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The Scent of Compliance

TURNING ODOUR INTO EVIDENCE TO MEET INDUSTRIAL EMISSIONS DIRECTIVE (IED) REQUIREMENTS AT MAJOR SEWAGE TREATMENT WORKS

At a large sewage treatment works, hydrogen sulphide is the gas you smell before you see anything—the unmistakable "rotten egg" warning that something in the process isn't quite right. For operators working under the Industrial Emissions Directive (IED) regime, that smell represents far more than a nuisance. It signals a complex intersection of environmental compliance, worker safety, operational performance and public accountability.

Under permits issued by the Environment Agency (EA), companies must demonstrate that emissions are not only controlled, but actively minimised using Best Available Techniques. Odour complaints from nearby communities cannot simply be acknowledged; they must be investigated with evidence. If a site cannot show what was happening in the air at a given time, it cannot prove it was operating responsibly.

Anglian Water's current approach to managing bioresources involves the treatment of wastewater sludge from 1,122 water recycling centres at 10 sludge treatment centres (STCs). The STCs treat the wastewater sludge to generate a high-quality biosolids cake product for use in agriculture as a soil conditioner.

Sewage Sludge Removal

One of Anglian's key ambitions for bioresources over the period is safe, efficient, sustainable treatment of sewage sludge to meet future demands, reflecting population growth and tightening environmental standards that lead to forecast increased sludge production of up to 173.1 thousand tonnes per annum (TTDS) by 2030.

Registered Address
Able Instruments & Controls Ltd
Cutbush Park, Danehill, Lower Earley,
Reading, Berkshire, RG6 4UT. UK.

Phone
+44 (0)118 9311188

Email
info@ableinstruments.com

Web
ableinstruments.com

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Hydrogen sulphide monitoring turns any uncertainty regarding environmental compliance into data. Elevated readings can reveal septic conditions in incoming sewage, failing covers, overwhelmed odour treatment systems, or subtle process imbalances long before they escalate into regulatory breaches. What begins as a faint smell on the wind may be the first sign of equipment deterioration, changing influent characteristics, or ineffective chemical dosing. With reliable measurement, operators gain early warning—and the chance to intervene before problems become incidents.

Sludge Biosolids Cake

Safety is an equally pressing concern. In confined or poorly ventilated areas, H_2S can accumulate to dangerous levels, posing serious risks to staff and contractors. Monitoring provides the reassurance that working environments remain safe, verifies ventilation effectiveness, and supports controlled entry procedures. It transforms invisible risk into something measurable and manageable.

Investment in odour control infrastructure—tank covers, extraction systems, scrubbers, biofilters—is often substantial. But without measurement, there is no way to confirm whether those systems are delivering real-world performance. Monitoring closes that loop, validating that capital upgrades are achieving the environmental outcomes regulators expect and communities depend on.

love every drop
anglianwater

Anglian Water are very familiar with AMETEK Brookfield's revered Jerome J605 Gold Film, Hydrogen Sulphide Analyser, having used it extensively for portable monitoring across several of their wastewater and sewage treatment centres (STC). In order to fulfil their obligations under the IED Directive, Anglian purchased ten Jeromes to be deployed across all their STCs to facilitate fast and accurate determination of nuisance odours and expeditious negation of same. In view of the regulatory pressures, Able expects other water utilities throughout the UK to follow suit.

In this context, Jerome hydrogen sulphide analysers become more than instruments. They are evidence generators, early-warning systems, safety tools and community assurance mechanisms all in one. By turning a subjective smell into objective measurement, they allow operators to manage odour as a controllable parameter rather than an unpredictable liability.

Jerome J605 Gold Film Hydrogen Sulphide Analyser

Ultimately, effective H_2S monitoring enables large sewage treatment works to do what IED demands: run not simply as utilities, but as tightly controlled industrial facilities—protecting workers, neighbours, and the environment while proving, day by day, that compliance is not assumed, but demonstrated.

For more information, please contact Able Instruments on +44 (0)118 9311188 or by email: info@ableinstruments.com

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