A wide range of practices

- Mining and extractive industries (other than U mines)
- Production of coal, oil, gas
- Production and use of metals (thorium, niobium, zirconium, titanium…)
- Phosphate industry
- Water treatment
- Cement production
- Building materials

Protection of workers

Characterisation of the exposure situation

Integration, as necessary, of RP in common OHS provisions

The approach is then graded

Reference Level reflecting the distribution of exposures
- Less than a few mSv/y (most cases)
- Above a few mSv/y but very rarely exceeding 10 mSv/y

By selecting appropriate protective actions: 2 series
- Collective: related to workplaces and working conditions
- Individual: related to each worker

More or less thorough implementation of protective actions

Protection of the environment

Source = discharges and residues

Integrated approach
- All hazards: radiological and non-radiological stressors
- All impacts: human and ecological (non-human species)

Graded approach
- Generic assessment
- Specific assessment
- Detailed Environmental Impact Assessment (EIA)
- Use of tools (RAP…) and criteria (DCRL…) from Pub 124 as appropriate

Stakeholder involvement

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Characteristics of Industries involving NORM

- Identified, already on-going, big size but not one sector in itself
- Often multi-hazards, radiological risk rarely dominant
- Subject to authorisation, not for RP
- Experience in risk management but poor RP culture
- NORM cycle: Extraction, transformation, use, reuse/recycling, waste
- Ubiquity, variability of exposures
- No real prospect of emergency leading to tissue reaction or immediate danger to life
- May pose an issue of environmental contamination

Protection of the public

Characterisation (who is exposed, when, where, how)
- Exposure pathways analysis
- Dose assessment
- Justification of action
- Optimisation of protection
- Involvement of stakeholders
- Long-term monitoring

Optimisation within a graded approach by controlling discharges, waste, recycled residues (e.g. building materials)
Selection of a relevant Reference Level
- Generally less than a few of mSv/y

Stakeholder involvement