Euratom Treaty
Radiation protection legislation
Euratom Treaty

• Chapter III: Health and Safety
• Article 2: In order to perform its task, the Community shall, as provided for in this Treaty: ...b) establish uniform safety standards to protect the health of workers and of the general public and ensure that they are applied

• Article 31 - group of experts
• Article 34 - dangerous experiments
• Article 35/36 - environmental monitoring
• Article 37 - plans to release radioactive waste
• Article 38 - recommendations on the level of radioactivity
Member State obligations under Euratom Treaty
Chapter 3 Health and Safety

- To transpose in the national legal order the basic safety standards as laid down in the secondary legislation
- To communicate to the Commission the draft transposing measures
- To inform the Commission on dangerous experiments to take place on their territory and the respective health and safety measures
- To obtain the assent of the Commission should such experiments be liable to affect other MS
- To carry out continuous monitoring of the level of radioactivity in the air, water and soil and ensure compliance with basic safety standards
- To give access to the Commission to the monitoring facilities for verification of their operation
- To communicate to the Commission the results from the monitoring checks
- To provide the Commission with information on any plan for disposal of radioactive waste
Compliance with Basic Safety Standards - Article 33

• Member States obligation to ensure compliance with the basic safety standards by “legislation, regulation or administrative action”.
  ➢ “legislation, regulation or administrative action” – the possible actions are listed in Recommendation 91/444/Euratom

• Member States obligation to communicate to the Commission the draft legislative and/or administrative measures taken to ensure compliance with basic safety standards (3 months before adoption - Recommendation 91/444/Euratom).

• Within 3 months from the notification of the measures the Commission may issue recommendations with regard to the draft legislative and/or administrative measures.

• Current transpositions: new BSS Directive and the Euratom Drinking Water Directive
Article 34 of Euratom Treaty

- MS obligation to take additional health and safety measures in case of particular dangerous “experiments” (i.e. nuclear weapons testing…)

- Opinion of the Commission on the health and safety measures

- Assent of the Commission on experiments which may affect the territories of other MS
Article 35 of Euratom Treaty

• Each Member State shall establish the facilities necessary to carry out continuous monitoring of the level of radioactivity in the air, water and soil and to ensure compliance with the basic standards

• The Commission shall have the right of access to such facilities and it may verify their operation and efficiency

• Verifications provide assessment of the adequacy of monitoring facilities for:
  - Liquid and airborne discharges of radioactivity into the environment by a site (and control thereof)
  - Levels of environmental radioactivity at the site perimeter and in the marine (if applicable), terrestrial and aquatic environment around the site, for all relevant pathways
  - Levels of environmental radioactivity on the territory of the Member State
Article 35 of Euratom Treaty

- The main findings and recommendations arising from the verification exercise are published on the Commission website.
- A general report on the Commission's verification programme is drawn up at appropriate times for the attention of the European Parliament and Council.
- Communication 2006/C 155/02 describes the practical arrangements for the conduct of verification visits in Member States.
- First Art. 35 verification to Serbia very soon after accession.
Article 36 of Euratom Treaty

• The MS authorities shall periodically communicate information on the checks referred to in Article 35 to the Commission so that it is kept informed of the level of radioactivity to which the public is exposed.

• The type of information and the procedure of reporting are described in Commission Recommendation 2000/473.
Article 37 of Euratom Treaty

• Member States are required to provide the Commission with information (general data) on any plan to construct, modify or dismantle an installation that may result in planned or accidental releases of radioactive substances in whatever form.

• Commission Recommendation 635/2010 provides guidance on the subject of reporting, the content of the general data and the timing of the submission.

• The Commission shall deliver its opinion on whether the implementation of the plan is liable to result in contamination of the water, soil or airspace of another MS. The opinion is delivered within six months, after consulting the group of experts referred to in Article 31.
Article 38 of Euratom Treaty

- The Commission shall make recommendations to the Member States with regard to the level of radioactivity in air, water and soil.

- In cases of urgency, the Commission shall issue a directive requiring the Member State concerned to take all necessary measures to prevent infringement of the basic standards.

- Should the State fail to comply within the period laid down, the Commission or any Member State may forthwith bring the matter before the Court of Justice.
EURATOM Basic Safety Standards

• Basic Safety Standards
  • maximum permissible doses compatible with adequate safety
  • maximum permissible levels of exposure and contamination
  • the fundamental principles for the health surveillance of workers

• Special legislative procedure (Art. 31)
  • Opinion of Art. 31 Group of Experts
  • Opinion of ECOSOC
  • Commission proposal
  • Council adoption after consulting the EP

• Revision of BSS on a request of the Commission or MS (Art.32)
Basic Safety Standards framework (*part of the new BSS)

Medical exposure  
Council Directive 97/43*

Protection of Outside Workers  
Council Directive 90/641*

Preparedness for radiological emergencies  
Council Decision 87/600 (ECURIE),  

Foodstuffs Regulations  
3954/87, 944/89, 770/90

Control of high activity sealed sources - Council Directive 2003/122*

Safety of nuclear installations  

Shipments of radioactive waste and spent fuel  

Shipments of radioactive Substances  
Council Regulation 1493/93

Basic Safety Standards Directive

- Directive 2013/59/Euratom replaces Directive 96/29/Euratom
- Cornerstone of radiation protection in the EU:
  - Definitions
  - System of radiation protection
  - Regulatory control
  - Reporting and authorisation of practices
  - Justification and dose limitation
  - Occupational exposure
  - Protection of workers and students
  - Assessment of exposure
  - Medical exposure surveillance
  - Natural radiation sources
  - Education and training
  - Radioactive sources and orphan sources
  - Metal contamination
  - Protection of the general public, public exposure
  - Emergency exposure
  - Information to the public
  - Radon
  - Etc.
Revision of the European Radiation Protection Legislation 
(new Euratom Basic Safety Standards)

• Project to combine the following into one legal instrument:
  – 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

• Directive for a ‘new Euratom BSS’ was adopted on 5 December 2013
  – Transposition by the MS before 6 February 2018
Medical Exposure in the new BSS

- Health protection of individuals against the dangers of ionizing radiation in relation to medical exposure
- Ionizing radiation has been used in medicine for more than a century and has proven to be an essential component of modern medical diagnosis and treatment
- Ionizing radiation is a cause of concern because the exposure of the human body may cause health detriment
- At present, the overall population exposure due to medical procedures hugely exceeds any other man-made exposure
- The protection of the patients and other individuals exposed in medical practice, is therefore one of a main priority task for the European Commission under the Health and Safety Chapter of the Euratom Treaty
Outside Workers in the new BSS

- Operational protection of outside workers exposed to the risk of ionizing radiation during their activities in controlled areas
High-activity sealed sources (HASS) in the new BSS

- Control of high-activity sealed radioactive sources and orphan sources
- Prior authorisation
  - Close the cycle, including financial provisions
- Record keeping
  - Holder/Authority
- Traceability
  - Identification and marking, documentation
- Operational safety requirements
- Education and training
  - Awareness of the consequences of loss
- Orphan sources
  - Emergency preparedness and recovery campaigns
- Metal contamination situations
Source definitions in the new BSS

• High-activity sealed sources (HASS)
  – “sealed source containing a radionuclide whose activity …. is equal to or exceeds the activity level specified in Annex III”
  – The new BSS harmonises the definition with the IAEA classification (Cat I – III are HASS)

• Orphan sources
  – “sealed source, the activity level of which, at the time of discovery, is above the exemption level referred to in Art. 3(2)(a) of BSS-Directive, and which is not under regulatory control, either because it has never been under regulatory control or because it has been abandoned, lost, misplaced, stolen or transferred without proper notification of the competent authority, to a new holder or without informing the recipient”
  – Member States may exclude sources once their activity level has fallen below the exemption levels of BSS-Directive
Public Information in the new BSS

• Health protection measures to be applied and steps to be taken in the event of a radiological emergency
• Commission Communication on implementation of 89/618/EURATOM
• Information to population close to nuclear installations and at national level
  – facts about radioactivity, types and consequences of emergencies
  – Countermeasures, communication systems
• Information should be given rapidly, openly and systematically
  – type of emergency, applied countermeasures, further information

*No contradictory information!*
European Community Urgent Radiological Information Exchange – ECUERIE System (Council Decision 87/600)

• **MS responsibilities**
  - to promptly inform the Commission in case of radiological emergency (specified in Decision 87/600) on measures taken and recommendations issued
  - to inform the Commission, at appropriate intervals of levels of radioactivity measured in foodstuffs, feedingstuffs, drinking water and in the environment

• **Commission responsibilities**
  - to forward the received information to all Member States, FYROM and Switzerland (in practice also to the IAEA)
  - to forward any information about significant radioactivity increase in non EU countries, especially in those adjacent to the Community

• **Serbia situation**
  - Serbia may request ECUERIE membership already before accession via a diplomatic agreement, or wait for automatic accession when it becomes a Member State
  - Serbia is already a member in the EURDEP system
Candidate countries are invited to become members to the ECURIE System and to nominate a contact point to this end.
Chernobyl Foodstuffs Regulations

- Regulations 1388/86 … 737/90….733/2008
- applies in the aftermath of the Chernobyl accident
- only Cesium isotopes considered
- pertains to import from third countries
  - release for free circulation
  - possible higher limits to national produce for internal consumption
- list of products
- Council Regulation 1048/2009
- Cesium isotopes
  - 370 Bq/kg for dairy produce/babyfood
  - 600 Bq/kg for other foodstuffs
  - limits applied to products ready for consumption
- extended till 31 March 2020
Future accidents

- Regulation 3954/87
- in case of a nuclear accident or emergency
- isotopes of Sr, I, Cs + other, alpha
- babyfoods, dairy produce, other foodstuffs, beverages, feedingstuffs, minor foodstuffs
- pertains to:
  - placing on the market
  - export (2219/89)
- EC operates a rapid alert system for food
## Future accidents – activity limits

<table>
<thead>
<tr>
<th>Reconstituted FOODSTUFFS</th>
<th>Baby food</th>
<th>Dairy produce</th>
<th>other</th>
<th>Beverage</th>
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<td>Cs-134/137</td>
<td>400</td>
<td>1000</td>
<td>1250</td>
<td>1000</td>
</tr>
</tbody>
</table>
Future accidents – implementation procedure

- **short term:**
  - immediate application of pre-established levels
  - immediate countermeasures
    - animals
    - vegetables
  - prompt communication with public
  - envisage need for correction of the levels

- **intermediate term:**
  - rapid assessment of the contaminated area
  - evaluation of the economic impact
  - establishment of adequate restrictions

- **long term:**
  - foodstuff monitoring
  - agricultural countermeasures/food processing
  - return normal
Radioactivity in Drinking Water

• Directive 2013/51/Euratom laying down requirements for the protection of the health of general public with regard to radioactive substances in water intended for human consumption
  – Adopted 22 October 2013, transposition before 28 November 2015

• Complements Directive 98/83/EC on the quality of water intended for human consumption
  – Parametric values for Radon, Tritium and the Indicative Dose (ID)
  – Values have indicative function, they are not limits
  – Monitoring requirements

• Note also Commission Recommendation 2001/982/Euratom on the protection of the public against exposure to radon in drinking water supplies
Shipments of Radioactive Substances

- Council Regulation 1493/93 on shipments of radioactive substances between Member States
- Procedure to control movements of radioactive material between Member States (within the open market area)
  - Authorities should be aware of radioactive sources arriving or leaving the country
- Import and export of radioactive material from/to EU not included (covered by the IAEA Import/Export guidance)
- **Note:** Do not confuse 'shipment', 'transfer' and 'transport'. Be careful to use terms 'import' and 'export' correctly.
Proposal for new Emergency Foodstuffs Regulations

• Regulations subject to the revision:

  • Council Regulation 3954/87 laying down maximum permitted levels of radioactive contamination of foodstuffs and of feedingstuffs following a nuclear accident or any other case of radiological emergency
  • Commission Regulation 944/89 laying down maximum permitted levels of radioactive contamination in minor foodstuffs following a nuclear accident or any other case of radiological emergency
  • Commission Regulation 770/90 laying down maximum permitted levels of radioactive contamination of feedingstuffs following a nuclear accident or any other case of radiological emergency

• In January 2014 the Commission adopted a proposal for Council Regulation laying down maximum permitted levels of radioactive contamination of foodstuffs and of feedingstuffs following a nuclear accident or any other case of radiological emergency. The proposal is now under discussion in the Parliament and the Council.
CONCLUSIONS

MS obligations under Euratom Treaty
Chapter 3 Health and Safety

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- To communicate to the Commission the results from the monitoring checks
- To provide the Commission with information on any plan for disposal of radioactive waste
- To participate in ECURIE and EURDEP
Thank you for your attention

Further information on DG ENERGY D3 website