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Qualification pathways for RPEs and RPOs in Finland

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Overview of competences in Finland

Radiation protection officer (RPO)

- Health care and veterinary medicine: 6 limited competence areas + 1 general
- Industry and research: 5 competence areas
- Nuclear energy: 1 competence area

Radiation protection expert (RPE)

- Health care and veterinary medicine
- Industry and research
- Nuclear energy

Until 2018

- “RPO” for ~10 different competence areas of radiation practices
- skills, duties, and responsibilities were a hybrid of the current RPO and RPE, closer to RPO

Recognition of RPO

Requirements: learning outcomes and amount of work experience

- Requirements depend on competence area
- Training courses by universities and private providers – significant differences in the type, duration, and teaching methods of education → certificate (exam required)
- Certificate + Work experience → qualification
- Safety license holder verifies sufficient work experience and compatibility before appointment; The authority may request additional information, when granting a safety license
- No mutual recognition; (must be familiar with Finnish legislation), Training can be completed in English and is relatively short

Soft skills – Are they really taken into account?

Recognition of RPE

- Arrangements for the recognition the qualification of RPE vary by competence area:

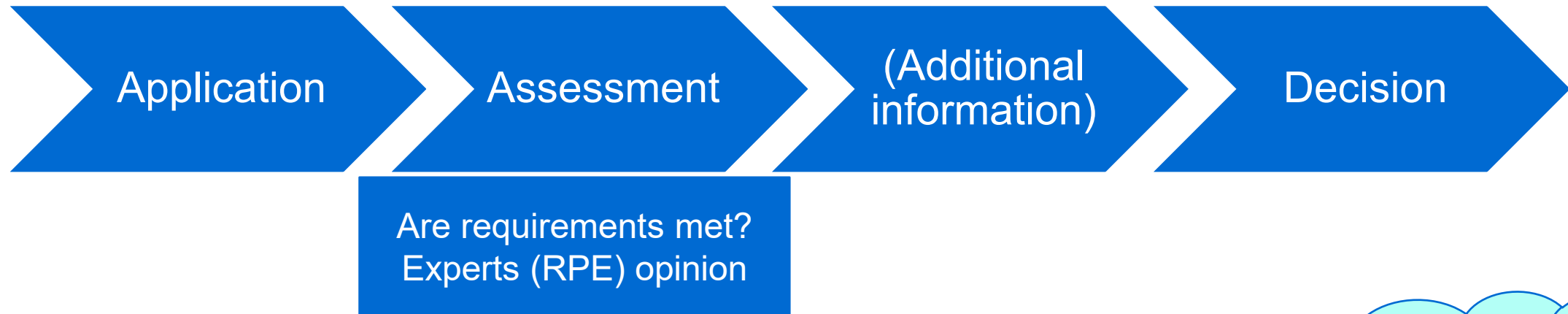
Radiation practices in industry and research;
and use of nuclear energy:

recognition of RPE
qualification is applied from
Radiation and Nuclear
Safety Authority (STUK)

Radiation practices in health
care;
and radiation practices in
veterinary medicine:

Medical physicists (name-
protected professional title)
act also as Medical physics
expert (MPE) and RPE

Recognition of RPE in industry, research and nuclear energy



- Free-form application: applicants must describe how they have acquired the required skills (through work and studies)
- There is no set educational path for these fields of expertise; instead, experts must acquire the necessary skills from a variety of courses and sources.

Soft skills – not possible to properly assess when using this procedure

Requirements for RPE in industry and research and in nuclear energy

- Basic education
 - Master's degree in natural sciences or engineering e.g. physics, radiochemistry, nuclear technology
- Radiation protection education – requirements differ between the field of expertise
 - Scientific basis, general knowledge of radiation
 - Measurement technique and calculation methods
 - Radiation protection
 - Radiation practices
- Work experience
 - Sufficient work experience in the field of expertise applicable to the task
 - At least 2 years after graduation (usually significantly more)

Recognition of RPE from foreign country

- Two options:
 - Once a person has obtained qualification to act as an RPE in another EU country, they may apply to STUK for mutual recognition
 - Otherwise, the RPE certification system is the same as for Finnish experts
- Mutual recognition:
 - Based on a certificate or documents issued by a competent authority in another EU country
 - Usually, the recognition decision includes a requirement to pass an aptitude test or an adaptation period of up to three years

Improvements needed to the system? (1/2)

RPO

- the large number of competence areas means that it can be difficult to find training for certain specific competence areas if the need for new RPOs is sporadic

RPE

- Not very efficient way to work – small country and not so many applications to deal with, so it's possible
- Recognition is valid until further notice; only regular supplementary education is required
 - How to ensure that expertise is at a sufficient level when new uses of radiation emerge?
 - Given qualification can be withdrawn if needed – no proper monitoring method to detect these situations

Improvements needed to the system? (2/2)

RPE

- Should veterinary medicine be considered a separate competence area?
 - not all medical physicists have a sufficient understanding of the specific characteristics of veterinary medicine and their implications for radiation protection requirements
- The field of industry and research is extremely broad
 - very few individuals have a comprehensive understanding of all applications of radiation
 - necessary to assess how deep and broad a level of expertise is required to qualify
- Mutual recognition is some time difficult
 - Applicants not always have needed documents to show
 - Adaptation time is not workable way then the work of RPE is usually occasional – another criteria needed

Summary

RPO

- Total 13 competence areas
- Training course + work experience → qualification
- No mutual recognition

RPE

- Total 3 competence areas
- Health care and veterinary: Medical physicist are qualified
- Industry, research and nuclear energy: qualification by application to STUK
- Mutual recognition possible

Improvements needed

- Availability of education
- Modifying RPE competency areas
- Monitoring procedure for RPE qualifications?