Fact Sheet on
Waste Disposal

What are the issues?

Radioactive waste, as a unavoidable remnant from the use of radioactive substances and nuclear technology. It is potentially hazardous to health and must therefore be managed to protect humans and the environment. The main bulk of radioactive waste must be permanently disposed in engineered repositories. Appropriate safety standards for repository design and construction are required along with the development and implementation of appropriate technologies for the design, construction, operation and closure of the waste disposal systems.

What are the benefits of waste disposal?

As backend of the fuel cycle, resolving the issue of waste disposal is often considered as a prerequisite to the (further) development of nuclear energy programmes. Waste disposal is therefore an essential part of the waste management strategy that contributes largely to build confidence and helps decision-making when appropriately managed.

What services does Waste Technology provide?

We provide assistance to Member States to enable safe and secure disposal of RW. Assistance in the following subjects is provided:

- The development of national RWM strategies, including planning and long-term project management;
- The organisation of international peer-reviews for research and demonstration programmes;
- The improvement of the long-term safety of existing Near Surface Disposal facilities; including capacity extension;
- The selection of potential candidate sites for different waste types and disposal options;
- The characterisation of potential host formations for waste facilities and the conduct of preliminary safety assessment
- The establishment and transfer of suitable technologies for the management of RW;
- The development of technological solutions for some specific waste;
- The building of confidence through training courses, scientific visits and fellowships;
- The provision of training, expertise, software or hardware, and laboratory equipment, and
- The assessment of waste management costs and the provision of advice on cost minimisation aspects

What are recent Waste Technology Section activities on waste disposal?

We have provided technical support to a number of Member States to site and/or implement LLW surface or near-surface repositories. We have assessed the performance of existing facilities and advised on necessary remedial measures. We have assisted Member States in assessing their decommissioning and spent fuel management costs, including disposal, for the establishment of financial funds to cover long- term liabilities. We have also assisted several Member States in their site characterisation programme for geological repositories and contributed to the study of reference conceptual repository designs. Of specific mention is the Borehole Disposal Concept for the disposal of disused sealed radioactive sources. The Network of Centres of Excellence for Training in and Demonstrations of Technologies for the Disposal of Radioactive Waste has been specifically established to build the technical and scientific capabilities of Member States. By involving all of the underground laboratories presently operating and surface facilities like supporting National Laboratories and Universities, the Network has successively fulfilled its training dimension by several on site activities and training courses provided for various disciplines including the examination of social as well as technical issues connected to geological disposal. Peer-reviews on national programs were recently organised or are planned for the near-future .

How to benefit from this activity?
Member States interested in launching their own waste disposal programmes should contact the Technical Cooperation Department of the Agency.

For more information please contact your IAEA TC Country Officer or

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Further information is available on the Departmental website

http://www.iaea.org/OurWork/ST/NE/index.html