Nuclear Decommissioning Authority

ED22

Radioactive Waste Strategy

Issue: Whether the Plan provides sufficient opportunities for the management, treatment, safe storage and disposal of radioactive waste from all sources including nuclear fuel reprocessing, and decommissioning/demolition of nuclear licensed facilities.

High Level Waste

2. The Plan states that High Level Waste (HLW) only consists of waste that is generated from reprocessing spent nuclear fuel at Sellafield. The 2013 UK Radioactive Waste Inventory (RWI) indicates that future arisings will come from Magnox and oxide fuel reprocessing, which are scheduled to end in 2017 and around 2018 respectively. Does this mean that, if all goes to plan, there will be no new HLW generated from reprocessed spent fuel at Sellafield after these dates and, therefore, in the UK?

As Magnox reprocessing is now scheduled to end in 2020, HLW will continue to be generated until this date. Oxide fuel reprocessing is still scheduled to be completed in 2018. HLW will continue to be processed after these dates, but there will be no new arisings.

3. Is it likely that Sellafield will continue to accept and process new overseas spent fuel, thereby generating new HLW? Is this likely to continue throughout the Plan period and/or beyond? What quantities of overseas HLW are envisaged will be generated over the Plan period? For how long is it anticipated this HLW will be stored at Sellafield before being returned overseas?

There are no plans to accept and process any further overseas fuel. HLW from reprocessing overseas spent fuel will continue to be repatriated to the country of origin; the programme is expected to be completed by around 2021/22.

4. For how long is the HLW stored as Highly Active Liquor (HAL)?

HAL will be stored in the Highly Active Storage Tanks (HASTs) until they are due to be emptied to a Post Operational Clean Out (POCO) heel by circa 2029/30.

5. What is the current requirement for HAL storage and how is it likely to change over the Plan period in terms of facilities and land-take?

The current requirement is to store high level vitrified waste from operations and POCO in an engineered storage facility until its planned export to the GDF starting circa 2089. This HLW is stored in Vitrified Product Store 1 (VPS1) with a replacement store also included in the lifetime plan.

6. What is the current requirement for storage of vitrified glass blocks and how is it likely to change over the Plan period in terms of facilities and land-take?

Further to the response above to Q2, we anticipate that the generation of HLW will be completed by around 2030

7. The RWI forecasts that vitrification will cease in around 2021, albeit further vitrified HLW will arise from post operational clean out until about 2027. Does this mean that the generation of all HLW will have ceased before 2027?

Further to the response above to Q2, we anticipate that the generation of HLW will be completed by around 2030

8. On the understanding that there is no disposal route for this waste type at the current time, will the quantity of vitrified packages existing at that time be the maximum that will require long-term storage?

Yes

9. What are the forecast future arisings of new HLW?
Further to the response above to Q3, there will be no new HLW generated.

10. What is the forecast quantity of total HLW requiring long term storage?

We expect to store a total of around 7,500 HLW containers on site. This figure assumes all HLW from overseas fuel has been exported.

11. Is it envisaged that all of this long-term storage will occur at Sellafield, pending the location and preparation of an acceptable Geological Disposal Facility (GDF)?

Yes

12. What is the current capacity for storage at Sellafield?

Storage capacity in the Vitrified Product Store for HLW is 7,960 containers

13. Will there be any HLW waste generated from any other processes or operations such as decommissioning?

No

Intermediate Level Waste

14. What are the main waste streams constituting Intermediate Level Waste (ILW)?

Waste streams constituting ILW fall into 4 key categories:

- Operational Wastes, including those from AGR Fuel dismantling, Magnox & Thorp reprocessing, Flocs from treatment of effluents and Miscellaneous Beta Gamma Waste (MBGW) from general site operations
- Legacy Wastes, including Sludges, Fuel Cladding and Miscellaneous solid wastes, Fuels & fuel bearing wastes

- Decommissioning Wastes, including Contaminated Metals & other materials, Mixed Wastes (principally miscellaneous activated and contaminated materials) and Graphite from the Calder Hall and Windscale piles reactors
- Pu Contaminated Material (PCM) from current operations and decommissioning. Includes wastes transferred from legacy stores at LLWR

More detail can be found in NDA document 'An Overview of NDA Higher Activity Waste' published November 2015

15. The Plan/RWI indicates that as of 1 April 2013 the reported volume of UK ILW was 95,600m³ of which about 69,600m³ (73%) was stored at Sellafield. How much of the UK's total ILW is generated at Sellafield as opposed to being stored there? How much is imported from elsewhere both within Cumbria, such as the Low Level Waste Repository (LLWR), and from outside?

Almost all of the ILW stored at Sellafield is generated internally. The main exception is ILW (PCM) from Harwell of which approximately 500m^3 has already been delivered to Sellafield with a further 300m^3 planned over the next 3 or 4 years. Sellafield will also receive approximately 2300 of concrete-lined drums from Harwell and around 250 drums of Dragon fuel from the former research reactor at Winfrith over the next few years. There may also be a small quantity of waste generated (a few hundred m^3) during the decommissioning of storage vaults at LLWR. In addition AWE are engaging with NDA regarding the processing of approximately 1000m^3 of PCM generated at Aldermaston at Sellafield.

16. The RWI refers to conditioned ILW comprising various types of waste immobilised in cement or polymers in containers, and that about 88% (47,569 packages) of the UK total of such packages are in long-term storage at Sellafield. The Plan indicates that the 47,569 packages make up a 73% share of the total. Is there a discrepancy?

Yes there is a discrepancy. The UKRWI states that the UK total volume of conditioned and unconditioned waste was 96,500m3, of which 69,600 (73%) was at Sellafield. The UK total number of conditioned ILW packages was 54,129, of which 47,569 (88%) were at Sellafield

17. The RWI states that the quantity of conditioned ILW in stores in increasing. How much of the ILW at Sellafield is conditioned?

At April 2015, over 35% of Sellafield ILW had been conditioned

18. How is any unconditioned ILW managed at Sellafield and what type of waste is this?

Generally:

- unconditioned ILW (including PCM) from Operations is stored in approved containers in engineered stores.
- unconditioned MBGW from Operations and external consignors is stored in approved containers in the MBGW Store
- unconditioned ILW is also stored in the legacy ponds and silos buildings pending their retrievals and treatment

19. The RWI/Plan forecasts future ILW waste arisings in the UK as being 190,000m³. Over what time period is this likely to be generated? Why is this forecast expressed as a finite figure?

In the case of Sellafield, the time period for our contribution to the 190,000m^3 is from 2013 through to 2120. The total figure is based on each waste producer's best estimate of their total lifetime arisings of ILW. The 2013 UKRWI also gives a lower estimate of 126,000 m^3 and an upper estimate of 332,000m^3

20. The Plan indicates that about 59% of future arisings are forecast to come from Sellafield and about 0.3% from the LLWR. Over what time period is this ILW likely to be generated? How much is likely to be generated over Plan period?

As mentioned in Q19 above, future arisings of ILW from Sellafield will be generated up to 2120. As mentioned in Q21 below, approximately 17,000m^3 will be generated in the Plan period.

21. What quantity of ILW is likely to be managed overall at Sellafield during the Plan period? How much of this is likely to be generated from Sellafield and the LLWR and how much is likely to come from outside Cumbria?

During the Plan period, we expect Sellafield to generate around 17,000m^3 of ILW including the wastes from Harwell & Winfrith mentioned in Q15 above.

22. How much, if any, ILW is likely to be exported out of the County?

It is not planned to export any ILW consignments out of the county. Application of waste management techniques (segregation, decontamination, etc.) may enable a proportion of the forecast inventory to be recategorised and managed as LLW, which may then be treated outside the county

23. What is the current capacity for storage of ILW at Sellafield?

Capacity of Sellafield engineered stores is as follows:
- Encapsulated Product Stores (EPS/WPEPS) - 81,113 drums (500l)
- Miscellaneous Beta Gamma Waste Store (MBGWS) - 1,836 boxes
- AGR Dismantler Store - 11,166 drums (500l)
- Windscale AGR Store - 213 WAGR (6m^3) boxes
- Engineered Drum Stores (EDS1/2/3) - ~99,000 200 litre drum equivalent.

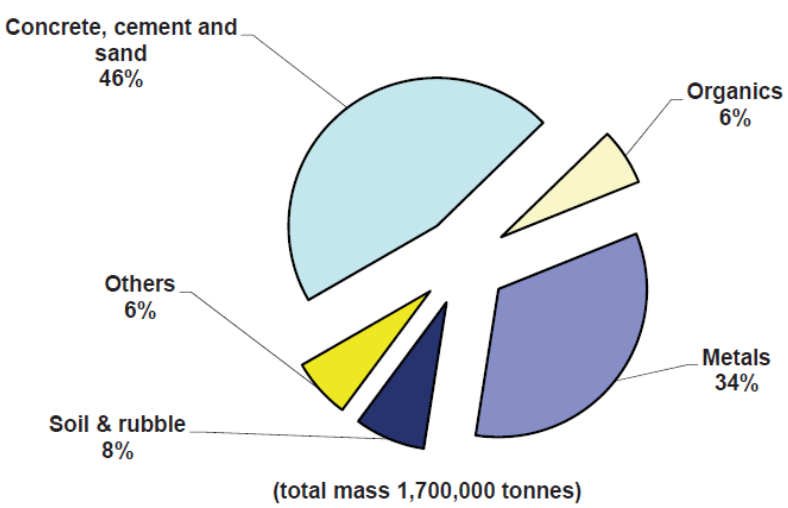
24. As there is currently no disposal route for ILW what additional long-term storage facilities are likely to be required for the ILW managed at Sellafield?

Future Stores planned at Sellafield, identified in the Lifetime Plan, include:
- BEPPS1/2/3/4 (same design basis as EPS2/3)
- Class 2 Store (for low order ILW)
- EDS4/5 (for PCM)
- Interim Storage Facility (ISF)
- Large Item Buffer Store

25. What are the main types of LLW?

2013 UK Radioactive Waste Inventory: Waste Composition (URN 14D040 NDA/ST/STY(14)0011), February 2014, identifies that the majority of forecast arisings of LLW is from decommissioning of reactors and other sites and site remediation; the remainder (approximately 15%) is operational waste. Typically LLW consists of building rubble, soil, metal items, and soft organic waste.

The figure below illustrates the composition of unconditioned LLW reported in the 2013 UKRWI.



Composition of unconditioned waste

26. What are the options for the management/disposal of LLW?

There are a range of options for the management/disposal of LLW including:

- **Disposal at the Low Level Waste Repository** - waste is received at the Low Level Waste Repository (LLWR) site in containers by rail or road. The containers of LLW are grouted using low viscosity cement based grout to produce a solid monolithic block before being disposed of in the engineered vault.
- **Supercompaction** - compactable LLW may be crushed by high force compaction (supercompacted) to reduce its volume, before being placed into containers for disposal at the LLWR. High force compaction reduces the overall volume by up to 70%. Waste for supercompaction can be sent to one of two treatment facilities in the UK (Sellafield in Cumbria and Inutec in Dorset) in loose (bagged) or drummed form.
- **Disposal of lower activity LLW to suitably licensed commercial landfill sites -** high volume lower activity waste, which does not require the degree of engineered protection provided by the LLWR, can be disposed of to landfill sites which hold an environmental permit and permissions allowing the disposal of lower activity LLW.
- **Incineration -** incineration of combustible waste reduces the volume of waste requiring disposal at the LLWR (by up to 100%). A wide variety of materials are suitable for incineration, including paper and cardboard, packaging materials, plastics, wood, oil, and protective clothing. In the UK there are four commercial incinerators which are permitted to accept radioactive waste.
- **Metal Treatment -** metal treatment can be used to allow contaminated or activated metal to be recycled into the clean metals market or used in the manufacture of products for the nuclear industry (such as shield blocks); or for volume reduction prior to disposal. A range of techniques can be used, including surface decontamination (shot-blasting), smelting and size reduction. Secondary waste arising from the process, such as shot blast media or slag from smelting, would then be managed via the most appropriate route (including disposal to the LLWR).

27. Is all non-recyclable LLW able to be disposed of or does some need to be stored?

There is a relatively small volume of LLW in the inventory which will not be suitable for management or disposal by the existing available waste routes. This waste will be managed as Intermediate Level Waste (ILW) and stored pending disposal to a future GDF.

28. The plan/RWI indicates that as of 1 April 2013 the UK's total LLW was about 66,700m^3 and that about 5% (3,450m^3) was stored at Sellafield. How much was generated at Sellafield? Where was this managed / disposed of?

The 2013 UKRWI identifies that most of the LLW stored at Sellafield was steel pond skips and other furniture, along with multi-element bottles and spent fuel flasks. The management strategy is decontamination to allow the metal to be released into the clean metals market, and plans are being developed to dispose of these wastes as they become available over the next few years.

In addition, there may have been small volumes of LLW in storage prior to supercompaction and disposal to the LLWR. The steel skips, pond furniture, etc. would have been generated at Sellafield; whereas a small volume of the waste awaiting supercompaction may have come from sites outside Cumbria.

29. The RWI indicated that about 32,800m^3 of LLW was stored at the LLWR. Was any LLW generated at the LLWR? Where did the rest of this waste originate from?

The 2013 UKRWI reflects that, at that time, the LLWR only had planning permission and an environmental permit to dispose of LLW in Vault 8; thus the waste received at the site and placed in Vault 9 was classed as stored waste. Some waste was also stored in Vault 8 (higher stacked containers) In November 2015 LLWR received a revised permit to allow disposal in Vault 9 and future vaults; and in July 2016 planning permission was granted for disposal in Vault 9; for higher stacking in Vault 8; and for future vaults (to Vault 11).

A small volume of this waste will have been generated at the LLWR site; however the majority of the waste will have been generated by nuclear sites across the UK, including Sellafield, the Magnox sites, MOD sites and smaller waste producers.

30. The RWI/Plan gives a figure of 1,300,000m^3 for the future generation of UK LLW, of which 291,000m^3 (about 22%) is estimated to come from Sellafield. Over what time period is this likely to be generated? Why is this forecast expressed as a finite figure? How much is likely to be generated over the plan period?

The LLW UKRWI forecasts this volume to be generated over the period 2013 – 2120. Over the plan period (2013 – 2030) around 80,000 m^3 is forecast to be generated at Sellafield.

The UKRWI forecast volume is a current best estimate and this has been used in the Mineral and Waste Local Plan. The waste composition report (see question 25) recognises that waste producers have provided appropriate factors where they have been able to quantify lower and upper uncertainties and the report provides overall lower and upper waste volume estimates for each waste type.

31. Is any LLW likely to arise from the LLWR?

The 2013 UKRWI forecasts future arisings of LLW from the LLWR as 2,320m^3.

32. How much of the future forecast LLW is likely to be managed / disposed of at Sellafield?

It is not intended to dispose of any LLW at Sellafield during the lifetime of the Plan.

The current Sellafield end state assumes the licensed area of the site to be reduced with some Lower Activity Waste and Special Nuclear Materials remaining. This approach will generate a significant amount of waste that requires management and disposal at significant cost. Work is currently underway (with a large number of external stakeholders engaged) to determine the appropriate end state for the site. In the longer term this may result in some contaminated materials remaining in-situ and/or alternative LLW management capabilities being developed on or adjacent to the site

33. What is the current capacity to manage/dispose of LLW at Sellafield?

Sellafield currently has the capacity to manage all LLW arisings. The approach is aligned to the three themes in the UK Nuclear Industry Solid LLW Strategy, with a focus on the application of the Waste Management Hierarchy; best use of assets; and use of fit for purpose waste management routes.

On site capabilities include handling, segregation and measurement capabilities; a metals recycling capability; and a supercompaction plant. Off-site capabilities include metals recycling (both within and outside the County), incineration (outside the County) and LLW disposal to the LLWR.

34. How much of the future forecast LLW is likely to be managed/disposed of at the LLWR?

LLW Repository Ltd submitted a paper - Needs for Disposal Capacity at the LLWR (reference: RP/340737/PROJ/00033 version 2) - to Cumbria County Council (CCC) in January 2015; which estimated in its reference case that 1,160,018m^3 of the forecast UK LLW is likely to require disposal at the LLWR site between 2013 and 2120.

35. What is the current capacity to manage/dispose of LLW at the LLWR?

See below for a table of vault volumes assumed in the LLWR planning permission and the Needs for Disposal Capacity at the LLWR paper (ref; RP/340737/PROJ/00033 version 2). The volumes quoted are 'air space' allowing for higher stacking, i.e. the volume to be taken up by containers (22.8 m^3). It should be noted that the volumes for Vaults 8 and 9 do not account for wastes already received. The table shows volume for up to Vault 11, the number of vaults with planning permission). There is additional potential capacity at the site up to Vault 20.

2011 ESC vault disposal capacities

Vault	**Volume (m^3)[1]**
Vault 8	308,000
Vault 9	247,000
Vault 9A	23,000
Vault 10	120,000
Vault 11	120,000

1 Air space volumes to the nearest 1000 m^3
* The EDA vaults would be higher stacked to accommodate the increased waste relating to Case B

It should be recognised that the LLWR site currently has planning permission to build up to Vault 11, so any further disposal capacity would be subject to a future planning application.

36. Overall, what are the figures likely to be for imports of LLW into the County and exports of LLW from the County over the Plan period?

Imports of LLW into the County over the plan period is estimated to be around 134,629m^3 based on analysis undertaken for the 'Needs for Disposal Capacity at the LLWR' paper (ref; RP/340737/PROJ/00033 version 2).

Exports of LLW over the plan period are estimated to be approximately 37,800 m^3. This figure is based on extrapolation of current volumes of wastes transferred from Sellafield to alternative routes such as incineration, metal decontamination/melting and VLLW disposal.

Very Low Level Waste

37. The RWI/Plan indicates that as of 1 April 2013 most Very Low Level Waste (VLLW) generated in the UK came from Sellafield and all was in temporary storage awaiting disposal to landfill. What is the current position and what, if anything has happened to this VLLW?

In the 2013 UKRWI 1170 m^3 stored VLLW was reported by waste producers, of which 1080 m^3 was at Sellafield. These volumes represent a small proportion of the VLLW arising annually at nuclear sites, which are generally sent for disposal to permitted landfill, if suitable, at the earliest opportunity after they are generated. For example in 2015/16 6092 m^3 VLLW from waste producers across the UK was disposed to suitably permitted landfill sites and additionally 3736 m^3 was disposed by Sellafield to its on-site disposal facility, Calder Landfill Extension Segregated Area (CLESA).

The 1080 m^3 reported by Sellafield was predominantly derived from the removal of lagging from the secondary circuits of the Calder Hall reactors. It was temporarily stored in Full Height ISO containers awaiting the development of arrangements to consign the material to an appropriately permitted specified landfill. 865m^3 of this material has now been disposed. In general, at Sellafield (and other nuclear sites) LLW and VLLW is managed for onward treatment or disposal as it arises.

38. What is the current capacity to deal with such waste in the County?

There is one permitted commercial landfill site in the county which is able to accept VLLW – the FCC site at Lillyhall. The planning permission allows disposal at the site until 2029, with limits to the volume of radioactive waste which can be disposed there of 582,000 m^3 in total and 26,000 m^3 annually; the site is permitted to accept VLLW of up to 4 Bq/g. To date no VLLW has been disposed of to the site.

The CLESA facility at Sellafield has a total capacity of 120,000 m^3 and a remaining capacity of 63,000 m^3.

39. The RWI/Plan forecasts future UK arisings of VLLW as being about 2,840,000m^3, about 97% (2,760,000m^3) of which is likely to come from Sellafield. Taking account of the uncertainties over how much (about 70%) may not actually fall under radioactive waste regulatory control due to its low levels of radioactivity, what additional capacity is likely to be required?

It is not envisaged that any additional capacity will be required over the lifetime of the Plan, other than the development of a specified landfill capability adjacent to the Sellafield site.

40. How much VLLW is likely to be exported out of the County over the Plan period?

Based on the 2013 UKRWI, Sellafield Ltd plan to generate some 96,344m^3 of VLLW over the plan period; with over two thirds of this volume (60,866m^3) planned to be routed to its on-site landfill facility CLESA. The remaining 35,478m^3 is expected to be consigned as VLLW for disposal at an authorised landfill, which is likely to be outside of the County.

LLWR has no forecasted VLLW arisings over the plan period in the 2013 inventory.

41. How much VLLW is likely to be imported into the County over the Plan period?

It is difficult to forecast the volume of VLLW which might be imported into the County during the plan period, since VLLW would only be imported into the County if it was to be disposed of to the Lillyhall facility and, as noted in response to question 38, none has been disposed of to this site to date. The reason for this is the activity limit in the permit (the two landfill sites elsewhere in England are able to accept up to 200 Bq/g). FCC had been considering submitting a variation to their permit to be able to accept waste of up to 200 Bq/g, but has not done so yet. It is unknown whether they will submit a variation in the future.

The Sellafield CLESA facility is not able to accept VLLW from other sites.

All Radioactive Wastes

42. Paragraph 4.19 of the MWLP refers to various techniques. For radioactive waste generated or managed in Cumbria, at what facilities do these techniques take place? Do they have sufficient capacity to accommodate forecasted waste arisings over the Plan period?

The waste techniques referred to in Para. 4.19 are compaction or incineration (for solid wastes); evaporation or filtration (for liquid wastes); grouting or vitrification (for higher activity wastes).

Waste compaction takes place at two facilities within Sellafield, the Waste Monitoring and Compaction plant (WAMAC) and the Waste Treatment Centre (WTC). WAMAC compacts LLW arising on the Sellafield site and also LLW from all other nuclear waste producers across the UK. The compacted wastes are packaged into iso-freight containers and consigned to LLWR by rail. At LLWR they are grouted and disposed in the LLWR vaults. WTC receives alpha contaminated ILW(PCM) from Sellafield and also some specific wastes from Harwell, (see question 15 above). This waste is compacted and the compacted pucks placed into a 500 litre stainless steel drum which is grouted and placed into an engineered drum store (see questions 23 & 24 above) pending disposal at a future GDF. Both facilities have sufficient capacity to accommodate forecasted waste arisings over the plan period.

Some LLW is consigned for incineration. This takes place a specifically permitted facilities outside of the county. Four facilities exist at Ellesmere Port, Southampton, East Kent and Slough. There are no anticipated capacity issues expected over the plan period.

Evaporation is a specific part of the HLW treatment process carried out at Sellafield. It is carried out at the Highly Active Liquor Evaporation and Storage Plant (HALES). The plant takes highly active liquid wastes from fuel reprocessing and concentrates it prior to vitrification. A new evaporator has been constructed and this will ensure that sufficient capacity is available to complete the HLW processing (see questions 2, 4 & 6 above).

Filtration is carried out at a number of plants and facilities across Sellafield to remove suspended solids from effluent streams before treatment and discharge. A key plant is the Site Ion Exchange Plant, SIXEP, which undertakes both filtration of solids and removal of soluble radioactive caesium and strontium from pond waste purges. No anticipated capacity issues are expected over the plan period.

Grouting takes places at a number of facilities at Sellafield where ILW from a range of processes is grouted into stainless steel containers and placed into storage pending future disposal at a GDF. Facilities include the Magnox Encapsulation Plant, (MEP), Waste Encapsulation Plant, (WEP) and Waste Packaging & Encapsulation Plant, (WPEP). These plants grout solid wastes from the fuel reprocessing plants. Additional grouting and encapsulation plants are scheduled to be constructed to treat wastes from decommissioning processes. There are no anticipated capacity issues expected over the plan period.

Vitrification is the process where HLW is vitrified to produce a glass product for storage prior to disposal to a GDF. This process takes place in the Vitrification Plant at Sellafield. There are no anticipated capacity issues expected over the plan period.

43. How does the MWLP apply the waste hierarchy to the various categories of radioactive waste?

The MWLP sections 4.19 – 4.28, Planning for Radioactive Waste Management, makes reference to a range of supporting policy and strategic documents, particularly the NDA Strategy and UK Nuclear LLW Strategy. These documents promote the application of the waste hierarchy to all categories of radioactive waste where it is appropriate to do so. There are also regulatory requirements on all waste producers to apply BAT and ALARA principles in their waste management operations.

44. Does the MWLP reflect the Nuclear Decommissioning Authority's Nuclear Waste Strategy of April 2016? Briefly explain how the main elements of the Strategy have been taken into account.

Section 4.23 clearly states that the NDA Strategy should be taken into account in the preparation of Local Plans and also summarises the key principles that should inform strategic decisions about radioactive waste management. These are also reflected to some extent in the respective policies SP4, SP5 & SP6 (see also question 46 below)

45. Briefly explain how the main elements of other strategies referred to in paragraph 4.24 of the MWLP have been taken into account. (If any of these strategies are not within the Exam library, please have them uploaded).

For HLW/ILW the key strategic documents referenced are the White Papers on Managing Radioactive Waste Safely and Implementing Geological Disposal. The development of geological disposal capability is a Nationally Significant Infrastructure Project and falls outside of the MWLP process. However there is a requirement for the provision of suitable storage capability whilst the GDF is being developed and a significant proportion of this inventory will be managed at the Sellafield site. Policy SP6 and the supporting sections of the MWLP supports flexibility in the management of these wastes during the GDF development process. For LLW management the government policies and strategies for non-nuclear LLW and NORM are very closely aligned to the UK Nuclear LLW strategy and the key principles from these strategies align with the NDA strategy, i.e. application of waste hierarchy, best use of existing facilities etc. As discussed above there is alignment between the MWLP and the NDA Strategy.

46. In Policy SP4, as amended in the submission version, what is meant by "the national strategy for managing radioactive wastes"?

National strategies for managing radioactive wastes encompassed within the UK Strategy for the Management of Solid Low Level Waste from Nuclear Facilities February 2016 and the Government White Paper Implementing Geological Disposal

July 2014. The NDA Strategy, April 2016, is approved by Government and applies to all of the sites covered by the 2004 Energy Act obligations. Para. 4.22 and 4.23 refers to an earlier planning enquiry for Northamptonshire which concluded that the NDA Strategy should be taken into account in the preparation of Local Plans when considering the full range of radioactive wastes.

47. What is the current position with the planning application at the LLWR referred to at paragraph 4.31 of the MWLP? Please give more details of what it is for.

Planning consent was granted in July 2016 which will permit the construction of additional vaults, 9a, 10 and 11 and also higher stacking of containers in Vault 8 as well as disposal of containers in Vault 9, where at the time, they could only be stored. In addition the planning consent permits the construction of a final cap over existing and new vaults and seven landfill-style trenches where waste was disposed of prior to the opening of Vault 8 in 1988.

48. What are the alternatives to disposal at Lillyhall landfill should the operator decide not to continue with the facility. With reference to paragraph 4.34 of the MWLP, is there any reason to suspect that the operator might not want to continue?

Within the UK there are currently three commercially operated landfills capable of accepting very low level wastes, one in Cumbria (Lillyhall), one in Lancashire and one in Northamptonshire. As with all privately operated commercial facilities there is a risk that facilities could close or withdraw from particular market sectors if they are no longer financially viable. There are potential changes in European legislation which may impact on disposal facilities particularly with regard to the provision of civil nuclear liability insurance. Currently this is provided by NDA through LLWR Ltd, however proposed changes introduced by the Basic Safety Standards Directive will mean that the sites will be required to maintain their own insurance arrangements until such time as Government can issue legislation to remove these facilities from the requirements to hold nuclear liability insurance. Changes to legislation are expected to be introduced towards the end of 2017 and the sites may have to have insurance for a period of several years. The cost of providing insurance would be recovered through enhanced disposal fees, however sites are currently in the process of investigating the implications of this and the likely costs and timescales before making a final decision once the regulations are introduced. There is an expectation that at least one or more of the sites would continue to operate following the legislation changes. Sellafield also operate their own on-site disposal site for these types of wastes.

49. In broad terms, what are the critical path activities that are likely to occur when carrying out decommissioning at Sellafield and what are the likely timescales involved? How is it envisaged the various waste types will be managed/disposed of?

Questions 2 – 24 above provide a broad summary of the activities and schedule for Sellafield. Over the next five years there will be significant changes at the site as fuel reprocessing operations cease and the site moves into decommissioning. The key focus will be on the Legacy Ponds and Silos and creating the infrastructure and capability to enable the retrieval and export of wastes from these aging facilities. A high level summary of the Sellafield site activities can be found in the NDA Strategy April 2016 Section 9.0

50. Should the finding and hosting of a GDF site within the Plan period trigger a review of any part of the Plan?

The process to find and host a GDF site is a designated Nationally Significant Infrastructure Project (NSIP) and the process of finding a suitable site will commence in 2017. This process will take several years to complete and the planning assumption for a GDF being available to receive wastes is 2040. The early phases of the GDF development involve community volunteerism followed by detailed investigative work to assess the geological suitability for site development. It is unlikely that this type of work would trigger a review of the plan. This is reflected in Para. 4.50

51. What is the current position on the Government's consideration of sites for interim storage of ILW from decommissioned nuclear powered submarines (as referred to in paragraph 4.54 of the MWLP)?

The consultation process for interim storage of ILW from the decommissioning of the UK fleet of nuclear submarines has completed. Sellafield was a shortlisted site for the assessment process, however the site was not chosen as the preferred site. The consultation and review process selected the Urenco Capenhurst site in Cheshire as its preferred site.

52. Explain how the MWLP is sufficiently flexible to accommodate the uncertainties surrounding generation of radioactive waste and its management, storage and disposal.

The MWLP recognises that Cumbria hosts a significant number of nuclear facilities and that West Cumbria has the largest concentration of nuclear waste management facilities in the UK. It also recognises that there needs to be flexibility for the management of radioactive wastes as the Sellafield Site completes its operational phase and moves into decommissioning. (Para. 4.52 and question 45)

Site Allocations Policies – Sue Brett, CCC to answer

Issue: Whether sufficient land is allocated or designated in appropriate locations to meet objectively assessed need and to provide choice and flexibility.

53. Are the sites allocated in Policy SAP3 the most appropriate for providing additional radioactive waste capacity?

54. What capacity is it envisaged they will provide and for what type of radioactive waste management options?

55. What categories of radioactive waste are envisaged will be managed at these sites?

56. Will the sites provide sufficient capacity for the right type of waste, at the right time and in the right place?

57. Do any of these sites have any significant planning constraints?

Elizabeth C Ord
Inspector
28 October 2016