

# **Nuclear Decommissioning Authority**

# **Business Plan**

# **2012 - 2015**

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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 2012



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## **Our mission is to:**

**Deliver safe, sustainable and publicly acceptable solutions to the challenge of nuclear clean-up and waste management. This means never compromising on safety or security, taking full account of our social and environmental responsibilities, always seeking value for money for the taxpayer and actively engaging with stakeholders.**



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## Foreword



I write this foreword as the newly appointed CEO of the NDA. My predecessor, Tony Fountain, left the NDA at the end of 2011 to return to the oil and gas industry.

The NDA has an enormously important role to play for the nation. We ensure the safe management of nuclear materials, operations and sites across the UK and we are focused on reducing the risks in a timely and cost effective manner. I am absolutely committed to the NDA's mission and to ensuring that we have the best possible people and companies, with the best possible plans managing all of our activities.

Our Business Plan for 2012/2013 sees us entering into the second year of funding allocated in the last Spending Review. This allows for an average expenditure of almost £3 billion a year in real terms over a four-year period. The focus of this year's Business Plan remains unchanged from last year, with the emphasis on delivery of commitments.

The highest priority remains delivering and accelerating the work on the Legacy Ponds and Silos at Sellafield. The proportion of expenditure on these programmes has risen considerably and there is a greater sense of urgency and real progress on site. The new Sellafield Performance Plan (*ref 1*) is now being used as a basis for building our business plan targets for the site and successful delivery will ensure that critical national infrastructure continues to operate effectively. We are confident this is a credible plan for Sellafield, underpinned both technically and in terms of capability, which will give us the best chance of success.

Babcock Dounreay Partnership (a consortium comprising Babcock Nuclear Services Ltd, CH2M Hill and URS Holdings (UK) Ltd) has emerged as the preferred bidder to take the Dounreay site to its Interim State. Their proposal will deliver significant acceleration and costs savings for the taxpayer through a combination of innovative technology and enhanced productivity. We look forward to working with Babcock Dounreay Partnership in translating plans into action.

The new optimised route towards Care and Maintenance across the Magnox fleet that was outlined last year has been successfully turned into firm plans which are already being taken forward. A similar approach is now being adopted at Harwell and Winfrith to secure a better outcome across the two sites.

As stated in last year's plan, pressure on our funding will continue and we remain committed to continuous, rigorous oversight of all activities to ensure we are spending taxpayers' money effectively. In particular, we will be dealing with the loss of income arising from the end of power generation at Oldbury and we will continue to target further reductions in support and overhead costs in order to maximise funds towards front line activity.

In this Business Plan we have included a high level 20-year view of important activities drawn from our current plans in order to provide greater context for the shorter-term activities highlighted in the plan. Throughout the estate we are reliant on aged and fragile plant and infrastructure which means it is likely there will always be a balance between setting ourselves and our contractors challenging targets and some changes to the overall plan as we re-prioritise within our budget.

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

**John Clarke**  
Chief Executive



## Introduction

This Business Plan sets out our key objectives and plans for delivering our priorities over the next three years.

### **Our remit**

The NDA is a Non-Departmental Public Body (NDPB) set up under the Energy Act 2004 (*ref 2*) to ensure that the UK's 19 designated civil public sector nuclear sites are decommissioned and cleaned up safely and efficiently.

This Business Plan has been approved by the Secretary of State jointly with the Scottish Ministers as required by the Energy Act 2004 (*ref 2*). The NDA Board is responsible for delivery. The Government holds us to account for performance against our Strategy and Plans. The governance function of DECC is provided to DECC by the Shareholder Executive (ShEx).

DECC and the Scottish Government have a target to make tangible progress in decommissioning and clean-up. This is demonstrated by a reduction in the UK civil nuclear liabilities and of the risks associated with high hazards (by progressively mitigating hazards and ensuring radioactive waste continues to be put into a passively safe form). Progress on these activities is reported in our Annual Report and Accounts (ARAC).

### **Delivery of the mission**

Each of our 19 sites is operated by one of six Site Licence Companies (SLCs) under contract to the NDA (see page 16 for further information). SLCs are responsible for day-to-day operations and the delivery of site programmes. Parent Body Organisations (PBOs), selected through a competitive process bringing in private sector expertise own the SLCs for the duration of their contract with the NDA, earning fee based on performance and efficiencies gained. As part of the next phase of competitive process, the Magnox and RSRL competitions will commence in FY 2012/13.

## Our Funding

### **Funding Framework**

We are funded by a combination of direct UK Government grant and income from commercial operations.

### **Government Funding**

The last Spending Review secured funding for four years (April 2011 to March 2015).

### **Commercial Income**

Our commercial operations fall broadly into two areas:

- electricity generation and associated trading
- spent fuel management, including reprocessing

The nature of our commercial activities means that we have to manage a significant degree of income volatility, largely due to our operations relying on ageing assets and infrastructure for example, Wylfa is over 40 years old. Furthermore, this income will decline in future years as plants close and enter decommissioning.

Our objective is to maximise revenue from our existing assets and operations to help fund decommissioning and clean-up, thereby reducing the burden on the UK taxpayer. To achieve this we will include optimised income from electricity generation, leasing property, selling land and other assets in response to market interest.

### **Prioritisation and Allocation of Funding**

Within affordability constraints, we will seek to maintain progress and maximise value for money by focusing on the highest hazards and risks, whilst ensuring that safe, secure and environmentally responsible site operations are maintained across our estate.

The Spending Review process used criteria drawn from our Value Framework to evaluate options. These criteria (Affordability (short, medium and long-term), Value for Money, Safety and Environmental Impact, Deliverability, Socio-Economic and UK Government Policy Impact) will inform the management decisions to be taken in the process of allocating available funding over the Business Plan period.

### **Planned Income and Expenditure in 2012/2013**

This Business Plan sets out our anticipated income and expenditure for 2012/2013 in line with the settlement agreed in the 2010 Spending Review.

Our total planned expenditure for 2012/2013 is £3 billion, of which £2.3 billion will be funded by UK Government and £0.7 billion by income from commercial operations. Planned expenditure on site programmes will be £2.8 billion, while non-site expenditure is expected to be £0.2 billion. This non-site expenditure includes skills development, socio-economic, Research & Development (R&D), insurance and pensions costs, fees to SLCs, implementing geological disposal and NDA operating costs along with the other activities detailed on page 8.

## Planned Income and Expenditure Summary

£m		Decom &	Total Operations Costs		2012/13	2011/12
SLC/Subsidiaries/Sites		Clean-up Costs A	Running Cost B	Capex C	Plan	Plan
Magnox Ltd	Berkeley	54.6			54.6	47.3
	Bradwell	82.3			82.3	70.9
	Chapelcross	53.1			53.1	59.8
	Dungeness A	41.4			41.4	41.0
	Hinkley Point A	35.1			35.1	27.4
	Hunterston A	31.9			31.9	38.7
	Magnox Support Office	58.5			58.5	72.8
	Oldbury*	77.8			77.8	77.4
	Sizewell A	39.6			39.6	40.4
	Trawsfynydd	77.7			77.7	86.4
	Wylfa	0.0	89.0		89.0	87.0
Electricity Trading	Electricity Trading		79.6		79.6	78.0
Research Sites Restoration Ltd	Harwell and Winfrith	59.6			59.6	65.5
Dounreay Site Restoration Ltd	Dounreay	161.0			161.0	159.3
Sellafield Ltd	Sellafield	733.5	672.9	261.0	1,667.3	1,554.6
LLWR Ltd	LLWR	30.0			30.0	36.1
Springfields Fuels Ltd	Springfields	41.9			41.9	48.5
Nuclear Transport and Contract Management	International Nuclear Services		145.0		145.0	108.2
Non site expenditure		177.1			177.1	189.6
<b>TOTAL</b>		<b>1,755.0</b>	<b>986.4</b>	<b>261.0</b>	<b>3,002.5</b>	<b>2,889.0</b>
<b>Income</b>					<b>716.5</b>	<b>947.5</b>
<b>Net</b>					<b>2,286.0</b>	<b>1,941.4</b>

\*Closed in February 2012

Notes:

- Numbers may not cast due to rounding
- Final Annual Site Funding Limits issued in March 2012 may be adjusted to reflect efficiency performance and portfolio pressures. The NDA reserves the right to reallocate funding to meet prioritised programme needs.
- The Government funding has been revised to reflect the changes made in the 2011/12 Supplementary Estimates.
- 12/13 shows updated income forecast. 13/14 & 14/15 reflect SR10 settlement.

Summary NDA SR10 Funding	2011/12 £ M	2012/13 £ M	2013/14 £ M	2014/15 £ M
Income	948	717	784	873
Government funding	1,941	2,286	2,259	2,146
Expenditure	(2,889)	(3,003)	(3,043)	(3,019)
<b>Net</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

## 2012/2013 Breakdown of Planned Non site Expenditure

Non site expenditure	2012/13 Plan £ M	2011/12 Plan £ M
NDA operating costs	46.8	45.9
Radioactive Waste Management Directorate	19.7	23.7
Socio Economic, Skills, R&D, Knowledge Management	26.4	21.0
Insurance	12.0	12.0
Pension administration costs	1.0	1.0
Contractor fees	71.2	86.0
<b>Total</b>	<b>177.1</b>	<b>189.6</b>

## 2012/2013 Breakdown of Planned Income by Category

Income Source	2012/13 Plan £ M
Reprocessing and fuel management services	394.6
Electricity Generation	197.0
NDA - INS Transport	62.0
Intra site services	62.9
<b>Total</b>	<b>716.5</b>

## Our Approach to Strategy and Delivery

Building on our experience, we continue to group our work under the following six strategic and delivery themes:

### Site Restoration

- defines our approach to decommissioning and clean-up of redundant facilities and how we manage contamination in ground and groundwater. Restoration will drive our sites through a series of Interim States to a Site End State, at which point the NDA is able to release the site for other uses.

### Spent Fuels

- defines our approach to managing the diverse range of spent nuclear fuels for which we have responsibility, including Magnox, oxide and exotic spent fuels.

### Nuclear Materials

- defines our approach to dealing with the inventory of uranics and plutonium currently stored on some of our sites.

### Integrated Waste Management

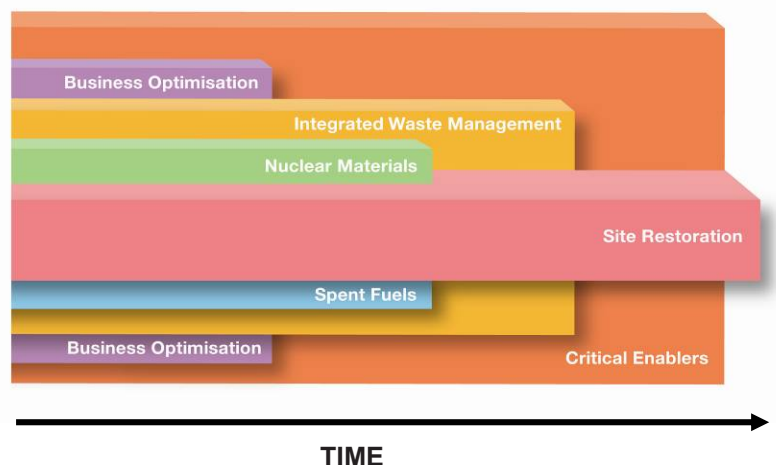
- considers how we manage all forms of waste arising from operating and decommissioning our sites.

### Business Optimisation

- looks at how we maximise our commercial income, using our assets and capabilities to reduce the net cost of decommissioning and clean-up to the taxpayer.

### Critical Enablers

- supports the overall delivery of our mission and, in some cases, reflects the supplementary duties assigned to the NDA by the Energy Act 2004 (*ref 2*). In most cases these are not matters in which we have the lead role, but where we need to take a view and ensure that appropriate action is being taken.



## Delivery Activities within Strategic Themes

### Site Restoration



The objective of this theme is to restore our designated sites and release them for other uses.

Our priority is to remediate intolerable risks in the Legacy Ponds and Silos at Sellafield. We will also decommission redundant facilities at Sellafield whilst maintaining and as appropriate upgrading the infrastructure and capability across the site to sustain the operations of key supporting plants and services. Across the rest of the estate we will place Magnox reactors into Care and Maintenance, deliver Dounreay site to an Interim State and take Harwell and Winfrith to site closure.

#### Key deliverables for the year 2012/2013 are as follows:

First Generation Magnox Storage Pond – Commence retrieval of fuel from the pond floor	<b>Sellafield</b>
Pile Fuel Storage Pond – Continue removal of sludge from the pond floor	<b>Sellafield</b>
Completion of bulk asbestos removal from heat exchangers and turbine hall	<b>Chapelcross</b>
Complete bulk asbestos removal	<b>Hinkley Point A</b>
Programme optimisation including accelerated scenarios / options	<b>RSRL / NDA</b>

### Spent Fuels



The objective of this theme is to ensure safe, secure and cost-effective lifecycle management of spent fuels.

We will manage all spent Magnox fuel and place all exotic fuels into a final disposition form. We will continue to use up the existing fuel load at Wylfa. On oxide fuels, we will continue to receive and manage fuel from EDF Energy and seek to maximise value from our spent fuel management contracts.

#### Key deliverables for the year 2012/2013 are as follows:

Progress milestones towards completion of out of reactor breeder fuel shipments to Sellafield	<b>Dounreay</b>
Receive the first batch of Dounreay Fast Reactor (DFR) Breeder fuel	<b>Sellafield</b>
Continue to receive Advanced Gas Reactor (AGR) fuel from EDF	<b>Sellafield</b>
Completion of reactor defuelling requirements in line with the Magnox Operating Programme (MOP) (ref 3)	<b>Chapelcross Dungeness A</b>
Commencement of reactor defuelling in line with MOP	<b>Oldbury</b>

## Nuclear Materials



The objective of this theme is to ensure safe, secure and cost-effective lifecycle management of our nuclear materials.

### Key deliverables for the year 2012/2013 are as follows:

Work with Government on implementing any new policy regarding nuclear materials	<b>NDA</b>
Progress the capability to transfer materials off site	<b>RSRL / NDA</b>

## Integrated Waste Management



The objective of this theme is to ensure that wastes are managed in a manner that protects people and the environment, that comply with UK Government and Scottish Government policies providing value for money. The NDA has been given responsibility for planning and implementing geological disposal in accordance with UK Government policy. This is delivered through the Radioactive Waste Management Directorate.

### Key deliverables for the year 2012/2013 are as follows:

Continued delivery of Highly Active Liquor (HAL) stock reduction	<b>Sellafield</b>
Delivery of the Magnox and Low Level Waste Repository (LLWR) joint waste management plan for Low Level Waste (LLW)	<b>Magnox / LLWR</b>
Integrate transportation of waste with other programme moves	<b>LLWR</b>
Establish the Intermediate Level Waste (ILW) programme and co-location of materials	<b>NDA</b>
Optimise the Higher Activity Waste (HAW) programme	<b>NDA</b>
Commence Fuel Element Debris (FED) retrieval and dissolution	<b>Bradwell</b>
Complete transfer of legacy waste to the ILW store	<b>Trawsfynydd</b>
Continue with the construction of the new LLW Facility	<b>Dounreay</b>
Deliver a robust technical programme to address uncertainties in the generic Disposal System Safety Case (DSSC) including issues associated with the new build wastes and engineering design of a Geological Disposal Facility (GDF)	<b>RWMD</b>

## Business Optimisation



The objective of this theme is to create an environment where existing revenue can be secured, and opportunities can be developed against criteria agreed with UK Government and the Scottish Government.

### Key deliverables for the year 2012/2013 are as follows:

Explore synergies of new build activities adjacent to NDA sites through utilisation of existing assets where appropriate to reduce impact and costs	<b>Magnox</b>
Explore the opportunity for continued electricity generation beyond 2012	<b>Wylfa</b>
Transition of the Capenhurst site and operations to URENCO	<b>NDA</b>

## Critical Enablers



The objective of this theme is to provide the stable and effective implementation framework that enables the delivery of our mission.

The NDA has a responsibility to deliver skills, Research & Development (R&D) and supply chain development, to consider the socio-economic aspects of its programme and maintain effective stakeholder engagement.

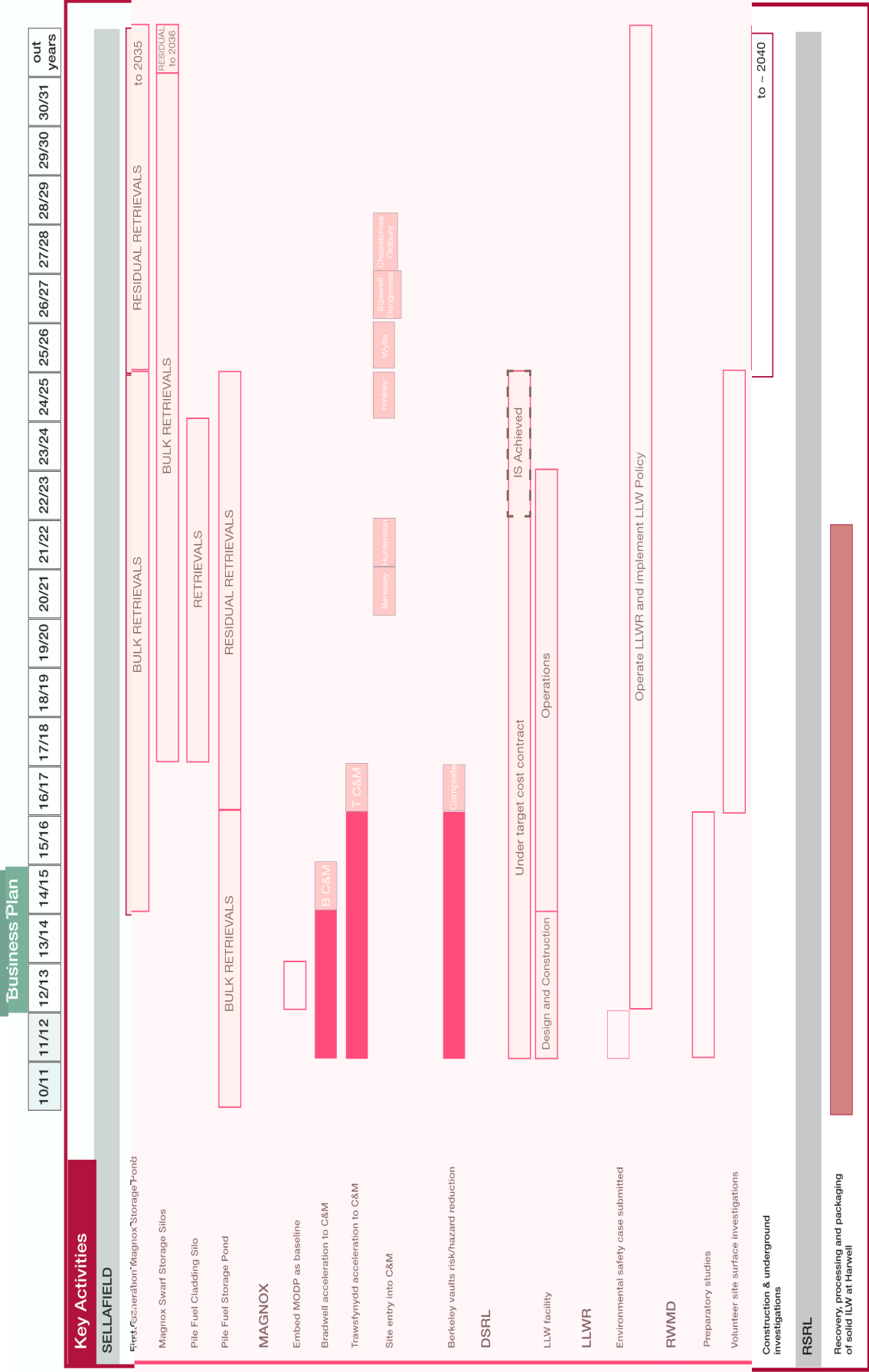
### Key deliverables for the year 2012/2013 are as follows:

Preparations for the Magnox and Research Sites Restoration Limited (RSRL) competitions	<b>NDA / Magnox / RSRL</b>
Achieve a 20% reduction in support and overhead costs releasing revenues for decommissioning and clean-up	<b>Sellafield / Magnox RSRL / LLWR</b>
Oversee the delivery of the Skills and People Strategy including the Transition Framework	<b>All SLC's / NDA</b>
Embed the new Dounreay Programme into NDA plans following competition	<b>NDA</b>
Evaluation of potential LLWR contract extension	<b>NDA</b>

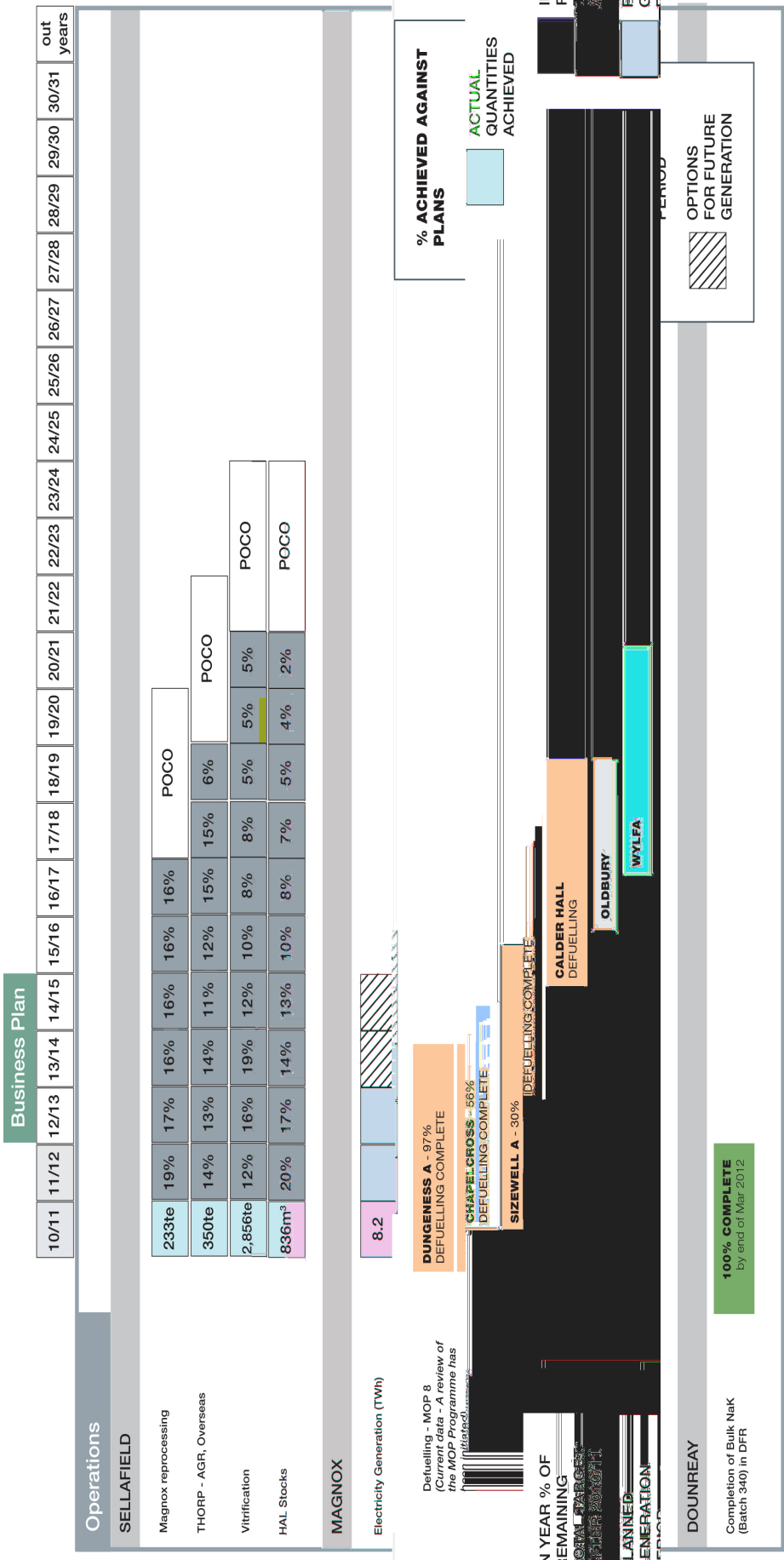


## 20 Year Overview

The following tables provide an overview of key activities and operations ongoing across our estate over the next 20 years drawn from current plans.

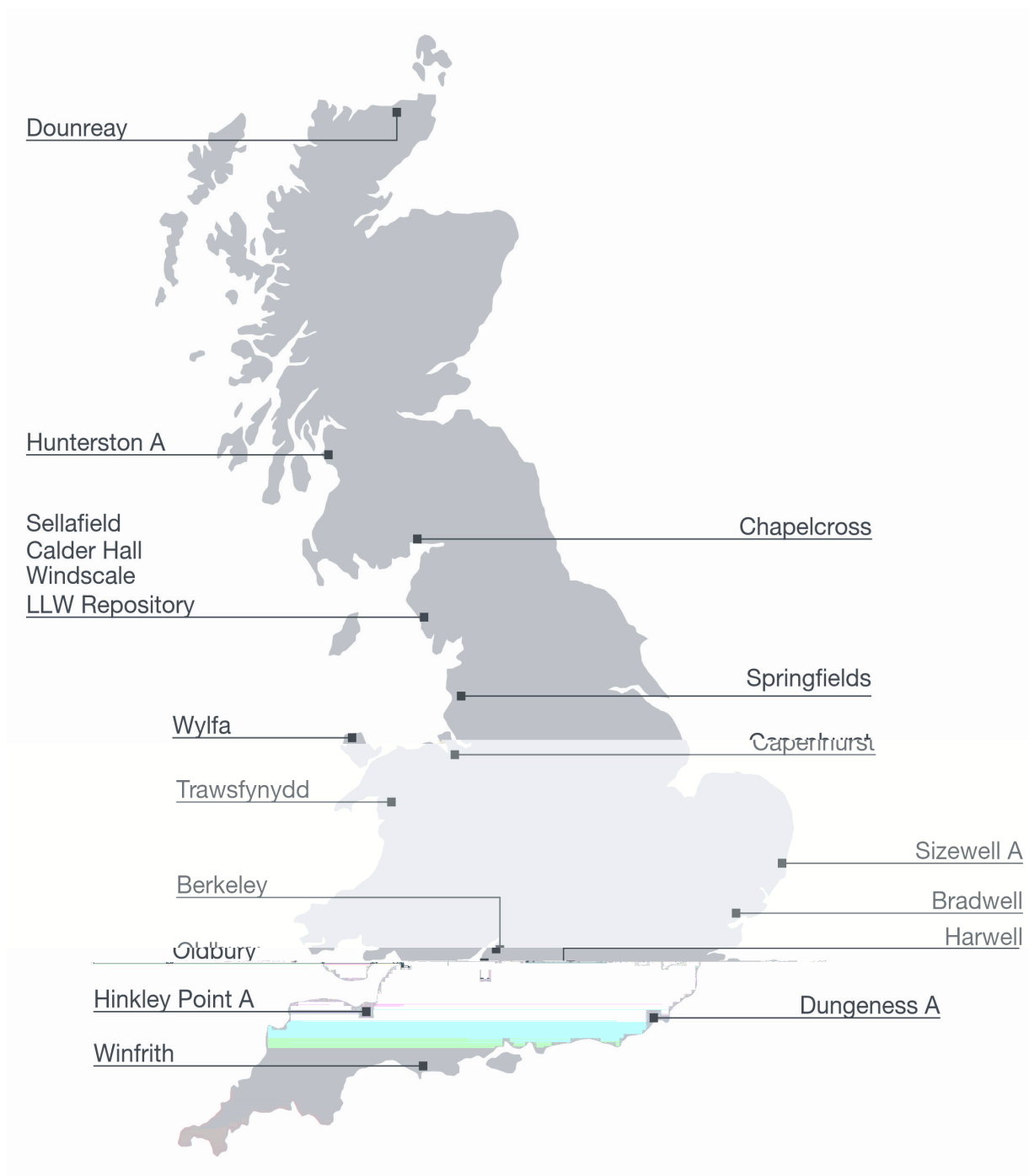


Nuclear Decommissioning Authority  
Business Plan 2012 – 2015





The percentages are indicative of the targets which the SLCs are expected to achieve enabling the plants to reach the stated POCO dates. Throughout the estate we are reliant on aged and fragile plant and infrastructure which means it is likely there will always be a balance between setting ourselves and our contractors challenging targets and some changes to the overall plan as we re-prioritise within our budget.

## NDA Sites Location Map



## The Six Site Licence Companies (SLCs)

 <b>Sellafield Ltd</b>	<b>Parent Body Organisation</b> <b>Nuclear Management Partners Limited (NMPL)</b> Consortia made up of URS, Areva and AMEC <b>PBO Website</b> – <a href="http://www.nuclearmanagementpartners.com">www.nuclearmanagementpartners.com</a> <b>SLC Website</b> – <a href="http://www.sellafieldsites.com">www.sellafieldsites.com</a>	<b>Page 17</b>
<b>Sites - Sellafield (incl. Calder Hall), Windscale, Capenhurst</b>		
 <b>MAGNOX</b>	<b>Parent Body Organisation</b> <b>EnergySolutions EU Ltd</b> <b>PBO Website</b> – <a href="http://www.energysolutions.com">www.energysolutions.com</a> <b>SLC Website</b> – <a href="http://www.magnoxsites.co.uk">www.magnoxsites.co.uk</a>	<b>Page 21</b>
<b>Sites - Berkeley, Bradwell, Chapelcross, Dungeness A, Hinkley Point A, Hunterston A, Oldbury, Sizewell A, Trawsfynydd, Wylfa</b>		
 <b>Dounreay Site</b>	<b>Parent Body Organisation</b> <b>Babcock Dounreay Partnership</b> <b>PBO Website</b> – <a href="http://www.bdpdounreay.co.uk">www.bdpdounreay.co.uk</a> <b>SLC Website</b> – <a href="http://www.dounreay.com">www.dounreay.com</a>	<b>Page 34</b>
<b>Site - Dounreay</b>		
 <b>Research Sites Restoration Ltd</b>	<b>Parent Body Organisation</b> <b>UKAEA Limited, a member of Babcock International Group (BIG) PLC</b> <b>PBO Website</b> – <a href="http://www.babcock.co.uk">www.babcock.co.uk</a> <b>SLC Website</b> – <a href="http://www.research-sites.com">www.research-sites.com</a>	<b>Page 36</b>
<b>Sites - Harwell and Winfrith</b>		
 <b>LLWR Ltd</b>	<b>Parent Body Organisation</b> <b>UK Nuclear Waste Management Limited (UKNWM)</b> Consortia made up of URS, Studsvik, Areva and Serco Assurance <b>SLC Website</b> – <a href="http://www.llwrsite.com">www.llwrsite.com</a>	<b>Page 38</b>
<b>Site – Low Level Waste Repository</b>		
 <b>Springfields Fuels Ltd</b>	<b>Parent Company</b> <b>Westinghouse Electric UK Limited, which is part of the Toshiba Group</b>  <b>Parent Company Website</b> – <a href="http://www.westinghousenuclear.com">www.westinghousenuclear.com</a> <b>SLC Website</b> – <a href="http://www.springfieldsfuels.com">www.springfieldsfuels.com</a>	<b>Page 40</b>
<b>Site – Springfields</b>		

## Site Summaries

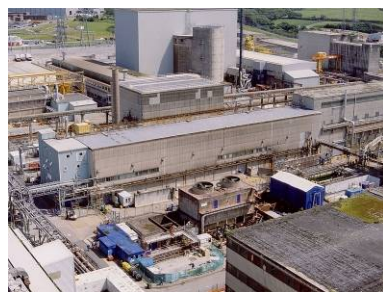
### Sellafield Limited



Sellafield Limited is the SLC responsible for the operation of Sellafield (including Calder Hall), Capenhurst and Windscale nuclear licensed sites.

**Planned expenditure for 2012/2013 - £1,667 million**

### Sellafield (incl. Calder Hall)



**Location:** Cumbria  
**Area:** 262 hectares

#### Calder Hall

**Generation period:** 1956 – 2003  
**Lifetime Output:** 54 TWh  
**Defuelling:** Scheduled to complete 2014

#### Current Key Milestones

**2014/2015** – First Generation Magnox Storage Pond – start of sludge retrievals

**2016/2017** – Magnox reprocessing completed

#### Status of land

All 262 hectares covered by the nuclear site licence.

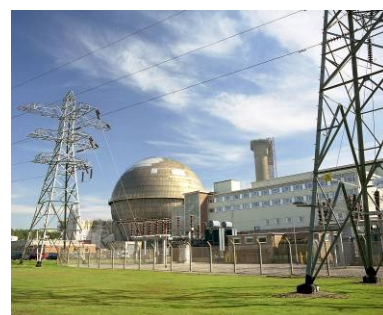
### Capenhurst



Capenhurst is located near Ellesmere Port in Cheshire, adjacent to URENCO (the Uranium Enrichment Company), and has an area of 32 hectares covered by the nuclear site licence.

The Capenhurst site will transition to URENCO during 2012/2013.

### Windscale



**Location:** Cumbria  
**Area:** 14 hectares

#### Current Key Milestones

**2030** – Windscale Pile 1 and 2 in Care and Maintenance with fuel and isotopes removed.

#### Status of land

All 14 hectares covered by the nuclear site licence.

## 2012 – 2013 Key Activities

### Site Restoration

The areas of principal focus are the redundant Legacy Ponds and Silo facilities, made up from the First Generation Magnox Storage Pond, Magnox Swarf Storage Silo, Pile Fuel Cladding Silo and Pile Fuel Storage Pond. These facilities supported the development of the nuclear programme in the UK from the early 1950's and latterly with generation from the Magnox power station fleet and are now in need of clean-up and decommissioning. The programmes include; removal of nuclear fuel, sludges and solid material which require the provision of equipment to retrieve the various wastes and then treat and store them in passive conditions, acknowledging the role of Integrated Waste Management in achieving hazard reduction and long-term safety, security and environmental protection requirements.

**The following activities are key steps in the delivery of these major clean-up programmes:**

- **First Generation Magnox Storage Pond**
  - complete construction of Sludge Packaging Plant 1 buffer storage facility
  - commence retrieval of fuel from pond floor
- **Pile Fuel Cladding Silo Programme**
  - complete construction of the superstructure to house the equipment needed to retrieve waste from the silo
  - complete Retrievals Access Penetration detailed design
- **Pile Fuel Storage Pond**
  - continue removal of sludge from the pond
  - continue removal of contaminated metal for treatment and storage
  - continue the transfer of metal from the pond for storage
  - commence the transfer of oxide fuel from the pond for storage
- **Magnox Swarf Storage Silo**
  - complete 'project concept' design review for Silos Direct Encapsulation Plant
  - complete the Silo Emptying Plant assembly
  - complete seismic improvements on second extension
- **Capenhurst**
  - progress site integration into URENCO
  - continue to process uranic residues
- **Decommissioning**
  - progress removal of filter gallery from Windscale Chimney Pile 1
  - continue to retrieve and treat, for long-term storage, legacy flocculent from the flocculent storage tanks

### Spent Fuels

The site remains critical to support the ongoing activities at the UK's operational reactors and decommissioning sites, for the safe receipt, storage and processing of used nuclear fuels and in support of overseas customers. The Magnox and Oxide Fuels Programmes will continue to receive shipments whilst major enabling programmes such as the construction of the new Evaporator D are underway.

**The following activities highlight the key steps:**

- Continue to reprocess Magnox Fuel in line with the MOP (*ref 3*)
- Receive the first batch of Dounreay Fast Reactor (DFR) Breeder fuel at Sellafield
- Continue to receive Advanced Gas Reactor (AGR) fuel from EDF

- Continue to reprocess oxide fuel through Thermal Oxide Reprocessing Plant (THORP) from EDF and overseas customers
- AGR Programme – ongoing removal of Multi-Element Bottles (MEBs) from THORP

## **Nuclear Materials**

Sellafield is the custodian of the majority of the UK's stock of plutonium and its safe secure storage is of the utmost priority. Consolidation of materials is an ongoing activity and will continue to be part of the sites mission.

**The following activities highlight the key steps:**

- Continue the safe and secure storage of plutonium in line with UK policy
- Explore the consolidation of materials across the NDA estate

## **Integrated Waste Management**

The various activities of the site produce wastes in many forms. This requires varying degrees of treatment and onward processing. The site will continue to focus on safe, efficient management of these wastes from reducing the stocks of Highly Active Liquor (HAL) which are produced as part of the reprocessing operations, to returning vitrified material overseas and 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
- Continue to repatriate overseas owned vitrified HAL to country of origin
- Continue to transfer legacy Plutonium Contaminated Material (PCM) to modern engineered stores
- Diversion of materials from LLWR in line with the LLW Strategy implementation and optimisation
- Continue to receive further module deliveries for the construction of Evaporator D

## **Critical Enablers**

A number of key enabling activities require specific focus which range from infrastructure refurbishment or replacement projects through to key change programmes which aim to improve operational delivery and efficiency on the site.

**The following activities highlight the key steps:**

- Complete handover of the boiler park from Sellafield to Fellside
- Complete handover of refurbished Grid Transfers
- Continue the Sellafield infrastructure enhancement programme
- Implementation of the focus areas of the Integrated Change Programme (ICP) across all operating units
- Achieve a 20% reduction in support and overhead costs releasing revenues for decommissioning and clean-up



## **2012 – 2013 Regulatory Matters**

- Regulatory support to progress the development plans for DFR and consolidation of nuclear materials
- Continued monitoring of progress against decommissioning milestones
- Continued delivery of HAL stock reduction
- Embedding the Safety Improvement Programme for the Leased Operations Facilities
- Transitioning the Capenhurst site in line with the NDA's Strategy
- Delivery of the uranium hexafluoride management plan

## **2013 – 2015 Planned Key Activities**

### **Site Restoration**

- Start retrievals from the First Generation Magnox Storage Pond
- Continue to retrieve and treat legacy flocculent from the flocculent storage tanks
- Continue to develop the capability to retrieve waste from legacy facilities

### **Spent Fuels**

- Continue to reprocess Magnox fuel
- Deliver the ongoing waste treatment activities in the AGR Programme
- Continue to reprocess oxide fuel through THORP from EDF and overseas customers
- Continue to receive AGR fuel from EDF
- Evaporator D inactive commissioning complete
- Receive final 'Out of Reactor' breeder flask shipments from Dounreay

### **Nuclear Materials**

- Continue the safe and secure storage of plutonium in line with current UK policy

### **Integrated Waste Management**

- Continue to process HAL through the Waste Vitrification Plant
- Continue to repatriate overseas owned vitrified HAL to country of origin
- Diversion of materials from LLWR in line with the LLW Strategy implementation and optimisation

### **Critical Enablers**

- Continued delivery of the Integrated Change Programme (ICP) to enhance performance



## Magnox Limited



Magnox Limited is the SLC responsible for the operation of the Berkeley, Bradwell, Chapelcross, Dungeness A, Hinkley Point A, Hunterston A, Oldbury, Sizewell A, Trawsfynydd and Wylfa sites.

The current PBO of the company is EnergySolutions EU Ltd.

**Planned expenditure for 2012/2013 - £641 million**

The NDA requires Magnox SLC to manage the generation, defuelling, preparations to enter Care and Maintenance, the Care and Maintenance phase and final site clearance of the Magnox Reactor Fleet. The key activities are maintaining safety and security at all sites and managing the environmental impact of activities which include:

- Electricity generation at Wylfa and Maentwrog
- Defuelling at Chapelcross, Dungeness A, Sizewell A and Oldbury
- Accelerated decommissioning at Bradwell and Trawsfynydd
- Decommissioning and demolition of facilities at Hunterston A, Berkeley and Hinkley Point A

These activities are combined into the Magnox Optimised Decommissioning Programme (MODP) (*ref 4*) which uses the 'lead and learn' concept to drive value for competition. All decommissioning work to Care and Maintenance has been organised nationally into four programmes utilising new approaches and innovations which will not only reduce costs in excess of £1 billion but shorten programmes by an aggregate of greater than 30 years. The experience of work and learning on 'lead' sites can then be rolled out to the rest of the sites over time.

**Please note – when reading the Magnox section all dates are in line with MOP8 Rev 2. The MOP programme is currently under review and a revised version will be published in Summer 2012.**

## 2012 – 2013 Overarching Magnox Key Activities

### Spent Fuels

- Management of the Magnox Operating Programme (MOP) (*ref 3*) and co-ordination of Magnox fuel management activities with Sellafield and Dounreay

### Integrated Waste Management

- Delivery of the Magnox and LLWR joint waste management plan for LLW

### Business Optimisation

- Seek to optimise electricity generation at Wylfa
- Explore synergies of new build activities adjacent to NDA sites through utilisation of existing assets where appropriate to reduce impact and costs

### Critical Enablers

- Provide support to the NDA in competition for the PBO
- Establish the 'lead and learn' principle and focus on building a delivery organisation.
- Execute and continuously improve delivery of the MODP

- Embed a Programme Delivery Organisation across the Magnox estate and drive value through implementation of best practice
- Achieve a 20% reduction in support and overhead costs releasing revenues for decommissioning and clean-up

### **2012 – 2013 Regulatory Matters**

- NDA and regulatory concurrence with the Care and Maintenance entry definitions and arrangements

### **2013 – 2015 Planned Key Activities**

#### **Site Restoration**

- Bradwell into effective Care and Maintenance

#### **Spent Fuels**

- Management of the MOP and co-ordination of Magnox fuel management activities with Sellafield and Dounreay

#### **Integrated Waste Management**


- Delivery of the Magnox and LLWR joint waste management plan

#### **Business Optimisation**

- Work to minimise environmental impact of new build activities adjacent to NDA sites through utilisation of existing assets where appropriate
- Seek to optimise electricity generation at Wylfa

#### **Critical Enablers**

- Embed the optimised plan for decommissioning the Magnox generation of nuclear power plants
- Establish the 'lead and learn' principle and focus on building a delivery organisation
- Seek to optimise staff transition and maintain capability
- Build and develop UK Nuclear Decommissioning skill base
- Complete transition to the new PBO

<p><b>Berkeley</b></p> 	<p><b>Location:</b> Gloucestershire  <b>Area:</b> 27 hectares  <b>Generation period:</b> 1962 – 1989  <b>Lifetime output:</b> 43 TWh  <b>Defuelling:</b> Completed 1992</p> <p><b>Current Key Milestones</b>  <b>2021</b> – Site enters Care and Maintenance  <b>2070</b> – Final site clearance commences  <b>2079</b> – Final site clearance achieved</p> <p><b>Status of land</b>  <i>De-licensed:</i> 11 hectares (27 acres) approximately 40% of the nuclear licensed land.  <i>De-designation:</i> Modification of Designating Direction signed by the Minister in January 2012</p>
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## 2012 – 2013 Key Activities

### Integrated Waste Management

- Continue active waste vaults retrieval
- Continue retrieval and packaging of other ILW wastes

## 2012 – 2013 Regulatory Matters

- Concurrence for use of Ductile Cast Iron Containers (DCICs) for the Berkeley ILW management programme


## 2013 – 2015 Planned Key Activities

### Site Restoration

- Complete despatch of boilers from site for recycling and disposal
- Complete bulk retrievals from the chute silo

### Integrated Waste Management

- Continued active waste vaults retrievals
- Continued ILW plant retrievals and packaging

<b>Bradwell</b>	<p><b>Location:</b> Essex  <b>Area:</b> 20 hectares  <b>Generation period:</b> 1962 – 2002  <b>Lifetime output:</b> 60 TWh  <b>Defuelling:</b> Completed 2005</p> <p><b>Current Key Milestones</b>  <b>2015</b> – Site enters Care and Maintenance  <b>2083</b> – Final site clearance commences  <b>2092</b> – Final site clearance achieved</p> <p><b>Status of land</b>  All 20 hectares remain covered by the nuclear site licence.</p>
	

## 2012 – 2013 Key Activities

### Site Restoration

- Continued pilecap de-plant
- Ponds centre bay drained and stabilised
- Dessicant retrieval complete

### Integrated Waste Management

- Commence FED retrieval and dissolution
- Complete active commissioning of aqueous discharge abatement plant

### Critical Enablers

- Capture lessons learned for application to other Magnox sites (lead and learn)

## 2012 – 2013 Regulatory Matters


- Regulatory concurrence to Care and Maintenance entry definition and arrangements

## 2013 – 2015 Planned Key Activities

### Site Restoration

- Site into effective Care and Maintenance
- Complete pilecap de-plant and equipment removal
- Ponds building/complex modifications completed for Care and Maintenance entry
- Complete Reactor Building de-plant and demolition activities
- Reactor building cladding and safe-store completed
- Site completes physical activities to enable Care and Maintenance entry
- Site submits all required safety cases to the regulators to facilitate entry to the Care and Maintenance phase

<b>Integrated Waste Management</b>
<ul style="list-style-type: none"><li>• Completion of FED retrievals and dissolution</li></ul>
<ul style="list-style-type: none"><li>• Complete ILW retrieval and storage activities</li></ul>

<b>Chapelcross</b>	<p><b>Location:</b> Dumfries and Galloway  <b>Area:</b> 96 hectares  <b>Generation period:</b> 1959 – 2004  <b>Lifetime output:</b> 60 TWh  <b>Defuelling:</b> Scheduled to complete 2012</p> <p><b>Current Key Milestones</b>  <b>2017 – 2023</b> – Interim Care and Maintenance  <b>2028</b> – Site enters Care and Maintenance  <b>2089</b> – Final site clearance commences  <b>2095</b> – Final site clearance achieved</p> <p><b>Status of land</b>  All 96 hectares remain covered by the nuclear site licence.</p>
	

## 2012 – 2013 Key Activities

### Site Restoration

- Completion of bulk asbestos removal from heat exchangers and turbine hall
- Continued hazard reduction activities towards interim Care and Maintenance

### Spent Fuels

- Completion of reactor defuelling requirements in line with MOP (*ref 3*)

## 2012 – 2013 Regulatory Matters

- Site fuel free verification agreed with the Office for Nuclear Regulation (ONR)


## 2013 – 2015 Planned Key Activities

### Site Restoration

- Continued hazard reduction activities towards interim Care and Maintenance preparations
- Complete the drainage and stabilising of Pond 2

### Integrated Waste Management

- All reactor desiccant retrieved and packaged
- All pond equipment and ILW resin retrieved and packaged

<p><b>Dungeness A</b></p> 	<p><b>Location:</b> Kent  <b>Area:</b> 20 hectares  <b>Generation period:</b> 1965 – 2006  <b>Lifetime output:</b> 120 TWh  <b>Defuelling:</b> Scheduled to complete 2012</p> <p><b>Current Key Milestones</b>  <b>2019 – 2023</b> – Interim Care and Maintenance  <b>2027</b> – Site enters Care and Maintenance  <b>2087</b> – Final site clearance commences  <b>2097</b> – Final site clearance achieved</p> <p><b>Status of land</b>  All 20 hectares remain covered by the nuclear site licence.</p>
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## 2012 – 2013 Key Activities

### Site Restoration

- Continued hazard reduction activities towards interim Care and Maintenance

### Spent Fuels

- Completion of reactor defuelling requirements in line with MOP

### Integrated Waste Management

- Complete retrieval and processing of LLW sludge


## 2012 – 2013 Regulatory Matters

- Site fuel free verification agreed with the ONR

## 2013 – 2015 Planned Key Activities

### Site Restoration

- Continued hazard reduction activities towards interim Care and Maintenance
- Commence boiler house thermal insulation removal

<p><b>Hinkley Point A</b></p> 	<p><b>Location:</b> Somerset  <b>Area:</b> 19 hectares  <b>Generation period:</b> 1965 – 2000  <b>Lifetime output:</b> 103 TWh  <b>Defuelling:</b> Completed 2004</p> <p><b>Current Key Milestones</b>  <b>2025</b> – Site enters Care and Maintenance  <b>2080</b> – Final site clearance commences  <b>2090</b> – Final site clearance achieved</p> <p><b>Status of land</b>  All 19 hectares remain covered by the nuclear site licence.</p>
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## 2012 – 2013 Key Activities

### Site Restoration

- Complete bulk asbestos removal

## 2013 – 2015 Planned Key Activities

### Site Restoration

- Complete ponds drain and stabilise surface

### Integrated Waste Management

- Complete settling tanks 1, 2, and 3 transfer of wet ILW

### Critical Enablers

- Conduct the 10 yearly Periodic Safety Review



<div data-bbox="178 237 419 275" data-label="Section-Header"> <h2>Hunterston A</h2> </div> <div data-bbox="181 297 587 602" data-label="Image"> </div>	<div data-bbox="608 264 1013 418" data-label="Text"> <p><b>Location:</b> Ayrshire  <b>Area:</b> 15 hectares  <b>Generation period:</b> 1964 – 1989  <b>Lifetime output:</b> 57 TWh  <b>Defuelling:</b> Completed 1995</p> </div> <div data-bbox="608 448 1112 571" data-label="Text"> <p><b>Current Key Milestones</b>  <b>2022</b> – Site enters Care and Maintenance  <b>2070</b> – Final site clearance commences  <b>2080</b> – Final site clearance achieved</p> </div> <div data-bbox="608 600 1310 663" data-label="Text"> <p><b>Status of land</b>  All 15 hectares remain covered by the nuclear site licence.</p> </div>
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## 2012 – 2013 Key Activities

### Site Restoration

- Pond dewatering and drainage ongoing

### Integrated Waste Management

- Continued development and optimisation of solid ILW Management programme
- Commence ILW wet retrieval plant commissioning


## 2013 – 2015 Planned Key Activities

### Site Restoration

- Complete the ponds drain and stabilise surface

### Integrated Waste Management

- Continue ILW management programme

<p><b>Oldbury</b></p> 	<p><b>Location:</b> South Gloucestershire  <b>Area:</b> 51 hectares  <b>Generation period:</b> 1967 – 2012  <b>Lifetime output:</b> 137.5 TWh  <b>Defuelling:</b> Scheduled to complete 2014</p> <p><b>Current Key Milestones</b>  <b>2027</b> – Site enters Care and Maintenance  <b>2092</b> – Final site clearance commences  <b>2101</b> – Final site clearance achieved</p> <p><b>Status of land</b>  <i>De-licensed:</i> 35 hectares (86 acres) approximately 69% of the nuclear licensed land.  <i>De-designation:</i> Modification of the Designating Direction signed by the Minister in January 2012</p>
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## 2012 – 2013 Key Activities

### Site Restoration

- Preparations for decommissioning hazard reduction

### Spent Fuels

- Commencement of reactor defuelling in line with MOP

### Critical Enablers

- Commencement of the organisational change programme for decommissioning

## 2012 – 2013 Regulatory Matters

- Commencement of decommissioning activities in line with Environmental Impact Assessment for Decommissioning (EIAD)

## 2013 – 2015 Planned Key Activities

### Site Restoration

- Start Care and Maintenance preparations

### Spent Fuels

- Continued reactor defuelling in line with MOP

<b>Sizewell A</b>	<p><b>Location:</b> Suffolk  <b>Area:</b> 14 hectares  <b>Generation period:</b> 1966 – 2006  <b>Lifetime output:</b> 110 TWh  <b>Defuelling:</b> Scheduled to complete 2013</p> <p><b>Current Key Milestones</b>  <b>2027</b> – Site enters Care and Maintenance  <b>2088</b> – Final site clearance commences  <b>2098</b> – Final site clearance achieved</p> <p><b>Status of land</b>  All 14 hectares remain covered by the nuclear site licence.</p>
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## 2012 – 2013 Key Activities

### Site Restoration

- Maintain facilities in a safe state


### Spent Fuels

- Continue defuelling in line with MOP

## 2013 – 2015 Planned Key Activities

### Spent Fuels

- Complete defuelling in line with MOP
- Site fuel free verification agreed with the ONR

<p><b>Trawsfynydd</b></p> 	<p><b>Location:</b> Gwynedd, North Wales  <b>Area:</b> 15 hectares  <b>Generation period:</b> 1965 – 1991  <b>Lifetime output:</b> 72 TWh  <b>Defuelling:</b> Completed 1995</p> <p><b>Current Key Milestones</b>  <b>2016</b> – Site enters Care and Maintenance  <b>2027</b> – Safestore completed  <b>2073</b> – Final site clearance commences  <b>2083</b> – Final site clearance achieved</p> <p><b>Status of land</b>  All 15 hectares remain covered by the nuclear site licence.</p>
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## 2012 – 2013 Key Activities

### Site Restoration

- Continue safe-store asset care activities to support Care and Maintenance entry
- Complete the strengthening of the capping roof
- Complete North Lane Pond scabbling
- Completion of North FED civil enabling works
- Combined sludge and resin vault retrievals

### Integrated Waste Management

- Complete transfer of legacy waste to the ILW store

### Critical Enablers

- Review the opportunity for personnel and skills transfer between Trawsfynydd, Wylfa and potential new build on Anglesey
- Capture lessons learned for application to other Magnox sites (lead and learn)


## 2013 – 2015 Planned Key Activities

### Site Restoration

- Complete bulk retrievals for the main sludge and resin vaults 2 & 3
- Continue safe-store asset care activities to support Care and Maintenance entry
- All pond lanes scabbling activities completed

### Integrated Waste Management

- Commence retrieval and encapsulation of FED
- Active waste vaults – complete the ILW solid retrievals and processing
- Complete transfer of legacy drums to the ILW store

<p><b>Wylfa</b></p> 	<p><b>Location:</b> Anglesey  <b>Area:</b> 21 hectares  <b>Generation period:</b> 1971 – currently scheduled to end 2012 (extension to be explored)  <b>Lifetime output:</b> over 220 TWh  <b>Defuelling:</b> Scheduled to complete 2016</p> <p><b>Current Key Milestones</b>  <b>2025</b> – Site enters Care and Maintenance  <b>2091</b> – Final site clearance commences  <b>2101</b> – Final site clearance achieved</p> <p><b>Status of land</b>  All 21 hectares remain covered by the nuclear site licence.</p>
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## 2012 – 2013 Key Activities

### Spent Fuels

- Completion of secondary fuel route project for defuelling

### Business Optimisation

- Explore the opportunity for continued electricity generation beyond December 2012

## 2012 – 2013 Regulatory Matters

- Regulatory consent for continued operation of Wylfa using Inter-Reactor Exchange

## 2013 – 2015 Planned Key Activities

### Site Restoration

- Preparations for decommissioning and hazard reduction

### Spent Fuels

- Commencement of reactor bulk defuelling in line with the MOP

### Critical Enablers

- Commencement of the organisational change programme for decommissioning

### Business Optimisation

- Continued generation at Maentwrog

## Dounreay Site Restoration Limited



Dounreay Site Restoration Limited (DSRL) is the SLC responsible for the operation of the Dounreay site. The current PBO (until 31 March 2012) of the company is UKAEA Ltd, which is owned by Babcock International Group (BIG) Plc.

Babcock Dounreay Partnership Limited is the preferred bidder in taking ownership of the site following the completion of share transfer on 2 April 2012. This is the first closure contract award to take an NDA site to Interim State.

**Planned expenditure for 2012/2013 - £161 million**

## Dounreay



**Location:** Caithness, Scotland

**Established:** 1955

**Area:** 74 hectares

### Current Key Milestones

**2014** – LLW facilities commence operations

**2017** – Dounreay Fast Reactor (DFR) All liquid metal residues destroyed

**2018** – Prototype Fast Reactor (PFR) liquid metal residues destroyed

**2020** – All material for disposal removed from shaft

**2021** – PFR dismantled

**2022-25** – Interim State achieved in this timeframe

### Status of land

All 74 hectares remain covered by the nuclear site licence.

## 2012 – 2013 Key Activities

### Site Restoration

- Ongoing destruction of alkali metal on sodium wetted components from reactor decommissioning
- Continue removal of spent fuel cans stored in the PFR buffer store

### Spent Fuels

- Complete preparations and commence 'Out of Reactor' breeder fuel shipments to Sellafield
- Complete the removal of fuel from PFR Reprocessing Plant

### Integrated Waste Management

- Continue with the construction of the new LLW Facility

Critical Enablers
<ul style="list-style-type: none"> <li>• Complete inactive commissioning of equipment to remove breeder fuel from the DFR</li> </ul>
<ul style="list-style-type: none"> <li>• Complete the new PBO baseline update to reflect the winning decommissioning strategy</li> </ul>
<ul style="list-style-type: none"> <li>• Complete the design for an Un-irradiated Fuels Characterisation Facility to assay and package un-irradiated fuels for final disposition</li> </ul>
<ul style="list-style-type: none"> <li>• Implementation of the socio-economic and stakeholder engagement plans</li> </ul>

2013 – 2015 Planned Key Activities
Site Restoration
<ul style="list-style-type: none"> <li>• D1251 handed over for demolition</li> </ul>
<ul style="list-style-type: none"> <li>• D1225 Shaft Building demolished</li> </ul>

Nuclear Materials
<ul style="list-style-type: none"> <li>• Complete Commissioning of Unirradiated Fuels Characterisation Facility to enable conditioning of nuclear materials</li> </ul>

Integrated Waste Management
<ul style="list-style-type: none"> <li>• Complete encapsulation of highly active Material Test Reactor liquors in cement</li> </ul>
<ul style="list-style-type: none"> <li>• Complete the construction of Phase 1 (first two vaults) of the new LLW Facility</li> </ul>

Critical Enablers
<ul style="list-style-type: none"> <li>• Complete the design and construction of the New Active Analysis Laboratory</li> </ul>

**The output of the competition is expected to positively impact the plan. Any short-term changes in activities have been updated since the consultation document was published in December 2011.**

## Research Sites Restoration Limited (SLC)



RSRL are the SLC responsible for the operation of the Harwell and Winfrith sites. The current PBO of the company is UKAEA Ltd, which is owned by Babcock International Group (BIG) PLC.

**Planned expenditure for 2012/2013 - £60 million**

## 2012 – 2013 Key Activities

### Site Restoration

- Development of programme optimisation including accelerated scenarios/options

### Critical Enablers

- Provide support to the NDA in the competition for a new PBO
- Development of optimised decommissioning plan options
- Achieve a 20% reduction in support and overhead costs releasing revenues for decommissioning and clean-up

## Harwell



**Location:** Oxfordshire

**Established:** 1946

**Area:** 110 hectares

### Current Key Milestones

**2023** – Primary facilities decommissioning complete

**2031** – Reactor decommissioning complete

**2032** – Site closure phase begins

**2064** – Final site clearance achieved

### Status of land

*De-licensed:* 18 hectares in two phases, Phase 1 - 12 hectares, Phase 2 – 6 hectares (44 acres) approximately 16% of the nuclear licensed land.

*De-designation:* Area of land planned to be de-designated in 2012 subject to Ministerial approval.

## 2012 – 2013 Key Activities

### Site Restoration

- Care and Maintenance of redundant reactors and other facilities
- Decommissioning of Liquid Effluent Treatment Plant (LETP)

## Integrated Waste Management

- Recovery, processing and packaging of solid ILW



### Nuclear Materials

- Progress the capability to transfer materials off site

### 2013 – 2015 Planned Key Activities

#### Site Restoration

- Care and Maintenance of redundant reactors and other facilities
- Decommissioning of LETP

### Nuclear Materials

- Meeting the programme milestones for the transfer of nuclear materials

### Integrated Waste Management

- Recovery, processing and packaging of solid ILW

### Winfrith



**Location:** Dorset  
**Established:** 1958  
**Area:** 88 hectares

#### Current Key Milestones

**2021** – Complete Care and Maintenance  
**2032** – DRAGON reactor complex decommissioning complete  
**2038** – Steam Generating Heavy Water Reactor complex decommissioning complete  
**2048** – Final site clearance achieved

#### Status of land

All 88 hectares remain covered by the nuclear site licence.

### 2012 – 2013 Key Activities

#### Site Restoration

- Prepare Winfrith for Interim State in a safe and secure manner and review opportunities for optimisation

### 2013 – 2015 Planned Key Activities

#### Site Restoration

- Prepare Winfrith for Interim State

## Low Level Waste Repository Limited



Low Level Waste Repository (LLWR) Limited is the SLC responsible for the operation of the Low Level Waste site near the village of Drigg in Cumbria. The PBO of the company is UK Nuclear Waste Management Limited.

**Planned expenditure for 2012/2013 - £30 million**

## LLWR



**Location:** Cumbria

**Established:** 1959

**Area:** 109 hectares

### Current Key Milestones

**2018** – PCM facilities removal complete

**2007 - 2055** – Engineered vaults construction

**2080** – Final site clearance achieved

### Status of land

All 109 hectares remain covered by the nuclear site licence.

## 2012 – 2013 Key Activities

### Site Restoration

- Commence site preparation for phased construction of final cap
- Ongoing decommissioning of PCM facilities
- Ongoing implementation of the Environmental Safety Case

## 2012 – 2013 Key Activities

### Integrated Waste Management

- Continue segregated waste and disposal services
- Work with consigning SLCs to further implement the LLW Strategy
- Operation of new LLW packaging containers
- Integrate transportation of waste with other programme moves
- Commence phased implementation of the Environmental Safety Case
- Decommissioning of PCM facilities
- Delivery of the National Waste Programme to optimise LLW Strategy Implementation

### **Critical Enablers**

- Achieve a 20% reduction in support and overhead costs releasing revenues for decommissioning and clean-up

### **2012 – 2013 Regulatory Matters**

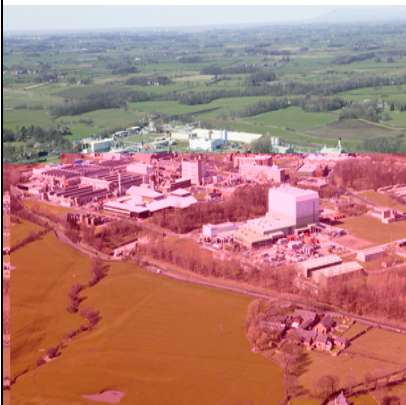
- Demonstrate Conduct of Operations and Maintenance Improvements to ONR
- Support Environment Agency assessment of Environmental Safety Case
- Determination of the Site Optimisation and Closure Works Planning Application

### **2013 – 2015 Planned Key Activities**

#### **Integrated Waste Management**

- Waste treatment and disposal in line with UK LLW Strategy
- Operational capabilities in place for the estate-wide management of LLW, informed by waste management hierarchy principles
- Implementation of the LLW Strategy and improved waste forecasts
- Secure continued operation and capacity of LLWR by demonstrating to the planning authorities that disposal volumes can be minimised
- Maintain the momentum of the supply chain investment in waste treatment arrangements

## Springfields Fuels Limited



Springfields is a nuclear fuel manufacturing site and is located near Preston in Lancashire. The site manufactures a range of fuel products for both UK and international customers and decommissions 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. The deal supports the maintenance of high-quality jobs that would otherwise have been gradually shed as commercial operations declined and decommissioning progressed.

**Planned expenditure for 2012/2013 - £42 million**

## 2012 – 2013 Key Activities

### Site Restoration

- Continue the Post Operational Clean Out (POCO) and decommissioning of redundant areas

### Nuclear Materials

- Processing historic residues to recover uranium to return to the nuclear fuel cycle

## 2013 – 2015 Planned Key Activities

### Site Restoration

- Continue the POCO and decommissioning of redundant areas

### Nuclear Materials

- Continue to clear uranic residues in the uranium recovery plants

## NDA and RWMD

### Nuclear Decommissioning Authority

The Energy Act 2004 (*ref 2*) 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.

The delivery of the NDA's mission is primarily through the SLC's. The NDA's role is:

- **Strategy** – development, long-term scenario planning and options development
- **Planning** – securing and allocation of funding, development of plans and options
- **Incentivisation** – designing and implementing the right incentivisation principles and processes to achieve the required outcomes
- **Sanctioning** – sanctioning of major programmes and projects and post investment appraisal
- **Performance Management** – deep dive assurance reviews, performance monitoring, performance and financial reporting

#### 2012 – 2013 Key Activities

##### Site Restoration

- Prioritisation of funding for high risk and hazard legacy wastes
- Programme optimisation including accelerated scenarios/options

##### Nuclear Materials

- Work with Government on implementing any new policy regarding nuclear material
- Progress the capability to transfer materials between sites

##### Integrated Waste Management

- Establish with the SLCs the ILW programme including co-location potential
- Focus on the Higher Activity Waste (HAW) programme

##### Business Optimisation

- Evaluation of potential LLWR contract extension
- Capenhurst – Transition of the Capenhurst site and operations to URENCO
- Securing best value from NDA land

##### Critical Enablers

- Initiate the Records Management project to ensure NDA are compliant in storing and restoring documents
- Re-certification of ISO9001/14001
- Deliver savings from collaborative procurement across the estate

<ul style="list-style-type: none"> <li>• Preparations for the Magnox and RSRL competitions</li> </ul>
<ul style="list-style-type: none"> <li>• Improving Risk Management throughout the estate</li> </ul>
<ul style="list-style-type: none"> <li>• Embed new programme and project reporting</li> </ul>
<ul style="list-style-type: none"> <li>• Oversee the delivery of the Skills and People Strategy including the Transition Framework</li> </ul>
<ul style="list-style-type: none"> <li>• Embed the new Dounreay Programme into NDA plans following competition</li> </ul>
<ul style="list-style-type: none"> <li>• Implementation of the Direct Research Portfolio Framework Contracts to support the development of strategy and estate wide needs and opportunities</li> </ul>
<ul style="list-style-type: none"> <li>• Information Governance Strategy to be approved and published which will include details on Knowledge Management and the long-term Records Management Solution</li> </ul>

## 2013 – 2015 Planned Key Activities

### Critical Enablers

<ul style="list-style-type: none"> <li>• Begin preparations for the next Strategy</li> </ul>
<ul style="list-style-type: none"> <li>• Begin preparations for the next Spending Review</li> </ul>
<ul style="list-style-type: none"> <li>• Subject to the fiscal constraints of the Pay Remit, it is our intention to close the gender pay gap across the business. We will also ensure opportunities for all at every level within the organisation.</li> </ul>

## Radioactive Waste Management Directorate (RWMD)

Government has made the NDA the implementing organisation for geological disposal of HAW, this includes both planning and delivery. RWMD is currently running this programme and is being developed into a competent delivery organisation which is capable of applying for and holding regulatory permissions. In due course, it is intended that RWMD will be established as a wholly owned NDA subsidiary.

The programme to deliver geological disposal and provide radioactive waste management solutions covers the following objectives:

- develop the specification, design, safety case and environmental and sustainability assessments for the disposal system and obtain regulatory support
- deliver a focused R&D programme to support geological disposal and optimised packaging solutions
- in conjunction with waste producers, identify and deliver solutions to optimise the management of HAW
- deliver sustainable, innovative and cost-effective solutions that have public support and are in the best interests of the UK
- engage with national and local Governments and communities to identify a Geological Disposal Facility (GDF) site
- obtain and maintain stakeholder support for our activities
- develop and maintain an effective organisation and secure resources to deliver the GDF programme

## 2012 – 2013 Key Activities

### Integrated Waste Management

<ul style="list-style-type: none"> <li>• Utilising the improved Letters of Compliance (LoC) process (agreed in March 2012) work pro-actively with waste producers in developing disposability assessments for their range of wastes</li> </ul>
<ul style="list-style-type: none"> <li>• Working with stakeholders, finalise potential candidate site identification and assessment methodologies</li> </ul>

<ul style="list-style-type: none"> <li>• Support community activities to identify potential candidate sites</li> </ul>
<ul style="list-style-type: none"> <li>• Deliver a robust technical programme to address uncertainties in the generic Disposal System Safety Case (DSSC) including issues associated with the new build wastes and engineering design of a Geological Disposal Facility (GDF)</li> </ul>
<ul style="list-style-type: none"> <li>• Establish a GDF users' group to ensure non NDA disposal requirements are fully understood</li> </ul>
<ul style="list-style-type: none"> <li>• Continue work on GDF programme acceleration and prepare a revised baseline programme</li> </ul>
<ul style="list-style-type: none"> <li>• Progress the ability to become a wholly owned subsidiary of the NDA when appropriate</li> </ul>

### **2012 – 2013 Regulatory Matters**

- RWMD will continue to be subject to voluntary scrutiny by the regulators as a 'Prospective SLC'
- RWMD will work with the regulators to agree plans for transition to a regulated body including agreement on a timeframe to form a subsidiary
- RWMD will implement and operate improvements to the LoC process to support regulators' guidance on radioactive waste management

### **2013 – 2015 Planned Key Activities**

#### **Integrated Waste Management**

- Support community activities to identify potential candidate sites
- Support community activities to develop and apply the site assessment process
- Carry out a Strategic Environmental Assessment (SEA) and a (plan level) Habitats Regulations Assessment
- Carry out site evaluations on potential candidate sites
- Commence preparation of desk based assessment reports
- Deliver a needs-based research and development programme to address issues arising from the 2010 generic DSSC
- Identify and secure resources needed for Managing Radioactive Waste Safely (MRWS) Stage 5

## NDA Subsidiary Companies

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

#### 2012 – 2015 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
- Focus on developing business opportunities in the following sectors:
  - NDA Estate Support
  - Port Intermodal
  - Major Construction Projects
- Maximise asset utilisation in the recent investment in lowliner wagons
- Continue to identify new business opportunities in the following areas:
  - Domestic Intermodal
  - Specialist Freight
  - Network Rail Infrastructure Support
  - Passenger Operations
  - Third Party Maintenance
  - Resource Hire
- Continue to develop a robust marketing and communications plan to support all business sectors, pro-actively engaging in all key stakeholder activities

### 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 shipper of nuclear materials.

Over the next three years INS will increase its focus on the return of vitrified wastes to their country of origin. In addition INS will continue to provide a service to existing international companies whilst also developing opportunities for new commercial business.

#### 2012 – 2015 Planned Key Activities

- Continue 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, and vitrified High Level Waste (HLW) internationally
- Support the NDA in the development and implementation of transport solutions to enable the UK decommissioning programme



## **NDA Properties Limited**

NDA Properties Limited primarily acts as a property management 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 will continue to optimise or dispose of these assets for the benefit of the NDA.

<b>2012 – 2015 Planned Key Activities</b>
• Manage non-nuclear site properties under NDA control in a cost-effective manner
• Actively market and either lease or sell surplus assets to generate income
• Review options for management of the Berkeley Centre and Hinton House
• Review options for the West Cumbria assets



## **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.

<b>2012 – 2015 Planned Key Activities</b>
• Provide insurance to the NDA to support its estate-wide insurance programme
• Manage the performance of its investment portfolio with due regards to the overall returns and associated risk assessment
• Ensure compliance with Guernsey regulations and changes relating to solvency

## Response to Consultation

The NDA's consultation on the 'Business Plan 2012-2015' completed on 3 February 2012, receiving 14 formal responses. Where applicable, comments have been used to amend the document to provide clarity on key activities, however there have been minimal changes.

Once again we have received positive feedback that the document was well written with a well defined delivery focus. The increased funding at Sellafield was welcome along with the increase in socio-economics, skills, R&D and knowledge management. It was noted that the disaggregating of these areas would be helpful, however, we would like to re-iterate that due to the nature and calibre of the business cases we receive it is hard to judge the level of funding required. By amalgamating these budgets it allows the NDA to optimise investment decisions across these important activities.

Progress on activities in year can be viewed on our website, (see link <http://www.nda.gov.uk/sites/>) where site milestones set out in the Business Plan are reported against quarterly. The activities are categorised by strategic theme, therefore, providing a flavour of progress against our strategy. At the end of each year we report the year end status of the site activities in our Annual Report and Accounts.

### **Additional copies**

You may make copies of this consultation document without seeking permission. We are not producing hard copies of the consultation document this year, however if you require a printed copy please email [businessplanning@nda.gov.uk](mailto:businessplanning@nda.gov.uk)

## Glossary

AGR	Advanced Gas Reactor
ARAC	Annual Report and Accounts
BIG	Babcock International Group
C&M	Care and Maintenance
DECC	Department of Energy and Climate Change
DCIC	Ductile Cast Iron Containers
DFR	Dounreay Fast Reactor
DRS	Direct Rail Services
DSRL	Dounreay Site Restoration Limited
DSSC	Disposal System Safety Case
EIAD	Environmental Impact Assessment for Decommissioning
FED	Fuel Element Debris
GDF	Geological Disposal Facility
HAL	Highly Active Liquor
HAW	Higher Activity Waste
HLW	High Level Waste
ICP	Integrated Change Programme
ILW	Intermediate Level Waste
INS	International Nuclear Services
LETP	Liquid Effluent Treatment Plant
LLW	Low Level Waste
LLWR	Low Level Waste Repository
LoC	Letters of Compliance
MODP	Magnox Optimised Decommissioning Programme
MOP	Magnox Operating Programme
MOX	Mixed Oxide
MRWS	Managing Radioactive Waste Safely
NaK	Sodium Potassium
NDPB	Non-Departmental Public Body
NGO	Non-Governmental Organisations
NMPL	Nuclear Management Partners Limited
ONR	Office for Nuclear Regulation
PBO	Parent Body Organisation
PCM	Plutonium Contaminated Material
PFR	Prototype Fast Reactor
PNTL	Pacific Nuclear Transport Limited
POCO	Post Operational Clean Out
R&D	Research and Development
RSRL	Research Sites Restoration Limited
RWMD	Radioactive Waste Management Directorate
ShEx	Shareholder Executive
SLC	Site Licence Company
SSG	Site Stakeholder Groups
THORP	Thermal Oxide Reprocessing Plant
UKNWM	UK Nuclear Waste Management Limited

## References

1. **Sellafield Plan (2011)**  
<http://www.sellafieldsites.com/publications/sellafieldplan/>
2. **Energy Act 2004**  
<http://www.legislation.gov.uk/ukpga/2004/20/contents>
3. **Magnox Operating Programme (MOP8) (2010)**  
<http://www.nda.gov.uk/documents/loader.cfm?csModule=security/getfile&pageid=19072>
4. **Magnox Optimised Decommissioning Programme (2010)**  
<http://www.magnoxsites.co.uk/UserFiles/File/publications/company%20information/MODPbrochure.pdf>

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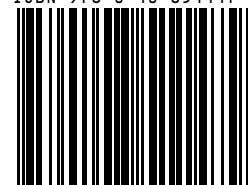
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