

LLWR Environmental Safety Case Review

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Nuclear Regulation Group

LLWR Sub Committee (WCSSG) – 14 September 2011

An Environmental Safety Case (ESC)

“A collection of arguments, data, assessments and information to demonstrate environmental safety now and into the long term future”

Background

- ➔ Previous case delivered 2002
- ➔ Our review raised concerns
 - ➔ Estimated doses exceeded targets
 - ➔ Coastal erosion as a 'what if'
 - ➔ Not a 'case' but a collection of arguments
 - ➔ No coherent assessment of risk management options / optimisation
- ➔ In 2006 only disposal to Vault 8 authorised
- ➔ Capping of Vault 8 & trenches not allowed
- ➔ Updated ESC required by May 2011

Importance of the project

- ➔ Determine if disposal can continue or not, or must be limited in any way
- ➔ Disposal capacity vital to nuclear decommissioning and operations, and other non-nuclear activities
- ➔ Potential wider impacts
- ➔ An alternate LLWR estimated to cost around £2bn

- ➔ However our focus is environmental safety
- ➔ Certainty is required whether disposals can continue or not

Our objectives

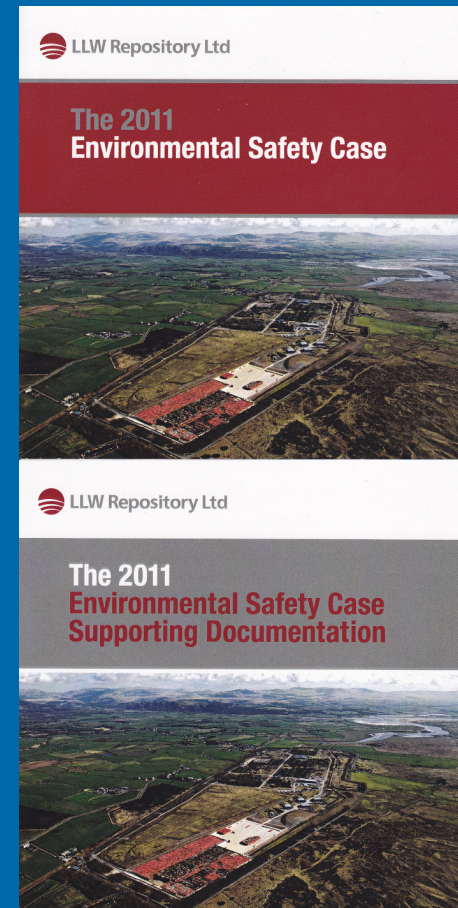
- ➡ A fully authorised site to take the UK's LLW, to the extent that a satisfactory Environmental Safety Case can be made
- ➡ A robust, clear and defensible technical review to underpin our regulatory decision
- ➡ Complete and report publicly on our review and permitting by autumn 2013
- ➡ Take robust and proportionate permitting decisions
- ➡ Engage

Scope of our project

- ➔ Technical review of the ESC
 - ➔ Consistency with permit conditions
 - ➔ Support regulatory permitting decisions

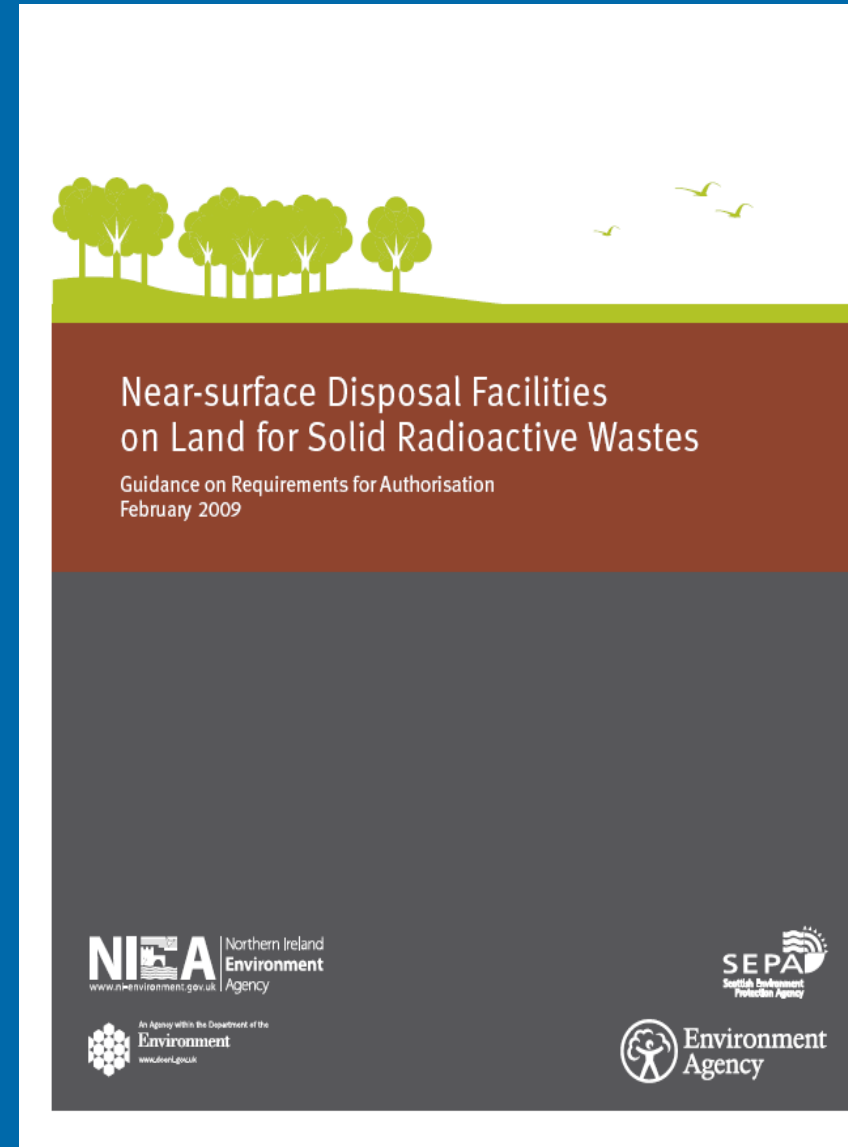


- ➔ Permit review, consultation and decision



Some expectations

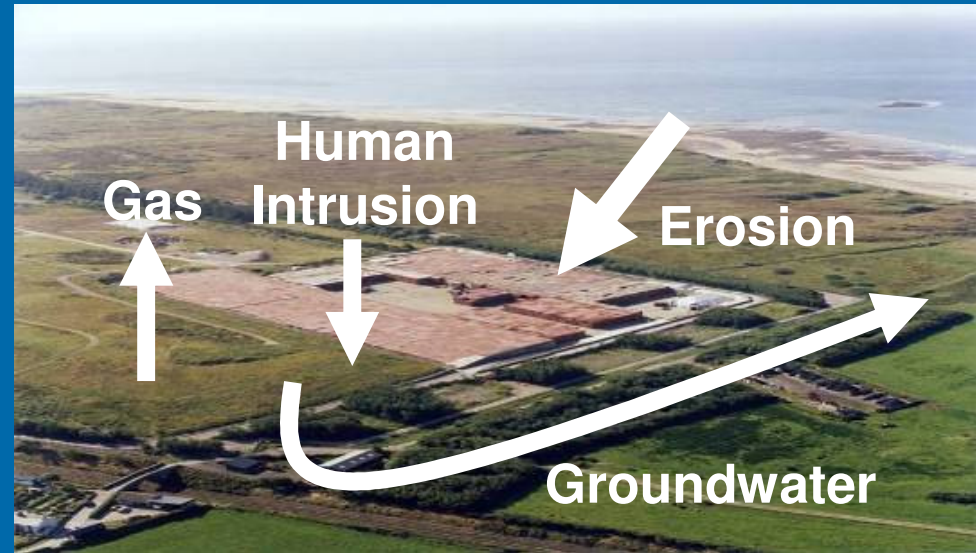
- Meet the principles and requirements in the GRA
- Robust technical underpinning
- Sound science and engineering
- Risks arising from the LLWR are and continue to be acceptable far into the future, and ALARA
- Comprehensive treatment of uncertainty
- Clear documentation
- Multiple lines of argument



The technical review

Technical issues

- Site understanding, inventory, monitoring, waste chemistry, coastal erosion, human intrusion, gas, groundwater, engineering, SSSI, biosphere, modelling, optimisation, assessment, uncertainty, quality assurance, management, change control

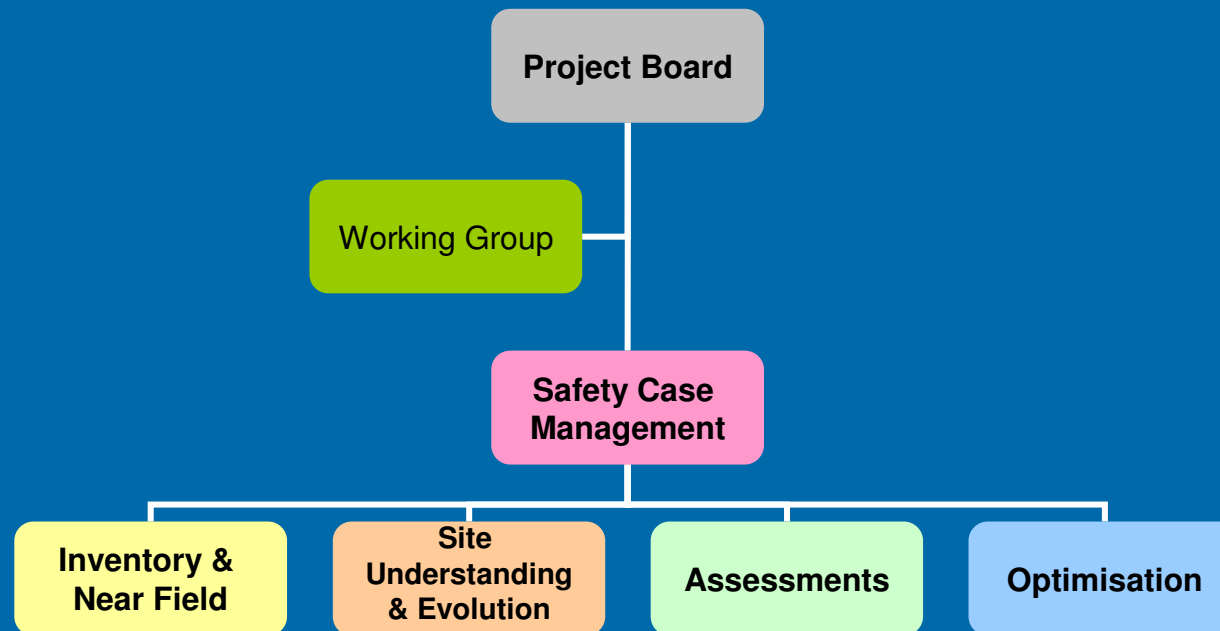


Key questions

- Is it safe now and into the long term future?
- For how much waste and in what form?
- Are proposals for engineering/management BAT?
- Can final capping of the trenches be started?
- Effects of coastal erosion?
- Consistency with dose constraints?
- Has the system been optimised?

Project arrangements

- Senior Environment Agency oversight
- Delivered by Environment Agency teams
- Resources secured



Outline timescales

May '11	-	ESC submitted	Technical Review
May '11 – Aug '11	-	Initial review	
Aug '11 – Apr '12	-	Core technical review / audits	
May '12 – Apr '13	-	Prepare conclusions & publish	
Mid to late '12	-	Application for further disposal	Permit Review
	-	Consult application (3 months)	
	-	Draft decision / permit	
	-	Consult draft decision (3 months)	
Early autumn '13	-	Decision	

Initial findings

- Early days
- A case is made that continued disposals will be safe
- Generally clear and coherent documentation at high level with key safety arguments stated clearly up front
- Some further information / clarifications required. Formal 'issues' will be raised, for example:
 - Re-assurance about ESC skills and knowledge maintenance
 - Justification for vault sequencing / design decisions
 - Change control
 - Impacts of updated UKRWI
 - C-14 risks in relation to future cultivation on the cap
- More detailed review now starting
 - Substantiate high level claims/arguments/assurances through evidence in underpinning documentation

Some areas of focus

- ➔ Coastal evolution and resulting impacts
(erosion may be acceptable if demonstrated to meet criteria, disposals are optimised and controlled)
- ➔ Cap construction / sequencing
- ➔ Evidence for key parameters used
- ➔ Underpinning of uncertainty arguments
- ➔ Appropriateness of models

Audits

- ➔ Some areas for in-depth analysis of the ESC identified, for example
 - ➔ Quality assurance (internal and contractors)
 - ➔ Derivation of trench inventory
 - ➔ Waste tracking
 - ➔ Calibration of hydrogeological models
 - ➔ Uncertainty tracking
 - ➔ Implementation of conceptual models

Planning interactions

- ➔ Statutory consultee on July planning application for further vaults / disposal / closure engineering
- ➔ Technical understanding from ESC review will support our response
 - ➔ Phased response
- ➔ Constructability important to our permitting decision
- ➔ Liaison with Cumbria County Council

Way forward

- ➡ Review continuing into autumn 2012
- ➡ Formal consultation late 2012
- ➡ Q&A / periodic briefs on web page
(www.environment-agency.gov.uk/llwr)
- ➡ Information and ESC on LLWR web pages
(www.llwrsite.com/environmental-safety-case)
- ➡ We welcome the opportunity to update this or other groups as the review progresses