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Mr. Yawar H. Faraz
United States Nuclear Regulatory Commission
Office of Nuclear Material Safety and Safeguards
Division of Fuel Cycle Safety and Safeguards
Special Projects Branch
Mail Stop T8-A33
Washington, DC 20555

REFERENCE: Comments on the June 14, 2001 Revision of Standard Review Plan (SRP) Chapter 3 ('*Integrated Safety Analysis (ISA) and ISA Summary*') of Draft NUREG-1520

Dear Mr. Faraz:

The Nuclear Energy Institute (NEI)[1] on behalf of its industry members has reviewed the latest revision of Chapter 3 of draft NUREG-1520 that was posted on the NRC Rulemaking Web Page on June 15, 2001. This revision was prepared following the NRC Public Meeting on May 8, 2001 that was held to seek industry and other stakeholder comments on the earlier March 2001 version of Chapter 3.

We are pleased with the manner in which the NRC has incorporated both the outcomes of the discussions held at the public meeting and the approximately eighty clarifications and improvements that were recommended by NEI and the Part 70 licensees. Our review has not identified any major issues of concern. Chapter 3 has been significantly improved since the first draft was issued in July

[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.

1998. We believe that the June 2001 revision now offers clear guidance to the reviewer of an ISA Summary and supporting ISA licensee commitments.

The 'Risk Index Method' that is developed in the appendix to Chapter 3 is useful in presenting one possible approach for an applicant to conduct and present the results of risk analyses of credible facility accident sequences. We believe, however, that the intent of the appendix should be more clearly stated. In discussions with the NRC in 2000, consideration had been given to drafting the Chapter 3 appendix as a '*format and content*' guide for the ISA Summary. If this remains one of the purposes of Appendix A, further revisions of the appendix will be required to address all of the regulatory requirements of 10 CFR 70.65(b).

The attachments to this letter include red-lined and 'cleaned' versions of the June 2001 revisions of Chapter 3 and Appendix A. A majority of the suggested improvements address issues of terminology consistency within the chapter (or with the underlying 10 CFR 70) and corrections of a purely editorial or English-usage nature. We do raise more substantive issues with two of the sections of new text inserted into the chapter (§3.3.2 and §3.5.2.3). While we do not disagree in principle with what each of these insertions seeks from the applicant, we believe that certain clarifications to the proposed text are needed.

We hope that you find our comments useful and constructive as the NRC completes work on this final chapter in NUREG-1520. We look forward to receiving your comments to this letter at the August 2, 2001 Public Meeting on NUREG-1520 Chapter 3. In the meantime, please feel free to contact me should you wish to discuss any of our suggested improvements to this SRP chapter.

Sincerely,

Felix M. Killar, Jr.

Attachments

cc: Bob Pierson (NMSS/FCSS/FSPB)
Lidia Roche (NMSS/FCSS/FLIB)

COMMENTS ON THE JUNE 14, 2001 REVISION OF DRAFT NUREG-1520 CHAPTER 3
'Integrated Safety Analysis (ISA) and ISA Summary'

The attached red-lined copy of Chapter 3 presents all of NEI's comments and suggested improvements to the text. Our review has not identified any major issues of concern, although we believe that some revision of the text in two sections would be appropriate to clarify the guidance. Many comments pertain to the new sections of text added following the May 2001 public meeting (e.g. §§ 3.3.2 and 5.3.2.3) and to the manner in which the remaining guidance has been categorized under new sub-headings.

Substantive Issues

(1) **Representative Samples of Processes in the ISA Summary**: On several occasions the guidance seems to imply that the license applicant would only include in the ISA Summary analyses of accident sequences from a "representative sample of processes" (e.g. §3.3.2, 5th paragraph from the section end). This is incorrect. The ISA Summary will present information on all general types of accident sequences that could have high- or intermediate-consequences.

(2) **Likelihood Determination**: The guidance occasionally seeks likelihood information for a process rather than for an accident sequence (e.g. §3.3.2: "*...each individual process would be expected to be addressed in the ISA Summary with respect to summarizing its likelihood evaluation*..." The "likelihood" of a process has no meaning; rather the likelihood of credible accident sequences in a process can be assessed.

(3) **Vertical Slice Reviews**: The guidance is inconsistent between §3.3.2 and §3.5.2.3 in recommending the number of vertical slice reviews that the reviewer(s) should conduct. Although specification of this number is difficult and highly facility-dependent, there should be internal consistency within Chapter 3 on the recommended number of reviews to undertake:

Chapter 3 Section	Process Type		
	NCS	Fire	Chemical/radiological
§3.3.2	3-4	1	1
§3.5.2.3	5-10	1-3	1-3

(4) **ISA Summary Examples**: In the 'Vertical Slice Review' section of §3.5.2.3 the guidance seems to suggest that the reviewer can expect to see examples in an applicant's ISA Summary of how the ISA methods were applied to facility processes. The guidance does not, in fact, direct the applicant to provide such examples, even though this would appear to be a very useful addition to the

application. Perhaps some qualifying language should be added to inform the reviewer that inclusion of "worked examples of the ISA method" might not always be expected in every ISA Summary. The decision to do so rests with the applicant.

(5) **On-Site ISA Review**: Addition of guidance on the conduct of a site visit is an excellent improvement to Chapter 3. As noted in the red-lined version, we recommend restructuring this section with an introduction, relocation of certain paragraphs of information to new sub-headings and clarification of the issues noted in Items (2) and (4) above. Inclusion of some additional explanatory words to define 'horizontal' and 'vertical' slice reviews is recommended.

Editorial Corrections

Several editorial changes have been recommended. Some of the generic changes that are proposed include:

- consistent use of terms (e.g. "on-site" instead of "onsite", "reviewer" instead of "staff", "ISA documentation" instead of "on-site documentation", "facility" instead of "plant", "[ISA] method" instead of "[ISA] methodology")
- consistent use of 10 CFR 70 terminology (e.g. "general types of accident sequences" instead of "accident sequences", "management measures" instead of "management controls")
- consistency in section chapter headings between the "Areas of Review" and "Acceptance Criteria" (e.g. "ISA Summary" in §3.4.3.2 instead of "ISA Results, including ISA Summary" for consistency with §3.3.2)
- reduced use of gerunds and replacement of the "*It is necessary…*" English structure
- replacement of all encompassing gender-specific language (e.g. his/her")

COMMENTS ON APPENDIX A OF DRAFT NUREG-1520 CHAPTER 3
'Example Procedure for Risk Evaluation'

The attached red-lined copy of Chapter 3 Appendix A presents all of NEI's comments and suggested improvements to the text. The Appendix provides one useful example of how a licensee can conduct a risk evaluation of accident sequences and how the results could be presented. We generally find Appendix A to be well structured, to provide a helpful example of the 'Risk Matrix Model' approach to accident analysis and to be consistent with the regulatory guidance presented in draft SRP Chapter 3.

Appendix A frequently identifies information that would either be recorded in the ISA or included in the ISA Summary. These directions are sometimes confusing. The purpose of Appendix A needs clarification. Last year consideration was given to having Appendix A serve as a 'format & content' guide for the ISA Summary. We are unsure if this remains the intent for Appendix A. As currently written, the appendix provides useful information on the 'Risk Matrix Model', but it does not address many of the other expectations for an ISA Summary. NEI recommends that the intent of Appendix A be clearly specified in its Introduction section.

Our review has identified several sections of the Appendix that should be updated to be consistent with the revisions made by the NRC staff to the June 2001 revision of Chapter 3. For example, we believe that several pages of background information on the Part 70 rule could be simplified without any loss of clarity to the preparer or reviewer of an ISA or ISA Summary. This information is fully explained in Chapter 3. The Appendix occasionally provides confusing guidance on what information should be expected in an ISA and in the ISA Summary (e.g. "all accident sequences" *versus* "general types of accident sequences"). Finally, we have identified several examples of terminology that should be revised to provide consistency with the text of Chapter 3.

On the following pages we offer a few comments on the principal areas in the Appendix where we believe some revisions are prudent and useful.

Substantive Issues

(1) Appendix Structure:

- the background information in the Appendix introduction seems redundant as it has all been well explained in Chapter 3. Recommend replacing the six first paragraphs by a simple introduction
- only a general overview of the methodology of the 'Risk Index Model' (including how it was developed) should be made in Section A-1. We believe the appendix should first explain development of the core elements

of the Risk Index Method, without introducing applicant-specific modifications (e.g. which acute chemical exposure standards to use). Adoption of the ERPG exposure standards in Section A-1 simply clutters the method description and should be deferred until the uranium powder blender example is presented.

- the reasoning presented in Section A-3 as to how quantitative likelihood standards were developed was deleted from Chapter 3. We question whether this reasoning continues to be needed in the appendix. If the NRC does, however, wish to include this reasoning in the appendix, some qualifying statements should be included to note that the reasoning is included for example purposes only
- the reviewer should understand that this Appendix, *as currently written*, is not a "form and structure" guide for either the ISA or the ISA Summary. The intent of the appendix should be clarified.
- the information requirements for an ISA are sometimes confused with those for the ISA Summary. For example, the ISA Summary does not require information on "*all accident sequences*" but only on "*general types of [high- and intermediate-consequence] accident sequences*".
- in Section A-11, Item(1) management measures are to be judged based on the Baseline Design Criteria of 70.64. This statement is certainly applicable to IROFS management measures in a new facility or new process at an existing facility. What basis would be used to judge the adequacy of IROFS management measures for an existing facility?

(2) **Terminology:**

Several instances of inconsistent terminology usage between Chapter 3 and the Appendix have been flagged. For example, 'IROFS' instead of 'safety controls', 'systems of IROFS' instead of 'sets of IROFS', 'accident sequences' instead of 'accidents', etc. have been flagged in the red-lined version of Appendix A.