



The UK's only Low Level Waste Repository Chooses MP5

The Low Level Waste Repository (LLWR) is the principal national disposal facility for low level radioactive waste in the UK. Originally disposal of the waste (paper, packing materials, plastic sheeting, protective clothing and redundant equipment) was based on landfill practices, with waste being tipped into clay-based trenches (7 in total) and covered with layers of stone and soil. The waste is now compacted (where possible), placed in metal containers, grouted and placed in engineered concrete vaults.

LLWR has always taken a proactive view in managing the environmental impact from the repository. Since its inception a vast amount of data has been collected in and around the site, in order to manage and minimise impacts.

Data collected includes:

- drilling logs (lithology etc.),
- soil samples and analyses,
- ground water and surface water data which in both cases includes levels, flow rate data, samples and analyses (both on and off-site),
- leachate flow rates, levels, samples and analyses,
- air samples (gas-phase emissions, dust, etc.)
- other environmental samples and analyses (Dose rate monitoring, Meteorological Station data, etc).



The low Level waste repository showing concrete vaults

The monitoring also includes extensive radiometric monitoring undertaken on-site, at the perimeter and at various off-site locations for air-borne and water-borne radioactivity. Results from this monitoring are routinely provided to the Environment Agency and other bodies.

Historically, LLW Repository Ltd kept the data in a variety of different systems and datasets. In January 2009 a review was undertaken to identify a system they could use to hold the data as a single dataset. With a forecast of collecting up to 8 million data points annually, LLWR were looking for a secure, auditable system which could contain this volume of data as well as being easy to use. MP-5 system was selected from among 5 systems and was the only system with Environment Agency MCERTS accreditation. Prior to full installation a data transfer task was undertaken which involved the import of historic data stretching back over 30 years. The dataset is currently approaching 20GB, still with only approx 70% of the available data imported. LLWR holds 10 licences for MP5 with the data linked to the ESRI ArcMap GIS. The MP-5 reporting tools allow easy dissemination of data within LLWR, to relevant contractors and stakeholders such as the Environment Agency and the Nuclear Installations Inspectorate. To aid this further, several report templates will be prepared in house which mean that reports can be produced with a double mouse click drastically reducing the amount of effort and time required in report preparation.