ISO-TC 85 / SC 5 / WG 4

"Standards relative to transport of radioactive material"

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IAEA-TRANSSC-38
Item 4.5.4
Vienna
27 June 2019
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The ISO-TC85

- ISO/TC 085 "Nuclear energy, nuclear technologies, and radiological protection"
- NSAG Nuclear Safety Advisory Group
  - analyses draft IAEA safety standards and gives feedback to NUSSC
  - Identifies new work items, in addition and in reference to IAEA standards
- SC-2 Radiological Protection
- SC-5 Nuclear Installations, Processes and Technologies
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Scope and portfolio of the SC5/WG4

The Working Group 4 defines its scope as follows
– The scope of the Working Group 4 is to develop and maintain international standards associated with the equipment and procedures used for the transport of all radioactive material, including material from the nuclear fuel cycle, research activities, the industry, and for medical use, in order to improve safety, consistency and efficiency.

Currently 3 International Standards are in the WG4 portfolio
– ISO 7195 “Packaging of uranium hexafluoride (UF$_6$) for transport” - 2005
– ISO 10276 “Trunnions for packages used to transport radioactive material” - 2010
– ISO 12807 “Safe transport of radioactive material - Leakage testing on packages” - 2018
ISO 7195
Packaging of uranium hexafluoride (UF6) for transport

- Since 1996, compliance with this standard is a requirement of IAEA SSR-6 and all modal regulations based on, for packages containing 0.1 Kg or more of UF₆
- These cylinders are the only existing means of transport to deliver UF₆ to or from enrichment plants
- Historically, ISO 7195 is based on ANSI-14.1
ISO 7195 revision

- Need for updating ISO 7195
  - ANSI.N14-1 was revised in 2012,
  - It was clearly identified a need to update the ISO standard and to align the content of the two standards in view to better guaranty the equivalency of the two standards

- Revision process initiated in 2012
  - After many meetings and several votes (NWIP, CD, and DIS ballots), due to a lack of consensus at the very end ISO procedure, the review process had to be stopped and the associated project canceled.
  - The cancellation of the project was officially acted in February 2018 after a dedicated vote, with the possibility of relaunching a draft revision of the standard as soon as a consensus is reached on the draft.
  - After three meetings (7-9 November 2017, 16-17 May 2018 and 28-30 August 2018) and additional exchanges a consensus on the draft was reached by the end of November 2018.
ISO 7195 revision

- New revision process
  - Resolution to re-initiate the revision project - 10 December 2018, this resolution was approved by a Committee Internal Ballot (CIB) on 12 February 2019
  - NWIP registered on 13 March 2019 (18 months development track – shortest development track in ISO) at DIS stage (latest date for publication : 13 September 2020)
  - During the last meeting of the WG4 (Berlin 7-8 May 2019) it was confirmed that the draft as prepared at the end of 2018 is the one to be submitted to the DIS vote without change.
  - DIS submission has been made
  - Target dates for DIS ballot: from August 20 to November 12, 2019
  - This allows the publication of this standard in April 2020.
  - How to adopt the revised ISO 7195 standard before a future revision of SSR-6 is published? See INF-21 document and TTEG-PPA report
Main changes in new draft of ISO7195 compared to 2005 edition

- Better wording of the scope
- Review of the structure of the standard
- Normative references updated
- Terms and definitions list increased and existing terms revised to enhance understanding of the standard in line with IAEA SSR-6 definitions
- Management system requirement = as in SSR-6
- Clarification of requirements for cylinders and valves, (in particular the leaktightness tests)
- Addition of 1S, 2S and 30C cylinders, withdrawn of 48G cylinder
- Updating and correction of the figures
- Inclusion of alternative requirements for inspection and tests (based on those defined for 30C cylinders in ANSI-N14.1 2012 edition)
- Clarification of the requirements for filled cylinders that have overpassed their recertification date
- Clarification of requirements for recertification

This will be detailed in a dedicated information paper for next TRANSSC and TTEG PPA meetings
ISO 10276
Trunnions for packages used to transport radioactive material


– The CD ballot took place from June 19th to August 14th, 2018
– The DIS ballot took place from 8 February 2019 to 4 May 2019: approved with comments
– During the Berlin meeting (7-8 May 2019) the comments were solved
– FDIS submission has been made. The ballot should be launched soon.
– Publication should occur before the end of 2019
ISO 12807
Leakage testing on packages

- This standard has been successfully revised
- The new edition has been published in September 2018, the French version has also been published
New Projects

Potential future projects identified in 2017

- Design, manufacture, approval and operation of an ISO freight container for use as an Industrial Package (IP-2)
  - On the base of TCSC 1090
  - A first draft was circulated in 2018, but was no supported as presented
  - This draft has at least to be reworked and a CIB should be organized to decide of its development.
New Projects

– Measurement of radiation level and surface contamination
  • On the base of ANSI N14.36
  • A new edition of ANSI N14.36 should be published in 2019
  • Draft should be prepared as soon the ANSI N14.36 is published

– Securing / handling of packages during transport
  • On the base of TCSC 1006, TCSC 1079 and ANSI N14.6
  • The new standard should complement the ISO 10276 standard (dedicated to trunnions systems) by addressing the other kinds of lifting and attachment points of packages, and should consider the new Appendix IV of the IAEA SSG-26
  • A draft should be prepared as soon as the ISO 10276 and IAEA SSG-26 are published.
Thank you for your attention