RP QUALIFICATION AND FUNCTIONS IN A CHANGING EUROPEAN LANDSCAPE

Education and Training in Germany vis-à-vis the transposition of the new EURATOM BSS

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RP in Germany

- ~100 licenses Nuclear
- 1000 licenses accelerators
- 12k licenses rad. Sources
- 22k licenses X-ray
- 150k registrations X-ray

**Federal Ministry (BMUB)**
Legislation, standards

**State Ministry (~25)**
Lic./insp. Nuclear

**State Authority (~60)**
Lic./insp. Medical & Industrial

**State Body (~50)**
Recognition of courses/qualifications

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HERCA WS RPE/RPO,
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RP Functions in Germany

- Strahlenschutzverantwortlicher (SSV), "RP Executive"
  - Owner/director/board member of undertaking
  - Accountable for all legal duties of undertaking

- Strahlenschutzbeauftragter (SSB), "RP Supervisor"
  - Designated by SSV, number as required
  - Responsible for implementation of RP
  - Personal legal duties (for area of designation)

- Preconditions for designation of SSB
  1. Personal Professional **Integrity**
  2. **Competences** within undertaking to perform duties
  3. "Requisite **Expertise** in RP"

- NB. translations to EN may vary (non-standardized)
“Requisite Expertise in RP”

- Requirements
  1. Appropriate professional education
  2. Successful completion of courses in RP
  3. Sufficient professional experience in relevant practice

- Examined and conferred by competent body

- Concrete requirements in regulatory guidelines (~ 60 groups of expertise depending on type of practice)
Requisite expertise in RP

Procedures

• Consideration of qualification from outside Germany
  – well-established
  – case-by-case base
  – supplementary: language and legal system requirements

• Expertise has to be updated every 5 years

Examples

• NPP: Bachelor Sc/Eng, 160 hrs course, 2 yrs training

• MPE: Master MedPhys, 72 hrs courses, 2 yrs experience

• HASS: Professional Ed, 40 hrs course, 1 yr exp

• Type approved X-ray: 8 hrs course only
DE system of Responsibilities

Advantages of DE system
- Responsibilities very clearly assigned
- Accountable person available in undertaking
- Person with expertise available “in-house”

Limitations of training (graded approach)
- Level of qualification dependant on risk of practice
- Recognition only valid within limits of qualification
- For low-risk practices only limited training is feasible
Technical Experts

In addition to the functions within an undertaking, Technical Experts are employed in several roles (overview only)

Specially appointed technical experts:
- Recognized by competent authority
- Substantial requirements on education, training, experience, equipment, independence, integrity

Have to be contracted
- upon registration of X-ray devices
- X-ray devices in operation: every 5 yrs
- Accelerators, Afterloading devices in operation: yearly
- Irradiators, Radiography devices in operation: every 1...3 yrs

Report of a Technical Expert usually requested from applicant
- for licensing of x-ray devices, accelerators, brachytherapy, irradiators
- common to use specially appointed technical experts for this purpose

Can be consulted by competent authority
- any time in licensing procedures or for inspection purposes
- very commonly employed in nuclear field, less often in other areas
- Important in case of significant events or incidents
RPE and RPO in the new BSS

Personal qualifications strengthened in 2013 BSS: framework for E&T and recognition – focus here on two “new” functions

Radiation Protection Expert
- “having the knowledge, training and experience needed to give advice”
- “competence recognised by the comp. authority”
- “may be assigned tasks”
  - undertaking required “to seek advice from RPE”

Radiation Protection Officer
- “technically competent”, has to “supervise or perform the implementation”
- “undertakings […] provide […] with the means necessary”
- may be carried out by RPE
  - new function, optional for implementation by MS
RPE in BSS: Facts and Fiction

Concepts of RPE/RPO had been used in other contexts
⇒ some confusion what BSS do (not) require or prescribe

- RPE works full-time in RP (RPO may work part-time)
- RPO duties may be assigned to RPE
- RPE practically identical to „qualified expert“ from 96 BSS
- RPE is in EQF level 6/7/8
- EQF/ECVET NOT applicable in the scope of Euratom!
- RPE must be independent from undertaking
- RPE not responsible for implementation of tasks
- RPE must have university degree
Implementing the RPE

Choice for MS:

• No requirements on organisational structure of undertaking in BSS

Assignment of legal duties / responsibilities: National competence

مصطلح نادر

• Personal prediction: Diversity will be larger than for 96 BSS

Independent external consultant

Competent for specific type of practice

SMS1

Comprehensively trained for a wide class of practices

--- practices ---

SMS2

Responsible Unit within undertaking

--- practices ---

SMS3

Involvement

Not one, but 28 (systems of) RPE
Correspondence DE – EU

- Undertaking
- RPE Recognized competence
- RPO Means provided by u.

- Competent authority
- SSV “Head” of undertaking
- Technical expert
- SSB Requisite expertise in RP Competence within und.
RPO/RPE in new German legislation

- Political Goal: Modernise RP law
  ➢ propose new (parliamentary) RP act (currently 2 ordinances)
- Change of E&T system only viable if RP is improved
- Profound changes in E&T not foreseen for most practices
- New concepts for low-risk practices? – work in progress
- After transposition: Rework guidelines, significantly reduce groups of expertise
For discussion: E&T Challenges …

- RPE/RPO in transport of radioactive material
- "New" practices: RPE for occupational protection in
  - NORM at workplaces
  - flightcrew (spacecrew)
- E&T for Radon at Workplaces

- Information and Training of workers (less international work done so far?)
- Relevance of E&T for physical protection of sources
• **BSS** offers a multitude of options for implementation

• Successful **guidance** will respect diversity

• **No mandate for harmonisation** in European primary law or HERCA

• Base discussion on content of BSS only

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**Suggestions for way forward:**

1. Broaden work to **full picture of options** for RPE (&RPO?), graded approach to requirements

2. Develop methods for cross-border **acceptance when requirements are diverse**

3. Base any contact to **EQF** on **thorough analysis** of legal & technical & factual foundation
Thank you for your attention

… take Radiation Protection off to new horizons!