Teamwork vital to provide optimum solutions for customers' needs

Wastewater is typically treated in three stages: primary, secondary and tertiary. The first two stages are mostly concerned with removing grit, gravel and solids from the water, whilst the third stage is more complex dealing with the removal of chemicals from the wastewater. Preventing chemicals leaching into the environment and keeping water safe, means the tertiary stage tends to prove the most challenging, technically and economically.

Water Industry Journal (WIJ) met with Steve Parsons and Helen Green of Brenntag Water Treatment at their water treatment facility in West Yorkshire. Adjacent to the Brenntag Bradford distribution site (one of the 26 Brenntag locations across the UK & Ireland), the water treatment facility is managed by Helen, Waste Water Treatment Laboratory technical specialist, and provides technical backup to the teams of business development and account managers operating in the field. Steve is the product manager for the speciality chemicals used in the treatment of waste water, working alongside the team of specialists across the UK and Ireland.

Editor Reports: As I arrive, Helen and Steve are conducting a test on sludge generated by a dairy company. It is fascinating to watch the teamwork between Helen and Steve: Helen is methodical and research-focused, whilst Steve guides the tests with clear requirements originating from detailed knowledge of many customers' applications. The variety of applications, aspects and forces within each drive product selection. Detailed analysis is required, and Helen and Steve clearly have the passion for their area of expertise.

I start the conversation by asking Helen and Steve about their experience in the industry

Steve Parsons and Helen Green of Brenntag UK & Ireland Water Treatment

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which I'm told spans three decades. Having started at Allied Colloids in the late 1980s, they worked together through the laboratory graduate programme developing flocculants and process technologies. Both subsequently joined Ciba, Steve into a technical sales position for mines and quarries, and Helen into a laboratory manager position for waste water treatment. Following Ciba's acquisition by BASF Steve moved to EMEA technical sales management whilst Helen became water treatment technical service laboratory's manager at the company. Steve joined Brenntag in 2013 as a water treatment specialist as Brenntag continued to grow their technical and commercial teams with specialty industry focus, underpinned by major investments in specialist application laboratories and development centres. Following the relocation of the BASF water treatment laboratory facility to Brenntag Bradford site, Helen joined Brenntag to set up the new water treatment laboratory which has continued to offer significant additional synergies to both municipal and industrial waste water treatment companies ever since.

Q: What projects do you regularly undertake?

SP: As a product manager, my main responsibility is to support the sales of water treatment products into the waste water treatment industry. Brenntag offers a vast range of inorganic chemical treatments, and our specialties portfolio compliments the product offering to the customer. My area of expertise covers speciality chemicals such as coagulants, flocculants, antifoams and activated carbon. There is a clear requirement in our industry for specific advice on the precise selection of products and specific applications. No one size fits all; by utilising the laboratory and screening products we can provide optimum solutions for customers' specific applications. Engineers or plant managers at water treatment sites would be aware of the need for this process to run a cost effective treatment system. Sometimes it may take a number of tests to find the most suitable and the most effective product for an application. We are effectively reducing the cost of the process to bring forward efficiencies in the waste water treatment process.

HG: My task is to assess the unique needs and challenges a customer may have and match them with the right technology and the right product. Typical projects we run would be cleaning of waste water prior to discharge into a local water course, treatment of industrial waters that may be reused in a close circuit water system and identification of cost effective chemical treatments for a variety of applications. With regard to antifoams, for instance, we have a range of products that are fully certified for the food industry market.

We also have a range of silicone oil, vegetable oil and poly glycol based products branded under our Freefoam range, used in a number of applications. We can carry out necessary product selection tests to add efficiencies to the process, and produce a detailed comprehensive technical report for all test procedures that are carried out. Our service gives our customers the assurance that we have fully investigated the range of products and developed an advisory proposal on the optimum dosage for an application. We can also provide onsite screening of products using our business development team who all carry a wealth of experience in the water treatment industry.

EDITOR: As we speak, Steve takes a call from Iain McDougall, Brenntag Technical Business Development Manager, and they have a brief discussion regarding the selection of flocculant for a waste water effluent generated from processing leather. I ask Helen which industries she undertook tests for this week. Helen explains that she has performed flocculant product screening on a sludge generated from a water utility, to assess whether the optimum product is being applied to the application. Helen has also carried out Antifoam testing on a plastic recycling effluent, with the challenge being to provide a food compliant product that operates under high temperature conditions.

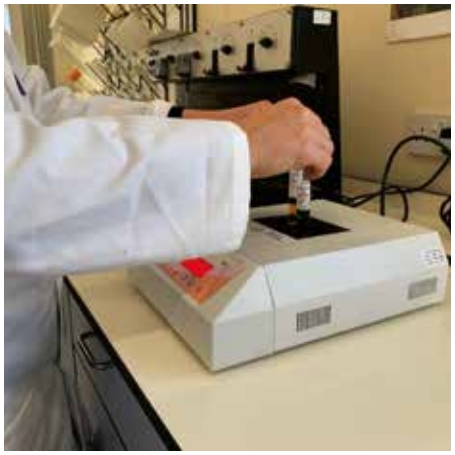
Q: How do you see the industry developing over the next few years?

SP: I am seeing a trend towards an automation of processes and applications. Brenntag supplies chemicals and ingredients to all the key chemical industries, including food, pharma, anaerobic digestion, waste recycling, power plant, mineral processing, biogas and energy, industrial cleaning, coatings & construction and many others. As much as these industries apply diverse manufacturing and processing practices, one thing is common: water is a vital asset to businesses. The regulations are becoming tighter in terms of cleaning water, calling for the water treatment industry to be more innovative in the ways the water is used, whether in terms of equipment, products or processing technologies. Quite often we help customers to urgently adapt the product selection following a change in effluent characteristics, allowing the process on site to run smoothly and efficiently.

HG: Within the regulated water industry, I see an ongoing centralisation of laboratory facilities. Our ability to undertake tests quickly and efficiently offers the potential to speed up our customers' processes, while using our expertise and testing capabilities for a number of applications simultaneously. We help the customer to ensure they have the correct product for the process, taking into consideration aspects such as changes in sludge feed quality and product dosing, for instance. Techniques for analysis of waste water will continue to advance, allowing us to gain a better than ever understanding of the trace elements and pollutants within it. The fact that we know more about the makeup of our wastewater means that as an industry we are striving to remove more pollutants than ever before, making the wider environment both cleaner and safer.

Sludge thickening

Sludge dewatering



Metal Iron analysis

Q: What are the main challenges regarding treating waste water?

SP: Treating industrial wastewater is a complex process. For the wastewater companies, the key drivers continue to be compliance, efficiency and the most effective use of their current infrastructure. The UK water industry experiences a need to produce better effluent quality, with an expectation of lower customer prices, all at a time of significant challenge associated with growing population and an increased public interest in minimising environmental and health impacts. We often perform test work for major water utilities, for instance screening tests to provide optimum product solutions for the applications, to establish the right products. We essentially offer what I would describe as "a yearly MOT" product optimisation programme. For instance, once a year we would take a sample of an effluent, perform product re-evaluations and advise whether the facility is operating on the optimum product.

HG: A range of solutions include testing processes which allows operators to achieve new discharge compliance limits. For example, trials on mixing effectiveness help to evaluate efficiency of an existing dosing system against optimum performance targets, thereby identifying if there is scope for improved dosing. We can provide every chemical for every application which in my previous roles I often experienced as a challenge. We also are able to call on the industry specific expertise of our colleagues from other areas of the business, in paper, food processors, metal plating, waste to energy, AD plants, for instance, where a customer would get as comprehensive and reliable recommendation as possible.

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