

Task Group 105: Considering the Environment When Applying the System of Radiological Protection



Mandate

The objective of Task Group 105 is to consider how radiological protection of the environment is implemented in the overall system of radiological protection. The Task Group is using case studies of how past existing and emergency exposure situations were dealt with to:

- Establish whether and how the environment was considered when making protection decisions;
- If the environment was not explicitly considered, explore the impact of considering the environment on those decisions;
- Consider how humans and biota assessments are best integrated to provide protection in exposure situations.

Scope

- Site-specific decision making;
- Situations in which biota may be potentially more limiting than human exposures, or where humans may be protected but biota may not be;
- Approaches to holistically balancing protection of humans and protection of biota in decision-making processes;
- How Derived Considerations Reference Levels (DCRLs) could be used in emergency exposure situations where dose, rather than dose rate, may need to be taken into account;
- Converting the DCRLs into potentially more user-friendly values such as environmental screening concentrations or ambient dose equivalents to aid communication and application.

The report will consider previous ICRP and IAEA publications related to existing and emergency exposure situations.

Current Status

The Task Group has identified the case studies for evaluation. The next steps include working through the case studies and talking with decision-makers, managers and stakeholders on how to further assess, monitor and manage the sites.

Deliverables

ICRP Publication which will contain guidance on how to consider the environment when applying the system of radiological protection.

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Approach

The Task Group will first evaluate the case studies drawn from sites such as those listed below:

- Andreeva Bay (Russian Federation);
- Chernobyl (Ukraine) or Fukushima (Japan) accidents;
- Gunnar or Midwest Uranium Mine and Mill site (Canada);
- Marshall Islands or Montebello Islands test sites.
- Maralinga nuclear test site (Australia); and
- Winterbeek radium contaminated site (Belgium).

The evaluation will identify what human (public and occupational) and biota aspects were considered; what the source term was; which radionuclides were of concern; the presence of conventional contaminants; did dynamic/acute/chronic exposures occur; what clean-up options were applied (if any); what was the stakeholder involvement in the assessment process; what might have changed if the potential radiological impacts on wildlife were known?

The Commission's Recommendations in Publication 124 for how to apply the DCRLs as shown below will be considered in the light of the information gathered from the case studies and with respect to human exposures. Lessons learned will be identified and guidance will be produced.

