NIMA ASHKEBOUSSI
Sr. Project Manager, Radiation and Materials Safety

1201 F Street, NW, Suite 1100
Washington, DC 20004
P: 202.739.8022
nxa@nei.org
nei.org

NUCLEAR ENERGY INSTITUTE

January 19, 2017

Ms. Annette Vietti-Cook
Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTN: Rulemakings and Adjudications Staff

Subject: Comments on Proposed Revisions to 10 CFR Part 71 (Docket ID NRC–2016–0179)

Project Number: 689

Dear Ms. Vietti-Cook:

On behalf of the Nuclear Energy Institute's[1] members, we submit the attached comments on the Nuclear Regulatory Commission's (NRC) proposed revisions to the packaging and transportation requirements in 10 CFR Part 71 (Docket ID NRC–2016–0179). The purpose of this revision is to harmonize Part 71 with the 2012 International Atomic Energy Agency (IAEA) Specific Safety Requirements Number 6 (SSR-6), draft safety guide DS495 (which is scheduled for publication in 2018), Department of Transportation (DOT) requirements, and to address NRC staff identified changes. NRC prepared an issues paper describing 14 potential rulemaking issues. We appreciated the public meeting on December 5-6, 2016 which provided a detailed overview of the issues paper, identified factors for consideration, sought specific stakeholder input, and presented the staff's current proposed actions for the 14 major issues under consideration for revision under a future rulemaking.

The attached comments reflect industry's comments, concerns, and suggestions on the NRC staff's proposed actions in the issues paper as presented during the December 5-6 public meeting. For issues that are not specifically addressed in the attachment, we have no comments at this time and affirm the staff's proposed actions.

[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.

Thank you for your consideration of these comments. We look forward to continuing our engagement through this potential rulemaking process and learning how these comments are addressed. Please contact me if you have any questions.

Sincerely,

Nima Ashkeboussi

Attachment

c: Ms. Emma Wong, NMSS/DSFM/IOB, NRC

Comments on Potential Revisions to Transportation Safety Requirements and Harmonization with International Atomic Energy Agency Transportation Requirements

General

- NRC should evaluate the Highway Route Control Quantity (HRCQ) notification requirements in Part 71 and harmonize it with the notification requirements for category 1 quantities of radioactive material in Part 37. While the requirements are closely aligned, licensees may have HRCQ and Category 1 material as part of the same shipment. In these situations, licensees are required to perform two notifications of the same information to the same individuals. This process could be improved through revised rule language.
- NRC staff should evaluate the need for revisions to NUREG-1609 "Standard Review Plan for Transportation Packages for Radioactive Material". Specifically, some licensees have encountered a terminology compatibility issue with "Type A-fissile" and "unirradiated-fissile" packaging as facilities process multiple forms of uranium (i.e. commercial-grade enriched and reprocessed). The processing of multiple materials has led to off-spec uranium which meets the Type A-fissile requirements but not always the unirradiated-fissile requirements. The material that meets the ASTM C-996 specifications for enriched commercial grade will meet the requirements of Type A-fissile, however the unirradiated definition may be exceeded. The management, use, and transport of these contents is becoming increasing more popular and difficult to identify the proper level of safety requirements, as Type B requirements would be beyond the safety level needed for the content. Revisions to NUREG-1609 would benefit licensee communications with NRC staff with respect to their review of applications.
- NRC staff's proposed action for several issues is to not adopt the changes from IAEA SSR-6. NRC should discuss the implications of that proposed action for international shipments to countries that are implementing SSR-6.

Issue No. 1b: Competent Authority-Approved Fissile Exception, SSR-6 Paragraph 417(f)

- The multilateral approval of fissile exemptions of SSR-6 paragraph 417(f) would be useful for not only fissile-exemptions but for the one-time or one-off shipments of approved licensed packages. Domestically licensees have used special authorization requests per 71.41, however there are not international allowance for these types of shipments. Clarity should be provided on the review and acceptance of an application by NRC and DOT and how to apply revised IAEA regulations for import/export shipments and how 417(f) will be reviewed and accepted by all Competent Authorities.

- Shippers want the ability to be able to consign and subsequently import into and then export out of the USA materials classified and prepared for transport in accordance with Paragraph 417(f). The NRC should identify the mechanisms for seeking validation from a competent authority in such instances.

Issue 2: Consideration for Adopting a Change to the Reduced External Pressure Design Requirement for Transportation Packages

- NRC staff's proposed action to revise the external pressure value in 10 CFR 71.71(c)(3) would minimally impact licensed package designs. However, this change could impart unanticipated burdens on certificate holders unless previous analyses for approved packages in use are grandfathered.

Issue No. 4: Solar Insolation

- The NRC proposes to adopt SSR-6 standards to include solar insolation as an initial condition for the hypothetical accident condition and change the units in Part 71 to be consistent with IAEA units. The change in units increases the solar heat load results by approximately 3% and could have major implications on US licensed packages. Implications include the potential for new thermal analysis and thermal testing to account for the increase in solar insolation during normal conditions of transport, as well as introduction of the new increased solar insolation requirements as initial conditions for a hypothetical accident condition. This change would impart unanticipated burdens on certificate holders unless previous analyses for approved packages in use are grandfathered.

Issue No. 5: Radiation Level or Dose Equivalent Rate

- The NRC is considering replacing the term "radiation level" in Part 71 with the term "dose rate equivalent." Changing the terminology could add unnecessary confusion where a safety issue does not currently exist. NRC should also determine whether other NRC requirements would be unintentionally and unnecessarily impacted by such a terminology change. Should the NRC proceed with a change, a clear definition should be provided in Part 71.

Issue No. 7: Introduction of the Provisions for Large Solid Contaminated Objects

- The NRC is considering and seeking input on the necessity of adding a new surface contaminated object (SCO) category to the regulations. In light of the increase in decommissioning activities, a new category SCO-III would be beneficial for entities transporting large components by creating a consistent standard and avoiding the need for special permit package authorizations.
- NRC is seeking feedback on the necessity to update NUREG-1608 "Categorization and Transportation Low Specific Activity Materials and Surface Contaminating Objects." NUREG-1608 was last updated in 1998, is critical for shipments, and is long overdue for an update. Modifications are needed to update the radioactivity equivalent for the 1R/hr @ 3 meter current requirement for Type B packages. We recommend that the NUREG adopt the new values in EPRI report "Transportation Rule Technical Support" #1003430. While maintaining safety, adoption would result in fewer Type B shipments. Furthermore, the creation of an SCO-III category would necessitate an update to the NUREG.

Issue No. 8: UF_6 Packages

- NRC is proposing to add a requirement to 71.55(g)(1) that the plug on a UF_6 cylinder cannot contact any other part of the packaging in hypothetical accident conditions. This proposed change comes from an IAEA working group assessment for the transport of UF_6 in 30B cylinders that there could be contact between the overpack and the plug surface when subjected to package drop tests. Prior to proceeding with the proposed change, NRC should obtain an assessment from the NRC Certificate of Compliance (CoC) overpack owner to understand potential impacts of this change on UF_6 cylinder overpacks currently in use.

Issue No. 9: Aging

- We agree with the NRC that the regulations outlined in 10 CFR 71.87 adequately cover any type of degradation items that would be associated with an "aging" package. Furthermore, consumables within the package are covered by additional requirements outlined in 10 CFR 71 Subparts G and H of the licensing program (i.e. covered by the NRC approved Chapter 8 of a licensee's Safety Analysis Report). Inclusion of an aging management requirement would add confusion and could be subject to interpretation. We believe an "aging" requirement should not be included in 10 CFR 71 because it would not add value or additional protections to the public or environment. More specifically, package components that are labeled as Category A or B (required to maintain their safety function) are typically not made out of components that would degrade when the package is not in use. The aging management would only serve as an unneeded administrative burden to both the NRC and CoC holders.
- If the NRC decided to move forward with harmonization of aging related requirements in SSR-6 and Part 71, these requirements should be limited to the transportation cask as SNF/GTCC canisters licensed for transport are monitored by the storage certificate's aging management program. There are aging management requirements specific to the transportable storage canister addressed in the storage CoC. Accordingly the scope of any Part 71 aging related requirement should be limited to the transportation cask's CoC and not applied to canister systems. It is important that the canister systems do not become subject to two different sets of aging management regulations. Rather, the focus of any transportation aging related harmonization involving SNF/GTCC canister systems should be based on a documented safety concern, safety analysis and limited to the transport cask.
- If additional age related gap analyses are to be applied to SNF/GTCC dual purpose canister systems, they should recognize and credit the storage system aging management programs, inspections, and Institute of Nuclear Power Operations managed aging management industry information sharing database that are part of the NRC's dry cask storage CoC license renewal application and approval process.
- The definition of "Package" in IAEA SSR-6, paragraph 231, states it is "…the complete product of the packing operation, consisting of the packaging and its contents prepared for transport." DS495 paragraph 613bis states - "The design of packages shall take into account aging mechanisms." However, NRC Part 71 transportation regulations do not explicitly call out aging mechanisms. Because of the large number of different radioactive transportation packages regulated under Part 71, any harmonization of IAEA SSR-6, DS495, and Part 71 requirements must explicitly distinguish between routine radioactive transport packages and NRC licensed SNF and GTCC dual purpose canister systems and transport casks.

- The IAEA proposes in DS495 paragraph 809(j) that the safety analysis report for packages that will be transported after storage should include a gap analysis program and that program should discuss package changes during storage due to aging, whether or not those changes affect the package performance during transport and consider changes of regulations and technical knowledge while the package is in storage. It is not clear what scope is intended by, "package changes during storage due to aging" and whether NRC is referring to the canister externals, or internals, or both. Regardless, no additional gap analysis should be required as no new safety related issue or concern has been raised.

Issue No. 10: Transitional Arrangements

- The IAEA, DOT, and NRC regulations have historically included transitional arrangements or "grandfathering" provisions whenever the regulations have undergone major revisions. This same approach should be applied with respect to harmonization and aging management program considerations for spent nuclear fuel (SNF) and Greater than Class C (GTCC) canister systems. Specifically, such systems that comply with existing NRC safety regulations do not become "unsafe" unless there is a significant new safety issue identified that needs to be addressed. We are not aware of any such safety issue rendering the existing systems unsafe.
- Any grandfathering or phasing-out of a package designation will have an impact on licensees and users. Grandfathering should be extended and applied to "-96" packages, as many of these package designs were approved in the 21st century under the last two major revisions (1996 and 2004) of the NRC regulations. Designation of "-96" defines current fleets and new designed packages. Designing and licensing a new package in four years is a difficult task and more than four years should be allowed for replacement of a package design.

Issue No. 12: QA program clarification

- NRC is proposing to add a requirement to 71.106 that would require a biennial report even if no changes were made to a quality assurance program (QAP) in the prior 24 months. NRC stated this is to more clearly align 71.106 with 50.71(e)(2). There is no reason to align requirements for a Part 71 QAP to an operating nuclear power reactor QAP. Since many Part 71 QAPs do not routinely change, requiring periodic "no-change" reports is an unnecessary, administrative burden on QAP holders without a clear regulatory need, articulated benefit or safety concern. Based on many years of operational experience with similar NRC documents that are allowed to be changed without prior NRC approval and without a similar periodic "no change" reporting requirement, there is no demonstrated need to justify this change to the rule especially when considering the cumulative effects of potentially new and existing regulations. NRC inspection processes can quickly and easily determine if changes were made to a QAP since the last inspection.