

Drinking Water - Water Treatment

Thames Water Utilities, Nitrate Plant, Fognam Down, UK

How we created value

- Nitrate Reduction
- Reduced waste stream volume
- Highly efficient operation



Brief

Thames Water required the installation of a high rate, low waste, ion exchange nitrate removal plant to reduce nitrate concentrations in the feed waters from two ground water treatment works at Fognam Down and Ashdown Park.

Because the plant is in a remote location without a direct sewer connection, it needed to be fully automatic and to be able to run with only occasional visits from operational staff.

The installation was required to accommodate environmental sensitivity considerations; this aspect (construction of the necessary building) was part of Gleeson's contract with Thames Water.

Solution

The two ground water treatment works supply potable water to customers of Thames Water across

their western provinces area, and are located within 1km of each other near the picturesque village of Lambourn in West Berkshire.

Ovivo's Christ Kennicott Water Technology were responsible for the design, supply, shop assembly, site installation and commissioning of a 3.59ML/D (149.6m³/h) Nitrased™ Ion Exchange Plant, including all ancillary equipment, electrics and controls. Simple to operate and maintain, the Nitrased™ Nitrate Removal Process uses readily available components to produce the smallest possible waste stream volume.

Outcome

All key milestones were achieved, and the installation was successfully completed within the 53 week overall program for supply of fully treated nitrate-reduced water. The low waste

stream volumes and highly efficient operation achieved under the process are as a consequence of a fractal distribution system that is effective for both the high feed water flows and low regenerant flows experienced within the plant.

The project was awarded 2nd Prize at the IChemE annual awards ceremony in recognition of its success in improving water supplies using environmental sensitive methods.

Since switch-on of the new plant, it has continued to operate trouble-free and within its operational parameters.

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