

CABINET	Paper No. 10
Meeting date: 25 August 2009	
From: Cabinet Member for Environment and Transport and Corporate Director – Environment	

CONSULTATION ON UK STRATEGY FOR MANAGEMENT OF LOW LEVEL RADIOACTIVE WASTE

PART A - RECOMMENDATION OF CABINET MEMBER

1.0 EXECUTIVE SUMMARY

- 1.1 *Cabinet are asked to agree the Council's response to this important consultation on National Low Level Waste [LLW] Strategy which closes on 11 September 2009.*
- 1.2 *The County Council should support the strategy's emphasis on waste avoidance, segregation of waste, minimising and re-using waste, to reduce the amount needing disposal.*
- 1.3 *The proposed strategy identifies a need for new sites, particularly to dispose of very low level waste. The strategic environmental assessment with the strategy, does not accept that there are wider social and economic impacts of disposing of these wastes away from nuclear sites. The proposed County Council response says this is not the experience in Cumbria. The opportunities to treat and dispose of the waste at or adjacent to Sellafield should be seriously examined and used in preference to sites away from Sellafield, which are likely to generate greater concern from communities and deter investment.*

2.0 STRATEGIC PLANNING AND EQUALITY IMPLICATIONS

- 2.1 *Influencing radioactive waste management contributes to outcomes in the Council Plan to protect and enhance the environment, minimise waste and improve waste management. It also helps to ensure economic initiatives in this area are not compromised by the potential blighting effect of radioactive waste proposals.*
- 2.2 *There are no equality implications to this report.*

3.0 RECOMMENDATION

- 3.1 ***Cabinet agrees the County Council response as set out at appendix 1 to this report for submission to the Nuclear Decommissioning Authority.***

Councillor Tim Knowles, Cabinet Member for Environment & Transport

PART B – ADVICE OF CORPORATE DIRECTOR – ENVIRONMENT

4.0 BACKGROUND

- 4.1 The Nuclear Decommissioning Authority [NDA] launched on 5 June a three-month consultation on their proposed national strategy for the management of solid low level radioactive waste [LLW] arising from the nuclear industry in the UK. The strategy has been prepared within the framework of the UK government's policy on solid low level radioactive waste published in 2007.
- 4.2 Views are sought by 11 September 2009 on the consultation which includes a number of questions. A proposed response from the County Council is attached at appendix 1 to this report.
- 4.3 A LLW management service is crucial to maintain capability and capacity in LLW management to support the ongoing operation of sites and hazard reduction and decommissioning activities. The UK LLW inventory is estimated to be around 3 million m³ which will require management over the lifetime of NDA sites [approximately 120 years].
- 4.4 Low Level Waste represents a broad category spanning a range of five orders of magnitude of radioactivity. Unlike high level waste and intermediate level waste, LLW does not normally require special shielding during handling or transport. Operational LLW typically arises from routine monitoring and maintenance activities and includes plastic, paper, tissue, clothing, wood and metallic items. Decommissioning LLW mostly comprises building rubble, soil and various metal plant, equipment and other items.
- 4.5 The UK radioactive waste inventory estimates that LLW makes up some 90% of the total volume of the UK's radioactive waste but contains less than 0.0003% of the total radioactivity. Compared with UK non-radioactive waste arisings of 335 million tonnes per year, predicted LLW arisings are approximately 25,000 tonnes per year.
- 4.6 Approximately 60% of the 3 million tonnes of LLW to be managed between now and 2129 has been designated as High Volume Very Low Level Waste [VLLW]. 69% of which will originate from Sellafield. The Strategic Review of LLW generation carried out as part of the development of the strategy demonstrates that the greatest generation of LLW [on current planned activities] occurs between 2008 and 2031. There is also an increase in the

generation of LLW around 2090 as a result of final site clearance activities at a number of NDA sites.

- 4.7 In terms of LLW volume, metal [37%] and soil/rubble [33%] are the two largest types of LLW that will arise. For VLLW, the same two waste streams dominate; soil and rubble 63% and metals 23%. Most of the metal waste is scheduled to be produced before 2030. Soil and rubble will be generated both in the near term and later.
- 4.8 The LLW Repository (LLWR), near Drigg in West Cumbria, is the only dedicated engineered LLW disposal facility in the UK [although current capacity is only permitted for storage]. The estimated theoretical capacity of the LLWR is 0.7million m³ subject to planning and regulatory approvals. This gap between estimated arisings and capacity at the LLWR will mean finding alternative ways to manage LLW, including new treatment and alternative disposal routes.
- 4.9 In the past, the majority of LLW has been disposed of at the LLWR with little or no pre-treatment. Through improved waste management including waste avoidance, minimisation, re-use and treatment, the strategy seeks to significantly reduce the amount of waste needing final disposal.
- 4.10 The strategy has three main strands:
- Application of the waste management hierarchy.
 - Best use of existing facilities particularly the LLWR near Drigg, ie only wastes go to the LLWR that need that standard of containment.
 - Development of new management and disposal routes that are fit for purpose for the type of waste.
- 4.11 Without this change of approach, around 2.4 million m³ of LLW will require disposal at the LLWR or a new national LLW repository. A new repository could be required by 2037 or earlier if waste has to go to the LLWR [these figures do not include LLW arisings from the operation and decommissioning of new nuclear power stations and contaminated ground at nuclear sites].
- 4.12 The strategy is underpinned by a Strategic Environmental Assessment which accompanies the consultation. The development of this strategy has involved a number of key stakeholders, including through a National LLW Strategy Group, on which the County Council and the Nuclear Legacy Advisory Forum [NuLEAF] are represented. The LLW Strategy Group was not asked to formally endorse the strategy.
- 4.13 The emphasis on implementing the waste management hierarchy is welcomed, particularly the encouraged attention to waste avoidance, segregation of waste, minimising and re-use of waste. It is recognised that new waste management and disposal routes will be required for LLW and VLLW. The strategic review and ongoing monitoring of the wastes likely to arise and efforts to carry out more extensive characterisation of the waste at the sites is also to be supported.

- 4.14 Making best use of the LLWR, by only disposing of wastes there that require that degree of containment, is appropriate. This is consistent with national LLW policy to optimise the use of the LLWR. Support for this should be conditional on it not compromising the environmental safety case for the site or leading to increased activity at the site which has an unacceptable impact on communities around the site.
- 4.15 The Cabinet Member and officers met with the NDA and the Office of Nuclear Development on 3 April 2009 to raise the Council's concerns at how the strategy seemed to be shaping up in terms of the identification of new sites for disposal of wastes.
- 4.16 Primary concerns were that encouraging the supply chain to come up with sites, with no clear direction, would lead to a dispersed pattern of LLW management and disposal facilities through communities and remote from nuclear sites. Experience in Cumbria already shows this is happening. The County and NuLEAF have stressed that public acceptability should be factored into looking at the options for sites. Again, experience in Cumbria indicates that even in areas more comfortable with nuclear developments, like West Cumbria, there will be strong opposition to dispersing LLW management facilities distant from nuclear sites. Public perception of the risks of even the most innocuous radioactive wastes leads to public reaction and concern that may lead to adverse social and economic impacts. It may also impact on support for other nuclear programmes.
- 4.17 Concern was expressed that disposal of VLLW and some LLW to conventional landfills was being encouraged. Little, if any, emphasis was being given to optimising potential to locate new waste management facilities and disposal facilities on or adjacent to existing nuclear sites as far as possible, where they were likely to be more acceptable to the community and have advantages in terms of infrastructure.
- 4.18 The strategy looks to the supply chain for the provision of alternative treatment and disposal options and the NDA say they will support the supply chain in developing new management and disposal routes. The strategy still includes a strong message that the NDA sees the use of conventional landfills as presenting potential benefits to the management of LLW. They see diversion of VLLW away from the LLWR as critical to making best use of the LLWR.
- 4.19 The NDA has given more prominence in the strategy to the potential for on-site facilities and indicated that there should be an option assessment for new sites. The strategy proposes that where waste has to be disposed of, a range of disposal options are considered. These include on-site or adjacent to site disposal and specified landfill or incineration, locally, regionally or nationally. However, proposals to dispose of waste in both existing conventional landfills and new dedicated landfills are coming forward with no apparent serious consideration of the options to accommodate this material on or adjacent to the Sellafield site where in the main it would originate from. The strategy has mixed messages on this issue and does not give confidence that onsite/adjacent site options will be seriously explored or benefited from.

- 4.20 This part of the draft strategy derives from its accompanying Strategic Environmental Assessment. This concludes that disposing of LLW and VLLW to conventional waste sites would not have observable impacts. That conflicts with the Council's experience of reactions to such proposals which are seen to have adverse economic and social impacts.
- 4.21 The proposed strategy now includes a number of statements recognising the importance of public acceptability and community values, for example, the strategy's key principles include the statement 'public acceptability is vital to the development of appropriate waste management plans and their implementation'.
- 4.22 The point the County Council should make is that the strategy should have a presumption in favour of accommodating waste management facilities at or adjacent to nuclear sites generating waste, rather than at more distant sites, unless there are planning, regulatory or community concerns that indicate other options should be preferred. Accordingly, the NDA should give an early commitment to determine what potential there is to provide waste management facilities to manage LLW on or adjacent to their nuclear sites. This provision should be programmed as far as possible and kept under review. Opportunities can then be made available to the supply chain, as appropriate, to provide these facilities.
- 4.23 Proposals and sites for waste management facilities on or adjacent to nuclear sites should be put forward by the NDA or site licence companies for consideration in the preparation of the Waste Development Framework for an area so they do not come forward on an ad hoc basis. This issue needs to be considered on a proactive and holistic basis, not a reactive one, with proposals coming forward from the supply chain with insufficient weight given to more community acceptable alternatives. This would give some certainty and security for the waste industry. There may be the potential for a large facility for the disposal of VLLW and LLW from the Sellafield site on or adjacent to the Sellafield site at an appropriate time in the future. This would significantly extend the life of the LLWR and it is surprising that it has not been identified as an option in the draft strategy.
- 4.24 Equally, in terms of finding sites for waste treatment facilities, the emphasis should be on exploring the opportunities at or adjacent to nuclear sites alongside other options. The proposed response indicates that before the thermal route is pursued, there should be greater engagement and discussion with stakeholders on the pros and cons of these technologies and where they could be sited.

5.0 OPTIONS

- 5.1 Cabinet could amend the approach and content of the response.

6 RESOURCE AND VALUE FOR MONEY IMPLICATIONS

- 6.1 There are no financial implications.

7 LEGAL IMPLICATIONS

7.1 No legal implications have been identified.

8 CONCLUSION

8.1 The strategy does now recognise that public acceptability is an important issue in the development of new facilities and that the potential for on site disposal should be considered as part of the options assessment. However, without a stronger steer and encouragement to the supply chain to exploit options on or adjacent to nuclear sites where they are appropriate, the dispersal of waste to existing landfills and pressure for new dedicated waste treatment and disposal facilities away from nuclear sites, will gather pace. The County Council should consider whether it would be comfortable with seeking a dedicated facility for VLLW and LLW at or adjacent to Sellafield similar to the facility being provided at Dounreay.

Marie Fallon
Corporate Director, Environment

August 2009

APPENDICES

Appendix 1: Proposed County Council Response to NDA strategy for the management of solid low level radioactive waste arising from the nuclear industry in the UK.

Electoral Division(s): All

** Please remove whichever option is not applicable*

Executive Decision	<table><tr><td>Yes</td><td><input type="checkbox"/></td></tr></table>	Yes	<input type="checkbox"/>	
Yes	<input type="checkbox"/>			
Key Decision	<table><tr><td>Yes</td><td><input type="checkbox"/></td></tr></table>	Yes	<input type="checkbox"/>	
Yes	<input type="checkbox"/>			
If a Key Decision, is the proposal published in the current Forward Plan?	<table><tr><td>Yes</td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table>	Yes	<input type="checkbox"/>	<input type="checkbox"/>
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Is the decision exempt from call-in on grounds of urgency?	<table><tr><td><input type="checkbox"/></td><td>No</td></tr></table>	<input type="checkbox"/>	No	
<input type="checkbox"/>	No			
If exempt from call-in, has the agreement of the Chair of the relevant Overview and Scrutiny Committee been sought or obtained?	<table><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>N/A</td></tr></table>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
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Has this matter been considered by Overview and Scrutiny? If so, give details below.	<table><tr><td><input type="checkbox"/></td><td>No</td></tr></table>	<input type="checkbox"/>	No	
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Has an environmental or sustainability impact assessment been undertaken?	<table><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>N/A</td></tr></table>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
<input type="checkbox"/>	<input type="checkbox"/>	N/A		
Has an equality impact assessment been undertaken?	<table><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td>N/A</td></tr></table>	<input type="checkbox"/>	<input type="checkbox"/>	N/A
<input type="checkbox"/>	<input type="checkbox"/>	N/A		

N.B. *If an executive decision is made, then a decision cannot be implemented until the expiry of the eighth working day after the date of the meeting – unless the decision is urgent and exempt from call-in and the Head of Member Services and Scrutiny has obtained the necessary approvals.*

PREVIOUS RELEVANT COUNCIL OR EXECUTIVE DECISIONS
[including Local Committees]

None

CONSIDERATION BY OVERVIEW AND SCRUTINY

Not considered by Overview and Scrutiny.

BACKGROUND PAPERS

UK Strategy for the Management of Solid Low Level Radioactive Waste from the Nuclear Industry: Consultation Document June 2009 – Nuclear Decommissioning Authority

RESPONSIBLE CABINET MEMBER

Councillor Tim Knowles, Cabinet Member for Transport and Environment

REPORT AUTHOR

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RESPONSE TO NDA CONSULTATION ON UK STRATEGY FOR MANAGEMENT OF LOW LEVEL RADIOACTIVE WASTE

Question 1 – Do you agree with the proposed approach to avoidance and characterisation of waste? What are the most important areas of work and are there other actions that could be undertaken?

Agree with the approach.

Strongly support improved waste characterisation and waste avoidance that is consistent with best practice.

Question 2 – Re-use and recycling of waste from the nuclear industry could yield significant benefits – do you agree with this approach and where do you see the significant opportunities for implementing the option?

Agree with approach. Main opportunities currently appear to be in decontamination and re-use of construction, demolition and excavation wastes within the NDA estate. Large sites such as Sellafield should be maximising the opportunities for re-use which they haven't been doing to date. Given the large quantities of steel arising at the site there should be an enhanced and greater capacity for decontamination at the site.

Question 3 – To what extent do you believe that compaction still has a key role to play in the optimisation of LLW management? What are the opportunities for improving the use of compaction?

Compaction has a key role in reducing the amount of disposal capacity required as well as reducing transport, handling costs etc.

Question 4 – Do you agree that the benefits of metal treatment outweigh the detriments? If not, why not? If metal treatment costs more than disposal to implement, is this acceptable?

Agree. Cost is not the only consideration. Environmental considerations need to be taken into account. The strategy is surprisingly silent on the extent to which the market is resistant to taking cleaned up material. This applies in respect of decontaminated metal, but also construction, demolition and excavation waste and other exempt waste. The strategy should consider whether work can be done to increase take up of this material.

Question 5 – Do you agree with the proposals set out for thermal treatment? If not, why not? As incineration is often a controversial approach, what should be the key message if the LLW strategy were to actively promote the use of this technology?

Development of new thermal treatment capacity is likely to be particularly controversial amongst local communities, even more so if it includes thermal treatment of LLW with other waste streams such as ILW and graphite. Development

of facilities away from existing nuclear sites would be very contentious and potentially blighting. There needs to be a thorough assessment of how this technology could be effectively and environmentally acceptably applied. The impacts and benefits need to be disseminated widely and an understanding of its acceptability to local communities obtained before implementing this option.

Question 6 – We believe that the majority of waste management solutions that are required to implement this strategy are or will be available, either in the nuclear estate or through the supply chain and therefore should be used in preference to centralised investment in new infrastructure. To what extent do you agree with this statement?

The Council is not concerned about who manages the wastes but about where they are managed. The issue with encouraging the supply chain to come up with sites is that this may generate proposals for a wide range of sites spread throughout communities with no robust examination of options. There may be considerable public concern and reaction which may delay the provision of sites and which generates considerable public antagonism to the nuclear industry.

Radioactive waste is a very emotive issue and can impact investment decisions because of that public perception. Experience in West Cumbria [an area with a long association with the nuclear industry] has shown considerable public concern and opposition from businesses to relatively innocuous radioactive waste treatment and disposal operations being located away from existing licensed sites or requiring the creation of new licensed sites. Concerns also arise that conventional waste facilities will also in future be used for managing or accommodating radioactive wastes. The Council does not support radioactive waste treatment or disposal facilities away from licensed sites unless it has been proven these facilities cannot be located on or adjacent to existing nuclear sites.

The County Council does not accept the conclusions of the Strategic Environmental Assessment which downplay the perception issue. This is not borne out by the reaction in West Cumbria to proposals for new sites accommodating radioactive waste materials coming forward. This is a real issue that needs to be properly addressed. Sellafield has an enormous landholding with potential to accommodate a range of waste management facilities which would be close to the point of arisings, be well related to a nuclear licensed site and less likely to directly impact upon local residents and businesses. The County Council believes that the strategy should have a presumption in favour of accommodating waste management facilities at or adjacent to nuclear sites generating waste, rather than at more distant sites, unless there are planning, regulatory or community concerns that indicate that other options should be preferred. Accordingly, the NDA should give a commitment to at an early date determine what potential there is to provide waste management facilities to manage LLW on or adjacent to their nuclear sites. This provision should be programmed as far as possible and kept under review. Opportunities can then be made available to the supply chain, as appropriate, to provide these facilities.

Sites and proposals for waste management on or adjacent to nuclear sites should be put forward for consideration in the preparation of the Waste Development Framework or Local Development Framework for an area so that they are considered in the context of the aspirations for the area.

This will build up a land bank of sites that can be more holistically considered and used to provide facilities. If it takes centralised investment to deliver this then so be it. Radioactive waste management is a special case that cannot just be left to the supply chain.

Question 7 – Do you agree with the approaches set out above for the development of an optimised approach to management of LLWR?

The County Council supports the optimal use of the LLWR. This is a valuable asset and should be used to best effect. As the strategy indicates its use for disposal cannot be taken for granted. At present it only has capacity for storage. Further capacity provision will be dependent upon the outcome of the Environmental Safety Case and upon further planning permissions and authorisations being granted. Also, whilst the use of parts of the LLWR as a temporary transfer station in connection with the development of alternative waste routes has been accepted subject to no additional HGV traffic, the council will need to review the scale of this activity if it begins to impact outside the site.

Question 8 – What are the key considerations that should influence the development of new packaging solutions for LLW management?

The Council has expressed concerns about the inefficiency of packaging LLW for several years and welcomes the new initiatives. The key considerations include the safety and retrievability of emplaced waste in Vault 9 which has permission only for storage.

Question 9 – The impacts of the transport of LLW are limited when compared to transport of other materials, when considered at a national level. However, it is a very significant issue for local communities where the transport is taking place. How do you think this should be factored into national strategy?

Limiting HGV movements is a major consideration for the LLWR because of the local road network and the communities directly affected. Giving priority to the use of rail transport needs to be stressed. Clearly this is important not just for the movement of waste but for the supply of construction materials.

Question 10 – To what extent does a movement of waste from road to rail for transport represent a significant improvement? Do you see any disadvantages to this approach?

As outlined in Question 9 above, it is critical at a site like the LLWR. There will be a local sensitivity about radioactive waste passing through local communities as well as concern about HGVs causing risks and disturbance. This is another reason for managing waste at or near nuclear sites which may often have rail links.

Question 11 – Government's policy for the management of LLW indicates that landfill disposal of LLW and VLLW should be considered when determining end points for these wastes. What do you think should be the key considerations when comparing landfill disposal with other options such as LLWR, new vaulted disposal routes, etc?

The County Council is concerned at the proposed use of landfills away from nuclear licensed sites. The County Council wish to see the options at or adjacent to existing nuclear sites examined and used first. Distributing waste over a wider area and closer to communities and businesses raises local concern and also affects the perception of that area by people and businesses potentially visiting and investing in that area. We have already seen considerable reaction to sites being used distant from Sellafield in West Cumbria. The Council would rather see larger facilities located on or adjacent to nuclear sites where this is feasible. The Council believes that there needs to be a clear vision of how the large amounts of waste generated by Sellafield are to be managed. It cannot be by reliance on ad hoc proposals coming forward from the supply chain. This is increasingly going to fuel concern in communities and possibly resistance to the industry. Again, with significant nuclear new build likely across the UK there should be clearer provision as to how this is to be dealt with, with ideally, provision for the waste on site or at a dedicated site nearby.

Question 12 – To what extent do you agree with the key considerations set out above for on-site disposal proposals?

The SEA conclusions on this issue are unduly negative. There are significant benefits from on-site disposal and there may be potential to accommodate a large facility which gives long term security for management of waste. The definition of on-site should also include adjacent land with potential. The County Council has no real issue with the key considerations but there needs to be a positive approach to realising this potential and a commitment to look at this in the near term.

Question 13 – Do you agree with the approaches set out for encouraging the right behaviour? To what extent do you think that waste recycling targets could have benefit to the national strategy? What potential benefits and difficulties would you envisage from implementing such approaches?

The NDA and site licence companies need to be proactive, particularly in areas generating large amounts of waste, in engaging with communities and stakeholders so they fully understand the challenges, know the approach that is being taken and are educated in the risks and impacts. Being seen to respond to acute community concern is also important.

Question 14 – To what extent do you agree with the risks and mitigation set out here?

Reference should also be made to the County Council's role as waste planning authority and its request for answers to its questions about the legacy of wastes in the trenches, the radiological capacity of the LLWR and the impacts of sea level rise/coastal erosion. As the safety case is based on a final cap, reference should also be made to the need for planning permission for this. In respect of the uncertainties about the inventory, significantly varied information on volumes and when and where generated has been submitted to the County Council over the last few years.