

Spirax Sarco steam system expertise helps GTM get biosolids treatment going for Anglian Water

Steam and hot water systems from Spirax Sarco are helping Anglian Water treat sewage sludge at two new biosolids treatment works in Kings Lynn and Great Billing. The projects are two of four ground breaking schemes planned by the utility company to reduce biosolids volumes, increase quality and generate energy in the process. This innovative process will not only make the centres self-sufficient in electricity but any surplus will be exported on to the national grid.

Spirax Sarco expertise was brought in to provide consultancy on the specification, design and installation of the steam systems for both sites. A number of Spirax Sarco specialists in condensate recovery, steam trapping and water treatment worked in partnership with the projects contractors to design an easily maintainable system with minimal downtime.

"We didn't have a great deal of experience with steam systems," says Imtech Process Engineer Adrian Jaques. "So we contacted Spirax Sarco and designed the scheme together with them. They were knowledgeable, good to work with and very helpful throughout the projects. In fact I can't praise them enough."

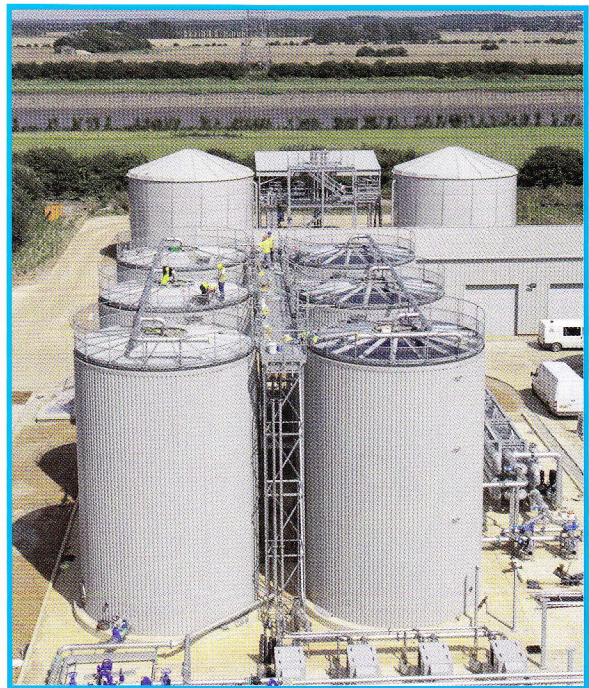
Spirax Sarco supplied boiler feed tanks and all the steam equipment associated with the standby, dual fuelled steam boilers at both Kings Lynn and Great Billing. These boilers are used during start-up and also during very cold weather when they are sometimes needed to supplement the steam from the CHP plants' waste heat boilers.

The company also supplied steam-to-hot-water EasiHeat systems to provide standby hot water for both sites. The Spirax Sarco systems are predominantly used during start-up, providing steam and hot water to drive the treatment processes.

Both projects have been built by Imtech as part of the Galliford Try Imtech Process (GTM) consortium. The Kings Lynn plant has now been operating for almost 3 years, processing sludge equivalent to around 19,000 tonnes a year of dry solids. The Great Billing plant will treat 38,700 tonnes of solids a year and was commissioned in late 2009 early 2010.

Although they vary in size, both sites operate similar processes to treat the sewage sludge or biosolids, which are a byproduct of waste water treatment. First, the sludge is heated by hot water to 42°C and hydrolysed to break up some of the bigger molecules. It is then steam heated to 55°C to pasteurise it and destroy any pathogens. Microorganisms continue to break down the pasteurised sludge even further in an anaerobic digester, where they convert a substantial proportion of it into biogas. This biogas fuels an onsite combined heat and power (CHP) plant, which generates electricity, steam and hot water.

The result is a 40% reduction in the volume of sludge. It is also free from pathogens such as Salmonella and E. coli and can therefore be



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The comparison is based on the unique roof selected by the customer, and local installers show price, ROI, their experience, warranties and system specifications. When interested, the customer can request a detailed quote of site visit from up to three chosen solar installers.

Currently over 40 installers are using this service to get into contact with highly interested customers. These installers save a lot of time and money in their quotation process by focusing on well informed customers that specifically request a site visit or detailed quote from their company, and have instant access to all roof details from the customer.

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