38th Meeting of the Transport Safety Standards Committee (TRANSSC)

27 June 2019

Draft Safety Guide DS469: Preparedness and Response for an Emergency During the Transport of Radioactive Material

Step 11: Approval for Submission to CSS

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Background

- Draft Safety Guide *Preparedness and Response for an Emergency during the Transport of Radioactive Material*
- Revision of TS-G-1.2, published 2002
- Step 3: DPP approved by EPReSC, TRANSSC, RASSC, NSGC: June 2016
- Step 4: DPP approved by CSS: November 2016
- Step 7: First review and approval by EPReSC, TRANSSC, RASSC, NSGC: June 2018
- On schedule per the DPP and at Step 11
Progress to date

• 6 Consultancy Meetings held
  – June 2016
  – November 2016
  – February 2017
  – June 2017
  – September 2017
  – January 2018

• Technical Meeting held 16-20 October 2017
  – 62 representatives
    • 43 Member States, 1 International Organization, 1 Nongovernmental Organization

• Events jointly implemented by IEC and Transport Safety Unit
Background – Guiding Principles

- Use TS-G-1.2 to the greatest extent practicable
- Easy to understand, user friendly publication
- Focus on most probable emergencies while acknowledging and allowing for more severe emergencies
- Elaborate linkages between concepts whenever possible
- Provide more specific guidance on roles and responsibilities of consignors and carriers
- Provide examples, templates, and references whenever possible
  - 4 appendices and 2 annexes are > 50% of the length of the document
**Scope**

- Preparedness and response for a nuclear or radiological emergency during transport
- From the forwarding of the package to delivery at the consignee (including storage in transit)
- Excludes:
  - Events without any safety significance (e.g. a disabled conveyance in a stable condition, such as a broken down motor vehicle or a vehicle involved in a minor traffic accident)
  - Movement of radioactive material within the site boundaries of authorized facilities
Proposed Structure

• Section 1: Introduction
• Section 2: National Arrangements and Framework
• Section 3: Preparedness and Response Elements
• Section 4: Considerations for Modes of Transport
• Section 5: Interface with Nuclear Security
• Appendix I: Features of the Transport Regulations Relevant to EPR
• Appendix II: Considerations for Developing a National Capability
• Appendix III: Types of Emergencies during Transport
• Appendix IV: Postulated Events and Potential Consequences
• References
• Annex I: Example Event Notification Form
• Annex II: Template for the Carrier and Consignor Emergency Response Plan
Step 8: 120 day MS Comment

- 360 comments submitted
Step 8: 120 MS Comment

Resolution

Accepted: 63%
Rejected: 37%
Step 11: 2nd Committee Review

- 119 comments submitted
- Many joint comments between committees

![Pie chart showing Step 11 Comments with the following segments: France 27%, Japan 30%, Australia 15%, Iran 7%, Pakistan 5%, WNTI 12%, Benin 4%]
Step 11: 2nd Committee Review

Resolution

- Accepted: 82%
- Rejected: 18%
Theme 1: Plausibility / Probability of Emergencies

- Wide distribution of the draft at Step 8, including to consignors and carriers
- Some comments received regarding the need for DS469 and the scenarios in Appendix III & IV
- Resolution:
  - Long-standing acknowledgement of possibility of emergencies (including in TS-G-1.2)
  - Does not diminish the effectiveness of the Transport Safety Regulations
  - Nonetheless, edited wording in Introduction and Appendices to reflect low probability of emergencies during transport and emphasize hypothetical nature of appendices
Theme 2: Appendices / Annexes

- Many comments on the structure of Appendices and Annexes
  - Step 8 comments to shift all appendices to annexes
  - Step 8 comments to shift all annexes to appendices
- Step 11 comments on Appendix I and Appendix IV
- Resolution:
  - Annex II removed at Step 10 due to minor inconsistencies with SSR-6 (Rev. 1) published late 2018
  - Appendix IV remains as appendix so it is not taken out of context from the rest of the document
  - Appendix I: Features of the Transport Regulations Relevant to Emergency Response
    - Not possible to become Annex due to technical editorial issues
    - Precedent for summarizing Safety Requirements exists (SSG-16, SSG-22)
    - Content very useful for EPR community, reflects comments to maintain content from TS-G-1.2 as much as possible
<table>
<thead>
<tr>
<th>BEN-01</th>
<th>1.</th>
<th>1.2/last line</th>
<th>Suggestion to replace mechanical by technical.</th>
<th>X</th>
<th>“Mechanical” is used in similar context in GSR Part 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEN-02</td>
<td>2.</td>
<td>1.3/line 5</td>
<td>Give at least two (02) examples of radiological or nuclear incidents that may occur.</td>
<td>X</td>
<td>This topic is covered in the appendices. Para 1.3 is meant as background.</td>
</tr>
<tr>
<td>BEN-03</td>
<td>2.</td>
<td>2.3/2nd line</td>
<td>In the examples, after the organizational structure, it is important to mention and even insist on the competences (radiological evaluator for example) to animate these structures because it is not advisable to set up the structures just because it’s a recommendation and not to train the skills it takes to animate it. However, these cases are often encountered especially in developing countries.</td>
<td>X</td>
<td>These examples are large parts of the body of the rest of the document.</td>
</tr>
<tr>
<td>FRA-06</td>
<td>14.</td>
<td>2.24</td>
<td>The role of the radiological assessor is either a person or a team, is to perform radiological surveys, perform dose assessments, control contamination, ensure the radiation protection of emergency workers and the public and formulate recommendations on protective actions and other response actions. This role may be fulfilled remotely and/or at the emergency site, depending on the emergency situation. It includes, as necessary: performing radiological surveys, performing dose assessments, recommending measures to control of radioactive contamination and assisting in implementing them, recommending measures to ensure the radiation protection of emergency workers and the public and assisting in implementing them.</td>
<td>X</td>
<td>Sentence structure is consistent with GSR Part 7.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Clarification for increased consistency. Radiological surveys and contamination controls are necessarily at the site...</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Specific comments: TRANSSC

<table>
<thead>
<tr>
<th>Reference</th>
<th>Page</th>
<th>Line</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>WNTI/3.</td>
<td>21.</td>
<td>2.42</td>
<td>In accidents during transport, dose rate measurements in excess of the OILs should not be used as a justification to declare an emergency class and trigger emergency response actions. An emergency class is “a set of conditions that warrant a similar immediate emergency response.”</td>
</tr>
<tr>
<td>WNTI/8.</td>
<td>9.</td>
<td>3.11</td>
<td>An emergency class should be declared if there is a visible loss of containment or shielding integrity, or if a radiation reading taken by a qualified trained individual with an appropriate radiation instrument confirms that radiation levels are higher than should be expected.</td>
</tr>
<tr>
<td>BEN-05</td>
<td>3.</td>
<td>4.25/2nd line</td>
<td>The water used for the decontamination was contaminated itself. It would be interesting to specify in the potential consequences how to deal with this situation.</td>
</tr>
<tr>
<td>JAP-21</td>
<td>5.</td>
<td>4.27</td>
<td>Retrieving sunken packages or vessels will require specialized teams capable of maritime salvage operations. In some cases, retrieval of the package may not be justified from a radiation protection perspective. This decision will be based on the protection strategy put in place by the national government responsible for the emergency site area, or the flag State of the vessel in case of an emergency in international waters. Assessment studies showed that radiological impact is very small at the submergence of packages in deep water. Packages sunk in shallow waters should be recovered unless it is not possible or justified to do so [19].</td>
</tr>
</tbody>
</table>

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Even though it is the only emergency class for EPC IV, it is still an emergency class.
<table>
<thead>
<tr>
<th>Specific comments: TRANSSC</th>
</tr>
</thead>
<tbody>
<tr>
<td>WNTI/14. 3. 5.3 Requirement 4 of GSR Part 7 [2] requires States to ensure that the hazard assessment takes into consideration the results of nuclear security threat assessments. The <strong>strongest nuclear appropriate security measures</strong> <strong>are should be</strong> required for protecting radioactive material which may lead to significant radiological consequences <strong>and security threats</strong> in case of malicious acts during transport. “strongest nuclear security measure” are not required for all transport of radioactive materials. “Unauthorized removal” does not lead to significant radiological consequences. X The sentence states that the strongest measures are required for materials which may lead to significant consequences, which is correct. Similarly, the sentence states that unauthorized removal” may lead to an emergency, which is correct.</td>
</tr>
<tr>
<td>PAK-04 5. APPENDIX I: I.16 and I.24 I.16 and I.24 may be adjusted with I.8 and I.9 The information about classification of radioactive material used in Transport Regulations may be given under “Classification of radioactive material” separately rather than covering under the “TYPES OF PACKAGES” to meet the intent of the APPENDIX. X Kept as is for clarity of definitions and meanings</td>
</tr>
<tr>
<td>PAK-05 6. Addition APPENDIX: Addressing role and responsibilities of international organizations (such as IACRNE) in emergency preparedness and response involving transport of radioactive material may be added. The information about coordination of inter-agency response Management plan for air and maritime transport will be helpful for the transport safety and nuclear security experts dealing with transport emergency plans (Ref. Requirement 3 of IAEA GSR-Part 7). X IACRNE and other international roles are covered under the Joint Radiation Emergency Management Plant of the International Organizations</td>
</tr>
<tr>
<td>BEN-05 13. IV.15/2nd line The water used for the decontamination was contaminated itself. It would be interesting to specify in the potential consequences how to deal with this situation. X The topic of managing radioactive waste is outside the scope of the publication.</td>
</tr>
</tbody>
</table>
Action requested

• You are kindly requested to approve the draft for submission to CSS
Thank you!