

**Overview**

Since 2002 Nuclear Technologies have worked with Magnox at Berkeley on the waste and environmental aspects of the Active Vaults Waste Retrievals (AWVR) Project. The project involves the retrieval, processing and packaging of the operational ILW from Berkeley Power Station (BPS) and Berkeley Nuclear Laboratories (BNL) stored on the Site to ensure that the wastes are effectively managed and packaged to meet the compliance requirements of the disposal authority. Nuclear Technologies have undertaken the following tasks:

- Review of the overarching ILW management strategy for Berkeley Power Station and Berkeley Nuclear Laboratories, and provision of detailed technical advice on all aspects of waste retrieval, waste conditioning and waste packaging requirements to comply with waste packaging specifications, regulatory requirements and stakeholder expectations.
- Preparation of procedures for trials to evaluate the waste recovery, transfer, handling, processing and radiometric assay systems associated with the retrieval and process cell.
- Option studies for the treatment of solid and mobile wastes including environmental impact assessments.
- Support to the ILW store safety case including preparation of Statement of Requirements, Pre-Commissioning Safety Report (PSCR) and Radiological Consequences Assessment.
- Preparation of conceptual and intermediate stage NDA RWMD Letter of Compliance submissions for the mobile and solid waste streams.
- Support to the development of a Witness Operational Research Model for the Active Waste Vaults Retrieval project
- Preparation of detailed waste stream datasheets for all waste streams in the Berkeley Active Waste Vault's.
- Waste Characterisation study for the mobile and solid waste streams.



- Preparation of waste processing functional specifications to support the re-design of the AWVR retrieval and processing facilities.
- Review and authoring of the technical sections of EIA statements.
- Facilitation of Lessons Learned Workshops on the commercial, engineering and intelligent customer aspects of the AWVR, ILW store and Periodic Safety Review projects.

**Benefit / Value to the Customer from the Delivered Services**

- The major benefit derived by the customer was in demonstrating that the original plant would not satisfy the requirements of the Environment Agency, NII and Nirex/NDA RWMD and subsequently ensuring that all of the lessons learned in the predecessor project would be used to ensure the achievement of a compliant design for the recommended project.
- Subsequent to this work some of the lessons learnt from the AWVR project have been applied in the development of the 'wiring diagram' methodology now endorsed by the NDA and the regulators as the best practice approach in development of technical baselines to support site decommissioning plans. This work has been comprehensively demonstrated during the development of TBUrd and subsequent delivery of the
- ILW characterisation project at Chapelcross Decommissioning Site.