

# Draft Business Plan

Financial year beginning April 2016  
to financial year ending March 2019



January 2016



# Nuclear Decommissioning Authority Draft Business Plan

Financial year beginning April 2016 to financial year ending March 2019

January 2016

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# Introduction to the consultation

## How to respond

In this consultation, the NDA wants to hear from members of the public, nuclear regulators, employees within the Site Licence Companies (SLCs), trade unions, local authorities, Site Stakeholder Groups (SSGs), Non-Governmental Organisations (NGOs) 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 **05 January 2016** and will close on **15 February 2016**.

**Online** – Responses to this consultation can be submitted online, via the NDA website: [www.gov.uk/nda](http://www.gov.uk/nda)

**By letter, fax or email** – Alternatively, 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](mailto:businessplanning@nda.gov.uk)

## Help with queries

Any questions or queries relating to this consultation may also be directed through 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 (FOIA) (*ref 1*), the Data Protection Act 1998, (DPA) (*ref 2*) and the Environmental Information Regulations 2004 (EIR) (*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 DPA 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](http://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](mailto:businessplanning@nda.gov.uk).

### **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:

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

**By Email** – [businessplanning@nda.gov.uk](mailto:businessplanning@nda.gov.uk)

A copy of the consultation criteria from the Consultation Principles is provided at [www.gov.uk](http://www.gov.uk)

### **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 both the UK and Scottish Governments, the NDA will publish the final version of this document in late March 2016.

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# Taking responsibility

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

We are the strategic authority with responsibility for the civil public sector nuclear estate.

We are responsible for 17 nuclear sites, their liabilities and assets. This includes the first generation of Magnox power stations, various research and fuel facilities and our largest, most complex site, Sellafield.

Our core objective is to ensure that these sites are decommissioned safely, securely, cost-effectively and in ways that protect the environment.

The 17 sites are spread across the UK and we take an estate-wide view of the mission. We are the body that secures and allocates funding for nuclear clean-up. We work with various people, organisations and contractors in the UK and overseas to ensure that:

- the right options are considered and chosen in line with government policy
- the right plans are in place for the long-term
- the right contract models incentivise the safest and most cost-effective clean-up
- the right skills and resources are available
- the right technology is developed
- local communities are supported socially and economically during and after the clean-up mission

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.



# Foreword



This Draft Business Plan looks forward to 2016/17 and beyond and is aligned with our Draft Strategy (also published for consultation in January 2016), to ensure consistency with our short and long-term outlook following the Government's Spending Review announcements.

We welcome the recognition by Government of the vital importance of safe and secure nuclear operations and decommissioning and the need for continued investment in dealing with the nuclear legacy. Through a combination of re-phasing non-safety critical work, opportunities to change scope through breakthroughs in innovation and forward projections on efficiency improvements we have been able to offer savings to the Treasury of around £1 billion over the Spending Review period. In return, we have secured over £1.1 billion of grant funding for the next five years which, together with our income projections, will enable us to continue to make broad progress across our nuclear estate. But it is clear that in order to achieve that we and our Site Licence Companies (SLCs) will need to place even greater focus on achieving value for money.

The decision taken in 2015 to change the delivery model at Sellafield means that from the start of the next financial year, Sellafield will become a subsidiary of the NDA. The Sellafield Model Change Programme is progressing well and is highlighting areas where real benefit will be achieved in delivering value for money and improved confidence in delivery. I would like to thank Nuclear Management Partners (NMP) for their positive and professional approach through this transition process.

The consolidation of the updated Magnox plan (incorporating what was Research Sites Restoration Limited (RSRL)) following last year's competition, together with the funding provided in the Spending Review, will allow the delivery of significant benefits from this revised programme approach. The 2016/17 financial year will see the start of defuelling of the Wylfa reactor after its closure in December 2015. The NDA has succeeded in extending the life of the world's oldest Magnox plant by five years beyond the originally planned closure date, making the maximum possible contribution to the UK's energy supply and using the income from electricity sales to reduce the NDA's call on the Exchequer. The continued demonstration of the UK's ability to decommission the early fleet of nuclear power stations supports the policy of new nuclear generation being a vital part of UK's low-carbon energy mix in future.

The planning and execution of the transportation of a range of nuclear materials from Dounreay will continue as a priority activity. The recent announcement by LLWR that the Environment Agency has approved the application for a revised Environmental Permit means we can now, subject to planning consent, make decisions on lifetime capacities rather than annual disposal limits.

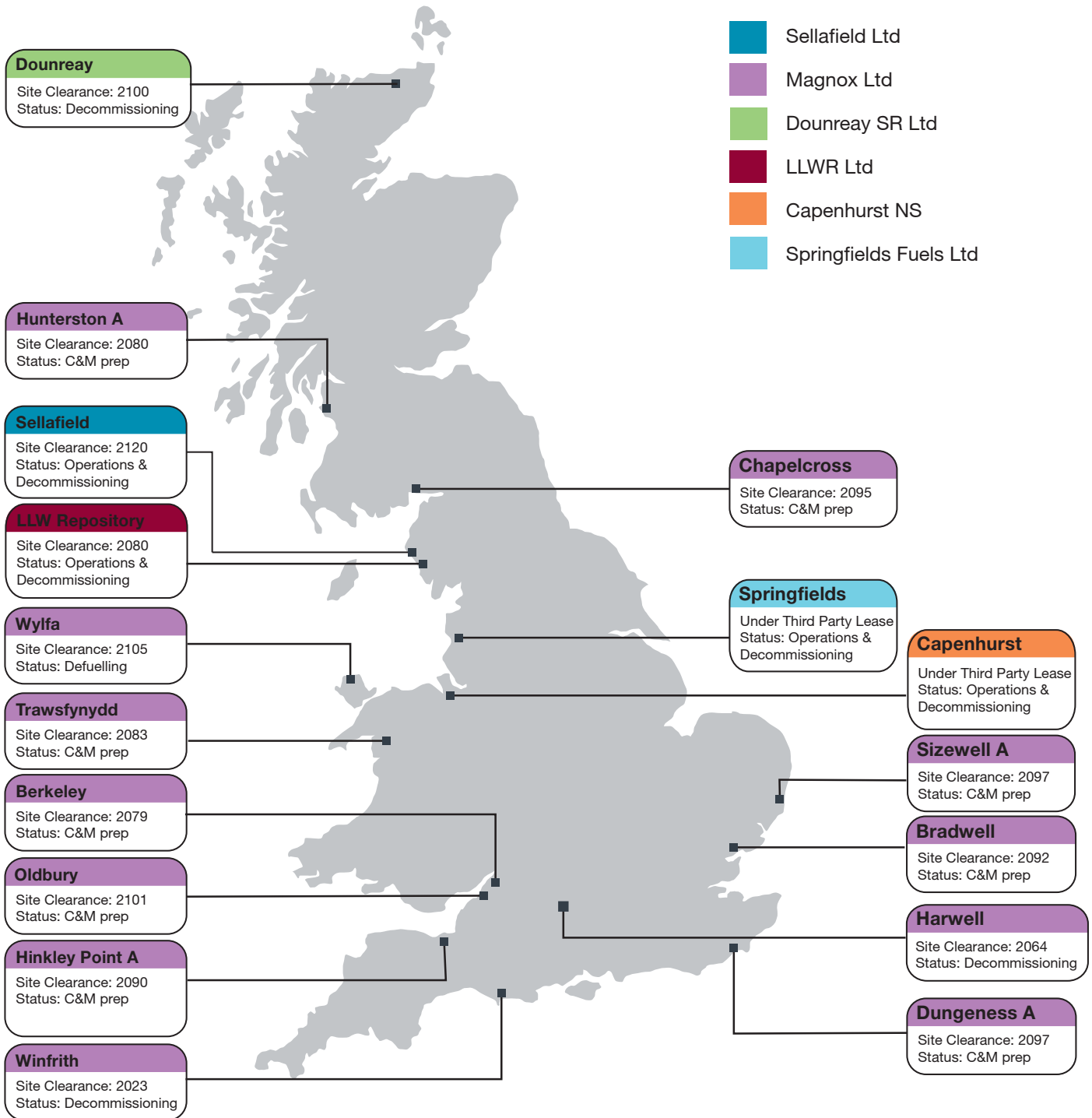
Despite this year of change and organisational adjustment, progress on the ground has continued in all parts of our estate. Radioactive wastes are being retrieved from some legacy facilities for the first time ever. The highest hazards we manage have been kept safe whilst essential work to enable hazard reduction has taken place. Buildings containing large amounts of asbestos have been made safe and demolished, nuclear operations have remained safe and secure. With our revised Strategy in place I look forward to another busy year ahead.

A handwritten signature in black ink, appearing to read 'John Clarke'.

**John Clarke**  
Chief Executive

*Photographs: opposite page, top - Spent fuel now removed from 8 of the 10 Magnox reactor sites, reducing radiological hazard at each site by 99%.  
opposite page, bottom - Innovative laser technology in use on sites.*

# The estate



## How the estate operates

The NDA is a non-departmental public body sponsored by the Department of Energy and Climate Change (DECC). The Department in consultation with Scottish Ministers are responsible for approving our plans and providing a policy framework for the NDA.

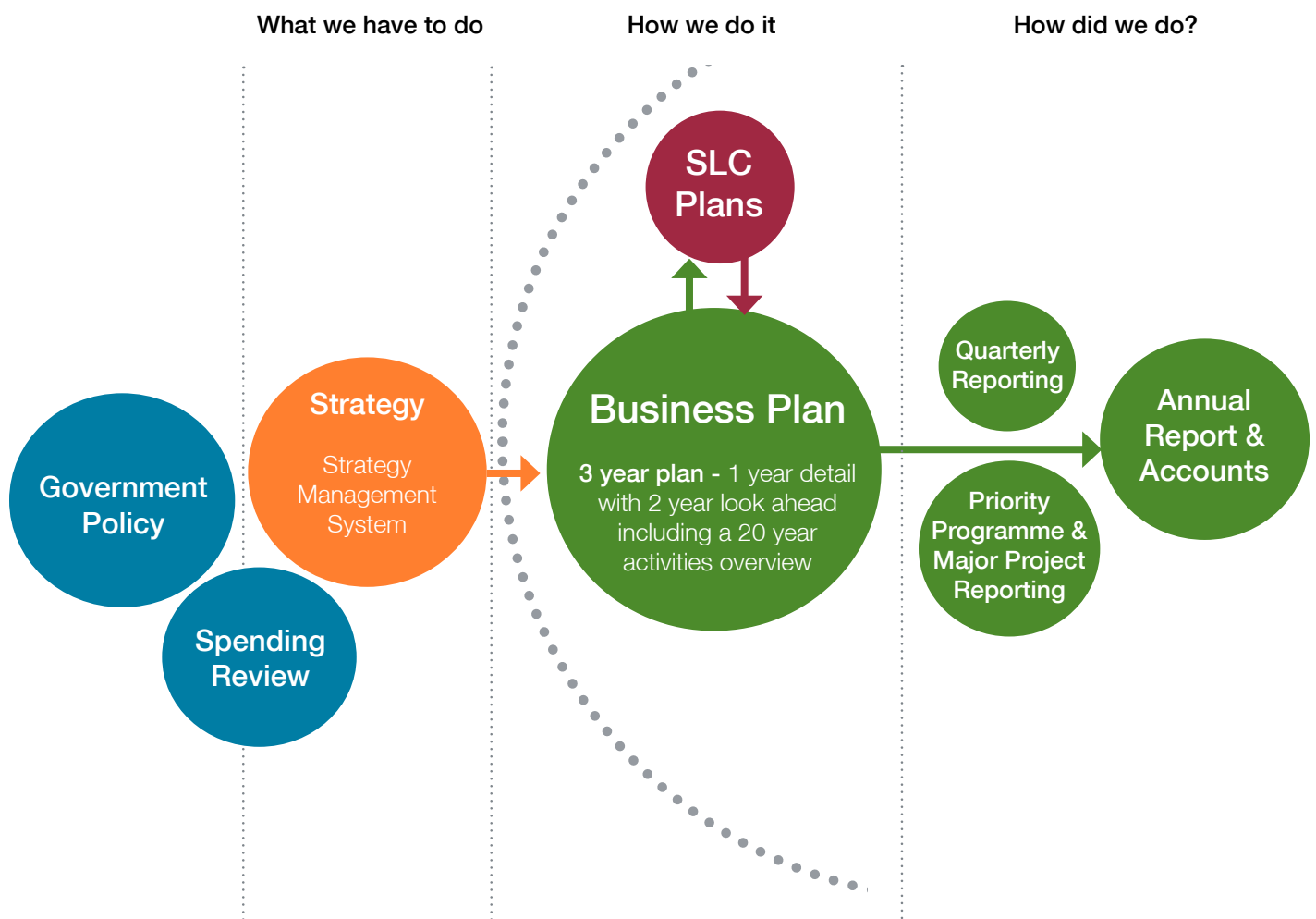
The NDA sets the estate-wide strategy, contract manages the operation of the SLCs and provides performance assurance across the estate to ensure value is delivered for the taxpayer.

The SLCs are responsible for delivering NDA site progress through their running of day to day activities. Along with SLCs, the NDA also has a portfolio of subsidiaries, which operate a range of specialised services and help facilitate activities of the NDA and its estate.

# Our reports and plans

As part of the Energy Act (2004) the NDA is required to:

- **Strategy** - Review, update and consult on its strategy every five years, the third edition of the NDA Strategy is due for publication in 2016. The purpose of this document is to outline the long-term objectives that will guide the NDA through to the completion of its mission.
- **Business Plan** - Publish a Business Plan annually looking at the key activities for the NDA and the estate over the next three years. The Business Plan also outlines expected expenditure and revenue for the coming financial year.
- **Annual Report and Accounts** - Publish annually a summary of the financial and corporate performance across the previous financial year.



# Organisational changes

The NDA estate has seen several key transitions since the publication of the last business plan. These changes are summarised below.

## **Sellafield model change**

From 1 April 2016 the NDA will become the owner of Sellafield Limited, the SLC responsible for managing and operating the Sellafield site on behalf of the NDA. The new arrangements will replace the current Parent Body Organisation (PBO) model and therefore ownership of Sellafield Limited by Nuclear Management Partners (NMP). The announcement to change arrangements at Sellafield was made in January 2015, following a comprehensive review by the NDA into the PBO model.

The new simpler NDA owner/Sellafield Limited subsidiary arrangements will create an environment that offers more opportunity for improved progress at Sellafield, the most complex and challenging site within the NDA estate. We strongly believe the new model, and the closer alignment between the NDA and its subsidiary, will help to:

- empower leadership
- clarify shared objectives and the long-term view
- increase the appetite for business risk
- stimulate change

Sellafield Limited will continue to draw benefits from the private sector using best practice to introduce private sector support into public sector arrangements; this includes the intention to appoint a strategic partner or partners.

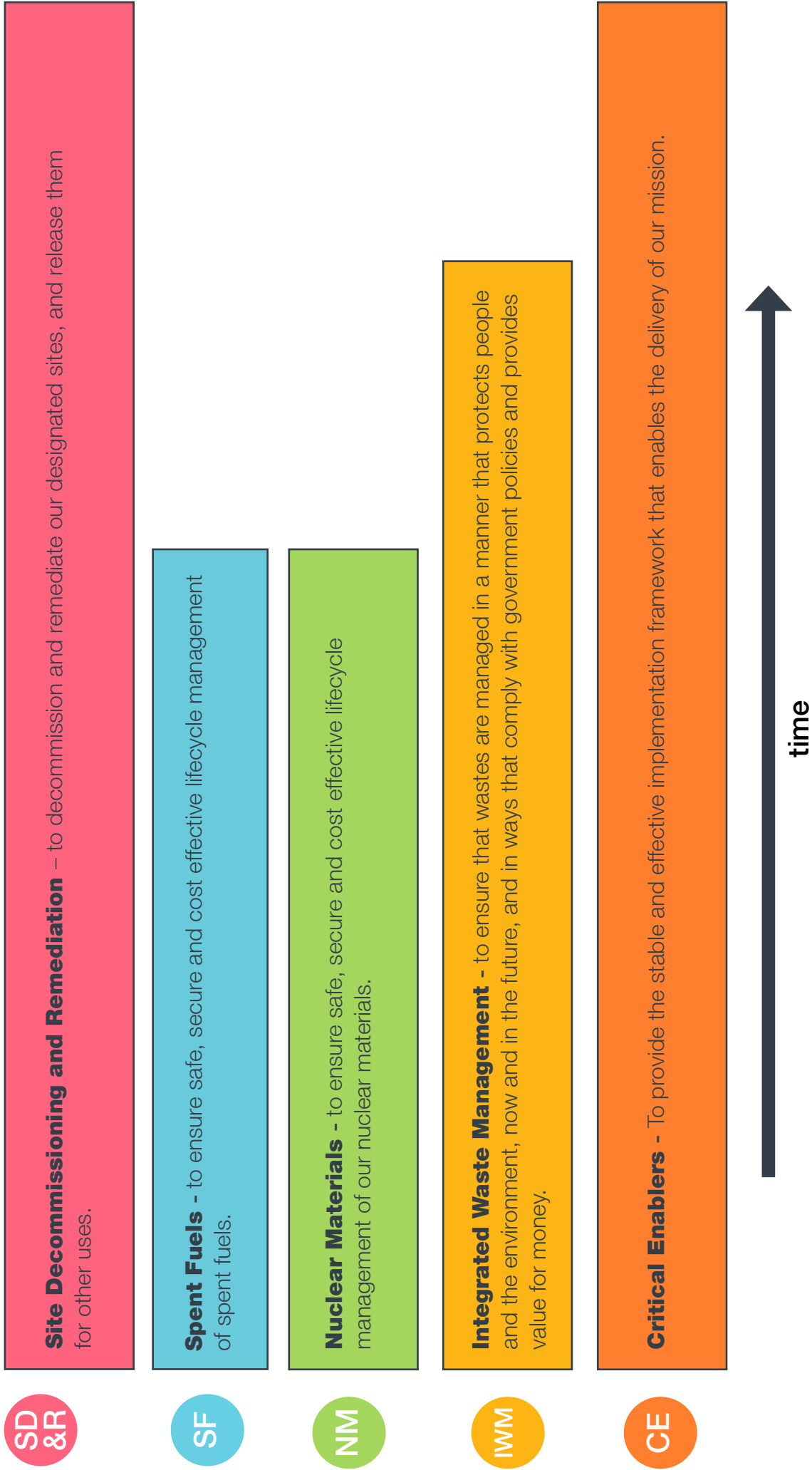
## **RSRL has been incorporated into Magnox Ltd**

The SLC Research Sites Restoration Limited (RSRL), which operated the Harwell and Winfrith sites, was incorporated into Magnox Limited on the 1 April 2015. All 12 sites will now be operated through the Magnox SLC. This change has come about as part of the consolidation process following Cavendish Fluor Partnership's success in the competition to become PBO for Magnox Limited and RSRL.

## **Formation of NDA Archives Limited**

During the course of the 2015/16 financial year NDA Archives Limited has been formed as a wholly owned subsidiary of the NDA. The construction of the nuclear archive in Wick, Caithness has begun, supported by NDA Properties Limited. NDA Archives Limited will be working with the estate to consolidate the vast amounts of historical data held in various locations around the UK and provide a secure, long-term storage facility for this information. This information may retain value and relevance for centuries to come; therefore it is important as the responsible public body that the NDA takes ownership of this information and maintains it in an appropriate manner.

# Strategic themes



## Business Plan - Key activities 2016-2019

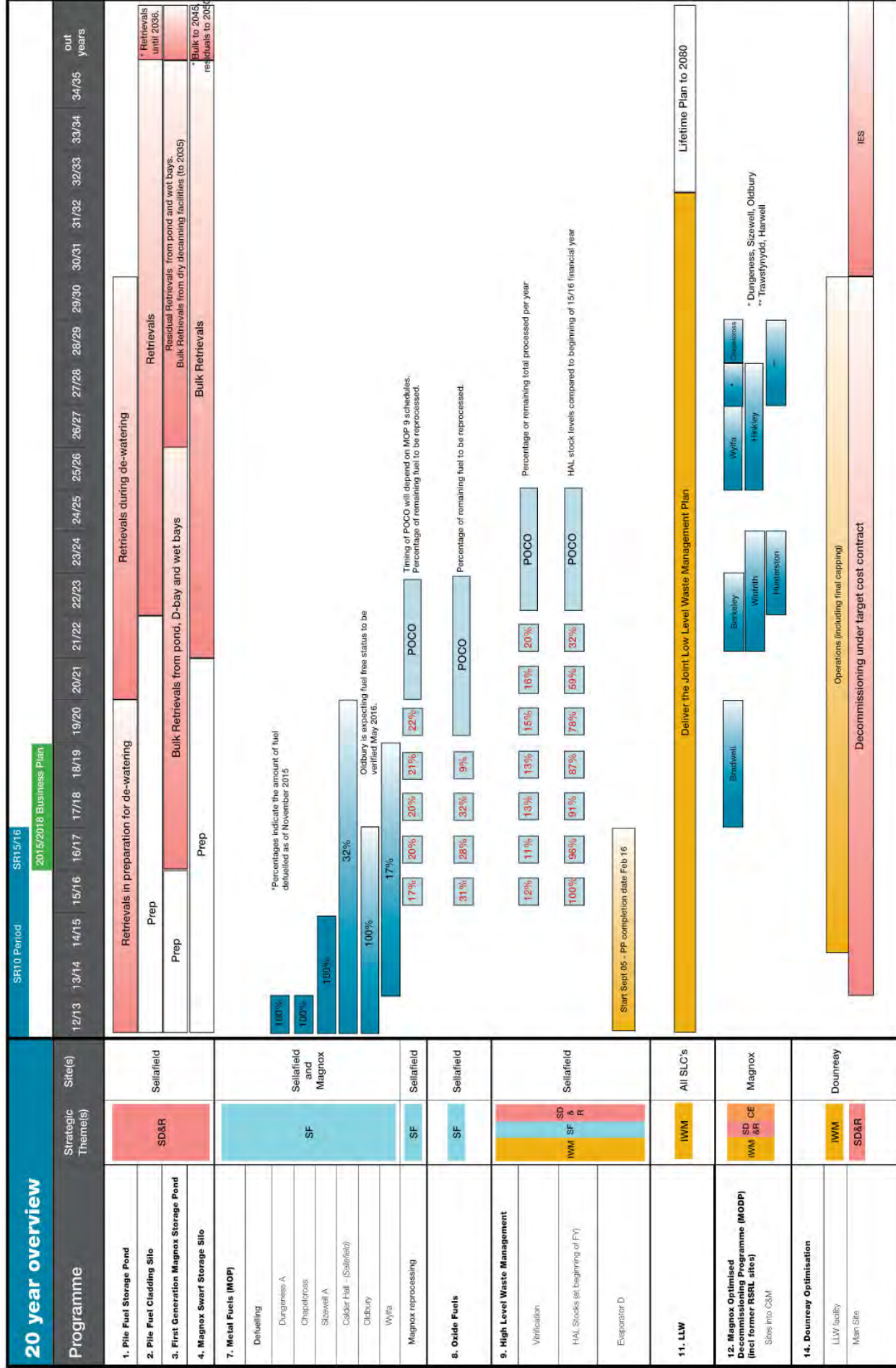
SD &R	<p><b>Programme:</b> 1. Pile Fuel Storage Pond</p> <p><b>SLC:</b> Sellafield</p>		<p><b>Programme outcome:</b> Complete all retrievals from the Pile Fuel Storage Pond</p> <p><b>Key Activity 2016-19</b> - First transfer of sludge from the pond to the Waste Encapsulation Plant.</p>
	<p><b>Programme:</b> 3. First Generation Magnox Storage Pond</p> <p><b>SLC:</b> Sellafield</p>		<p><b>Programme outcome:</b> Complete all retrievals from the First Generation Magnox Fuel Storage Pond</p> <p><b>Key Activity 2016-19</b> - Commence export of material from pond to the Fuel Handling Plant.</p>
	<p><b>Programme:</b> 12. Magnox Optimised Decommissioning Programme (<i>ref.4</i>)</p> <p><b>SLC:</b> Magnox</p>		<p><b>Programme outcome:</b> Accelerated entry into Care and Maintenance of Bradwell.</p> <p><b>Key Activity 2016-19</b> - Safe store weather envelope for reactor buildings completed.</p>
SF	<p><b>Programme:</b> 7. Magnox Operating Programme (<i>ref.5</i>)</p> <p><b>SLC:</b> Magnox</p>		<p><b>Programme outcome:</b> Complete defueling of the Magnox reactor fleet.</p> <p><b>Key Activity 2016-19</b> - Continue defuelling activities in line with MOP9 (<i>ref.5</i>).</p>
	<p><b>Programme:</b> 8. Oxide fuels</p> <p><b>SLC:</b> Sellafield</p>		<p><b>Programme outcome:</b> End of oxide fuel reprocessing</p> <p><b>Key Activity 2016-19</b> - Completion of oxide fuel reprocessing contracts for the Thermal Oxide Reprocessing Plant (THORP).</p>
NM	<p><b>Programme:</b> 14. Dounreay optimisation</p> <p><b>SLC:</b> DSRL and Sellafield</p>		<p><b>Programme outcome:</b> Dounreay progressed into an interim end state.</p> <p><b>Key Activity 2016-19</b> - All fuels removed from the Dounreay Fast Reactor.</p>
	<p><b>Programme:</b> Harwell materials co-location</p> <p><b>SLC:</b> Magnox &amp; Sellafield</p>		<p><b>Programme outcome:</b> Accelerated entry into Care and Maintenance of the research reactors at Harwell and Winfrith.</p> <p><b>Key Activity 2016-19</b> - Continuation of nuclear material transfers to Sellafield.</p>
	<p><b>Programme:</b> Plutonium consolidation</p> <p><b>SLC:</b> Sellafield</p>		<p><b>Programme outcome:</b> Ongoing safe storage of plutonium.</p> <p><b>Key Activity 2016-19</b> - Continue the safe and secure storage of plutonium in line with UK policy.</p>



## Business Plan - Key activities 2016-2019

IWM	<p><b>Programme:</b> 9. Highly Active Liquor (HAL)</p> <p><b>SLC:</b> Sellafield</p>		<p><b>Programme outcome:</b> Complete processing of all Highly Active Liquor (HAL) stocks.</p> <p><b>Key Activity 2016-19</b> - Continuation of HAL stock management.</p>
	<p><b>Programme:</b> 11. Low Level Waste</p> <p><b>SLC:</b> LLWR Limited</p>		<p><b>Programme outcome:</b> Implementation of the national low level waste strategy.</p> <p><b>Key Activity 2016-19</b> – Continued cross estate cooperation to optimise LLW management.</p>
CE	<p><b>NDA</b></p>		<p><b>Programme outcome:</b> Transfer of Sellafield Limited to NDA ownership.</p> <p><b>Key Activity 2016-19</b> - Share transfer of Sellafield Limited to the NDA and implementation of new managerial model.</p>

# 20 year overview of the estate



- All dates in this document are subject to change
- The consolidation process required under the new contract for Magnox continues across the sites. This includes the review and update of plans. The dates shown above, and in subsequent pages, represent the range between the current approved plans and the latest emerging information from this process.

# Our funding

## **Funding framework**

The NDA is publicly funded through the Department of Energy and Climate Change (DECC), 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.

## **Government funding**

The 2015 Spending Review provides an outline of the funding available to the NDA through to the conclusion of the 2019/2020 financial year.

The Spending Review process uses criteria drawn from our Value Framework to evaluate potential options. These criteria are affordability (short, medium and long-term), value for money, safety, security and environmental impact, deliverability, socio-economic and UK government policy impact.

## **Commercial income**

Our objective is to 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 now sit primarily in the areas of 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 2016/2017**

This Business Plan sets out our anticipated income and expenditure for 2016/2017 in line with the settlement agreed in the 2015 Spending Review.

Our total planned expenditure for 2016/2017 is £3.2 billion, of which £2.25 billion will be funded by UK Government and £0.9 billion by income from commercial operations. Planned expenditure on site programmes will be £3.0 billion, while non-site expenditure is expected to be £0.2 billion. This non-site expenditure includes skills development, socio-economic, research and development (R&D), insurance and pension costs, fees to SLCs, implementing geological disposal and NDA operating costs as detailed on page 21.

# Funding

## Planned income and expenditure summary 2016/17

£M SLC/Subsidiaries/Sites	Decom & Clean-up Costs <b>(A)</b>	Total Operations Costs		2016/17 Plan Total <b>(A+B+C)</b>	2015/16 Plan Total
		Running Cost <b>(B)</b>	Capex <b>(C)</b>		
Sellafield Ltd (including gas costs for steam generation)	1,170	615	214	2,000	1,950
Trading and Gas Costs (Sellafield steam services)	19			19	96
Magnox Ltd	550			550	602
Dounreay Site Restoration Ltd	177			177	209
LLWR Ltd	68			68	69
Springfields Fuels Ltd	33			33	41
Capenhurst	49			49	41
Nuclear Transport and Contract Management		100		100	120
Non-Site Expenditure	202			202	186
<b>TOTAL</b>	<b>2,269</b>	<b>715</b>	<b>214</b>	<b>3,199</b>	<b>3,313</b>
<b>Income</b>				<b>949</b>	<b>1,224</b>
<b>Net</b>				<b>2,250</b>	<b>2,089</b>

Notes:

1. Numbers may not cast due to rounding
2. Final Annual Site Funding Limits issued in March 2016 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 Spending Review 2015 funding (16/17 onwards)

Summary NDA SR15 funding	2015/16 £M	2016/17 £M	2017/18 £M	2018/19 £M
Income	1,224	949	934	913
Government Funding	2,089	2,250	2,360	2,267
Expenditure	(3,313)	(3,199)	(3,293)	(3,180)
<b>Net</b>	<b>0</b>	<b>(0)</b>	<b>0</b>	<b>0</b>

# Funding

## 2016/17 breakdown of non-site expenditure

Non-site expenditure	2016/17 Plan £M	2015/16 Plan £M
NDA Operating Costs	40	44
Radioactive Waste Management Directorate	24	25
Socio Economic, Skills, R&D, Knowledge Management, Other	32	27
Estate Insurance	15	14
ND Properties, Policy Support, NDA Asset decommissioning	30	0
Contractor Fees	60	77
<b>Total</b>	<b>202</b>	<b>186</b>

## 2016/17 breakdown of planned income by category

Income source	2016/17 Plan £M	2015/16 Plan £M
Reprocessing and Fuel Management Services	778	817
Electricity Generation	9	134
NDA - INS Transport	118	198
Intra Site Services	44	76
<b>Total</b>	<b>949</b>	<b>1,224</b>

## Sellafield Limited (NDA Subsidiary<sup>1</sup>)

Sellafield Limited is the SLC responsible for the operation of Sellafield site in Cumbria. Sellafield Limited will transfer to NDA ownership in 2016/17, and more detail about the new management arrangements can be found on page 14.



Planned expenditure for 2016/17 - **£2,000 million**

### Key facts

**Location** - Seascale, Cumbria

**Area** - 276 hectares

**Status of land** - all 276 hectares remain covered by the nuclear site licence

### Current key milestones

**2016-19** - Commence sludge exports from the Pile Fuel Storage Pond

**2016-19** - Commence fuel export from the First Generation Magnox Storage Pond

**2016-19** - Completion of all oxide fuel contracts for overseas customers

**2016-19** - Completion of oxide fuel reprocessing in THORP

## 2016 - 2017 Key Activities

**SD  
&R**

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

- Continue consolidation of sludge within the pond.
- Continue with consolidation and export of contaminated metals and recovery of residual fuel for treatment and storage.
- First export of sludge to Waste Encapsulation Plant (WEP).

### Pile Fuel Cladding Silo

- Continue development of the capability to retrieve waste.

### First Generation Magnox Storage Pond

- Continue export of contaminated metal wastes from wet bays.
- Commence export of material from pond to the Fuel Handling Plant.
- Continue export of sludge from pond to Sludge Packaging Plant 1 (SPP1) buffer.

### Magnox Swarf Storage Silo

- Commence inactive commissioning of Silo Emptying Plant machine 2 (SEP 2).
- Progress capability required to implement the revised Magnox Swarf Storage Silo waste handling strategy to develop the downstream capability to receive and store material from this facility.

### Decommissioning

- Continue the decommissioning and demolition of the diffuser from Windscale Pile Chimney.
- Continue work to support demolition of First Generation Magnox Reprocessing stack.

<sup>1</sup>Sellafield Ltd has not been transferred to the subsidiary section due to the significance of the activities occurring at the Sellafield site.

<b>SF</b>	All of the spent fuels discharged from the operating Advanced Gas-Cooled Reactor (AGR) power stations and defuelling Magnox power stations reactors are sent to Sellafield for management. The management of AGR fuel under contracts with Electricité de France Energy (EDF Energy) provides a significant income stream to the NDA (offsetting the cost to the taxpayer). Sellafield will continue to implement the strategy which will ultimately result in the reprocessing of all Magnox fuel and completion of the THORP reprocessing contracts for both EDF Energy's AGR fuel and overseas customers' fuels.
	The following activities highlight the key steps:
	Continue to reprocess Magnox spent fuel in line with MOP9 (ref 5).
	Continue to receive and manage AGR spent fuel from EDF Energy.
	Continue to reprocess oxide spent fuel through THORP from EDF Energy and overseas customers.
<b>NM</b>	Continue preparations for the long-term interim storage of AGR spent fuel following the completion of THORP reprocessing.
	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.
	The following activities highlight the key steps:
	Continue the safe and secure storage of plutonium in line with UK policy.
<b>IWM</b>	Continue to receive transports of special nuclear materials from Dounreay.
	Continue the programme for the transfer of materials from Harwell.
	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 reduction of the stocks of Highly Active Liquor (HAL) which are produced as part of the reprocessing operations; the return of vitrified material overseas; and the management of on-site intermediate and low level wastes.
	The following activities highlight the key steps:
	Continue to process HAL through the Waste Vitrification Plant.
<b>CE</b>	Repatriation of overseas owned vitrified waste to its country of origin.
	Start of active commissioning of Evaporator D.
	Continue to generate savings and preserve capacity at the LLW Repository (LLWR) by diversion of materials into the supply chain in line with the National LLW Strategy implementation and optimisation plan.
	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.
	The following activities highlight the key steps:
<b>Reg.</b>	Continue the Sellafield infrastructure enhancement programme.
	Progress with the capability improvements programme.
	Support Small and Medium Enterprise organisations by increasing overall spend with them to 24%.
	Information Assurance Maturity Model - continued delivery of improvement activities.
	Continue joint working between Office for Nuclear Regulation (ONR), Environment Agency (EA), Sellafield Ltd, NDA, Shareholder Executive (ShEx) and DECC (G6) with the overriding objective of accelerating risk and hazard reduction.
<b>Reg.</b>	Deliver performance plan milestones to reduce environmental risk (including retrieval and treatment of legacy wastes, reduction of HAL stocks and continued delivery of MOP9).
	Minimise discharges in line with UK discharge strategy and develop contingency against failure of vessels and pipework in the Site Ion Exchange Plant.
	Ongoing delivery of the suite of improvements necessary to ensure that the site is resilient to severe events.
	Maintain an asset management regime that takes into account the impact of asset condition on meeting regulation and delivery of milestones.

<b>2017 - 2019 Planned Key Activities</b>	
<b>SD &amp;R</b>	Pile Fuel Storage Pond: ready to start dewatering.
	Pile Fuel Cladding Silo: continue development of capability to retrieve waste.
	Pile Fuel Cladding Silo: completion of Inactive Safety commissioning of Box Encapsulation Plant and Product Store (BEPPS)/Direct Import Facility (DIF).
	Pile Fuel Cladding Silo: commence volume manufacture of 3M <sup>3</sup> boxes.
	First Generation Magnox Storage Pond: bulk sludge removal commenced from D Bay.
	First Generation Magnox Storage Pond: continue to export fuel from pond.
	Progress capability required to implement the revised Magnox Swarf Storage Silo waste handling strategy to develop the downstream capability to receive and store material from this facility.
	Magnox Swarf Storage Silo: Silo Emptying Plant machine 1 (SEP1)– Ready to dismantle.
	Magnox Swarf Storage Silo: Silos Maintenance Facility – mechanical installation for plant and equipment complete.
	Magnox Swarf Storage Silo: commence active commissioning of SEP2.
	Decommissioning: complete removal of remaining gloveboxes and crated furnace from Finishing Line 3 complete.
Decommissioning: First Generation Magnox Reprocessing Plant stack demolition complete.	
<b>SF</b>	Continue to reprocess Magnox spent fuel in line with MOP9 ( <i>ref 5</i> ).
	Completion of all oxide spent fuel contracts for overseas customers.
	Complete oxide fuel reprocessing and convert THORP Receipt and Storage Pond for long-term interim storage of AGR spent fuel from EDF Energy.
<b>NM</b>	Continue the safe and secure storage of plutonium in line with UK policy.
	Continue to receive special nuclear materials from Dounreay.
	Ensure safe, secure management of our uranics inventory.
<b>IWM</b>	Process HAL through the Waste Vitrification Plant.
	Complete active commissioning of Evaporator D.
	Repatriation of overseas owned vitrified HAL to country of origin.
	Generate savings and preserve capacity at LLWR by diversion of materials into the supply chain in line with the National LLW Strategy implementation and optimisation plan.
<b>CE</b>	Progress with the capability improvements programme.
	Complete Fellside Boiler Park to provide reliable steam supplies to Sellafield Site.
	Work collaboratively with NuGen to manage issues and opportunities arising from the neighbouring Moorside site.





## **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.

### Planned expenditure for 2016/17 - **£550 million**

Following share transfer on 1 September 2014, the new PBO entered into a period of consolidation. This phase of the new contract involves the development of a new Performance Plan, which incorporates work to be completed by the SLC.

On the 1 April 2015 RSRL was re-licensed into Magnox Ltd to form a single SLC as part of the PBO organisational changes. Further changes including the programmisation of the organisation were completed by September 2015.

One feature of the new arrangements is that fee is paid out against output based milestones, giving the SLC the ability to flex the delivery of those milestones over the first seven years of the contract [Phase 1]. Key milestones, known as Authority Milestones, are required to be delivered by defined dates.

The NDA will monitor and assure performance over Phase 1, reporting on the delivery of the target cost contract and the milestones, noting that many milestone dates may flex through this phase to optimise delivery and value for money.

The NDA requires Magnox SLC to manage the remaining defuelling of the Magnox reactor fleet; progress the preparations to enter effective Care and Maintenance, the Interim Care and Maintenance phase, Interim End State and Final Site Clearance of the Magnox sites.

The key activities are maintaining safety and security at all times and managing the environmental impact of:

- defuelling in line with MOP9<sup>2</sup> (ref 5)
- take learning from Bradwell and Trawsfynydd with respect to entry into Care and Maintenance
- continuation of decommissioning and demolition of facilities throughout the Magnox sites in support of the NDA mission
- progress delivery of Winfrith site towards its agreed Interim End State
- the achievement of agreed regulatory standards for Interim End States with a passive management arrangement
- Intermediate Level Waste (ILW) retrievals, processing and passive storage
- nuclear material transfers.

### **2016 - 2017 Magnox Key Activities<sup>3</sup>**

<b>SD &amp;R</b>	Continuation of estate decommissioning and demolition activities.
<b>SF</b>	Management of MOP9 and co-ordination of Magnox fuel management activities with Sellafield and Dounreay.
	Progression of Wylfa defuelling.
<b>NM</b>	Delivery of the Magnox nuclear materials programme activities.
<b>IWM</b>	Delivery of the Magnox elements of the estate-wide low level waste management plan.
	Progression of activities to retrieve, process and package wastes.

<sup>2</sup> Magnox will defuel their remaining sites in line with MOP9. The use of upper and lower bound performance levels provides a realistic indication of the potential range of key dates and means MOP9 will remain valid, provided average reprocessing performance lies within the performance range.

<sup>3</sup> Current key activities will be subject to change to realign to the new Performance Plan, which is currently being developed through the consolidation period of the new contract.

<b>CE</b>	Implement the outcome of consolidation and establish as part of business as usual.
	Information Assurance Maturity Model - progression of delivery of enabling activities.
	Support Small & Medium Enterprise organisations by increasing overall spend with them to 24%.
	Support to NDA in property activities to reduce NDA decommissioning liability and achieve best value on asset disposal.
	Development of Interim Care and Maintenance and Interim End State approaches, utilising revised management arrangements.
<b>Reg.</b>	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and arrangements.
	NDA and Regulatory permissioning in support of the transfer of Nuclear Materials between sites.
	NDA and Regulatory permissioning in support of the Interim End State definition and arrangements for Winfrith.

### 2017 - 2019 Planned Key Activities<sup>3</sup>

<b>SD &amp; R</b>	Continuation of estate decommissioning and demolition activities.
	Make preparations for Bradwell to enter Care and Maintenance.
	Make preparations for Winfrith to enter its Interim End State.
<b>SF</b>	Management of MOP9 ( <i>ref 5</i> ) and co-ordination of Magnox fuel management activities with Sellafield and Dounreay.
	Continuation of Wylfa defuelling in line with MOP9.
<b>NM</b>	Continuation of the programme for the transfer of nuclear materials and contact-handled ILW.
<b>IWM</b>	Delivery of the Magnox elements of the estate-wide low level waste management plan.
<b>CE</b>	Enacting management arrangements for Care and Maintenance state.
	Support Small & Medium Enterprise organisations by continued support of the government Growth Agenda.
	Support to the NDA in property activities to reduce NDA decommissioning liability and achieve best value on asset disposal.
<b>Reg.</b>	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and arrangements.
	NDA and Regulatory permissioning in support of the transfer of Nuclear Materials between sites.
	NDA and Regulatory permissioning in support of the ILW Waste Programme.
	NDA and Regulatory permissioning in support of the Interim End State definition and arrangements for Winfrith.

<sup>3</sup> Current key activities will be subject to change to realign to the new Performance Plan, which is currently being developed through the consolidation period of the new contract.



## Berkeley



### Key Facts

**Location** - Gloucestershire

**Area** - 27 hectares

#### Status of land

*De-licensed:* 11 hectares of the site have been de-licensed

*De-designation:* Modification of Designating Direction signed by the Minister in January 2012

### Current Key Milestones

**2021-22** – Site enters Care and Maintenance<sup>2</sup>

**2070** – Final site clearance commences

**2079** – Final site clearance achieved

### 2016 - 2017 Key Activities

	Continuation of retrieval and packaging activities in the active waste vaults.
	Commencement of activities for shielded area waste retrieval.
	Commence encapsulation facility (Design and Build).
<b>Reg.</b>	NDA and Regulatory permissioning in support of the Berkeley ILW Management Programme.

### 2017 - 2019 Planned Key Activities

<b>SD &amp;R</b>	Decommissioning and demolition activities ongoing in preparation for entry into Care and Maintenance.
<b>IWM</b>	Continuation of ILW plant retrievals and packaging.
	Continuation of retrieval activities in the active waste vaults.
	Continuation of encapsulation facility (Design and Build).
<b>Reg.</b>	NDA and Regulatory permissioning in support of the Berkeley ILW Management Programme.
	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and arrangements.

<sup>2</sup> The consolidation process required under the new contract for Magnox continues across the sites. This includes the review and update of plans. The dates shown above represent the range between the current approved plans and the latest emerging information from this process.

## Bradwell



### Key Facts

**Location** - Essex

**Area** - 20 hectares

**Status of land** - all 20 hectares remain covered by the nuclear site licence

### Current Key Milestones

**2016-19** - Site enters Care and Maintenance<sup>1&2</sup>

**2083** - Final site clearance commences

**2092** - Final site clearance achieved

### 2016 - 2017 Key Activities

<b>SD &amp;R</b>	Decommissioning and demolition activities in preparation for entry into Care and Maintenance.
	Ponds complex and contaminated structures (vaults) completed for entry into Care and Maintenance.
<b>IWM</b>	Continue Fuel Element Debris (FED) dissolution.
	Continuation of ILW conditioning activities.
	Consign LLW FED to LLWR.
<b>Reg.</b>	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.

### 2017 - 2019 Planned Key Activities

<b>SD &amp;R</b>	Completion of final closures for Reactor buildings safestore.
	Site completes activities to enable entry into effective Care and Maintenance.
<b>IWM</b>	Completion of FED dissolution.
	All ILW passively stored.
<b>CE</b>	Interim State of lead site achieved.
	Completion of transition management arrangements for Care and Maintenance state.
<b>Reg.</b>	NDA and Regulatory permissioning to enter Care and Maintenance state.

<sup>1</sup> The 2016/17 date targeted for accelerated entry into C&M for Bradwell is not now possible; a new formal date is currently being developed with Magnox Limited.

<sup>2</sup> The consolidation process required under the new contract for Magnox continues across the sites. This includes the review and update of plans. The dates shown above represent the range between the current approved plans and the latest emerging information from this process.



**Chapelcross**



**Key Facts**

**Location** - Dumfries and Galloway

**Area** - 96 hectares

**Status of land** - all 96 hectares remain covered by the nuclear site licence

**Current Key Milestones**

**2028** - Site enters Care and Maintenance

**2085** - Final site clearance commences

**2095** - Final site clearance achieved

**2016 - 2017 Key Activities**

<b>SD &amp;R</b>	Decommissioning and demolition activities in preparation for entry into interim Care and Maintenance.
	In-pond equipment installed and operational.
<b>IWM</b>	Preparation for ILW retrievals.
<b>Reg.</b>	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.

**2017 - 2019 Planned Key Activities**

<b>SD &amp;R</b>	Progress ponds drained and stabilised.
	Continue hazard reduction activities towards Interim Care and Maintenance.
<b>IWM</b>	Commence interim site store construction.
	Commence ILW retrievals.
	Commence encapsulation facility Design and Build.
<b>Reg.</b>	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.

## Dungeness A



### Key Facts

**Location** - Kent

**Area** - 20 hectares

**Status of land** - all 20 hectares remain covered by the nuclear site licence

### Current Key Milestones

**2027** - Site enters Care and Maintenance

**2087** - Final site clearance commences

**2097** - Final site clearance achieved

### 2016 - 2017 Key Activities

<b>SD &amp;R</b>	Decommissioning and demolition activities in preparation for entry into Interim Care and Maintenance.
<b>IWM</b>	Commence conditioning facility build.
	Preparations for ILW retrievals.
<b>Reg.</b>	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.

### 2017 - 2019 Planned Key Activities

<b>SD &amp;R</b>	Continued hazard reduction activities towards interim Care and Maintenance.
	Ponds drained and stabilised.
<b>IWM</b>	Commence conditioning facility build.
	Continue preparations for ILW retrievals.
<b>Reg.</b>	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.

## Harwell



### Key Facts

**Location** - Oxfordshire

**Area** - 99 hectares

#### Status of land -

*De-licensed:* 22 hectares (54 acres) of the site have been de-licensed

*De-designation:* Modification to Designating Direction signed by the Minister in December 2012.

### Current Key Milestones

**2027** - Primary facilities decommissioning complete

**2027** - Reactor decommissioning complete

**2027-28** - Interim State achieved<sup>2</sup>

**2064** - Final site clearance achieved

### 2016 - 2017 Key Activities

<b>SD &amp;R</b>	Continuation of Liquid Effluent Treatment Plant (LETP) area environmental restoration.
	Decommissioning of redundant facilities.
	Continuation of decommissioning and demolition activities.
<b>NM</b>	Continuation of the programme for the transfer of nuclear materials and contact-handled ILW.
<b>IWM</b>	Recovery, processing and packaging of solid ILW.
	Preparations for ILW store.
<b>Reg.</b>	NDA and Regulatory permissioning in support of decommissioning and demolition activities.

### 2017 - 2019 Planned Key Activities

<b>SD &amp;R</b>	Continuation of estate decommissioning and demolition activities.
	Continuation of LETP area environmental restoration.
<b>NM</b>	Continuation of the programme for the transfer of nuclear materials and contact-handled ILW.
<b>IWM</b>	Recovery, processing and packaging of solid ILW.
	Construction of ILW store.
<b>Reg.</b>	NDA and Regulatory permissioning in support of decommissioning and demolition activities.

<sup>2</sup> The consolidation process required under the new contract for Magnox continues across the sites. This includes the review and update of plans. The dates shown above represent the range between the current approved plans and the latest emerging information from this process.

## Hinkley Point A



### Key Facts

**Location** - Somerset

**Area** - 19 hectares

**Status of land** - all 19 hectares remain covered by the nuclear site licence

### Current Key Milestones

**2025-27** - Site enters Care and Maintenance<sup>2</sup>

**2081** - Final site clearance commences

**2090** - Final site clearance achieved

### 2016 - 2017 Key Activities

<b>SD &amp;R</b>	Completion of diesel plume ground contamination remediation.
	Decommissioning and demolition activities in preparation for entry into Care and Maintenance.
<b>IWM</b>	Continuation of preparations for FED retrieval activities.
	Initiation of ILW skip management arrangements.
	Commence Wet Waste and Vessel consolidations.
<b>Reg.</b>	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.

### 2017 - 2019 Planned Key Activities

<b>IWM</b>	Interim Storage Facility inactive commissioning continues.
	Commencement of FED retrieval activities.
	Continuation of Wet Waste and Vessel consolidations.
	Commence conditioning facility build.
<b>Reg.</b>	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.

<sup>2</sup> The consolidation process required under the new contract for Magnox continues across the sites. This includes the review and update of plans. The dates shown above represent the range between the current approved plans and the latest emerging information from this process.



## Hunterston A



### Key Facts

**Location** - Ayrshire

**Area** - 15 hectares

**Status of land** - all 15 hectares remain covered by the nuclear site licence

### Current Key Milestones

**2022-23** – Site enters Care and Maintenance<sup>2</sup>

**2071** – Final site clearance commences

**2080** – Final site clearance achieved

### 2016 - 2017 Key Activities

SD &R	Completion of pond surface stabilisation.
	Decommissioning and demolition activities in preparation for entry into Care and Maintenance.
IWM	Completion of solid ILW encapsulation plant civil construction.
	Progressing of ILW retrievals, processing and storage activities.
Reg.	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.

### 2017 - 2019 Planned Key Activities

SD &R	Decommissioning and demolition activities in preparation for entry into Care and Maintenance.
IWM	Completion of solid ILW encapsulation plant.
	Continue ILW retrievals, processing and storage activities.
Reg.	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.

<sup>2</sup> The consolidation process required under the new contract for Magnox continues across the sites. This includes the review and update of plans. The dates shown above represent the range between the current approved plans and the latest emerging information from this process.

## Oldbury



### Key Facts

**Location** - South Gloucestershire

**Area** - 51 hectares

**Status of land** -

*De-licensed:* 39 hectares of the site has been de-licensed

*De-designation:* Modification of Designating Direction signed by the Minister in January 2012.

### Current Key Milestones

**2027** - Site enters Care and Maintenance

**2092** - Final site clearance commences

**2101** - Final site clearance achieved

### 2016 - 2017 Key Activities

<b>SD &amp;R</b>	Ongoing preparation for decommissioning and hazard reduction.
	Decommissioning and demolition activities in preparation for entry into Care and Maintenance.
	Commence ponds draining and stabilisation.
<b>IWM</b>	Commence ILW retrieval enabling works.
<b>Reg.</b>	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.
	Fuel free verification agreed with ONR.

### 2017 - 2019 Planned Key Activities

<b>SD &amp;R</b>	Continue preparations for decommissioning and hazard reduction.
	Decommissioning and demolition activities in preparation for entry into Care and Maintenance.
	Progress ponds draining and stabilisation.
<b>IWM</b>	Completion of ILW retrieval enabling works.
	Preparations for FED retrieval activities.
	Progression of activities supporting consolidated ILW storage.
<b>Reg.</b>	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.

## Sizewell A



### Key Facts

**Location** - Suffolk

**Area** - 14 hectares

**Status of land** - all 14 hectares remain covered by the nuclear site licence

### Current Key Milestones

**2027** - Site enters Care and Maintenance

**2088** - Final site clearance commences

**2097** - Final site clearance achieved

### 2016 - 2017 Key Activities

<b>SD &amp;R</b>	Decommissioning and demolition activities in preparation for entry into Care and Maintenance.
	Continuation of ponds decommissioning.
<b>IWM</b>	Commencement of FED retrievals.
	Commencement of ILW retrieval enabling works.
<b>Reg.</b>	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.

### 2017 - 2019 Planned Key Activities

<b>SD &amp;R</b>	Decommissioning and demolition activities in preparation for entry into Care and Maintenance.
	Continuation of ponds draining and stabilisation
<b>IWM</b>	Completion of FED retrievals.
	Completion of ILW retrieval enabling works.
	Progression of activities to support consolidation of ILW storage.
<b>Reg.</b>	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.

## Trawsfynydd



### Key Facts

**Location** - North Wales

**Area** - 15 hectares

**Status of land** - All 15 hectares remain covered by the nuclear site licence

### Current Key Milestones

**2017-22** – Completion of key hazard reduction activities<sup>3</sup>

**2027-28** – Site enters Care and Maintenance<sup>2</sup>

**2074** – Final site clearance commences

**2083** – Final site clearance achieved

### 2016 - 2017 Key Activities

<b>SD &amp; R</b>	Strategy agreed for ponds Interim End State entry.
	Decommissioning and demolition activities in preparation for entry into Care and Maintenance.
<b>IWM</b>	Continuation of FED encapsulation plant commissioning.
	Continuation of sludge and resin encapsulation.
<b>Reg.</b>	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.

### 2017 - 2019 Planned Key Activities

	Decommissioning and demolition activities in preparation for entry into Care and Maintenance.
<b>IWM</b>	Continuation of FED retrievals and encapsulation.
	Completion of sludge and resin encapsulation.
<b>CE</b>	Completion of transitional management arrangements for Care and Maintenance state.
<b>Reg.</b>	NDA and Regulatory permissioning to enter Care and Maintenance.

<sup>2</sup> The consolidation process required under the new contract for Magnox continues across the sites. This includes the review and update of plans. The dates shown above represent the range between the current approved plans and the latest emerging information from this process.

<sup>3</sup> Major hazard reduction is still ongoing in 2016/17 however due to potential re-phasing of work in the consolidation process; the site is no longer anticipating entering an interim Care and Maintenance state in 2017.

## Winfrith



### Key Facts

**Location** - Dorset

**Area** - 59 hectares

**Status of land** -

*De-licensed:* 44 hectares of the site have been de-licensed

*De-designation:* Modification of Designating Direction signed by the Minister in December 2012 and further de-designation in March 2014

### Current Key Milestones

**2022** - DRAGON reactor complex decommissioning complete

**2023** - Steam Generating Heavy Water Reactor (SGHWR) complex decommissioning complete

**2022-23** - Interim End State achieved<sup>2</sup>

## 2016 - 2017 Key Activities

<b>SD &amp;R</b>	DRAGON – continue reactor decommissioning.
	SGHWR – commencement of decommissioning contract.
	SGHWR – continue decommissioning of the primary containment areas.
	Continuation of decommissioning and demolition activities.
<b>Reg.</b>	NDA and Regulatory permissioning in support of decommissioning and demolition activities.
	NDA and Regulatory permissioning in support of the Interim End State Definition and arrangements for Winfrith.

## 2017 - 2019 Planned Key Activities

<b>SD &amp;R</b>	DRAGON – continue reactor decommissioning.
	SGHWR – development of the detailed design to remove the reactor core.
	SGHWR – completion of primary containment decommissioning activities.
	Cease off-site pipeline operations.
	Continuation of estate decommissioning and demolition activities.
<b>IWM</b>	Consolidation of packaged ILW in the Harwell store.
<b>Reg.</b>	NDA and Regulatory permissioning in support of decommissioning and demolition activities.
	NDA and Regulatory permissioning in support of the Interim End State Definition and arrangements for Winfrith.

<sup>2</sup> The consolidation process required under the new contract for Magnox continues across the sites. This includes the review and update of plans. The dates shown above represent the range between the current approved plans and the latest emerging information from this process.

## Wylfa



### Key Facts

**Location** - Wales

**Area** - 21 hectares

**Status of land** - All 21 hectares remain covered by the nuclear site licence

### Current Key Milestones

**2025-26** - Site enters Care and Maintenance<sup>2</sup>

**2096** - Final site clearance commences

**2105** - Final site clearance achieved

### 2016 - 2017 Key Activities

<b>SD &amp;R</b>	Decommissioning and demolition activities in preparation for entry into Care and Maintenance.
	Provision of support and assets to nuclear new build programme.
<b>IWM</b>	Progression of ILW retrievals and packaging.
<b>SF</b>	Defuelling activities in line with MOP9 ( <i>ref 5</i> ).
<b>Reg.</b>	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.

### 2017 - 2019 Planned Key Activities

<b>SD &amp;R</b>	Decommissioning and demolition activities in preparation for entry into Care and Maintenance.
	Provision of support and assets to nuclear new build programme.
<b>SF</b>	Continuation of Wylfa defuelling in line with MOP9 ( <i>ref 5</i> ).
<b>IWM</b>	Progression of ILW retrievals and packaging.
<b>Reg.</b>	Preparations for fuel free verification agreement with the ONR.
	NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.

<sup>2</sup> The consolidation process required under the new contract for Magnox continues across the sites. This includes the review and update of plans. The dates shown above represent the range between the current approved plans and the latest emerging information from this process.

## Dounreay Site Restoration Limited

### (Operated by PBO - Cavendish Dounreay Partnership Limited - Cavendish Nuclear, CH2M HILL & AECOM)

Dounreay Site Restoration Limited manages the decommissioning of the Dounreay site as well as the operation of the low level waste repository next to the site.

In March 2015, a revised Lifetime Plan for Dounreay was approved, incorporating scope 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 previously assigned and current annual site funding limits, while also delivering the additional scope, resulting in an extension by up to nine years to the date by which Dounreay will achieve its Interim End State. The activities below give the most current understanding of the updated plans.



Planned expenditure for 2016/17 - **£177 million**

#### Key Facts

**Location** - Caithness, Scotland

**Area** - 62 hectares (including 12 hectares designated for LLW facility)

**Status of land** - all 62 hectares remain covered by the nuclear site licence

#### Current Key Milestones

**2022** – decontamination of Dounreay Fast Reactor (DFR) structures suitable for demolition

**2023** – Shaft backfilled and capped

**2024** – Prototype Fast Reactor (PFR) liquid metal residues destroyed

**2026** - PFR Structures reduced to slab level

**2027** – Fuel Cycle Area structures demolished

**2030-2033** – Interim End State achieved

### 2016 - 2017 Key Activities

<b>IWM</b>	Dounreay Fast Reactor (DFR) raffinate immobilisation complete.
	Ammonium Diuranate (ADU) floc immobilisation complete.
	Silo headworks for waste removal operational.
	Solid waste treatment and packaging plant operational.
	Shaft headworks for waste removal operational.
	Prototype Fast Reactor (PFR) irradiated fuel material transferred to spent fuel store.
	Particles remediated to agreed end-point.
	Dounreay Materials Test Reactor (DMTR) building complex decontamination complete.
<b>CE</b>	Support Small & Medium Enterprise organisations by increasing overall spend with them to 24%.
<b>Reg.</b>	ONR approval of Safety Case for shaft retrieval operations.

### 2017 - 2019 Planned Key Activities

<b>SD &amp; R</b>	DMTR structures demolished.
<b>NM</b>	Complete removal of all fuels from DFR.
	Completion of first tranche of special nuclear material shipments.
<b>IWM</b>	Silo declassified and backfilled.
	PFR Raffinate immobilisation complete.
<b>CE</b>	Support Small & Medium Enterprise organisations through the government Growth Agenda.
	Information Assurance Maturity Model - continued delivery of improvement activities.
<b>Reg.</b>	Letters of consent received from disposal authority for all wastes in store at Interim End State.

**Low Level Waste Repository Limited  
(Operated by PBO - UK Nuclear Waste Management Limited)**

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 2016/17 - **£68 million**

**Key Facts**

**Location** - near Drigg, Cumbria

**Area** - 110 hectares

**Status of land** - all 110 hectares remain covered by the nuclear site licence

**Current Key Milestones**

**2080** - Final site closure achieved

<b>2016 - 2017 Key Activities</b>	
<b>SD &amp;R</b>	Ongoing site preparation for phased construction of the final cap for trenches 1 to 7 and Vault 8.
	Ongoing decommissioning of Plutonium Contaminated Material facilities.
<b>IWM</b>	Continue segregated waste, treatment and disposal services in line with UK LLW Strategy. Work with consigning SLC's to improve waste forecasts and inventory.
	Delivery of the National LLW Programme to optimise LLW Strategy implementation. Work with consigning SLC's to improve waste forecasts and inventory.
	Manage and operate LLWR safely to provide an effective UK disposal service.
	Support hazard reduction across the NDA estate.
	Consideration of options to further optimise operations at the LLWR.
<b>CE</b>	Continue to pursue overall cost savings in delivery of the Lifetime Plan.
	Continue to pursue positive SLC behaviours.
	Continue to support Small & Medium Enterprise organisations by pursuing increased use.
	Propose and implement medium-term organisation structure and accommodation strategy.
	Complete the upgrades to the perimeter fencing.
	Continue the implementation of an Information Governance system and supporting processes.



<b>2017 - 2019 Planned Key Activities</b>	
<b>SD &amp;R</b>	Ongoing site preparation for phased construction of the final cap for trenches 1 to 7 and Vault 8.
	Ongoing decommissioning of Plutonium Contaminated Material facilities.
<b>IWM</b>	Continue segregated waste, treatment and disposal services in line with UK LLW Strategy. Work with consigning SLC's to improve waste forecasts and inventory.
	Delivery of the National LLW Programme to optimise LLW Strategy implementation. Work with consigning SLC's to improve waste forecasts and inventory.
	Manage and operate LLWR safely to provide an effective UK disposal service.
	Support hazard reduction across the NDA estate.
	Consideration of options to further optimise operations at the LLWR.
<b>CE</b>	Continue to pursue overall cost savings in delivery of the Lifetime Plan.
	Continue to pursue positive SLC behaviours.
	Continue to pursue increasing use of SMEs.
	Propose and implement medium-term organisation structure and accommodation strategy.
	Continue the implementation of an Information Governance system and supporting processes.

### Springfields Fuels Limited (Owned by Westinghouse Electric)

Planned expenditure for 2016/17 - **£33 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 decommissioning and clean up services to NDA to address historic liabilities ongoing prior to the sale.

#### 2015 - 2016 Key Activities

<b>SD &amp;R</b>	Continue the post operational clean out and decommissioning of redundant buildings
<b>NM</b>	Processing of historic and offsite residues through various facilities to make ready for safe long-term storage whilst recovering any uranium for return to the nuclear fuel cycle.
	Continue the management and disposal of legacy wastes.

#### 2016 - 2018 Planned Key Activities

<b>SD &amp;R</b>	Continue the post operational clean out and decommissioning of redundant buildings
<b>NM</b>	Processing of historic and offsite residues through various facilities to make ready for safe long-term storage whilst recovering any uranium for return to the nuclear fuel cycle.
	Continue the safe management and disposal of legacy wastes.



## Capenhurst Nuclear Services (Owned by URENCO)

Planned expenditure for 2016/17 - **£49 million**

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

In November 2012 the site was transferred to URENCO, owners of the adjacent licensed site with amalgamation into a single nuclear licence. Existing activities undertaken by Sellafield Limited have now been assigned to URENCO.

An agreement has been signed for processing of NDA owned legacy materials.

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

It is anticipated that this agreement will reduce NDA's net liabilities for managing and clearing the site while also paving the way for URENCO to invest in new facilities as required in order to meet future customer demand.

### 2016 - 2017 Key Activities

<b>SD &amp;R</b>	Continue the decommissioning of redundant areas
	Continue land remediation projects such as East Side Curtilage.
<b>NM</b>	Continue reference design phase for the Legacy Cylinder Facility
	Commencement of the Enabling Works for the Legacy Cylinder Facility.
	Completion of required upgrades to the storage facilities
	Continue the safe storage of uranic material including Magnox Depleted Uranium (MDU) and legacy Uranium Hexafluoride cylinders
	Continue the safe management and disposal of legacy wastes and residues

### 2017 - 2019 Planned Key Activities

<b>SD &amp;R</b>	Continue the decommissioning of redundant areas.
	Continue land remediation projects.
<b>NM</b>	Enter detailed design phase of the Legacy Cylinder Facility.
	Continue Enabling Works for the Legacy Cylinder Facility.
	Continue the safe storage of uranic material including MDU and legacy Uranium Hexafluoride cylinders.
	Continue the safe management and disposal of legacy wastes and residues.

# Non site summaries

Alongside our site the NDA and its subsidiaries also have a range of enabling activities and programmes which are reported on below.

## **Nuclear Decommissioning Authority**

The Energy Act 2004 (*ref 6*) transferred the assets and liabilities of all the sites included in this Business Plan to the NDA. The NDA has six offices located across the UK with its headquarters in Cumbria.

The NDA acts as a strategic authority with delivery of the NDA's mission coming primarily through the SLCs. The NDA has five core processes which it runs.

**Strategy** - Our strategy is reviewed every five 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.

**Planning** - 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. The planning process helps us to make estate-wide decisions over the short and long-term and ensures we are prepared for government spending reviews. The Business Plan is a publicly accessible version of our detailed plans and highlights key activities across the estate.

**Contracting** - The contracting process enables us to run competitions and put in place contractual arrangements for the management and operation of SLCs using contracts with both the SLCs and the PBOs. Our contracts provide a framework for setting out our requirements and expectations and are designed to deliver our desired outcomes, to enable effective performance management and to provide appropriate reward to our contractors.

**Performance Management** - We manage the performance of the SLCs through the relevant contract mechanisms. We do this by analysing performance and programme/project plans, as well as proposals for managing deviations from the plans. We ensure that the SLCs comply with their contracts and deliver the required outcomes. Using the appropriate contractual mechanisms, incentives and governance frameworks, we rigorously verify claims ensuring that there is robust professional challenge and dialogue as appropriate. We report performance of the SLCs to the government and stakeholders.

**Delivery Assurance** - The assurance of delivery is carried out to ensure the SLCs, 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.

<b>2016 - 2017 Key Activities</b>	
<b>SD &amp;R</b>	Continue working with regulators and government to determine institutional controls appropriate to restoration of nuclear sites.
<b>NM</b>	Deliver the agreed programme of activities relating to the management of separated plutonium in the UK in support of Government policy development.
<b>CE</b>	Magnox Limited - report progress against the targets and milestones selected for tracking against the target cost contract.
	Ongoing performance tracking of the Sellafield Performance Plan 2014.
	Ongoing tracking of delivery against the Sellafield capability improvements programme, the Excellence Plan.
	Ensure the outputs of NDA estate research and development projects are shared through the Nuclear Waste Research Forum.
	Implementation of our strategic people delivery plan to enable resource planning, skills development and flexibility and mobility across the estate.
	Provide support to government on nuclear new build decommissioning planning.
	Deliver the Share transfer for Sellafield Limited.
	Implement the new management model at Sellafield.
Ensure the Spending Review outcome is appropriately applied to estate-wide plans going forward.	

<b>2017 - 2019 Planned Key Activities</b>	
<b>SD &amp;R</b>	Continue working with regulators and government to determine institutional controls appropriate to restoration of nuclear sites.
<b>NM</b>	Deliver the agreed programme of activities relating to the management of separated plutonium in the UK in support of government policy development.
<b>IWM</b>	Publish the Radioactive Waste Strategy.
<b>CE</b>	Magnox Limited - report progress against the targets and milestones selected for tracking against the target cost contract.
	Ongoing performance tracking of the Sellafield Performance Plan 2014.
	Ongoing tracking of delivery against the Sellafield capability improvements programme, the Excellence Plan.
	Ensure the outputs of NDA estate research and development projects are shared through the Nuclear Waste Research Forum.
	NDA Archives operational, with a 'Place of Deposit' status.
	Implementation of our strategic people delivery plan to enable resource planning, skills development and flexibility and mobility across the estate.
	Provide support to government on nuclear new build decommissioning planning.

# NDA subsidiaries

The NDA has a number of subsidiary companies that manage a range of business interests. The following section describes the planned activities for our key operating subsidiaries over the next three years.

## Direct Rail Services Limited

Direct Rail Services (DRS) Limited was established in 1995 to provide a rail service for the transportation of nuclear material. As part of a broader portfolio including commercial freight, the key focus for DRS over the next three years is to grow profitably in all strategically identified markets with particular focus on supplying safe, secure and reliable services to the nuclear transport market.

### 2016 - 2019 Planned Key Activities

- continue to support all NDA facing activities in order to remain the supplier of choice in the nuclear industry and secure DRS' position as leader in the nuclear rail transport market.
- delivery of rail transport element of Dounreay and nuclear material programmes.
- delivery of rail transport element of spent fuel discharge programmes.
- delivery of rail transport element of Harwell transport programmes.
- delivery of disposal programme for redundant flat nuclear airbed (FNA) wagons.
- develop business opportunities in accordance with the agreed DRS Board strategy.
- delivery and deployment of Class 88 locomotives in support of the agreed DRS Board strategy.

## 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 its own 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.

### 2016 - 2019 Planned Key Activities

- continue the management of contracts with international customers for spent fuel business.
- manage uranium and plutonium services for international spent fuel business.
- international transport of nuclear materials including Spent Fuel, Mixed Oxide (MOX) fuel, vitrified High Level Waste (HLW) and conditioned Intermediate Level Waste (ILW) under the US Governments Material Management and Minimisation (M3) initiative.
- support the NDA in the development and implementation of transport solutions to enable the UK decommissioning programme.
- INS continues its strategy for developing and growing 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 Limited has been established as a wholly owned subsidiary of the NDA and will oversee the management of a Commercial Partner who will operate a purpose-built archive facility in Wick, Caithness. The principle role of this facility is to consolidate and appropriately store the large volumes of information currently retained by the NDA, its subsidiaries and SLCs and that needs to be retained for the long-term.

Over the next three years the archive facility will move from being conceptual to operational (receiving records) and then open to the public and all stakeholders. The information we will manage has the potential to remain valuable for centuries to come (Geological Disposal Facility, Low-Level Waste Repositories and waste records) and the archive will allow this information to be preserved, made available (where appropriate) and re-used effectively.

### **2016 - 2019 Planned Key Activities**

- completion of the build programme and hand-over to NDA Archives Ltd
- commence receipt of records at the facility
- achieve The National Archives (TNA) Place of Deposit status
- achieve TNA Archive Accreditation status

## **NDA Properties Limited**

NDA Properties Limited primarily acts as a property management and development company for non-operational properties outside the nuclear licensed site boundaries, in accordance with the NDA's Land and Property Management Strategy. Over the next three years, NDA Properties Limited will continue to optimise the use of, or dispose of, these assets for the benefit of the NDA.

### **2016 - 2019 Planned Key Activities**

- effective management of the property within the company portfolio, meeting landlord obligations and generating an operating profit before revaluation adjustments
- complete construction of the NDA Nuclear Archive building in Caithness.
- implement building strategy for Hinton House critical plant and machinery assets in order to extend the life of the building.
- lead all property development off nuclear licenced sites in support of NDA estate requirements, including development of office accommodation in support of SLCs.
- act as developer for Civil Nuclear Constabulary (CNC) Training Facility in West Cumbria.
- continue the programme of disposal of property assets surplus to the requirements of the NDA mission.

## Radioactive Waste Management Limited

Government has made the NDA the implementing organisation for geological disposal of Higher Activity Waste; this includes both planning and delivery. On 1 April 2014 NDA converted the Radioactive Waste Management Directorate into a wholly owned subsidiary, Radioactive Waste Management Limited. The subsidiary is running the geological disposal programme, alongside the government's geological disposal siting process. It is also being developed into a competent delivery organisation which, as a separate legal entity, will be able to apply for and hold regulatory permissions in due course. We will continue to work with the UK government to deliver the commitments in the 2014 White Paper "Implementing Geological Disposal – A framework for the long-term management of higher activity radioactive waste", working with interested communities and other stakeholders.

This approach does not apply in Scotland. The Scottish government has published 'Scotland's Higher Activity Radioactive Waste Policy 2011'. 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"<sup>4</sup>.

Radioactive Waste Management's mission is to deliver geological disposal and provide radioactive waste management solutions and has the following objectives:

- engage with national and local governments and communities to identify a geological disposal facility site
- develop the specification, design, safety case and environmental and sustainability assessments for the disposal system and obtain regulatory support
- in conjunction with waste producers, identify and deliver solutions to optimise the management of Higher Activity Waste
- develop and maintain an effective organisation and secure resources to deliver the geological disposal facility programme
- obtain and maintain stakeholder support for our activities
- deliver a focused technical programme to support geological disposal and optimised packaging solutions
- deliver sustainable, innovative and cost effective solutions that have public support and are in the best interest of the UK.

### 2016 - 2019 Planned Key Activities

- implement government policy on geological disposal of Higher Activity Waste.
- deliver a robust technical programme to address knowledge gaps arising from our design and safety assessment work, participating in appropriate European and international projects.
- 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.

## Rutherford Indemnity Limited

Rutherford Indemnity Limited is registered in Guernsey and is regulated by the Guernsey Financial Services Commission. Rutherford 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.

### 2016 - 2019 Planned Key Activities

- provide optimal insurance services to the NDA to support its estate-wide insurance programme and continue to exploit opportunities where Rutherford can help reduce overall cost of insurance.
- work closely with the estate to develop appropriate insurance solutions in response to emerging demands for new or additional policy cover.
- support the NDA in relation to the new insurance requirements which will result from implementation of changes to the Paris and Brussels Conventions on nuclear third party liability.
- deliver target return on the investment portfolio, protecting Rutherford's ability to offer insurance on a cost effective basis.

<sup>4</sup>The NDA continues to support the development of Scottish Government's Strategy for its Higher Activity Waste Policy. The Lifetime Plans of NDA sites based in Scotland will be in full alignment with this policy by the time this plan comes into effect.



# Glossary

ADU	Ammonium Diuranate		
AGR	Advanced Gas Reactor		
BEPPS	Box Encapsulation Plant Product Store		
C&M	Care and Maintenance		
CE	Critical Enablers (Strategic theme)		
CNC	Civil Nuclear Constabulary		
DECC	Department of Energy & Climate Change		
DFR	Dounreay Fast Reactor		
DIF	Direct Import Facility		
DMTR	Dounreay Material Test Reactor		
DRS	Direct Rail Services		
EA	Environment Agency		
EDF	Electricité de France		
FED	Fuel Element Debris		
FNA	Flat Nuclear Airbed		
HAL	Highly Active Liquor		
ILW	Intermediate Level Waste		
IS	Interim State		
IWM	Integrated Waste Management		
LLWR	Low Level Waste Repository		
LP&S	Legacy Ponds & Silos		
MODP	Magnox Optimised Decommissioning Programme		
MOP9	Magnox Operating Programme		
NDA	Nuclear Decommissioning Authority		
NM	Nuclear Materials		
NNA	NDA Nuclear Archive		
ONR	Office for Nuclear Regulation		
PBO	Parent Body Organisation		
PFR	Prototype Fast Reactor		
R&D	Research & Development		
SD&R	Site Decommissioning & Remediation		
SEP	Silo Emptying Plant		
SF	Spent Fuels		
SGHWR	Steam Generating Heavy Water Reactor		
SLC	Site Licence Company		
SME	Small and Medium Enterprises		
SR15	Spending Review 2015		
THORP	Thermal Oxide Reprocessing Plant		
TNA	The National Archives		
WEP	Waste Encapsulation Plant		

# References

1. **Freedom of Information Act 2000**
2. **Data Protection Act (1998)**
3. **Environmental Information Regulations (2004)**
4. **Magnox Optimised Decommissioning Programme (2010)**
5. **Magnox Operating Programme 9**
6. **Energy Act (2004)**

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