Agenda Item R3.1
DS434 Radiation Safety of Radioisotope Production Facilities (Safety Guide)

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History

• Approval of DPP by the CSS: March 2010
• The draft Safety Guide was attributed to the TO in 2015
• Two consultancy meetings since
• The isotope production at research reactors was excluded to avoid duplication
• Only accelerator production
Objective

The objective of this Safety Guide is to provide recommendations on how to meet the requirements of the BSS GSR Part 3 with regard to radioisotope production facilities. This Safety Guide provides specific, practical recommendations on the safe design and operation of these facilities for use by operating organizations and the designers of these facilities, and by regulatory bodies.
Structure and Scope

• 16 Sections and 2 Annexes;
• Only accelerators are considered.

• This Safety Guide addresses the radiation safety and protection aspects of the process whereby radioisotopes that have been produced in accelerators (principally cyclotrons), or purified from other sources are processed into radioactive products for subsequent use, for example, in nuclear medicine. It also addresses elements of the design and operation of accelerators (principally cyclotrons) that pertain directly to the production of radioisotopes.
Contents

- The justification of radioisotope production facilities
- Designs of irradiation facilities;
- Authorization of irradiation practices, the responsibilities of the operating organization and general radiation safety issues;
- Safety assessment;
- Radiation protection programme;
- Training and education of personnel;
- Individual monitoring of workers and the workplace monitoring;
- Environmental monitoring and radioactive effluent discharge;
- Personal protective equipment;
- Control of radioactive material, facility and equipment design, testing and maintenance of the equipment, radioactive waste management, transport of radioactive material, and emergency preparedness and response;
- Examples of a safety assessment structure and emergency response procedures can be found in the Annexes I and II.
Comments from SSCs

3 comments from NSGC members.
72 comments including Japan (14), Germany (23), Czech Republic (2), and USA (32).

Most comments of editorial, clarification, accuracy and completeness character.

All comments are accepted.
Some comments

• Good practices should be separated from body text of this guide. It would be better to move them to an annex, for example. In this regard, review of entire document should be needed. – Partially accepted. Separate Annex on good practices may be drafted.

• The title should reflect the scope of the safety guide. Therefore, we recommend the title be modified to read “Radiation Safety of Accelerator Radioisotope Production Facilities.”
Clearance to submit to MS for comments is requested
Thank you