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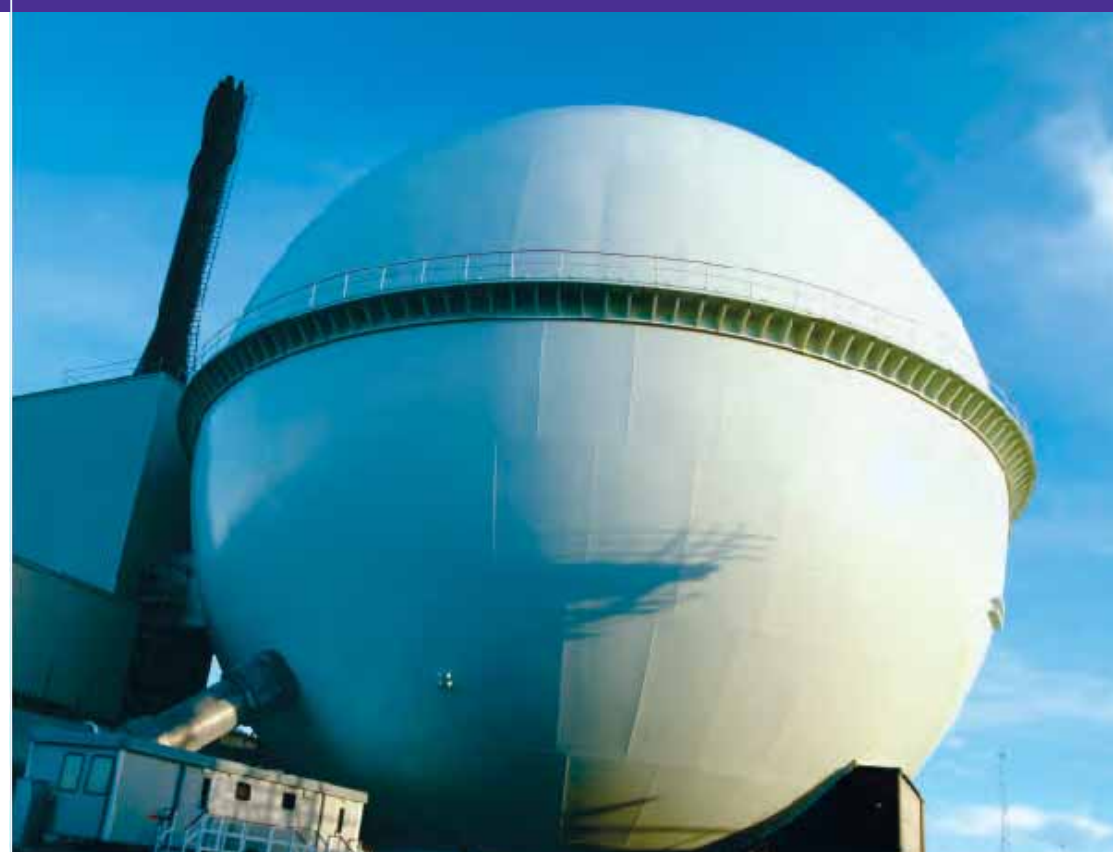
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DOUNREAY PLANNING FRAMEWORK

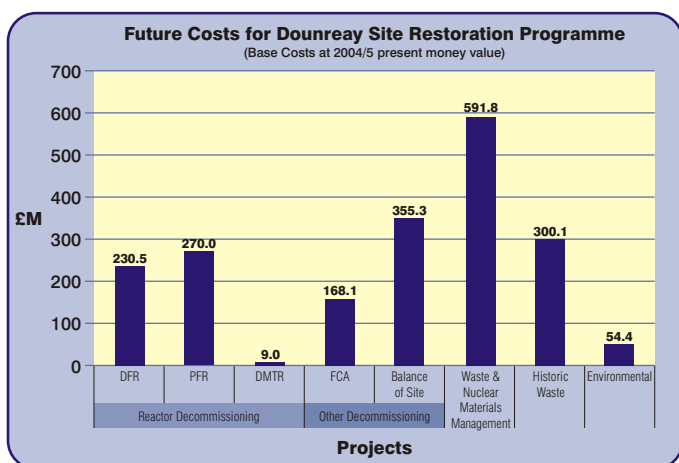
January 2006



1 INTRODUCTION

In September 2000, UKAEA published the Dounreay Site Restoration Plan (DSRP) an integrated decommissioning and waste management plan, to address the highly demanding and challenging task of decommissioning and restoring the Dounreay Nuclear Site for unrestricted use if that represents the Best Practicable Environmental Option (BPEO).

To achieve the goals contained within the DSRP, significant investment in new buildings, infrastructure and facilities will be required. Spend on the Dounreay restoration programme is forecast to decline from a peak of £150 million a year, approximately £80 million of which went into the economy of the Highlands alone. The chart below shows the lifetime costs of the major elements.



This Dounreay Planning Framework document describes the latest representation of the Dounreay restoration plan and is to be used by the Highland Council as a land use planning framework against which to regulate and control future decommissioning and restoration works proposed at Dounreay.

Once approved by the Council's Planning, Development, Europe and Tourism (PDET) Committee, this Framework document will become supplementary planning policy guidance, written to support the policies contained within the adopted Caithness Local Plan 2002, and will be a material planning consideration in determining Dounreay planning applications.



2 POLICY BACKGROUND

The Development Plan for the area within which Dounreay is situated comprises:

- Highland Structure Plan, March 2001
- Caithness Local Plan, September 2002.

Government Policy on radioactive waste management is under review which means options cannot be foreclosed at this stage. The Scottish Ministers have reserved approval of Highland Structure Plan Policies W8, W9 and W10 which relate to Dounreay.

The Caithness Local Plan supports diversification proposals being brought forward for Dounreay and the surrounding area, provided that these do not foreclose future options for the very long-term nature of the site. The Council supports the view that Dounreay should continue for the foreseeable future as a location for large scale business and industry, particularly in view of the major site infrastructure which exists.

A key Local Plan policy is for the Council to work closely with the site licence company to translate the decommissioning and restoration programmes described in the DSRP into a land use planning framework for the timely, safe and environmentally acceptable decommissioning, restoration and after use of the Dounreay site. This is the purpose of this document.

This Framework comprises a master plan (Figures 1 - 3), which illustrates the various stages of decommissioning works and provision of proposed new buildings from the present until the interim end state of 2036, and a development schedule (Tables 1 and 2).

Public responsibility for facilities and land owned by UKAEA at Dounreay transferred to the Nuclear Decommissioning Authority (NDA) with effect from 1st April 2005. The NDA is a new public body set up by the Government to manage the legacy of nuclear clean up. The NDA will place contracts with site licensees, currently UKAEA at Dounreay, who will be responsible for the clean up programme.

Throughout the decommissioning works, all operational activities will continue to be regulated by the Nuclear Installations Inspectorate (NII), and SEPA, and governed by the Site Licence issued under the Nuclear Installations Act 1965. Environmental discharges will continue to be authorised by SEPA, pursuant to the Radioactive Substances Act 1993 and other relevant environmental legislation. The Council remains the regulatory authority for land use planning.

3 TRANSLATION OF THE DSRP PROGRAMMES

To enable the land use implications and environmental effects of the DSRP proposed activities to be identified, and to facilitate the achievement on a staged basis of the necessary grants of planning permission, the decommissioning and restoration programmes have been aligned into three time phases.

Phase 1 (2005 - 2010)

In support of the decommissioning works the Council recognises that it is necessary to make provision for new waste management facilities. During the first phase approximately a dozen new waste management plants will be constructed, the largest being a remote handled intermediate level waste (ILW) treatment plant and the first phase of low level waste (LLW) facilities.



Decommissioning of redundant buildings will continue with a number of demolitions, while some plant required for continued treatment and storage operations will be upgraded. Figure (1) illustrates the decommissioning and new constructions works proposed.

Phase 2 (2010 - 2020)

Most of the nuclear fuels and stored wastes (including stored fission product liquids, Shaft and Silo wastes) will be processed by 2025. There will be fewer new construction projects, but this phase will include the Shaft head works, associated waste treatment plant and store.

Decommissioning of plants and demolitions will continue, with as many as 30 demolitions taking place. Figure (2) illustrates the continuing decommissioning works and construction proposed.

Phase 3 (2020 - 2036)

Decommissioning and land remediation will be the remaining activities. The decommissioning of all of Dounreay's nuclear reactors will be completed along with all waste treatment, fuel processing and handling plants. The plan assumes that a national repository for ILW becomes available at a later date, allowing waste to be exported from Dounreay. The year 2036 is assumed as an "Interim End State". Figure (3) illustrates the remaining built development at the interim end state.



Planning Application Strategy

The Council expects that this approach will enable composite applications for outline planning permission for each Phase to be submitted. Should they be approved reserved matters applications for each individual development would then follow on.

Where necessary, the Council will require the planning applications to be supported by an Environmental Statement describing the main and likely significant effects of the development proposed within each Phase, including an assessment of the cumulative impact and describing appropriate mitigation measures.

In recognition of the proposed phasing of the decommissioning works, the Council will require Environmental Statements to deal with uncertainties by the adoption of a 'worst case' assessment. The adoption of a worst case approach will enable the Council to regulate and control land use impacts by the imposition of 'minimum standards' planning conditions.

While it is envisaged that a series of phased applications will be submitted it is acknowledged that for operational reasons it may be necessary to deal with separate 'stand alone' planning applications for development that fall outside of this planning strategy.

4 DECOMMISSIONING PROJECTS

The DSRP activities proposed include decommissioning projects, infrastructure upgrades, demolition and the spread of this work over time phases as outlined below.

Dounreay Fast Reactor (DFR)

Initial stage decommissioning is planned to be complete by 2018. By then the remaining coolant and breeder elements in the reactor core will be removed.

New facilities will be built on site in support of decommissioning to accommodate the process of recovery, treatment, assessment and storage of nuclear materials. These include Breeder Removal (planning consent granted in February 2005), Primary Circuit Decommissioning and Sodium/Potassium (NaK) coolant Destruction Plant.

Prototype Fast Reactor (PFR)

Preparatory decommissioning works are progressing with initial decommissioning planned to be complete by 2020. Estimates of the quantities of the various waste types generated from the decommissioning and demolition of buildings have been prepared. Small quantities of special wastes (for example mercury and asbestos) will be dealt with, suitably packaged, and disposed by licensed carrier.

Dounreay Materials Test Reactor

Removal of fuel and heavy water has taken place. The dismantling of the active plant and tanks outside the reactor bioshield will soon commence. The remaining decommissioning and demolition works are planned for around 2010 and the site will then be landscaped.

Fuel Cycle Area (FCA) Plants

The majority of decommissioning and demolition work will be carried out during Phase 2 (2010-2020). The interdependency of different facilities will influence the order and timing in which decommissioning can take place. Post operational cleaning will be followed by general decontamination, size reduction and packaging of remaining plant and equipment.

Solid Low Level Radioactive Waste (LLW)

Decommissioning will generate solid low level radioactive waste (LLW) and Low Activity/High volume (LA/HV) waste. LA/HV comprises wastes such as concrete, rubble, metal, contaminated soil and sand. An authorised LLW disposal facility on site has been used over the past forty years to dispose of Dounreay's LLW, however, this facility is now full.

LLW and Low Activity/High Volume (LA/HV) being produced now is stored on site as an interim measure. There could be between 64,000 and 109,000 cubic metres (packed and treated) of new LLW and LA/HV waste produced over the life of the plan to 2036, in addition to the 33,000 cubic metres already disposed of on site. Waste minimisation will reduce the volume of LLW and LA/HV. All suitable LLW is super-compacted to reduce volume.

UKAEA has carried out a BPEO study, including public participation, to review the long term options for all Dounreay's LLW. This work underpins the LLW strategy.

Following the Scottish Executives' direction in May 2005 to refuse the Dounreay application to dispose of LLW to Drigg, Cumbria, and in accordance with the proximity principle, UKAEA propose to seek approval for the provision of new LLW facilities on land at Dounreay.

The ILW Shaft and Silo

The objective is to recover waste from the Shaft and Silo and to treat, condition and store the waste on-site pending the availability of a National Repository for ILW. Hydrogeological isolation of the Shaft will take place in Phase 1, with construction and retrieval operations scheduled for Phase 2. Similarly, construction and retrieval operations for the Silo are scheduled for Phase 2.

A new ILW waste treatment plant (WTP) will be required to sort and treat the waste prior to encapsulation by grouting. Following completion of waste retrieval, the head-works will be dismantled, the area cleared and both the Shaft and Silo will be closed off.



Remote Handled ILW Immobilisation and Encapsulation Plant

There are a number of underground tanks on site storing raffinate (active liquor) resulting from previous reprocessing of reactor fuels. This will be made passively safe by immobilising the waste in cement in a proposed new plant. The new plant will also encapsulate solid intermediate wastes to ensure their continued safe storage.

Infrastructure Projects

Modifications to utilities are required to accommodate planned increases in electrical load over the remaining life of the site. The infrastructure improvements include the site steam and water services and drains.

There will also be a number of smaller projects such as housing for equipment, storage, accommodation and facilities for construction work.

5 RESTORATION WORKS

The DSRP assumes that the end-state for the Dounreay site will be demolition of all of the buildings, with the exception of the DFR sphere,



and the remainder of the site landscaped and grassed over. The majority of the site would be de-licensed but parts may remain under regulatory control, particularly if a LLW disposal facility is approved.

The historical importance of the Dounreay Fast Reactor (DFR) sphere has led to the structure being considered as worthy of retention as a possible listed building.

PFR buildings, plant and foundations will be decommissioned to ground level (consistent with the final landscaping envisaged). One end state option is to cap the site of the PFR with an engineered mound and landscape to blend with the surrounding area.

On completion of all demolition work in the FCA, the area will be covered with an engineered mound and covered with topsoil.

Contamination - Land Remediation

Although most of the Dounreay site is free from significant levels of radiological contamination, some contamination exists on the site due to historical practices and legacies. Surveys have identified these areas, locations have been recorded and discrete spots of surface contamination have been removed.

There is, however, uncertainty regarding the nature and extent of non radiological contamination around the site. A number of areas have been identified where there are significant non radiological contamination.

The development of a site wide conceptual model should inform the process of identifying the nature and extent of non radiological contamination, as will the ongoing monitoring and site investigation works.

The Council in consultation with SEPA will require the site licence company to continue to develop a contaminated land safety case which demonstrates the safe management, and where necessary, remediation of contamination on site.

The Council will also require the site licence company to assess non radiological contamination during redevelopment work which requires planning consent. Should significant contamination be identified during this process, the Council will require a remediation strategy to be prepared and implemented to adequately address these risks.

UKAEA has complied with SEPA's requirements to put in place a comprehensive and ongoing programme of beach inspections and monitoring, including investing in an international research programme and offshore monitoring surveys, including the use of a Remote Operated Vehicle (ROV). It is expected that this will continue in the future.

Waste Management Policy

A UK national review of low level radioactive waste management by DEFRA, the devolved administration and the Nuclear Decommissioning Authority (NDA) will include stakeholder consultation and is planned to be complete in late 2006.

The Council supports UKAEA's waste management strategy, the key principles of which are:

- that radioactive waste from other nuclear sites will not be disposed of at Dounreay.
- to temporarily store solid LLW and LA/HV on site pending approval of new LLW and LA/HV disposal facilities to accommodate all current and future Dounreay arisings.
- to condition and store ILW on site in new facilities pending the provision of a national ILW disposal facility.

Seater Landfill Site at Bower is licensed only to accept non-hazardous waste. It therefore cannot accept any hazardous or radiological waste.

Landscape Principles

Careful planning and design of new facilities within Dounreay and consideration of their relationship to other existing and proposed facilities may be required to mitigate visual impacts. Where necessary, additional mitigation measures may be put in place to reduce visual impacts such as earthworks, landscape planting and creation of screening barriers.

Environmental Information and Sustainability

Since its construction in the 1950's a routine programme of radioactive monitoring has been carried out in the local environment extending to 40km from the site. The council will require the operator to continue to monitor the wider environment. The objectives of the programme are to ensure that discharges are within the legal limits authorised by the regulatory bodies and that no unexpected radiological impact on the environment or on the population occurs.

Terrestrial monitoring takes measurements of ground radiation and contamination. Sea and shore monitoring involves coastline radiation and contamination surveys, shore and sea bottom sediment sampling, and the analysis of specimens of fish, crustacean, molluscs, seaweed and seawater. Monitoring of the effects of aerial discharges is achieved by means of fixed air samples and dust and through the samples collected as part of a terrestrial monitoring programme.

The Council's draft planning policy guidance Designing for Sustainability should be followed to include the use of local resources, re-use of buildings, land and alignment of buildings for shelter and solar gain. Decommissioning waste (such as spoil and rubble) will be used for landscaping, filling voids, etc where possible. Steps should be taken to ensure that wastes are not created unnecessarily and are characterised and segregated at source, subject to consideration of cost and worker safety.

6 SITE END USE

Government policy recognises that it may be feasible to complete decommissioning operations to the point where unrestricted use is possible, although it states that an overriding consideration will be whether it represents the Best Practicable Environmental Option (BPEO) for the site.

The Government expects operators to address the future use of sites in good time and to take decisions which take into account local factors and the wishes of the local community.

At present, the Council's preferred site end use is for the area to be redeveloped as a business/ industrial park or science and technology business centre. The Council will review potential options for the re-use of the site with the site licence company, other regulators, and local public and stakeholder groups, once the need for facilities associated with decommissioning becomes more apparent.

Issued January 2006
The Highland Council
Planning & Development Service
John D Rennilson, Director





Site view - 2005



Proposed site view - 2010



Proposed site view - 2020

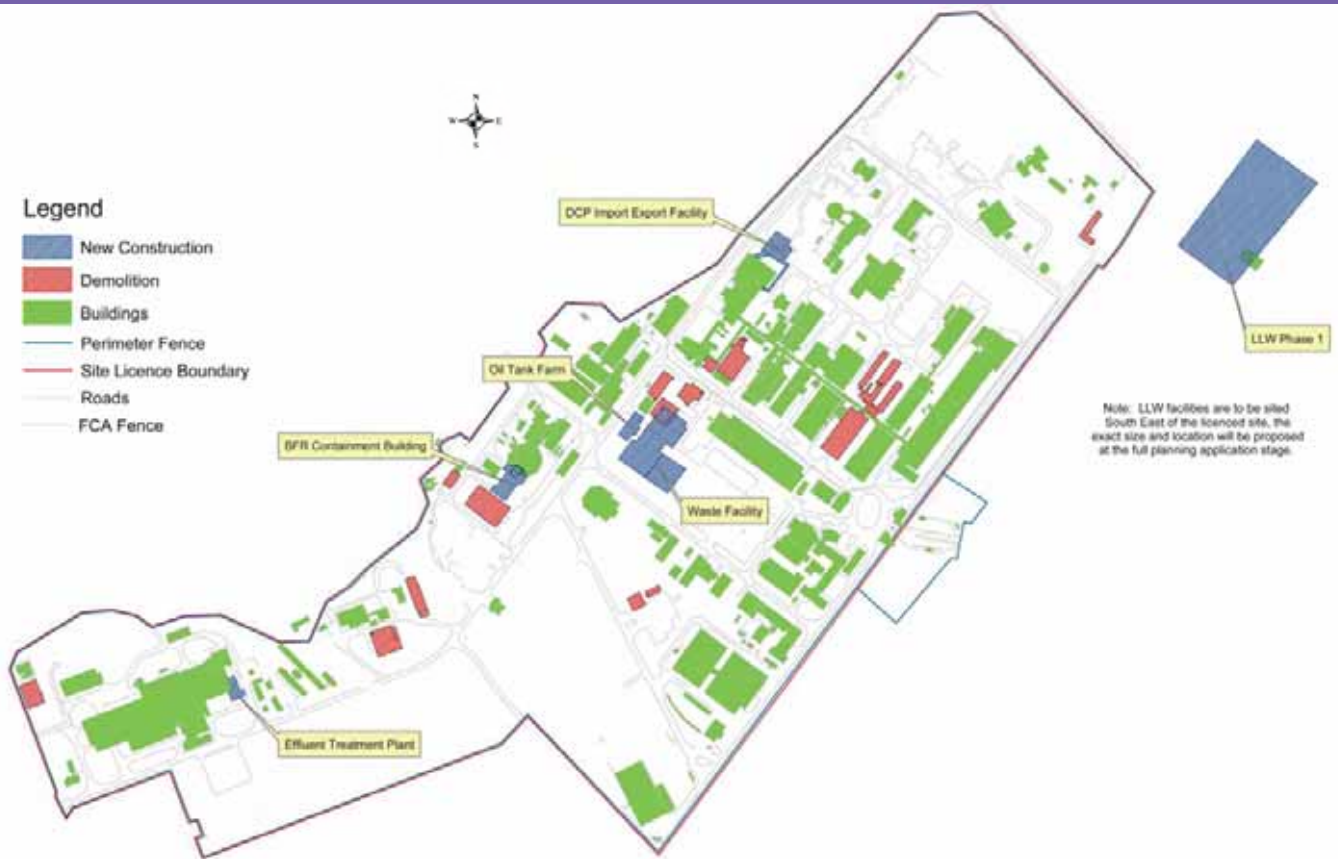


Dounreay Site 2036 - Subject to review



Phase 1 2005 - 2010

Figure 1



Phase 2 2010 - 2020

Figure 2



Phase 3 2020 - 2030

Figure 3



Proposed New Buildings

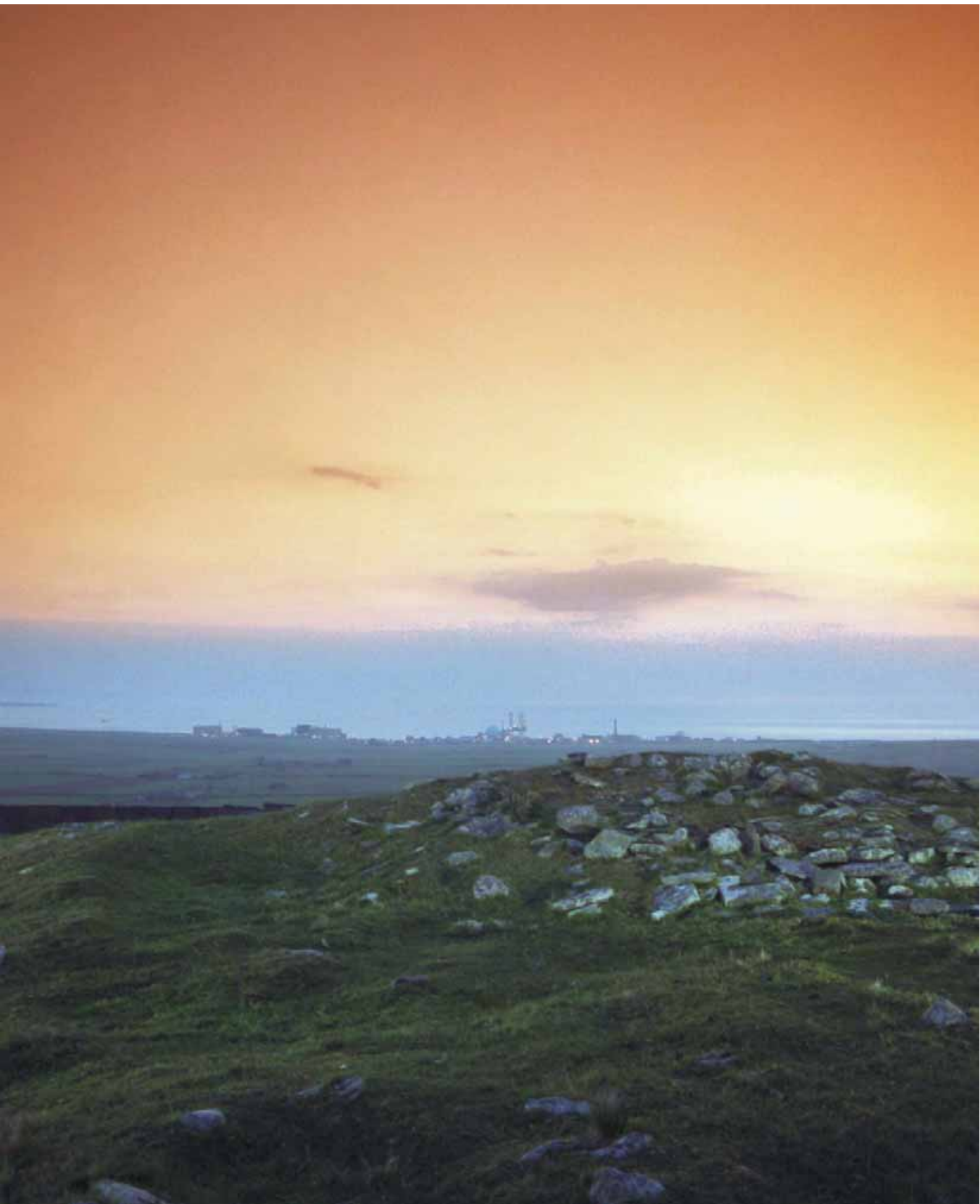
Table 1

| Project | Building Number | New Build Description | Comments |
|------------------------------|-----------------|---|--|
| PHASE 1 (2005 - 2010) | | | |
| Reactor Decommissioning | | DFR IXP Extension (Nak Disposal Plant mods) | Commissioning in progress |
| Reactor Decommissioning | | PFR Effluent Treatment Plant | Construction in progress. |
| Historical Waste | | SILW Core Store - Modifications to existing building | Mods in progress |
| Balance of Site | | Offsite carpark lighting | Permission granted. |
| Intermediate Level Waste | | DCP Import/Export Facility | Construction in progress. |
| Balance of Site | D2158 | Police Gatehouse to FCA, replacing DN042 | Permission granted |
| Balance of Site | | Police Training Facility | Permission granted. |
| Balance of Site | D1431 | New Oil Tanks | Construction in progress. |
| Low Level Waste | | LLW Handling Facility | Permission granted. |
| Balance of Site | | Offsite contractors compound | Cancelled |
| Balance of Site | | Lead Decontamination Facility | No information. On hold |
| Balance of Site | | Replacement outer perimeter fence | Permitted Development |
| Historical Waste | | SILW Test Bore Holes (8 of) | Construction in progress. |
| Reactor Decommissioning | | DFR Breeder Fuel Removal Containment Building | Construction in progress. |
| Historical Waste | | SILW Shaft Isolation | |
| Fuel Cycle Area | D1209 | Vent Upgrade | |
| Balance of Site | | New Laundry | Design & Build May 06. |
| Balance of Site | | Main Central site substation replacement | On Hold. |
| Waste and Fuel Management | | Waste Facility | EIA development |
| Waste and Fuel Management | | CHILW Store export facility | |
| Low Level Waste | | LLW Facilities phase 1 | EIA development |
| Waste and Fuel Management | | Build irradiated fuel storage plant - Cask Stores | Dates may go back to 2015 |
| Waste and Fuel Management | | Carbide Fuel Treatment Facility | Will use existing building |
| PHASE 2 (2010 - 2020) | | | |
| Reactor Decommissioning | | PFR Reactor Dismantling Facility | Will use existing building |
| Fuel Cycle Area | | Solvent Disposal (Incinerator) | EIA development |
| Waste and Fuel Management | | Irradiated Fuel Treatment (characterisation & oxidation) facility | Will use existing building |
| Reactor Decommissioning | | DFR PCD | Will use same building as BFR facility |
| Reactor Decommissioning | | DFR NAK Wetted Decontam Facility | Will use same building as BFR facility |
| Waste and Fuel Management | | Unshielded Waste Store | |
| Historical Waste | | SILW Conditioned Waste Store Phase 2 | |
| Historical Waste | | Build Shaft/Silo waste treatment plant | |
| Historical Waste | | Build silo retrieval headworks | |
| Historical Waste | | Build shaft retrieval headworks | |
| Waste and Fuel Management | | Unirradiated fuel treatment (characterisation +carbide oxidation) fac | Will use existing building |
| Waste and Fuel Management | | Unirradiated fuel treatment (PU materials depelleting) facility | Will use existing building |
| Balance of Site | | PFR 11kv replacement substation | |
| Waste and Fuel Management | | Unirradiated fuel treatment (nat + depleted uranium) facility | Will use existing building |
| PHASE 3 (2020 -2036) | | | |
| Balance of Site | D1432 | Boilerhouse Replacement | |
| Low Level Waste | | LLW Facilities phase 2 | Proposal. May not be required. |
| Low Level Waste | | LLW Facilities phase 3 | Proposal. May not be required. |
| | | | |
| | | | Issued November 2005 |

Proposed Building Demolitions

Table 2

| Project | Building Number | Demolition Description | Comments |
|------------------------------|-----------------|--|---------------------------------|
| PHASE 1 (2005 - 2010) | | | |
| Reactor Decommissioning | D1110 | DFR Link Building | In progress |
| Fuel Cycle Area | D1251 | DMTR Offices and workshop | |
| Balance of Site | D1434 | Old Oil Tanks | |
| Waste and Fuel Management | | P1053.14 Landfill 42 Closure - AA10160 | |
| Balance of Site | D1334 | P1013.16.06 Demolition & Disposal, Old Laundry | |
| Fuel Cycle Area | | MTR Fuel Element | |
| Balance of Site | | Training School & Pu Criticality Lab | In progress |
| Fuel Cycle Area | D1200/D1226 | Offices and Laboratories | |
| Fuel Cycle Area | | High Active Liquor Store Offices | |
| Reactor Decommissioning | | PFR West Tower | |
| Balance of Site | D1431 | Boilerhouse | Later if required as core store |
| Reactor Decommissioning | | Old PFR Effluent Treatment Plant | |
| Reactor Decommissioning | DN026 | PFR Sodium Store | |
| PHASE 2 (2010 - 2020) | | | |
| Reactor Decommissioning | | DMTR & D1252 & D9786 | |
| Balance of Site | | PFR Sodium Store | |
| Waste and Fuel Management | D1211 | D1211 | |
| Balance of Site | D1310 | Part of Fire Station building | Admin office and extn Apr 30 |
| Reactor Decommissioning | | PFR SDP/CRP (in Turbine Hall) | |
| Reactor Decommissioning | | PFR Generator + Transformer Bldg | |
| Historic Waste | | Wet Silo Cover Building | Replace roof Apr 06 |
| Waste and Fuel Management | D6499/D6816 | P1053.13.06 D6499/D6816 (waste pits) Demolition | |
| Balance of Site | DN029 | Office | |
| Fuel Cycle Area | | Low Level Waste Treatment and Packing | |
| Balance of Site | D1310 | P1053.05.06 Labs Demolition & Disposal | |
| Fuel Cycle Area | D1205 | P1013.06.06 Active Laundry | |
| Reactor Decommissioning | | PFR Surge Tanks & Tanks Farm | |
| Fuel Cycle Area | | P1013.15.06 D1251 Complex Demolition & Disposal | |
| Fuel Cycle Area | | P1013.15.06.0 Cave - AA10410 | |
| Fuel Cycle Area | | P1013.15.06.02 Pond - AA10520 | |
| Fuel Cycle Area | | MTR Reprocessing Plant | |
| Historic Waste | | Dry Silo Plant Room (SILW Enabling) | |
| Historic Waste | | Silo Workshop (SILW Enabling) | |
| Historic Waste | | Ultrafiltration Plant (SILW Enabling) | |
| Fuel Cycle Area | | PIE Facilities | |
| Fuel Cycle Area | | Pu Evaporator Plant | |
| Fuel Cycle Area | | P1013.12.06 Analytical Lab/Agent Nitrogen Plant | |
| Fuel Cycle Area | | PFR Reprocessing Plant | |
| Balance of Site | | PFR BOC Tanks | |
| Balance of Site | | PFR Admin Building | |
| Reactor Decommissioning | | PFR Pond | |
| Balance of Site | D1300-D1303 | Admin Offices | |
| Balance of Site | D2000 | Offices | |
| Balance of Site | D8521 | Drawing Registry | |
| Balance of Site | D8538 | New Training School | |
| Balance of Site | D6000 | Offices | |
| Balance of Site | D9807 | Craigmore House offices | |
| PHASE 3 (2020 - 2036) | | | |
| Reactor Decommissioning | | PFR Turbine Hall | |
| Reactor Decommissioning | | PFR Control Block | |
| Reactor Decommissioning | | PFR misc, buildings and compounds | |
| Reactor Decommissioning | | PFR Electrical Annexe | |
| Balance of Site | D1313 | P1053.06.06 Demolition & Disposal | |
| Balance of Site | D8523/D9952 | P1053.15.06 Demolition (LA Workshop) | |
| Fuel Cycle Area | | P1013.04.06 Billet Production Plant | |
| Fuel Cycle Area | | P1013.20.06 Demolition - DCP | |
| Fuel Cycle Area | | P1013.17.06 Demolition & Disposal PIE cells and labs | |
| Fuel Cycle Area | | P1013.09.06 High Active Liquor Store | |
| Historic Waste | | Silo Waste Retrieval | |
| Fuel Cycle Area | | P1013.14.06 Demolition & Disposal | |
| Reactor Decommissioning | | PFR ventilation building (back of reactor hall) | |
| Balance of Site | | PFR secondary containment building | |
| Fuel Cycle Area | | Fissile Material Store | |
| Reactor Decommissioning | | DFR Waste Packaging Plant | |
| Historic Waste | D3300 | Shaft Headworks | |
| Balance of Site | DN016 | P1053.20.06 (whatlings Hanger) Demolition | |
| Fuel Cycle Area | D1201 | P1013.02 D1201 Decommissioning | |
| Balance of Site | D2003 | New Office Block | |
| Balance of Site | D1310 | D1310 Fire Station | |
| Balance of Site | D8786 | Offices | |
| Reactor Decommissioning | D1120 | DFR complex | To remain |
| Reactor Decommissioning | DN139 + DN140 | DFR offices | |
| Fuel Cycle Area | | Marshall Labs | |
| Balance of Site | D9975 | Police Offices | |
| Balance of Site | D9935 | CEC 1 | |
| Waste and Fuel Management | | RHILW - IEP | |
| Balance of Site | D2151 | Police Command & Control Building | |
| Historic Waste | | ILW Waste Treatment Plant | |
| Balance of Site | D6411 | P1053.12.06 CEC 2 Demolition | |
| Fuel Cycle Area | D2900 | P1013.21.06 Maintenance and Decontamination Building | |
| Effluent Management | D3000 | P1053.07.06 D3000 (LLETTP) Demolition and Disposal | |
| Fuel Cycle Area | D1213/D1293 | P1013.11.06 Vent Fans and Stack | |
| Fuel Cycle Area | D1209 | P1013.10 Decommissioning Link Corridor | |
| Fuel Cycle Area | | P1013.23.06 Store | To remain |
| Balance of Site | D9887 | FCA Police Lodge | |
| Balance of Site | D8525 | P1053.16.06 Store/warehouse Demolition | |
| Balance of Site | | Chemical and solvent store | |
| Fuel Cycle Area | | P1013.22.06 WRACS Demolition | |
| Waste and Fuel Management | DN060 | P1053.21.06 De-scaling plant Demolition | |
| | | | Issued November 2005 |





GLOSSARY

| | |
|--|---|
| Authorisation | The granting, by a regulatory body, of permission to perform specified activities. Authorisations must be obtained from SEPA to dispose of radioactive material or to discharge radionuclides into the environment pursuant to the Radioactive Substances Act 1993. |
| Characterisation | The use of investigative techniques to establish important parameters defining radiological contamination, waste, or the environment they may be present in. These could include chemical or physical analysis, radiometric analysis, environmental monitoring etc. |
| Conditioning | Those operations following treatment of radioactive waste, that produce a waste package that can be handled, stored, transported or disposed. Conditioning may include converting the waste to a solid form, enclosing it in containers, etc. |
| Decommissioning | The decontamination, dismantling and demolition of a nuclear facility, removal of waste and remediation of any residual contamination. |
| De-licensing | The process of obtaining written termination of the nuclear site licence, on the basis that NII is satisfied there is no further danger from ionising radiations on the Site. |
| Discharge | A planned and controlled release of radioactive material (usually gaseous or liquid) into the environment. Discharges are authorised by the regulator (SEPA). |
| Disposal | The emplacement of radioactive waste in an appropriate disposal facility with no intention of retrieving it. Retrieval may be possible but, if intended, then the appropriate term is storage. |
| Encapsulation | The conversion of solid radioactive waste into a form which reduces the potential for migration or dispersion of radionuclides. This helps control radioactive material, minimise contamination during handling and migration when waste is disposed or stored. (See also Immobilisation.) |
| Fission product liquid Infrastructure | Waste liquid from reprocessing. |
| Immobilisation | Includes utilities such as electric, site steam, water and drains. The conversion of liquid radioactive waste into a solid waste form to reduce the potential for migration or dispersion of radionuclides. This is an important method of controlling radioactive material, minimising the potential for contamination during handling of waste and migration when waste is disposed or stored. (See also Encapsulation.) |
| Licensed Site | The nuclear licensed site and other UKAEA owned land at Dounreay, granted a licence to operate by HSE under the Nuclear Installations Act 1965. The site consists of a range of facilities which were established with the purpose of nuclear power production, nuclear fuel cycle operations, research and associated waste management. This licence is concerned with the safe operation of facilities which is achieved through licence conditions. |
| Minimum Standards Planning Conditions | The minimum requirements applied to planning conditions, i.e. fit for purpose. |
| Safety Case | As a condition of a nuclear site licence, operators must develop a Safety Case for any facility that considers its full life ("from cradle to grave"), including radioactive waste management and decommissioning as well as operating aspects. The Safety Case is evolutionary and will be updated to take account of changes in the facilities, including their decommissioning. It takes account of safety issues, design, investigations and monitoring, records and quality assurance. |
| Treatment | Waste management processes that change the main characteristics of waste, e.g. volume reduction, radionuclide extraction or change of composition. Treatment usually precedes packaging, storage and disposal. |
| Worst Case Assessment | Relates to the maximum environmental impact. |

ABBREVIATIONS

| | |
|--------------------|---|
| BFR | Breeder Fuel Removal |
| BPEO | Best Practicable Environmental Option. Waste management assessment of alternative options based on factors such as the occupational and environmental risks, the environmental impacts, the costs and the social implications |
| CEC | Criticality Evacuation Centre |
| CHILW | Contact Handled ILW |
| DCP | Dounreay Cementation Plant |
| DEFRA | Dept. of Energy, Food and Rural Affairs |
| DFR | Dounreay Fast Reactor |
| DMTR | Dounreay Material Test Reactor |
| DSRP | Dounreay Site Restoration Plan |
| EIA | Environmental Impact Assessment |
| FCA | Fuel Cycle Area |
| HV/LA | High Volume/Low Active Material - lightly contaminated construction wastes (concrete, rubble, metal), soil and sand. HVLA does not include paper waste, organic waste or putrefiable waste. |
| ILW | Intermediate Level Waste. Radioactive waste of activity and heat output higher than low-level waste. ILW may include items such as irradiated fuel cladding, filters, resins, sealed sources, etc. |
| IXP | Ion Exchange Plant |
| LA | Low Activity |
| LLLETP | Low Level Liquid Effluent Treatment Plant |
| LLW | Low Level Waste. Radioactive waste containing less than 4 million Bq per kg of alpha radioactivity and 12 million Bq per kg of beta and gamma radioactivity. There is a great variety of LLW, from lightly contaminated clothing to physical structures removed from reactors at decommissioning, or contaminated soil removed during ground remediation. |
| NaK | Sodium/Potassium coolant |
| NDA | Nuclear Decommissioning Authority |
| NII | Nuclear Installations Inspectorate |
| PCD | Primary Circuit Decontamination |
| PCM | Plutonium Contaminated Material |
| PFR | Prototype Fast Reactor |
| PIE | Post Irradiation Examination facility |
| Pu | Plutonium |
| RHILW - IEP | Remote Handled ILW Immobilisation and Encapsulation Plant |
| RSA | Radioactive Substances Act 1993, controls accumulation and disposal of radioactive materials. |
| SDP | Sodium Disposal Plant |
| SEPA | Scottish Environment Protection Agency |
| SILW | Solid ILW |
| UKAEA | United Kingdom Atomic Energy Authority |
| WRACS | Waste Receipt Assay and Characterisation Super-compaction |
| WTP | Waste Treatment Plant |