

# Implementing geological disposal in the UK

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Presentation to CEG Workshop  
25<sup>th</sup> February 2009



## The NDA

- **Non-Departmental Public Body established in April 2005**
- **Remit to clean up the civil public sector nuclear legacy**
- **Sites and facilities built from 1940s onwards**
- **Annual funding of ~£2.8Bn**
- **Head Office based in West Cumbria**
- **Responsible for 19 former UKAEA and BNFL sites & integrated waste strategy**



## The NDA's mission

**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**
- **Always seeking value for money for the tax payer**
- **Taking account of our social and environmental responsibilities**
- **Actively engaging with stakeholders**

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## NDA's radioactive waste management responsibilities

- **Energy Act 2004**
  - **securing the treatment, storage, transportation and disposal of legacy wastes**
  - **strategy for carrying out above functions**
- **Low Level Waste Policy Review (published 2007)**
  - **Provision of a national optimised solution**
- **Government 2008 White Paper on higher activity waste**
  - **GDF implementer**
- **National approach to waste hierarchy**

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## NDA progress

- **Since formation (2005) focus was on quantifying and understanding liabilities**
- **Good progress made**
  - **Common planning basis across estate**
  - **Lifetime plans (LTPs) for all NDA sites**
- **Total estimate (discounted) of £40.7Bn for decommissioning and clean-up**
- **Separate estimate (discounted) of £3.4Bn for geological disposal facility**
- **Now need to focus on the strategy for dealing with those liabilities**
  - **Developing Strategy Management System**

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## 2008 White Paper

- **Government's framework for managing higher activity radioactive waste through geological disposal**
- **Addresses safe and secure interim storage and R&D also**
- **Communities invited to open non committal discussions with Government about possible future hosting of a geological disposal facility**



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## Who does what?

- **Government – policy makers and will take final decisions on site location etc**
- **NDA – implementing organisation, planning and delivering the geological disposal facility through the supply chain**
- **Local Govt – engaged in partnership and local decision making**
- **Communities – work in partnership with NDA**
- **Regulators – ensure robust independent regulation**
- **CoRWM – independent scrutiny and advice**

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## Next steps

- **Government to continue with siting process based on voluntarism and partnership**
  - **One Borough Council has formally expressed an interest – Copeland**
  - **Another one – Allerdale – deciding at full Council meeting 28 January**
  - **Cumbria County Council also expressed an interest**
- **NDA looks forward to partnership working with potential host communities**

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## Radioactive Waste Management Directorate

- **NDA is developing the Radioactive Waste Management Directorate (RWMD) to deliver the geological disposal facility (GDF) project**
- **Intend to set up wholly owned subsidiary and create a Site Licence Company (SLC) in due course**
- **Options remain for Parent Body Organisation competition in due course**
- **Minimalist approach – we envisage 90% of project costs in the supply chain**
- **Subject to independent scrutiny and regulation**

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## Managing Radioactive Waste Safely (MRWS) programme

Stage	Work	Timing
1	The MRWS consultation process, consideration of responses, planning for stage 2	2001-02
2	<ul style="list-style-type: none"> <li>• Establishment of CoRWM</li> <li>• Research and public debate, led by CoRWM, involving option evaluation, using best public and stakeholder engagement and the best available scientific knowledge</li> <li>• Government decision on the option(s) to implement</li> </ul>	2002-06
3	Consultation on the Government's framework for implementing its preferred option(s)	2007
4	Implementation of preferred option(s)	2008 onwards

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# Baseline inventory of higher-activity waste

Material	Packaged volume (m <sup>3</sup> )	% of total	Activity (TBq)	% of total
HLW	1,400	<0.3	36 million	41.3
ILW <sup>[1]</sup>	364,000	76.3	2.2 million	2.5
LLW <sup>[2]</sup>	17,000	3.6	<100	<0.001
Plutonium	3,300	0.7	4 million	4.6
Uranium	80,000	16.8	3,000	<0.01
Spent Fuel	11,200	2.3	45 million	51.6
<b>Total</b>	<b>476,900</b>	<b>100</b>	<b>87.2 million</b>	<b>100</b>

<sup>[1]</sup> Based on total volume of existing ILW stocks when packaged (37%) and future ILW arisings (63%)  
<sup>[2]</sup> Low level waste that cannot be disposed of in the LLW repository near the village of Drigg

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# Geological disposal



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## Implementation (1)

- **Siting is based on “voluntarism” supported by a Right of Withdrawal**
- **Key role for the Community Siting Partnership**
- **Community Engagement Package could cover the costs of participation, enable effective engagement and give access to independent advice**
- **Recognition of the need to ensure that the GDF contributes to the well being and development of the host community, including development of a Community Benefits Package**

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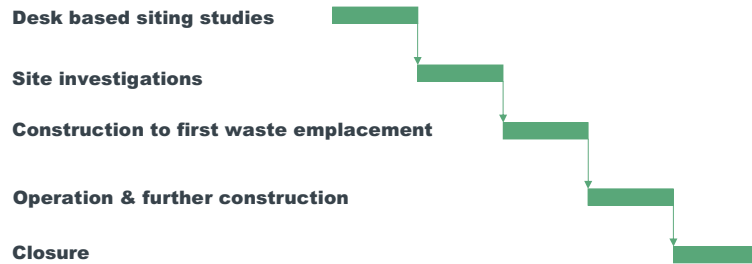
## Implementation (2)

- **The site selection process and its application will be open and transparent**
- **RWMD will work in partnership with, Government, communities (and local authorities in particular) to develop and implement the GDF**
- **Continuous stakeholder engagement**
- **Subject to independent scrutiny and regulation**
- **Implementation underpinned by R&D**
- **Design options for retrievability kept open for discussion**
- **Process for updating inventory and feasibility of co-location**

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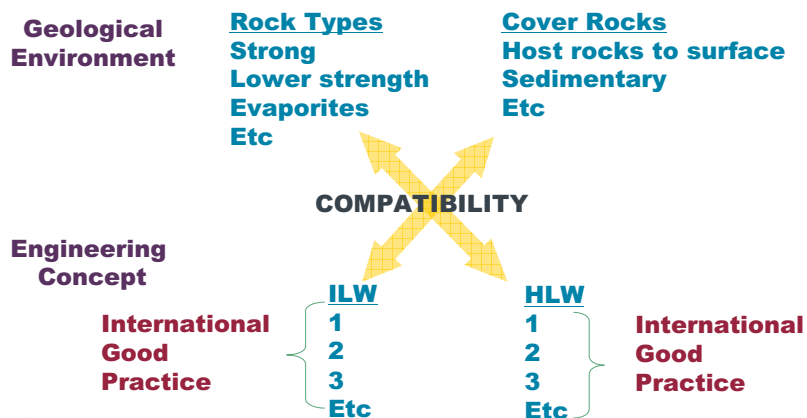
# The principal phases in geological disposal



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# NDA baseline - technology

Considering a Matrix of Variables



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## Conclusions

- **Government Policy is Geological Disposal for UK Higher Activity Waste**
- **NDA is the body responsible for Implementation**
- **Principle of volunteerism and partnership for site selection**
- **Current work programme considering generic issues associated with UK higher activity waste**

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