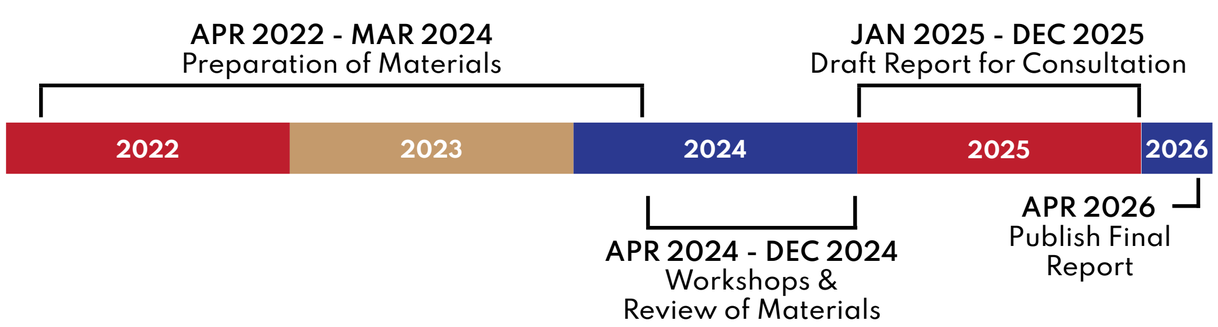
TASK GROUP 106
Application of the Commission's Recommendations to Activities Involving Mobile High Activity Sources

ICRP 2023
6-9 NOVEMBER 2023 • TOKYO, JAPAN

Abstract and Objectives

- The Terms of Reference of TG 106 are to develop a report that describes and clarifies the application of the Commission's Recommendations on radiological protection of workers, the public, and environment to activities involving mobile high activity sources. The scope of the report will cover uses of sealed sources in industrial radiography, and other instances in which high activity sources are used in a mobile setting, rather than fixed location.
- Radiological protection in such situations is unique because the prevailing circumstances are constantly changing, and the location and control of individuals is not defined by any permanent structures or shielding. Further, the circumstances are often complex, with a variety of geometries, constantly changing locations, access restrictions, and environmental conditions such as limited workspaces, vertical heights, working at night, and weather.
- The report proposal is the result of solicitation of interest from ICRP Special Liaison Organisations, and was suggested by the European ALARA Network (EAN) and the International Radiation Protection Association (IRPA).
- The target audience includes users, and consequently the scope of activities should not be restricted to the publication of a report, but also try to develop **wider communication activities, with the aim to reach users in an effective way: leaflet, short guide, ICRPaedia, etc.**
- **An online workshop** will be organized in cooperation relevant organizations (ICNDT, ASNT, EFNDT, IRPA, EAN, etc.).
- **The aim is to complete the report for approval by the ICRP Main Commission for consultation in 2025.**

Timeline



Report Outline Elements

Characteristics of Mobile High Activity Sources

- Types of industrial activities using high activity sources
- Types of sources and radionuclides
- Definition of "high activity sealed sources" and categorization schemes
- Working environments

System of Protection

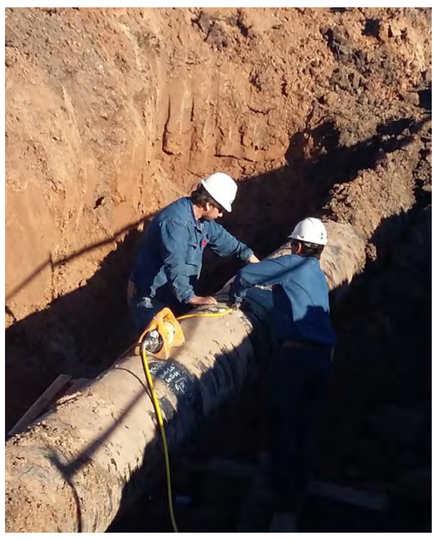
- Justification, considering all factors that may play a role in the choice of NDT techniques
- Optimisation of Protection
  - Dose Constraints
  - Relationship of Radiation Protection Culture to Optimisation and Radiological Protection
  - Layers of Protection
  - Public exposure, including other workers at work site

Implementation Topics

- Accident situations
- Radiological Protection planning in highly variable environments
- Interaction, expectations, and responsibilities with user company
- Cooperation and communication
  - Stakeholder involvement, including workers, employers, user companies, equipment manufacturers, and regulators
- Source control, device safety, operational controls, quality systems for sources and devices, maintenance
- Physical Security (storage, transportation, operations)
- Human Factors
- Safety Culture and Organisational Performance Management
- Monitoring of exposures
- Multiple methods of protection (interlocks, surveys, personal dosimeters, etc.)
- Training, Competence and Qualification
- Medical surveillance – routine and after overexposures (including a consideration of the lens of the eye)

Annex

- Case studies of accidents involving Mobile High Activity Sources



All photos courtesy of Maria Teresa Alonso

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