The Mission - our challenge

Our mission is to deliver safe, sustainable and publicly acceptable solutions to the challenge of nuclear clean-up and waste management, decommissioning 17 nuclear sites across the UK. We break down the mission into 4 key areas, enabling work to be clearly defined and prioritised, and where opportunities for efficiencies can be explored. These areas have numerous interdependencies.

However, the most urgent task is dealing with sites’ highest hazard materials: spent fuel, nuclear materials and highly radioactive wastes. Once this inventory has been made safe, the redundant nuclear facilities can be dismantled and demolished.

**Spent Nuclear Fuels**

**CURRENT PRIORITY - DEFUELLING AND REPROCESSING**

Getting Magnox spent nuclear fuel out of reactors before reprocessing finishes.

Spent fuel is removed from the reactor for temporary storage in a pond or dry store until it can be dispatched to Sellafield. Reprocessing extracts materials (plutonium and uranium) that could potentially be re-used and also generates highly radioactive wastes.

**Nuclear Materials**

**CURRENT PRIORITY - SAFE STORAGE AND CONSOLIDATION**

Safely managing our stocks of plutonium and uranium, whilst exploring options for reuse or disposal.

The NDA owns quantities of uranium-derived material and plutonium. These nuclear materials are by-products from different phases of the fuel cycle, either manufacturing or reprocessing. Some could potentially be re-used, some must be safely disposed of.

**Integrated Waste Management**

**CURRENT PRIORITY - RETRIEVAL AND TREATMENT**

Removing all high hazard waste from legacy facilities and storing safely.

One of the NDA’s biggest challenges is managing the large quantities of radioactive waste from electricity generation, research, the early defence programme and decommissioning. Some of this radioactive waste is in a raw (untreated) form, some has been treated and is being interim-stored and, in the case of low level waste, some has been disposed of. Retrieving, treating and interim-storing the radioactive waste from Sellafield’s four legacy ponds and silo facilities is the NDA’s highest priority.

**Site Decommissioning and Remediation**

**CURRENT PRIORITY - DECONTAMINATING AND DISMANTLING**

Release land for other uses

The sites are decontaminated, delicensing then takes place followed by dedesignation in order to release land for other uses. Reaching this stage marks completion of the lengthy, complex process to decommission all nuclear buildings, treat and remove their radioactive contents, before demolishing the structures. For most sites, this will be many decades from now, and for some into the next century.

Redundant Buildings

Reuse or dispose

Dedesignate and reuse