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**Comment On:** NRC-2016-0179-0005
Revisions to Transportation Safety Requirements and Compatibility with International Atomic Energy Agency Transportation Standards; Notice of Issues Paper, Public Meeting, and Request for Comment

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Comment on FR Doc # 2016-27944

## Submitter Information

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## General Comment

QSA Global, Inc. provided comments.

## Attachments

QSA Global Comments on NRC-2016-0179 dated 12152016

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15 December 2016

Re: Docket No. NRC-2016-0179 Comments to SSR-6 Revision Draft

Dear Sir or Madam:

QSA Global Inc. is submitting the attached comments on the proposed revisions to SSR-6. If there is any additional information or assistance I can provide, please contact me.

Sincerely,

Lori Podolak
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Enclosure: Comment Table for Draft Revision to SSR-6

| SSR-6 Section | Comment |
|---|---|
| 304 | "*Consignors* and *carriers* shall establish, in advance, arrangements for preparedness and response for emergencies that may occur during transport in accordance with [14] that are coordinated with respective off-site response organizations."<br><br>Comment: This wording could be interpreted quite broadly and lead to non-compliances, especially on the part of RAM carriers, where arrangements with local emergency responders to a transport accident were not pre-arranged to cover any emergency that "may" occur in transport. The intent and implementation of this change to the standard should be clarified and scope limited to reasonable preparedness allowing for the use of general guidance documents like the DOT emergency response guides to satisfy advance arrangements for preparedness and response. |
| 305 | "Emergency procedures 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."<br><br>Comment: The requirement to account for "all postulated events, including those of very low probability" is too burdensome and likely impossible for full compliance by consignors and carriers. Carriers must rely on information provided by the consignors of RAM shipments. It is unreasonable to require consignors to address full consideration under emergency procedures for "all" possible events including low probability events such as lightning strikes to packages, earthquake damage, terrorist explosive damage, etc. This change is not manageable for routine RAM transport and will serve as citable non-conformances whenever an event occurs that was not foreseen by the consignor. |
| 313(c)(ii) | "(ii) Available emergency response information for any relevant abnormal event during transport and how to use it."<br><br>Comment: As applies to safety training, the use of "any" and "relevant abnormal events" is vague and all inclusive. Relevancy is a subjective determination and may vary from shipper to shipper based on interpretation. As written, this requirement if made into regulation in the USA could serve as a catch all for any non-anticipated event not included in safety training. |
| 413(c) (Similar Comment for Section 522) | "(c) *SCO-III*: A large solid object which because of its size cannot be transported in a type of *package* described in these Regulations and for which:<br>(i) All openings are sealed to prevent release of *radioactive material* during routine conditions of transport;<br>(ii) The inside of the object is as dry as practicable;<br>(iii) The *non-fixed contamination* on the external surfaces does not exceed the limits specified in para. 508;<br>(iv) The *non-fixed contamination* plus the *fixed contamination* on the inaccessible surface averaged over 300 $cm_2$ does not exceed $8 \times 10_5$ $Bq/cm_2$ for beta and gamma emitters and low toxicity alpha emitters, or $8 \times 10_4$ $Bq/cm_2$ for all other alpha emitters, unless it can be demonstrated that, following a transport accident, the activity intake by a person in the vicinity of the accident does not exceed $10\text{-}_6A_2$ or a corresponding inhalation dose of 50 mSv."<br><br>Comment: Type and extent of "transport accident" should be further specified. For example, does the transport accident need to address possible exposure to fire and include consideration of performance under the thermal test requirements in Section 728? |

| SSR-6 Section | Comment |
|---|---|
| 503(e) | "**(e)** For *packages* intended to be used for *shipment* after storage, it shall be ensured that all *packaging* components and *radioactive contents* have been maintained during storage in a manner such that all the requirements specified in the relevant provisions of these Regulations and in the applicable certificates of *approval* have been fulfilled."<br><br>Comment: Since it is assumed that the intent here is to ensure components/contents comply with applicable regulations/requirements, it would seem that focus on component/content prior to shipment for conformance is more important that the storage conditions maintained. Would suggest the following alternate wording:<br><br>"**(e)** For *packages* intended to be used for *shipment* after storage, it shall be ensured that all *packaging* components and *radioactive contents* have been inspected/confirmed prior to shipment to ensure they meet all the requirements specified in the relevant provisions of these Regulations and in the applicable certificates of *approval* have been fulfilled." |
| 536bis | "536bis. Any marking on the *package* that does not relate to the *shipment* shall be removed or covered."<br><br>Comment: In some cases transport packages can also serve a dual purpose as a functional device which may include additional marking requirements to comply with its use as a device. To avoid confusion impact on non-transport marking suggest revision to read as follows:<br><br>"536bis. Any transportation related marking on the package that does not relate to the shipment shall be removed or covered. |
| 547 | 547. The *consignor* shall include in the transport documents a certification or declaration in the following terms:<br>"I hereby declare that the contents of this *consignment* are fully and accurately described above by the proper shipping name and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport ~~in accordance with the~~ according to applicable international and national governmental regulations."<br><br>Comment: Recommend use of the revised wording as optional to the existing wording. The recommended revision is minor in nature and does not change the intent of the declaration, but requiring use of the revised wording would require revision to existing template documents, forms, stamps, etc. with associated cost for no added benefit. |
| 613bis | "613bis. The *design* of *packages* shall take into account ageing mechanisms."<br><br>Comment: Wording is ambiguous. Ageing over what time period? Expected design life of package? Normal conditions of use? Ageing effects can vary greatly from package to package depending on use environments as well as performance of recommended maintenance. What actions are expected to "take into account" ageing mechanisms? Since this is currently written as a requirement (e.g., use of "shall") compliance with this requirement could be difficult and potentially highly subjective. Recommend replacing "shall" with "should" in this section and application of this as a good manufacturing/design practice instead of an open ended design requirement. |

| SSR-6 Section | Comment |
|---|---|
| 648(b) (and other similar changes 624, 626-630) | "648. A *package* shall be so designed that if it were subjected to the tests specified in paras 719–724, it would prevent:<br>(a) Loss or dispersal of the *radioactive contents*;<br>(b) More than a 20% increase in the maximum ~~radiation level~~ *dose equivalent rate* at any external surface of the *package*;, 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 *package.*"<br><br>Comment: Measurements below 10 μSv/hr are strongly susceptible to instrument calibration accuracy and variances in background radiation. Increases limited to no more than 2 μSv/hr in many instance could be less than the background radiation area in the survey area (even in low background areas) and significantly less than the instrument accuracy variance which can range from ±10% to ±20%. It is currently difficult to ensure no increase more than 20% for low dose equivalent rates due to instrument/background variations. Further limiting increases for these extremely low dose equivalent rates could make this requirement unachievable and due to the already low dose equivalent rates involved makes this requirement unnecessary from a public health and safety standpoint. A more reasonable change would be to allow increases of double the dose equivalent rate for external surface measurements at or below 10 μSv/h. Even doubling these values will have no adverse impact on the package integrity or public health and safety from use of the package, however, it will more realistically account for the natural variance in measurement accuracy for surveys taken at or below 10 μSv/h. |
| 809(e)bis | "809. An application for *approval* shall include:<br>(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."<br><br>Comment: Similar comments as to section 613bis regarding ageing mechanisms. Further the use of the terms "after storage" would need to be defined as this is a relative term. The majority of transport packages used by QSA Global and its customers are multi-use/shipment packages that move back and forth between shippers for RAM shipment. Packages can be received, unloaded, inspected and reshipped for re-loading by a customer in less than a day in some cases. In other cases, containers that are not used as often may have a variable delay anywhere from 1-2 days to years between receipt/unloading and the package's subsequent inspection /reloading for additional shipments. Since package inspection prior to re-use is already included for consideration in approval applications and is intended to identify any wear/damage/non-conforming conditions present on a re-usable package prior to its use for a RAM shipment, this addition of this requirement seems overly restrictive as currently written. |
| 809(j) | "(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."<br><br>Comments: See comments for section 613bis and 809(e)bis. Use of the general term "after storage" becomes even more problematic if the storage period is not defined. Packages are inspected to pre-shipment requirements for compliance prior to transport. In cases where a design change has been made, the package manufacturer for an approved design in the USA would also comply with the package design control requirements of 10 CFR 71.107 to ensure those requirements are properly implemented for packages existing at the time of the change. For changes to the regulations, shippers would be required to evaluate and take appropriate actions to ensure packages used comply with any applicable changes based on impact on previously compliant package designs. Verbiage similar to that existing for 10 CFR 71.127 Handling, storage and shipping control would seem to be more applicable: |

| SSR-6 Section | Comment |
|---|---|
| | *"The licensee, certificate holder, and applicant for a CoC shall establish measures to control, in accordance with instructions, the handling, storage, shipping, cleaning, and preservation of materials and equipment to be used in packaging to prevent damage or deterioration..."* |
| 823 | "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 Nno 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."<br><br>Comment: Since there were no significant changes to the special form requirements with this draft edition and no phase out requirement was included in the 2012 version of SSR-6 for the editions after 1995 (As Amended 1990), what is the justification for prohibiting manufacture of special form sources approved to the 1996 et al editions after 31 December 2025? This change would appear only to force an administrative burden on re-issuance of previously approved/compliant special form approvals to remove the currently required -96 suffix based on changes to sections 832 & 833 of the draft (e.g. USA/0502/S-96 would be reissued as USA/0502/S to comply with the marking changes in section 833). |
| 821 & 832(d) | 821. No new manufacture of *packagings* to a *package design* meeting the provisions of the 1973, 1973 (As Amended), 1985 and 1985 (As Amended 1990) Editions of these Regulations shall be permitted to commence.<br>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.<br><br>~~832(d) For certificates of *approval* of *package design* and *special form radioactive material*, other than those issued under the provisions of paras 820–823, and for certificates of *approval* of *low dispersible radioactive material*, the symbol "-96" shall be added to the type code.~~<br><br>Comment: Removal of this marking requirement will require re-issuance of all previously approved Type B(U) packages. And since Type B(U) transport packages are required to include the approval certificate identification number, this will also then require the replacement of all existing Type B(U) package labels with labeling that removes the "-96" reference once the certificates no longer specify "-96" as part of the identification number. This will impact hundreds of packages used by QSA Global and its customers worldwide. Although the compliance date for this change is not until 2028, there should be a clause in the regulation change that allows continued marking for packages in existence prior to 2028 as replacing marking for these packages will be costly, burdensome while having no positive impact on removing non-conforming/compliant packages from continued use. |