

**CONSULTATION ON THE VARIED AUTHORISATION FOR THE DISPOSAL OF RADIOACTIVE WASTE FROM THE NUCLEAR SITES AT SELLAFIELD AND WINDSCALE, CUMBRIA BY SELLAFIELD LIMITED**

**EXECUTIVE MEMBER:** Councillor E M Woodburn  
**LEAD OFFICER:** Fergus McMorrow, Acting Chief Executive  
**REPORT AUTHOR:** John Cain, Team Leader, Environmental Protection

**Summary and Recommendation:**

This report draws together and then sets out a proposed response to the Environment Agency's (EA) proposed authorisation under the Radioactive Substance Act (RSA) No BX 9838/CE1369

It is recommended

- (a) While recognising that there are no safety objections under the RSA which would prevent the disposal of VLLW at this site, the Council express concern at the potential socio-economic harm to the Copeland business community due to perceptions of risk related generally to radioactive waste;
- (b) a strategic land use planning approach to such decisions with the full involvement of the Local Councils, and the draft response in Appendix 1 is agreed;
- (c) delay any such decisions until an appropriate process has been completed;
- (d) it is further recommended that the response to the EA on its consultation, to be copied to the NDA, DECC officials and NuLeAF, in co-ordination with Allerdale and Cumbria County Council, with a request to discuss the issues raised

## 1. INTRODUCTION

- The Nuclear Working Group is asked to agree the Council's response to an important EA consultation on an application by Sellafield Limited and Windscales Nuclear Sites to dispose of radioactive wastes at a Lillyhall site. Views are being sought by the EA prior to its finalisation of the decision. An environmental safety case is part of the documentation, as is an Introductory Document.
- 1.2 The application is for disposal of solid, high volume, very low level radioactive wastes (HV-VLLW) at Waste Recycling's Lillyhall site. A draft certificate of Authorisation (to dispose) also accompanies the application. The EA has guidance on such disposals, on its web site<sup>1</sup>, which have been drawn on in compiling this Report. Planning consent issues are a matter for Cumbria County Council.
- 1.3 The application relates to S16(5) 13 of the RSA, 1993. The waste to be disposed of is HV-VLLW<sup>2</sup>, originating from nuclear sites. The disposal route is burial alongside non-radioactive wastes at the applicant's Lillyhall site. Up to 20,000m<sup>3</sup> of HV-VLLW per year. The actual amounts will vary year by year. An overall site total of all wastes is assumed at 67,000 m<sup>3</sup>. Assuming planning permission is granted, disposal to the landfill will continue to 2031, resulting in a maximum total disposal volume of 582,000 m<sup>3</sup> of HV-VLLW, out of an estimated total remaining site capacity of 1.5 million m<sup>3</sup>. These limits will be subject to additional controls to ensure compliance with the environmental safety case. A "sum of fractions" approach will be used to account for the mix of radionuclides present in the waste, and ensure that radiation doses are not in excess of relevant regulatory criteria. The current planning consents lasts only to 2014 and renewal will be needed to lead to the expected lifetime.
- 1.4 Members of the Nuclear Working Party Group previously discussed this matter on 22 October 2009, Minute NWG 07/09 refers and the 10 December 2009, in relation to the Waste Recycling Site and

**RESOLVED** – that the Council and its partners continue to seek the commitment of the industry operators and the NDA to

- (a) a strategic land use planning approach to such decisions with the full involvement of the local Councils; and
- (b) delay any such decisions until an appropriate process has been completed.

1.5 National Government Policy on Low and Very Low Level Radioactive waste was set out in 2009. At issues are the very large volumes of very low level radioactive waste needing disposal, due to decommissioning at Sellafield and across the UK.

1. <http://www.environment-agency.gov.uk/business/sectors/100241.aspx>
2. Radioactivity not exceeding 4 MBq te-1 or Bq g-1 (except in the case of tritium for which the consultation should be less than 40 MBq te-1 or 40 Bq g-1)

## **2.0 COMPILATION OF ENVIRONMENT AGENCY REQUIREMENTS (CEAR) DOCUMENTS, DEFINES THE DETAILED REQUIREMENTS BEHIND SOME OF THE CONDITIONS OF THE AUTHORISATION.**

2.1 The first annual review of the Sellafield authorisation resulted in a minor variation<sup>2</sup> that became effective on 1 April 2006. The second annual review<sup>3</sup> resulted in an unchanged authorisation, but changes were made to the details in the accompanying CEAR. The third annual review also resulted in a minor variation<sup>4</sup> that became effective on 1 April 2008. The fourth annual review<sup>5</sup> resulted in a few minor changes that were incorporated in a variation<sup>6</sup> to enable transfer of low level solid waste (LLW) to the Low Level Waste Repository (LLWR) for the purposes of subsequent transfer elsewhere for treatment or disposal, and transfer of metallic LLW to the metals recycling facility at Lillyhall for treatment. Some changes were also made to the details in the accompanying CEAR. As a result of the fifth annual review at Sellafield, it has been identified changes that are required both to the RSA93 authorisation and to some details in the accompanying CEAR.

## **2.2 Proposed Modifications**

Sellafield Ltd has supplied information <sup>7 8 9 19 11 12 13 14 15</sup> in support of the review of the authorisation. Based on the information supplied, as well as that gathered during the routine regulatory work by the Environment Agency, which has received the authorisation and they consider it appropriate to.

2.3 Add a new route to transfer High Volume Very Low Level Waste (HV-VLLW) to the Operator of the specified landfill at Lillyhall for disposal. The Environment Agency is currently consulting on the application for the use of this landfill for HV-VLLW<sup>17</sup>. They will not implement this route for Sellafield Ltd until the specified landfill at Lillyhall has confirmed<sup>18</sup> that they intend to accept HV-VLLW from Sellafield Ltd; (See letter attached)

Add a new route to transfer low level waste oils to the Site Operator at Hythe, Hampshire<sup>19</sup> for incineration. The Site Operator at Hythe has confirmed<sup>20</sup> that they intend to accept low level waste oils for incineration; (See Supporting information attached)

#### 2.4 **Sellafield Ltd's Recent Progress and Future Plans for Improvement**

In line with the regulatory requirement, Sellafield Ltd continues to use its Best Practicable Environment Option (BPEO) and Best Practicable Means (BPM) assessment processes to apply the Waste Management Hierachy (which promotes waste avoidance, minimisation, re-use, recycle, and energy recovery, in that order, over disposal), thereby minimising the amount of waste that will be produced and require disposal. Details of specific areas of improvement are given in the annual review report<sup>5</sup>.

#### 2.5 **Benefits of Authorisation Changes**

It is considered that the proposed changes have the following benefits:

- The seven site limit changes taken together will result, if discharges were made at the new limits, in a small reduction in the potential radiological impact on people and the environment.
- For discharges made to air, at the proposed new limits, they assess the potential for a small increase in radiation dose to the most exposed group from antimony-125 (0.24 microSv/year) to be more than offset by a reduction in dose from iodine-131 and ruthenium-106 of about 2 microSv/year. Even if there were no reduction in iodine-131 or ruthenium106 discharge, the potential increase in dose from antimony-125 will only be about 0.4% of the total dose from all radionuclides discharged to air at the limit.
- For discharges made to sea, we assess that the reduction in potential dose for discharges made at the site limits will be about 8.5 micriSv/year.
- The addition of new disposal routes that will allow Sellafield to make progress with decommissioning and make use of disposal facilities for HV-VLLW and LLW oils and solvents, rather than accumulating them on site.

## 2.6 Next Steps

- Where a significant number of changes are necessary, the Environment Agency will issue an Explanatory Document (ED) setting out proposed changes, along with the draft revocation notice and consolidated authorisation. This document is the Explanatory Document for the Sellafield Ltd: Sellafield and Windscale variation referred to in this report.
- The Environment Agency consult as required on this document. This is the stage we are starting now for the Sellafield Ltd: Sellafield and Windscale new authorisation.
- After due consideration of the responses, a decision whether or not to vary the authorisation and then publish a Decision Document, explaining our reasons for making the changes or not, and then issue a revocation notice and consolidated authorisation. This Explanatory Document has been prepared to inform the consultation process. The process will last 9 weeks and finish on 8 February 2010 to take into account comments made by consultees, and others who have been copied the consultation package, prior to issuing new authorisation and revoking the current authorisation.

## 3.0 CONCLUSIONS

- 3.1 While acknowledging that finding sites to accommodate high volume very low level radioactive wastes (HV-VLLW) is a major issue for the NDA, it is clear that NuLeAF, the County Council as Waste Planning Authority, and Copeland Borough Council (wearing its nuclear issues hat), are satisfied that an ad-hoc approach to finding disposal routes for HV-VLLW is appropriate. The broad local government consensus is that their needs to be a 'plan led' approach to identifying suitable locations. Taking into account the UK Government policy on Low and Very Low Level Waste, and the NDA's strategy of allowing the market to identify and bring forward sites capable of handling Low and Very Low Level Wastes. The current ad-hoc approach cannot compare sites to demonstrate that they are the "Best practicable Environmental option" in regulatory terms, hence the need for a national and regional siting strategy fully cognisant of the waste hierarchy.
- 3.2 The EA rightly able to say that such facilities can be accommodated without risk as set out in the relevant regulations and thus there is no need for public or community concern. However, in planning terms, the perception of communities and business is likely to be that any radioactive materials in their vicinity will be a matter of real impact. The Council thus needs to tread carefully in expressing its views. This particular application becomes something of a test case – the proposal meets EA Licensing Criteria, but introduces radioactive materials in proximity to a major industrial/commercial estate on the boundaries of the

Borough – which could have significant socio-economic impact on the basis of perception of risk. A plan led approach, which would likely see location of such facilities on or adjoining nuclear sites may avoid that problem and any risk to the Local economy.

- 3.3 It is suggested that the response to the EA is as in the attached draft letter, Appendix 1) which would be copied to the NDA and others as set out in the above recommendations. In addition it is proposed that the EA, NDA, ad DECC officials be asked to meet with the NuLeAF (including Copeland officers/ members) to explore a way forward in resolving the difference of approach such ad-hoc proposals are raising.

**List of Appendices**

Appendix 1 – Draft Response the Environment Agency

**List of Background Documents:** Authorisation application no: BX9838/CE1369

**List of Consultees:** As per Environment Agency letter 2 December 2009

**CHECKLIST FOR DEALING WITH KEY ISSUES**

Please confirm against the issue if the key issues below have been addressed . This can be by either a short narrative or quoting the paragraph number in the report in which it has been covered.

Impact on Crime and Disorder	None directly
Impact on Sustainability	Yes significantly
Impact on Rural Proofing	None directly
Health and Safety Implications	None
Project and Risk Management	None
Impact on Equality and Diversity Issues	None
Children and Young Persons Implications	None
Human Rights Act Implications	None
Monitoring Officer Comments	
Section 151 Officer Comments	

Please say if this report will require the making of a Key Decision    NO

2. RSA93 Authorisation Disposal of Radioactive Waste from Sellafield BX9838/CA3777, 1 April 2006
3. Record of Annual Review of Authorisation and Forward Look under RSA93 Section 17(A) for Sellafield, 10 January 2007
4. RSA Authorisation Disposal of Radioactive Waste from Sellafield and Windscales BX9838/CB9754, 1 April 2008
5. Record of Annual Review of Authorisation and Forward Look under RSA 93 section 17(A) for Sellafield, 6 March 2009
6. RSA Authorisation Disposal of Radioactive Waste from Sellafield and Windscales BX9838/CD8899, 21 October 2009
7. SSEM/2009/074 Application for changes to site limits for aerial and liquid discharges from Sellafield
8. Appendix 1 Analysis and Prediction of Sb-125 Aerial Discharges from FHP
9. Appendix 2 Review of FHP BPM
10. Appendix 3 Aerial Dose Assessment
11. Appendix 4 Marine Dose Assessment
12. SSEM/2009/087 Final Report – Annual Authorisation Review 2009/2010
13. TC(09)VLLW Options Assessment
14. Sellafield Low-level Oils and Greases
15. SSEM/2009/96 Proposal for changes to EAR 9/1/004
16. Record of Annual Review of Authorisation and Forward Look under RSA 93 section 17(A) for Sellafield, 4 December 2009
17. Introductory Document RSA Authorisation Application CD7914, October 2009
18. SL/RAS/RF1/BM301009 B McMeekin (WRG Ltd) letter to N Lawton, 30 October 2009

## Draft Response to the Environment Agency

## Appendix 1

Nancy Lawton  
Nuclear Regulator  
Nuclear Regulation Group (North)  
The Environment Agency  
Ghyll Mount  
Gillan Way,  
Penrith 40 Business Park,  
Penrith, Cumbria, CA11 9BP

Our ref: JC/OX/11/01/10

Dear Mr Ms Lawton,

**RSA 1993 – Authorisation Application No: BX9838**  
**Sellafield Ltd Sellafield and Windscales Nuclear Site**  
**Lillyhall Landfill, Joseph Noble Road, Lillyhall, Workington, Cumbria**

Thank you for your letter of 2nd December. The issues raised were considered at a meeting of Copeland Nuclear Working Group on 21 January 2010. I attach a copy of the Committee Report for your records. You will see that the Authorisation is accepted as providing for safe regulation of the disposal.

*However*, the issue of HV-VLLW management and disposal remains of great concern to the Council because of wider contextual issues – as set out in the Report.

The Council takes the view that the ad-hoc bringing forward of such disposal routes through private sector initiatives is unhelpful. The Council would wish to see the NDA bringing forward a considered programme to identify possible locations for such disposals in full consultation and putting those agreed locations out to tender for operation by proven radioactive waste management companies – so that risks to socio-economic development are minimised due to issues associated with the perception of the public, communities and businesses.

The Council's preference is for location of such disposals through a strategic land use planning approach. This would be consistent with the waste hierarchy and avoid significant radioactive waste movements locally, regionally and nationally. The ad-hoc approach is not able to demonstrate that the best practicable environmental option has been found.

Thus, notwithstanding that the numerical dose scenarios tabulated in the Introductory document meeting regulatory requirements, the Council objects to the grant of an authorisation to Sellafield Ltd and Windscale Nuclear Sites pending further discussion with the NDA, other Councils and DECC officials, and for the reasons given above.

Yours sincerely

Fergus McMorrow  
Acting Chief Executive





## Supporting Information – Volume and activity limits to support RSA authorisation amendment for HVLLW and Incineration routes

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Sellafield Ltd have applied for changes to the existing RSA authorisation to allow transfer and disposal to a specified landfill located at Lillyhall, Workington and to an incineration facility located at Hythe, Hampshire. To support this authorisation amendment there is a need to suggest annual volume and activity limits for each route.

The aim of the authorisation amendment is to increase the flexibility of the waste management options available to the Sellafield site. As the characterisation data of the majority of potential wastes suitable for disposal via these new routes is not known, (characterisation being undertaken on a project by project basis), we need to ensure that there is sufficient flexibility within the authorisation.

Whilst the initial application for the authorisation amendments is limited to a number of wastes, we would envisage utilising these routes for other permitted materials subject to the outcome of suitable optioneering processes, e.g. other incinerable wastes to the facility at Hythe and other wastes types covered by the specified landfill permit.

It is therefore proposed that the following volume and activity limits are considered:

### Specified Landfill

Waste Types – All waste types covered by operators specified landfill permit

Total activity of waste – max 4 MBq/te (40 MBq/te H-3)

Annual volume of waste – 20,000 m<sup>3</sup> (assuming average density (of soil/rubble) is 1.5 this is equivalent to 30,000 tonnes, please note that at this stage we are not sure what volume limit will be placed on WRG however the above figure will afford Sellafield sufficient flexibility to manage arisings within a uncertain decommissioning schedule)

### Incineration

Waste Types – All waste types covered by operators permit

Annual volume of waste – 100 m<sup>3</sup> (Tradebe were happy to offer 250m<sup>3</sup> per annum , however we feel that 100 is sufficient)

Total Activity – As per the consignment and package limits specified in the Tradebe Fawley Incinerator RSA93 Authorisation Number CD8155/CD8155 shown below:



Nancy Lawton  
Nuclear Regulator  
Nuclear Regulation Group (North)  
Environment Agency  
Ghyll Mount,  
Gillan Way,  
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30<sup>th</sup> October 2009

SL/RAS/RFI/BM301009

Dear Ms Lawton,

**SELLAFIELD LTD – RADIOACTIVE SUBSTANCE ACT 1993  
AUTHORISATION BX9838/CB9754 AS VARIED BY CD8899  
REQUEST FOR MORE INFORMATION RESPONSE**

I write in response to your request dated 21<sup>st</sup> October 2009 in relation to the above application.

WRG as operators of Lillyhall Landfill Site have submitted a Radioactive Substances Act 1993 application to the environment Agency (Application number CD7914). This application is currently out for consultation and we expect a determination later this year or early in 2010.

We are currently working with Sellafield Ltd in the management of their waste streams and this includes the Very Low Level Waste you refer to. Please can you accept this letter as confirmation of our intention to accept Very Low Level Waste from Sellafield Ltd.

Should you require any further information then please do not hesitate to contact me.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Brian McMeekin".

**Brian McMeekin**  
Operational Services Manager

Waste Recycling Group Limited  
Meikle Drumgray Road, Greengairs, Airdrie, Lanarkshire, ML6 7TD  
Tel: 01236 830 701 Fax: 01236 830 276 [www.wrg.co.uk](http://www.wrg.co.uk)



creating a better place



Reference: NI/019/023/96

**Radioactive Substances Act 1993**

Sellafield Ltd (SL), Sellafield and Windscale sites  
Authorisation no: BX9838/CB9754 as varied by CD8899

**Declaration**

~~delete what is not applicable~~

either

I/We declare that the information, supplied on the date below in response to the Environment Agency's request, is not confidential and accept that it will be made available to the public by the Environment Agency and local authorities.

or

~~I/We declare that the following information, supplied on the date below in response to the Environment Agency's request, is confidential and should be withheld from the public. I/We also provide my/our justification for this request.~~

Information to be withheld
Justification for withholding information

signed [Signature] name B.M. WEEKIN (capital letters)  
(authorised to sign on behalf of the authorised organisation)

date 30/10/2009

