

PUBLIC SUBMISSION

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Docket: NRC-2016-0179

Revisions to Transportation Safety Requirements and Compatibility with International Atomic Energy Agency Transportation Requirements

Comment On: NRC-2016-0179-0078

Harmonization of Transportation Safety Requirements with IAEA Standards; Correction

Document: NRC-2016-0179-DRAFT-0088

Comment on FR Doc # 2022-22866

Submitter Information

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General Comment

See attached file(s)

Attachments

11-28-22_NRC_Industry Comments on Proposed Part 71 Rule

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November 28, 2022

Secretary to the Commission
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTN: Rulemakings and Adjudications Staff

Subject: Industry Comments on Proposed Rule on Part 71, "Harmonization of Transportation Requirements with International Atomic Energy Agency Standards;" Docket NRC-2016-0179; 87 FR 55708 issued September 12, 2022

Project Number: 689

Dear Madam Secretary:

On behalf of its members, the Nuclear Energy Institute (NEI)¹ writes to provide input on the proposed 10 Code of Federal Regulations (CFR) Part 71 proposed rulemaking referenced above that would modify existing or impose new transportation requirements applicable to licensed material. We thank you for conducting the informative October 26, 2022, public meeting, and the opportunity to comment on this important rulemaking. We note that the rulemaking originated at the International Atomic Energy Agency (IAEA), is generally consistent with the Department of Transportation's (DOT) proposed requirements also issued September 12, 2022, for public comment, and applies to many different types of U.S. Nuclear Regulatory Commission (NRC) and Agreement State licensees. In that regard, many categories of NEI members reviewed the rule package.

By way of background, NEI submitted related comments in 2017 on an NRC-generated issues paper and in 2019 on an NRC draft regulatory basis. We appreciate the transparency with which the staff discussed the disposition of each Issue during the October 26 public meeting. For example, each NRC slide identified the requirement's origin (NRC, DOT or IAEA), Federal Register Notice citation, Issue number and proposed Agreement State compatibility categories. This information was very useful, provided an effective tracking mechanism for stakeholders, and represents a new "best practice" which bears repeating during other NRC rulemakings and public meetings. On a related note, the 15-month scheduled interval between closure of the comment period in November 2022 and submittal of a draft final rule to the Commission in February 2024 seems excessive given the opportunities for early stakeholder engagement since 2016. While we recognize that NRC must coordinate with DOT, the NRC and DOT, domestic rulemakings already lag significantly behind the corresponding IAEA standard and the inherent delay is exacerbated by a protracted U.S. Government (USG) rulemaking timeline that could be more timely.

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

As a result of our careful review of the proposed rule, Draft Guide-7011, and draft regulatory analysis made publicly available in the August-September 2022 timeframe, we offer the following comments.

Proposed Part 71 Rule

Please note that our comments on the Issues are binned as either Industry “Supports” or “Does Not Support.” Detailed feedback on each of the Issues listed below is contained in the attachment. Further, we are either generally supportive or have no objection to NRC’s proposed approach for the remaining Issues 2, 3, 15.1 and 15.2. and, therefore, offer no comment at this time.

Industry Supports NRC’s Proposed Approach to the Following Issues:

Issue 1 – Revision of Fissile Exemptions

Issue 4 – Unit Conversion (4.1) and Insolation (4.2)

Issue 5 – Inclusion of Definition of Radiation Level

Issue 6 – Deletion of Low Specific Activity (LSA)-III Leaching Test

Issue 7 – Inclusion of New Definition for Surface Contaminated Object (SCO-III)

Issue 8 – Revision of Uranium Hexafluoride Package Requirements

Issue 10 – Revision of Transitional Arrangements

Issue 13 – Deletion of Type A Package Limitations in Fissile Material General Licenses (GL)

Issue 14 – Deletion of U-233 Restriction in Fissile GL

Issue 15.3 – Revision of Tables Containing A1 and A2 values and Exempt Material Activity and Consignment Limits

Industry Does Not Support NRC’s Proposed Approach to the Following Issues:

Issue 9 – Inclusion of Evaluation of Aging Mechanisms and a Maintenance Program

Issue 11 – Inclusion of Head Space for Liquid Expansion

Issue 12 – Quality Assurance Program Biennial Reporting

Issue 15.4 – Revision to Agreement State Compatibility Categories

Industry Response to NRC’s 3 Specific Questions Discussed in the FRN (pgs. 55720-55722):

1. Are there any IAEA SSR-6 elements not in the scope of this rulemaking that should be included? No, not at this time.
2. Should NRC remove Tables A-1 through A-4 in Appendix A? Yes, we support simply referencing the DOT values as an alternate approach (see our comments on Issue 15.3).
3. Should NRC retain the current biennial QA reporting requirement even when there have been no changes to the QA Program? No, as stated in our comments on Issue 12, industry strongly supports deletion of this unnecessary and non-safety-based requirement.

Draft Regulatory Guide-7011 (Regulatory Guide 7.9), “Standard Format and Content of Part 71 Applications for Approval of Packages for Radioactive Material” (ML22223A085)

Comments are provided in Attachment 2

Rulemakings and Adjudication Staff

November 28, 2022

Page 3

We appreciate the opportunity to present our views on this important matter. Please do not hesitate to contact me if you have any questions about our comments or if we can provide any additional information to further inform the rulemaking.

Sincerely,

A handwritten signature in cursive script, appearing to read "Janet R. Schlueter".

Janet R. Schlueter

Attachments:

1. Industry Comments on Proposed Part 71 Rule
2. Industry Comments on Draft Regulatory Guide-7011

cc: John Lubinski, NMSS
Bo Pham, NMSS/DREFS
Shana Helton, NMSS/DFM
James Firth, NMSS/DREFS/MRBP

Industry Comments on Proposed Part 71 Rule

Industry Supports the Proposed Approach on the Following Issues and Offers Additional Input for NRC's Consideration:

Issue 1 – Revision of Fissile Exemptions. Industry supports NRC's proposal to add two new fissile exemptions in 10 CFR 71.15 which are similar to those contained in IAEA SSR-6 standards. Specifically, adding an exemption for 3.5 grams U-235 in uranium enriched up to 5 weight percent under item 71.15(a); and adding an exemption for up to 140 grams fissile material shipped exclusive use under item 71.15(g), in part, to allow shipment amounts consistent with other Type B package requirements. We appreciate NRC's adjustment to this exemption limit for consistency and to reflect our mutual experience with such shipments.

Issue 4.1 – Unit Conversion. The proposed unit conversion is from "g-cal/cm²" to the metric "W/m²". The unit of "g-cal/cm²" is a total heat absorbed per unit area only. "Watt/m²" is a heat absorbed per unit time per unit area. If the units are changed in 10 CFR 71, there should be associated wording that removes the time dependence associated with the new metric unit.

Issue 4.2 – Insolation (per NRC, the amount of solar radiation reaching a given area). Industry supports NRC's proposal based on our current understanding, in part, resulting from the public discussions on October 26. Specifically, it is our understanding that NRC would not invoke new or revised insolation requirements on packages in use under Certificates of Compliance in effect until the transitional period has concluded. Also, we appreciate that NRC staff recognizes the need to consider a reasonable basis for continuing to accept existing approvals associated with legacy packages with the intent to minimize disturbance of such analyses and safety analysis reports.

Issue 5 – Inclusion of Definition of Radiation Level. Industry supports the revised definition and further suggests the rule be clarified to be consistent with 10 CFR 70.24 which specifies that the dose should be based on "dose in soft tissue."

Issue 6 – Deletion of Low Specific Activity (LSA)-III Leaching Test. Industry supports NRC's proposal to eliminate the LSA-III leaching test consistent with IAEA SSR-6, 2018 edition. Further, we appreciate that NRC recognizes there is no decrease in safety with eliminating the testing while reducing licensee burden.

Issue 7 – Inclusion of New Definition for Surface Contaminated Object (SCO-III). Industry supports NRC's proposal to add a new definition for a third group of large SCO-IIIs in 10 CFR 71.4 to align with DOT's definition. Such an approach recognizes current industry decommissioning activities that generate large, surface-contaminated objects (e.g., reactor vessels, steam generators) offered for transportation and disposal that currently require special authorization requests for NRC review. We appreciate that—as stated on page 55714 of the FRN—licensees will no longer be required to seek NRC approval for a special package authorization for such shipments. NRC should also provide additional clarification in the final rule on how licensees are expected to demonstrate compliance with the new SCO-III requirements since revising related NUREG-1608 guidance is not in the current scope of this rulemaking.

Issue 8 – Revision of Uranium Hexafluoride (UF6) Package Requirements. Industry agrees with modifying 10 CFR 71.55(g) to harmonize the requirement with IAEA. However, it should be noted that it has the potential for an unintended consequence if current UF6 packages have not been evaluated for this condition as part of the drop tests. Some may speculate this could be easily remedied through computer modeling of the package, but we anticipate that some international regulators might require a drop test to confirm the model. This is a costly exercise as it requires a new UF6 cylinder filled with an acceptable surrogate (which too has been a subject of contention in the international community), an overpack, use of a testing facility, and analysis of the results. Additionally, the lead times in today's market are substantial in obtaining the necessary components to undertake a drop test which may further complicate licensing efforts. This then becomes a financial liability for the package owner which some may not be interested in undertaking, which would then put users of the package at risk. NRC should contact the current UF6 package owners (UX-30 and DN-30) to ensure this effort does not cause an unintended consequence. Additionally, it is suggested that NRC add language to accommodate UF6 cylinders that do not currently have plugs (i.e., 1S, 2S, 5", 8", and 12" UF6 cylinders).

Issue 10 – Revision of Transitional Arrangements. Industry supports NRC's proposal to phase out older packages without a "-85" or "-96" in the identification number and to limit use of "-96" packages to those where fabrication is completed by December 31, 2028. This approach also proposes to revise section 10 CFR 71.19 allowing recertification of existing packages to demonstrate compliance with the revised regulations and removal of restrictions on package use and fabrication. We appreciate this risk-informed approach to transitional arrangements which affects both domestic and international shipping.

Issue 13 – Deletion of Type A Package Limitations in Fissile Material General Licenses (GL). Industry supports NRC's proposal to revise the GLs in sections 10 CFR 71.22 and 71.23 to allow the use of Type B packaging, and to add paragraphs (f), (g), and (h) to each requirement if Type B packaging is used. Further, we support NRC's approach where the mass limits do not change but licensees would now be allowed to use a GL with Type B packaging.

Issue 14 – Deletion of U-233 Restriction in Fissile GL. Industry supports NRC's proposal to revise the GL in 10 CFR 71.22(e)(5)(i) (and Table 71-1) to require more restrictive mass limits if U-233 mass is more than 1% of U-235 mass. Also, we would note that the new language is similar to an existing restriction on plutonium mass in 10 CFR 71.22(e)(5)(ii).

Issue 15.3 – Revision of Tables Containing A1 and A2 values and Exempt Material Activity and Consignment Limits. Industry supports NRC's proposal to revise the Appendix A Tables to align them with DOT. Specifically, to add seven radionuclides, revise footnote c for thorium-natural and revise the alphabetical list of radionuclides. We also support NRC's suggestion that Appendix A be removed from 10 CFR Part 71 and simply reference the equivalent information in 49 CFR Part 173 Subpart I. This modification will simplify the requirements and minimize the potential for inconsistency or non-compliance with either NRC or DOT depending on the issue. Establishing one source of USG requirements is efficient and appropriate.

Industry Does Not Support NRC's Proposed Approach to the Following Issues:

Issue 9 – Inclusion of Evaluation of Aging Mechanisms and a Maintenance Program. Industry does not support NRC's proposal, for consistency with IAEA, to add a requirement to 10 CFR 71.35(d) and 71.43(d), respectively for each program element. NRC states that there is no burden on existing certificate holders since applications for package approval already include both program elements. Industry does not support these proposed new requirements since they would not add value or additional protections to the public or environment beyond those provided by current Part 71 requirements applicable to either the package or its contents (i.e., 10 CFR 71.43(d), 71.87, Subparts D, G and H). They are also redundant with existing Part 72 aging management requirements. Further, NRC has not identified any new safety related issue or concern that needs to be addressed. Therefore, new aging and maintenance requirements would likely be redundant, an unnecessary source of confusion and result in an unwarranted increased administrative burden to both NRC and affected licensees.

Issue 11 – Inclusion of Head Space for Liquid Expansion. Industry does not support this proposed change as written and understood. Specifically, it is not clear whether this proposed change will add burden for the evaluation of ullage for material transport that could undergo a phase change from solid to liquid (e.g., UF₆) in some hypothetical conditions such as fire. Those considerations have been incorporated into the existing package designs for UF₆ handling; however, the new wording is not clear as to whether any additional burden of analysis or testing is required for certificate changes for those UF₆ packages.

Issue 12 – Quality Assurance Program (QAP) Biennial Reporting. Industry does not support retaining biennial QA reporting in cases where no QAP changes have been made during the reporting period. Continuing to require such a report is not necessary or cost effective, is redundant with existing requirements for some licensees, and is a waste of our mutual resources. Specifically, there is no value in requiring licensees to go through what is essentially a "change management" internal approval process and prepare and submit a "non" report to NRC, i.e., nothing has changed. The administrative costs are not insignificant and, frankly, they are an unnecessary diversion of our mutual resources. The "no change" status can be confirmed by NRC during routine inspections. The requirement is also not consistent with NRC's current approach to licensee emergency plans where a "no change" report is not required. It also represents a duplication of reporting requirements for licensees that have received Part 71 approval of their QAP. Further, it is nonsensical that the requirement appears to be driven by a desire for consistency by all licensees with Part 50 and related guidance (i.e., RG 7.10), regardless of the licensing basis (e.g., Parts 30s, 40, 70, 72). Finally, there is no safety basis for a "nothing's changed" reporting requirement so it should be deleted and conforming changes made to DG-7011 when finalized.

Issue 15.4 – Revision to Agreement State Compatibility Categories. Industry does not support NRC's proposed change to Compatibility Categories for several Part 71 regulations since they could result in negative impacts to NRC licensees subject to both NRC and Agreement State regulation. Specifically, regulations that contain QAP criteria are proposed to change from a Level C to B to allow Agreement States to approve, inspect and enforce their licensees' QAPs are problematic (i.e., sections 71.109, 71.111, 71.113, 71.115, 71.117, 71.119, 71.121, 71.123, and 71.125). For example, an existing NRC licensee is the owner and certificate holder of two different Type B packages located in two different Agreement States. Each Agreement State which could conceivably approve, inspect, and enforce QAP requirements. In addition, both packages

Attachment 1

use the same QAP; thus, 3 separate QAP approvals would be needed, i.e., NRC and each Agreement State. This approach results in unnecessary dual regulation and potentially a source of conflict and confusion for some NRC licensees particularly in a situation where the 3 reviews resulted in different conclusions. Therefore, in the absence of a new safety issue, industry recommends that NRC remain the sole agency to approve, inspect and enforce Type B package QAP requirements.

Industry Comments on Draft Regulatory Guide-7011 (Regulatory Guide 7.9), "Standard Format and Content of Part 71 Applications for Approval of Packages for Radioactive Material"

Section A. Introduction

Comment 1 - It states, "The purpose of this regulatory guide is to assist applicants in preparing applications for approval of new and *amended* certificates of compliance for Type B and fissile material transportation packages." Safety Analysis Reports (SAR) for most legacy Type B casks follow the current Regulatory Guide format. If legacy Type B package Certificate of Compliance is required to be amended (for any reason), it would put additional burden on license holders to revise the structure of the SAR, as well as create additional evaluations based on new requirements with no additional benefit to the reasonable assurance of safety during transportation. Therefore, it is proposed to use this guide only for new certificates for packaging design.

Comment 2 - The term "amended" is used in DG-7011 for what is known as a "revision" in Part 71 Certificates of Compliance. Amendment has a specific meaning and intent in 10 CFR Part 72. Consistent with NUREG-2216, a note should be added in DG-7011 that "certificate revision" and "amendment" are used interchangeably for transportation package design approval, and change "amended" to read "revised" in the statement of purpose. Suggested language is as follows:

The purpose of this regulatory guide ~~provides guidance on~~(RG) is to assist applicants in preparing applications for ~~approval of~~ new and ~~amended~~ revised certificates of compliance for Type B and fissile material transportation packages. ~~This guidance describes a method that is acceptable to demonstrate the staff ability of the U.S. Nuclear Regulatory Commission (NRC) for comply~~ given package to meet the agency's applicable regulations in for transport of radioactive material. (Note: in terms of transportation package approvals, the NRC uses the terms "certificate revision" and "amendment" interchangeably.)

Section B. Discussion

Comment 3 - Paragraph 1: It is unclear why only aging and head space for liquids are identified since there are several more applicable changes.

Section C. Staff Regulatory Guidance

Comment 4 - Section 2.6.2, "Static Compressive Load Test" should state the applicable Part 71 requirement consistent with what is performed on other tests described in Section 2.6.

Comment 5 – Section 2.6.3, "Crush Test." The test described in 71.74(a)(3) is described as a "Puncture" test in 71.73(c)(3). The term "Crush test" should be changed to read "Puncture test" for consistency.

Comment 6 – Section 3.3.1, "Heat and Cold" should be edited to read: "...for example due to differential thermal..."

Comment 7 – Section 10, "Quality Assurance Program." NRC should clarify the phrase "or reference a previously approved QAP." If licensees are audited by NRC and the QAP is approved, it is not clear whether licensees will need to complete all 18 criteria in this Chapter or simply refer to the NRC-approved QAP.

Section D. Implementation

Comment 8 -- This section should be clarified with regard to NRC's expectations for existing versus new or future licensees. Specifically, NRC should clarify: 1) that existing licensees have the option of adopting this regulatory guide and, 2) whether new applicants and future licensees will be subject to it. See our related comment on Section A above.