

OUTER FLAP

BACK COVER

FRONT COVER

FISA Consortium Members

Facilia

<http://www.facilia.se/>

Facilia, based in Stockholm, Sweden, is a scientific consultant company active in the fields of environmental and health risk assessments, safety assessments in radioactive waste management and radiation protection. Facilia works closely with an international network of regulators, consultants and scientists.

INTERA

<http://www.intera.com/>

INTERA, based in Texas, USA, provides environmental, water resource, coastal engineering, radioactive waste management, GIS and data management services to a variety of client sectors and industries. Our focus is on performing analyses and delivering the information needed to support sound decision-making and minimize project risk.

Studsvik

<http://www.studsvik.com/en/>

Studsvik is an international company with headquarters in Sweden that offers a range of advanced technical services to the international nuclear power industry in such areas as waste treatment, consultancy services and fuel and materials technology. The company has 65 years experience of nuclear technology and radiological services and has 800 employees.



<http://www.aquisim.co.za/>

AquiSim, based in Pretoria, South Africa, combines 25 years' experience in the safety assessment of near surface waste disposal systems, with 33 years' experience in the management of groundwater systems. This fundamental expertise enables AquiSim to provide integrated environmental management solutions to a number of disciplines that require geohydrology and geology inputs, but also for radioactive and non-radioactive waste disposal practices and their potential impact on human beings and the environment.



A Complete Solution for the Long-Term Management of DSRS



Press Photo Eckert & Ziegler

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Facilia

INTERA

Studsvik



INSIDE LEFT

INSIDE MIDDLE

INSIDE RIGHT

The Problem

Radioactive sources are used throughout the world in medicine, industry, agriculture, research and education, as well as in some military applications. If not managed properly, disused sealed radioactive sources can represent a significant risk to human health and the environment. In fact, disused sources are one of the largest single contributors to accidents associated with the peaceful application of radiation (IAEA, 2000). Many countries lack an infrastructure for the long-term management of radioactive waste. Even in countries with advanced nuclear programmes, disused sources represent a problem, as they fall outside the common categories of radioactive waste, for which appropriate disposal routes have been identified.



Relative sizes of radioactive sources.

Shielded spent radioactive sources.

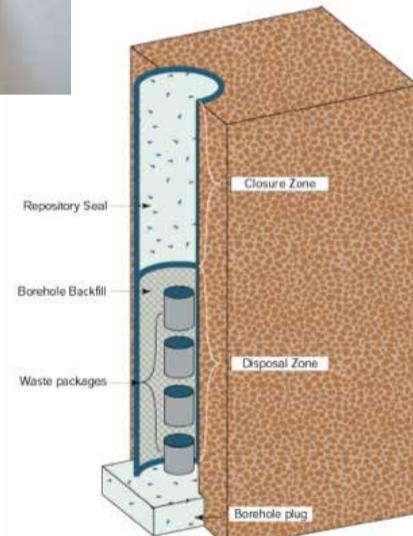


The Solution



Canisters making up the BOSS disposal packages.

Illustration of the in situ repository configuration (Van Blerk et al., 2000).



The Borehole Disposal System (BDS) represents a technically complete disposal solution for a significant fraction of the world's disused sources. A large amount of design, testing and safety-related work indicates that the BDS is feasible as a safe disposal solution. It offers an especially attractive, cost-effective and near-term, implementable solution.

The BDS is suitable to a wide range of geological and climatic conditions. No sophisticated equipment is required to implement the BDS – it can be built using widely available and standard equipment and materials.

What Do We Do?

We have assembled a world-class multidisciplinary team of experts in source management and radioactive waste management that can take your sources from cradle-to-grave at a reasonable cost.

The suite of activities to bring sources from storage to final disposal.



We offer the full suite of source management services to take sources from their current situation, usually in a managed storage facility, to final disposition in a completed BDS disposal facility. These activities include characterization of the national inventory of sources to be managed, treatment and conditioning of the sources to prepare them for disposal, identification and selection of a suitable disposal site, characterization of the site, predisposal and postclosure safety assessments, management of regulatory requirements and obtaining necessary regulatory permits and approvals, construction of the BDS borehole and emplacement of wastes, and post-disposal site decommissioning.

References

IAEA (2000), Handling, Conditioning and Storage of Spent Sealed Radioactive Sources, IAEA-TECDOC-1145, International Atomic Energy Agency, Vienna, Austria.

Van Blerk, J. J., J. J. P. Vivier, P. Pirow, M. A. G. Andreoli, and R. G. Heard (2000), Borehole Disposal of Spent Sources. Volume I: Development of the Concept, NECSA Report No. GEA-1353 (NWS-RPT-00013), Nuclear Waste Systems, South African Nuclear Energy Corporation, Pretoria.