41st Meeting of the Radiation Safety Standards Committee
21 – 23 November 2016

Agenda Item: R3.4
DS478 Safety Requirements: Safety of Nuclear Fuel Cycle Facilities

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NS-R-5 Update DS478

1. The IAEA Safety Requirements for Nuclear Fuel Cycle Facilities NS-R-5, Rev 1 (2014) will be replaced.

2. Its draft replacement is called DS478.

3. After approval, the IAEA Safety Requirements for Nuclear Fuel Cycle Facilities will become SSR-4.
Introduction

1. Relationship of DS478 to other IAEA safety standards for nuclear fuel cycle facilities

2. History of DS478 development

3. Changes since last RASSC;
   - Optimisation of (public) exposure
   - Editorial

4. Proposed supporting safety reports

5. Action requested
History of DS478

- The DPP was approved by the Committees, cleared by NSGC, and approved by the CSS in April 2014;
- Two CSMs were held on the development of the revised version;
- The first draft was finalized and was subjected to internal review;
- Approved by the Committees for MSs comments in 2015;
- MSs comments resolved Q4 2015;
- Reviewed by secretariat and technical editors Aug 2016;
- Submission to the Committees (placed on SSC website 2 months ago);
- Comments from one NSGC member;
- CSS and BOG approval, and publication in 2017.
1. Member States asked for a requirement to include consideration of collective doses when optimising public exposure.

2. Industry supports optimisation of “collective” dose for workers, not public - rejected.

3. We recommend removal of this concept from text in bold and addition of “The collective dose to members of the public due to discharges is to be considered in the process of optimisation of protection and safety” to para 6.6
R8 Radiation Protection

The design of a nuclear fuel cycle facility shall ensure that radiation doses to workers and other personnel at the facility and to members of the public do not exceed the dose limits, and that collective doses are kept as low as reasonably achievable in operational states for the entire lifetime of the facility, and that they remain below acceptable limits and as low as reasonably achievable during, and following, accident conditions.
The design shall ensure that workers, the public and the environment are protected against uncontrolled releases of radioactive material in all facility states. Releases shall be kept as low as reasonably achievable and within authorized limits in normal operation and within acceptable limits in accident conditions.
R36 Design for protection – external radiation exposure

Provision shall be made for ensuring that doses to operating personnel at the facility will be kept as low as reasonably achievable, with account taken of the relevant dose constraints, and below the dose limits.
Other Editorial Changes

1. Several “doses” → “protection and safety”

2. Para 9.126 “Training shall be provided in the mitigation of chemical effects and the detection of over-exposures, for facilities where chemical hazards and criticality hazards are present”

3. Clarification of exposure verification, where possible during hot commissioning
Supporting Safety Reports

Supporting safety reports planned to cover the following aspects of nuclear fuel cycle facilities:

1. Safety analysis and licensing documentation
   Provides guidance removed from the annexes to NS-R-5.

2. Application of the graded approach
   Addresses differences between facilities having different types of hazard.
Action Requested

Agreement to take DS478 to the Commission on Safety Standards for final technical review.
Any Questions?

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