Nuclear
Decommissioning
Authority

Business Plan

1 April 2017 to 31 March 2020

March 2017

Nuclear Decommissioning Authority

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1 April 2017 to 31 March 2020

Business Plan presented to Parliament pursuant to Schedule 3 of the Energy Act 2004.

Business Plan laid before Scottish Parliament by the Scottish ministers pursuant to Schedule 3 of the Energy Act 2004.

March 2017

SG/2017/24

Any enquiries related to this publication should be sent to us at:

Business Planning
Herdus House
Westlakes Science & Technology Park
Moor Row
Cumbria
CA24 3HU

This publication is available at https://www.gov.uk/government/publications

Print ISBN 9781474141833
Web ISBN 9781474141840

ID P002867638 03/17

Printed on paper containing 75% recycled fibre content minimum

Printed in the UK by the Williams Lea Group on behalf of the Controller of Her Majesty's Stationery Office

Contents

Bulk fuel stocks removed from the First Generation Magnox Storage Pond for the first time, the culmination of over a decade of work.

The entire bulk stocks of fuel have now been removed from the Pile Fuel Storage Pond at Sellafield, which means radioactivity has been cut by 70%.

Foreword

David Peattie
Chief Executive

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.

It is a great honour to write what I hope will be the first of many business plan introductions for the NDA. It has only been a few weeks since I took up the position of Chief Executive but I have already been struck by how much progress is being made, the innovation demonstrated, and the dedication of the estate's workforce.

I would like to take this opportunity to set out my thanks to Stephen Henwood and John Clarke, who have been central to the real progress we have made on our mission to clean up and decommission 17 of the UK's earliest nuclear sites.

Stephen Henwood stepped down in February this year after nine years as Chairman, whilst John Clarke retired after also spending nine years with the business, the last five as Chief Executive. Both Stephen and John worked tirelessly to drive forward the organisation during their tenures. I wish them both well.

Tom Smith took up his post as Chairman in March having been a Board member since 2013. He has a strong track record in delivering infrastructure projects and complex commercial contracts between the public and private sectors, and the NDA will greatly benefit from his knowledge, experience and guidance.

Every year we publish our business plan, setting out the next three years of key activity that contribute towards delivering the NDA's mission of decommissioning the UK's nuclear legacy. This includes work on the nation's first nuclear power stations, various research and fuel facilities, and Sellafield, our largest and most complex nuclear site.

Our fundamental mission is clear and we must complete it safely, securely and cost-effectively with the protection of the environment at the forefront of our minds. As Europe's largest remediation programme, it is complex and likely to endure for decades.

In the last ten years, a detailed understanding of the UK's nuclear legacy has been developed and a national decommissioning strategy is now being successfully delivered by our Site Licence Companies (SLCs) in collaboration with a thriving supply chain.

We are seeing contaminated waste being retrieved from the highest hazard facilities for the first time ever at Sellafield, whilst at some of our other sites, defueling – the removal of all nuclear fuel – will soon be completed.

It's also important not to forget the great strides that have been made in dealing with Low Level Waste (LLW) generated by the nuclear industry. In 2010 we published a national strategy for dealing with this type of waste. This has led to innovative, more sustainable ways of dealing with LLW, including re-use, metal recycling, disposal to specially licensed landfill sites and combustion.

This year's Plan will cover work out to 2020, and includes some major milestones on the near term horizon. For example, after many decades, all nuclear fuel reprocessing at Sellafield will draw to an end by 2020.

Whilst it's clear we are making good progress, it would be wrong of me to shy away from mentioning some of the pressing issues that we have addressed. We recently announced our intention to terminate the contract, by mutual agreement, with Cavendish Fluor Partnership (CFP) to manage decommissioning work at our Magnox nuclear sites across the UK. This is because the scope of the work covered in the contract is materially different from that which now needs to be delivered at the sites. This material variation could have left us open to risk of legal challenge.

We have also concluded legal proceedings relating to claims over the placing of this contract, agreeing commercial settlements with EnergySolutions for £76.5m plus £8.5m in costs and Bechtel for $14.8m plus costs of £462,000, totalling £12.5m. These are substantial amounts but settling is the best outcome to prevent costs escalating for the public purse.

There will be a government inquiry into what went wrong with this procurement. The NDA will co-operate fully to understand what happened and we will implement its recommendations fully, adapting this Business Plan to account for them if necessary.

During the 2016/17 financial year we have also been working with our workforce representatives to explore ways in which the Government's policy on pension reform can be implemented across the NDA's estate. We are pleased to have been able to develop a revised proposal with the recognised Trade Unions for affected employees to consider before any Government decision is made.

So another busy year for the NDA and our colleagues throughout the estate. I am looking forward to my first year of leading this mission of national importance and reporting on our progress.

The 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.

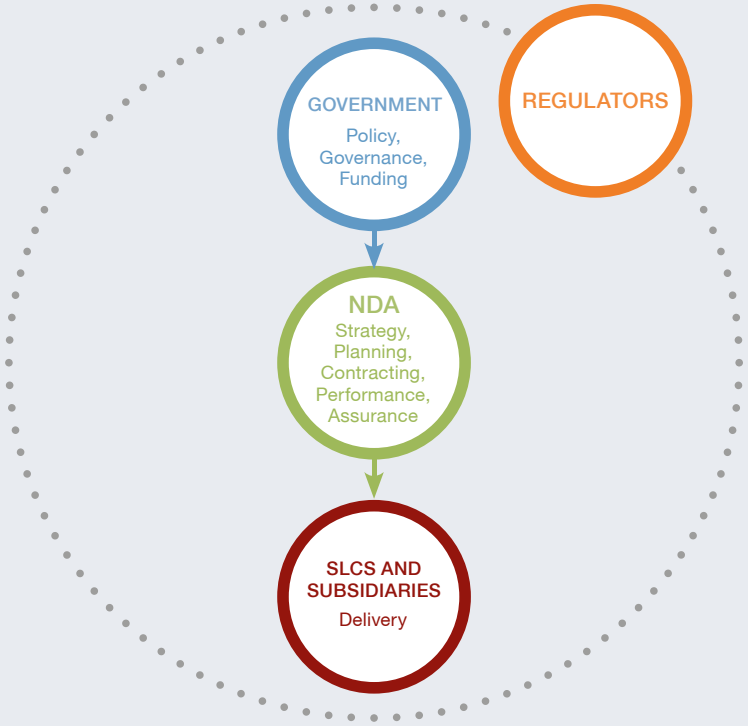
How the estate operates

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 Site Licence Companies (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. The NDA also has a portfolio of subsidiaries, which operate a range of specialised services which we need to do our work.



Site Licence Companies

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

16,000
employees across the estate

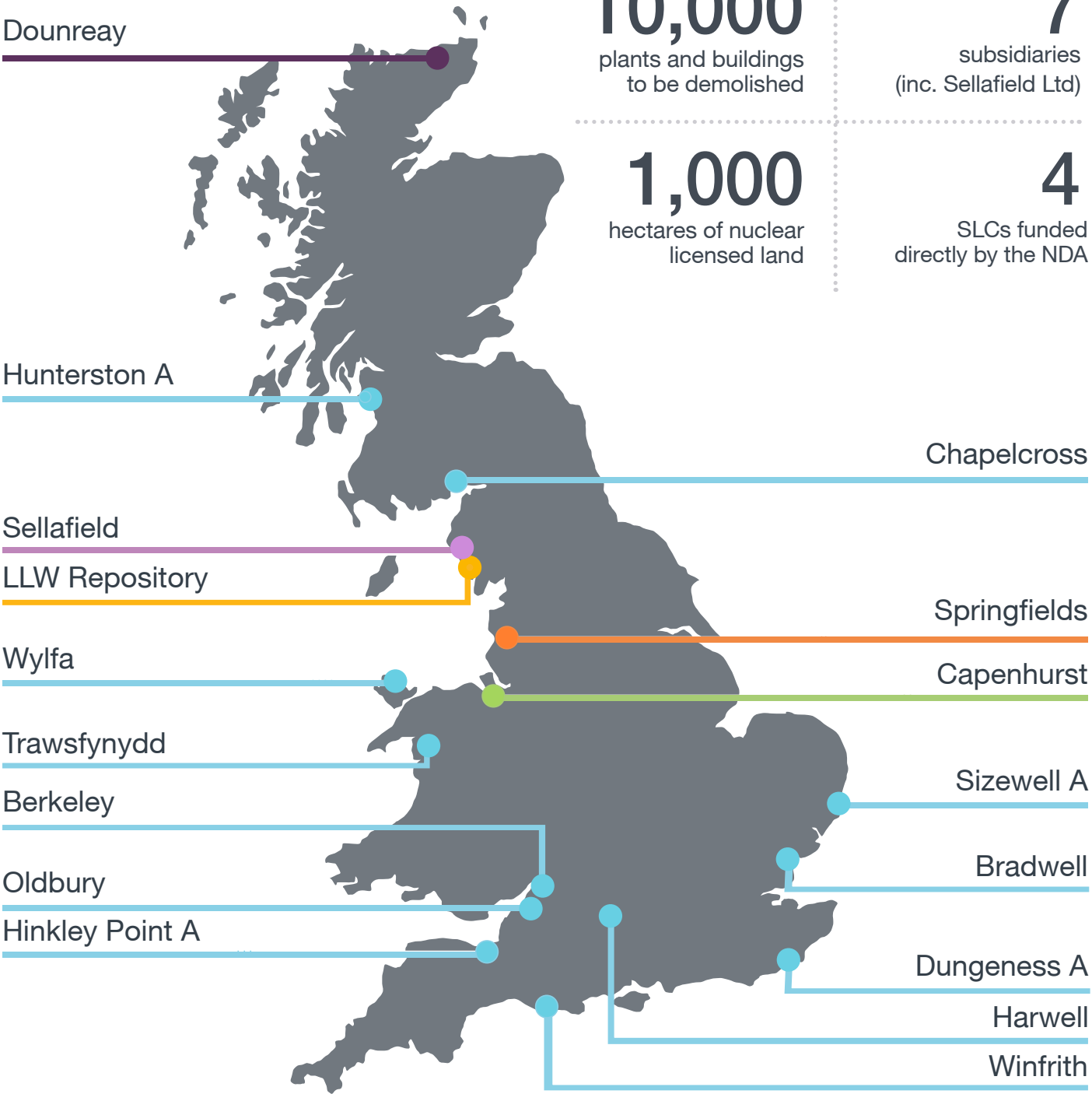
17
sites dating from post-war decades

10,000
plants and buildings to be demolished

7
subsidiaries (inc. Sellafield Ltd)

1,000
hectares of nuclear licensed land

4
SLCs funded directly by the NDA



What we do

Strategy

ensure the right options are considered and chosen in line with government policy

We review, update and consult on our strategy every 5 years. The third edition of the NDA Strategy was published in April 2016. It outlines the long-term objectives that will guide the NDA through to the completion of its mission.

We group 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.

Plans

ensure the right plans are in place for the long-term

We publish a Business Plan annually looking at the key activities for the NDA and the estate over the next 3 years. The Business Plan also outlines expected revenue and expenditure for the coming financial year.

Following this we publish our Annual Report and Accounts which gives a summary of the financial and corporate performance across the previous financial year.

For more information on SLC key activities and plans you can visit the following websites:

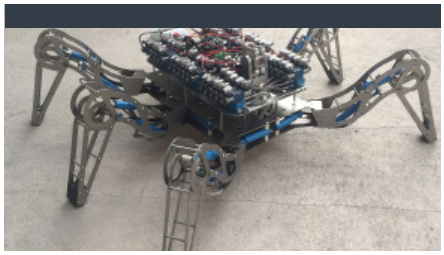
www.sellafieldsites.com
www.magnoxsites.com
www.llwrsite.com
www.dounreay.com

Performance Management

ensure the right contract models incentivise the safest and most cost-effective clean-up

We have reshaped the industry and reorganised the estate in order to put in place a series of contracts and management arrangements that will deliver our desired outcomes and provide a framework for effective performance management.

The NDA acts to assure that work is performed in a Value for Money manner and in accordance with government expectations and continued engagement with key stakeholders.



Research and Development

ensure the right technology is developed

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.

Socio-economics

ensure local communities are supported socially and economically during and after the clean-up mission

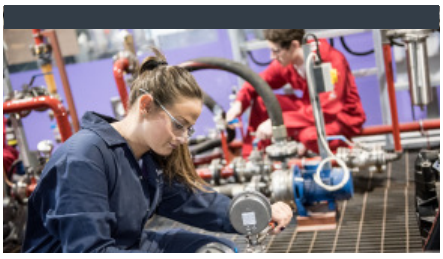
The NDA's socio-economic mission is to 'support the maintenance of sustainable communities' and our objectives are to:

- 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.

Health, Safety, Security, Environment

ensure safe, secure, sustainable and publicly acceptable hazard and risk reduction on the sites we own

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.



Skills

ensure the right skills and resources are available

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.

Top left - Latro the robotic spider developed by the University of Manchester and Forth Engineering. It can retrieve, characterise and cut up materials, minimising worker dose while speeding up decommissioning and reducing costs.

Top middle - Stakeholders meeting at one our our events to discuss NDA socio-economic strategy.

Top right - A Dounreay worker carrying out decommissioning activities.

Bottom right - Eleanor Tunn, working for Dounreay as an instrument technician apprentice at the Engineering Technology and Energy Centre (ETEC), North Highlands College, Caithness.

A look ahead to 2020

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

THORP reprocessing schedule to end 2018

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

The scheduled closure of THORP in 2018 avoids 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 two 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 due to finish 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.

Earlier start for retrievals from the Pile Fuel Cladding Silo by 2020

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 two 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 contract decision by 2018

The NDA will conclude its consideration of options for ongoing management of the UK's only national disposal facility for solid Low Level Waste.

The present contract with UK Nuclear Waste Management reaches the end of its second term in 2018 and the NDA will consider the let of a third term under the existing contract during 2017.

NDA Estate – 20 year Priority Programmes Overview

- 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.

Business Plan

PROGRAMMES	SITE(S) SUBSIDs	11/12	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 Programme (Sellafield)	Sellafield		Delivering the Transformation Programme																								
Oxide Fuels - Reprocessing	Sellafield	THORP reprocessing							Repro Complete		POCO																
Metal Fuels (Magnox Operating Programme (MOP))	Sellafield, Magnox and Dounreay	DEFUELING: Dungeness A; Chapelcross; Sizewell; Oldbury; Wylfa; Calder Hall; Magnox reprocessing							Defueling complete	Defueling complete	Repro complete; Post Operational Clean Out (POCO)*																
High Level Waste Management (Inc HAL)	Sellafield	Evaporator D commissioning; Vitrification of Highly Active Liquor (HAL); Reduction of HAL stocks											Bulk HAL vitrified; POCO														
Magnox Decommissioning Programme	Magnox	SITES INTO C&M: Berkeley Vaults project; Bradwell								C&M			Berkeley; Winfrith	Hunterston		Wylfa; Dungeness; Sizewell; Oldbury; Chapelcross	Hinkley	Trawsfynydd, Harwell									
Pile Fuel Storage Pond	Sellafield	Retrievals in preparation for de-watering									Retrievals during de-watering; Bulk sludge retrieved; Pond emptied																
Pile Fuel Cladding Silo	Sellafield	Preparation; Design and Construction of BEPPS/ DIF; First retrievals									Retrievals; Start Bulk retrievals; Bulk retrievals complete																
Dounreay Decommissioning Programme (incl Exotics)	Dounreay	Decommissioning under target cost contract									Dounreay Fast reactor dismantled; All exotics offsite; 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; Box Encapsulation Plant – Construction; Silo Maintenance Facility – Construction; Preparation									First retrievals; SEP 3; Start Bulk retrievals																
Oxide Fuels - Receipts	Sellafield	AGR fuel receipts from EDF Energy									Bulk Retrievals to 2050																
Higher Activity Wastes (Inc RWM)	All SLCs	Preparations; Community engagement,									Borehole investigations; Planned last EDF fuel receipts																
Low Level Waste (LLW)	All SLCs	Launch of siting process; Deliver the Joint Low Level Waste Management Plan; contract awarded									site evaluations and characterisation, and technical development; Construction; First waste emplaced 2040; Sites identified for investigation; Commence Construction; *Lifetime plan to 2080															

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 2017/2018

This Business Plan sets out our anticipated income and expenditure for 2017/2018 as agreed with HM Treasury and BEIS.

Our total planned expenditure for 2017/2018 is £3.24 billion, of which £2.36 billion will be funded by UK Government and £0.88 billion by income from commercial operations. Planned expenditure on site programmes will be £3.06 billion, while non-site expenditure is expected to be £0.18 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 20.

Planned income and expenditure summary 2017/18

£M SLC/Subsidiaries/Sites	Decom & Clean-up Costs (A)	Total Operations Costs		2017/18 Plan Total (A+B+C)	2016/17 Plan Total
		Running Cost (B)	Capex (C)		
Sellafield Ltd (including gas costs for steam generation)	1,128	643	230	**2,000**	*2,000*
Trading and Gas Costs (Sellafield steam services)	24			**24**	*19*
Magnox Ltd	572			**572**	*550*
Dounreay Site Restoration Ltd	189			**189**	*177*
LLWR Ltd	75			**75**	*68*
Springfields Fuels Ltd	34			**34**	*33*
Capenhurst	61			**61**	*49*
Nuclear Transport and Contract Management		106		**106**	*100*
Non-Site Expenditure	177			**177**	*202*
TOTAL	**2,261**	**748**	**230**	**3,239**	**3,199**
Income				**879**	**949**
Net				**2,360**	**2,250**

Notes:
1. Numbers may not cast due to rounding
2. Final Annual Site Funding Limits issued in March 2017 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 (17/18 onwards)

Summary of NDA funding	2017/18 £M	2018/19 £M	2019/20 £M
Income	**879**	**913**	**1,109**
Government Funding	**2,360**	**2,267**	**1,988**
Expenditure	**(3,239)**	**(3,180)**	**(3,097)**
Balance	**0**	**0**	**0**

Our funding

2017/18 breakdown of non-site expenditure

Non-site expenditure	2017/18 Plan £M	2016/17 Plan £M
NDA Operating Costs	41	40
Radioactive Waste Management Limited	26	24
Socio Economic, Skills, R&D, Knowledge Management, Other	31	32
Estate Insurance	16	15
NDA Properties, Policy Support, NDA Asset decommissioning	20	30
Contractor Fees	43	60
Total	**177**	**202**

2017/18 breakdown of planned income by category

Income source	2017/18 Plan £M	2016/17 Plan £M
Reprocessing and Fuel Management Services	770	778
Electricity Generation	9	9
NDA - INS Transport	63	118
Intra Site Services	37	44
Total	**879**	**949**

Site summaries

At Dounreay, one of the estate's highest hazards has been made safe. 232m^3 of highly active liquid waste has been contained in 875 drums.

Sellafield

Sellafield Ltd

Sellafield Limited is the SLC responsible for the operation of the Sellafield site in Cumbria. On the 1 April 2016 Sellafield Limited became a wholly owned subsidiary of the NDA.

Planned expenditure for 2017/18 - £2,000 million

276 hectare site in Cumbria.
All 276 hectares remain covered by the nuclear site licence.

Current key milestones
2017 - Begin the demolition of the First Generation Reprocessing Plant stack
2018 - Completion of THORP reprocessing
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	2017/18	2018/20
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 • Remove sludge from a set of wet bays. • Continue consolidation of sludge within the pond. • Continue with consolidation and export of contaminated metals and recovery of residual fuel for treatment and storage.		
Pile Fuel Storage Pond • Begin sustained sludge exports. • Ready to start dewatering.		
Pile Fuel Cladding Silo • Continue development of the capability to retrieve waste.		
Pile Fuel Cladding Silo • Complete design and construction of capability to retrieve waste. • Completion of Inactive Safety commissioning of Box Encapsulation Plant and Product Store (BEPPS)/Direct Import facility (DIF).		
First Generation Magnox Storage Pond • Continue export of contaminated metal wastes from wet bays. • Continue export of material from pond to the Fuel Handling Plant. • Continue export of sludge from pond to Sludge Packaging Plant 1 buffer.		
First Generation Magnox Storage Pond • Bulk sludge removal begins from D Bay. • Continue to export fuel and sludge from the pond.		

Key Activities	2017/18	2018/20
Magnox Swarf Storage Silo • 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. • Complete build of Silos Emptying Machine 1.		
Magnox Swarf Storage Silo • 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. • Begin active commissioning of SEP2. • Silos Maintenance Facility complete. • First export of waste. • Progress the bulk manufacture of $3m^3$ boxes.		
Decommissioning • Continue the decommissioning and demolition of Windscale Pile Chimney Number 1. • Begin the demolition of First Generation Reprocessing Plant stack.		
Decommissioning • Continue the decommissioning and demolition of Windscale Pile Chimney Number 1. • Continue the demolition of First Generation Reprocessing Plant stack. • Complete the removal of remaining gloveboxes and crated furnace from Finishing Line 3.		
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.		
Continue to reprocess Magnox spent fuel in line with MOP9.		
Continue to receive and manage AGR spent fuel from EDF Energy.		
Reprocess oxide spent fuel through THORP from EDF Energy and overseas customers.		◆
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		
Continue the safe and secure storage of plutonium in line with UK policy.		
Continue to receive and securely store special nuclear materials from Dounreay.		
Ensure safe, secure management of our uranics inventory.		
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.		
Continue the programme to repatriate overseas owned vitrified waste to its country of origin.		
Start use of the new Evaporator D for HAL stock management.		
Continue to generate savings and preserve capacity at the LLW Repository by diversion of materials into the supply chain.		
Continue the programmes to receive and treat waste materials from Harwell and AWE Aldermaston.		

KEY

- Site Decommissioning and Remediation
- Spent Fuels
- Nuclear Materials
- Integrated Waste Management
- Critical Enablers
- Regulatory Matters
- ◆ Major milestones

Key Activities	2017/18	2018/20
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.		
Continue with improvements to the site steam, electricity and water infrastructure and Analytical Services.		
Continue the Sellafield Limited transformation to support future business requirements.		
Progress the transformation of Major Project delivery on site.		
Support Small and Medium Enterprise organisations by targeting overall spend with them in line with the government Growth Agenda.		
Continuation of information assurance activities and supporting processes.		
Complete Fellside Boiler Park to ensure reliable steam supplies to Sellafield site.		
Prepare the business to move out of reprocessing.		
Deliver capability development and organisation modernisation at Sellafield Ltd.		
Implement and embed the long-term partnership with the supply chain in Major Projects.		
Work collaboratively with NuGen to manage issues and opportunities arising from the neighbouring Moorside site.		
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.		
Reduce environmental risk (including retrieval and treatment of legacy wastes, reduction of HAL stocks).		
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.		

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 2017/18 - £572 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 target cost contract and the milestones, noting that many milestone dates may flex through this phase to optimise delivery and value for money.
Key milestones, known as Authority Milestones, are required to be delivered by defined dates.

The NDA requires Magnox SLC to manage the remaining 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.

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

- defueling
- use a programmised approach to deliver the sites into Care and Maintenance; this groups similar activities together which maximises cost and schedule efficiencies
- continuation of decommissioning and demolition of facilities throughout the Magnox sites in support of the NDA mission
- progress delivery of Winfrith towards its agreed Interim End State
- the achievement of agreed regulatory standards for Interim States with a passive management arrangement
- Integrated Waste Management including retrievals, processing and passive storage
- nuclear material transfers.

Key Activities	2017/18	2018/20
Continuation of estate decommissioning and demolition activities working towards Interim States.		
Bradwell to achieve its Interim State.		
Continue preparations for Winfrith to enter its Interim State.		
Management of MOP9 and co-ordination of Magnox fuel management activities with Sellafield and Dounreay.		
Completion of Magnox fuel flask fleet management.		
Progression of Wylfa defueling.		
Delivery of the Magnox nuclear materials programme activities.		
Continuation of the programme for the transfer of nuclear materials.		
Delivery of the Magnox elements of the estate-wide low level waste management plan.		
Progression of activities to retrieve, process and package wastes.		

Key Activities	2017/18	2018/20
Support to the Government in activities to deliver the new build agenda.		
Continuation of information assurance activities and supporting processes.		
Support Small and Medium Enterprise organisations by targeting overall spend with them in line with government Growth Agenda.		
Support to NDA in property activities to reduce NDA decommissioning liability and achieve best value on asset disposal.		
Development of Interim End State approaches, utilising revised management arrangements.		
Enacting management arrangements for Care and Maintenance state.		
Ensuring the management arrangements for Interim State are determined and agreed with Regulators.		
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.		
NDA and Regulatory permissioning in support of the Interim State entry definition and arrangements.		

Berkeley

27 hectare site in Gloucestershire.
11 hectares have been de-licensed.
Modification of Designating Direction signed by the Minister in January 2012.

Current key milestones
2022 - Site enters Care and Maintenance
2070 - Final Site Clearance begins
2079 - Final Site Clearance achieved

Key Activities	2017/18	2018/20
Continuation of retrieval and packaging activities in the active waste vaults.		
Continuation of design and commissioning of shielded area waste retrieval equipment.		
Continuation of waste retrieval plant design, commissioning and packaging.		
Design and Build of encapsulation facility.	**Begin**	**Continue**
Decommissioning and demolition activities ongoing in preparation for entry into Care and Maintenance.		
NDA and Regulatory permissioning in support of the Berkeley ILW Management Programme.		
Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators.		

Bradwell

22 hectare site in Essex.
All 22 hectares remain covered by the nuclear site licence.

Current key milestones
2018-20 - Site enters Care and Maintenance
2083 - Final Site Clearance begins
2092 - Final Site Clearance achieved

Key Activities	2017/18	2018/20
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.		
Completion of final closures for Reactor buildings safestore.		
Site completes activities to enable entry into effective Care and Maintenance.		
Fuel Element Debris (FED) dissolution.	**Continue**	**Complete**
Continuation of ILW conditioning activities.		
Consign LLW FED to LLWR.		
All ILW passively stored.		
Interim State of lead site achieved.		◆
Completion of transition management arrangements for Care and Maintenance.		
NDA and Regulatory permissioning in support of Care and Maintenance entry definitions and transitional arrangements.		
Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators.		

Chapelcross

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

Current key milestones
2028 - Site enters Care and Maintenance
2085 - Final Site Clearance begins
2095 - Final Site Clearance achieved

Key Activities	2017/18	2018/20
Decommissioning and demolition activities in preparation for entry into Care and Maintenance.		
Continuation of pond operations.		
Preparations for pond draining and stabilisation.		
ILW retrievals.	**Preparation**	**Begin**
Interim storage facility commissioned.		
Encapsulation facility Design and Build complete.		
NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.		
Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators.		

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	2017/18	2018/20
Decommissioning and demolition activities in preparation for entry into Care and Maintenance.		
Ponds drained, cleaned and stabilised.		
Complete waste conditioning facility build.		
Retrievals, treatment and transport of ILW.	**Begin**	**Complete**
Maintain contingency option of FED dissolution in support of Bradwell's entry into Care and Maintenance.	**Continue**	**Complete**
NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.		
Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators.		

Harwell

99 hectare site in Oxfordshire.
22 hectares have been de-licensed.
Modification of 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
2064 - Final site clearance achieved

Key Activities	2017/18	2018/20
Continuation of Liquid Effluent Treatment Plant (LETP) area environmental restoration.		
Decommissioning and demolition activities.		
Continuation of the programme for the transfer of nuclear materials and contact-handled ILW.		
Recovery, processing and packaging of solid ILW.		
Continuation of ILW Store design and construction.		
Construction of ILW store.		
NDA and Regulatory permissioning in support of decommissioning and demolition activities.		

Hinkley Point A

19 hectare site in Somerset.
All 19 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	2017/18	2018/20
Decommissioning and demolition activities in preparation for entry into Care and Maintenance.		
Deplant and demolition of Turbine Hall.	**Begin**	**Complete**
Commence Interim Storage Facility construction.		
Complete Interim Storage Facility construction and commissioning.		
Continuation of preparations for FED retrieval activities.		
Commencement of FED retrieval activities.		
Continuation of ILW skip management arrangements.		
Continuation of Wet Waste and Vessel consolidations.		
Complete waste consolidation programme.		
Commence conditioning facility construction.		
Complete waste conditioning facility construction and commissioning.		
Commence preparations for Sludge Canning Building waste retrievals.		
NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and arrangements.		
Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators.		

Hunterston A

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

Current key milestones
2022-23 - Site enters Care and Maintenance
2071 - Final Site Clearance begins
2080 - Final Site Clearance achieved

Key Activities	2017/18	2018/20
Decommissioning and demolition activities in preparation for entry into Care and Maintenance.		
Completion of solid ILW encapsulation plant construction and mechanical and electrical installation.		
Completion of inactive commissioning of solid ILW encapsulation plant.		
Progressing of ILW retrievals, processing and storage activities.		
NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.		
Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators.		

Oldbury

51 hectare site in South Gloucestershire.
39 hectares have been de-licensed.
Modification of Designating Direction signed by the Minister in January 2012.

Current key milestones
2027 - Site enters Care and Maintenance
2092 - Final Site Clearance begins
2101 - Final Site Clearance achieved

Key Activities	2017/18	2018/20
Decommissioning and demolition activities in preparation for entry into Care and Maintenance.		
Continue ponds decommissioning enablers.		
Complete ponds draining, cleaning and stabilisation.		
ILW retrieval enabling works.	**Continue**	**Completion**
Progression of activities supporting consolidated ILW storage.		
Commence retrievals, treatment and transport of ILW.		
NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and transitional arrangements.		
Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators.		

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	2017/18	2018/20
Decommissioning and demolition activities in preparation for entry into Care and Maintenance.		
Continuation of ponds decommissioning.		
Continuation of ponds draining and stabilisation.		
Continuation of FED retrieval enablers.		
Completion of FED retrievals.		
ILW retrieval enabling works.	**Continue**	**Complete**
Progression of activities to support consolidation of ILW storage.		
Commencement of retrievals, treatment and transport of ILW.		
NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and arrangements.		
Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators.		

Trawsfynydd

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

Current key milestones
2017-22 - Completion of key hazard reduction activities
2027-28 - Site enters Care and Maintenance
2074 - Final site clearance begins
2083 - Final site clearance achieved

Key Activities	2017/18	2018/20
Continue developing strategy for ponds End State conditions.		
Decommissioning and demolition activities in preparation for entry into Care and Maintenance.		
FED retrievals and encapsulation.	**Begin**	**Continue**
Completion of sludge and resin encapsulation.		
NDA and Regulatory permissioning in support of decommissioning and demolition activities.		
Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators.		

Winfrith

59 hectare site in Dorset.
44 hectares have been de-licensed.
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

Key Activities	2017/18	2018/20
DRAGON – continue reactor decommissioning.		
SGHWR – continue design and build of reactor decommissioning equipment.		
SGHWR – development of the detailed design to remove the reactor core.		
SGHWR – continue decommissioning of the primary and secondary containment areas.		
SGHWR – completion of primary containment decommissioning activities.		
Cease off-site pipeline operations.		
Decommissioning and demolition activities.		
Commence consolidation of packaged ILW in the Harwell store.		
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.		

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
2096 - Final Site Clearance begins
2105 - Final Site Clearance achieved

Key Activities	2017/18	2018/20
Decommissioning and demolition activities in preparation for entry into Care and Maintenance.		
Provision of support and assets to nuclear new build.		
Defueling activities in line with MOP9 *(ref 4)*.		
Completion of Wylfa defueling in line with MOP9 *(ref 4)*.		
Continuation of ILW retrievals and packaging.		
Continuation of waste retrieval enabling activities.		
NDA and Regulatory permissioning in support of the Care and Maintenance entry definitions and arrangements.		
Ensuring the management arrangements for Care and Maintenance are determined and agreed with Regulators.		
Preparations for fuel free verification agreement with the ONR.		
Complete fuel free verification agreement with the ONR.		

Dounreay

Dounreay Site Restoration Limited

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

DSRL manages 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 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. However, the resulting extension 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 2017/18 - £189 million

70 hectare site (plus 12 hectares designated for LLW facility) in Caithness.
70 hectares remain covered by the nuclear site licence, the 12 for the LLW facility are designated but not licensed.

Current key milestones
2022 - Dounreay Fast Reactor (DFR) dismantled.
2024 - All fuel in long-term storage or shipped off site.
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	2017/18	2018/20
Dounreay Materials Test Reactor (DMTR) building complex decontamination complete.		
DMTR structures demolished.		
Complete decontamination of PFR pond.		
D1225 demolition complete.		
D2900 complex handover to demolition.		
Complete removal of all fuels from the DFR.		
Complete design of irradiated fuel flask.		
Completion of all special nuclear material shipments.		
PFR Raffinate immobilisation complete.		
Shaft headworks for waste removal operational.		
Silo waste retrieval and treatment and packing complete.		
Support Small and Medium Enterprise organisations by targeting overall spend with them in line with the government Growth Agenda.		
ONR consent to Pre Operational Safety Report for shaft retrieval operations received.		

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 2017/18 - £75 million

110 hectare site in Cumbria.
All 110 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	2017/20
Ongoing site preparation for phased construction of the final cap for trenches 1 to 7 and Vault 8.	
Ongoing decommissioning of Plutonium Contaminated Material (PCM) facilities.	
Continue segregated waste, treatment and disposal services in line with UK LLW Strategy.	
Support hazard reduction across the NDA estate.	
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.	
Consideration of options to further optimise operations at the LLWR.	
Continue to pursue overall cost savings in delivery of the Lifetime Plan.	
Continue to pursue positive SLC behaviours.	
Support Small and Medium Enterprise organisations by targeting overall spend with them in line with the government Growth Agenda.	

Springfields

Springfields Fuels Limited (Owned by Westinghouse Electric)

Planned expenditure for 2017/18 - £34 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 the NDA to address historic liabilities ongoing prior to the sale.

Key Activities	2017/18	2018/20
Complete Post Operations Clean Out (POCO) of Residues Recovery Plant (RRP).		
Complete planning activities to support proposals to decommission the Magnox Island on site.		
Complete processing of natural uranic materials through the RRP processing.		
On-going management of NDA residues at the Springfields site.		

Capenhurst

Capenhurst Nuclear Services (Owned by URENCO)

Planned expenditure for 2017/18 - £61 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 2012, the site was transferred to URENCO, owners of the adjacent licensed site, and was amalgamated into a single nuclear licence paving the way for URENCO to invest in new facilities as required in order to meet future customer demand. As part of this transfer, Capenhurst Nuclear Services is contracted to provide responsible management of uranic materials and carry out remediation work on its behalf. The company 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.

The 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.

Key Activities	2017/18	2018/20
Complete phase 1 of East Side Curtilage raft construction.		
Complete Reference Design for the Legacy Cylinder Facility.		
Complete Magnox Depleted Uranium (MDU) over packing.		

Non site summaries

NDA HQ - Herdus House, Westlakes Science and Technology Park, near Whitehaven, West Cumbria

Non site summaries

Alongside our sites, 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 5)* transferred the assets and liabilities of all the sites included in this Business Plan to the Nuclear Decommissioning Authority (NDA). The NDA has 6 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 Site Licence Companies (SLCS).

The NDA's approach is defined by 5 core processes:

Strategy

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.

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.

Manage performance

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 government and stakeholders.

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.

Key Activities	2017/18	2018/20
Work with government to develop a long-term management solution for separated plutonium in the UK.		
Publish the Radioactive Waste Strategy.		
Alternative disposal routes integrated project.		
Provide support to government on nuclear new build decommissioning plans.		
Magnox Limited, DSRL and LLWR - monitor performance against the targets and milestones selected.		
Ongoing performance tracking of the Sellafield Baseline Plan.		
Monitoring of delivery against the Sellafield Transformation programme.		
Implementation of our strategic people delivery plan to enable resource planning, skills development and flexibility and mobility across the estate.		
Support Small and Medium Enterprise organisations by increasing overall spend with them in line with the government Growth Agenda.		
Undertake health of the supply chain review.		
Working to embed the capability to proactively protect, detect, respond and recover against current and evolving cyber threats.		
Publish a detailed socio-economic policy.		
Continue working with regulators and government to determine institutional controls appropriate to restoration of nuclear sites.		

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 3 years.

Radioactive Waste Management

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. Radioactive Waste Management Limited is the subsidiary which 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"[1].

In May 2015, RWM published their Corporate Strategy 2015-2018[2]. It sets out the vision, mission and values, and the factors on which they based their strategic approach. RWM's vision is a safer future by managing radioactive waste effectively, to protect people and the environment with its mission 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 RWM's 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.

Key Activities 2017-2020
Support the launch of the geological disposal siting process in line with government policy.
Implement government policy on geological disposal of Higher Activity Waste.
Deliver a robust technical programme to address knowledge gaps arising from RWM's 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.

[1] 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.

[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 2017-2020
Delivery of the rail transport element in support of the completion of MOP *(ref 4)*.
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 increasing the operating profit on non-nuclear business.
Become the strategic Rail Authority for the NDA, providing support to SLC's and RWM to maximise efficiency across the estate.
Completion of the NDA Rail asset capability review, to identify further value for money opportunities within the estate.
Maintain a technology leading fleet of locomotives and wagons, with in-house maintenance capabilities at strategic locations through the successful introduction of Class 88 locomotives in 2017.
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 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.

Key Activities 2017-2020
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 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 is a wholly owned subsidiary of the NDA and oversees the management of a Commercial Partner who operates the Nucleus (The Nuclear and Caithness Archives), 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 managed by the NDA, its subsidiaries and SLCs and that needs to be retained for the medium to long-term. Nucleus is managed by Restore Scan Ltd and opened its doors to the public in February 2017.

During 2017 Nucleus will develop into a fully operational facility that is open to the public and providing a valuable service to all stakeholders. The information managed on behalf of the NDA and its estate at Nucleus will have the potential to remain valuable for centuries to come (a Geological Disposal Facility, the Low-Level Waste Repositories and the Waste Records management programme) and effective management and consolidation of these records collections will allow this information and knowledge to be preserved, made available (where appropriate) and re-used effectively to the benefit of NDA and HM Government.

Key Activities 2017-2020
Open to the Public and providing Public Records Act services on behalf of both the NDA and the Highland Council.
Commence receipt of NDA-owned and Highland Council-owned records.
Complete the relocation of all ex-UKAEA archive records (DSRL and RSRL).
Achieve The National Archives Place of Deposit status.
Achieve The National Archives Accreditation status.

NDA Properties Limited

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

Key Activities 2017-2020
Effective management of the property within the company portfolio, meeting landlord obligations and generating an operating profit before revaluation adjustments.
Secure agreement to and implement the strategy for provision of high quality office accommodation to support the activities of Sellafield Limited in the Warrington area, including where appropriate vacation and disposal of existing unsuitable property and securing new leasehold property.
Lead all property development of nuclear licenced sites in support of NDA estate requirements, including development of office accommodation in support of SLCs.
Act as developer for CNC Training Facility in West Cumbria, with projected completion by December 2017.
Continue the programme of disposal of property assets surplus to the requirements of the NDA mission.

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 2017-2020
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.
Re-compete contract for management of Rutherford Indemnity Limited (captive management contract).

Response to Consultation

General

The consultation on our 2017-2020 draft Business Plan ran from 12 December 2016 to 3 February 2017, receiving 30 formal responses. Feedback has been considered and comments have been used where applicable, to amend the document and provide clarity on the key activities and reflect the changes since the draft was published. If respondents feel that their feedback has not been adequately addressed, then enquiries can be submitted to us via enquiries@nda.go.uk.

The purpose of the Business Plan is to provide a summary of activities and expected progress for all 17 of the NDA's nuclear sites over the next 3 years, in line with the funding agreed with HM Treasury and the Department for Business, Energy and Industrial Strategy. The Business Plan does not include detailed site level descriptions as these are documented in each of the Site Licence Company (SLC) plans and would not be practical within this document. Links to the SLC websites can be found in Useful links on page 44.

Progress against activities in the previous Business Plan can be found in the NDA's 2016/17 Annual Report and Accounts which will be published in July 2017.

The consultation received a positive reception with support for the overall format and many of the objectives within it. The 20 year Priority Programme Overview was highlighted as being a useful tool to aid understanding of the 'big picture' and how key activities are linked together.

Socio-Economics

There was significant interest in our commitment to supporting local communities through socio-economic activities. The details of these activities cannot be found the Business Plan as this document focuses on the planned key activities to deliver our mission. Our overarching approach to socio-economic is set out in the critical enabler section of the NDA Strategy. To support that, a more detailed socio-economic policy is in development, due for release in the Autumn.

All applications for funding are reviewed on an individual basis and are required to meet our criteria for a sound business case and demonstrate value for money. To date we have not turned down a reasonable request for support to local communities through lack of funding.

Plutonium Management and Disposition

There was some interest in the NDA's plans for plutonium management and disposition. The work to date has considered both reuse and immobilisation technologies. The Government with support from the NDA continue the development of options for a long-term management solution for separated plutonium in the UK. This work will enable a decision for implementation of a preferred option to be made confidently and at the right time. To reflect this ongoing programme as a key priority we have included it as a key activity on page 37.

Key activities at Magnox and Dounreay

The key activities in our Business Plan reflect the latest emerging information and existing SLC lifetime plans. Changes to the dates of key activities at Magnox from previous years are due to the re-phasing work through the ongoing Magnox consolidation process. Changes to the key activity dates at Dounreay are a result of the prioritisation of nuclear material shipments being incorporated into the plan, that had not been agreed or finalised when the original contract was signed. Dounreay will continue to deliver within its assigned annual site funding limits, while also delivering the additional scope. However, the resulting extension is still earlier than the pre-competition baseline for achieving Interim End State.

Glossary

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

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

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

ISBN 978-1-4741-4183-3