40th Nuclear Safety Standards Committee

1 - 3 December 2015

Agenda item 2.5

DS442 Draft Safety Guide: Regulatory Control of Radioactive Discharges to the Environment

(For approval for submission to CSS)

Diego Telleria, Waste and Environmental Safety Section

NSRW
Objectives of the presentation

- Objective of DS442.
- Status.
- Resolution of MS’ comments to DS442 Draft 6 - 03/2015 (deadline for comments 20\textsuperscript{th} July).
- Resolution of Committees’ comments to DS442 Draft 7-08/2015 (deadline for comments 9th October).
- Results of discussions during RASSC/WASSC Meeting 4-5 Nov. 2015.
- Consideration by NUSSC to Draft 7–10/2015, for submission to CSS.
Objective of DS442

- To provide for governments, regulatory bodies, applicants, registrants and licensees, with a structured approach to control exposures to the public resulting from discharges from normal operations of facilities and activities;
- and for the optimization of protection and safety (for the purposes of DS442, essentially the optimization of protection)
- Guidance is given on establishing discharge authorizations (including the need of), on demonstrating compliance with them and on enforcing them. Covers different practices.
DS442 V5, was discussed in past R/W/N Joint meeting, Nov 2014. A new version incorporating comments and results of Ad Hoc consultancy meeting was approved by R/W/N Chairs (on behalf) in 02/2015 for submission to MS.

DS442 V6 was submitted for MS’s comments on 03/2015 (120 days deadline 08/2015).

Table of Resolutions and V7 were uploaded to the Web for Committee's comments on 04/09/2015 (deadline 9/10/2015).

DS442, V7 was discussed by RASSC and WASSC (lead) during 11/2015 joint meeting.

V7, with modifications resulting from discussions during R/W meeting, was approved by those Committees for submission to CSS (pending NUSSC approval and final editorial review).
MS’ comments to DS442 Draft 6 - 03/2015

- Comments were received from: Germany, Switzerland, Sweden, Australia, Japan, Russian Federation, USA, China, Turkey, Finland, Canada, France, Czech Rep., India, UK and ENNIS.
- 11 General (7 accepted).
- ~380 comments to 175 paragraphs.
- Pending technical issues (a comment from Finland): to be disused later.
- Editorial issues pending resolution and full consistency with DS432 and DS427: At the final review by Standards Specialists before submission to CSS)
Committees’ comments to DS442 Draft 7-08/2015

- Comments were received from: Japan, Germany, Finland, USA, Rep. of Korea.
- 2 General (accepted).
- ~37 comments technical and editorial.

<table>
<thead>
<tr>
<th>Comments accepted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical</td>
</tr>
<tr>
<td>17 out of 19</td>
</tr>
<tr>
<td>Editorial/Clarity/Typo</td>
</tr>
<tr>
<td>18 out of 18</td>
</tr>
</tbody>
</table>

- Technical issues pending discussion, later in this presentation.
- Editorial issues pending resolution and full consistency with DS432 and SD427: At the final review by Standards Specialists before submission to CSS).

Note: Resolution of late comments by Pakistan: Those accepted will be incorporated before submission to CSS (discussed later).
Consideration by Committees’ to Draft 7–10/2015, for submission to CSS

- Pending technical issues (from comments):
  - Section 5, Title: Optimization of protection and regulatory control of special radionuclides for particular practices.
    - Para. 5.43: Suggestion from Finland to delete Tc-99m from the examples of radionuclides needing special considerations in the medical installations. The comment refers that delay tanks are not necessarily justified. This was discussed in last R/W joint meeting and accepted.
  - Figure 2 (stages in the process to set discharge limits for complex facilities)
    - Accepted. Figure will be modified to include comment from Japan regarding the possibility to revise discharge limits during decommissioning if necessary.
Consideration by Committees’ to Draft 7–10/2015, for submission to CSS

• Pending technical issues (from comments):
  • Section 5: Authorization Process
    • Para 5.17: ad a bullet “(g) The regulatory body should issue the discharge authorization upon its satisfaction that the models and assumptions are valid and the doses are below optimized levels” (Pakistan). No problem to add this bullet (g), rewording to “not higher than”, because is in line with the related figure.
Consideration by Committees’ to Draft 7–10/2015, for submission to CSS

• Pending technical issues (from comments):
  • Section 5, under title Characterization of Discharges and Exposure Scenarios
    • Para. 5.41: When discussing the no-need of optimization process “below exemption criteria”, last sentence says: “However, it is recognized that if further reductions can be made easily with little or no cost then they should be made”. Proposal to delete this last sentence (Japan).

Discussed during R/W Joint meeting. The last sentence will be deleted. The use of criteria to discuss optimization “of the order of 10 µSv/a” was accepted, but to avoid confusion this will not be referred as the “exemption criteria” because of course we are not talking of practices that are exempted.
Discussion on para. 5.22 (comment from USA) during R/W Joint (para. modified in red):

5.22. The dose constraint, set for a single source, should be expressed in terms of annual effective dose; it should be below the limit set for the effective dose to public in planned exposure situations from all regulated sources (e.g. 1 mSv per year as required in GSR Part 3), and higher than the level of a dose of the order of 10 μSv in a year [2]. In practical terms, dose constraints are likely to fall within the range of 0.1 to <1 mSv per year [7].

The regulatory body may determine what additional restrictions, if considered necessary, are required to ensure that the dose limits specified in GRS Part 3 for public in planned exposure situations are not exceeded owing to possible combination of doses from exposures due to different authorized practices [GSR Part 3].
Consideration by Committees’ to Draft 7–10/2015, for submission to CSS

- Pending technical issues (from several comments):
  - Additional options to dose constraints (multiple sources, values used in countries, different practices):

We prefer to keep it general and not to consider specify cases. We left specific cases to national organizations. Discussed; figures and some text modified; accepted by R/W Joint meeting.
Consideration by Committees’ to Draft 7–10/2015, for submission to CSS.

• It is the opinion of the Secretariat that DS442 (1):
  • Has improved significantly, thanks to contribution from MS and the Committees.
  • Provides for government, regulatory bodies and operators with a structured graded approach to control exposures resulting from discharges.
  • Considers optimization of the protection of the public, as part of the full process of optimization of the protection and safety.
  • Discusses the definition and use of dose constraints in the process of optimization in a clear and adaptable manner, to avoid conflicts with existing approaches in States and avoiding the notion of a second dose limit (the generic constraint).
Consideration by Committees’ to Draft 7–10/2015, for submission to CSS.

- It is the opinion of the Secretariat that DS442 (2):
  - Discusses BAT (being used in many States) as a way of applying optimization.
  - Considers NORM in the nuclear fuel industry and in non-nuclear/non-radioactive industries.
  - Discusses radionuclides needing special considerations during optimization (H-3, C-14).
  - Provides an Annex with practical considerations.
  - Interrelation with other Safety Standards and consistency, particularly with DS432 and DS442, is ensured.
  - It seems from the comments and discussions that there is a general consensus in the resulting proposal in DS442 Draft 7 (with modifications), which aims to update previous Safety Guide on control of discharges (WS-G-2.3, 2000).

- WASSC (Lead) and RASCC approved for submission to CSS.
- Pending NUSSC decision.
Thanks!

D.Telleria@iaea.org