

The Revision of the new international Basic Safety Standards and its effects on the IAEA Regulations for the Safe Transport of Radioactive Material

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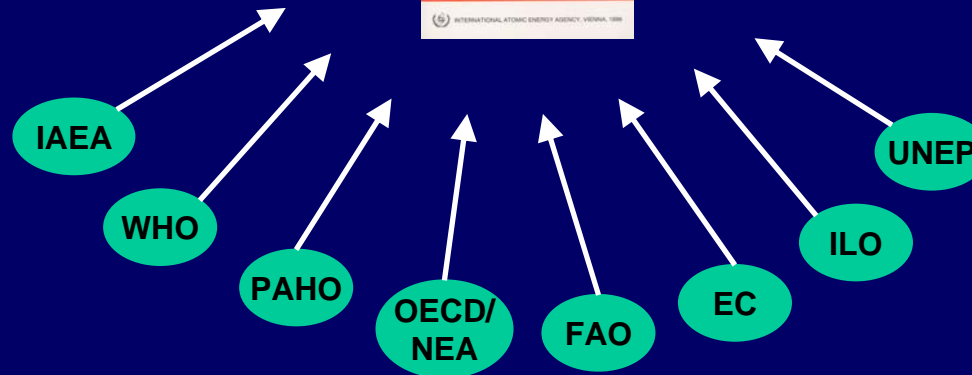
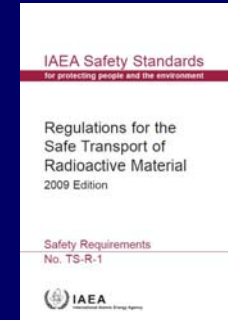
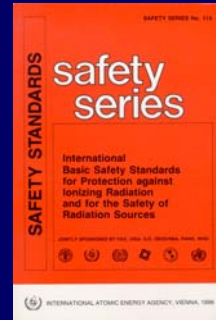
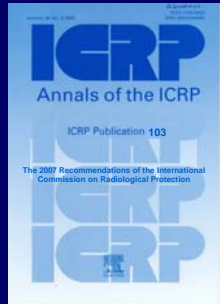
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Revision of the BSS



BSS updated requirements to be incorporated into future national and regional regulations, established on the basis of internationally recognized trends in exposure to ionizing radiation

Content of the revised BSS

1. INTRODUCTION

2. GENERAL REQUIREMENTS FOR PROTECTION AND SAFETY

3. PLANNED EXPOSURE SITUATIONS

4. EMERGENCY EXPOSURE SITUATIONS

5. EXISTING EXPOSURE SITUATIONS

SCHEDULES

Schedule I EXEMPTION AND CLEARANCE

Schedule II CATEGORIZATION OF SEALED SOURCES

Schedule III DOSE LIMITS FOR PLANNED EXPOSURE SITUATIONS

Schedule IV CRITERIA FOR USE IN EMERGENCY PREPAREDNESS AND RESPONSE

Radiation exposure situations and categories of exposure

The approval has evolved from the approach of “practices” and “interventions” to an approach based on the characteristics of radiation exposure situations

- **Three types of situations of exposure are identified:**
 - planned exposure situations, including the intentional operation or use of sources;
 - emergency exposure situations that may arise during operation or use in a planned situation;
 - existing exposure situations, i.e. situations that already exist before a decision control is taken
- **The new structure of the Revised BSS establishes three categories of exposure:**
 - Occupational exposure
 - Public exposure and
 - Medical exposure

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For the transport of radioactive material the provisions of the Section 3 and the Schedule I are especially important:

- **Section 3:**

- The list of practices has been expanded for clarification
- Sources within practices and natural sources are the same
 - ➔ Exception: new specified levels of radioactive material containing natural radionuclides above which specified requirements apply
- provisions for occupational exposure and public exposure now also apply for transport

- **Schedule I:**

- The 10 $\mu\text{Sv}/\text{y}$ criterion for exemption is unchanged
- Additional radionuclides are included in Table I-1 which shows levels for exemption of moderate quantities
- Table I-2 shows levels for clearance and for exemption of bulk quantities (values coming from RS-G-1.7)

Transport of radioactive material is part of the scope of the BSS:

➔ as an **“activity”** (para. 1.7.) and

➔ as a **“practice”** (para. 3.1.)

Influence on the TS-R-1 (1)

- **Requirement 7 (of Section 3): Notification and authorization**

- Notification for certain types of packages and for shipments under special arrangements in para. 555 of the TS-R-1
- The term authorization is currently not used in the TS-R-1, but competent authority approvals are required

➡ see para. 802

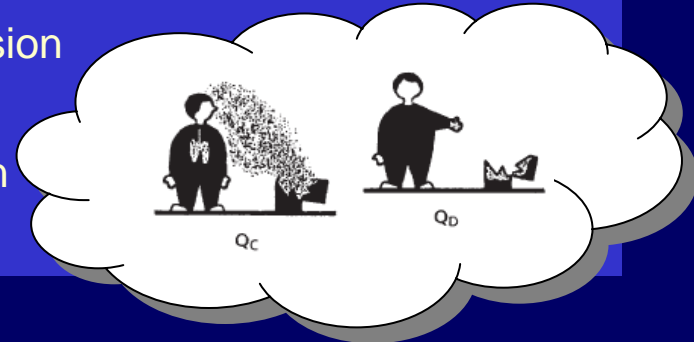
Influence on the TS-R-1 (2)

- **Requirement 8 (of Section 3): Exemption and clearance and Schedule I**
 - This requirement is relevant to the transport of radioactive material as stated in I-5 and footnote 47
 - I-5 refers only to the Table I-1 of Schedule I
 - The dose criteria for the exemption in I-2 is valid also for transport as a “practice”
 - How this can be applied in practice is still open for discussion
 - The desire for harmonized international values is as important as the desire to maintain harmonized values within a state
 - Difficult to cope with different exemption values, if applied between different states for transport
 - There is a need for a holistic solution to the application of the criteria

Influence on the TS-R-1 (3)

• Requirement 12 (of Section 3): Dose limitation and Schedule III

- Dose limits for workers and the public are unchanged in the BSS draft
- The values in Schedule III are also relevant to the transport of radioactive material
- Para. 303 of the TS-R-1 should be in accordance with these requirements
- Ongoing review of the dose conversion coefficients by ICRP has to be taken into account
 - ➔ but will not be finalized within the planned drafting period of the revised BSS
- The new coefficients will be issued without a full revision process of the BSS
- Influence on the Q-values for inhalation and ingestion and thus on the A_1 and A_2 values



Influence on the TS-R-1 (4)

- **Requirement 24 (of Section 3): Radiation Protection Programme (RPP)**

- Attention to this requirement for the next review of the TS-R-1 and the TS-G-1.3, whether it has an influence on the *elements* of the RPP

- **Section 4: EMERGENCY EXPOSURE SITUATIONS**

- The influence on the TS-G-1.2 has to be checked by the IAEA with the next revision of this document.

Influence on the TS-R-1 (5)

- Some remarks to the GLOSSARY:

➔ *representative person (new term)*

➔ *constraint (modified)*

➔ *controlled area (modified)*

Timetable

March 2011

**Endorsement of BSS draft by the Commission
on Safety Standards**

Autumn 2011

**Endorsement by the Board of Governors and
the General Conference**

Start the discussion on the identified issues at the ***earliest time possible*** in order ***to ensure*** the continued harmonization between TS-R-1 and the BSS

Conclusions

- **No significant changes of the Revised BSS**
 - ➔ **the content and the structure of the IAEA Transport Regulations do not have to be changed**
- **Only harmonized provisions and rules in the BSS and the TS-R-1 can contribute to maintain or even increase the high level of safety in transport**
- **A harmonized set of exemption values is an important issue in terms of practical application**
- **The scientific models should not take precedence over the ability to apply the requirements**

Thank you for your attention



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