



- Education and Training Requirements in the revised European Basic Safety Standards Directive

Stefan Mundigl  
European Commission  
DG Energy and Transport  
Radiation Protection Unit

# ● Outline

- Legal Basis
- Revision of European Basic Safety Standards Directive
  - » Motivation
  - » Topical issues
  - » Overall structure
- Education, training and information
  - » Requirements in the current BSS – experience since 1996
  - » Definition and core competencies of experts and services
  - » Requirements in the revised BSS
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## ● Legal Basis – the Euratom Treaty (1957)

- **Article 2:** ... the Community shall ... establish **uniform standards** to protect the health of workers and of the general public and ensure that they are applied;
- **Article 30:** Basic standards shall be laid down within the Community for the **protection of the health of workers and the general public against dangers arising from ionising radiations:**
  - » maximum permissible doses compatible with adequate safety
  - » maximum permissible levels of exposure and contamination
  - » fundamental principles governing the health surveillance of workers

## ● Legal Basis – the Euratom Treaty (1957)

- **Article 31:** The basic standards shall be worked out by the **Commission** after it has obtained the opinion of a **group of persons** appointed by the Scientific and Technical Committee from among **scientific experts**, and in particular **public health experts**, in the Member States. The Commission shall obtain the opinion of the **Economic and Social Committee** on these basic standards.

After consulting the **European Parliament** the **Council shall**, on a proposal from the Commission, which shall forward to it the opinions obtained from these Committees, **establish the basic standards**; the Council shall act by a qualified majority.

# ● Basic Safety Standards

- First Directive established in 1959
- **Current Basic Safety Standards:** Council Directive 96/29/Euratom laying down basic safety standards for the health protection of the general public and workers against the dangers of ionizing radiation
- **Medical Exposures:** Council Directive 97/43/Euratom on health protection of individuals against the dangers of ionizing radiation in relation to medical exposure, and repealing Directive

# ● Revision of European Basic Safety Standards Directive

## Two objectives

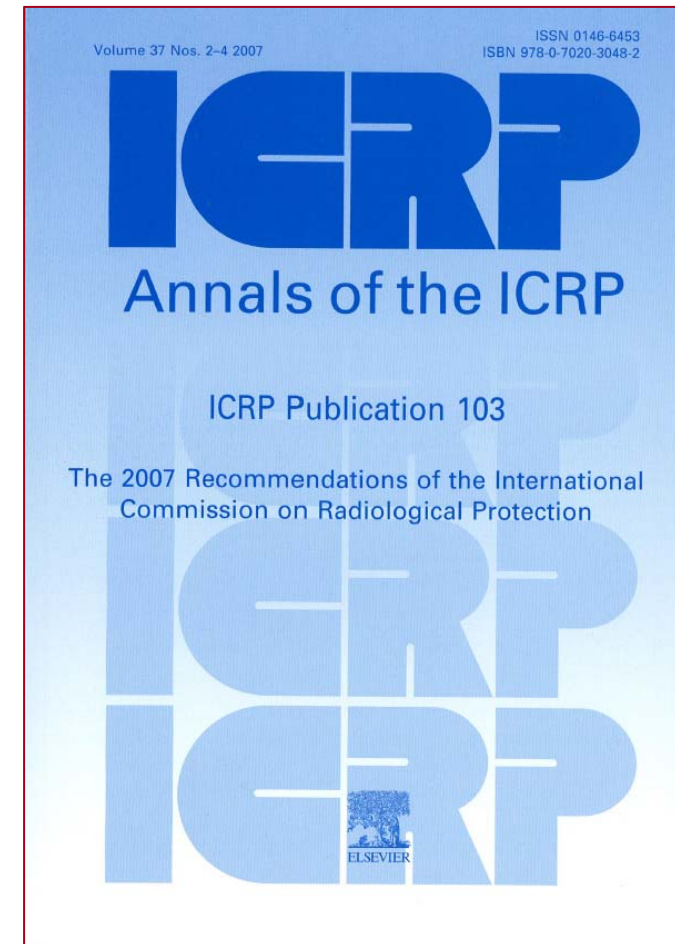
- Consolidation of existing European radiation protection legislation
- Revision of the requirements in the Euratom Basic Safety Standards Directive 96/29/Euratom

# ● Consolidation of European Radiation Protection Legislation

- Basic Safety Standards, [Directive 96/29/Euratom](#)
- Medical Exposures, [Directive 97/43/Euratom](#)
- Public Information, [Directive 89/618/Euratom](#)
- Outside Workers, [Directive 90/641/Euratom](#)
- Control of high-activity sealed radioactive sources and orphan sources, [Directive 2003/122/Euratom](#)
- Radon, [Commission Recommendation 90/143/Euratom](#)

# Motivation for the revision of Euratom BSS

- New ICRP recommendations 2007
- Need to strengthen certain requirements and to allow for experience since 1996
- New scientific data; e.g. cataract, epidemiological findings on radon in dwellings
- Harmonisation with the Revision of the International Basic Safety Standards





# ● Impact of new ICRP Recommendations

- Categorisation of exposure situations
  - » Planned, Existing, Emergency
- Introduction of dose constraints and reference levels
  - » Tools for optimisation
- Radiological Protection of the Environment
- Additional ICRP guidance expected on
  - » Emergency exposure situations
  - » Existing exposure situations, in particular on **radon**
  - » Tissue injury after high doses of radiation, in particular on radiation induced **cataracts**

## ● Topical issues for BSS revision

- Introduce more binding requirements on **natural radiation sources**
  - » Cover NORM industries
  - » Building material
  - » Radon in dwellings and in work places
  - » Cosmic radiation (exposure to air crew and space crew)
- Review of the **regulatory control system**
  - » Graded approach to regulatory control
  - » Harmonisation of exemption and clearance
- Highlight the importance of **education, training and information**
- Strengthen cooperation in **emergency preparedness, planning and response**
  - » In particular between Member States

## ● Additional topics

- Justification
  - » New classes of practices, new types of apparatus or products
  - » Deliberate exposure of humans for non-medical purposes
- Optimisation
  - » Dose constraints
  - » Application extended to cover also organ doses
- Occupational Exposure
  - » Annual dose limit
  - » Protection of outside workers
  - » Emergency workers
  - » Radon in workplaces
- Protection of the Environment

# Overall structure of the new Euratom Basic Safety Standards

- Preamble
- Title I Subject matter and Scope
- Title II Definitions
- Title III System of Protection
- Title IV Responsibilities for Regulatory Control
- Title V Requirements for Radiation Protection Education, Training and Information
- Title VI Justification and Regulatory Control of Planned Exposure Situations
- Title VII Protection of Workers, Apprentices and Students
- Title VIII Protection of Patients and other individuals submitted to medical exposure
- Title IX Protection of Members of the Public
- Title X Protection of the Environment
- Title XI Final provision

# ● Education and training requirements in the current BSS – Experience since 1996

- Directive 96/29/Euratom
  - » General requirements for training, experience and recognition of **qualified experts**
- Experience in Member States with transposition and implementation
  - » Different historically grown national education and training systems
  - » Different interpretations of the definition of qualified expert
  - » Variations in structure and scope of education and training
- Commission initiatives to enhance harmonisation, e.g.
  - » European Network on Education and Training in Radiological Protection (ENETRAP)
  - » European Platform on Training and Education in Radiation Protection (EUTERP)

# ● Education and training in the revision process

- Objective:
  - » Harmonisation of criteria and qualifications for experts and services to facilitate mutual recognition within Europe
- How?
  - » Clearer definitions of experts and services
  - » Definition of core competencies for each of these concepts

# ● Experts and Services in the new BSS

- Occupational Health Services
  - » Perform the medical surveillance of workers
- Dosimetry Services
  - » Assist in the individual monitoring of exposed workers
- Radiation Protection Expert
  - » Provides competent radiation protection advice on matters related to occupational exposure and public exposure
- Medical Physics Expert
  - » Gives specialist advice on matters related to radiation physics applied to medical exposure
- Additional concept: **Radiation Protection Officer**

# ● Definition and role of experts and services in the new BSS

## Title II:

- Definitions of experts and services streamlined and more focused

## Title IV:

- Requirement on Member States to create adequate arrangements for the **recognition** of
  - » Occupational Health Services,
  - » Dosimetry Services,
  - » Radiation Protection Experts, and
  - » Medical Physics Experts[Recognition of radiation protection officers **not required**]
- Non-exhaustive list of **core competencies** for each of these experts



# ● Radiation Protection Expert – core competencies as defined in Title IV

- Radiation Protection Expert shall give competent advice on matters related to occupational exposure and public exposure, including:
  - » plans for new installations and the acceptance into service of new or modified radiation sources in relation to any engineering controls, design features, safety features and warning devices relevant to radiation protection;
  - » the categorization of controlled and supervised areas;
  - » the classification of workers;
  - » the content of area and personal monitoring programmes;
  - » the appropriate radiation monitoring instrumentation to be used;
  - » the appropriate methods of personal dosimetry;
  - » the optimisation and quality assurance, including quality control;
  - » the environmental monitoring programme;
  - » radioactive waste disposal requirements;
  - » the arrangements for prevention of accidents and incidents, preparedness and response in emergency exposure situations;
  - » training and retraining programs for exposed workers;
  - » ...

## ● Title V: Requirements on Radiation Protection Education, Training and Information

- Separate Title in the new Directive
  - » Highlights importance of education, training and information
- New requirement on the establishment of a framework for radiation protection education, training and information
  - » Member States to establish legislative and administrative framework
  - » Appropriate for individuals with specific radiation protection competencies
  - » Adequate to allow for recognition of RPE, MPE, occupational health service, dosimetry service
- Maintaining existing requirements on information and training of
  - » Exposed workers, apprentices and students
  - » Workers potentially exposed to orphan sources
  - » Emergency workers

- Medical exposure – education, training and information requirements
  - Moved to [Title V](#) for consistency
    - » Title on Medical Exposure contains a cross-reference
  - Maintaining existing requirements
  - New requirement on the [timely dissemination](#) of information on
    - » Lessons learned from significant events, such as accidents, incidents, unintended exposures, near misses
    - » New developments relevant to radiation protection in the field of medical exposure

# ● Revision of International Basic Safety Standards

- Objective is to achieve greater harmonisation between Euratom Basic Safety Standards and International Basic Safety Standards
- European Commission is formally
  - » Co-sponsoring the Safety Fundamentals
  - » Joining the secretariat for the review of International Basic Safety Standards in view of **potential co-sponsorship**
- Representatives of IAEA participate as observers in
  - » Article 31 Group of Experts
  - » and its Working Parties

## ● Adoption procedure

- Opinion of the Group of Experts referred to in Article 31 of the Euratom Treaty
- Internal Commission procedures
  - » Legal Service preparation of the recast procedure
  - » Impact assessment
  - » Inter-service consultations
- Adoption of proposal by the Commission
- Opinion of Economic and Social Committee
- Proposal to Council and European Parliament
- Discussion/amendment in Atomic Questions Group of Council
- Adoption by Council
- Transposition in national legislation
  - » Recommendations on drafts submitted by Member States (Article 33 Euratom)

# Summary

- Revision of Euratom Basic Safety Standards and consolidation of existing European radiation protection legislation
- Education, training and information
  - » Experts and Services in the new BSS – definitions and core competencies
  - » Separate Title in the new Directive
  - » Framework for radiation protection education, training and information
- Time line
  - » Opinion of Article 31 Group of Experts by February 2010
  - » Commission proposal in 2010
  - » ....