

Wessex Water - continuous monitoring of effluent for ammonia

Wessex Water has established a need to reliably and continuously monitor effluent ammonia concentration at a number of key wastewater sites along the south coast. These sites all have an effluent consent of 5 mg/l or less and any failure to comply with the discharge consent could lead to hefty financial penalties under the OFWAT performance assessment.



The Poole WwTW site was initially used to evaluate the ProAm instrument over a 2 month period commencing November 2004. The trial was a great success and Wessex Water decided to make the installation permanent.

Subsequently to this, further installations have taken place at Holdenhurst WwTW to monitor both the final effluent discharge and the CSO (Combine Sewer Outfall) discharge from the storm settlement tanks. The CSO application was fitted with a special low cost ultra-filtration system with automatic air cleaning, as a precautionary measure to protect the instrument from unwanted solids. Operations have again passed encouraging comment on the overall style, neatness and performance of the twin installation at the Holdenhurst site. After the success of the Holdenhurst and Poole installations another unit been ordered for Dorchester WwTW to monitor final effluent.

The ProAm located at Poole has demonstrated how a simple design can indeed be very effective. The instrument is located at the inlet to the UV-disinfection plant, monitoring final effluent after the activated sludge treatment process. The instrument continuously analyses the ammoniacal-nitrogen concentration by using the integral peristaltic pump to draw sample directly from the final effluent chamber into the instrument. This style of installation has overcome the need to install an expensive sample acquisition system which also would add to the maintenance required to keep the system operational.

Mike Robinson, the divisional scientist responsible for accessing the ProAm comments "Ion selective





devices are an excellent technology for wastewater applications. They are reliable and unaffected by influent variability. The Pro-Am ammonia analyser is compact, easy to operate and is self contained. The low cost of operation and accuracy of results has enabled us to make a number of changes to plant performance which has greatly reduced the risk of failure".

Already the instrument has proved invaluable providing the process scientists with crucial trending data identifying how upstream processes may be improved and ensuring compliance with the Environment Agency consent.

For further applications stories for a range of different industries please consult our

- Web site at www.pollution-ppm.co.uk or
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