VI Biobed and Biofilter update 2015

Enhanced Evaporation system

‘Treatment’ of spray washings is offered by one system which relies totally on evaporation to reduce the collected liquid to a residue held within a plastic liner. Thus no discharge is made from the system.

This liner is supported by a steel meshed frame arranged as a 4 sided rectangle standing vertically approx. 700 mm high. This is erected outside on a flat concrete base which needs to have an appropriate bund. Above the liner is an air gap below a translucent roof. Thus air movement is achieved over the liner with sunlight energy passing through the roof to enhance evaporation.

The unit is offered to hold 2,500 litres so clearly would suit a roofed filling area. Positioning of the unit should allow simple filling, possibly by gravity from the fill area. It is critical that the unit is placed so that both wind and sun can be intercepted to achieve good performance.

At the end of the spraying season, when no liquid remains and a deposit is found, using appropriate PPE the liner is removed from the frame, rolled up into a bespoke container and disposed of through an appropriate waste transfer route – probably incineration for which a fee would be paid. A new liner is then fitted within the frame.

Currently (2015) there are about 10 units within the UK. The EA have stated that positioning such a system would be subject to the same requirements as with a biobed or biofilter and so long as it is operated within Best Practice for the unit that they would not require a Waste Regulation Exemption.

Fully Contained Biobed System with evaporation

Another system operates in a similar way to the biobed but the biomix is held within a concrete box or trough some 600mm deep, this being covered with a translucent roof above an air gap as before. Again no discharge is intended with this system.

It is likely to suit a roofed filling area to limit contaminated liquids but the performance of the system is designed using software to relate the size of the unit to the liquid amount entering the system relative to both the geographical location and position within any site relative to exposure to wind and sun.

The biomix used is mixed at a ratio of soil 70% and straw 30% by volume. The liquid is normally pumped over the surface of the material with drip irrigation using a control system to avoid any waterlogging. This unit is subject to a Waste Regulation Exemption by the EA. Only one unit exists in UK (2015). It is suggested that the material is stirred once per season and exchanged every 5 years as with a biobed. The material is subject to the same 1 year's storage under cover and then a further Exemption allowing spreading to land as with a biobed or biofilter.