

## **SEPA Policy on the Regulation of Disposal of Radioactive Low Level Waste from Nuclear Sites**

**RS-POL-002**

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## **1 Introduction**

- 1.1 This policy statement specifies how SEPA regulates the disposal of Radioactive Low Level Waste (LLW) from nuclear sites. It also describes how this position differs from our previous position and the implications of the changes.

## **2 Background**

- 2.1 In Scotland the Scottish Environment Protection Agency is responsible for the regulation of the disposal of radioactive waste and any person wishing to dispose of radioactive waste requires an Authorisation under section 13 to the Radioactive Substances Act 1993. When issuing authorisations and deciding what limitations and conditions to include in them, SEPA takes account of all relevant government policy.
- 2.2 The Radioactive Substances Act defines disposal as “*in relation to waste, includes its removal, deposit, destruction, discharge (whether into water or into the air or into sewer or drain or otherwise) or burial (whether underground or otherwise) and “disposal of” shall be construed accordingly*”. The inclusion of removal in this definition means that all movements of radioactive waste from a nuclear site to any other location are classed as disposals and need to be authorised.
- 2.3 In recognition of its ongoing commitment to ‘Better Regulation’<sup>1</sup>, taking into account governments wider policy objectives (see appendix 1) and changes in waste management practices SEPA has reviewed and is changing the way which it regulates the disposal (by removal and transfer) of radioactive waste to a third party from nuclear sites.

## **3 Regulation of the disposal of Low Level Radioactive Waste by *Transfer***

- 3.1 SEPA will authorise the disposal of LLW from nuclear sites to any person that is lawfully entitled to accept and to treat and or dispose of that waste providing that the selected disposal option is the “best practicable means” for disposing of that waste. Therefore, it will be necessary for the disposer to evaluate the options for the treatment and disposal of their wastes to ensure that “best practicable means” are being applied to dispose of that waste. We will check compliance with this requirement through routine inspection, in the same way that we check compliance with all of the other authorisation requirements. We will also require prior notification before new transfer routes are utilised.
- 3.2 Assessing what are the best practicable means is a process that has a wide scope and takes into account a wide range of, technical, social and economic factors. The definition of best practicable means and the factors that should be taken into account is specified in annex 2.

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<sup>1</sup> [http://www.sepa.org.uk/waste/waste\\_regulation/better\\_waste\\_regulation.aspx](http://www.sepa.org.uk/waste/waste_regulation/better_waste_regulation.aspx)

- 3.3 There may be limited circumstances in which SEPA will specify a specific disposal route for radioactive waste, for example if required to do so by Government policy or where the disposal relates to higher activity wastes.

#### **4 Previous position**

- 4.1 Historically, SEPA's authorisations issued to nuclear sites have specified the intended recipient and the site of destination for any radioactive waste removed from a nuclear site. Any proposed changes or deviation from the specified route required operators to apply to SEPA for a variation to their authorisation. In line with the requirements of the RSA 93, SEPA carried out statutory consultation on any application for a variation to an authorisation. It was also SEPA's practice to carry out public and discretionary consultation.

#### **5 Practical implications of the revised position**

- 5.1 There are a number of practical implications that arise from this change in our regulatory position. These are set out below:

1. Industry will be able to more easily use of the supply chain without having to go through the administrative and usually time consuming process of having to apply for variation. This will reduce time spent by both industry and SEPA. This should be of particular benefit in relation to nuclear sites undergoing decommissioning where a broad range of waste types (building rubble, metal, oils etc) arise and for which a number of treatment or disposal sites now exist or are at the planning stage.
2. As individual disposal sites will no longer routinely be named, if a site changes its disposal route, no consultation will take place. This will have the most impact on local authorities that have disposal or treatment sites in their area. However, SEPA believes that the most appropriate and meaningful consultation in relation to sites that receive treat and dispose of LLW is that which is carried out at the time that such facilities apply for planning permission and their Authorisation for the disposal of radioactive waste.
3. There may be a perception that transparency of where waste is being sent has been lost. However, sites will continue to be required to maintain up to date records stating the quantities of LLW disposed of and the location that it is sent to. Summaries of this data are regularly reported to SEPA. SEPA will make a summary of this data publicly available.
4. Current authorisations sometimes limit the quantity of LLW that can be sent to a specified facility. Such limits may be in terms of specific radionuclides or total volume of waste. Apart from limiting this disposal option to LLW, there will be no additional activity or volume constraints. SEPA believes that the environmental permissions of the receiving facility are the most appropriate method of controlling quantities of waste that may be managed by that facility.

## **6 SEPA's Implementation of its revised Position**

- 6.1 This policy change will take immediate effect however should nuclear sites in Scotland wish to avail themselves of this change then they will need to apply to SEPA for a variation to their authorisation if they have not already done so. It is not SEPA's intention to globally carry out this change using its powers of variation.

## **Appendix 1 – Policy Framework**

### **Introduction**

SEPA operates within national and local policy frameworks. The aim of this appendix is to cover the relevant frameworks, both national and local, in respects to the inter-site movement of radioactive low level waste.

### **Cm2919 - The Command White Paper “Review of Radioactive Waste Policy – Final Conclusions” (1995)**

Published in 1995, Cm 2919 was a review of the UK’s Policy for Radioactive Waste Management led by the then UK Government. On completion of the review the Government determined that the policy should be one policy based on sustainable development.

Cm 2919 made producers and owners of waste responsible for the development of their own strategies by stating:

*“producers and owners of radioactive wastes were responsible for developing their own waste management strategies and the Environment Agencies had a duty to ensure that the Governments framework is properly implemented in accordance with their statutory powers.”*

As the previous statement implies regulators such as SEPA had a duty to ensure that the framework, as set out in CM 2919, was properly implemented and one aspect of SEPA’s duties was to ensure that the transfer of waste met the aims and objectives of Cm 2919.

SEPA required nuclear site operators to quantify the types and quantities of LLW that required disposal and to identify the disposal routes for these wastes, all of which were set down in the Authorisation issued under RSA 93.

For the non nuclear industry in Scotland the authorisation permitted the disposal of radioactive waste to any person who is authorised under the Act for the accumulation or disposal of radioactive waste.

The practice of specifying to whom waste could be disposed was continued by SEPA to ensure that Government Policy was met. In practice most LLW was specified for disposed to the national LLW repository at Drigg for burial. Smaller quantities of LLW suitable for incineration were specified for disposal to named incinerators.

### **Policy for the Long Term Management of Solid Low Level Radioactive Waste in the United Kingdom (2007)**

Since 1995 UK policy for Radioactive Waste Management has changed and many parts of Cm 2919 were either obsolete or required updating. The policy was reviewed and updated in 2007 with the publication of the ‘Policy for the Long Term Management of Solid Low Level Radioactive Waste in the United Kingdom’. The biggest of these changes was the introduction of the waste management hierarchy for the management of radioactive waste.

LLW manager were asked to plan to manage their waste in accordance with the waste management hierarchy principles set out in UK waste strategy documents. This would ensure that any arisings of LLW and the requirements for its disposal were minimised.

The concept of the waste management hierarchy is commonly applied when dealing with more conventional waste streams however when applied to Radioactive wastes, more specifically LLW, the policy suggested that it take the following form:

- **Avoidance** - not creating waste where practicable
- **Reduction** - reducing waste arisings (both by activity and by mass) to the minimum through the appropriate design and operation of processes and equipment and making effective use of techniques such as waste characterisation, sorting and segregation, volume reduction and surface contamination removal
- **Minimisation** - otherwise minimising quantities of LLW requiring disposal through decay storage, re-use and/or recycling, and incineration (under appropriately regulated circumstances)
- **Disposal** - which may, for some waste forms, include incineration)

The Waste Management Plans themselves were to be based on 'all practicable options for its long term management' with any options subject to risk assessment or optimisation study (BPEO or BPM).

Although the successful application of the waste management hierarchy is one of the key aims of the 2007 policy the Government was also keen to provide producers with long term disposal options and the Nuclear Decommissioning Authority (NDA) was identified as having a key role to play in the long term disposal option:

*"Government wishes to ensure that there are disposal routes available for the long term management of LLW arisings from both the nuclear and non-nuclear industries in the UK, including Ministry of Defence LLW. Under the Energy Act 2004, the NDA has direct responsibility for the UK's civil public sector nuclear liabilities. Wherever appropriate and practicable, the NDA will also make LLW management and disposal facilities available to other nuclear and non-nuclear industry managers of radioactive waste, on the basis of suitable commercial terms. These arrangements will appropriately complement other forms of LLW disposal provision by other organisations, e.g. landfill and incinerator operators".*

### **UK strategy for the management of solid low level radioactive waste from the nuclear industry (2010)**

In 2009 the Government consulted on a draft strategy for the management of solid low level radioactive waste from the nuclear industry. The consultation identified a need for flexibility in the approach to managing radioactive waste.

This need for a more flexibility in terms of disposal routes was addressed in 2010 when the Government published<sup>2</sup> its UK strategy for the management of solid low level radioactive waste from the nuclear industry.

With this next level of strategy and policy, the government aims to provide a high level framework within which low level radioactive waste (LLW) management decisions can be taken in a flexible manner in order to ensure safe, environmentally acceptable and cost-effective management solutions that reflect the nature of the LLW concerned. The strategy was developed with the following three key aims in mind:

- the waste hierarchy;
- the best use of existing LLW management assets;
- and the need for new fit-for-purpose waste management routes.

In essence this enhances the previous policy aims of applying the Waste Management Hierarchy and asks all those involved with the management of LLW to incorporate more sustainable techniques, such as the proximity principle, when managing and disposing of their waste.

In the 2010 strategy, and as it had done in the past, the Government set out its preferences for managing LLW at higher levels of the hierarchy:

- Waste prevention is a fundamental principle for the operation and decommissioning of nuclear facilities
- There are resource and cost benefits in minimising the amount of LLW we have to manage
- Reuse defers waste production and extends the life of resources
- Recycling is the preferred way forward for the treatment of metallic LLW
- Volume reduction ensures best use of disposal capacity
- Disposal capacity is a precious resource and it must be used sparingly and as a last resort

In real terms this meant a shift from disposal being the only option and waste managers were in turn asked to make the best use of the Low Level Waste Repository (LLWR) and ensure the UK's capacity for the management of LLW.

LLW producers and managers should develop plans for the management of LLW that are informed by the waste hierarchy, however, where the waste can't be managed through these routes disposal the proximity principle and the need for early solutions must be considered in order to minimise the overall impact of LLW management on people and the environment.

### **SEPA's position on the Regulation of the inter-site movement of Radioactive Low Level Waste (2011)**

SEPA believes that its current practice of specifying the site to which LLW can be disposed in the authorisation is an obstacle to the implementation of Government Policy and as such intends to authorise the disposal of this waste to any

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<sup>2</sup> UK strategy for the management of solid low level radioactive waste from the nuclear industry. NDA 2010.

treatment or disposal site that holds an Authorisation to accept and to treat or dispose of this waste rather than specifying named treatment and disposal sites to which the waste can only be sent.

SEPA's amended position does not promote the unrestricted transfer of LLW as it requires the disposer of the waste to identify the most advantageous option for managing the waste taking into account such factors as the waste hierarchy, the proximity principle and the lifecycle environmental and social benefits of managing waste at higher levels of the waste hierarchy.

## Appendix 2 – The Definition of Best Practicable Means

**“Best”** – means the most effective techniques for achieving a particular objective, having due regard to technological advances (state of the art) and changes in scientific knowledge; and understanding.

**“Practicable”** – indicates that the “means” under consideration should only be selected following an optimisation process that includes consideration of the technical viability including comparable processes, facilities or methods of operation which have recently been successfully tried out and takes into account social and economic costs and benefits.

**“Means”** – includes: technology, disposal options, the design, build, maintenance, operation and decommissioning of facilities, and wider management arrangements.

The social and economic costs and benefits that should be taken into account in the optimisation process used to decide what is practicable includes (where relevant);

- economic costs
- social costs and benefits
- radiological exposures to the public
- occupational radiological exposures
- radiological impact on the environment
- conventional safety
- consistency with the waste hierarchy
- impact of the non-radioactive properties of radioactive waste
- the generation and associated impact of non-radioactive wastes, including climate change emissions
- the proximity principle
- applicable government policy