFS test or inspection protocol with no failure of the IROFS.*

- 2) IND: For licensees under 10 CFR Part 70, Subpart H, a failure of a safety control, whether credited as an IROFS or not, that does not result in a failure to meet the performance requirements of 10CFR70.61.**

**NRC: NA**

- i) Infrequent and non-repetitive failure to comply with a non-IROFS administrative control (procedure or posting) that does not result in an actual safety consequence (such as intake of radioactive material, radiological contamination of skin, etc.).*
  - (1) Failure to sign work permit as required, but otherwise compliant with permit.*
  - (2) Failure to adequately perform personal survey, but not contaminated.*
  - (3) Failure to wear gloves as required, but not contaminated.*
  - (4) Failure to recalibrate a safety instrument on-time.*
- ii) Infrequent and non-repetitive degradation or failure of an IROFS that is within the failure frequency assigned by the ISA (e.g., failure to follow a procedure or posting)*
- iii) Infrequent and non-repetitive instances of a failure to adequately complete a required IROFS inspection or test when the IROFS continued to function*
- iv) Failures of IROFS discovered during routine testing or inspections.*

**3) IND: For licensees not under 10CFR70, Subpart H.....**  
**NRC: NA**

*Other MV examples from existing Enforcement Policy Supplement VI proposed by NRC*

- *Infrequent and non-repetitive instances of human error that do not change the likelihood or consequence of an accident sequence.*
- *The failure to comply with a procedure or posting that does not result in a safety consequence.*
- *The failure to adequately document an inspection that was otherwise performed in accordance with license requirement.*

DRAFT