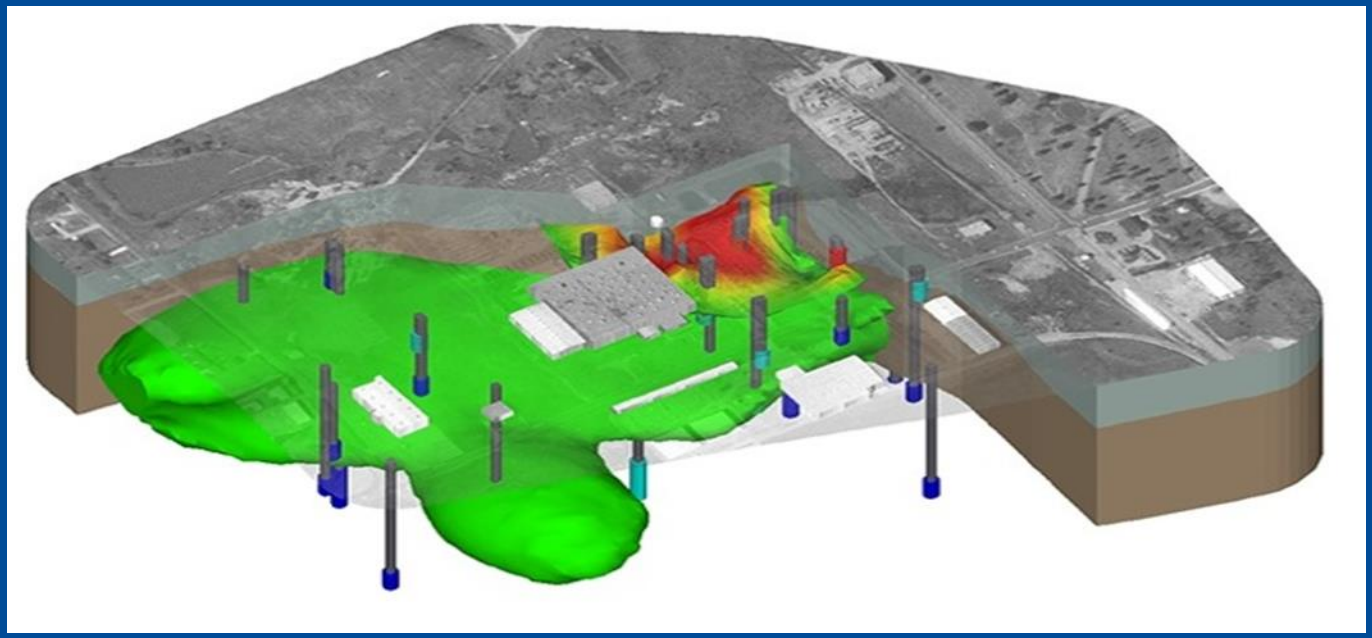
Nuclear Regulator's perspectives



Cathy Scheib & Richard Clarke
Nuclear Regulators; Power, Defence and Disposal Sites Team
Nuclear Regulation Group – Environment Agency

Environment Agency

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Creating a better place
Our ambition to 2020

Our objectives for 2016 to 2020

- A cleaner, healthier environment which benefits people and the economy.
- A nation better protected against natural threats and hazards, with strong response and recovery capabilities.
- Higher visibility, stronger partnerships and local choices.

Our culture:
how we do things

- **Yes, if:** we will take this approach in all that we do
- **Think big,** act early, be visible
- **Seek partnership,** show leadership
- **Focus on outcomes** not processes
- **Embrace difference:** include everyone
- **One team:** support and trust each other to do the right thing
- **Stay safe and grow:** we will invest in the wellbeing and development of all our staff

Decommissioning and Clean-up Programme

- Provide strategic direction, co-ordinate and integrate our work to ensure the delivery of the best possible environmental outcomes from decommissioning and clean-up across the nuclear sector
- Land Quality Management (LQM) Project
- Working collaboratively is actively encouraged – seek partnership
- Aiming to be proportionate and integrated

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Outline

- Industry context
- Regulatory context & Responsibilities
- Developing guidance
- Land Quality Management (LQM) Project & baseline report
- Outlook / direction

- **Focus: LQM on nuclear sites which hold a Nuclear Site Licence and a permit or authorisation for radioactive disposals and discharges**
- **Don’t cover radioactive land contamination from past activities that are not regulated – but we should pick this up later in our discussions**
- **Aiming to give a UK-wide perspective (may look to my SEPA colleague)**

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Regulated Nuclear Sites

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Nuclear Industry context

- Some integration with ‘conventional’ land contamination fields – but there's room for improvement:
  - Better integration of clean up solutions
  - Better integration of regulation
- Risk of disproportionate prioritisation of high hazard reduction over LQM
- Risk of disproportionate focus on radioactive hazard

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Regulatory Context

Environment Agencies	Office for Nuclear Regulation
England, Wales, Scotland, Northern Ireland – legislation is nation specific but responsibilities include: ▪ Flood and coastal risk management ▪ Water quality and resources ▪ Contaminated land ▪ Waste management ▪ Fisheries ▪ Conservation and ecology ▪ Regulation of major industry **Regulate radioactive discharges and disposal of radioactive waste (nuclear & non-nuclear):** Environmental Permitting Regulations (England and Wales) 2016 / Radioactive Substances Act 1993 (Scotland*, Northern Ireland)	Established under the *Energy Act 2013* **Worker & Public Safety**: *Health and Safety at Work Act 1974* **Protection of workers**: *Ionising Radiations Regulations 1999* *Nuclear Installations Act 1965* ▪ **Nuclear Safety & Security** ▪ **Safeguards** ▪ **Transport**

- *Environmental Protection: Environmental Authorisations (Scotland) Regulations 2018*

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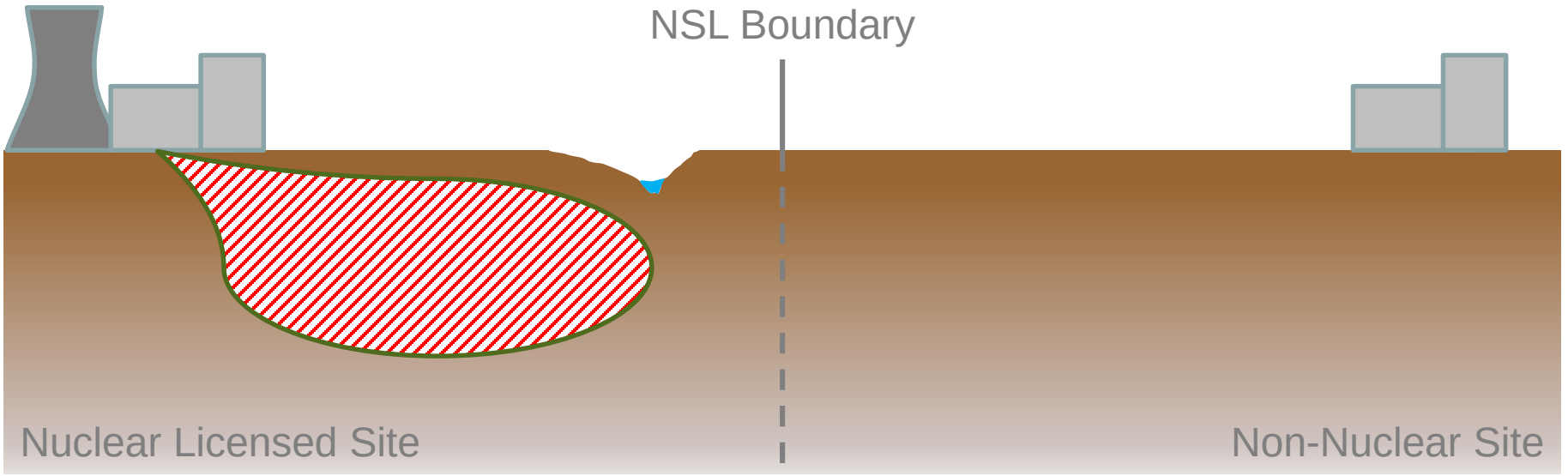
Regulatory Responsibilities for LQM

Who has the vires? ONR



Radioactive contamination

Non-radioactive contamination

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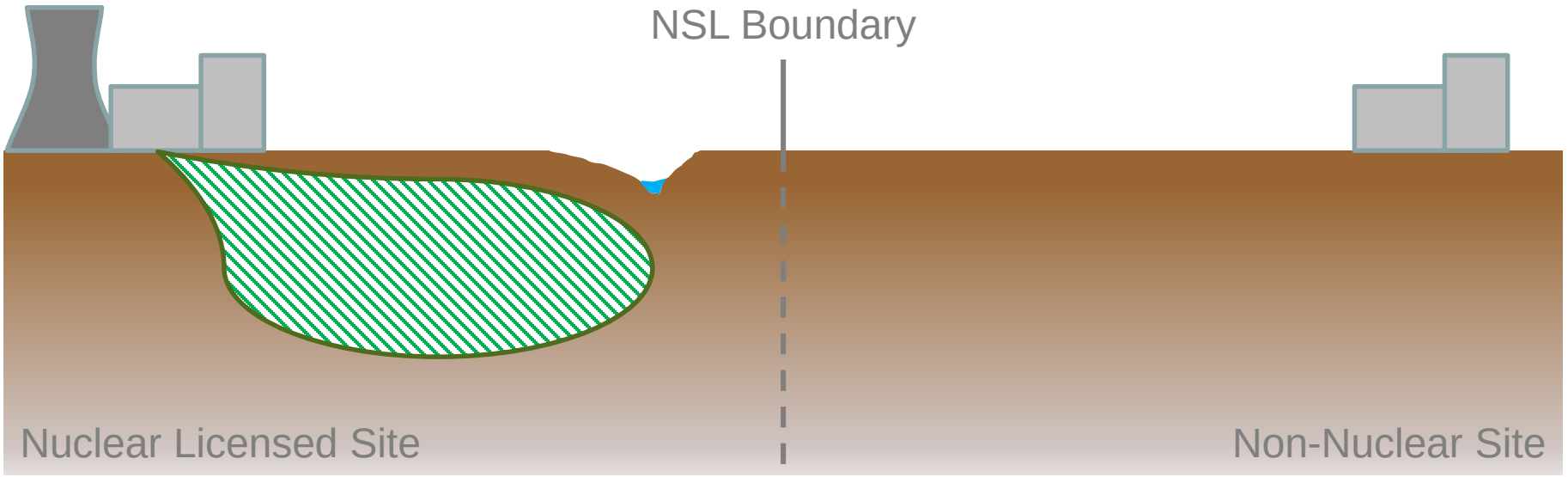
Regulatory Responsibilities for LQM

Who has the vires? Environment Agencies



Radioactive contamination

Non-radioactive contamination

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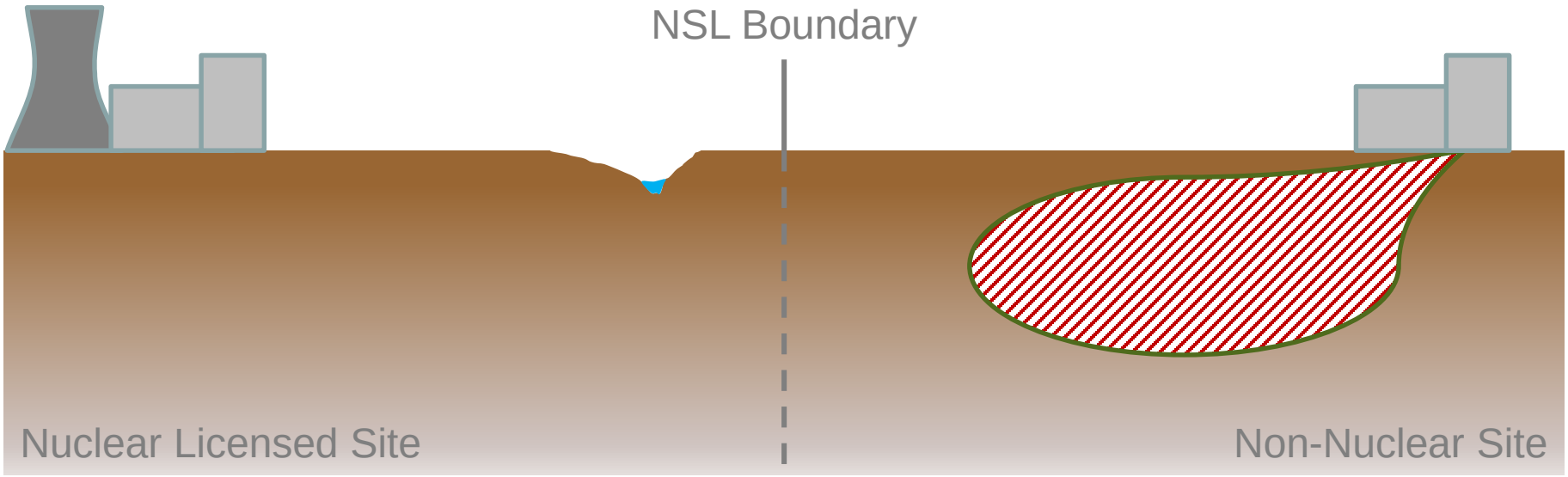
Regulatory Responsibilities for LQM

Who has the vires?

Regulated site?
Environment Agencies

Past Activities / not regulated?
Local Authority →
Environment Agencies



Radioactive contamination

Non-radioactive contamination

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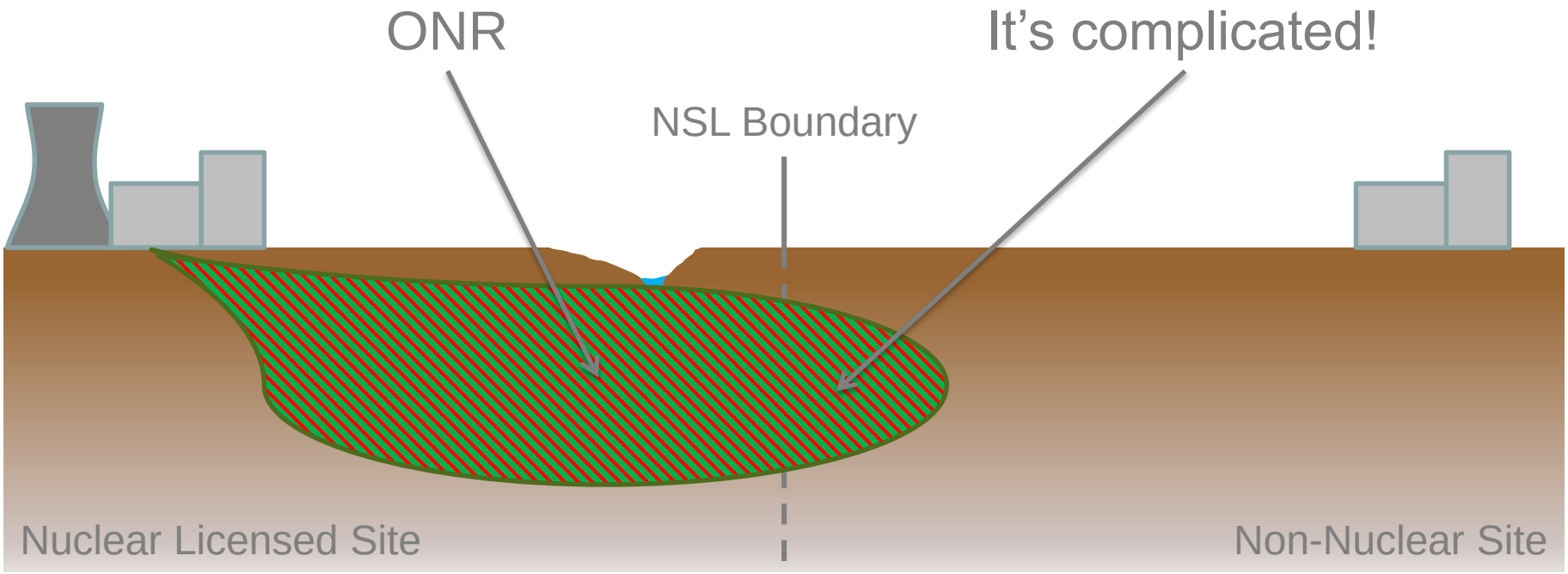
Regulatory Responsibilities for LQM

Who has the vires?



Radioactive contamination

Non-radioactive contamination

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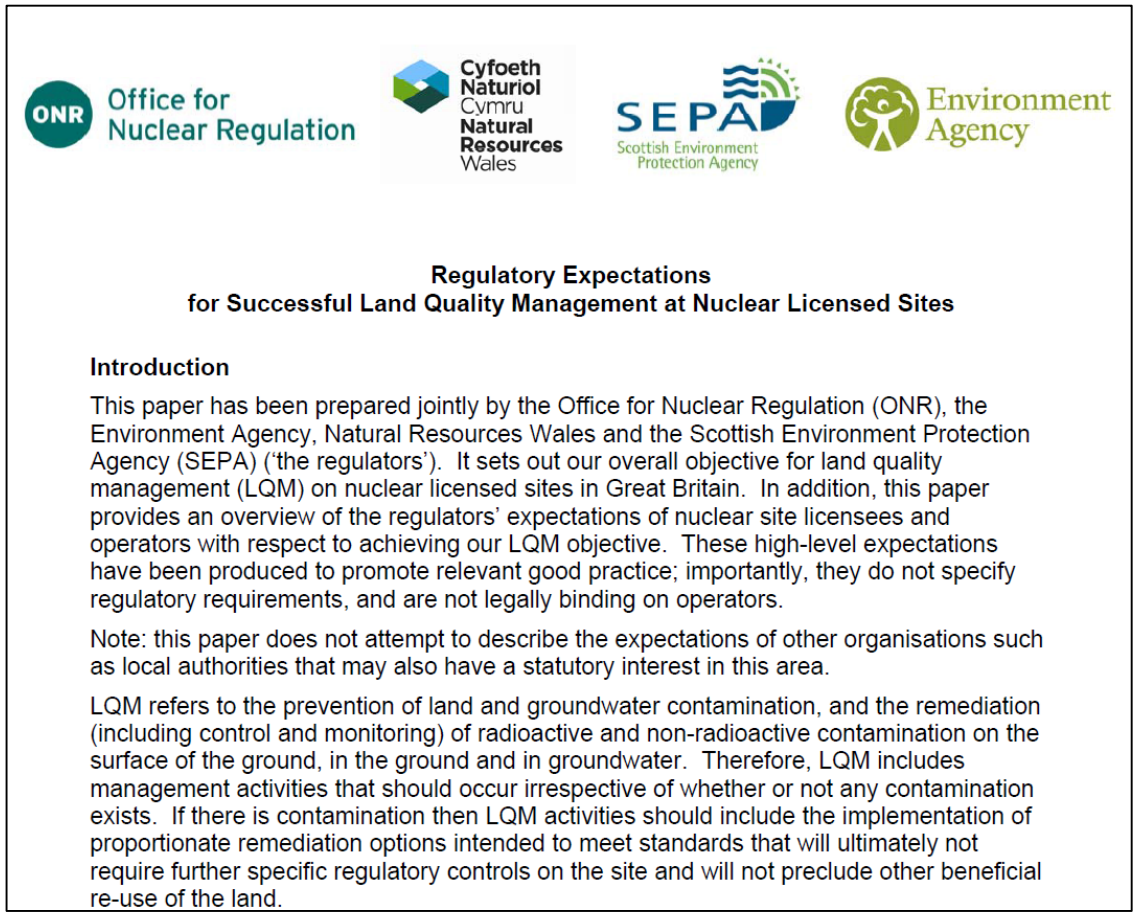
Developing clear positions

- Developed joint regulatory expectations
- Sets out **overall objectives** for LQM on nuclear sites and promotes **good practice**
- Developed by the Joint Working Group on LQM (**JWGLQM**)



ONR Office for Nuclear Regulation | Cyfoeth Naturiol Cymru Natural Resources Wales | SEPA Scottish Environment Protection Agency | Environment Agency

Regulatory Expectations
for Successful Land Quality Management at Nuclear Licensed Sites

Introduction

This paper has been prepared jointly by the Office for Nuclear Regulation (ONR), the Environment Agency, Natural Resources Wales and the Scottish Environment Protection Agency (SEPA) ('the regulators'). It sets out our overall objective for land quality management (LQM) on nuclear licensed sites in Great Britain. In addition, this paper provides an overview of the regulators' expectations of nuclear site licensees and operators with respect to achieving our LQM objective. These high-level expectations have been produced to promote relevant good practice; importantly, they do not specify regulatory requirements, and are not legally binding on operators.

Note: this paper does not attempt to describe the expectations of other organisations such as local authorities that may also have a statutory interest in this area.

LQM refers to the prevention of land and groundwater contamination, and the remediation (including control and monitoring) of radioactive and non-radioactive contamination on the surface of the ground, in the ground and in groundwater. Therefore, LQM includes management activities that should occur irrespective of whether or not any contamination exists. If there is contamination then LQM activities should include the implementation of proportionate remediation options intended to meet standards that will ultimately not require further specific regulatory controls on the site and will not preclude other beneficial re-use of the land.

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Joint Expectations for LQM

Published by ONR and the Environment Agencies in 2014:

- LQM strategy and plan;
- Prevent and limit new contamination;
- Understand the land quality characteristics of the site;
- Asses the options for LQM;
- Prioritise LQM activities;
- Apply the waste management hierarchy;
- Work with stakeholders;
- Develop LQM arrangements; and
- Maintain fit-for-purpose records.

http://www.onr.org.uk/land-quality-management.htm

- **High-level document – industry & regulators may benefit from more detailed sign-posting**

New guidance under development

- Environment agencies have collaborated on developing guidance; alongside an industry trial at 3 nuclear sites:
  - Management of radioactive waste from decommissioning of nuclear sites: **G**uidance on **R**equirements for **R**elease from Radioactive Substances Regulation (**GRR**)
- Dual purpose. Its sets out the standards / process for:
  - Surrender of permits for nuclear sites
  - Permitting on-site disposals of radioactive waste from decommissioning at nuclear sites
- Encourages an integrated approach for management of rad & non-rad waste and contamination – but is high level. More detailed sign-posting could help

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Key requirements of new guidance

- Develop and maintain:
  - Waste Management Plan (WMP)
  - Site Wide Environmental Safety Case (SWESC)
- SWESC
  - Demonstrate that people and the environment will be protected from radiological hazards and any associated non-radiological hazards
  - Needs to include all aspects that may affect environmental safety e.g. geology, hydrogeology, surface environment, remaining contamination, engineering /design
- Industry trial provided lots of learning - *still in progress!*
- We still need to work on e.g.:
  - Coordination of optimisation of: radioactive waste management with conventional waste opportunities & land quality assessments
  - Protection of groundwater under the RSR regime

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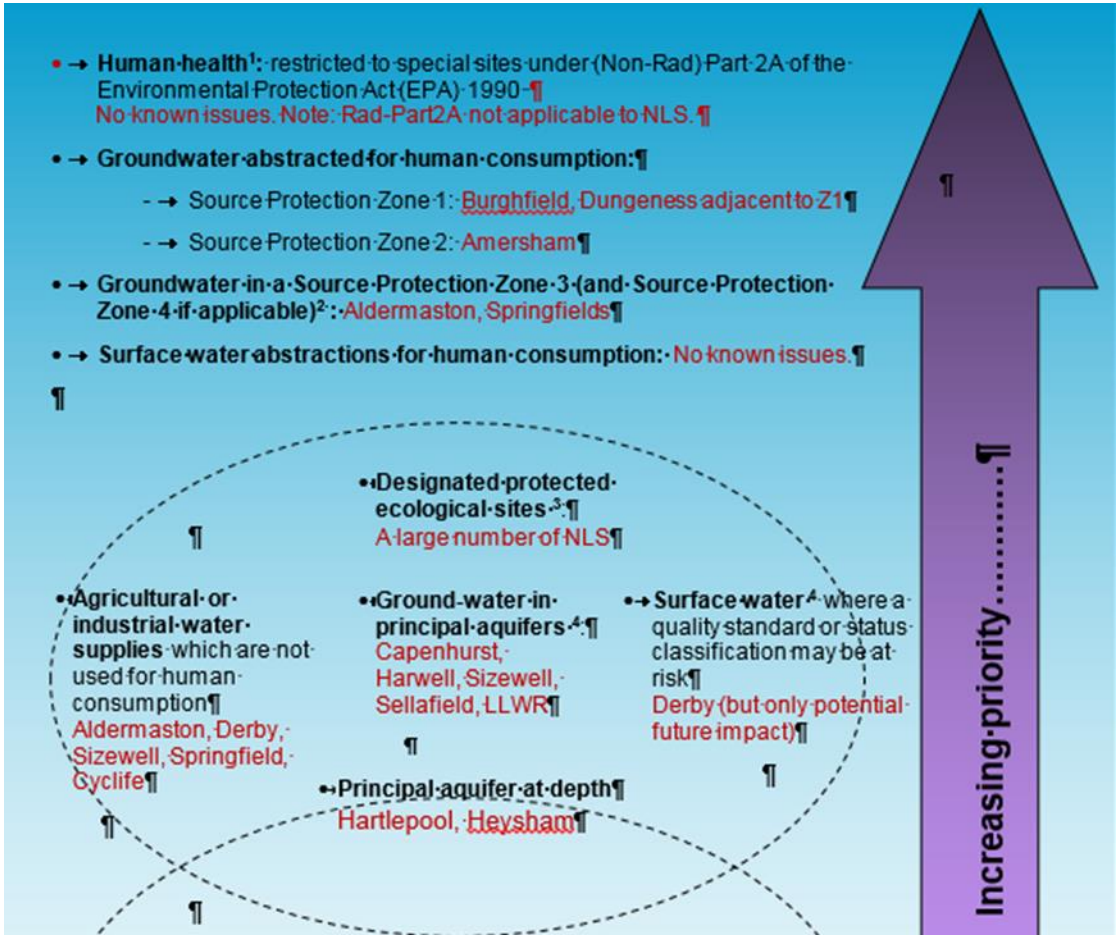
LQM Project: Capturing status on land quality issues

- Periodic baseline reports
- Issues are recorded & sites prioritised on issues & sensitivity
- 2013 vs 2017 showed more systematic effort on LQM & some good progress
- Anticipate further increase



In conclusion….

- Complex regulatory picture, with varying and significant challenges on sites
- Lot of commonality with ‘conventional’ GWCL approaches
- LQM on nuclear sites could benefit from being more integrated with the wider GWCL community
- The visibility of LQM is rising
- Therefore the sector (including the regulators!) could really benefit from sign-posting guidance like *GPLC*
- It’s a good time to work together, modernise *GPLC* and draw-together different sector experience

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