

Radwaste Storage R&D: Current Status and Future Needs

The recent publication of the Government White paper “*A Framework for Implementing Geological Disposal*” (June 2008) and the realisation that it will be many decades before waste can be emplaced in any disposal facility highlights the need for R&D to ensure the current wastes and any future wastes produced are stored in a safe and reliable manner prior to emplacement. Additionally, the position of the Scottish Executive that it only supports long-term storage and an ongoing programme of R&D and that of the Welsh Assembly that it reserves its position on taking forward geological disposal, means that some wastes may be stored for extended periods. The NDA Radioactive Waste Management Directorate recently published (June 2008) “*Proposed Research and Development Strategy*” highlights the need for research, e.g. into package corrosion, environment control, monitoring and development of alternative packaging materials. A number of opportunities have been identified for future development including:

- Alternative encapsulants for reactive metals.
- Alternative processing techniques.
- Alternative container materials and design for safety and environmental benefits and/or cost benefits.
- Establishment of monitoring and inspection regimes to give confidence in package performance or early indication of degradation including:
 - Non-destructive techniques for monitoring and inspection regimes
 - Use of dummy packages for monitoring purposes

The CoRWM R&D Working Group has agreed to report to Government by the end of the year on the national radwaste storage R&D scene. For interim storage we believe the R&D must identify and reduce the main risks or uncertainties relating to:

- operation and long-term safety of current storage facilities and wasteforms;
- construction, operation and long-term safety of planned future storage facilities and wasteforms.

A round table meeting with the following attending would clarify the current situation with respect to these issues: NDA, Regulators (EA NWAT team), site licence companies responsible for storage (Sellafield Sites, UKAEA, Magnox), EPSRC, IOP, IOM3, RSC, RAEng, RS, INuclEng, etc.