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November 3, 2014

Ms. Cindy Bladey
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTN: Rulemakings and Adjudications Staff

Subject: Industry Comments on Draft NUREG-1520, Revision 2, "Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility", Docket NRC-2012-0220, (79 FR 45849)

Project Number: 689

Dear Ms. Bladey:

On behalf of the nuclear industry, the Nuclear Energy Institute (NEI)[1] submits the following general comments and attached specific comments on Draft NUREG-1520, Revision 2 for consideration by the U.S. Nuclear Regulatory Commission (NRC) staff. We appreciate NRC extending the public comment period and we found the September 23, 2014 NRC public meeting useful in informing our comments. We trust the NRC staff will find our comments useful, we would be pleased to clarify any of them upon request, and we look forward to the final version of NUREG-1520, Revision 2.

General Comments

1. **Issuance of Revision 2 should be delayed.** Industry appreciates the fact that there is a never a perfect time to update the Standard Review Plan, i.e., NUREG-1520. That being said, one could question whether an update should be attempted until at least 2017 based on the following facts. Specifically: 1) there are no applications for a new NRC-licensed fuel facility for the foreseeable future and the last 3 facilities licensed are not yet under construction; 2) relevant significant rulemakings are underway, i.e., Parts 73 and 74; 3) relevant guidance is under development, e.g., dermal and ocular quantitative exposure standards; and 4) unresolved regulatory issues remain,

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

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e.g., the draft generic letter on treatment of natural phenomena hazards in the facility-specific integrated safety analyses (ISA).

2. **Information in Integrated Safety Analyses/Summary and not License Application:** As industry commented during the September 2014 public meeting, there are many examples where the draft NUREG states that certain information, which is typically contained in the onsite ISA, must now be contained in the license application. This approach is inefficient, not risk-informed and unnecessarily resource intensive for the applicant or licensee undergoing license renewal or amendment. As NRC is aware, the ISA is an evolving process and routinely updated to reflect current facility operations; therefore, the most up to date information is readily available for NRC review onsite. Therefore, we encourage NRC to modify the Draft NUREG to allow for most information to be contained in the on-site ISA and not submitted in the license application.

3. **Draft Chapter 3, ISA:** Despite Commission direction to not modify existing ISA related guidance until such time that the final American Nuclear Society's ISA standard is issued, the Draft revisions to Chapter 3 are relatively extensive, do not appear to be fully warranted or explained, and extend beyond "administrative" changes as characterized in the document, related FRN and by NRC staff during the September 2014 public meeting. Industry suggests that the current version of Chapter 3 be maintained until a Draft Revision 3 of NUREG-1520 is performed.

4. **Draft Chapter 5, Nuclear Criticality Safety**: Industry notes that there is an excessive level of detail in Chapter 5 with regard to what information must be submitted by the applicant or licensee that is not commensurate with other chapters, e.g., Chapter 3 on the Integrated Safety Analysis. Industry suggests that a consistent approach be taken across all guidance chapters regardless of the subject matter.

5. **Chapter 11, Management Measures**: Industry is concerned that NRC's potentially new approach to management measures deviates from current NRC-approved licensee practices and programs. For example, NRC's September 2014 meeting slide 20 regarding Management Measures states that there are certain "not graded" Quality Assurance (QA) program elements. As we stated during the meeting, industry does not agree that certain QA program elements, e.g., document control or identification of control items, are not, cannot, or should not be graded. In fact, one licensee commented that all management measures at their facility are graded from a risk perspective and that NRC has approved such an approach. To treat all program elements equally does not allow the necessary risk-informed approach to management measures and diverts limited safety resources from the more risk significant program elements to the less significant ones. Therefore, we do not support this concept and do not currently understand NRC's basis for it. In addition, Draft Revision 2 of NUREG-1520 is vague and potentially confusing for license reviewers in that it does not provide specific acceptance criteria to determine whether proposed management measures are sufficient.

6. **New Chapters 12 and 13, Material Control & Accounting and Physical Security**: Industry recognizes that NRC has included draft guidance based on relatively recent licensing experience; however, given the status and interdependency of the Parts 73 and 74 rulemakings, it seems premature to include draft guidance in NUREG-1520 until these rulemakings are complete. Further, adding such guidance now would potentially result in the guidance being "out of synch" with any new or revised future requirements. As a result, NRC should consider not adding these new chapters until the respective rulemakings are complete.

7. **Dermal/Ocular Quantitative Exposure Standard for Workers**: Given the fact that, while NRC has stated its position on this matter in a September 2014 letter[2], the draft guidance document for stakeholder comment is not expected until winter 2015. Therefore, inclusion of any text that reflects an NRC position on this matter not contained in a final NRC guidance document is premature, inefficient, and should be incorporated into a subsequent revision of NUREG-1520.

8. **Soluble Uranium Intake Values**: This section should be modified to be consistent with the current draft but near final Interim Staff Guidance on Acute Uranium Exposure Standards issued for in September for public comment by December 1, 2014. We believe our position is consistent with NRC-industry discussions during the October 2013 public meeting. We are pleased that this issue is being brought to closure in an implementable manner that is acceptable to both NRC and industry.

9. **Terms"Nexus" versus "Co-mingled"**: See page 3-21, footnote 4. Use of the phrase, "nexus to the processing of licensed material" appears new. Therefore, NRC's use of this term versus the historical use of "co-mingled" is not clear and industry is concerned that "nexus" implies a much broader interpretation of impacted chemicals than does the term "co-mingled". Also, use of the term could be confusing and potentially overlapping the jurisdictions of the Occupational Safety and Hazards Agency and NRC for the safe and secure use of chemicals.

Thank you again for the September 2014 public meeting and extended comment period. We are available to clarify any industry comments as needed and we look forward to review of the final version of NUREG-1520.

Sincerely,

Janet R. Schlueter

Attachment
c: Ms. Marissa G. Bailey, NMSS/FCSE, NRC
Ms. Soly I. Soto, NMSS/FCSE/FMB, NRC

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[2] September 15, 2014 letter from M.Bailey, NRC to J.Schlueter, NEI on "Response to March 26, 2014, Nuclear Energy Institute Letter on Dermal and Ocular Quantitative Exposure Standards."

Specific Industry Comments on Draft NUREG-1520, Revision 2

Bottom Line: Industry appreciates the fact that there is a never a perfect time to update the Standard Review Plan for fuel cycle facilities, i.e., NUREG-1520. That being said, one could question whether an update should be attempted until at least 2017 based on the following facts. Specifically: 1) there are no new applications for an NRC-licensed fuel facility for the foreseeable future and the last 3 licensed facilities are not yet under construction; 2) relevant rulemakings are underway, i.e., Parts 73 and 74; 3) relevant guidance is under development, e.g., dermal and ocular quantitative exposure standards; and 4) unresolved regulatory issues remain, e.g., the draft generic letter on treatment of natural phenomena in the integrated safety analysis.

Chapter 3 (ISA)

General Comment: Despite Commission direction to not modify existing ISA related guidance until such time that the final American Nuclear Society's ISA standard is issued, the Draft revisions to Chapter 3 are relatively extensive, do not appear to be fully warranted or explained, and extend beyond "administrative" changes as characterized in the document, related FRN and by NRC staff during the September 2014 public meeting. Industry suggests that the current version of Chapter 3 be maintained until a Draft Revision 3 is attempted.

- Section 2: NRC should clarify the phrase, "all credible events." It is not clear whether it is intended to mean "all credible bounding sequences" or all credible events that require protection to prevent high or intermediate consequence events.
- Section 3.3.2, "Review Interfaces": Perhaps chapter 4, Radiation Protection, should be included in the list of SRP sections that should be interfaced with this section.
- Table 3.2: "criticality monitoring and alarms" is in the license application and typically not in the ISA Summary. Section 3.4.3.1, item (2)f: "procedures" are available for review on site and should not need to be sent to NRC as implied by this sentence.
- Section 3.4.3.1, item (3)a.iv.: "safety margin" information is not contained in the ISA summary as implied: This information is reviewed on site. Since safety margin (subcritical margin) is defined in the license application it is not obvious why safety margins of process parameters also need to be included. This comment is also applicable to item (b)(iii)
- Section 3.4.3.2, item 1(c): NRC should ensure that its expectation with regard to treatment of natural phenomena hazards in the ISA is consistent with the final Generic Letter to be issued in winter 2015 for implementation later next year.
    - Item (3)(c)(i) and item (ii): It is vitally important to not confuse the terms accidents and accident sequences. This section also seems internally inconsistent with regard how accident sequences are defined and characterized.

- Item (4)(a): "credible" – The definitions in this section appear to differ from ANSI 8.1, although they are worded the same. One could conclude that all combinations of errors that could occur in 1M years have to be proven to be subcritical. It is unclear whether this is what NRC intended.
- Item (4)(a)(i): It is not possible to list all credible events.
- Item (4)(a)(ii): It is not possible to compare quantitative consequences for dermal and ocular events to the consequence levels in Section 70.61. It is not done for many inhalation hazards in the ISA Summary, rather such information is onsite. NRC has indicated that they believe an ISG clarifying this expectation will be ready early 2015. This section should be consistent with the ISG and the revised NUREG-1520 should not be issued until the dermal ocular issue has been resolved.
- Item (4)(c): Requirements for criticality monitoring and alarms in section 70.24 are included in the license application and for many licensees have not been in the ISA Summary. Licensees and the staff should be permitted latitude on this item so that redundant information is not required to be submitted to the agency.
- Footnote 4 in this section: "Nexus to processing." NRC's intent with the use of this term is not clear given the long standing use of the term "co-mingled". It is unclear why the term co-mingled is not used? Further, it is unclear whether use of the word "nexus" represents a fundamental change in NRC's approach to chemicals, and if so, it is unclear whether this approach has been coordinated with the Occupational Safety and Hazards Agency.
- Item 7)(a): "for each exposure pathway." There is no mechanism to provide quantitative standards for the dermal or ocular exposure pathway or for many ingestion sequences. This issue is directly related to the ongoing, unsettled, issue of quantitative exposure standards for dermal and ocular exposure with no clear path forward at this time based on the NRC's September 2014 response letter to industry.
- Item (7)(d): "mild transient health effects." NRC needs to define or, at minimum, provide examples of mild transient and serious long term health effects since this has been an area of controversy and confusion for essentially all NRC categories of licensees.
- Item (9)(f): "10-5 per event per year." The frequency does not add up to an event every 100 years. With such a small fleet of licensees (~10 operating), we have about 1,000 operating years during this time which means that we can only have 100 accident sequences that meet this minimum definition of "highly unlikely." Clarification of NRC's intent is sought. Also, "credible" when used in criticality sequencing does not have the same meaning – industry suggests NRC use the "credible" footnote in Chapter 5 wherever possible for clarity and consistency.

- Appendix A and "General Types of Accident Sequences". This discussion can be easily confused with the definition of "Types of Accident Sequences " defined in NUREG 3.74 "new types of accident sequences can be defined as accident sequences that result from a hazard that has not previously been described in the ISA Summary as having consequences that could exceed the performance requirements unless mitigated or prevented. One could infer from this section that the NRC wants pre-approval for a licensee to replace an administrative IROFS with an engineered IROFS if it will be used with a different set of IROFS than used in other accident sequences listed in the ISA Summary. Also, pre-approval would be needed to make a change with the criticality safety IROFS (loss of containment protection) for a chemical safety accident sequence if not already used in a sequence contained in the ISA Summary. It is unclear whether these pre-approvals is what NRC intended. We suggest not. Please consider the following re-write of this section *[Changes in italics]*:
    - *"General accident sequences differ if they consist of a different set of IROFS failures.* The ISA summary need not list as a *separate accident sequence, every conceivable permutation of a family of accident sequences.* Several processes, or different nodes of the same process each using a set of IROFS that is functionally of the same type (e.g., having the same mechanical, physical, and/or electrical principle of operation) and fall in the same categories, can be grouped as a single bounding accident sequence in the ISA summary provided that the following conditions are met:
        i. The initiating IROFS failures or events have the same effect on the system.
        ii. They all consist of failures of the same IROFS or system of IROFS.
        iii. They all result in violation of the safety limit on the same parameter.
        iv. They all result in the same type and severity categories of consequences."

Chapter 4 (Rad Protection)

- Many of the documents referenced in 4.4.2.2. are very outdated and should be updated or deleted.

Chapter 5 (Nuclear Criticality Safety)

- ANSI-ANS 8.1 published in 2014 should be added as a reference or replace the existing reference to the 1998 version of ANS 8.1.
- Section 5.3, item A.4: "validation report." This term needs clarification since it is unclear whether it is referring to the computer code validation report. Same comment for item B.4.
- Section 5.4.3.1.1.(2): If a licensee commits to an industry standard, it should be adequate that such information is retained on site and not included in the license application.
- Section 5.4.3.1.2 (2) re: Criticality Accident Alarm System (CAAS): Many of the CAAS details should be in technical manuals available on site and not in the license application. The commitment to meet the criteria listed in the regulation and ANSI standard should be sufficient in a license application.

- Section 5.4.3.1.3.(3): This item appears to conflict with the requirement listed in 70.24(b)(1) which states: "provide the means for quickly identifying the individuals who have received doses of 10 rads or more." This apparent allowance to have fixed dosimeters or personnel accident dosimeters would cause an unintended violation of the aforementioned requirement and current approved NRC programs.
- Section 5.4.3.1.4., item (1)(d): The validation report discussed earlier should have a direct tie to this item to reduce ambiguity. Item (2): It is unclear why it is necessary to include subcriticality information in the license application since it is normally kept on site for inspection and the licensee commits to following it and informing NRC of changes to it. Item (4), paragraph 4: "no credible accident sequences" should be footnoted as to not mean 10^{-6} events.
- Appendix 5-A: It contains a lot of redundant text and excessive detail which should be deleted for brevity. The same comment applies to other chapters and sections.
- Section 5.4.3.1.5, item (2)(a): Consistent expectations need to be established. The origin of the term "credible abnormal events" did not include 10^{-6} definition of credible. Item (e): "Audits and assessments" – these terms are not used consistently or defined in the draft NUREG-1520; therefore, clarification is needed. Item (5): This item implies that two limits must be established for each controlled parameter, operating limit and safety limit. It is unclear whether this is what NRC intended. Also, items (6) and (7) seem redundant.
- Section 5.4.3.1.6 – Item (2)(b): NRC should consider using term "assessment" or "appraisals" which is a more accurate description of this program review. Audits imply compliance and assessments usually determine how well the program is functioning overall. NRC should clarify its expectation.
- Section 5.4.3.1.7 – Items (3) and(4): Most of the language in these items is a subset of ANSI 8.24 and it seems unnecessary to duplicate here when a simple reference would suffice.
- Section 5.4.3.1.7.1.(A)(1) – The level of detail seems excessive for a license application and it is maintained onsite for NRC review.
- Section 5.4.3.1.7.2. Item (1)(b): NRC should clarify which definition of "unlikely" is used here, e.g., 10^{-4}
- Section 5.4.3.2.1. Item 6: NRC should clarify that not all double-contingency controls are IROFS, e.g., sole IROFS, although general conditions exist, e.g., 10% enrichment limit.
- Appendix A, "Introduction": The phrase "under normal and abnormal conditions" should be revised to say "credible, normal and abnormal conditions." "Credible" in this context is not the same as in Chapter 3, section 3.4.2. This is especially true when considering single IROFS failures. Most licensees cannot demonstrate two simultaneous/concurrent IROFS failures are not credible....only highly unlikely events.
- Appendix A, "Discussion": The text "provide for criticality control including adherence to the double contingency principle" is not consistent with ANSI-ANS 8.1 which states: "design should, in general, incorporate sufficient factors of safety to require at least two unlikely,

independent, and concurrent changes in process conditions before a criticality accident is possible." We suggest NRC rely on the ANSI language. Otherwise, one could argue that no enrichment facility could be licensed as the only "change in process condition" required for accidental criticality is that the UF6 become moderated. Note the definition here does not invoke the "credible" aspect of these changes. Based on the construct of this definition, compliance does not require that "all processes must require two changes in process conditions before criticality is possible in order to implement the double contingency principle. Also, it's not clear that the 70.61(d) quote is correct in that only the second sentence in the quote could preclude situations where criticality could be permitted. Finally, last paragraph before item (a): This is a needed allowance (not requiring the consideration of multiple independent IROFS failures). However the definition of "credible" as repeated here does not support the allowance. This will confuse reviewers and licensees as it implies that the frequency for two independent IROFS failures must be a 10^{-6} event; whereas, at least three licensees have as a definition of highly unlikely as an index number of $^{-4}$ (this is a qualitative {semi-quantitative} assessment which is two orders of magnitude or more less than how "credible" is defined here.

- Appendix A, item (c): "credible conditions are subcritical." Again, credible as used here has not by most licensees been in the context as "credible" as far as dismissing accident sequences from being evaluated to demonstrate that they are at least "highly unlikely." Item (c) bullet 5: The regulation does not require that computer models be used to demonstrate subcriticality. This guidance could mislead reviewers/inspectors into expecting that licensees have a virtual plant of every "credible" configuration created in KENO or MCNP. Also, having a computer based calculation with the "model" outside of the area of applicability does not always constitute failure to meet 70.61 (d). In fact guidance is provided on how to extrapolate beyond the Area of Applicability. Item (c) bullet 6: An unanticipated credible condition does not necessarily constitute failure of 70.61 (d). Many such credible conditions are bounded by a safety analysis.
- Section entitled, "Relationship of 70.61(b) to (d)", 2nd paragraph: This ANSI-ANS 8.1 text for the term "credible" is different than defined in Chapter 3 of NUREG-1520. Also, 3rd paragraph: the term "Non-zero" indicates that "not credible" does not mean impossible, however it does not give good guidance on how large of a "non-zero" value or qualitative judgment is acceptable. NRC needs to clarify in the 4th paragraph, the sentence that begins with: "Thus, if a licensee..." Just because high consequence events (nuclear criticality) are highly unlikely and that an approved margin is used to establish limits and controls, does not mean that accidental nuclear criticality is "not credible" i.e. that all credible conditions (both normal and abnormal) are subcritical...depending on how "credible" is defined.
- Section entitled, "Double Contingency Principle 70.64(a)(9)", paragraph 2, last sentence: NRC should state how or at least provide an example of how 70.64(a) allows for not having strict compliance with DCP if the ISA demonstrates that it is not relied on for safety or otherwise does not require adherence.

- Section entitled, "Changes in process conditions", bullet 5: NRC should state how it would list this siphon break (funnel break or air gap to preclude pumping instead of syphon) as an IROFS and how it would justify it in a hypothetical ISA summary as not being a sole IROFS. Also, the double contingency analysis included in appendix 5 page 5-c-7 (item GEO-04)...does not list this single item in the example. Rather, it is doubled up with another IROFS.
- Section that begins, "Some examples of control systems that would not meet Section 70.61(d).....": We view the provided examples as not unlikely enough to occur concurrently... (not sufficiently independent perhaps); however, if "failure of multiple IROFS do not need to be evaluated within the spectrum of credible abnormal conditions," as stated on page 5-A-3, then something here or on page 5-A-3 needs clarification for internal consistency. Also, the use of control systems to describe administrative actions is confusing. Normally "control systems" is used to describe engineered controls. Consider using "control methods" or "control schemes".
- Appendix B, Introduction, sentence 3: We assume "actual conditions" means real plant conditions versus "expected" or computer predicted Keff values for modeled conditions. Further, it is unclear whether NRC intends that "bias" used here means the difference between critical conditions established by experiment compared to computer models of the same system.
- Appendix B, Discussion, 1st paragraph, last sentence and formula: This is not a universal definition; rather it is simply the difference between the two positive or negative sign that can either be conservative or non-conservative depending on the convention chosen. Also, "bias and its uncertainty" needs to be clarified. Specifically, we need to be careful with the language here. Industry believes what is meant is that "the bias and the uncertainty in the bias" are known with a high degree of certainty. It is unclear whether NRC intends that sources of bias and uncertainty in modeling (not tolerances) need to be taken into account.
- Appendix B, footnote 1, sentence 2: NRC should clarify the regulatory basis for license reviewer's to go beyond what is required in the rule as implied in this sentence.
- Similarity of Critical Experiments, item 4, paragraph 2: "All parameters that can measurably affect the bias...." Consideration of all items that can measurably affect the bias would dictate that all parameters must be evaluated so that one can see which changes might be measurable. 3rd bullet in this section: "Statistically insignificant" is different than "can measurably affect". It is unclear why these two different terms are used since they cause confusion. Perhaps NRC should clarify its intent with their use.
- Validation Methodological Rigor, paragraph 3: If more critical experiments were available, the licensee would undoubtedly use them. What then is to be done when a larger number of bench mark experiments are not available? We are not aware of any NRC funded experiments to fill in the known holes when it comes to enrichment ranges, material compositions solid fissile material in fissile solutions etc. Paragraph 5 same section: It is unclear why NRC apparently has confidence in a non-conservative bias, but not in a conservative one. One should understand the bias and what it effects; however, it does not make technical sense to only correct calculations in one direction due to bias.

- Summary: NRC should consider providing information contained in this section and the Technical Review Guidance near the beginning of this appendix to help guide the reviewer and avoid a "checklist" approach which could result in too much information and detail being demanded in the ISA Summary/License application.
- Annex to Appendix B: When delta ks and delta kc are due to the same statistical uncertainty of the calculational tool, this seems to be a double hit and should be combined and only used as a onetime penalty.
- GEO-2, Column leaks, 1st control: It is not clear how the column diameter is related to recirculation pump volume unless this is meant to be a neutron interaction consideration which is later. Therefore, NRC should clarify its intent.
- GEO-4, Column overflows, 2nd control: Previous discussion indicates that double contingency(DC) is met with only the syphon break. This allowance should be specifically noted here in the example if the previous discussion is accurate and consistent with the NRC's intended interpretation. Otherwise, a license reviewer will conclude that DC= two controls or more.
- PC-01, 1st control: Filter replacement is a very routine operation and it does not seem unlikley that one is not re-installed or is not installed correctly such that no leak by of solid material occurs. Both seem to be dependent upon the same administrative requirement to place the filter element inside the filter housing. Discussion of the filter configuration is needed to understand the proposed control.
- Demonstration of Satisfaction of ISA Requirements, paragraph 4, sentence 7: This sentence is misleading. Criticality does not occur in a computer model. The configuration of the system as it exists in the plant is what ensures subcriticality. It is vital that the actual configuration be controlled, even more so than the "virtual" configuration. The computer model is only a guide and certainly must bound plant conditions. Paragraph 6, sentence 4: This assertion is incorrect. This means that all aspects of the configuration as an IROFS and those addressed under Part 21 will tend to become an essential component. Paragraph 7, sentence 3: This seems to be saying that the single safety function being credited to prevent accidental nuclear criticality is "to keep the fissile material within specified dimensions" yet this is not a "sole IROFS". It is unclear whether this is because the NRC believes loss of configuration control is "not credible". Due to the fact that "configuration of the system is an item relied on for safety" and configuration control is a management measure that assures, it is therefore credible to alter the system in such a way that accidental nuclear criticality is credible. NRC should confirm that this is the guidance intended to be portrayed to licensees. Paragraph 8: NRC should clarify the difference between "configuration management and change control".

- Passive Engineered, SX-02: "Hydrostatically tested" is part of a management measure instead of the IROFS itself. NRC should clarify if this is not what was intended. SX-03: "vents." These vents must be overflows to the floor instead of vents to the ventilation system or scrubber unless the ventilation system/scrubber system is at a lower elevation than the supply tanks. SX-07: Some NRC staff have insisted that this type of control is administrative, not passive because the filters are changed out routinely and might not be re-installed as they are required. Some would say that this common cause failure means the filters are not independent controls. The monthly surveillance implies a duration factor of -1 (0.1 of a year) if frequency / duration of failure (T/2) approach is used. NRC should comment on or clarify this aspect of the example.

Chapter 6 (Chemical Safety)

- It is unclear why the term "co-mingled" as currently used by NRC and understood by industry is not used or referenced in this chapter. Perhaps NRC should clarify its intent.
- Section 6.4.3.2., Item 1: It should be noted that the majority of dermal and ocular exposures are not caused by licensed material but rather co-mingled material and a quantitative exposure standard(s) for most chemicals do not exist for dermal and ocular exposures. As stated previously, NRC should wait to provide additional guidance in this area until after issuance of final guidance planned by the end of 2015.
- Section 6.4.3.3., Item A(5): "expected to be onsite." NRC should clarify its intent with the use of this phrase since "in contact" with licensed material is not consistent with "co-mingled" and chemicals that are merely "expected to be on site" are not within NRC's jurisdiction.

Chapter 7 (Fire Protection)

- Section 7.4.3.2.1., paragraph 2: This appears to be a new requirement. The concept that a listing of all IROFS that could be impacted from a credible fire must be included in the FHA is not consistent with traditional Fire Hazards Analysis content. The assessment of the impact of fire on safety is completely different from assessing the impact of fire on IROFS.

Chapter 11 (Management Measures)

- Industry is concerned that NRC's potentially new approach to management measures deviates from current NRC-approved licensee practices and programs. For example, NRC's September meeting slide 20 regarding Management Measures states that there are certain "not graded" Quality Assurance (QA) program elements. As we stated during the meeting, industry does not agree that certain QA program elements, e.g., document control or identification of control items, are not, cannot, or should not be graded. In fact, one licensee commented that all management measures at their facility are graded from a risk perspective and that NRC has approved such an approach. To treat all program elements equally does not allow the necessary risk-informed approach to management measures and diverts limited safety resources from the more risk significant program elements to the less significant ones. Therefore, we do not support this concept and do not currently understand

NRC's basis for it. In addition, this Draft Revision 2 of NUREG-1520 is vague and potentially confusing for license reviewers and does not provide specific acceptance criteria to determine whether proposed management measures are sufficient.

Chapter 12 (Material Control & Accounting) – Delete at this time based on the Parts 73 and 74 rulemakings to avoid conflicts or inconsistencies.

Chapter 13 (Physical Protection) – Delete at this time based on the Parts 73 and 74 rulemakings to avoid conflicts or inconsistencies.

- For example, section 13.4.2.1, item 3 references section 73.67 and sub items that will no longer be relevant with the potential Part 73 rulemaking as stated in the Draft Regulatory Basis and by NRC staff during the June and September 2014 public meetings.

Glossary

- Industry appreciates NRC's effort at modifying existing or adding new definitions to the glossary for clarity and we offer the following observations:
    - "Analytical limit" – This definition is not consistent with the "safety limit" definition. The safety limit definition implies that the two terms are interchangeable.
    - "Credible abnormal condition" – This term does not seem to be used consistently in the Draft NUREG-1520, Revision 2.
    - "Degraded" – Typically, industry only uses this term when the safety margin has been reduced not when its availability or reliability has been negatively changed; therefore, it is unclear whether NRC is attempting to tie this condition to section 70.72 and the ISA Summary.
    - "Independent" – Industry does not generally consider interdependent probability of failure as an aspect of independent. No common mode failure is the key aspect of independence.
    - "Lost" – Industry believes this term is synonymous with "failed" and confuses the concept of "unavailable" with lost and failed. The terms should be defined in a manner consistent with the rule, i.e., IROFS must be available and reliable.
    - "Safety limit" (revised) – The revised definition does not consider the chemical aspects of the term "reactivity," i.e., the rate at which a chemical substance tends to undergo a chemical reaction. The reference to an "analytical limit" as equivalent to "safety limit" will confuse NRC inspectors who visit facilities where the analytical limit refers to the limit established to ensure that measurement uncertainty is considered when establishing set points that protect the safety limit or other limits with arbitrary safety margins.