Nuclear
Decommissioning
Authority

# Draft Business Plan

1 April 2018 to 31 March 2021

December 2017

# Nuclear Decommissioning Authority

# Draft Business Plan

Financial year beginning April 2018 to financial year ending March 2021

December 2017




Some images supplied courtesy of site licence companies.
Every effort is taken to ensure the accuracy of material or images produced or used by the NDA. However, the NDA cannot guarantee that the images shown will always be current, accurate or complete and does not warrant or endorse the accuracy or completeness of the images.

# Introduction to the consultation

## How to respond

In this consultation, the NDA wants to hear from members of the public, nuclear regulators, employees within our Site Licence Companies, trade unions, local authorities, Site Stakeholder Groups, Non-Governmental Organisations and any other organisation or public body. In your response please state whether you are responding as an individual or representing the views of an organisation. If you are responding on behalf of an organisation, please make it clear who the organisation represents and, where applicable, how you assembled the views of the members.

We are happy to receive comments on any aspect of our Draft Business Plan and these will be considered where appropriate. When considering responses to this consultation, the NDA will give greater weight to responses that are based on argument and evidence, rather than simple expressions of support or opposition.

This consultation begins on **11 December 2017** and will close on **4 February 2018**.

**By letter, fax or email** – You can respond by letter, fax or email using the contact details below. Please address all responses to NDA Business Planning, Business Plan Consultation.

**By Letter** – NDA Business Planning, Business Plan Consultation,
Nuclear Decommissioning Authority, Herdus House, Westlakes Science and Technology Park, Moor Row, Cumbria, CA24 3HU

**Fax** – 01946 518431

**Email** – businessplanning@nda.gov.uk

## Help with queries

Any questions or queries relating to this consultation may also be directed through the above channels.

## Consultation and Conduct

If you have any comments about the way in which this consultation has been conducted please mark them ‘Business Plan Consultation’ and send them using the above channels.

## Confidentiality and data protection

Information provided in response to this consultation, including personal information, may be subject to publication or disclosure in accordance with the access to information regimes (these are primarily the Freedom of Information Act 2000 *(ref 1)*, the Data Protection Act 1998 *(ref 2)* and the Environmental Information Regulations 2004 *(ref 3))*.

If you want information that you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory Code of Practice with which public authorities must comply and which deals, amongst other things, with obligations of confidence. In view of this, it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information, we will take full account of your explanation, but cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the NDA.

The NDA will process your personal data in accordance with the Data Protection Act and, in the majority of circumstances, will mean that your personal data will not be disclosed to third parties.

## Additional Copies

An electronic version of the Draft Business Plan is available on the website: www.gov.uk/nda

You may make copies of this consultation document without seeking permission. We are not producing hard copies of the consultation document. However, if you require a printed copy, please email businessplanning@nda.gov.uk.

A copy of the consultation criteria from the Consultation Principles is available at https://www.gov.uk/government/publications/consultation-principles-guidance

## Next Steps

The NDA will consider responses it receives to the consultation, and outputs from any NDA events, and revise the Draft Business Plan as appropriate. Subject to approval by the UK and Scottish Governments, the NDA will publish the final version of this document in late March 2018.

# Contents

A remotely operated machine has been sent into Sellafield's most hazardous nuclear waste store for the first time. The 'Avexis' robot will help dislodge and clear waste from the Magnox Swarf Storage Silos.


200 people attended NDA's first stakeholder summit in west Cumbria in September 2017, an event aimed at encouraging discussion on the NDA's work.

# Foreword

David Peattie
**Chief Executive**

Our mission is clear, clean up the UK's civil nuclear legacy.

We must conduct it safely, securely and cost-effectively, with the protection of people and the environment at the forefront of our minds.

The end of nuclear fuel reprocessing at Sellafield will begin in 2018, with the closure of the Thermal Oxide Reprocessing Plant, also known as THORP, followed by the closure of the Magnox Reprocessing Plant in 2020. These are landmark events for us and for the wider community in and around Sellafield - the UK's largest and most complex nuclear site.

We will have taken a huge stride in advancing our mission when the Magnox site at Bradwell, in Essex, becomes the first NDA site to enter a state of care and maintenance. This means that by 2019 all mobile hazards and the vast majority of the buildings will have been cleared. The main reactor building will be sealed and Bradwell will be left in a safe condition before the remaining buildings are finally demolished towards the end of the 21st century. This achievement will be a fantastic demonstration of our workforce's ability to safely deal with all the hazards, plants and facilities on a site.

As well as seeing the great progress being made across all areas of our business, the next 3 years will bring significant changes to how the NDA will work. The NDA is learning from the mistakes it made in awarding the contract to run the Magnox sites and has taken steps to improve the way the NDA works.

The NDA has already improved, standardised and simplified many of its processes, increasing its insight and governance over the progress being made on its sites. I have strengthened the team with the addition of a new Commercial Director, new general legal counsel and look forward to a new Nuclear Operations Director joining us early next year.

So a busy 3 years ahead as we continue to deliver our mission. We cannot do this alone. Your involvement is crucial.

I was hugely impressed at the NDA's first stakeholder summit this year by the depth of people's interest in our work. Maintaining strong relationships is vitally important to the NDA and me personally. I am committed to meeting and listening to as many people as possible from communities around our sites, and those further afield who have a genuine interest in our mission to decommission and clean up the UK's legacy nuclear sites.

## Business Plan purpose

The Business Plan sets out key activities and expected progress for all 17 of the NDA's nuclear sites over the next 3 years. It also outlines expected income and expenditure for the coming financial year.

# The Group Estate

## We are dealing with one of the most complex, long-term, environmental challenges in Britain.

We are responsible for decommissioning 17 nuclear sites. This includes the first generation of Magnox power stations, various research and fuel facilities and our largest, most complex site, Sellafield. The 17 sites are spread across the UK and we take an estate-wide view of the work.

Our core objective is to decommission these sites safely, securely, cost-effectively and in a manner that protects the environment.

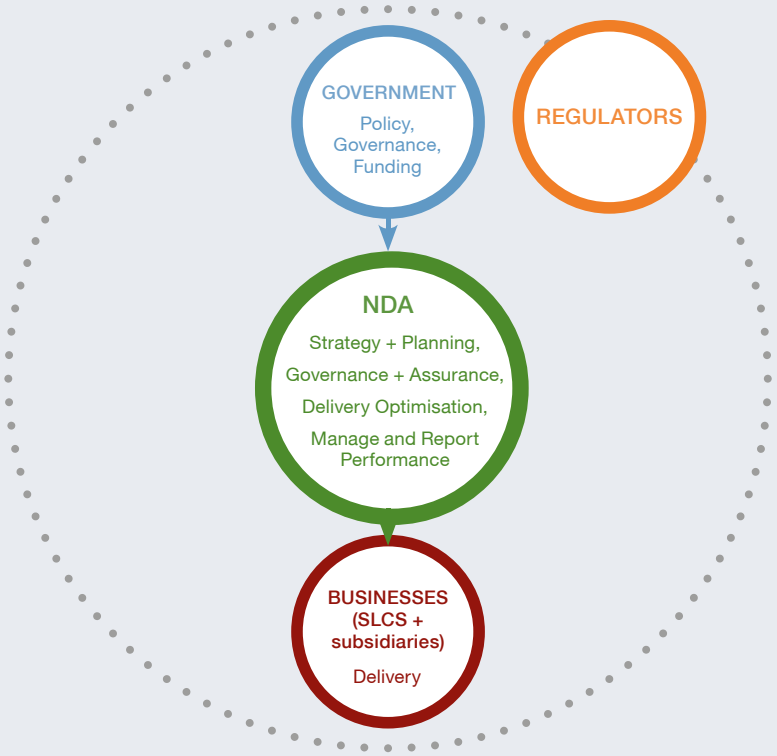
### How the estate operates

The NDA is a non-departmental public body sponsored by the Department for Business, Energy and Industrial Strategy.

The Department and Scottish Ministers are responsible for approving our plans and providing a policy framework for the NDA.

The NDA sets the estate-wide strategy, contract manages the operation of the businesses and specialist subsidiaries and provides performance assurance across the estate to ensure value is delivered for the taxpayer.

The businesses are responsible for delivering NDA group progress through their running of day to day activities. The NDA also has a portfolio of specialist subsidiaries, which operate a range of services which we need to do our work.



Businesses

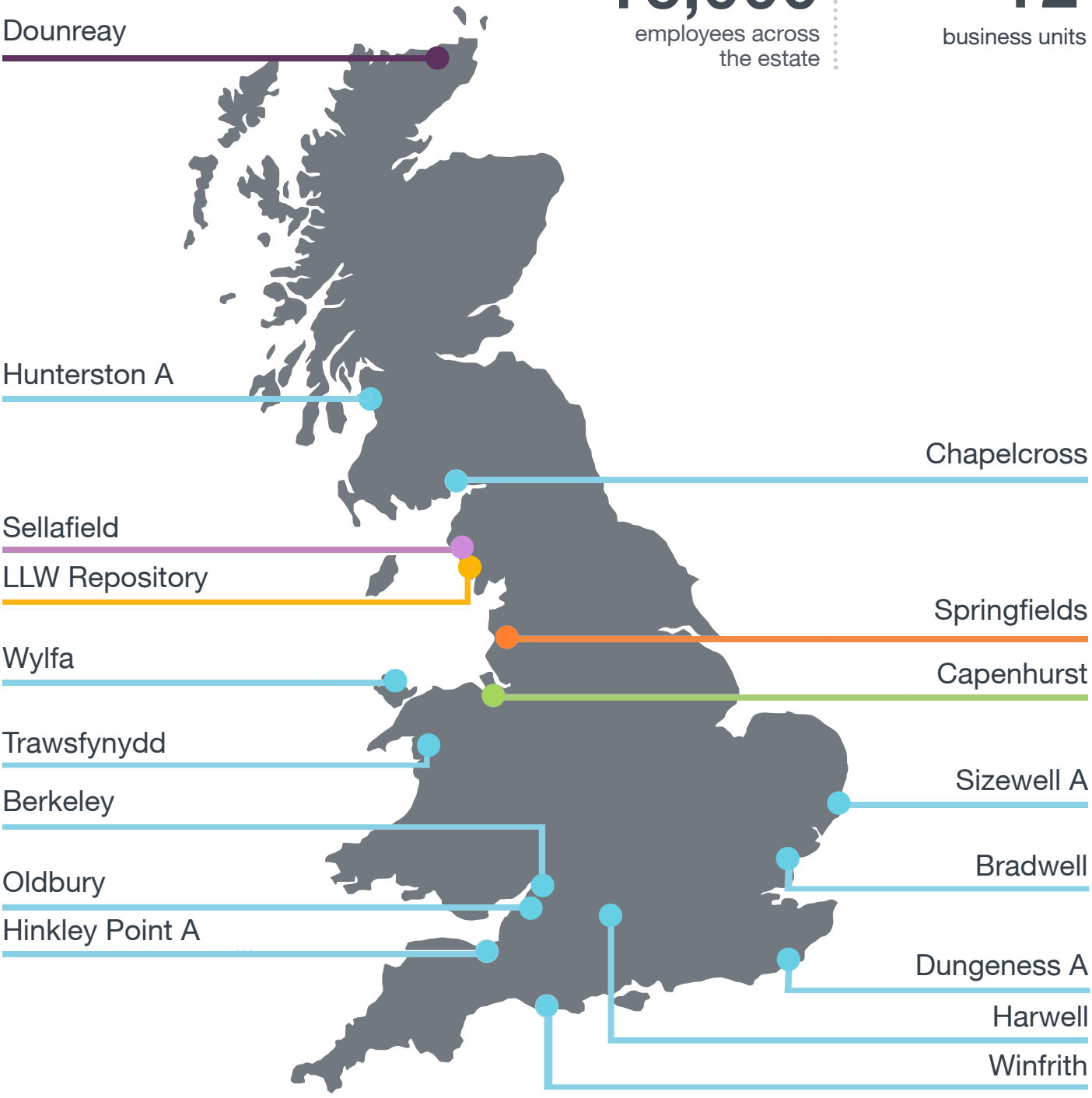
- Sellafield Ltd
- Magnox Ltd
- Dounreay Site Restoration Ltd
- LLW Repository Ltd
- Springfields Fuels Ltd
- Capenhurst

**1,046**
hectares of nuclear licensed land

**17**
sites dating from post-war decades

**16,000**
employees across the estate

**12**
business units

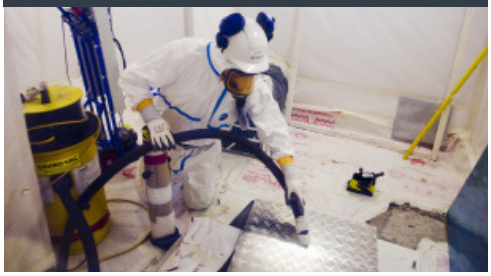


# NDA Corporate Centre

The Energy Act 2004 *(ref 5)* transferred the assets and liabilities of all the sites included in this Business Plan to the Nuclear Decommissioning Authority (NDA). The NDA has 5 offices located across the UK with its headquarters in Cumbria and we employ just over 224 staff. We are accountable for annual expenditure of circa £3 billion.

The NDA is a strategic authority that leads the delivery of the mission through businesses and specialist subsidiaries. In that leadership role we focus on the following;

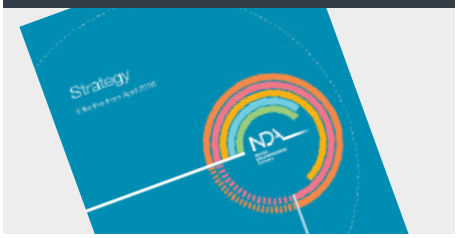
## Health, safety, security, environment



Underpinning all we do is a commitment to encourage the highest standards of safety, security and environmental responsibility and an open and transparent approach to secure the support and trust of our stakeholders.

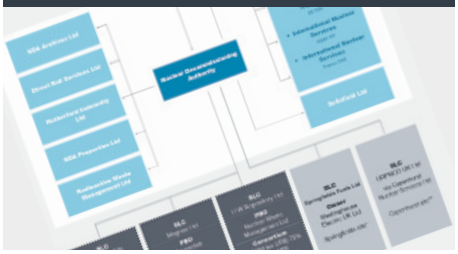
We have adopted the principles of; **simplification; standardisation; discipline; and focus**.

## Strategy and Planning




Our strategy is reviewed every 5 years and provides the framework for delivering our mission on behalf of government. It sets out our strategic direction and long-term objectives and determines what the NDA is going to do to deliver its policy obligations. We've developed a Strategy Management System to support the development of strategic options and make decisions on a series of distinct issues. Our plans set out how we will deliver the key outcomes required to achieve our mission in the right timeframe and within the funding agreed with government.

## Governance and Assurance

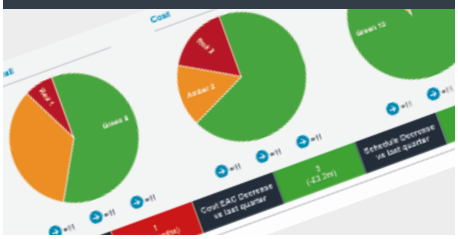


Implement a governance regime that discharges our legal, regulatory and public service responsibilities to protect the interests of government and taxpayers, employees and stakeholders. We undertake appropriate assurance of delivery to ensure the businesses, the NDA and our subsidiaries deliver the outcomes required to achieve our mission. Risk based planning and assurance, along with the provision of specialist support, gives confidence to the NDA and our stakeholders that we have the right people, processes and plans in place to ensure that hazards are reducing as planned and that strategy will be delivered. We do this by knowing that projects are being delivered in line with plans and that programmes are on track to deliver the right value for money outcomes within agreed funding limits.

## Delivery Optimisation


We seek the optimum mix of businesses to deliver our mission. These range from PBO led SLCs through NDA owned subsidiaries to affiliates. These management arrangements provide a framework for setting out our requirements and expectations and are designed to deliver our desired outcomes. NDA's central view helps us to make optimised and prioritised estate-wide decisions over the short and long-term.

## Manage and Report Performance



We have introduced Quarterly Performance Review (QPR) meetings with our businesses. The QPR is at the heart of performance management, driving discipline around targets, direction, culture, clarity and holding the businesses to account. We report performance of the businesses to government and stakeholders.

We are also focused on getting the right technology, skills and resources in place to help in our mission, as well as ensuring that local communities are supported socially and economically during and after the clean-up work.

## Research and development

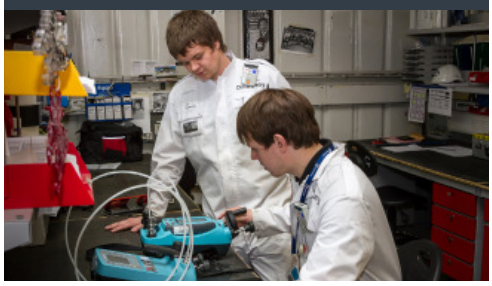
One of our responsibilities is to ensure the right amount of R&D is carried out to deliver the full decommissioning programme.

Many 'never-done-before' projects require significant innovation and novel engineering approaches.

The aim is to solve the challenging technical problems more effectively, more efficiently and where possible, for less cost to taxpayers.

To maximise the benefits of R&D and avoid duplication, the NDA promotes the estate-wide sharing of good practice and, where appropriate, the adoption of innovative ideas across multiple sites.

## Skills



Cleaning up the UK's nuclear legacy is a long-term environmental challenge that requires different skills in different locations at different times.

It's vital, based on the foresight we have, that we create an environment now that encourages people, no matter at what stage of their career, to develop the right skills for our mission.

## Socio-economics

The NDA's socio-economic mission is to 'support the maintenance of sustainable communities' and our objectives are to:

- Enhance the opportunity for local people to be involved in decommissioning work or other economic activity through education, retraining and skills development
- Support the diversification of local economies into other sectors –reducing the reliance of communities on nuclear sites for employment
- Increase the attractiveness of areas near NDA sites and places to live, work and invest in
- Work with nuclear new build and neighbouring site organisations to work cohesively on socio-economics and maximise potential benefits to the community.

# NDA Corporate Centre Key Activities

**Funding**
**Planned expenditure for 2018/19 - £3 billion (circa)**

We categorise our activities under 5 strategic themes. This allows us to bring a clear focus to our mission.

Site Decommissioning and Remediation – to decommission and remediate our sites and release them for other uses.

Spent Fuels – to ensure safe, secure and cost effective lifecycle management of spent fuels.

Nuclear Materials – to ensure safe, secure and cost effective lifecycle management of our nuclear materials.

Integrated Waste Management – to ensure that wastes are managed in a manner that protects people and the environment, now and in the future, and in ways that comply with government policies and provides value for money.

Critical Enablers – to provide the stable and effective implementation framework that enables the delivery of our mission.

The NDA's key activities for the next 3 years are set out below:

| Key Activities | Timescale |
|---|---|
| **Nuclear Materials** | |
| Work with government to develop a long-term management solution for separated plutonium in the UK. | **2018/21** |
| **Integrated Waste Management** | |
| The NDA will work with group businesses to explore alternative disposal options for Higher Activity Waste. | **2018/21** |
| **Critical Enablers** | |
| GDF site selection launch and community engagement for RWM. | **2018/19** |
| Undertake health of the supply chain review. | **2018/19** |
| Review of NDA operations and implementation of the recommendations from the Holliday Inquiry, NAO landscape report and Public Accounts Committee. | **2018/21** |
| Manage the existing Magnox Limited contract through to termination; and transition to new arrangements. | **2018/21** |
| Development of Strategic opportunities that optimise delivery of the mission. | **2018/21** |
| Manage special nuclear materials consolidation in agreed locations. | **2018/21** |
| Development and implementation of a Group Equality, Diversity and Inclusion (EDI) Strategy. | **2018/21** |
| Work with HMG to implement workforce reforms across NDA group estate. | **2018/21** |
| Provide support to government on nuclear new build decommissioning plans. | **2018/21** |
| Working to embed the capability to proactively protect, detect, respond and recover against current and evolving cyber threats. | **2018/21** |
| Implementation of our strategic people delivery plan to enable resource planning, skills development and flexibility and mobility across the estate. | **2018/21** |
| Support Small and Medium Enterprise organisations by increasing overall spend with them in line with the government Growth Agenda. | **2018/21** |
| Performance management of Group Businesses. | **2018/21** |
| **Regulatory Control** | |
| Continue working with regulators and government to determine institutional controls appropriate to restoration of nuclear sites. | **2018/21** |

Artist's impression of how a Geological Disposal Facility may look in operation.

The launch of the site selection process is expected in 2018/19.

The THORP Product Store

The NDA will continue to work with government to develop a long-term management solution for separated plutonium in the UK.

# A look ahead to 2021

## The next 3 years will bring a number of landmark achievements across the estate, demonstrating major inroads into our decommissioning mission.

### Complete THORP reprocessing 2018

Sellafield's Thermal Oxide Reprocessing Plant (THORP) takes spent nuclear fuel from EDF Energy's operational power stations and from foreign customers.

The closure of THORP in 2018 remains on track. It will avoid the expense of replacing many of the plants that support its operation. This means we can focus our resources on the primary task of decommissioning and remediation.

The end of reprocessing operations in THORP provides a clear transition point for Sellafield. The site will move from commercial operations to decommissioning and continued management of spent fuel and waste.

### All Magnox reactors defueled and fuel transferred by 2019

Of the 11 sites that have Magnox reactors, only 2 have yet to complete defueling: Wylfa in Wales will complete in 2018; Calder Hall on Sellafield site is scheduled to complete in 2019.

All fuel will be transferred for reprocessing, conditioning and/or storage at Sellafield site. This represents the culmination of a complex, logistical and procedural challenge.

By 2018 the radiological hazard on all Magnox sites across the UK will have been reduced by 99%. These sites will prepare to enter a period of quiescence known as the Care and Maintenance phase.

### Magnox reprocessing complete by end of 2020

Closure of the Magnox Reprocessing Plant at Sellafield is based on the latest Magnox Operating Programme and subject to the completion of defueling and the performance of ageing facilities that were built many decades ago.

As a result of completing reprocessing, a series of products will be suitable for interim storage pending disposal or reuse. The conclusion of reprocessing also benefits the environment and complies with the UK Strategy for Radioactive Discharges.

## Retrievals from the high hazard facilities - Pile Fuel Cladding Silo and Magnox Swarf Storage Silos by 2020-2021

The Pile Fuel Cladding Silo is one of the oldest facilities at Sellafield.

Retrieval of waste from the Pile Fuel Cladding Silo at Sellafield is scheduled to start 2 years earlier than forecast.

A simplified, ground-breaking approach also reduces the cost of this work by almost £250 million pounds.

## First NDA site moves into Care and Maintenance phase by 2019

Bradwell in Essex is set to be the UK's first Magnox site to reach the stage of Care and Maintenance, when its two reactors and ILW store will be sealed.

This period of reduced activity will last for several decades. Appropriate management arrangements will be required for a regime of site security, monitoring, maintenance and records management.

## Low Level Waste Repository - PCM dealt with by 2019

A series of concrete bunkers that once stored Plutonium Contaminated Materials (PCM) look set to be demolished at least 4 years earlier than expected - and for £30 million less than expected.

Located at the Low Level Waste Repository near Drigg, Cumbria, the bunkers were known as magazines and stored PCM generated from operations at Sellafield in the 1950s-1960s.

# NDA Estate Key Programmes: 20 Year Overview

Business Plan

| PROGRAMMES | SITE(S) SUBSIDs | 12/13 | 13/14 | 14/15 | 15/16 | 16/17 | 17/18 | 18/19 | 19/20 | 20/21 | 21/22 | 22/23 | 23/24 | 24/25 | 25/26 | 26/27 | 27/28 | 28/29 | 29/30 | 30/31 | 31/32 | 32/33 | 33/34 | 34/35 | 35/36 | Out years |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Transformation (Sellafield)** | Sellafield | Delivering the Transformation | | | | | | | | | | | | | | | | | | | | | | | | |
| **Oxide Fuels - Reprocessing** | Sellafield | THORP reprocessing | | | | | | Repro Complete | POCO | | | | | | | | | | | | | | | | | |
| **Metal Fuels (Magnox Operating Programme (MOP))** | Sellafield, Magnox and Dounreay | DEFUELING: Dungeness A; Chapelcross; Sizewell A; Oldbury; Wylfa; Calder Hall; Magnox reprocessing | | | | | | Defueling complete; Defueling complete; Repro complete | | | POCO* *Timing of POCO will depend on MOP9 schedules | | | | | | | | | | | | | | | |
| **High Level Waste Management (Inc HAL)** | Sellafield | Evaporator D construction; Vitfrification of Highly Active Liquor (HAL); Reduction of HAL stocks | | | | | | | | | Bulk HAL vitrified; POCO; POCO | | | | | | | | | | | | | | | |
| **Magnox Decommissioning Programme** | Magnox | SITES INTO C&M: Berkeley Vaults project; Bradwell; C&M | | | | | | | | | Berkeley; Winfrith; Hunterston A; Wylfa; Dungeness A; Sizewell A; Oldbury; Chapelcross; Hinkley; Trawsfynydd, Harwell | | | | | | | | | | | | | | | | |
| **Pile Fuel Storage Pond** | Sellafield | Retrievals in process for de-watering | | | | | | | | | Retrievals during de-watering; Bulk sludge retrieved; Pond emptied | | | | | | | | | | | | | | | |
| **Pile Fuel Cladding Silo** | Sellafield | Preparations; Design and Construction of EPPS/ DIF; First retrievals | | | | | | | | | Retrievals; Start Bulk retrievals | | | | | | | | | | | | | | | |
| **Dounreay Decommissioning Programme (incl Exotics)** | Dounreay | Decommissioning under target cost contract | | | | | | | | | All exotics offsite; Dounreay Fast reactor dismantled; Prototype Fast reactor dismantled; Fuel cycle area decom & Shaft and Silo encap; Interim End State achieved | | | | | | | | | | | | | | | | |
| **First Generation Magnox Storage Pond** | Sellafield | FGMSP export project - Generation of export capability; Bulk sludge and fuel retrievals - Generation of capability to retrieve sludge from pond and D-bay; Self shielded boxes and interim safe store – Generation of storage capability; Preparation; Bulk Retrievals from Pond, D-bay and other wet bays | | | | | | | | | Bulk sludge retrieved; Residual Retrievals from Pond, D-bay and other wet bays. Retrievals from dry decanning facilities (to 2035); Bulk fuel retrieved | | | | | | | | | | | | | | | | |
| **Magnox Swarf Storage Silo** | Sellafield | SEP 2; SEP 1; First retrievals; Box Encapsulation Plant – Construction; Silo Maintenance Facility – Construction; Preparation | | | | | | | | | SEP 3; Start Bulk retrievals; Bulk Retrievals to 2050 | | | | | | | | | | | | | | | |
| **Oxide Fuels - Receipts** | Sellafield | AGR fuel receipts from EDF Energy | | | | | | | | | | | | | | | | | | | | | | | | Last of EDF fuel receipts |
| **Higher Activity Wastes (Inc RWM)** | All SLCs | Launch of siting process | | | | | | | | | Community engagement, site evaluations and characterisation and technical development; Sites identified for investigation; Borehole investigations; Construction; Commence Construction; First waste emplaced 2040 | | | | | | | | | | | | | | | | |
| **Low Level Waste (LLW)** | All SLCs | Deliver the Joint Low Level Waste Management Plan; PCM complete | | | | | | | | | *Lifetime plan to 2080 | | | | | | | | | | | | | | | |

- Site Decommissioning and Remediation
- Spent Fuels
- Integrated Waste Management
- Critical Enablers
- Major Milestones

Completion of initial decommissioning activities, sites entry into Care and Maintenance and the end of reprocessing.

All dates shown above and in the subsequent pages represent the latest emerging information and are subject to change.

# Our funding

## Funding framework

The NDA is publicly funded through the Department for Business, Energy and Industrial Strategy (BEIS), our total planned expenditure is voted upon annually by Parliament.

Revenue generated through the commercial activities of the NDA reduce the level of public funding required from Government.

## Commercial income

We maximise revenue from our existing assets and operations to help fund decommissioning and clean-up, in order to reduce the level of public funding required to meet the scope of our plans and delivery of the NDA mission. The commercial operations of the NDA are primarily spent fuel and nuclear materials management with additional opportunities identified in providing transportation services.

We will pursue all commercial opportunities using our existing assets, operations and people where it does not materially impact on our core mission or increase our liabilities. The nature of our current commercial activities means we have to manage a significant degree of income volatility, largely due to our operations relying on ageing assets and infrastructure.

## Prioritisation and allocation of funding

Within affordability constraints, we will seek to maintain progress and maximise value for money through the effective implementation of our strategy. This will mean focussing on delivery of work on the highest hazards and risks, whilst ensuring that safe, secure and environmentally responsible site operations are maintained.

## Planned income and expenditure in 2018/2019

This Business Plan sets out our anticipated income and expenditure for 2018/2019 as agreed with HM Treasury and BEIS.

Our total planned expenditure for 2018/2019 is £3.146 billion, of which £2.269 billion will be funded by UK Government and £0.877 billion by income from commercial operations. Planned expenditure on site programmes will be £2.967 billion, while non-site expenditure is expected to be £0.179 billion. This non-site expenditure includes skills development, socio-economic, research and development (R&D), insurance and pension costs, fees to businesses, implementing geological disposal and NDA operating costs as detailed on page 22.

## Planned income and expenditure summary 2018/19

| £M Businesses and specialist subsidiaries | Decom & Clean-up Costs (A) | Total Operations Costs | | 2018/19 Plan Total (A+B+C) | 2017/18 Plan Total |
|---|---|---|---|---|---|
| | | Running Cost (B) | Capex (C) | | |
| Sellafield Ltd (including gas costs for steam) | 1,142 | 641 | 217 | **2,000** | *2,000* |
| Trading and Gas Costs (Sellafield) | 24 | | | **24** | *24* |
| Magnox Ltd | 490 | | | **490** | *572* |
| Dounreay Site Restoration Ltd | 192 | | | **192** | *189* |
| LLWR Ltd | 79 | | | **79** | *75* |
| Springfields Fuels Ltd | 20 | | | **20** | *34* |
| Capenhurst | 55 | | | **55** | *61* |
| Nuclear Transport and Contract Management | | 109 | | **109** | *106* |
| Non-Site Expenditure | 179 | | | **179** | *177* |
| **TOTAL** | **2,179** | **749** | **217** | **3,146** | **3,239** |
| **Income** | | | | **877** | **879** |
| **Net** | | | | **2,269** | **2,360** |

Notes:
1. Numbers may not cast due to rounding
2. Final Annual Site Funding Limits issued in March 2018 may be adjusted to reflect efficiency, performance and portfolio pressures.
3. The NDA reserves the right to reallocate funding to meet prioritised programme needs.

## Summary of NDA funding (2018/19 onwards)

| Summary of NDA funding | 2018/19 £M | 2019/20 £M | 2020/21 £M |
|---|---|---|---|
| Income | **877** | **1,154** | **TBC - will be confirmed in next spending review** |
| Government Funding | **2,269** | **1,988** | |
| Expenditure | **(3,146)** | **(3,142)** | |
| **Balance** | **0** | **0** | |

# Our funding

## 2018/19 breakdown of non-site expenditure

| Non-site expenditure | 2018/19 Plan £M | 2017/18 Plan £M |
|---|---|---|
| NDA Operating Costs | 41 | 41 |
| Radioactive Waste Management Limited | 30 | 26 |
| Socio Economic, Skills, Research and Development, Knowledge Management, Other | 31 | 31 |
| Estate Insurance | 16 | 16 |
| NDA Properties, Policy Support, NDA Asset decommissioning | 17 | 20 |
| Contractor Fees | 43 | 43 |
| **Total** | **179** | **177** |

## 2018/19 breakdown of planned income by category

| Income source | 2018/19 Plan £M | 2017/18 Plan £M |
|---|---|---|
| Reprocessing and Fuel Management Services | 761 | 770 |
| Electricity Generation | 0 | 9 |
| NDA - INS Transport | 74 | 63 |
| Intra Site Services | 42 | 37 |
| **Total** | **877** | **879** |

# Businesses (sites)

At Dounreay, decommissioning activities in the Fuel Cycle Area.

# Sellafield

Sellafield Ltd

## Sellafield Limited

On the 1 April 2016 Sellafield Limited became a wholly owned subsidiary of the NDA.

**Planned expenditure for 2018/19 - £2 billion**

265 hectare site in Cumbria.
All 265 hectares remain covered by the nuclear site licence.
Modifications of designating direction signed by the Minister in Jan 2012.

| Current key milestones |
|---|
| **2018** - Completion of THORP reprocessing |
| **2019** - Implement and embed the long-term partnership supply chain in Major Projects (Programme and Project Partner - PPP) |
| **2020** - Begin retrievals from the Pile Fuel Cladding Silo and Magnox Swarf Storage Silos |
| **2020** - Completion of Magnox reprocessing including defueling of Calder Hall |

| Key Activities | Timescale |
|---|---|
| **Site Decommissioning and Remediation** | |
| **The areas of principal focus are the redundant Legacy Ponds & Silos facilities, made up of the Pile Fuel Storage Pond, Pile Fuel Cladding Silo, First Generation Magnox Storage Pond and Magnox Swarf Storage Silo. These facilities supported the development of the nuclear programme in the UK from the early 1950s. Latterly, they have supported the generation from the fleet of Magnox power stations. The programmes include the removal of nuclear fuel, sludge and solid material which require the provision of equipment to retrieve the various wastes and then treat and store them in passive condition. This process needs to take into account the role of Integrated Waste Management in achieving hazard reduction and long-term safety, security and environmental protection requirements.** | |
| **Pile Fuel Storage Pond**<br>• Continue sustained sludge exports.<br>• Ready to start dewatering. | **2018/21** |
| **Pile Fuel Cladding Silo**<br>• Completion of Inactive Safety commissioning of Box Encapsulation Plant and Product Store (BEPPS)/Direct Import facility (DIF).<br>• Commence inactive commissioning of waste retrieval equipment<br>• Move to volume production of $3m^3$ boxes<br>• Begin retrievals from the Pile Fuel Cladding Silo ◆ | **2018/21** |
| **First Generation Magnox Storage Pond**<br>• Commence Bulk sludge removal from D Bay.<br>• Continue to export fuel and sludge from the pond. | **2018/21** |
| **Magnox Swarf Storage Silo**<br>• Implement the revised Magnox Swarf Storage Silo Strategy<br>• Complete active commissioning of SEP 2 (Silo Emptying Plant)<br>• Commence SEP1 (Silo Emptying Plant) Phase 1 active commissioning<br>• Silos Maintenance Facility complete.<br>• First export of waste through the Encapsulated Product Store - waste treatment route.<br>• Progress the project for the bulk manufacture of $3m^3$ boxes.<br>• Begin retrievals from the Magnox Swarf Storage Silo ◆ | **2018/21** |

| Key Activities | Timescale |
|---|---|
| **Decommissioning**<br>• Continue the decommissioning and demolition of Windscale Pile Chimney Number 1.<br>• Continue the demolition of SEP Head End Stack.<br>• Complete the removal of remaining gloveboxes from Finishing Line 3. | **2018/21** |
| **Spent Fuels** | |
| **All of the spent fuels discharged from the operating Advanced Gas-Cooled Reactor (AGR) power stations and defueling Magnox power stations reactors are sent to Sellafield for management. The management of AGR fuel under contracts with EDF Energy provides a significant income stream to the NDA.** | |
| Completion of THORP reprocessing. ◆ | **2018/19** |
| Continue to receive and manage AGR spent fuel from EDF Energy. | **2018/21** |
| Continue to reprocess Magnox spent fuel in line with MOP9. | **2018/21** |
| Completion of Magnox reprocessing. ◆ | **2019/21** |
| **Nuclear Materials** | |
| **Sellafield is the custodian of the majority of the UK's stockpile of plutonium which is held in safe and secure storage. Consolidation of materials is an ongoing activity and will continue to be part of the site's mission.** | |
| Continue the safe and secure storage of plutonium in line with UK policy. | **2018/21** |
| Continue to receive and securely store special nuclear materials from Dounreay. | **2018/21** |
| Ensure safe, secure management of our uranics inventory. | **2018/21** |
| **Integrated Waste Management** | |
| **The various activities of the site produce wastes in many forms. These require varying degrees of treatment and onward processing. The site will continue to focus on safe, efficient management of these wastes, including: the conversion of Highly Active Liquor (HAL) into passively safe vitrified waste; the return of vitrified material overseas; and the management of on-site intermediate and low level wastes.** | |
| Continue to process HAL through the Waste Vitrification Plant. | **2018/21** |
| Continue the programme to repatriate overseas owned vitrified waste to its country of origin. | **2018/21** |
| Continue to generate savings and preserve capacity at the LLW Repository by diversion of materials into the supply chain for alternate treatment. | **2018/21** |
| Continue the programmes to receive and treat waste materials from Harwell and AWE Aldermaston. | **2018/21** |

**KEY**

◆ Major milestones

| Key Activities | Timescale |
|---|---|
| **Critical Enablers** | |
| **A number of key enabling activities require specific focus, ranging from infrastructure refurbishment or replacement projects, in support of the above activities, through to key change programmes which aim to improve operational delivery and efficiency on site.** | |
| Continue the Sellafield security and resilience enhancement programme. | **2018/21** |
| Continue with improvements to the site utilities infrastructure. | **2018/21** |
| Continue the Sellafield Limited Transformation to support future business requirements. | **2018/21** |
| Continue the project to improve and replace Analytical Services. | **2018/21** |
| Progress the improvement of Project delivery on site. | **2018/21** |
| Support Small and Medium Enterprise organisations by targeting overall spend with them in line with the government Growth Agenda. | **2018/21** |
| Continuation of information assurance activities and supporting processes. | **2018/21** |
| Prepare the business to move out of reprocessing. | **2018/21** |
| Implement and embed the long-term partnership with the supply chain in Major Projects (Programme and Project Partnership - PPP). | **2018/21** |
| Work collaboratively with NuGen to manage issues and opportunities arising from the neighbouring Moorside site. | **2018/21** |
| Progress with the project to provide contingency against failure of vessels and pipework in the Site Ion Exchange Plant. | **2018/21** |
| **Regulatory Control** | |
| Continue joint working between Office for Nuclear Regulation, Environment Agency, Sellafield Ltd, NDA, UKGI and BEIS with the overriding objective of accelerating risk and hazard reduction. | **2018/21** |
| Reduce environmental risk (including retrieval and treatment of legacy wastes, reduction of HAL stocks). | **2018/21** |
| Minimise discharges in line with UK discharge strategy. | **2018/21** |
| Ongoing delivery of the suite of improvements necessary to ensure that the site is resilient to severe events. | **2018/21** |
| Maintain an asset management regime that takes into account the impact of asset condition on meeting regulation. | **2018/21** |

## Magnox Limited

**(Operated by PBO: Cavendish Fluor Partnership - Cavendish Nuclear and Fluor Corporation)**

Magnox Ltd is the SLC responsible for the operation of 12 sites Berkeley, Bradwell, Chapelcross, Dungeness A, Harwell, Hinkley Point A, Hunterston A, Oldbury, Sizewell A, Trawsfynydd, Winfrith and Wylfa (see pictures below reading left to right, top to bottom).

**Planned expenditure for 2018/19 - £490 million**

The Magnox Business Plan is based upon the latest annual update of the Lifetime Performance Plan.

The NDA will monitor and assure performance, reporting on the delivery of the revised contract to termination and the associated contract fee milestones. Key milestones, known as Authority Milestones, are required to be delivered by defined dates.

The NDA requires Magnox SLC to support transition to the new operating model and to manage defueling of the Magnox reactor fleet; progress the preparations to enter Care and Maintenance, achieving a quiescent Interim State and ultimately Final Site Clearance of the Magnox sites.

| Key Activities | Timescale |
|---|---|
| **Site Decommissioning and Remediation** | |
| Bradwell to achieve its Interim State and move into the effective care and maintenance phase. ◆ | **2018/19** |
| Continuation of estate decommissioning and demolition activities working towards Interim States. | **2018/21** |
| Continue preparations for Winfrith to enter its Interim State. | **2018/21** |
| **Spent Fuels** | |
| Completion of Magnox fuel flask fleet management and transfer responsibility to Sellafield Ltd. | **2018/21 (complete 2019/21)** |
| Completion of Wylfa defueling. ◆ | **2018/21 (complete 2019/21)** |
| Management of MOP9 and co-ordination of Magnox fuel management activities with Sellafield and Dounreay. | **2018/21 (complete 2019/21)** |
| **Nuclear Materials** | |
| Continuation of the programme for the transfer of nuclear materials. | **2018/21** |
| **Integrated Waste Management** | |
| Delivery of the Magnox elements of the estate-wide low level waste management plan including diversion to alternative treatment. | **2018/21** |
| Progression of activities to retrieve, process and package wastes. | **2018/21** |
| Asbestos management – Continued focus on the major risk of asbestos including production of an optimised, underpinned strategy for asbestos, without detriment to Care and Maintenance. | **2018/21** |

**KEY**

◆ Major milestones

| Key Activities | Timescale |
|---|---|
| **Critical Enablers** | |
| Support to the Government in activities to deliver the new build agenda and preparations for decommissioning the AGR fleet. | **2018/21** |
| Continuation of information governance activities and supporting processes. | **2018/21** |
| Support Small and Medium Enterprise organisations by targeting overall spend with them in line with government Growth Agenda. | **2018/21** |
| Support to NDA in property activities to reduce NDA decommissioning liability and achieve best value on asset disposal. | **2018/21** |
| Development of Interim End State approaches, utilising revised management arrangements. | **2018/21** |
| Enacting management arrangements for Care and Maintenance state. | **2018/21** |
| **Regulatory Control** | |
| Ensuring the management arrangements for Interim State are determined and agreed with Regulators. | **2018/21** |
| NDA and Regulatory permissioning in support of the transfer of Nuclear Materials between sites. | **2018/21** |
| NDA and Regulatory permissioning in support of the Interim End State definition and arrangements for Winfrith. | **2018/21** |

# Berkeley

27 hectare site in Gloucestershire.
11 hectares have been de-designated.
Modification of Designating Direction signed by the Minister in January 2012.
16 hectares remain covered by the nuclear site licence

| Current key milestones |
|---|
| **2023** - Site enters Care and Maintenance |
| **2070** - Final Site Clearance begins |
| **2079** - Final Site Clearance achieved |

| Key Activities | Timescale |
|---|---|
| **Integrated Waste Management** | |
| Continuation of retrieval and packaging activities in the active waste vaults. | **2018/21** |
| Continuation of design and commissioning of shielded area waste retrieval equipment. | **2018/21 (complete 2019/21)** |
| Continuation of waste retrieval plant design, commissioning and packaging. | **2018/21** |
| Design and Build of encapsulation facility. | **2018/21 (complete 2019/21)** |
| **Site Decommissioning and Remediation** | |
| Decommissioning and demolition activities ongoing in preparation for entry into Care and Maintenance. | **2018/21** |
| **Regulatory Control** | |
| NDA and Regulatory permissioning in support of Care and Maintenance entry definitions and transitional arrangements. | **2018/19** |
| NDA and Regulatory permissioning in support of the Berkeley ILW Management Programme. | **2018/21** |
| Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators. | **2018/21** |

# Bradwell

20 hectare site in Essex.
All 20 hectares remain covered by the nuclear site licence.

| Current key milestones |
|---|
| **2018** - Site enters Care and Maintenance |
| **2083** - Final Site Clearance begins |
| **2092** - Final Site Clearance achieved |

| Key Activities | Timescale |
|---|---|
| **Site Decommissioning and Remediation** | |
| Decommissioning and demolition activities in preparation for entry into Care and Maintenance. | **2018/19** |
| Ponds complex and contaminated structures (vaults) completed for entry into Care and Maintenance. | **2018/19** |
| Completion of final closures for Reactor buildings safestore. | **2018/19** |
| Site completes activities to enable entry into effective Care and Maintenance. | **2018/19** |
| Interim State of lead site achieved. ◆ | **2018/19** |
| **Integrated Waste Management** | |
| Completion of transition management arrangements for Care and Maintenance. | **2018/19** |
| Ongoing monitoring of care and maintenance phase. | **2019/21** |
| **Regulatory Control** | |
| NDA and Regulatory permissioning in support of Care and Maintenance entry definitions and transitional arrangements. | **2018/19** |
| Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators. | **2018/19** |

# Chapelcross

96 hectare site in Dumfries and Galloway.
All 96 hectares remain covered by the nuclear site licence.

| Current key milestones |
|---|
| **2025** - Site enters Care and Maintenance |
| **2085** - Final Site Clearance begins |
| **2095** - Final Site Clearance achieved |

| Key Activities | Timescale |
|---|---|
| **Site Decommissioning and Remediation** | |
| Continuation of pond operations. | **2018/19** |
| Decommissioning and demolition activities in preparation for entry into Care and Maintenance. | 2018/21 |
| Preparations for pond draining and stabilisation. | 2019/21 |
| **Integrated Waste Management** | |
| ILW retrievals. | **2018/19** |
| Interim storage facility constructed and commissioned. | **2018/19** |
| Encapsulation facility Design and Build complete. | 2019/21 |
| **Regulatory Control** | |
| NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements. | 2018/21 |
| Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators. | 2018/21 |

# Dungeness A

20 hectare site in Kent.
All 20 hectares remain covered by the nuclear site licence.

| Current key milestones |
|---|
| **2025** - Site enters Care and Maintenance |
| **2087** - Final Site Clearance begins |
| **2097** - Final Site Clearance achieved |

| Key Activities | Timescale |
|---|---|
| **Site Decommissioning and Remediation** | |
| Ponds cleaned and stabilised. | **2018/19** |
| Decommissioning and demolition activities in preparation for entry into Care and Maintenance. | 2018/21 |
| **Integrated Waste Management** | |
| Increase waste conditioning facility capability. | **2018/19** |
| Retrievals, treatment and transport of ILW. | 2018/21 (complete 2019/21) |
| Bulk asbestos removal from reactor buildings. | 2018/21 (complete 2019/21) |
| **Regulatory Control** | |
| NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements. | 2018/21 |
| Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators. | 2018/21 |

# Harwell

108 hectare site in Oxfordshire.
22 hectares have been de-designated.
Modification of Designating Direction signed by the Minister in December 2012 and July 2017.
86 hectares remian covered by the nuclear site licence

| Current key milestones |
|---|
| **2027** - Primary facilities decommissioning complete |
| **2027** - Reactor decommissioning complete |
| **2027-28** - Interim State achieved |
| **2064** - Final site clearance achieved |

| Key Activities | Timescale |
|---|---|
| **Site Decommissioning and Remediation** | |
| Continuation of Liquid Effluent Treatment Plant (LETP) area environmental restoration. | **2018/21** |
| Decommissioning and demolition activities. | **2018/21** |
| **Nuclear Materials** | |
| Continuation of the programme for the transfer of nuclear materials and contact-handled ILW. | **2018/21** |
| **Integrated Waste Management** | |
| Completion of ILW Store construction. | **2018/19** |
| Recovery, processing and packaging of solid ILW. | **2018/21** |
| Preparations for decommissioning of Radium chemistry facilities. | **2018/21** |
| **Regulatory Control** | |
| NDA and Regulatory permissioning in support of decommissioning and demolition activities. | **2018/21** |
| NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and arrangements. | **2018/21** |
| Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators. | **2018/21** |

# Hinkley Point A

20 hectare site in Somerset.
All 20 hectares remain covered by the nuclear site licence.

| Current key milestones |
|---|
| **2027** - Site enters Care and Maintenance |
| **2081** - Final Site Clearance begins |
| **2090** - Final Site Clearance achieved |

| Key Activities | Timescale |
|---|---|
| **Site Decommissioning and Remediation** | |
| Decommissioning and demolition activities in preparation for entry into Care and Maintenance. | **2018/21** |
| Complete deplant and demolition of Turbine Hall. | **2018/21 (complete 2019/21)** |
| **Integrated Waste Management** | |
| Complete Wet Waste and Vessel consolidations. | **2018/19** |
| Continuation of FED retrieval activities. | **2018/21** |
| Continuation of ILW skip management arrangements. | **2018/21** |
| Complete waste conditioning facility construction and commissioning. | **2018/21 (complete 2019/21)** |
| Continue preparations for Sludge Canning Building waste retrievals. | **2018/21** |
| Commence Interim Storage Facility construction and commissioning. | **2019/21** |
| **Regulatory Control** | |
| NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and arrangements. | **2018/21** |
| Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators. | **2018/21** |

# Hunterston A

15 hectare site in Ayrshire.
All 15 hectares remain covered by the nuclear site licence.

| Current key milestones |
|---|
| **2024** - Site enters Care and Maintenance |
| **2071** - Final Site Clearance begins |
| **2080** - Final Site Clearance achieved |

| Key Activities | Timescale |
|---|---|
| **Site Decommissioning and Remediation** | |
| Decommissioning and demolition activities in preparation for entry into Care and Maintenance. | **2018/21** |
| **Integrated Waste Management** | |
| Completion of solid ILW encapsulation plant construction and mechanical and electrical installation. | **2018/21 (complete 2019/21)** |
| Progressing of ILW retrievals, processing and storage activities. | **2018/21** |
| Completion of inactive commissioning of solid ILW encapsulation plant. | **2019/21** |
| **Regulatory Control** | |
| NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements. | **2018/21** |
| Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators. | **2018/21** |

# Oldbury

47 hectare site in South Gloucestershire.
32 hectares have been de-designated.
Modification of Designating Direction signed by the Minister in January 2012.
15 hectares remain covered by the nuclear site licence.

| Current key milestones |
|---|
| **2027** - Site enters Care and Maintenance |
| **2092** - Final Site Clearance begins |
| **2103** - Final Site Clearance achieved |

| Key Activities | Timescale |
|---|---|
| **Site Decommissioning and Remediation** | |
| Decommissioning and demolition activities in preparation for entry into Care and Maintenance. | **2018/21** |
| Complete ponds decommissioning preparations. | **2018/21 (complete 2019/21)** |
| Complete ponds draining, cleaning and stabilisation. | **2019/21** |
| **Integrated Waste Management** | |
| ILW retrieval enabling works. | **2018/21 (complete 2019/21)** |
| Progression of activities supporting consolidated ILW storage. | **2018/21** |
| Commence retrievals, treatment and transport of ILW. | **2018/21** |
| **Regulatory Control** | |
| NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements. | **2018/21** |
| Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators. | **2018/21** |

# Sizewell A

14 hectare site in Suffolk.
All 14 hectares remain covered by the nuclear site licence.

| Current key milestones |
|---|
| **2027** - Site enters Care and Maintenance |
| **2088** - Final Site Clearance begins |
| **2097** - Final Site Clearance achieved |

| Key Activities | Timescale |
|---|---|
| **Site Decommissioning and Remediation** | |
| Decommissioning and demolition activities in preparation for entry into Care and Maintenance. | **2018/21** |
| Continuation of ponds decommissioning. | **2018/21** |
| Ponds draining and stabilisation. | **2018/21 (complete 2019/21)** |
| **Integrated Waste Management** | |
| FED retrievals. | **2018/21 (complete 2019/21)** |
| ILW retrieval enabling works. | **2018/21 (complete 2019/21)** |
| Progression of activities to support consolidation of ILW storage. | **2018/21** |
| Commencement of retrievals, treatment and transport of ILW. | **2019/21** |
| **Regulatory Control** | |
| NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and arrangements. | **2018/21** |
| Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators. | **2018/21** |

# Trawsfynydd

15 hectare site in North Wales.
All 15 hectares remain covered by the nuclear site licence.

| Current key milestones |
|---|
| **2029** - Site enters Care and Maintenance |
| **2074** - Final site clearance begins |
| **2083** - Final site clearance achieved |

| Key Activities | Timescale |
|---|---|
| **Site Decommissioning and Remediation** | |
| Continue developing strategy for ponds End State conditions. | **2018/21** |
| Decommissioning and demolition activities in preparation for entry into Care and Maintenance. | **2018/21** |
| **Integrated Waste Management** | |
| Completion of sludge and resin encapsulation. | **2018/19** |
| FED retrievals and encapsulation. | **2018/21** |
| **Regulatory Control** | |
| NDA and Regulatory permissioning in support of decommissioning and demolition activities. | **2018/21** |
| Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators. | **2018/21** |

# Winfrith

96 hectare site in Dorset.
7 hectares have been de-designated.
Modification of Designating Direction signed by the Minister in March 2014.
89 hectares remain covered by the nuclear site licence

| Current key milestones |
|---|
| **2022** - DRAGON reactor complex decommissioning complete |
| **2023** - Steam Generating Heavy Water Reactor (SGHWR) complex decommissioning complete |
| **2023** - Interim End State achieved |

| Key Activities | Timescale |
|---|---|
| **Site Decommissioning and Remediation** | |
| SGHWR – development of the detailed design to remove the reactor core. | **2018/19** |
| SGHWR – completion of primary containment decommissioning activities. | **2018/19** |
| DRAGON – continue reactor decommissioning. | **2018/21** |
| SGHWR – continue design and build of reactor decommissioning equipment. | **2018/21** |
| SGHWR – continue decommissioning of the primary and secondary containment areas. | **2018/21** |
| Decommissioning and demolition activities. | **2018/21** |
| **Integrated Waste Management** | |
| Commence consolidation of packaged ILW in the Harwell store. | **2019/21** |
| **Regulatory Control** | |
| NDA and Regulatory permissioning in support of decommissioning and demolition activities. | **2018/21** |
| NDA and Regulatory permissioning in support of the Interim End State Definition and arrangements for Winfrith. | **2018/21** |

# Wylfa

21 hectare site in Anglesey.
All 21 hectares remain covered by the nuclear site licence.

| Current key milestones |
|---|
| **2026** - Site enters Care and Maintenance |
| **2097** - Final Site Clearance begins |
| **2105** - Final Site Clearance achieved |

| Key Activities | Timescale |
|---|---|
| **Site Decommissioning and Remediation** | |
| Decommissioning and demolition activities in preparation for entry into Care and Maintenance. | **2018/21** |
| Provision of support and assets to nuclear new build. | **2018/21** |
| **Spent Fuels** | |
| Defueling activities in line with MOP9 *(ref 4)*. | **2018/21** |
| Completion of Wylfa defueling in line with MOP9 *(ref 4)*. | **2019/21** |
| **Integrated Waste Management** | |
| Continuation of ILW retrievals and packaging. | **2018/21** |
| Continuation of waste retrieval enabling activities. | **2018/21** |
| **Regulatory Control** | |
| Preparations for fuel free verification agreement with the ONR. | **2018/19** |
| NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and arrangements. | **2018/21** |
| Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators. | **2018/21** |
| Complete fuel free verification agreement with the ONR. | **2019/21** |

# Dounreay

## Dounreay Site Restoration Limited

**(DSRL is owned by a parent body (PBO) - Cavendish Dounreay Partnership Limited comprising Cavendish Nuclear, CH2M Hill & AECOM)**

DSRL is contracted to carry out the decommissioning of the Dounreay site as well as the operation of the Low Level Waste (LLW) disposal facility next to the licensed site. In March 2015, a revised Lifetime Plan was approved, incorporating scope to move material from Dounreay to Sellafield, that had not been agreed or finalised when the original contract was signed. In July 2015, this scope was further updated. Dounreay will continue to deliver within its assigned annual site funding limits, while also delivering the additional scope. The contract extension required for the additional scope is still earlier than the pre-competition baseline for achieving Interim End State. The activities below give the current understanding of the updated plans and are subject to change.

**Planned expenditure for 2018/19 - £192 million**

60 hectare site (plus 12 hectares designated for LLW facility) in Caithness.
60 hectares remain covered by the nuclear site licence, the 12 for the LLW facility are designated but not licensed. Modification in designating direction signed by the Minister in Jan 2012.

| Current key milestones |
|---|
| **2025** - All fuel in long-term storage or shipped off site. |
| **2025** - Dounreay Fast Reactor (DFR) dismantled. |
| **2026** - Prototype Fast Reactor (PFR) dismantled. |
| **2028** - Shaft and Silo encapsulation complete. |
| **2030** - Site clearance and environmental restoration phase 3 complete. |
| **2030-33** - Interim End State achieved. |

| Key Activities | Timescale |
|---|---|
| **Site Decommissioning and Remediation** | |
| Dounreay Materials Test Reactor (DMTR) building complex structures demolished (excluding the reactor). | **2018/19** |
| Decontamination facility (D2900) handover to demolition. | **2019/21** |
| Complete POCO of Dounreay Cementation Plant (D2700). | **2019/21** |
| **Spent Fuels** | |
| Unirradiated Uranium Processing plant (D1203) handover to demolition. | **2019/21** |
| **Nuclear Materials** | |
| Liquid metal hazard at DFR eliminated. | **2018/21** |
| Complete delivery of all fuels from DFR. | **2019/21** |
| **Integrated Waste Management** | |
| PFR Raffinate immobilisation complete. | **2019/21** |
| Silo declassified and backfilled. | **2019/21** |
| **Critical Enablers** | |
| Support small and medium enterprise (SME) organisations by measuring and reporting overall spend with them, in-line with the government growth agenda. | **2018/21** |
| **Regulatory Control** | |
| NDA and Regulatory permissioning in support of the Interim End State Definition and arrangements for Dounreay. | **2018/21** |

LLWR

LLWR Ltd

## Low Level Waste Repository Limited

**(Operated by PBO - UK Nuclear Waste Management Limited - AECOM, Studsvik UK, Areva)**

Low Level Waste Repository Limited (LLWR) is responsible for both the operation of the LLW site and the delivery of the National Low Level Waste Programme on behalf of the NDA.

**Planned expenditure for 2018/19 - £79 million**

99 hectare site in Cumbria.
All 99 hectares remain covered by the nuclear site licence.

| Current key milestones |
|---|
| **2019** - PCM decommissioning complete. |
| **2019** - Security programme complete. |
| **2024** - Type B programme complete. |
| **2025** - Final capping of Vault 8. |
| **2080** - Final site clearance achieved. |

| Key Activities | Timescale |
|---|---|
| **Site Decommissioning and Remediation** | |
| Complete decommissioning of Plutonium Contaminated Material (PCM) facilities. | **2018/19** |
| Ongoing site preparation for phased construction of the final cap for trenches 1 to 7 and Vault 8. | **2018/21** |
| **Integrated Waste Management** | |
| Delivery of the National LLW Programme to optimise LLW Strategy implementation. Work with con-signing SLC's to improve waste forecasts and inventory & continue segregated waste, treatment and disposal services. | **2018/21** |
| Work with the NDA to support innovation in approaches to waste management. | **2018/21** |
| Type B Programme fleet commences key transport scope. | **2018/21** |
| **Critical Enablers** | |
| Complete Site Security Programme. | **2018/19** |
| Support hazard reduction across the NDA estate. | **2018/21** |
| Manage and operate LLWR safely to provide an effective UK disposal service. | **2018/21** |
| Consideration of options to further optimise operations at the LLWR. | **2018/21** |
| Continue to pursue overall cost savings in delivery of the Lifetime Plan. | **2018/21** |
| Support Small and Medium Enterprise organisations by targeting overall spend with them in line with the government Growth Agenda. | **2018/21** |

# Springfields

## Springfields Fuels Limited (Owned by Westinghouse Electric UK Holdings Ltd)

**Planned expenditure for 2018/19 - £20 million**

Springfields is a nuclear fuel manufacturing site and is located near Preston in Lancashire. The site is operated by Springfields Fuels Limited (SFL) and used to manufacture a range of fuel products for both UK and international customers and decommissioning historic uranic residues and redundant facilities.

From April 2010, the NDA permanently transferred ownership of the company to Westinghouse Electric including the freedom to invest for the future under the terms of a new 150 year lease. SFL is contracted to provide defined decommissioning and clean up services to the NDA to address historic liabilities, prior to the transfer.

| Key Activities | Timescale |
|---|---|
| **Site Decommissioning and Remediation** | |
| Progress decommissioning of the Magnox Fuel Production facilities. | **2018/21** |
| Continue management of historical legacy materials and facilities. | **2018/21** |

# Capenhurst

## Urenco Nuclear Stewardship Ltd (Owned by URENCO Ltd - and formerly known as Capenhurst Nuclear Services Ltd)

**Planned expenditure for 2018/19 - £55 million**

The NDA Capenhurst site is located near Ellesmere Port in Cheshire, and was formerly home to uranium enrichment plant and associated facilities that ceased operation in 1982.

In 2012, the site was transferred to URENCO, owners of the adjacent licensed site, and was amalgamated into a single nuclear licence site, paving the way for URENCO to invest in new facilities, in order to meet future customer demand. As part of this transfer, URENCO established Urenco Nuclear Stewardship (UNS), formerly known as Capenhurst Nuclear Services, to provide responsible management of uranic materials and carry out remediation work on behalf of NDA. UNS manages 95% of the NDA's uranic inventory and provides broader decommissioning and remediation works for redundant facilities, in order to utilise space to maximise efficiency.

NDA and UNS have also signed an agreement for the processing of UK Government-owned by-product/legacy material from uranium enrichment (known as 'Tails') through URENCO's Tails Management Facility.

| Key Activities | Timescale |
|---|---|
| **Site Decommissioning and Remediation** | |
| Progress Legacy Cylinder Facility Design. | **2018/19** |
| Continued safe storage of uranic materials. | **2018/21** |

# NDA Specialist Subsidiaries

The Nuclear and Caithness Archive at Wick, a project controlled by NDA Archives Limited.

## Radioactive Waste Management Limited

The UK Government's 2014 White Paper, "Implementing Geological Disposal" establishes NDA's role as the implementer in a consent-based process to develop a Geological Disposal Facility (GDF) for the UK's higher activity radioactive waste. In 2014, NDA established Radioactive Waste Management Limited (RWM) as its delivery body for a GDF.

The White Paper set out a programme of three initial actions to be completed before the siting process could begin (National Geological Screening led by RWM and two BEIS-led actions). These initial actions are now close to completion and the current planning assumption is that the GDF Siting Process will be launched in June 2018.

This approach does not apply in Scotland. The Scottish Government has published 'Scotland's Higher Activity Radioactive Waste Policy 2011[1]. Scottish Government Policy states that: "The long-term management of higher activity radioactive waste should be in near-surface facilities. Facilities should be located as near to the site where the waste is produced as possible".

Delivering a Geological Disposal Facility (GDF) for the UK is mission critical for both the Government and the NDA. The NDA currently has a major programme of decommissioning and waste management across Great Britain; retrieving, packaging and storing waste ready for disposal. A GDF provides an end point for that programme. A safe disposal route for waste is also critical to supporting the Government's nuclear new build programme, making sure the UK has access to safe, secure, affordable, low-carbon energy.

Waste is being retrieved and packaged now. Over 70,000 packages are already in surface stores awaiting a GDF, and are accumulating at 3,000 packages per year. RWM works with the producers of radioactive waste to ensure that waste being packaged now is suitable for disposal in a future GDF. We also work with the NDA in support of waste management strategy development.

RWM's vision[2] is a safer future by managing radioactive waste effectively, to protect people and the environment with our mission to deliver geological disposal and provide radioactive waste management solutions.

| Key Activities 2018-2021 |
|---|
| Support the launch of the geological disposal siting process in line with government policy. |
| Implement government policy on geological disposal of Higher Activity Waste (HAW). |
| Deliver a robust technical programme to drive our design and safety assessment work. |
| Develop Radioactive Waste Management Limited into a competent delivery organisation. |
| Work pro-actively with waste producers, planning for and delivering disposability assessments for their range of wastes. |
| Develop and implement joint Integrated Radioactive Waste Programme with LLWR. |

[1] RWM is working with the NDA and Scottish Government to establish how it should support implementation of Scottish Government policy.
[2] Radioactive Waste Management Corporate Strategy 2015 – 2018.

## Direct Rail Services Limited

Direct Rail Services (DRS) Limited was established in 1995 to provide a rail service for the transportation of nuclear material. DRS operates in non-nuclear business where it enhances our ability to deliver the core mission, through developing a critical mass that ensures we attract and retain people of the highest calibre and provide an environment that fosters innovation and operational excellence. DRS has developed and maintained an industry leading reputation for providing safe, secure, reliable and cost effective services within both the nuclear and non-nuclear related markets.

| Key Activities 2018-2021 |
|---|
| Delivery of the rail transport element in support of the completion of MOP. |
| Support national nuclear material rail movements for Harwell, Winfrith and DSRL. |
| Support AGR fuel movements by rail for EDF from stations to Sellafield. |
| Support the discharge of NDA obligations with respect to MOD Nuclear rail transportation. |
| Provide value for money to the tax payer through the execution of identified non-nuclear work that compliments the skills and capabilities required to support the core nuclear mission. |
| Provide rail authority expertise to the NDA and consider areas of synergy between DRS and INS in support of the NDA's strategic transport capability review. |
| Programme manage the manufacture of new rail wagons to support Magnox and EDF. |
| Operate and maintain a fleet of locomotives to support NDA operations. |
| Attract and retain the necessary skills, capability and diversity of talent to deliver our rail logistics business in a safe, secure and reliable manner. |

## International Nuclear Services Limited

International Nuclear Services (INS) Limited manages a large portfolio of UK and international contracts for nuclear fuel recycling and transport services on behalf of the NDA. INS operates a subsidiary company, Pacific Nuclear Transport Limited (PNTL), the world's leading marine transporter of specialist nuclear materials.

Over the next three years, INS will continue its focus on the return of vitrified wastes to their country of origin. In addition INS will continue to provide transport services to existing international customers whilst also developing opportunities for new commercial business both internationally and in support of the UK decommissioning programme.

| Key Activities 2018-2021 |
|---|
| Continue the management of contracts with international customers for spent fuel business. |
| Manage uranium and plutonium services for international spent fuel business. |
| Transport nuclear materials including Spent Fuel, Mixed Oxide (MOX) fuel, vitrified High Level Waste (HLW) and conditioned Intermediate Level Waste (ILW) internationally and shipments of materials under the US Government's Material Management and Minimisation (M3) initiative. |
| Support the NDA in the development and implementation of transport solutions to enable the UK decommissioning programme. |
| Continue, where appropriate, to seek opportunities for new business within shipping, transport package and system design for radioactive materials, and acting as an agent for the overseas sale of UK Intellectual Property in relation to spent fuel and waste management, nuclear decommissioning and transport. |

## NDA Archives Limited

NDA Archives Ltd operates as a separate delivery organisation for the provision of archive and records management services primarily to the NDA estate. We have established a number of Service and End User Agreements and are overseeing the management of a Commercial Partner (Restore Scan Limited) who is operating a purpose-built archive facility in Wick; Nucleus, the Nuclear & Caithness Archive.

Currently, very few of the NDA's information assets are managed to the standards required of us as a public authority. The NDA owns and is accountable for the records from across the estate and, accordingly, has developed a programme to manage them effectively from creation to destruction. The principal role of Nucleus is to consolidate and appropriately store these records ensuring that they remain secure, that their integrity stays intact (many of them will be required for 300+ years) and that they can be accessed in line with legislation and the relevant business requirements.

The facility became operational (and open to the public) on 14 February 2017 with the accessioning of both the entire Dounreay photographic collection and the Caithness Archive, the latter fulfilling a socio-economic commitment to the Dounreay community. Since then, other significant collections have also been relocated and it is expected that this aspect of the programme will continue for at least another 4 to 5 years.

| Key Activities 2018-2021 |
|---|
| Nucleus working in accordance with the National Archive's Accreditation Standards (regulatory best practice). |
| Complete relocation of the 'known' legacy archives, to include all ex-UKAEA records. |
| Complete relocation of all NDA-owned and archived records above OFFICIAL-SENSITIVE. |
| Continuing to work with interested third parties to potentially provide services to others outside the NDA estate. |
| Optimise usage of the Nucleus facility with respect to Business Continuity and Resilience Planning requirements of the NDA and its estate. |

## NDA Properties Limited

NDA Properties Limited primarily acts as a property management for assets outside the nuclear licence site boundaries, in accordance with the NDA's Land and Property Management Strategy. Over the next three years, NDA Properties Ltd will continue to optimise the use of assets for the benefit of the NDA, including undertaking selected developments, whilst disposing those surplus to requirements.

| Key Activities 2018-2021 |
|---|
| Effective and proactive management of the property portfolio. |
| Development of Off Site Command Facility at Moresby for Sellafield Ltd by 2019. |
| Development of offices at Warrington to replace Hinton House by 2021. |
| Disposal of surplus assets to raise capital receipts of circa £500,000 per annum. |

# Rutherford Indemnity Limited

## Rutherford Indemnity Limited

Rutherford Indemnity Limited is registered in Guernsey and is regulated by the Guernsey Financial Services Commission. The Company provides insurance cover for the NDA and its estate. Over the next three years, Rutherford will continue to focus on the provision of insurance cover, at competitive rates, to support the NDA programme, with particular focus on nuclear liability cover and provision of support for changes arising from expected revisions to the Nuclear Installations Act 1965.

| Key Activities 2018-2021 |
| --- |
| Provide optimal insurance coverage to the NDA to support its estate-wide insurance programme and exploit opportunities to reduce overall cost of insurable risk. |
| Explore all avenues to develop potential innovative solutions to the increased financial security or insurance requirements resulting from the Nuclear Installations (Liability For Damage) Order 2016 and to respond to emerging demands for new or additional policy cover. |
| Continue to deliver the target return on the investment portfolio, protecting Rutherford's ability to offer insurance on a cost effective basis, maintaining liquidity in order to be able to respond promptly to major loss. |
| Continue to explore ways to use a prudent proportion of Rutherford's investment portfolio to support infrastructure investment in the NDA estate. |
| Implement new ways of working following changes in the group broking arrangements designed to improve efficiency and reduce costs. |
| Re-compete contract for management of Rutherford Indemnity Limited (captive management contract). |

# Glossary

| | | | |
|---|---|---|---|
| AGR | Advanced Gas-Cooled Reactor | MDU | Magnox Depleted Uranium |
| BEIS | Department for Business, Energy and Industrial Strategy | MOD | Ministry of Defence |
| BEPPS | Box Encapsulation Plant Product Store | MOP9 | Magnox Operating Programme |
| C&M | Care and Maintenance | MOX | Mixed Oxide Fuel |
| CNC | Civil Nuclear Constabulary | NDA | Nuclear Decommissioning Authority |
| DFR | Dounreay Fast Reactor | ONR | Office for Nuclear Regulation |
| DIF | Direct Import Facility | PBO | Parent Body Organisation |
| DMTR | Dounreay Material Test Reactor | PCM | Plutonium Contaminated Material |
| DRS | Direct Rail Services Ltd | PFR | Prototype Fast Reactor |
| FED | Fuel Element Debris | PNTL | Pacific Nuclear Transport Ltd |
| GDF | Geological Disposal Facility | PPP | Programme and Project Partner |
| HAL | Highly Active Liquor | QPR | Quarterly Performance Review |
| HAW | Higher Activity Waste | R&D | Research & Development |
| HLW | High Level Waste | SEP | Silo Emptying Plant |
| ILW | Intermediate Level Waste | SGHWR | Steam Generating Heavy Water Reactor |
| INS | International Nuclear Services Ltd | SLC | Site Licence Company |
| LETP | Liquid Effluent Treatment Plant | THORP | Thermal Oxide Reprocessing Plant |
| LLW | Low Level Waste | UK | United Kingdom |
| LLWR | Low Level Waste Repository | UKGI | UK Government Investments |

# References


1. **Freedom of Information Act 2000**
2. **Data Protection Act (1998)**
3. **Environmental Information Regulations (2004)**
4. **Magnox Operating Programme 9 (2012)**
5. **Energy Act (2004)**


# Useful links and documentation

1. Nuclear Decommissioning Authority *(www.gov.uk/nda)*
2. Department for Business, Energy and Industrial Strategy *(www.gov.uk/beis)*
3. Sellafield Ltd *(www.sellafieldsites.com)*
4. Magnox Ltd *(www.magnoxsites.com)*
5. LLWR Ltd *(www.llwrsite.com)*
6. Dounreay Ltd *(www.dounreay.com)*
7. Capenhurst Nuclear Services Ltd *(www.capenhurstnuclearservices.com)*
8. Springfields Fuels Ltd *(www.westinghousenuclear.com)*
9. International Nuclear Services Ltd *(www.innuserv.com)*
10. Radioactive Waste Management Ltd *(www.gov.uk/beis)*
11. Direct Rail Services *(www.directrailservices.com)*
12. NDA Strategy - March 2016 *(www.gov.uk/nda)*
13. NDA Annual Report and Accounts 2016-2017 *(www.gov.uk/nda)*
14. NDA Skills brochure *(www.gov.uk/nda)*
15. NDA R&D 5 year plan *(www.gov.uk/nda)*
16. NDA Direct Research Portfolio (DRP) Projects: Quarterly Update - Feb 2017 *(www.gov.uk/nda)*
17. Plutonium Position and Options papers *(www.gov.uk/nda)*
18. NDA Socio-Economics Report *(available on www.gov.uk/nda - June 2017)*

**NDA Headquarters**
Herdus House
Westlakes Science & Technology Park
Moor Row
Cumbria
CA24 3HU

+44 (0)1925 802001
www.nda.gov.uk