



Authority for Nuclear Safety and  
Radiation Protection

**Redefining the position of  
the Dutch supervising  
expert in light of the  
implementation of the BSS  
in the Netherlands**

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## History differentiation radiation protection expertise in the Netherlands

- Radiation protection education system in the Netherlands
- Basis: qualified expert in company

| <b>Expertise Level</b> | <b>Purpose</b>                 |
|------------------------|--------------------------------|
| <b>5</b>               | <b>Low risk</b>                |
| <b>4</b>               | <b>Moderate risk</b>           |
| <b>3</b>               | <b>Significant risk</b>        |
| <b>2</b>               | <b>High risk / complicated</b> |
| <b>1</b>               | <b>Internationally</b>         |

SE

QE



## History differentiation radiation protection expertise in the Netherlands



- **Surveillance expert:** use of ionising radiation is permitted only under the responsibility of an expert, who has obtained a degree from a government-certified training program of a sufficient level
    - Development of supervisory expert, partly compliant with RPO in BSS
    - New educational system required
  - **Coordinating expert:** carry out the general tasks of radiation protection, such as information supply, instruction and dosimetrics. Internal coordination RP company
    - Development of **qualified expert:** new educational system on basis of ENETRAP II learning outcomes and registration expert in a qualified register (rules laid down in legislation)
      - General coordinating expert
      - Coordinating expert
- } compliant with RPE in BSS



## Current system of radiation protection expertise in the Netherlands

Dutch Radiation Protection Decree:

Powers and duties of the radiation physician and the general coordinating expert, coordinating expert and supervisory expert

- Supervisory expert
- General coordinating expert
- Coordinating expert



## Radiation protection officer (RPO) in BSS

- Article 4 (74) "**radiation protection officer**" means an individual who is **technically competent** in radiation protection matters relevant for a **given type of practice to supervise or perform the implementation** of the radiation protection arrangements



# Supervisory expert



## Supervisory expert

- Carries out a practise, or alternatively a practise is carried out under supervision of the SE
  - Requirement to obtain a diploma attesting completion of RP training from an accredited institution.
  - Requirement to receive adequate continuing education and training
  - A certain level of expertise and continuing education and training may be required for certain practices (by regulation EZ)
  - Registration is not required for SE in Dutch legislation
- Dutch supervisory expert comparable to the radiation protection officer (RPO)



## Supervisory expert (continued)

→ Dutch supervising expert comparable to the radiation protection officer (RPO)

But the Dutch supervising expert is not (yet)

- Practise-specific
- (Practise specific) learning outcomes are not laid down in legislation

→ Analysis of role, duties, responsibilities and training requirements for the different Dutch RPO's





## Practise specific SE?



Low risk



High risk



## Specialisations required Dutch SE/RPO: at least 9

- **Sector Medical**

- Nuclear medicine
  - Radiology
  - Radiotherapy
  - Dentistry - 2
  - Veterinary medicine - 3
- } Radiographer - 1

- **Sector Nuclear - 4**

- **Sector Industry and Research**

- Researchlabs/Open sources - 5
- NORM - 6
- Accelerators - 7
- Industrial radiography - 8
- Gauging techniques - 9



## Adaptation Dutch educational system supervisory expert

- Educational system radiation protection for SE
  - General part
  - Application-specific part
- Modular or integrated education possible
- Levels education SE: EQF-levels



## Model adapted Dutch educational system SE/RPO

| Sector  | Medical   |     |     | Nucl | Industry & Research |    |     |     |    |    |
|---|---|-----|-----|------|---------------------|----|-----|-----|----|----|
| Type of specialisation →<br>EQF level<br>↓ Topics | Rad   | De  | Vet | NFC  | Os                  | No | Acc | IR  | GT |    |
| <b>B</b>  | <b>Technical</b><br>• Radiation physics and interaction with matter, dosimetry and detection, risks and effects   | B5  | B5  | B5   | B7                  | B6 | B6  | B4  | B5 | B4 |
|   | <b>Supervisory</b><br>• General role and duties RPO, legislation, dose limits, O.P.A, safety assessment, ALARA, environment etc                                     | B5  | B5  | B5   | B7                  | B6 | B6  | B4  | B5 | B4 |
| <b>S</b>  | <b>Technical</b><br>• Technical knowledge, operation and maintenance, specific risks, shielding, measurement, storage, packing and transport, waste and discharges. | Rad | De  | Vet  | NFC                 | Os | No  | Acc | IR | GT |
|   | <b>Supervisory</b><br>• Specific tasks RPO, specific legislation, licences/reports incidents, supervising   | Rad | De  | Vet  | NFC                 | Os | No  | Acc | IR | GT |



## Conclusions supervisory expert

- Educational system for Dutch RPO needs to be redefined to become application-specific:
  - Workshop with stakeholders (may 2015)
  - New application-specific learning outcomes (2015/2016)
  - Laid down in national legislation (end 2016)

## Issues to be solved

- How many different specialisations of RPO required in the Netherlands
- Exchange with other European countries still possible
- Harmonisation learning outcomes RPO
- Is registration RPO required?
- For which practises the designation of a RPO is necessary?



## Radiation protection expert (RPE) in BSS

- Article 4 (73) "**radiation protection expert**" means an individual or, if provided for in the national legislation, a group of individuals having the knowledge, training and experience needed to give radiation protection advice in order to ensure the effective protection of individuals, and whose competence in this respect is recognised by the competent authority;



## Coordinating expert



## Coordinating expert

- Ensures that practises with ionising radiation are performed within the legal framework (also for medical practises).
- Must receive a radiation protection training from an accredited institution (fulfills learning outcomes laid down in legislation)
- Must be registered in a special register
  - Comply with requirements relating to (radiation) knowledge, work experience and ongoing education (Regulation Implementing Radiation Protection Decree EZ)
- Knowledge level EQF6

→ Comparable to the radiation protection expert (RPE)





## **General coordinating expert**



## General coordinating expert

- Ensures that practises with ionising radiation are performed within the legal framework (also for medical practises).
- Grants internal permission for practises (complex license)
- Must receive a radiation protection training from an accredited institution (fulfills learning outcomes laid down in legislation)
- Must be registered in a special register
  - Comply with requirements relating to (radiation) knowledge, work experience and ongoing education (Regulation Implementing Radiation Protection Decree EZ)
- Knowledge level EQF7

→ Comparable to the radiation protection expert (RPE)



## (General) coordinating expert

- Implementation of the RPE in the Dutch radiation protection system well advanced
    - Learning outcomes (ENETRAP based)
    - Registration requirements
- } laid down in legislation

### Issues to be solved

- Two knowledge levels (EQF6/7)
- Not practise-specific (broad)
- Tasks RPO performed by RPE: application and supervisory-specific knowledge



## Questions?

