

## Decommissioning Engineering

The UK's civil nuclear legacy amounts to around £48 bn. The Nuclear Decommissioning Authority (NDA) was set up in 2004 to oversee the decommissioning and clean-up involved. This presents a significant technology challenge as well as giving rise to issues linked with project management and socio-economics.

The Dalton Nuclear Institute will be at the leading edge of developing engineering solutions underpinned by scientific know how to support the NDA and its contractors. It will also be linked internationally with other world leading research establishments in the field, particularly in the USA.

Through the School of Mechanical, Aerospace and Civil Engineering (MACE), the Dalton Nuclear Institute is planning to establish a new Centre for Decommissioning Engineering. A new Professorial appointment is being made to lead in this area. The research direction of the Centre for Decommissioning Engineering will be based on discussions with the industry. The prospective research areas to be covered will span the following full range of activities supporting decommissioning and clean-up:

- Project planning and risk management
- Assay and retrieval
  - Modelling
  - Non-intrusive measurement
  - Sampling
  - Environmental management
  - Remote handling
- Waste treatment
  - Decontamination
  - Sludge handling
  - Dewatering
  - Contaminated land management
- Waste immobilisation
  - Cementation
  - Vitrification
  - Ceramics
  - Waste incorporation chemistry
- Storage and disposal
  - Repository design
  - Transport
  - Interim safe storage
  - Public acceptance
  - Socio economics
  - Waste form behaviour
  - Biosphere studies
- Decommissioning
  - Robotics
  - Dismantling
  - Environmental control

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