

Introduction

A municipal sewage works in mainland Spain installed an RO plant to provide tertiary treatment for its effluent. The treatment was added to allow beneficial use of the final treated water for agricultural irrigation. The product specification defined that total coliforms in the permeate should be zero.

The specification proved difficult to attain, with 40 cfu/ml being found at startup. It was clear that disinfection of the plant would be required for the product to meet specification. Avista Technologies were asked to assist in selecting a suitable treatment regime and proposed intermittent shock dosing with RoCide DB5. This would kill the bacteria without adding excessive cost.

Treatment

The treatment programme started two weeks after the plant had started operating and a significant level of bacteria were being counted in the permeate.

The disinfection process was carried out online, dosing 400ppm of RoCide DB5 for approximately 1 hour.

Results

The graph below details the level of faecal coliforms (pink trend) and total coliforms (blue trend). The arrows indicate biocide dosing events.

The first treatment significantly reduced the bacteria counts in the permeate but regrowth was soon seen and two further treatment were



TS27 – RoCide DB5 Issue 1 – 08/2004

carried out to rid the system of persistent coliforms.

Bacteria are now under control and the system is producing acceptable quality permeate. A programme of preventative intermittent biocide dosing ensures that this remains the case.

Conclusions

Application of RoCide DB5 effectively eliminated coliforms from the permeate of the tertiary effluent treatment plant.

Using an intermittent, on-line biocide avoids production losses during application and minimises chemical cost.

RoCide DB5 is anon-oxidising biocide, the treatment can be carried out as often as required without damaging the membranes.

Avista Technologies Ltd Waterside House PO Box 28612 Edinburgh EH14 5ZL Email: sales@avistatech.co.uk www.avistatech.co.uk

Tel: 0131 449 6677 Fax: 0131 449 5599