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April 12, 2000

Mr. Theodore S. Sherr  
Chief, Regulatory and International Safeguards Branch  
U.S. Nuclear Regulatory Commission  
Two White Flint North 8A33  
Washington, D.C. 20555

**Reference: Comments on the March 2000 Draft Version of NUREG-1520  
'Standard Review Plan for the Review of a License Application  
for a Fuel Cycle Facility': Chapter 6 – Chemical Process Safety**

Dear Mr. Sherr:

The Nuclear Energy Institute (NEI)<sup>1</sup> and its industry members have reviewed the March 2000 revision of draft Standard Review Plan (SRP) Chapter 6 entitled 'Chemical Process Safety'. Time has not permitted a comprehensive clause-by-clause review of this latest revision, but we have attempted to identify any significant, outstanding issues of concern. We have examined how the staff has addressed issues raised by NEI in its letter to you dated August 20, 1999 on the previous version of Chapter 6 (May 1999). We have also taken into consideration discussions that took place at the February 9-10, 2000 NRC Public Meeting ('*Comment Resolution on Part 70 Standard Review Plan*').

NEI appreciates the opportunity to have been able to review the March 2000 revisions to draft NUREG-1520 chapters. We are encouraged by the ongoing

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<sup>1</sup> 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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resolution of industry concerns and with other improvements that have been made to this guidance document. We look forward to working with you and your staff at the upcoming April 18-19, 2000 NRC Public Meeting on NUREG-1520 to continue these discussions.

Please feel free to contact me should you have any questions concerning the proposed improvements in the attachment to this letter.

Sincerely,

Felix M. Killar, Jr.  
Director, Material Licensees and Nuclear Insurance

c. Mr. Marvin S. Fertel  
Dr. William F. Kane, Director NMSS

**REVIEW OF MARCH 2000 REVISION OF NUREG-1520**  
**CHAPTER 6: CHEMICAL PROCESS SAFETY**

**General Comments:**

Draft SRP Chapter 6 has been revised and reads well. The principles of the NRC-OSHA Memorandum of Understanding on regulatory oversight of purely hazardous chemicals, versus those incident to the processing of SNM, are accurately incorporated into the guidance. Chapter 6 generally provides clear and reasonable guidance.

**Outstanding Issues of Concern**

- Consistency of Terminology:  
'Special Nuclear Material (SNM)' is variously referred to as '*licensed material*' or '*radioactive material*' or '*licensed radioactive material*' throughout this chapter. The NRC-OSHA MoU refers to '*radioactive material*'. Consistency in this terminology is needed. Although, strictly speaking, the correct term in 10 CFR 70 is 'SNM', we recommend use of the simpler '*licensed material*' terminology.
- SRP Chapter Structure:  
There are often discrepancies between the 'Areas of Review' and 'Acceptance Criteria' in NUREG-1520. In Chapter 6, for example, there are no clear acceptance criteria specified for areas of review 7, 8 and 10.
- SRP Requirements:  
Chapter 6 text occasionally references (e.g. §6.3) '*SRP requirements*.' The SRP does not contain requirements and can not impose requirements. It can only provide guidance. This term must be corrected (see below).

**Specific Comments:**

- §6.3 ('Areas of Review'):
  - (i) 3<sup>rd</sup> sentence, paragraph 1: replace the last few words to read: "*...ISA Summary that meets the requirements of §70.65...*"
  - (ii) Specific Area #1: 3<sup>rd</sup> sentence is not necessary (the entire Chapter 6 addresses licensed material and hazardous chemicals incident to its processing.) Redundant. Recommend deletion.
  - (iii) Specific Area #5: for consistency in terminology replace the last few words to read: "*...and availability of IROFS (chemical process safety)...*"
- §6.4.3.2 ('IROFS and Management Measures')

- (i) Paragraph 1 and especially 5<sup>th</sup> - 8<sup>th</sup> sentences [new text]: discussion of management measures in paragraph 1 seems redundant as the same issues are discussed in sections (b) and (c) of §6.4.3.2. The new sentences should focus on grading of IROFS and defer consideration of management measures and their grading to later paragraph (c). Suggest revising the new sentences as follows:

*"If the applicant has elected to apply a graded approach to safety in accordance with 10 CFR 70.62(a), the reviewer should establish that the grading of ~~management measures~~ ~~for~~ IROFS is appropriate and sufficient to protect against chemical process risks. For example, the applicant should consider reliance on passive controls over active systems and consider defense-in-depth in accordance with 10 CFR 70.64(b). To reduce common mode failures, the applicant should favor design features that use independent sources of motive force for items such as control actuators, jet pumps, eductors, and ejectors. Fail-safe controls are preferred unless safety concerns preclude this approach."*

[Insert blank line -- to separate IROFS from Management Measures]

Management measures to assure the availability and reliability of such IROFS, when they are required to perform their safety functions, must also be described. Management measures may be graded commensurate with risk."

- (ii) In item (c), the reviewer should not be expected to review detailed procedures, but rather commitments to establish such written procedures, policies, etc.
- §6.4.3.3 ('Requirements for New Facilities or New Processes at Existing Facilities'):
    - (i) Paragraph 2, 2<sup>nd</sup> sentence: for consistency in terminology, revise to read: "...defense-in-depth of the chemical process safety design..."
  - §6.5.2 ('Safety Evaluation'):
    - (i) Paragraph 1, 3<sup>rd</sup> sentence: for consistency in terminology, revise to read: "...that the chemical process safety approach is consistent..."

- (ii) Paragraph 3: This marks the first occasion for introducing the term '*Safety Evaluation Report*' and the acronym SER. The sentence should be revised to read: "...*The primary Reviewer will prepare a Safety Evaluation Report (SER) for the Licensing Project Manager in support of the licensing action...*". Commas are not needed in this sentence. Delete them.
- §6.5.2.2 ('IROFS and Management Measures'):
  - (i) Paragraph 2, 1<sup>st</sup> sentence: '*are*' should be '*is*'
- §6.6 ('Evaluation Findings'):
  - (i) Last paragraph of suggested text, line 3: '*provide*' should be '*provides*'