TASK GROUP 105
Considering the Environment when Applying the System of RP

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Objective

Task Group 105 is considering how protection of the natural environment can be achieved. Using case studies we will deliver advice on: (i) site-specific decision making; (ii) situations where biota exposure may be more significant than for humans; (iii) making decisions for integrated human and non-human biota assessments; and (iv) on applying the Derived Consideration Reference Levels (DCRLs) to support communication and decision-making.

Case Studies

Our case studies include sites arising from emergency exposure situations from past accidents (e.g., Chernobyl and Windscale), existing exposure sites from past operations (e.g., Beaverlodge, Gunnar uranium mine sites) and past weapons testing (Maralinga, Marshall Islands and Montebello) and planned exposure situations (e.g., Ranger uranium mine and Sellafield reprocessing plant). In some sites, public, workers, and wildlife are all present e.g., at the same former nuclear weapons testing site providing contrasting short duration exposure for the visiting public with long exposures for the endemic (and protected) biota.

Key Findings

- Need to remember when undertaking radiological protective actions, inevitability changes to the natural environment will occur
- Several case studies identified strong environmental protection requirements from the outset, sometimes driven by the presence of co-contaminants or conservation needs
- Many case studies demonstrate the need for an integrated approach to their assessment that considers, along with human and wildlife radiological aspects, environmental, social, economic, non-radiological and ethical aspects
- Several case studies have identified the need for multi-criteria decision analysis approaches to address these aspects, especially when also considering spatial and temporal changes.
- Need to balance long- and short-term impacts

Future Work

- Evaluate whether TG99 outputs could amend our findings
- Working closely with other TGs (e.g. 114 and 125) develop advice and guidance on considering environmental radiological protection

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Case studies assessing benefits of human and environmental protection with consideration of contaminant removal versus habitat loss.