

Regulatory Information Conference
 Session: International Approaches to Low-Level Radioactive
 Waste Management—Key Issues and Challenges
 10-12 March 2015

Overview of IAEA Activities for Low-Level Radioactive Waste Management

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Outline

- The IAEA mission
- The IAEA Safety Standards
- Changes in Waste Classification
- Projects for the application of the Standards
- Trends & Issues for Low-Level Waste Management


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IAEA Statutory Obligations (1957)

Article III, Functions
 " To **establish or adopt**, in consultation and, where appropriate, in collaboration with the competent organs of the United Nations and with the specialized agencies concerned, **standards of safety** for protection of health and minimization of danger to life and property (including such standards for labour conditions), and **to provide for the application of these standards** ...; "

Article VIII, Exchange of information
 The agency shall take positive steps to **encourage the exchange among its members of information** relating to the nature and peaceful uses of atomic energy and **shall serve as an intermediary** among its members for this purpose.

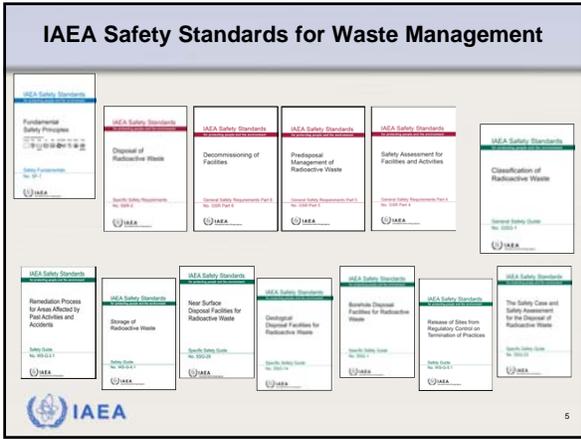
STATUTE

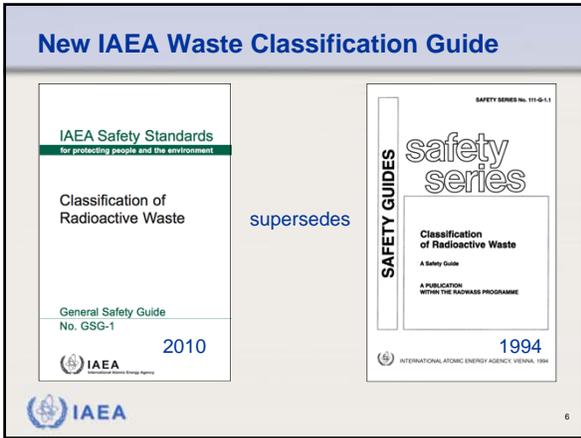


INTERNATIONAL ATOMIC ENERGY AGENCY

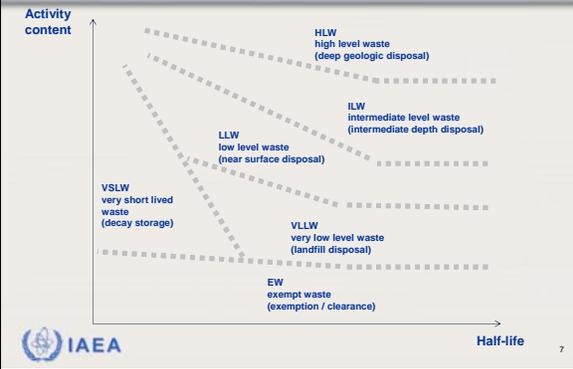

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Classification scheme



Reaching the End State of Disposal Increasing Levels of Containment and Isolation

- Exemption, clearance (conditional / specific clearance)
- Above surface engineered landfill
- Near surface disposal – trenches, vaults or shallow boreholes
- Engineered facilities at intermediate depth – 10s to 100s of metres
- Geological disposal > few hundred metres

The suitability of a waste class for disposal in an particular disposal facility is required to be demonstrated by the safety case and supporting safety assessment for that facility.



International Examples of LLW Disposal



IAEA Projects related to LLW

PRISM / PRISMA

- Application of the Practical Illustration and Use of the Safety Case Concept in the Management of Near-Surface Disposal
 - Use of the safety case in the decision making process during the lifetime of near-surface disposal facilities

HIDRA

- Human Intrusion in the context of Disposal of Radioactive Waste
 - Human intrusion for both geological / near-surface disposal facilities
 - Relationship with siting / designing / waste acceptance criteria

DISPONET

- International Network for the Disposal of Low-level Radioactive Waste
- Also maintain a number of databases related to low-level RWM

Technical Cooperation

- Supporting Member States with national, regional, inter-regional projects for applying the standards and/or capacity building
- Assist Member States reporting for the Joint Convention



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Other trends and issues

SSR-5 Requirement 26: Existing disposal facilities

The **safety** of existing disposal facilities shall be **assessed periodically** until termination of the license. In the event that any requirements set down in this Safety Requirements publication are not met, **measures shall be put in place to upgrade the safety of the facility**, economic and social factors being taken into account.



JC Article 12: Existing Facilities and Past Practices

Each Contracting Party shall in due course take the appropriate steps to review: ... the results of past practices in order to determine whether any intervention is needed for reasons of radiation protection ...



Corrective Actions include:

- Modernisation, refurbishment, infrastructure development
- Change of design (capping system, drainage system, etc.)
- Additional EBs
- Waste retrieval



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Other trends and issues

- NORM, TENORM, U/Th residues
- Existing facility expansions
- Borehole disposal for disused sealed radioactive sources (DSRS)
- Small volume LLW management
- Waste from increased decommissioning
- Severe accident consequence for RWM



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LLW Management Issues & Fukushima

- Management of large amounts of contaminated waste [solid and liquid] resulting from remediation (clearance, reuse / recycling criteria)
- Acceleration of licensing process to ensure availability of treatment, storage, and disposal facilities for the type and amount of wastes generated during an accident or as a result of remediation
- Assessment of RWM facilities (including disposal facilities) for severe accidental conditions (stress tests)
- Criteria for remediation, pre-disposal management of wastes in the aftermath of severe nuclear accidents
- Remediation [on and off-site] policies and strategies



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IAEA WES

Waste & Environmental Safety

Radioactive Waste Management
Assessment & Management of
Environmental Releases
Decommissioning & Remediation

Thank you for your attention