Agenda item 4.1.4
TRANSSC 30
Overview and update on the work performed on Dual Purpose Cask

Report from CG-DPC
(Corresponding Group on Dual Purpose Cask)

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Background

- TRANSSC-WASSC Joint WG developed TECDOC-DPCSC in April 2013, and recommended TRANSSC to incorporate DPC concept to Transport Regulations.
- In 2013 initiated review cycle, 2 proposals related to DPC were made from the MSs.
- TRANSSC 27 approved them as an issue to be resolved.
- WGs in TRANSSC meetings concluded to provide change proposals on SSR-6 and SSG-26 for the next review/revision cycle.
- Corresponding Group on DPC Change Proposals was formed early in September 2014, and CS-50468 to draft change proposals was called.
CG-Dual Purpose Cask & CS-50478

- CG-DPC consists of 17 experts from 10 MSs and 1 NGO
  - Belgium, France, Germany, Hungary, Japan, Pakistan, Russia, Spain, Switzerland, USA and WNTI
- CS-50468 “Consultancy Meeting to Develop Change Proposals to Incorporate Dual Purpose Cask (DPC) Concept into the Transport Regulations”
  - Held on 3 and 4 November 2014 at IAEA HQs
  - 9 experts from 5 MSs and 1 NGO (members from CG) were participated: Germany, Hungary, Japan, Switzerland, USA and WNTI
  - Regulatory and guidance test changes were drafted.
Major changes proposed

• The scope of the Regulations is extended to include “shipment after storage”.

• Maintenance of compliance to transport regulations and certificate of approval of DPC package design during storage is added to requirements before each shipment.

• Consideration to ageing mechanisms is added to the requirements for DPC package design.

• Ageing management programme and gap analysis programme are required in the application for DPC package design approval.
Para. 106

106. These Regulations apply to the transport of radioactive material ..... Transport comprises all operations and conditions associated with, and involved in, the movement of radioactive material; these include the design, manufacture, maintenance and repair of packaging, and the preparation, consigning, loading, carriage including in-transit storage, shipment after storage, unloading and receipt at the final destination of loads of radioactive material and packages.

• “Shipment after storage” is a specific shipment operation which requires consideration of ageing, change of regulations and technical knowledge.

• Concept of “shipment after storage” is readily understandable.
  - Storage: see IAEA Safety Glossary
  - Storage period: see SSG-15 and WS-G-6.1 (~100 years)
  - Different from “in-transit storage”

[SSG-26 para. 106.1bis]
Para. 503

503. Before each shipment of any package, ….

(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.

• This concept has already been in the Regulations. See SSG-26 para. 503.3.

Comment: As the concept has already been in the Regulations, 503 (e) need not be added.
Para. 614bis

614bis. The design of packages intended to be used for shipment after storage shall take into account ageing mechanisms.

• Though ageing mechanism has been considered in the design of ordinary transport packages, it is specified specifically for DPCs which need special considerations.

• Explanation on Ageing Management Program, which should be included in the Management System, is provided in SSG-26 paras 306.4 and 306.4bis.

Comment: Considerations to ageing mechanism should be included also in the design of ordinary transport packages.
809. An application for approval shall include:

(f)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.

(j) For packages which are used for shipment after storage, a gap analysis program shall be provided. The gap analysis program 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.

• Explanation on Gap Analysis Program is provided in SSG-26 para. 809.3.
Other changes proposed (SSG-26)

• 229.4: MNOP

229.4 For the packages used for shipment after storage, the pressure development before shipment should be considered in the calculation of MNOP.

• Pressure change during storage should be considered in DPC MNOP calculation.

• No regulatory text change on SSR-6 para. 229 (definition of MNOP) is proposed.

Comment: Do we need regulatory text change of para. 229?
Other changes proposed (SSG-26)

- 840.3 Multilateral approval by the country of storage

840.3 For packages which are intended to be used for shipment after storage, the competent authority, where storage and shipment after storage takes place, can be different from the country of origin of design. In this case, the competent authority concerned with storage and shipment after storage has the option to issue a multilateral approval based on an assessment already made by the competent authority of origin of design, and an additional assessment addressing aspects specific to shipment after storage as ageing management, gap analysis, requirements before shipment and different approval periods.

- Measures when the DPC package design approval in the county of origin of design is lost are proposed.

Comment: Is it enough for the CA of the country of storage to revalidate the original approval?
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Thank you for your attention.

No Q and A time is available, but please discuss in the WG.