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Atoms for Peace and Development

Worldwide overview on the Member States' education, training and competence requirements for QE and RPO

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- QE and RPO in IAEA Safety Standards
- Implementation of IAEA requirements for in Member States
- Conclusions and way forward

Why emphasis on QE & RPO

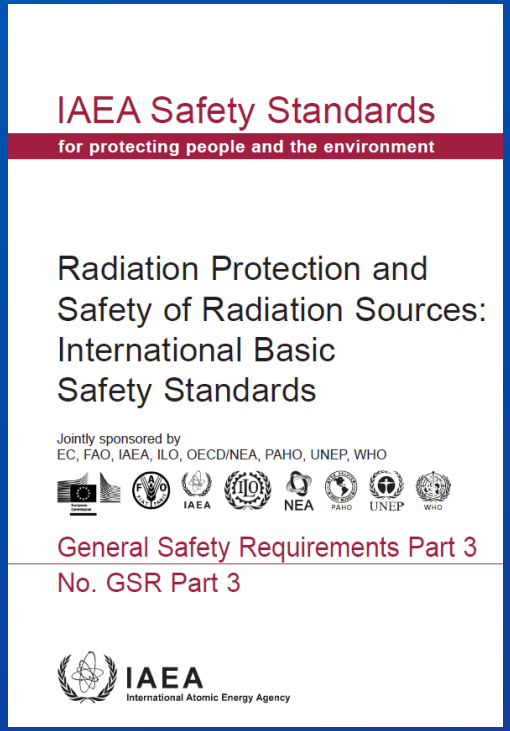
- RPOs and QEs (in radiation protection) are key personnel to ensure radiation safety

- RPOs and QEs have a role in all the facilities and activities with use of ionizing radiations *(medical applications, industrial applications, nuclear activities for matter related to radiation protection, etc.)*

- Proper set of requirements on their:
  - *(complementary)* role and functions,
  - qualifications *(graded approach)*

  would support a sustainable radiation safety framework

Definitions and requirements: QE and RPO



Definitions and requirements: QE

Definition

“an individual who, by virtue of certification by appropriate boards or societies, professional licence or academic qualifications and experience, is duly recognized as having expertise in a relevant field of specialization,
e.g. medical physics,
radiation protection,
occupational health,
…….”

QERP

Radiation Protection Expert (EU)

GSR Part 3: Glossary

Definitions and requirements: QE

Recognition

The government has to ensure that the formal recognition of qualified experts is established

GSR Part 3: 2.21(b)

Definitions and requirements: RPO

Definition

“Radiation Protection Officer is a person technically competent in radiation protection matters relevant for a given type of practice who is designated by the registrant, licensee or employer to oversee the application of regulatory requirements ”

Radiation Protection Officer (EU)

GSR Part 3: Glossary

RPO oversees the application of, and the compliance with the relevant regulatory requirements for occupational and public radiation protection and has no direct responsibilities or role with respect to patient radiation protection

GSG-7: 3.66, SSG-46: 2.96

Definitions and requirements: RPO

Designation

Employers, registrants and licensees, in consultation with workers, or through their representatives where appropriate shall designate, as appropriate, a RPO in accordance with criteria established by the regulatory body

GSR Part 3: 3.94

Establishment of the E&T requirements

RESPONSIBILITIES OF THE GOVERNMENT

Requirement 2: Establishment of a legal and regulatory framework

The government shall ensure that requirements are established for:

Education, **Training**, **Qualification** and **Competence** in protection and safety of all persons engaged in activities relevant to protection and safety

- *Knowledge*
- *Skills*
- *Attitude*

GSR Part 3: 2.21(a)

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Information on MSs' requirements

IAEA RASIMS Radiation Safety Information Management System

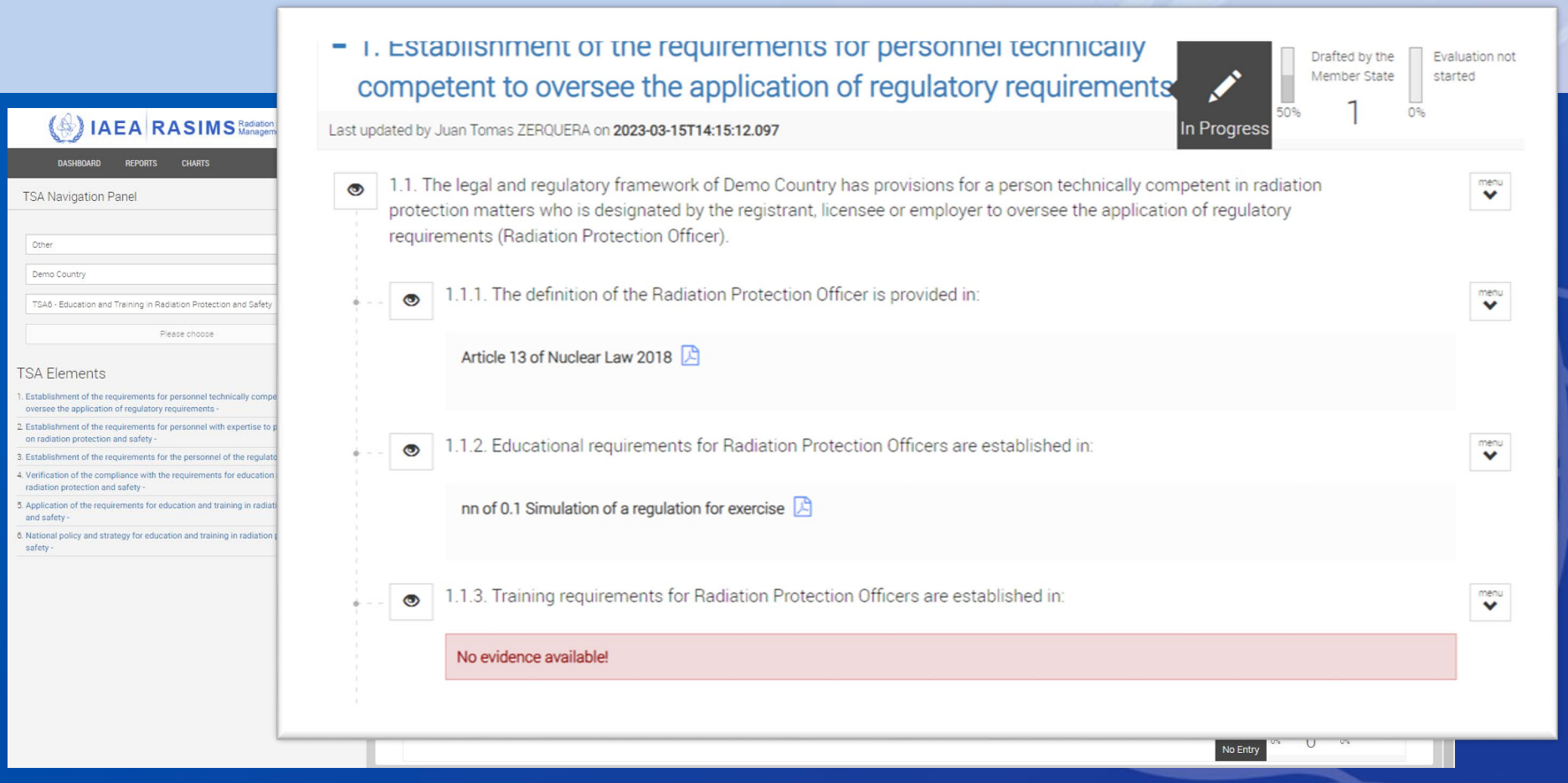
To collect the information on MSs' national radiation safety infrastructure in terms of:

- Regulatory Infrastructure
- Occupational Radiation Protection
- Radiation Protection in Medical Exposure
- Public and Environmental Radiation Protection
- Education and Training
- Transport Safety

Target:
MSs receiving assistance through the IAEA TC programme

To evaluate the alignment with IAEA Safety Standards

Information on MSs' requirements



Information on MSs' requirements

MSs have to provide evidence on the national requirements on:

- Education
- Training
- Competence *
- Qualification
- Formal recognition / Criteria for designation

P.I.

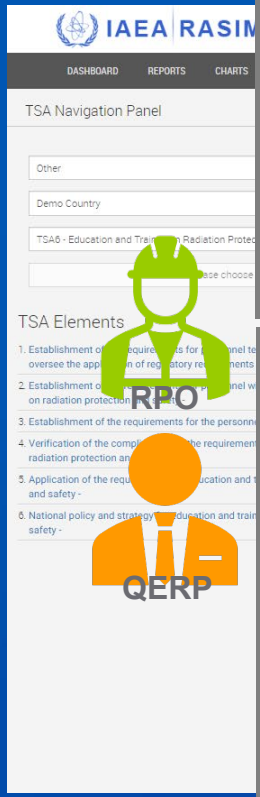
MSs have to provide evidence that all the above requirements cover:

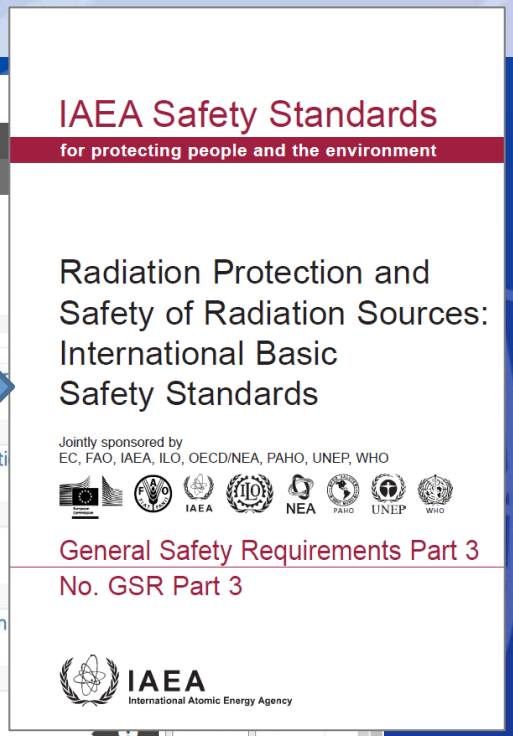
for the RPO

- all the practices

for the QERP

- all the practices, or
- the areas of expertise, or
- the type of risk/sources





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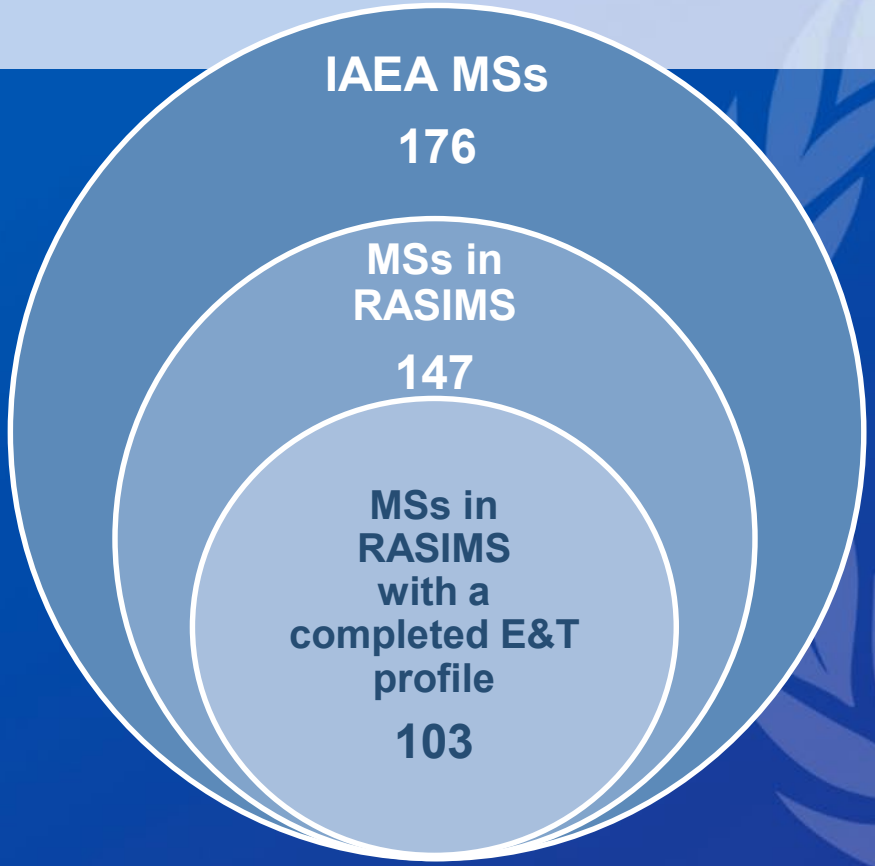
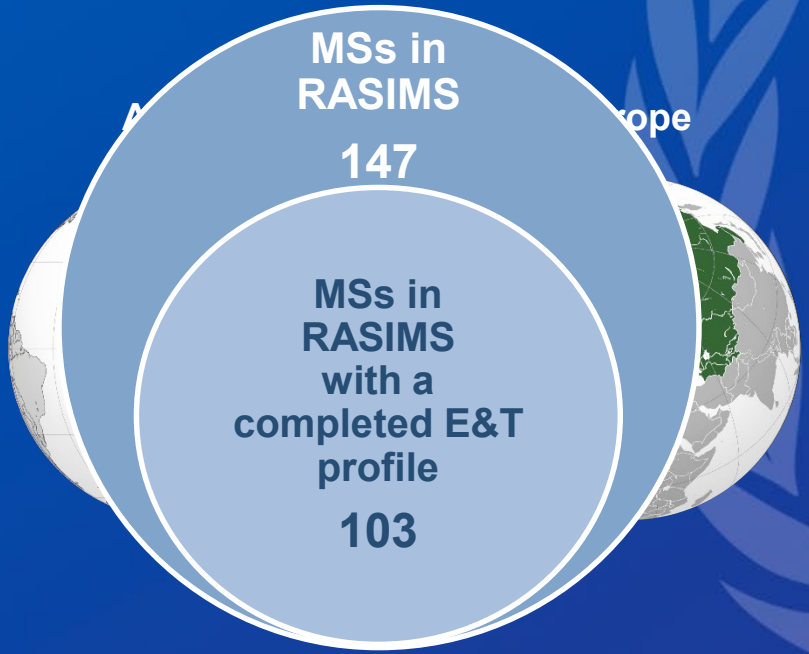


Information on MSs' requirements

MSs in RASIMS are distributed in 'Regions'

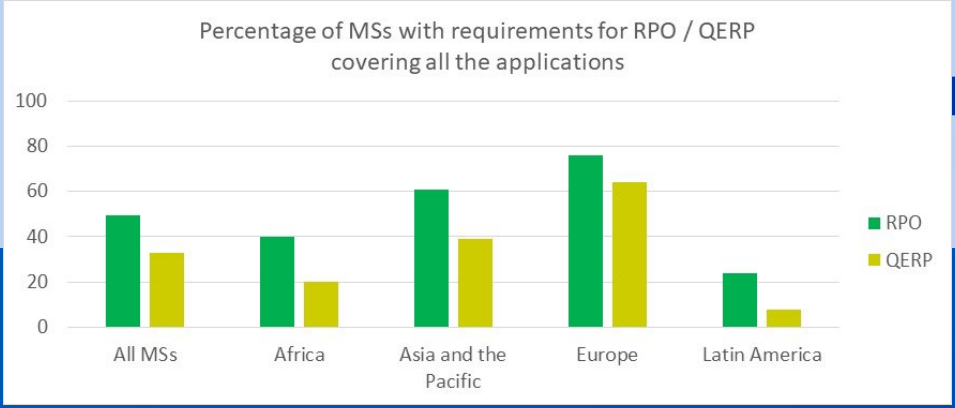
Latin America

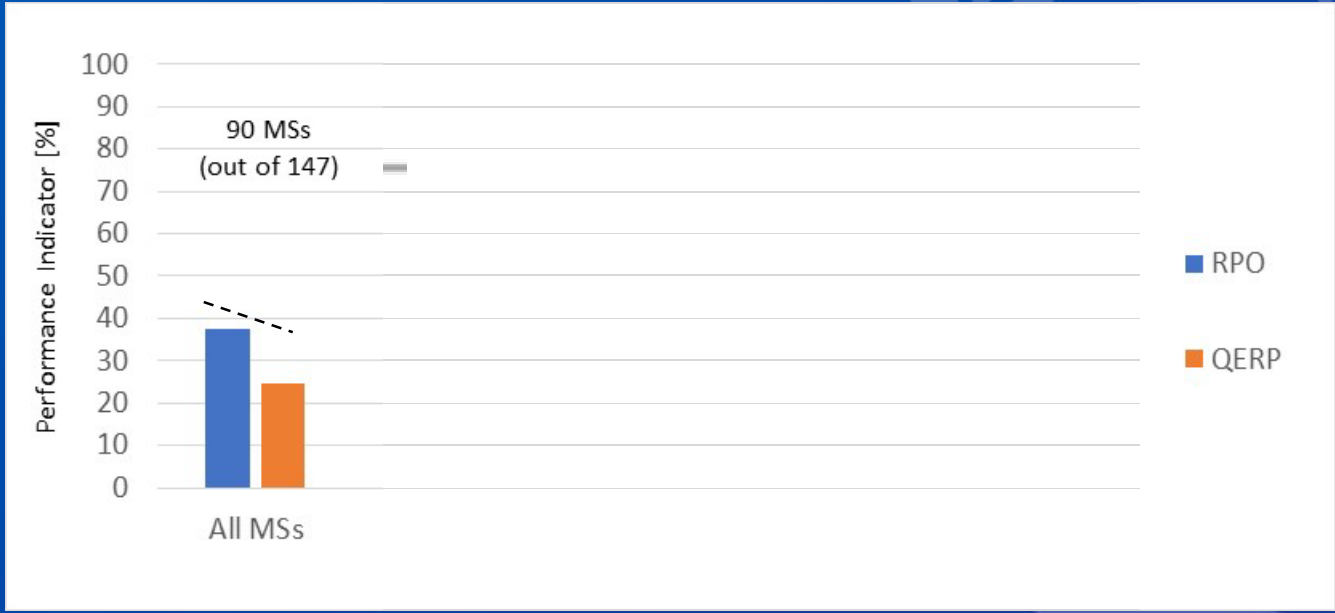


Asia and the Pacific

ments with IAEA SS

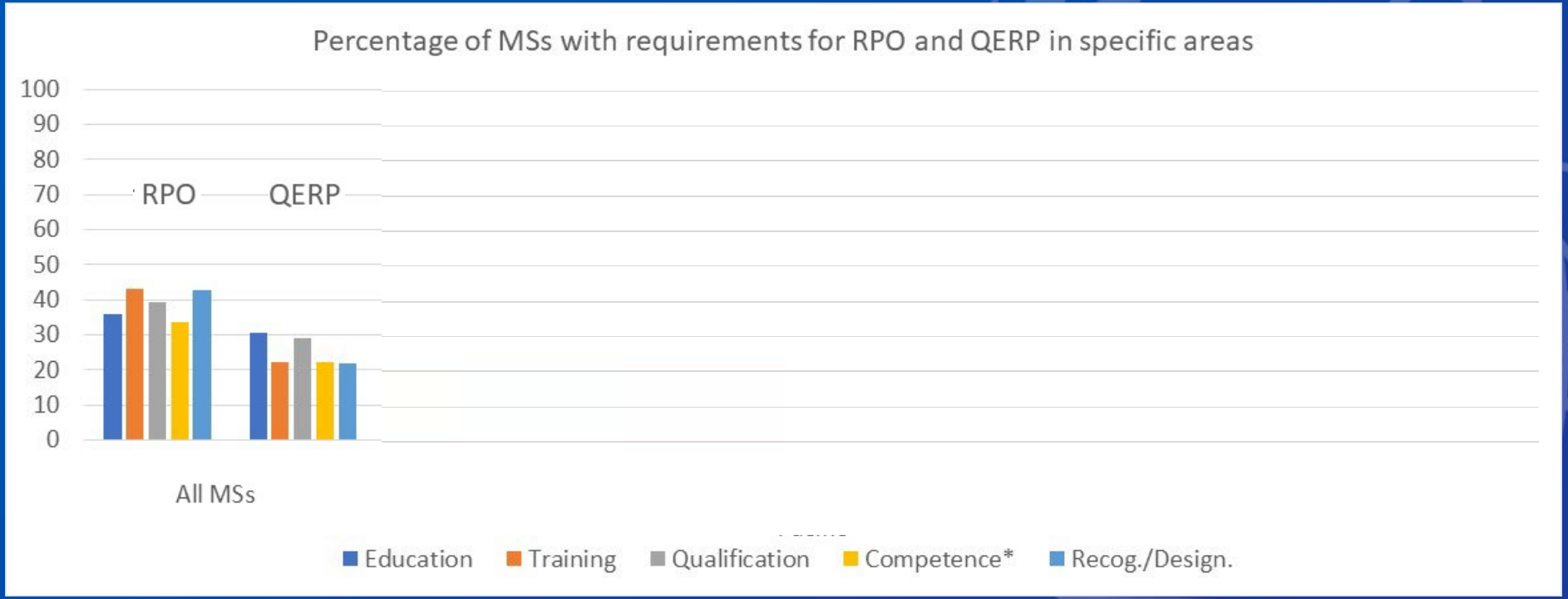
$W_{facilties/activities}$)





Alignment of MSs' requirements with IAEA SS

Education, Training, Competence, Qualification, Recog. / Desig.



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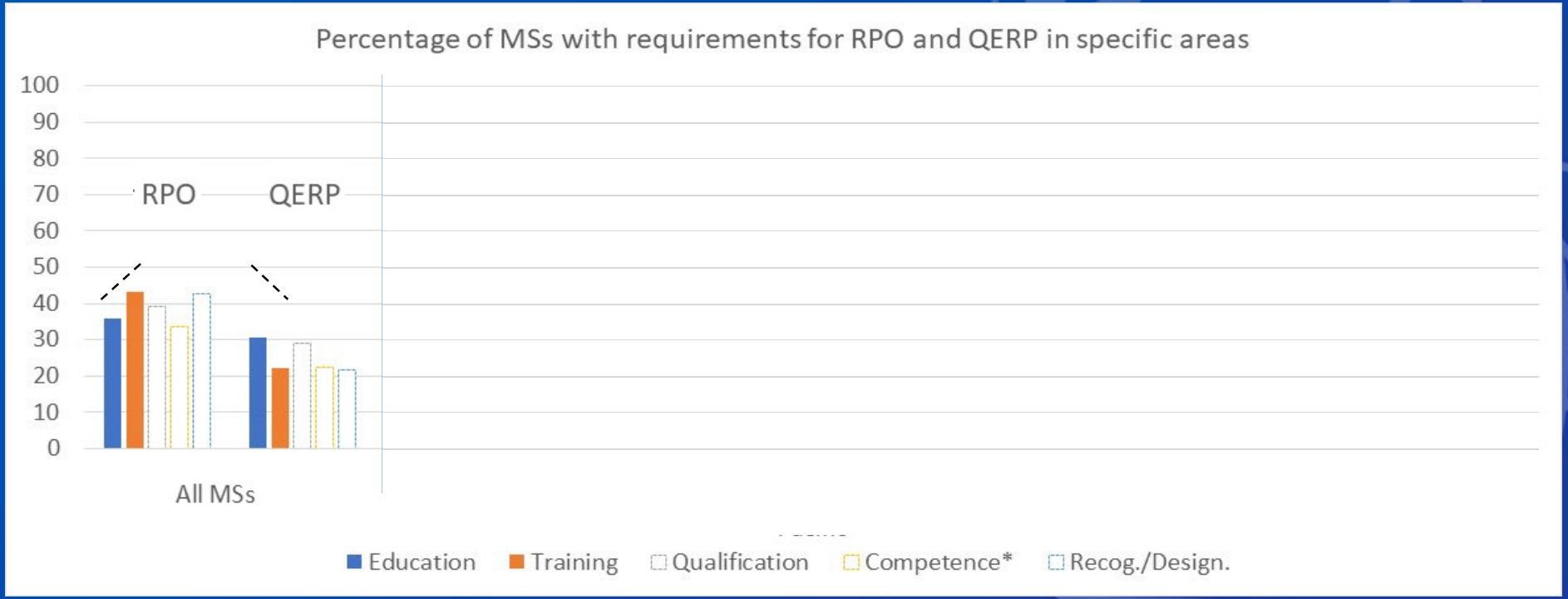

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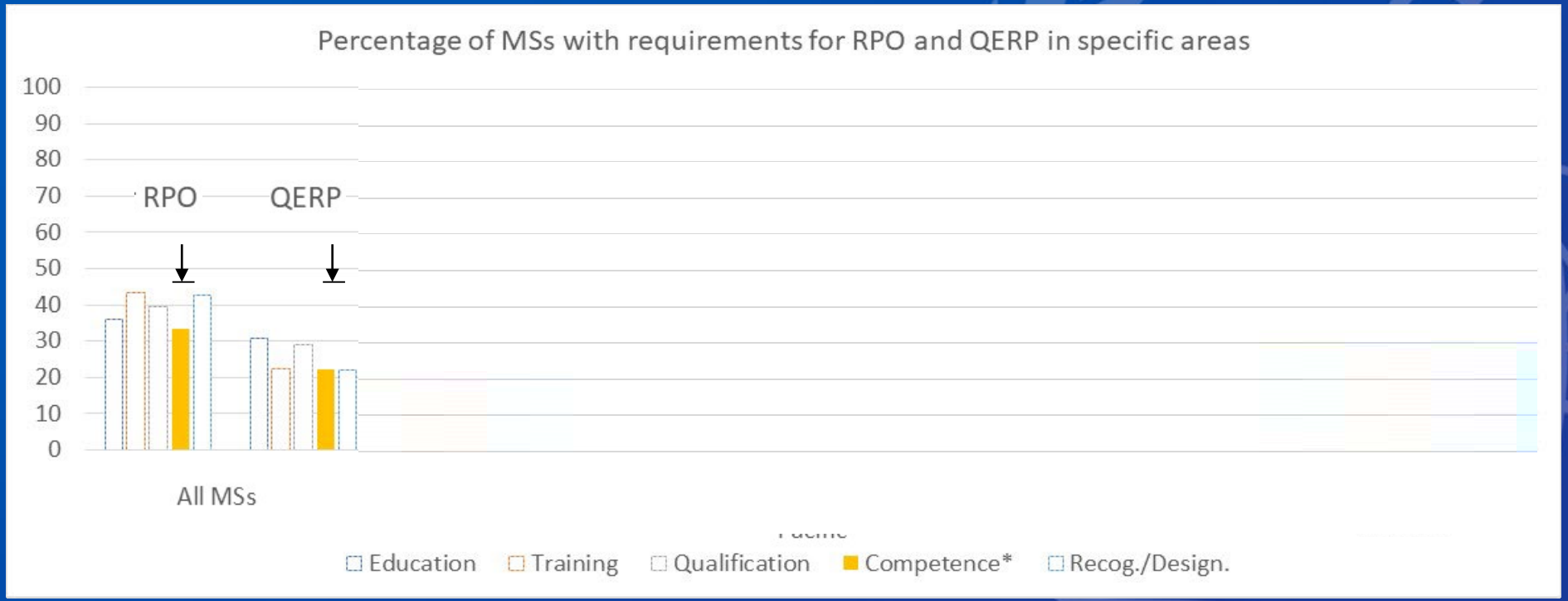

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Outcomes of the quantitative analysis

Caveats

Subregional grouping of MSs (e.g. MSs from the former USSR, EU-candidate MSs, Francophone / Anglophone MSs) might be more appropriate to evidence similarities

MSs' requests of clarifications seem to suggest that the different and complementary roles of QERP and RPO are not always clear (affecting the quality of the information)

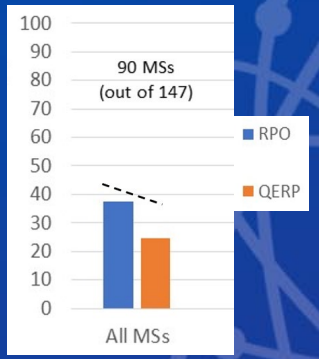
When requirements for RPO or QERP are not systematically covering all the practices, the 'scores' have been roughly weighted (not precisely reflecting the actual number of covered practices in respect to the exiting ones)

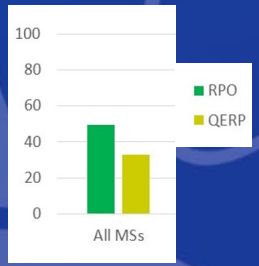
Outcomes of the quantitative analysis

1. MSs have only partially established requirements for RPO and QERP on education, training, qualification, competence, and recognition / designation

2. RPO's role seems to be more often regulated than for QERP's role (with the exception of the Region Europe)

3. Even when the requirements have been established, they are not systematically covering all the practices (observed in all the regions)





Outcomes of the quantitative analysis

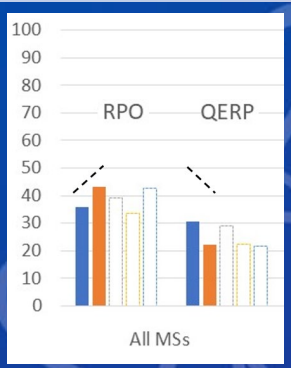
More guidance is needed!

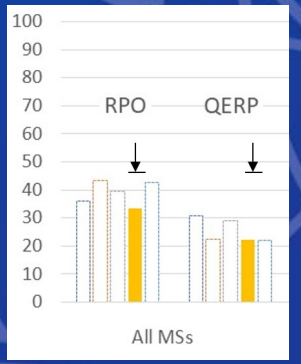
4. MSs tend to establish more often training requirements for the RPO, while for the QERP they focus more on education requirements

Bases for building consensus on the learning path

5. Requirements on competence are less frequently established than in the areas

Roles of QERP and RPO might not be always clear





Other considerations:

Sustainability and Suitability

This is a survey on the establishment of requirements; It is not an evaluation whether such requirements are 'suitable' for the actual role assigned to the QERP and RPO in the MS, or the regulatory framework is 'sustainable'

More guidance is needed!

This is clearly evidenced when:

- There is only one role (QERP = RPO) with one set of education, training, qualification and competence requirements:
  the regulatory framework might be 'simple' but not effective / sustainable

- There is only one role with a range of graded requirements reflecting the risk / complexity of the practice (RPO → QERP):
  the regulatory framework might become 'complex'
  some roles (RPO in complex facilities) might 'disappear' although still desirable

Publication on implementation of the requirements for QERP and RPO

IAEA Safety Standards outline the role and functions of QERP and RPO, but that do not describe:

- the **competences** needed by QERP and RPO to carry out their respective assigned duties, and
- the learning path (e.g., **education**, **training**) to build such competences

Publication on implen
requirements for QER

Publication No.xx

Building competence for Radiation Protection Officers and Qualified Experts in Radiation Protection

IAEA International Atomic Energy Agency

Draft 6

1. INTRODUCTION
    1.1. Background
    1.2. Objective
    1.3. Scope
    1.4. Structure

2. OVERVIEW OF REQUIREMENTS FOR THE QUALIFIED EXPERT AND FOR THE RADIATION PROTECTION OFFICER
    2.1 Definitions and terminology
        2.1.1 Qualified Expert in Radiation Protection (QERP)
        2.1.2 Radiation Protection Officer (RPO)
    2.2 Requirements relating to the QERP
        2.2.1 Responsibilities of principal parties
        2.2.2 Role and functions of QERP
        2.2.3 Formal recognition of QERP
    2.3 Requirements relating to the RPO
        2.2.1 Responsibilities of principal parties
        2.2.2 Role and functions of RPO
        2.2.3 Designation of RPO
    2.4 Distinction between the QERP and the RPO and relation with radiological assessor
    2.5 Distinction between QERP and other qualified experts and liaison between them

3. QERP: Competence and learning paths
    3.1 Profile of QERP
    3.2 Competences required by the QERP
    3.3 Learning paths of QERP
        3.3.1 Education
        3.3.2 Training
        3.3.3 Experience
        3.3.4 Maintaining competence

4. RPO: Competence and learning paths
    4.1 Profile of RPO
    4.2 Competences required by the RPO
    4.3 Learning paths of RPO
        4.3.1 Education
        4.3.2 Training
        4.3.3 Experience
        4.3.4 Maintaining competence

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Thank you!

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