

Outline specification for a short project for the SD:SPUR Learning Network to collect and summarise information to support the comparison of waste management options and techniques

1. Objective

The objective of this work is to collect and summarise information that supports the comparison of different waste management options and techniques within the SD:SPUR sphere of interest.

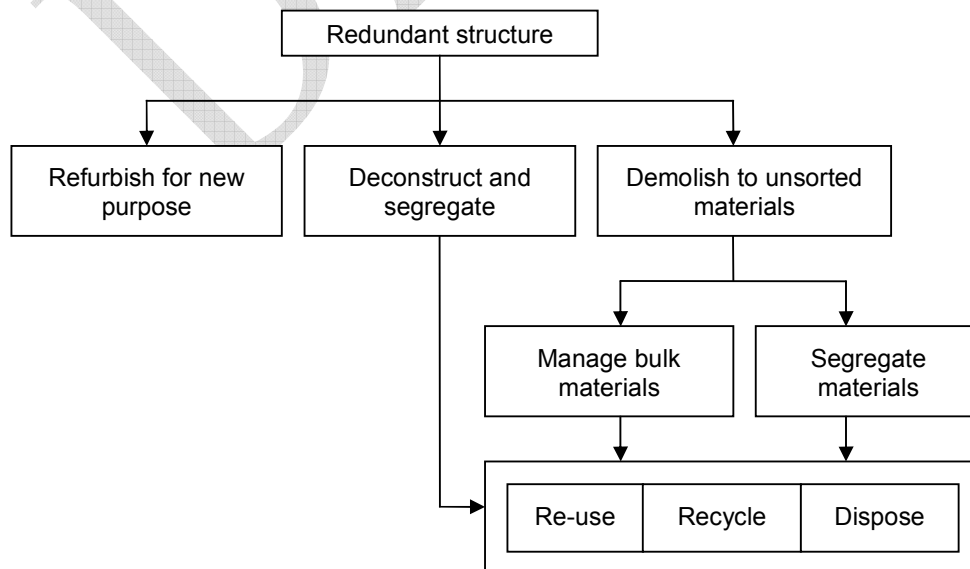
2. Background

This work responds to a need, identified by the SD:SPUR community, for more information on the range of waste management options and techniques available, and experience of their use.

The SD:SPUR main guidance recommends that options for the management of assets (buildings and facilities) and decommissioning wastes be considered *broadly and imaginatively* to ensure wider sustainability considerations are considered alongside factors such as health & safety, technical issues, cost etc. when making a decision (see www.sdspur.com for further information). To implement this recommendation site operators require information on the range of asset and waste management options and techniques available, and experience of their use.

For conventional (radiologically clean) structures/ materials, the management options will include refurbishment, deconstruction, sorting and segregation (by material type), reuse, recycling and disposal. These options are shown in figure 1 below. For a building where radioactive contamination is suspected, there are additional options. These are to segregate (by radiological category) and to decontaminate. Within each of these options (e.g. decontamination) there will be a range of available techniques (e.g. abrasive, chemical and melting) to achieve the desired outcome or product.

Figure 1: Options for managing a redundant structure or rubble from a previously demolished structure



3. Approach

The steering group have agreed that at this stage the work should cover a range of waste types (e.g. concrete, metals) and management options (e.g. segregation, decontamination etc.), rather than focussing in on a particular material or option. This approach will lead to the production of a useful interim output (i.e. summary information for a wide range of options), whilst also enabling the steering group to identify particular areas of interest (e.g. technological gaps and opportunities) and to make informed decisions about the focus and form of any future output.

The work will seek to draw on experience from overseas and from other sectors (e.g. chemical and oil & gas industries) where similar issues are faced. The primary focus will be on those options/ techniques where there is current experience of application, although new or developing approaches will be briefly noted.

The PSG have requested that the work should include some analysis of stakeholder perspectives (concerns & preferences) on the use of particular options, and how these perspectives can usefully inform decision-making about which waste management options should be chosen. An understanding of when in the decision-making process wider stakeholder views might most effectively be incorporated will also be sought.

4. Methodology

It is proposed that the work includes the following main tasks:

Preliminary work –

- Initial screening of waste types and options categories. It is proposed that a matrix approach be adopted (as outlined in Appendix A) for an initial screening exercise to identify those wastes that should be considered for each broad option category.
- Agree information requirements. It is envisaged that the information collected will include:
 - Key features of the option/ technique (capacity, size, secondary wastes produced etc.)
 - Experience of use (UK, International, other sectors)
- Drafting of outline contents for the output.

Desk review – collect and summarise information on:

- options and techniques (in-line with agreed requirements),
- summarise available options comparison techniques.

Stakeholder workshop – explore stakeholder views/ concerns on the identified options and consider when in the decision making process wider stakeholder perspectives might most effectively be incorporated.

Output drafting – produce draft output for consultation

Output finalisation – finalise the output and seek PSG sign-off for web publication

5. Audience and output

The primary audience for the information will be those directly involved in the planning and implementation of decommissioning projects on-site, but the information will be presented in a form accessible to a range of interested stakeholders (e.g. non-technical audiences, NGOs, CBOs, regulators).

It is proposed that the summarised information be presented in a single report. As with all other SD:SPUR outputs, the report will be made freely available on the SD:SPUR website once the PSG have signed it off.

6. Scope

5.1 Waste categories

In-line with the defined scope of SD:SPUR project, the work will only consider those assets and wastes that fall into the following radiological categories:

- Radiologically clean wastes that have never been contaminated with artificial radionuclides.
- RSA'93 exempt wastes that contain concentrations of artificial radionuclides that are so low that they are free from specific regulatory control under RSA'93.
- Slightly radioactive wastes, due to contamination or activation, at the lower end of the Low Level Waste (LLW) category.

7. Outline timetable

This task will be undertaken over a 5 month period.

<i>Task No.</i>	<i>Task & Activity</i>	<i>Proposed time period</i>
1	Preliminary work	
	a) agree outstanding scope requirements	Oct 2006
	b) prepare outline contents	Nov 2006
2	Desk review	
	a) collect and summarise information on options and techniques	Nov – Jan 2006
	b) summarise available options comparison methodologies	Nov – Jan 2006
3	Stakeholder workshop	TBC
4	Output drafting	
	a) draft output	Jan 2006
	b) consultation	Feb 2006
5	Output finalisation	
	a) finalise output	Feb – Mar 2006
	b) PSG sign-off	Mar 2006

Appendix A: Example matrix for initial screening of waste types and options categories

	Options categories					
	Refurbishment	Deconstruction (and segregation)	Sorting & Segregation (post-demolition)	Decontamination	Reuse	Recycling (processing)
Indicative asset and waste types						
Assets (for reuse)						
1. Buildings						
2. Foundations						
3. Machinery						
Wastes (mixed)						
4. Hard demolition waste						
5. Mixed had demolition & excavation waste						
Wastes (segregated)						
6. Unbound aggregates						
7. Cement bound materials						
8. Concrete						
9. Asphalt						
10. Masonry						
11. Steel						
12. Non-ferrous metals						
13. Plastics						
14. Glass						
15. Plasterboard						
16. Excavation waste (high recovery) ¹						
17. Excavation waste (low recovery) ²						

¹ high recovery = low clay and soil content

² low recovery = high clay and soil content