



## GSL Radioactive Waste Storage Services

**Rationale:** Galson Sciences Limited (GSL) has established the Radioactive Waste Storage Group to assist clients in determining cost-effective and practical options for radioactive waste storage. The interim storage of key waste streams on time scales of a decade to a century is of key strategic importance to the nuclear industry in the first decades of the 21st century. Few other UK groups have the necessary integrated mix of in-house expertise and experience to provide such a comprehensive and multidisciplinary service.

**Staffing:** The group is led by Dr. Stephen Wickham, but is organised with a flat management structure. In-house skills include options appraisal and feasibility studies; engineering, treatment and packaging; risk analysis; environmental assessment; and planning and public acceptability considerations. We have particular skills and experience in (international) database management and financial analysis.

**Benefits:** We have data and experience covering storage facilities in the UK and worldwide. GSL has experience in working for both regulators and industry and can add value by bringing that breadth of perspective to bear. We provide the opportunity for rapid response to both strategic and short-term project needs. We pride ourselves in being able to communicate our advice effectively. This means listening and responding carefully to clients' needs both in terms of expert advice and analyses, but also with an eye to the key audiences of concern - be they internal or external. We are accredited to ISO 9001 and pay close attention to client needs.

**Experience:** The following projects have been completed since 2000 or are ongoing.

- For the **Nuclear Installations Inspectorate (NII)**, we are reviewing British Nuclear Group's proposed approach to EPS3 store operation and waste package condition monitoring.
- For the **NII** we have carried out **international reviews** of ILW storage, monitoring, inspection and retrieval practices. The work supported the development of NII radioactive waste management guidance.
- For **UKAEA**, we have completed studies of **corrosion and degradation processes affecting ILW packages**, and analysed ILW storage strategies. We have evaluated the **option of transporting current and future arisings** of LLW from Dounreay to the Drigg disposal facility in Cumbria. We have also carried out a **performance assessment of long-term LLW storage**.
- For **UK Nirex Ltd**, we have conducted work on **waste package longevity, condition monitoring and quality checking, and on issues associated with indefinite waste storage**.
- For **Magnox Electric**, we have provided general support on **ILW storage policy**, and have carried out a study of **ILW storage options**, and supported several **store design workshops**.
- For **BNFL**, we have compiled an **international database** and completed an evaluation of sixty radioactive waste store designs in the UK and overseas, in support of **Interim Safe Storage (ISS)** activities.
- For the **French Nuclear Regulatory Authority (ASN)**, we have analysed **waste storage regulations** internationally.

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## Options Appraisal and Feasibility Studies

- Policy and Programme Guidance
- Options Appraisal
- Cost Modelling
- International Perspective / Benchmarking
- Operations Assessment
- Store Design

## Planning and Public Acceptance

- Planning and Environmental Assessment
- Issues Management
- Stakeholder Dialogue
- Risk Communication

## Engineering, Treatment and Packaging

- Durability of Packaging Materials
- Conditioning and Treatment Options
- Condition Monitoring Strategies
- Package Configuration
- Ventilation and Heating
- Cladding

## Environmental Risk Assessment

- Performance Assessment
- Environmental Assessment
- BPEO Studies

## Risk Analysis

- Risk Assessment
- Regulatory Compliance
- Transport Assessment
- BPM Studies

