ISSPA
INTERNATIONAL SOURCE SUPPLIERS AND PRODUCERS ASSOCIATION
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SAFE AND SECURE AT THE SOURCE

10 CFR Part 71
81 FR 83171

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December 2, 2016

Nuclear Regulatory Commission

Subject: **Docket NRC–2016–0179; Revisions to Transportation Safety Requirements and Compatibility With International Atomic Energy Agency Transportation Standards**

To whom it may concern,

The International Source Suppliers and Producers Association (ISSPA) is actively engaged with the IAEA in a broad number of activities, including the development and amendment of SSR-6. We are taking the liberty of providing to the NRC our comments regarding the International Regulations for the Safe Transport of Radioactive Material SSR-6, to be considered in conjunction with the Subject NRC Notice.

1. 304. In the event of nuclear or radiological emergency during the transport of radioactive material, provisions established by relevant national and/or international organizations shall be observed to protect human life, health, property and the environment. Consignors and carriers shall establish, in advance, arrangements for preparedness and response for emergencies that may occur during transport in accordance with [14]. Further guidance on emergency preparedness and response are found in Ref. [4, 15, 16].

   Suggest the following change:

   304. In the event of nuclear or radiological emergency during the transport of radioactive material, provisions established by relevant national and/or international organizations shall be observed to protect human life, health, property and the environment. Consignors and carriers shall establish, in advance, arrangements for preparedness and response for emergencies that may occur during *the* transport of *nuclear or radiological material in excess of 3000 A1/A2* in accordance with [14]. Further guidance on emergency preparedness and response are found in Ref. [4, 15, 16].

   Basis: The vast majority of Class 7 shipments involve quantities of radiological

447 March Road, Ottawa, Ontario K2K 1X8 Canada TEL +1 613 592 3400 ext. 2483 FAX +1 613 592 9001

material that would not warrant advanced emergency response arrangement. Emergency arrangements between the consignor and carrier made in advance of a shipment would be warranted when the shipment involves large quantities of radiological materials.

2. 305. Emergency arrangements shall take into account all postulated events, including those of very low probability, and shall consider the formation of other dangerous substances that may result from the reaction between the contents of a *consignment* and the environment in the event of an accident.

   Suggest the following change:

   305. Emergency arrangements shall ~~take into account all postulated events, including those of very low probability, and shall~~ consider the formation of other dangerous substances that may result from the reaction between the contents of a *consignment* and the environment in the event of an accident.

   Basis: The proposed language is vague and undefined. All postulated events could be a never ending list of events and the term very low probability would assume a value that is undefined. The term "credible" could be used in lieu of "postulated" but again the term credible is undefined and the likelihood of a credible event would be defined and agreed upon by the consignee and carrier. It is better to strike the statement referencing postulated events and low probability.

3. Paragraphs 624(b), 626(c)(ii), 627(c), 628(c), 629(c)(ii), 630(b)(ii) and 648(b)

   "… except when the maximum *dose equivalent rate* on the external surface is below 10 μSv/h. In this case, there shall be no increase of more than 2 μSv/h in the maximum *dose equivalent rate* at any external surface of the portable *tanks."*

   Suggest revising the criteria as follows:

   "… except when the maximum *dose equivalent rate* on the external surface is below ~~10~~ *100* μSv/h. In this case, there shall be no increase of more than ~~2~~ *20* μSv/h in the maximum *dose equivalent rate* at any external surface of the portable *tanks."*

   Basis: The concept of having single number below a certain dose equivalent rate makes sense for packages where the maximum external dose equivalent rate is

low. A 100/20 uSv/hr criteria is more reasonable when you consider instrument limitations to detect a 2 uSv/h change in dose equivalent rate and the relative risk to the public if the maximum external dose equivalent rate changes by 20 uSv/h versus 2 uSv/h.

4. 809(e)bis If the *package* is to be used for *shipment* after storage, the applicant shall state and justify the consideration of ageing mechanisms on the safety analysis and within the proposed operating and maintenance instructions.

   Suggest the following change:

   809(e)bis If ~~the~~ *a* *package* containing radiological or nuclear material is to be used for *shipment* *after a period of* storage *long enough to degrade the package*, the applicant shall state and justify the consideration of ageing mechanisms on the safety analysis and within the proposed operating and maintenance instructions.

   Basis: The proposed language as written is too vague. It is assumed that the package in question is stored while it contains nuclear or radiological material. It is also assumed that the length of time that the package is stored for would be sufficiently long to warrant concern that the package may have degraded or regulations may have changed. It is important to indicate that the package contains radiological or nuclear material during the storage period. If the package is stored while it is empty, then the package can be fully maintained during the storage period. Consideration for aging mechanisms should not be applicable to packages that are intended to store radiological or nuclear materials for periods time that would be insufficient to degrade the package.

5. 809 (j) For *packages* which are used for *shipment* after storage, a gap analysis programme shall be provided. The gap analysis programme shall describe a systematic procedure to consider changes of regulations, changes in technical knowledge and changes of the state of the *package design* during storage.

   Suggest the following change:

   809 (j) For *packages containing* *radiological or nuclear materials* which are used for *shipment* after *a prolonged period of* storage, a gap analysis programme shall be provided. The gap analysis programme shall describe a systematic procedure to consider changes of regulations, changes in technical knowledge and changes

of the state of the *package design* during storage.

Basis: The proposed language is too vague and should be clarified.

6. 819B. *Packages* that meet the requirements of the 1996 Edition, 1996 Edition (Revised), 1996 (As amended 2003), 2005, 2009 or 2012 Editions of these Regulations:

   (a) May continue in transport provided that they were prepared for transport prior to 31 December 2025 and are subject to the requirements of para. 822, if applicable; or

   (b) May continue to be used, provided that all the following conditions are met:

   (i)) The applicable requirements of para. 306 of this Edition of these Regulations are applied;

   (ii) The activity limits and classification in Section IV of this Edition of these Regulations are applied;

   (iii) The requirements and controls for transport in Section V of this Edition of these Regulations are applied; and

   (iv) The packaging was not manufactured or modified after 31 December 2025.

   Suggest the following change:

   Delete (b) (iv) ~~The packaging was not manufactured or modified after 31 December 2025~~.

   Basis: Package design and testing criteria has not been revised other than to clarify the criteria from the 1996 Edition to the 20XX Edition so prohibiting the manufacture of a packaged designed under the 1996 Edition and beyond is not justifiable and does not result in a safety benefit.

7. 820(b) Packagings that were manufactured to a package design approved by the competent authority under the provisions of the 1996 Edition, 1996 Edition (Revised), 1996 (As amended 2003), 2005, 2009 and 2012 Editions of these Regulations may continue to be used provided that all of the following conditions are met:

   (i) The package design is subject to multilateral approval after 31 December 2025.

(ii) The applicable requirements of para. 306 of this Edition of the Regulations are applied.

(iii) The activity limits and material restrictions of Section IV of this Edition of these Regulations are applied.

(iv) The requirements and controls for transport in Section V of this Edition of these Regulations are applied.

Suggest the following change:

Delete (b) (i) ~~The package design is subject to multilateral approval after 31 December 2025~~.

Basis: Package design and testing criteria has not been revised other than to clarify the criteria from the 1996 Edition to the 20XX Edition, requiring multilateral approval of the package design after December 31, 2025 is not justifiable and does not result in a safety benefit.

8. 821bis. No new manufacture of *packagings* to a *package design* meeting the provisions of the 1996 Edition, 1996 Edition (Revised), 1996 (As amended 2003), 2005, 2009 and 2012 Editions of these Regulations shall be permitted to commence after 31 December 2028.

   Delete paragraph 821bis.

   Basis: Package design and testing criteria has not been revised other than to clarify the criteria from the 1996 Edition to the 20XX Edition so prohibiting the manufacture of a packaged designed under the 1996 Edition and beyond is not justifiable and does not result in a safety benefit.

9. 823. *Special form radioactive material* manufactured to a *design* that had received *unilateral approval* by the *competent authority* under the ~~1973, 1973 (As Amended),~~ 1985, ~~or~~ 1985 (As Amended 1990), 1996 Edition, 1996 Edition (Revised), 1996 (As amended 2003), 2005, 2009 and 2012 Editions of these Regulations may continue to be used when in compliance with the mandatory *management system* in accordance with the applicable requirements of para. 306. There shall be ~~N~~ no new manufacture of ~~such~~ *special form radioactive material* to a design that had received *unilateral approval* by the *competent authority* under the 1985 or 1985 (As Amended 1990) ~~shall be permitted to commence~~. No new

manufacture of *special form radioactive material* to a design that had received *unilateral approval* by the *competent authority* under the 1996 Edition, 1996 Edition (Revised), 1996 (As amended 2003), 2005, 2009 and 2012 shall be permitted to commence after 31 December 2025.

Suggest the following change:

823. *Special form radioactive material* manufactured to a *design* that had received *unilateral approval* by the *competent authority* under the ~~1973, 1973 (As Amended),~~ 1985, ~~or~~ 1985 (As Amended 1990), 1996 Edition, 1996 Edition (Revised), 1996 (As amended 2003), 2005, 2009 and 2012 Editions of these Regulations may continue to be used when in compliance with the mandatory *management system* in accordance with the applicable requirements of para. 306. There shall be ~~N~~ no new manufacture of ~~such~~ *special form radioactive material* to a design that had received *unilateral approval* by the *competent authority* under the 1985 or 1985 (As Amended 1990) Edition. ~~shall be permitted to commence~~. ~~No new manufacture of *special form radioactive material* to a design that had received *unilateral approval* by the *competent authority* under the 1996 Edition, 1996 Edition (Revised), 1996 (As amended 2003), 2005, 2009 and 2012 shall be permitted to commence after 31 December 2025~~.

Basis: There has been no changes to the definition of special form radioactive material (paragraph 239), the testing criteria for special form radioactive material (paragraphs 705-711) or the approval of special form radioactive material (paragraphs 803 and 804) from the 1996 Edition to the 20XX Edition. What safety benefit exists to prohibit the manufacture of special form radioactive material approved under the 1996-2012 editions of the regulations is gained by prohibiting the manufacture after December 31, 2025?

Sincerely,

P. A. Gray
Chairman, ISSPA