

'Recycling' VLLRW: issues

Dr Paul Dorfman

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So far SD:SPUR recommends:

1. Nuclear industry as the principle customer for 'recycled' VLLRW
2. Upstream engagement to reach broad-based consensus about what to do with RSA 93 exempt rad-wastes

1. VLLRW

- Steel ISO containers, cans, over-packs for higher level rad waste.
- Reinforced concrete structures for waste storage facilities

Rad 'recycling' facilities

- Problems with siting nuclear linked facilities
- **Emissions** from smelting process - e.g. furnace burn of volatile Caesium, Tritium, Cobalt
- Internal radiation problem

Practical concerns

- High source terms: **hot-spots** averaged within large volumes
- Difficult to ascertain and measure within large scrap volumes
- Poor early waste management practices
- Taiwanese worst-case example
- Characterisation problems

Characterisation concerns

- Fundamental uncertainty: **synergy** between rad & non rad (asbestos, PCBs, hydrocarbons)
- Difficult to reliably measure activity throughout
- Difficult to reliably segregate RSA and exempt categories

Substances of Low Activity (SOLA)

- Although not subject to controls under RSA 93
- Wastes below SOLA remain defined as LLRW
- HMG 'Exemption Order' Review to accurately reflect specific hazards of particular radionuclides
- CERRIE

Waste hierarchy problems

- Nuclear materials – carcinogenic, teratogenic
- ICRP - no safe threshold
- Radionuclide mobility
- ‘Concentrate and contain’ may be justified by the toxic, persistent and bio accumulative characteristics of radionuclides

Economics

- Little economic value
- Huge non rad stocks
- Potential increased risks driven by disposal costs?

National Policy Statement: waste management hierarchy

- ‘Objective for LLW management plans should be do deal with potential arisings at the highest practical level’
- ‘Limitations to the application of the waste hierarchy in the management of legacy wastes’

National Policy Statement: Waste avoidance

- Emphasis on avoiding contaminant migration and generation of secondary wastes from treatment and processing

2. 'Upstream' public involvement to reach consensus



The logo features the text 'ourNHS' in a bold, sans-serif font, with 'our' in red and 'NHS' in blue. Below it, the words 'our future' are written in a red, cursive script font.

ourNHS
our future

- Darzi review: ‘You will be involved’
- ‘The local NHS will involve the public and other key partners’

Public and rad risk

- Responses to risks bound up with wider values
- Attitudes depend on real life situation in context of perceived risk or benefit
- Science defines risk in large populations
 - people think of their own families
- Public aversion to products associated with radiation risk