31st Meeting of the Transport Safety Standard Committee

2-6 November 2015

Agenda Item 3.1.2

DS-493 Structure and Information to be Included in a Package Design Safety Report (PDSR) for the Transport of Radioactive Material

Nancy Capadona

RIT/NSRW
Structure and Information to be Included in a Package Design Safety Report (PDSR) for the Transport of Radioactive Material

- Specific Safety Guide – New document
- Review Committee: TRANSSC
- Recognising the importance of the PDSR Document that applies to all packages transported, TRANSSC requested to have this document published as a Specific Safety Guide
Scope

To assist in the preparation of the Package Design Safety Report (PDSR) to demonstrate compliance with the regulatory requirements. It covers:

- Package designs requiring competent authority approval (Type B(U), Type B(M), Type C, packages containing fissile material not excepted from the requirements of the regulations that apply to fissile material and packages designed to contain 0.1 kg or more of uranium hexafluoride)
- Package designs not requiring competent authority approval (Excepted package, Industrial package (Type IP-1, Type IP-2, Type IP-3), Type A package)
### Comments from Republic of Korea

**COMMENTS BY REVIEWER**

**Country/Organization:** Republic of Korea / Korea Institute of Nuclear Safety  
**Date:** October 18, 2015

<table>
<thead>
<tr>
<th>Comment No.</th>
<th>Para/Line No.</th>
<th>Identified problem/Proposed new text</th>
<th>Reason/Description</th>
<th>Accepted</th>
<th>Accepted, but modified as follows</th>
<th>Rejected</th>
<th>Reason for modification/rejection</th>
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</thead>
</table>
| 1           | Page 2 5.    | Place in the overall structure of the relevant series and interfaces with existing and/or planned publication | …  
- SSG-27, Critical Safety in the Handling of Fissile Material - Safety Guide | The specific safety guide, SSG-27 presents the critical safety practice in transport of fissile material. So there is a need to be added SSG-27 in the list of relevant series. | X        |                                   |
Interface with other Safety Standards Series Publications

- SSR-6, Regulations for the Safe Transport of Radioactive Material - 2012 Edition - Specific Safety Requirements
- SSG-27, Criticality Safety in the Handling of Fissile Material
### COMMENTS BY REVIEWER

**Reviewer:**

**Country/Organization:** AERB, Mumbai, India

**Date:** 9.10.2015

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<th>Reason for modification/rejection</th>
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<tr>
<td>1</td>
<td>Page 3, 6. Overview</td>
<td><strong>Codes and Standards followed for Design and Analysis</strong></td>
<td>It is suggested to include the proposed text just below ‘Specification of packaging’ under heading PACKAGE DESIGN SAFETY REPORT:PART 1. This will enable the regulatory body to understand what are the mandatory/guideline documents used by the designer/applicant.</td>
<td>X</td>
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</tr>
<tr>
<td>2</td>
<td>Page 3: Package Design Safety Report: Part 2</td>
<td><strong>Expected design life time of the package</strong></td>
<td>This will enable user to make necessary arrangements for its maintenance and use.</td>
<td></td>
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To be discussed during **TRANSSC 31**
CONTENTS

INTRODUCTION AND GENERALITIES

Introduction
Objective and Scope
Definitions
Structure of this document
Unit system
Document control
References
Emergency arrangements
Structure (2)

PACKAGE DESIGN SAFETY REPORT: PART 1

Contents list of the PDSR
Administrative information
Specification of contents
Specification of packaging
Codes and standards followed for design and analysis
Package performance characteristics
Compliance with regulatory requirements
Operation
Maintenance
Management systems
Package illustration
PACKAGE DESIGN SAFETY REPORT: PART 2

Common provisions for all technical analyses in Part 2 of the PDSR

Reference to package design
Acceptance criteria and design assumptions
Description and justification of analysis methods
Analysis of package design
Comparison between acceptance criteria and results of analysis

Technical analyses

Structural analysis
Thermal analysis
Containment design analysis
External dose rates analysis
Criticality safety analysis

Expected design lifetime of the package
Structure (4)

Annex 1  Excepted package
Annex 2  Industrial package (Type IP-1, Type IP-2, Type IP-3)
Annex 3  Type A package
Annex 4  Type B(U), Type B(M) and Type C package
Annex 5  Additional requirements for packages containing fissile material
Annex 6  Additional requirements for packages containing more than 0.1 kg uranium hexafluoride
Annex 7  Reference documents used by competent authorities for technical assessments
<table>
<thead>
<tr>
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<th>Description</th>
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<tr>
<td>1</td>
<td>Preparing a DPP</td>
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<td>2</td>
<td>Approval of DPP by the Coordination Committee</td>
<td>MAR 2015 – DONE</td>
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<td>Approval of DPP by the relevant review Committees</td>
<td>JUN 2015 - DONE</td>
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<td>4</td>
<td>Approval of DPP by the CSS</td>
<td>NOV 2015</td>
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<tr>
<td>5</td>
<td>Preparing the draft</td>
<td>FEB 2016</td>
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<tr>
<td>6</td>
<td>Approval of draft by the Coordination Committee</td>
<td>MAR 2016</td>
</tr>
<tr>
<td>7</td>
<td>Approval by the relevant review Committees for submission to Member States for comments</td>
<td>JUN 2016</td>
</tr>
<tr>
<td>8</td>
<td>Soliciting comments by Member States</td>
<td>AGO 2016</td>
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<tr>
<td>9</td>
<td>Addressing comments by Member States</td>
<td>JAN 2017</td>
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<td>10</td>
<td>Approval of the revised draft by the Coordination Committee</td>
<td>FEB 2017</td>
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<td>Review in NS-SSCS</td>
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<td>Approval by the relevant review Committees</td>
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<td>12</td>
<td>Endorsement by the CSS</td>
<td>NOV 2017</td>
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<td>13</td>
<td>Establishment by the Publications Committee and/or Board of Governors (for SF and SR only))</td>
<td>DEC 2017</td>
</tr>
<tr>
<td>14</td>
<td>Target publication date</td>
<td>2018</td>
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Thank you