

Algae Control in Nuclear Power Plant of Sellafield

After the installation of multiple LG Sonic Industrial Wet Systems in a nuclear power plant of Sellafield (UK) the water visibility in the storage ponds improved significantly. As a result of the ultrasonic systems there has been an exceptional reduction in blue-green algae and chlorophyll levels in the storage ponds.



Nuclear Storage Ponds, Sellafield, United Kingdom



- ✔ Improved water visibility
- ✔ Reduced blue-green algae count
- ✔ Lower chlorophyll levels

The Challenge: Improve water visibility

Sellafield, a nuclear fuel reprocessing and nuclear decommissioning site, handles nearly all radioactive waste generated by 15 operational nuclear reactors in the United Kingdom. In 2015, the UK government has started a major clean-up of stored nuclear waste in Sellafield because of the bad condition of storage ponds. One of the main causes of bad conditions in the storage ponds was poor visibility in the water due to algae growth.

The Solution: LG Sonic Industrial Wet

To improve water visibility in the storage ponds of Sellafield, four LG Sonic Industrial Wet systems were installed. The systems have 12 ultrasonic programs to effectively control different types of algae and are able to treat algae in a relatively short time. GPRS control allows the user to monitor and change the ultrasound program remotely. Furthermore, status updates and alerts are received when power outages occur.



Figure 1: Four LG Sonic Industrial Wet systems were installed in the storage ponds at the Sellafield nuclear power plant.

The Results: Significant reduction

After three weeks of the installation of the LG Sonic ultrasonic systems, there was a significant reduction in blue-green algae count and chlorophyll levels. As a result of the reduction in algae levels, the water started to clear and it was possible to see vessels and containers in the storage ponds that in recent years were only visible when using a tethered underwater mobile device.



"During late May and June 2018, the pond visibility had noticeably improved with significant reduction in blue-green algae and chlorophyll measured."

Technical Engineer, Sellafield