



# Education and training in radiation protection in the European Basic Safety Standards

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**15th European ALARA Network  
Workshop and 5th EUTERP Workshop  
*Education and Training in Radiation  
Protection: Improving ALARA Culture*  
Rovinj, Croatia, 7-9 May 2014**

Energy



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# **EURATOM LEGAL BASIS FOR RADIATION PROTECTION**

# Euratom Treaty



- Rome, 25 March **1957**
- Article 2: "... the Community shall ... establish **uniform standards** to protect the health of workers and of the general public"



- **Article 31**: "The basic standards shall be worked out by the Commission after it has obtained the opinion of a **group of ... scientific experts**"
  - **"Art.31 Group of Experts (GoE)"**



## Euratom Radiation Protection Law

- Euratom "**Basic Safety Standards**" (BSS) Directives
  - » **Binding Law** for all EU Member States
  - » First adopted in **1959**, covers workers and public
  - » Regular revision, current **Directive 96/29/Euratom**
- Supplementing legislation in **other areas**
  - » **Medical**, Directives 84/466/Euratom and **97/43/Euratom**
  - » **Outside workers**, Directive 90/641/Euratom
  - » Foodstuff contamination
  - » Etc.



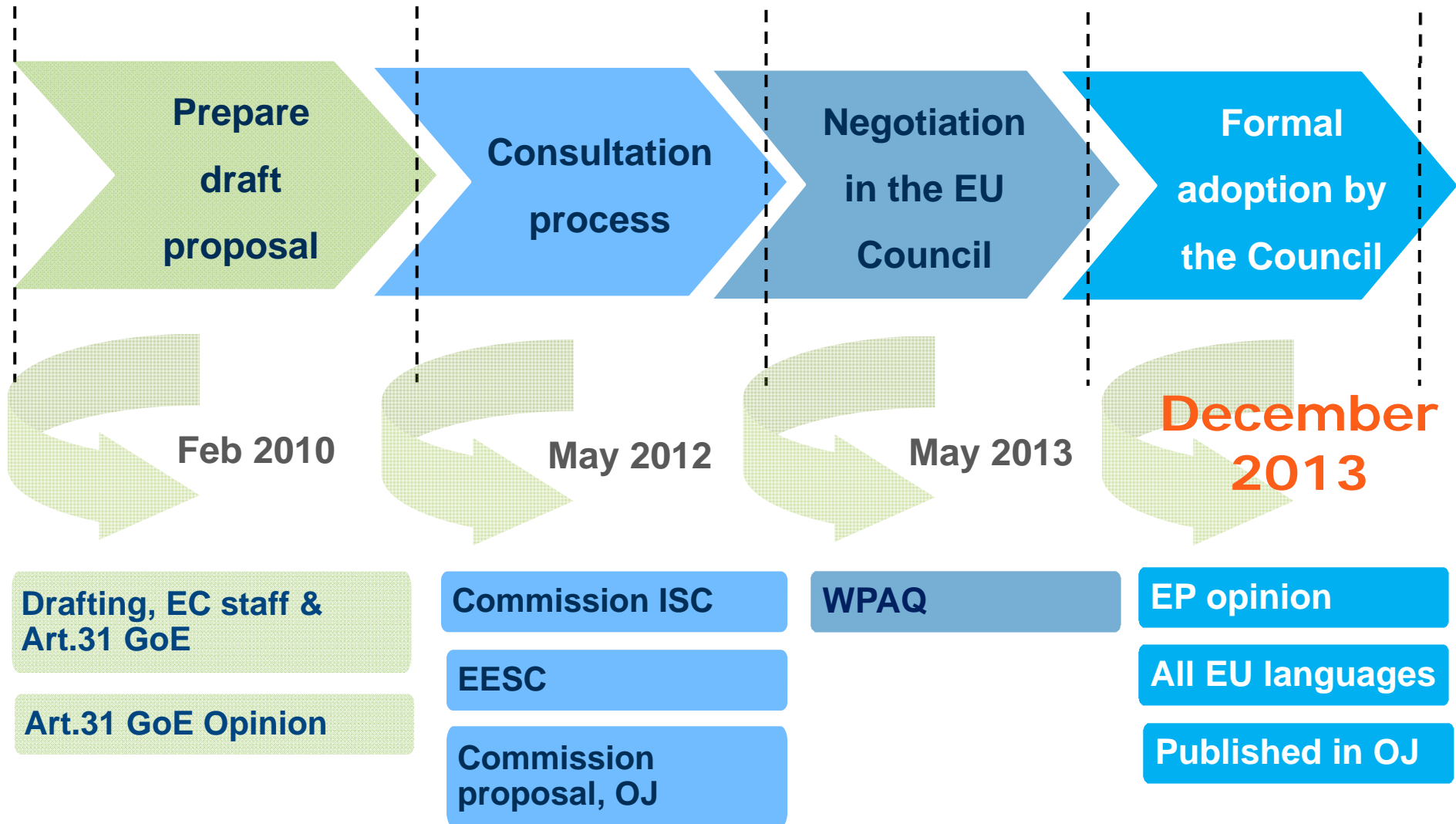
# EURATOM BSS REVISION



## Revised Euratom BSS Objectives

- **Revision** of the current requirements
- **Consolidation** of current legislation
  - » Basic Safety Standards, **Directive 96/29/Euratom**
  - » Medical Exposure, **Directive 97/43/Euratom**
  - » Public Information, **Directive 89/618/Euratom**
  - » Outside Workers, **Directive 90/641/Euratom**
  - » HASS **Directive 2003/122/Euratom**
  - » Radon, **Recommendation 90/143/Euratom**

# Procedure





# Procedure

Formal  
adoption by  
the Council

5 December  
2013

Published in OJ,  
17/01/2014

23 EU languages

# Službeni list Europske unije

ISSN 1977-0596

# L 13



Hrvatsko izdanje

Zakonodavstvo

Svezak 57.  
17. siječnja 2014.

Sadržaj

II. *Nezakonodavni akti*

DIREKTIVE

- ★ Direktiva Vijeća 2013/59/Euratom od 5. prosinca 2013. o osnovnim sigurnosnim standardima za zaštitu od opasnosti koje potječu od izloženosti ionizirajućem zračenju, i o stavljanju izvan snage direktiva 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom i 2003/122/Euratom ..... 1

Cijena: 4 EUR

HR

Akti čiji su naslovi tiskani običnim slovima su oni koji se odnose na svakodnevno upravljanje poljoprivrednim pitanjima, a općenito vrijede ograničeno razdoblje.  
Naslovi svih drugih akata tiskani su masnim slovima, a prethodi im zvjezdica.



# **EDUCATION AND TRAINING IN THE REVISED EURATOM BSS**

# Structure



- **Preamble**
  - **Chapter I:** Subject matter and Scope
  - **Chapter II: Definitions**
  - **Chapter III:** System of radiation protection
  - **Chapter IV:** Requirements for radiation protection  
**education, training and information**
  - **Chapter V:** Justification and regulatory control of practices
  - **Chapter VI:** Protection of workers, apprentices and students
  - **Chapter VII:** Protection of patients and other individuals submitted to **medical exposure**
  - **Chapter VIII:** Protection of members of the public
  - **Chapter IX:** Protection of the environment
  - **Chapter X:** Requirements for **regulatory control**
  - **Chapter XI:** Final provisions
  - 16 Annexes
- TOTAL: 109 Articles, 73 pages**



- MS shall ensure that an **adequate legislative and administrative framework** is established for providing appropriate radiation protection education, training and information to all individuals whose tasks require specific competences in radiation protection
- Appropriate **education, training and retraining** shall be in place to **allow the recognition** (by the competent authority) of **RPE, MPE**, occupational health services and dosimetry services
- Member States shall lay down provisions to ensure the **continuity of expertise** of these services and experts



- Changes in definitions (Chapter II) of competent services and experts and their roles (Chapter X)
  - » **Radiation Protection Expert (RPE)**
    - Replaces the Qualified Expert from 96/29/Euratom
  - » Introduction of **Radiation Protection Officer (RPO)**
  - » New definition of **Medical Physics Expert (MPE)**
  - » Detailed consideration of **functions** of RPE, MPE and RPO
  - » Emphasis on (state) **recognition** and **continuity of expertise**



- **Radiation Protection Expert (RPE)**

- » an individual having the **knowledge, training and experience** needed to give radiation protection advice in order to ensure effective protection of individuals, whose capacity to act is **recognized by the competent authorities**
- » advice on **occupational and public exposure**, e.g. for plans for new installations, classifications of areas and workers, monitoring, QA, emergency arrangements, training of workers ..
- » **external or internal** advisor, could be carried out by a group of specialists



- **Radiation Protection Officer (RPO)**
  - » an individual **technically competent** in radiation protection matters relevant for a **given type of practice** who is designated by the undertaking to **oversee the implementation** of the radiation protection arrangements **of the undertaking**
  - » **optional**, when required by MS
  - » **no** need of **recognition** by the competent authority
  - » **reports directly** to management
  - » task of the RPO can be carried out by a **radiation protection unit** established within an undertaking



- **Medical Physics Expert (MPE)**

- » an individual having the knowledge, training and experience to **act or give advice** on matters relating to radiation physics applied to **medical exposure**, whose competence to act is **recognised by the competent**
- » increased **involvement** and wider **responsibilities**
  - commensurate with complexity and the radiation risk
  - balanced with roles and responsibilities of other clinical staff
- » task of the MPE may be carried out by a **group of specialists** who together have the necessary expertise



# Services and Experts (5)



- RPE – advises on

- » optimisation, e.g. dose constraints
- » plans for new or modified installations / sources
- » categorisation of areas
- » classification of workers
- » quality assurance
- » waste management
- » workplace and individual monitoring programmes
- » monitoring instrumentation
- » environmental monitoring
- » prevention of accidents and incidents

- RPO – performs tasks

- » ensure work is carried out in accordance with specified procedures or local rules
- » maintain adequate records of radiation sources
- » supervise implementation of workplace monitoring
- » supervise implementation of the personal monitoring
- » supervise implementation of the health surveillance programme
- » carry out periodic assessments of safety and warning systems

# Services and Experts (6)



- RPE – advise on

- » preparedness and response in emergency
- » investigation and analysis of accidents and incidents and remedial actions
- » training of workers
- » employment conditions for pregnant and breastfeeding workers
- » prior risk assessments and written procedures
- » liaise with RPO
- » may be assigned RPO tasks, if provided by legislation

- RPO – performs tasks

- » participate in emergency prevention, preparedness and response
- » introduce workers to local rules and procedures
- » information and training of exposed workers
- » establish and/or advise and comment on work plans
- » liaise with the radiation protection expert

## Other E&T requirements

- New **Chapter IV: Requirements for Radiation Protection Education, Training and Information**
  - » Grouping existing requirements on E&T of
    - Exposed workers, apprentices and students
    - Workers potentially exposed to orphan sources
    - Emergency workers
    - Medical staff
  - » Changes made wherever deemed necessary



# RECENT AND ONGOING EU PROJECTS FOR E&T IN RP



# ENERGY

European Commission

European Commission > Energy > Nuclear energy > Radiation protection

## Nuclear energy



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### Nuclear energy

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- European Nuclear Energy Forum (ENEF)
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  - Euratom Article 31
  - Euratom Article 35
  - Euratom Article 36
  - Euratom Article 37
  - Medical Applications
  - Legislation
  - Emergency Preparedness and Response
  - Radioactive Sources
  - RADD database
  - Scientific Seminars

### Publications

Publications covering a wide range of issues re



### MEDRAPET



### Medical Radiation Protection EDUCATION AND TRAINING

Available  
Juris  
years 2004 to 2008 [2 MB]

Radiation

Consequences  
detection and

[809 KB]

U nuclear

175: [Guidelines on Radiation Protection Education and Training of Medical Professionals in the European Union](#) [2 MB] [Corrigendum](#) [46 KB]

174: [European Guidelines on Medical Physics Expert](#) [603 KB] - [Annex 1](#) [2 MB] - [Annex 2](#) [620 KB]

173: [Comparison of Codes Assessing Radiation Exposure of Aircraft Crew due to Galactic Cosmic Radiation](#) [3 MB]

# FP7 Projects



EUROPEAN NETWORK ON EDUCATION AND  
TRAINING IN RADIOLOGICAL PROTECTION



- » March 2009 – December 2012
- » ENETRAP III – M. Coeck



## **EUTEMPE-RX**

- » August 2013 – 2016
- » network of excellent teaching centres to prepare courses for MPE in Diagnostic and Interventional Radiology
- » set up a multi-campus Educational and Training platform
- » course to be either accredited or serve as an example



# FUTURE ACTION

# EU BSS Transposition



- Transposition by **6 February 2018**
  - ✓ Member States shall bring into force the laws, regulations and administrative provisions to comply with this Directive
  - ✓ Member States shall communicate to the Commission the text of the provisions of national law
- ✓ Euratom Treaty, Art. 33: Member States shall communicate to the Commission ... **draft** provisions
- ✓ Any **recommendations** the Commission may wish to issue with regard to such draft provisions shall be made **within three months**

Energy

The image shows the cover of the Official Journal of the European Union. The title "Official Journal of the European Union" is prominently displayed at the top. Below it is the European Union flag. The issue information includes "L 13", "Volume 57", and "17 January 2014". The content is categorized as "Legislation" and "English edition". A table of contents is visible, listing "II Non-legislative acts" and "DIRECTIVES". A specific entry is marked with an asterisk: "★ Council Directive 2013/59/Euratom of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom". The price is listed as "Price: EUR 4". At the bottom left, there is a box with "EN" indicating the language. A note at the bottom states: "Acts whose titles are printed in light type are those relating to day-to-day management of agricultural matters, and are generally valid for a limited period. The titles of all other acts are printed in bold type and preceded by an asterisk."





## Council Directive 2013/59/Euratom, EC transposition follow-up

- EC review of draft national provisions
    - 28 Member States, same deadline
    - only three months for review – unrealistic
- ⇒ Need to act early, establish continuous process and collaborate with MS
- early exchange on national plans, deadlines, etc.
  - general workshop to discuss national plans – late 2014
  - topical workshops, e.g. on medical, E&T, etc. – 2015-2017
  - formal Art. 33 submission – mid-late 2017
  - Some of the work to be outsourced

# TAKE HOME POINTS



- The **EU BSS** have just been **revised**
- The new EU BSS introduces **changes** in **E&T** and in **roles & responsibilities** for RP
- **28 EU countries** will go through legislation and practice changes over the **next four years**
- Some **recent EU projects** have provided help in implementing the legal changes
- **Further support** will be available through EU projects and collaborative European action
- We will **succeed** if we **cooperate**

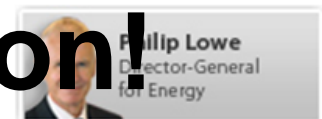
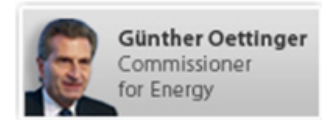


# ENERGY

## Nuclear energy



Search  OK



### Quick jump

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  - European Nuclear Energy Forum (ENEF)
  - Waste management
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      - Public consultations
      - Call for tenders
      - Links

## Medical Applications

Thank you for your attention!

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. The technology has made much progress in the past decades, in X-ray imaging through the development of digital and computerized techniques, in nuclear medicine through the production of new radioisotopes and techniques, and in radiotherapy through sophisticated computerized treatment planning and local facilities for the precise delivery of the radiation to the tumour.

At the same time, 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.

### News

- 28/09 - [EC breakout session at the Bonn Conference was announced](#)
- 29/06 - [The European Observatory on the supply of medical radioisotopes was set-up](#)
- 18/04 - [Radiation Protection No. 172 "Cone Beam CT for Dental and Maxillofacial Radiology" has been published](#)

### Forthcoming events

[http://ec.europa.eu/energy/nuclear/radiation\\_protection/medical/applications\\_en.htm](http://ec.europa.eu/energy/nuclear/radiation_protection/medical/applications_en.htm)