Radon in Workplaces – Article 31 Working Party on Natural Radiation Sources

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The European Union

- 500 million people
- 28 countries
- surface area ~ 4 million km²
The European Coal and Steel Community

The treaties of Rome:
- The European Economic Community
- The European Atomic Energy Community (EURATOM)

The European Single Act: the Single Market

Treaty on European Union - Maastricht

Treaty of Amsterdam

Treaty of Nice

Treaty of Lisbon
Legal Basis
The Euratom Treaty (1957)

Chapter on health and safety

- Establish **uniform basic safety standards** for the protection of the health of workers and the general public against dangers arising from ionising radiations
  - ... and ensure that they are applied.

- ...


Main objective of the Basic Safety Standards

Ensure the highest possible protection of workers, members of the public and patients against the dangers arising from exposure to ionising radiation


Legally binding for 28 Member States of the European Union

Major challenge
Transposition and implementation of new requirements on natural radiation sources
Requirements on natural radiation sources
Protection from natural radiation sources

- **Radon** in dwellings and workplaces
- **Practices** involving naturally-occurring radioactive material (NORM)
- **Existing exposure situations** involving naturally-occurring radioactive material
- **Gamma radiation** from building material
- **Cosmic rays** (air crew & space crew)
Radon in Europe

Arithmetic means over 10 km x 10 km cells of long-term radon concentration in ground-floor rooms. (The cell mean is neither an estimate of the population exposure, nor of the risk.)
Framework

- Exposure of workers or members of the public to indoor radon now explicitly taken up in the Scope of Council Directive 2013/59/Euratom (Article 2 (2d))

- Establishment of programmes on existing exposure situations (Article 100)

- Establishment of a national radon action plan addressing long term risks from radon exposures (Article 103)
Radon in workplaces (Articles 54, 31 (3)c, ...)

- Establishment of a **national reference level** for indoor radon concentration in workplaces $\leq 300$ Bq/m$^3$

- **Clear allocation of responsibilities** for the protection of workers exposed to radon (Article 31 (3)c)

- Radon measurements in workplaces in
  - ✔ areas identified in accordance with Article 103 (3)
  - ✔ specific type of workplaces identified in the national action plan
  - ✔ other sources

- ...

...
Radon in workplaces (Articles 54, 25 (2), 35 (2))

- In workplaces where radon concentrations continue to **exceed** the national reference level despite all actions taken to **optimise**
  - ✓ Notification to the competent authority (Article 25 (2))
  - ✓ Article 35 (2) shall apply

- Occupational exposure arrangements in workplaces (Article 35 (2))
  - ✓ Exposure of workers > 6mSv/a
    - ✓ Situation to be managed as a planned exposure situation,
    - ✓ relevant requirements of Chapter III apply
    - ✓ Note: dose limit applies to sum of occupational exposures (Article 9)
  - ✓ Exposure of workers ≤ 6mSv/a
    - ✓ Exposures need to be kept under review
Approach to transposition and implementation of the BSS

Commission's objective

• Assess compliance of national transposing measures and their implementation with the requirements of the BSS Directive

• Initiate and engage in activities supporting the (practical) implementation of the requirements
Support practical implementation

Article 31 Group of Experts activities supporting the practical implementation of the requirements in the BSS

- Identification of issues – topical discussions
  - Review of existing guidance in the RP series
  - Development of new guidance

- Article 31 Working Party on Natural Radiation Sources – NORM, radon, building materials
Main objective

- discuss and propose solutions to current issues related to radiation protection of individuals subject to exposure to natural sources of ionising radiations
- develop scientific material as basis to develop guidance supporting the implementation of Council Directive 2013/59/Euratom

Work Programme

- Radon in workplaces and in dwellings
- Worker and public exposures in NORM practices
- Natural radioactivity in buildings materials
Article 31 Working Party on Natural Radiation Sources (2)

Current priorities
- First phase to focus on the preparation of material on
  - Radon in workplaces
  - Building materials

Membership
- Ten members of the Article 31 Group of Experts
- Observers: IAEA, WHO, HERCA, UNSCEAR
- Invitation of other experts/organisations, e.g. ERA, ENA, ..., on a case by case basis
Radon in Workplaces – draft report

Outline of the report

0. Introduction
3. Identification of relevant workplaces
4. Radon national action plans
5. Radon priority areas
6. **Regulatory Control of radon in workplaces**
7. Communication
8. Recognition, approval or accreditation of measurement services, dosimetry services, and remediation companies
Radon in Workplaces – draft report

Annexes to the report

Annex 2: Radon dose coefficients
Annex 3: Proposed structure of the national action plan
Annex 4: Radon Priority Areas
Annex 5: Member States specific information on the control of radon in workplaces
Annex 6: Communication regarding retrospective assessments
1 – No immediate action, but periodic verification measurements

- No
  - National Reference Level
    - No
      - Verification measurement
    - Yes
      - Remediation
        - Optimisation (ALARA)
- Yes
  - National Reference Level
    - Yes
  - Notification
    - Exposure assessment
      - No
        - 6 mSv/y
      - Yes
        - The situation shall be managed as a planned exposure situation

2 – Exposure of workers to be kept under review

* or a corresponding time-integrated radon exposure value
Status of development

Where are we with the report?

- Draft report presented and discussed at Article 31 Group of Experts meeting 14 – 15 November 2018
  - Group welcomed the report
  - Final round of comments – 2 January 2019

- Approval of the document for publication in the Radiation Protection Series of the European Commission – June 2019

- Publication later in 2019
Résumé

- Euratom Basic Safety Standards Directive currently being transposed into national legislations of EU Member States

- Exposure to natural radiation sources now consistently covered in the scope of the BSS Directive – important challenges to Member States

- Practical implementation of the requirements due

- Article 31 Group of Experts supports the Commission in the development of support material
  - Article 31 Working Party on Natural Radiation Sources
  - Draft report on Radon in workplaces – to be finalised in 2019
  - Building materials next topic
Thank you for your attention