

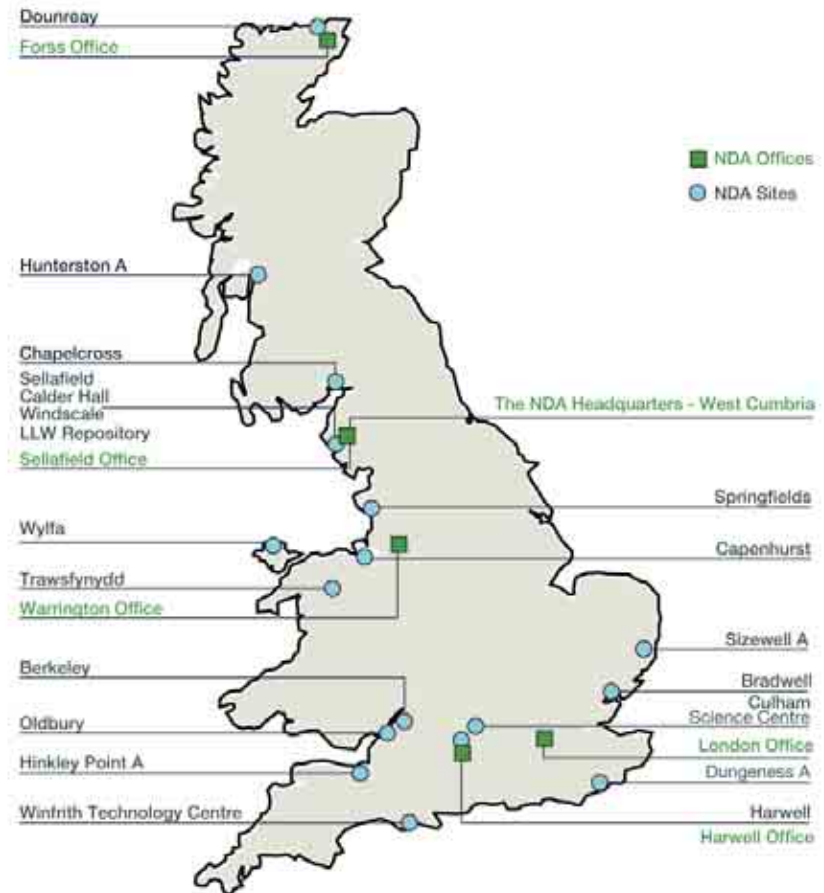
# SNF Reprocessing – UK update

WM 2009 Phoenix, 3 March 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



# Reprocessing Oxide Fuel

- THORP (Thermal Oxide Reprocessing Plant)
- Located at Sellafield
- UK and non-UK customers
- Strategy is to fulfil existing contracts – 2015/16
- Change in strategy will require consultation
- “Return to sender” policy for HLW post 1976 contracts



# Magnox reprocessing

- First generation nuclear stations
  - Last one shuts down December 2010
- Magnox Operating Programme (MOP)
  - Magnox SF has to be reprocessed
  - Magnox fuel stored wet (except Wylfa)
    - Corrosion issues
  - Reprocess all Magnox through to end of life – 2016
  - Ageing reprocessing plant

# Waste arisings & disposition

- Vitriified HLW
  - deep geological disposal
- Long-lived ILW (TRU, >Class C)
  - deep geological disposal
- Short-lived ILW (Class B)
  - deep geological disposal (UK)
  - Near-surface disposal in other countries
- LLW

# Oxide Spent Fuel Management Review

## Options:

- Reprocess
- Interim storage
- Direct disposal
  
- Results later this year

# 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
Total	476,900	100	87.2 million	100

<sup>[1]</sup> Based on total volume of existing ILW stocks when packaged (37%) and future ILW arisings (63%)

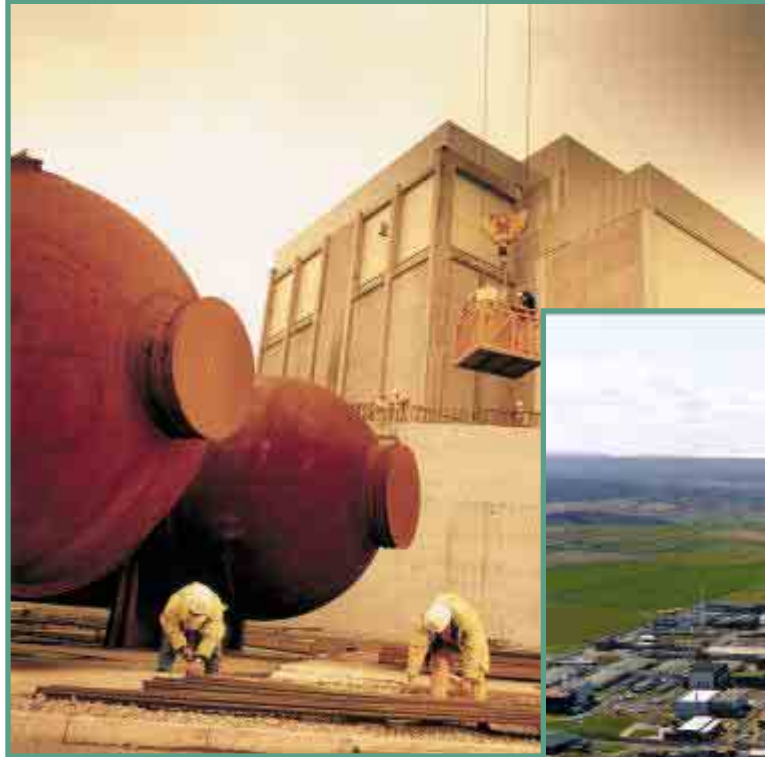
<sup>[2]</sup> Low level waste that cannot be disposed of in the LLW repository near the village of Drigg

# Other Issues

- New build fuel options:
  - Direct disposal, don't assume reprocessing- Government policy
- GNEP
  - UK member since 2008
  - Opportunities for commercial reprocessing



[www.nda.gov.uk](http://www.nda.gov.uk)



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