

**PE1563/C**

**Scottish Water Submission, June 2015**

**PE1563: Sewage Sludge Spreading**

## **Summary**

In keeping with the UK and many European countries, recycling is a key part of Scottish Water's sludge strategy. With appropriate regulatory and quality controls, this has long been recognised as the Best Practicable Environmental Option, capturing nutrient, soil forming and stabilisation benefits of the material. Appropriate management to avoid a nuisance for communities is very important and Scottish Water has acted to reduce an over-reliance on outlets within the Falkirk area that was causing particular concern.

Land provides an outlet for around 65% of Scotland's sludge, the remaining being used as a fuel within cement manufacturing, and we expect it to continue to form a key part of our sludge strategy.

Scottish Water is supporting the Scottish Government review of the practice of recycling sewage sludge to land and would be happy to provide the Public Petitions Committee with more information about Scottish Water practices and the regulatory and legislative framework we operate within. In addition, we would be delighted to arrange for any members to visit one of Scottish Water's facilities and discuss sewage sludge in more detail.

## **About Sewage Sludge**

Sewage sludge should not be confused with raw sewage. It is the natural by-product of normal biological treatment processes at wastewater treatment works, comprising settled organic residual matter rich in nutrients and carbon.

## **Sludge as a Soil Conditioner**

The benefits of sludge as a fertiliser and soil conditioner are clear. It is rich in nitrate and phosphate nutrients with the added benefit that these are in the form of slow release organic complexes. They present a longer term benefit to crops with reduced risk of nutrient loss as the plant available nutrients are released over time. Sludge also has soil conditioning and humus forming properties supporting greater water retention and reduced erosion. Indeed, sludge has in the past been used to help stabilise important machair landscapes in the Western Isles.

Microbiologically, sludge is comparable to farmyard manures and slurries. Untreated sludge is not used on farmland, however it has been shown that untreated sludge applied to land will be rapidly incorporated such that within 3 months the bacteriological content is similar to soils that have not received sludge.

### **Statutory Controls**

Recycling to agricultural land is governed by the Sludge (use in agriculture) Directive and associated regulations. These set requirements to monitoring and manage pollutants within sludge and to ensure they do not present a risk to soils. They also require sludge recycling to be matched to the nutrient needs of the crops.

Recycling to non-agricultural land is governed under the Waste Framework Directive and associated Waste Management Licensing Regulations. SEPA regulates recycling limits based on environmental needs.

### **Non-Statutory controls**

Sludge recycling to agricultural land is subject to controls more stringent than regulation, based on industry codes of practice intended to support stakeholder confidence. The Safe Sludge Matrix, developed by the UK Water Industry prescribes minimum microbiological standards for sludge – 99% and 99.9999% reduction in bacterial load to produce ‘conventional’ and ‘enhanced’ sludge products respectively. Coupled with specified cropping regimes, these secure the microbiological safety of the practice.

In addition, the industry adopts ‘Hazard Analysis and Critical Control Point’ principles to the management of the practice. This enables us to ensure the quality of the product and to reprocess or divert from agriculture any non-confirming product. These standards are in the process of being enhanced with the introduction of a UK Biosolids Assurance Scheme. This introduces additional external audit and validation of the controls to secure the quality of sludge products, and brings together both statutory and non-statutory controls into one scheme.

### **Scottish Water Sludge Strategy**

Scottish Water’s Sludge Strategy is to secure safe, sustainable, cost-effective sludge outlets that do not present a nuisance to communities, and maximise the value of sludge either as a fuel or a fertiliser. This is in keeping with Scottish, UK and European regulatory frameworks encouraging sludge to be used as a resource wherever it is safe and practicable to do so. As a result, only a very small percentage of sludge is sent to landfill, when other options are not feasible.

In the UK in 2012, nearly 80% of sludge was recycled to land for both agricultural and non-agricultural use, such as land reclamation/restoration. In Scotland, this figure in 2014 was around 65% and the outlets are as follows:

<b>Outlet</b>	<b>Tonnes dry solids</b>	<b>%</b>
Agricultural Land	53,833	51.54
Industrial Use (fuel)	34,619	33.14
Non-agricultural land	14,683	14.06
Other	1,314	1.26

Recycling sewage sludge to land is an important part of Scottish Water activity. Scottish Water's Business Plan for 2015-21 highlights the risk of losing the ability to recycle to agricultural land and estimates the value of this risk at £50 million during the regulatory period. (*Scottish Water's Business Plan for 2015-21*(Table 11, page 43)t:

<https://www.scottishwater.co.uk/assets/about%20us/files/strategic%20projections/swbusinessplan201521march2014.pdf>)