

Using MonitorPro to Monitor the Environmental Impact of Radioactive Waste



MonitorPro

A professional environmental and sustainability information management solution, particularly suited for industries related to natural resources. MonitorPro is globally tested and used in water and waste water industries, as well as waste management, metals and mining.

Low Level Waste Repository (LLW Repository Ltd) is the UK's low-level radioactive waste repository located on the West Cumbrian coast approximately six kilometres south east of the Sellafield nuclear site at Drigg village.

The site stores waste from Sellafield, MoD sites, nuclear power stations, hospitals, universities, medical companies and the oil industry. It has been operating since 1959.

Overview

Through negotiation with the Environment Agency (EA), LLWR made significant rationalisation of the required frequency of monitoring and subsequent reduction in monitoring costs equating to approximately £150,000. MonitorPro gave LLWR the tool to show the EA.

Originally placed into 'trenches,' Waste has gone through a major upgrade in disposal operations over the past 20 years. Low Level Waste Repository Limited (LLWR) is the management and operation contractor on site and manages it on behalf of the Nuclear Decommissioning Authority (NDA).

It has always taken a proactive view in managing the environmental impact from LLWR. Since its inception a vast amount of data (many millions of readings) has been collected in and around the site.

System

Data collected includes, drilling logs, soil samples and analyses, ground water and surface water data, leachate flow rates, levels, samples and analyses, air samples and other environmental samples and analyses.

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. Prior to 2009, LLWR kept the data in a variety of different systems and datasets to manage this monitoring data.



Implementation

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 upto 8 million data points annually, LLWR were looking for a system which could contain this ever increasing volume of data and offer additional benefits of flexibility and ease of use. MonitorPro system was selected from among 5 systems reviewed.

Prior to full installation a data transfer task was undertaken which involved the import of historic data stretching back over 30 years into MonitorPro. The dataset is currently approaching 20GB still with only approx. 70% of the available data imported. LLWR have a 10 user premium system and since installation, the system has been in constant use both acquiring data and in data presentation.

Results

During 2010 EHS Data utilised the consolidated data stored within MonitorPro during a review of our environmental monitoring programme. The consolidated data allowed improved comparison of results and lead to a number of issues within the analysis suite had never been detected on site.

The New system now utilises the compliance grid system to highlight data which is out with the usual range of the historical data by automatically emailing a report highlighting unusual data, enhancing the ability to review and react to 'unusual' data.

James Champion (Environmental Advisor) at LLWR said 'The ability to establish and track a monitoring schedule in MonitorPro will be particularly useful. We are also able to show full auditability and validation of our data which has been key since, to date, most of our data comes from contractors and other third parties'.