

IAEA General Safety Requirements related to exposure in long term contaminated environments

Division of Radiation, Transport and Waste Safety
Radiation Safety and Monitoring Section
Miroslav Pinak

Exposure situations

Long-term contaminated environments could fall under category:

- **planned exposure situation** – Requirements 6 through 32 may apply;
- **existing exposure situation** - Requirements 47-49, 52 apply;
- **Out of system**

In existing exposure situations, available options are:

- No action - Leave “as it is”
- Remediate
- Protective actions (self-support, monitoring or relocation of population)
- Resumption of habitation.

Responsibilities in existing exposure situations

Governments (R.47, 48, 49):

- Identify situations and evaluate to determine whether exposures are of concern
- Assign responsibilities for protection and safety;
- Establish Legal and regulatory framework and Reference Levels;
- Provisions for identification of responsible organisation and for management of existing exposure situations;
- Justification of remedial and protective actions; Optimization;
- Information;
- Provisions for post-remediation control measures or restrictions, if appropriate;
- Strategy for radioactive waste management.
- Decision on resumption of habitation and activities.

Responsibilities in existing exposure situations; cont'd



Regulatory Body or other relevant authority (R47, 48, 49, 50):

- Develop regulatory requirements and safety criteria;
- Establish and implement protection strategy (Objectives and RLs);
- Justification of remedial and Optimization protective actions;
- Information to those affected;
- *Review and approve remedial plan and safety assessment;*
- *Grant any necessary authorization;*
- Requirements on post-remediation control measures or restrictions, if appropriate;
- *Exposure of workers undertaking remedial actions (R50) is controlled in accordance with planned exposure situations as established in Section 3.*

Persons or organisations responsible for remediation (R49):

- Remedial action plan, supported by a safety assessment approved by RB;
- Chose optimised remedial options;
- Use total approach: Radiological and non-radiological impacts on people and the environment;
- Inform public and interested parties;
- Monitoring programme;
- *Exposure of workers undertaking remedial actions (R50) is in accordance with planned exposure situations.*

Action options

Remedial actions

- To be justified (R.48) (doses received by members of the public as a result of the remedial actions are justified on the basis of the resulting net benefit);
- To be optimised (R.48) (Radiological impacts on people and the environment are considered
- together with non-radiological impacts on people and the environment, and with technical, societal and economic factors);
- Does not imply the elimination of all radioactivity or all traces of radioactive substances and Not necessarily to the restoration of previous conditions;
- Requires strategy for waste management (R49);
- Remediation Plan and SAR to be approved by the regulatory body (R49);
- Requires authorisation;
- After remediation constitute the background conditions for any new facilities and activities or for habitation on the land (R49).

Action options; cont'd

Post-remediation control measures (R49):

- Programme, including any necessary provision for monitoring;
- Verify the long-term effectiveness of remediation.

Resumption of habitation and social and economic activities (R49)

- Government to decide, in consultation with interested parties,
- Government to ensure arrangements for the continuing control of exposure
- Establish reference levels consistent with day to day life;
- Establish infrastructure to support continuing 'self-help protective actions';
- Arrange for information and advice, and monitoring.

Thank you!

