

Decommissioning Project Update and Outcome of Workshop

Julian Dean

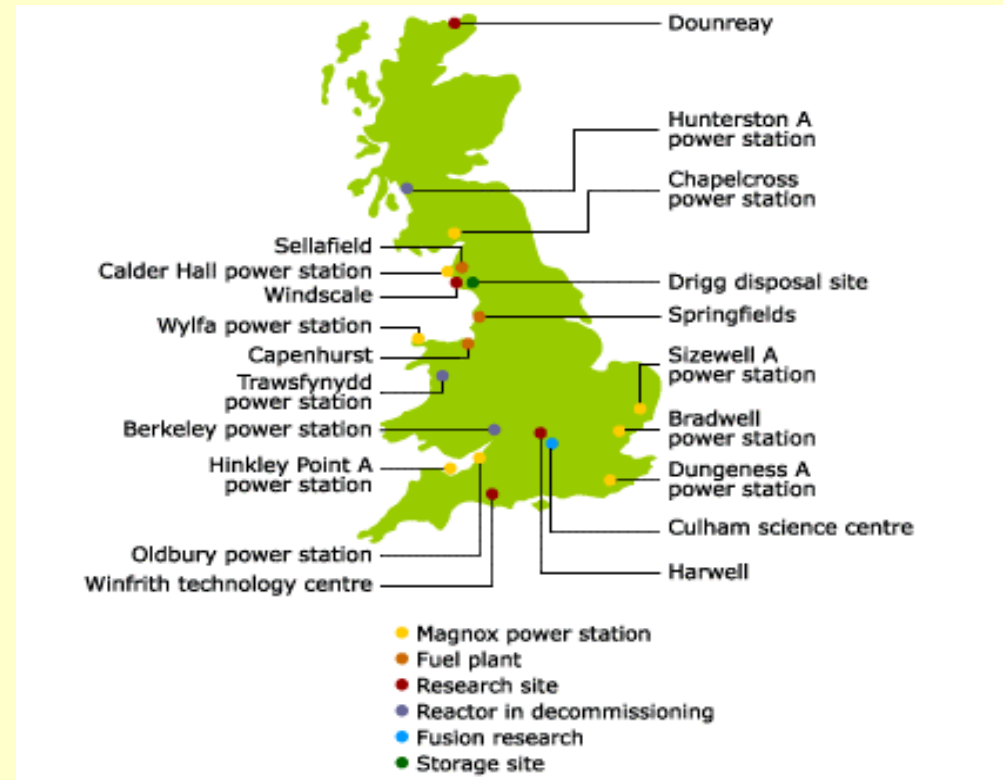
Radioactivity Metrology Group
Quality of Life Division

IRMF Meeting, NPL, 9th November 2005

Context:

•UK 'Nuclear Legacy' ⇒

•Responsibility of the
Nuclear
Decommissioning
Authority



Context:

- Technical challenges include radioassay of a **variety of matrices** to underpin **waste categorisation**

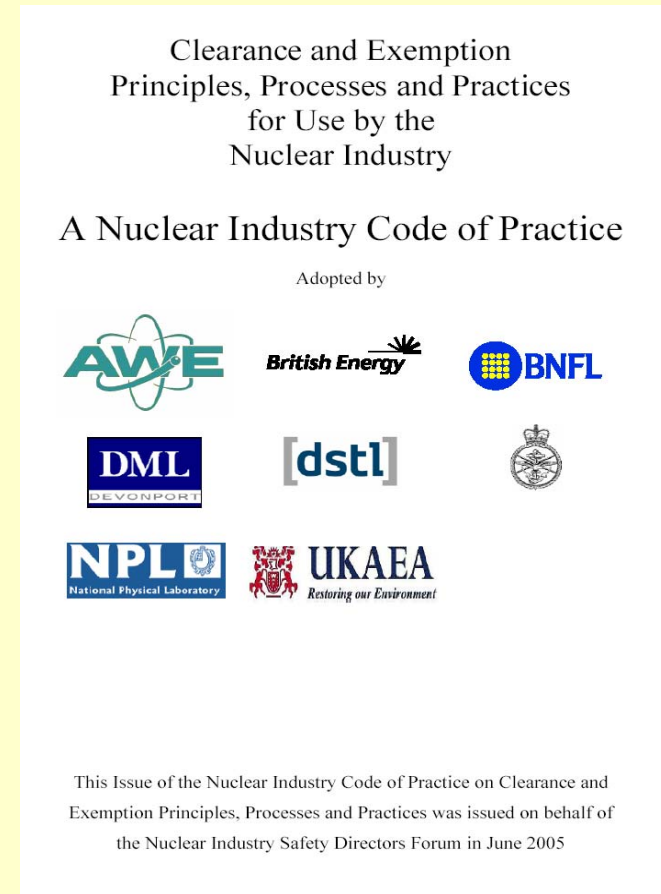
- **Reference materials** and **guidance** needed



Project structure:

Initially to run from 2004 – 7,
consisting of:

1. Development of a high-priority reference material
2. Metrology workshop
3. Contributions to Nuclear Industry Code of Practice



2004 user survey:

- **To identify priority RMs and needs for guidance, training, etc.**
- **Visited 8 UK sites**
- **Outcome inconclusive, so priorities to be determined at workshop**



Workshop:

- **Planned by steering group:**

Ian Adsley (RWE NUKEM)

Peter Burgess (UKAEA)

Julian Dean (NPL)

Kevin Drew (RWE NUKEM)

Simon Jerome (NPL)

John Simpson (RWE NUKEM)

Dave Wickenden (AEA WMT)

Workshop:

- **‘Workshop on Metrology for Decommissioning and Site Clearance’ (30th June 2005)**
- **86 delegates representing a range of stakeholders, e.g.:**
 - Nuclear industry**
 - Instrumentation companies**
 - Universities**
 - Regulators**

Workshop agenda:

Morning – Formal presentations to ‘set the scene’

- NPL overview
- The NDA and its Engineering Directorate
- Practical problems - an RPA’s perspective
- NPL user survey
- Code of Practice
- SRP workshops

Workshop agenda:

Afternoon – Syndicate group session

1. Introductory talks (to all delegates) on:

- Bulk γ measurements
- Surface measurements
- Radiochemical analyses
- Highlighted problems
- Suggestions as to priority reference materials, radionuclides, activities, formats, etc.

Workshop agenda:

Afternoon – Syndicate group session (cont.)

2. Delegates split into 3 groups:

- **Discussed suggestions, added to lists**
- **Formally voted on final lists**

3. Chairmen presented findings to full workshop

Workshop outcomes:

- Summary of priorities for **reference materials/sources**:

	Bulk monitoring	Surface monitoring	Radiochemical analyses
Matrices/ Substrates	Concrete, soft waste, brick	Steel, concrete, Formica	Concrete, steel, soil
Radionuclides	^{241}Am , ^{60}Co , ^{137}Cs	^{238}U , ^{137}Cs , Am nuclides	^3H , ^{14}C , actinides
Sample size	200 litre drum	-	500 g
Activity concentration	$< 0.4 \text{ Bq g}^{-1}$	-	$< 0.4 \text{ Bq g}^{-1}$ (concrete), 1 – 10 Bq g^{-1} (steel)

Workshop outcomes:

- Summary of **other needs**:
- Type-testing service for surface monitors
- Training courses in surface monitoring
- Guidance on surface 'wipe-off factors'



What next?

- 1) NPL to develop RM for γ -emitters in soft waste, 200 L drum, $< 0.4 \text{ Bq g}^{-1}$
- 2) There are several other urgent needs! Funding being sought
- 3) Contributions to Code of Practice will continue

Workshop minutes:

- **Available at:**

http://www.npl.co.uk/ionrad/decommissioning_workshop/index.html