

Will recycling of nuclear waste be possible in the distant future?

There is no current prospect of this for waste. It is possible to recycle spent fuel, but mixed wastes would be much more difficult, so for most of the wastes the answer would be no.

In Rebecca's lecture she said that the volume of radioactive waste that has to be disposed of is equivalent to four Wembley stadiums. What are the actual volumes for low, medium and highly radioactive sources?

The individual waste volumes from the last NDA inventory are (in cubic meters):

Very Low Level Waste - 2,800,000
Low level waste - 1,400,000
Intermediate Level waste - 290,000
High level waste - 1,100

Giving a total of 4,500,000

Around just over 3/4 of the waste is low level waste and already has a disposal route at Drigg. For the deep repository it is less than 1 wembley stadium.

At the time of the site investigations at Sellafields in the 1990s I was told by NIREX that the volume of highly active waste was equivalent to two or three London buses. What is the current estimate of the volume of highly active waste?

You would need to ask NDA this, but it will have gone up with new build waste from the current programme.

Do all three levels of waste [low, medium and high] have to be buried at depths of 200 to 1000 metres and for the same length of time?

Low is already disposed of in near surface facilities at Drigg Medium and high level wastes would be between 200m and 1000m, but they do not need to be at the same depth.

A volume equal to four Wembley stadiums could be easily accommodated underground in the vast Boubly potash mine north of Whitby. Forty ton trucks readily trundle through the very large access tunnels to the working faces deep under the North Sea. The oil industry could be told that an area of say ten square miles would no longer be available for exploration - a small price to pay for solving a major problem. So has Boubly been rejected from consideration?

Putting waste into an existing facility would be difficult. The tunnels and disposal shafts are engineered to fit the engineered barrier exactly.

You do not want to leave behind any open holes - so you would have to backfill the whole mine. Which is very inefficient and I doubt you could make a safety case secure with all the current openings through which fluids could travel. Also, the geology may not be suitable. Whilst it is evaporite, I think that it is not that pure.