



Sellafield Ltd **PTSG and Sellafield**







Premier Technical Services Group Ltd (PTSG), via constituent company HCS, has been delivering specialist water treatment services at Sellafield in Cumbria, via main contractor MITIE, since 2015.

Sellafield is a highly regulated nuclear facility. Its core business is the reprocessing of nuclear fuel, remediation of aged nuclear waste stores and construction of new builds to support future strategies, all of which have significant consequences if not managed to the highest of standards.

It operates stringent procedures and relies on supply chain partners such as PTSG to provide a high degree of technical capability and service delivery to ensure the highest standards are met and the site is kept safe.

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## PTSG's expertise in water treatment services

PTSG has a highly experienced team at Sellafield, led by Account Director Michael Pender. They have a highly successful track record in the utilities and nuclear industries, focusing on operations management, water treatment, water quality, energy efficiency, and environmental awareness.

When PTSG began working with Sellafield, this large, multi-function facility was under scrutiny from the Office of Nuclear Regulation. The complexity of the site, coupled with poor service from a previous provider, meant that its Legionella management processes needed to be improved.

The challenge faced by PTSG's team was considerable; Sellafield Ltd was one of Europe's most complex water treatment sites comprising, at that time, over 300 individual domestic systems, and 14 different cooling towers. Its existing team needed to be upskilled, and failure to manage risks effectively would have serious consequences.

## Michael drew on his knowledge of Legionella to identify areas for improvement, and to implement changes that reduced these risks

Leading PTSG's team, Michael drew on his knowledge of Legionella to identify areas for improvement, and to implement changes that reduced these risks considerably. He quickly introduced innovative new ways of working onsite, improving cooling tower cleaning techniques, and increasing the time allotted to essential processes. After he identified issues with compliance and time-management, Sellafield Ltd invested in its team, which grew from six to 35.

### Transforming Sellafield's approach to Legionella management

Perhaps PTSG's most significant innovation at Sellafield has been the creation of an on-site Legionella analysis microbiology laboratory, launched after the World Association of Nuclear Operators (WANO) expressed concerns about water quality test methods. It is the first Legionella laboratory on a licensed site anywhere in the world.

Due to radiological issues, standard culture method testing has exceeded stability time before leaving site (it needs to be at the laboratory within 24 hours – this was previously 96 hours from Sellafield). Although culture is classed as "Gold Standard" testing within the water treatment industry, accuracy is only around 40%.







PTSG was tasked with creating a laboratory environment including the set-up, commissioning and operation of this industry-first facility, which made use of emerging rapid testing methodologies. It enabled Sellafield Ltd to improve its reporting, meeting and exceeding industry standards.

The laboratory is currently going through validation for rapid testing via PCR (Polymerase Chain Reaction) methodology. The HCS team has removed off-site sampling at the new laboratory, which means there is no need for couriers to visit multiple times per week to take samples away. This contributes significantly to a reduced carbon footprint and increased sustainability.

**Operation of an on-site Legionella analysis laboratory, utilising emerging rapid testing methodologies a first for the industry sector.**

## Innovation and achievement

The Chemical Safety Manager at Sellafield underlined the performance of PTSG under Michael Pender, saying: "As far I am was aware, Michael has never missed a Legionella forum, an opportunity to meet with the Legionella Responsible Persons understand the customer requirements and current site issues and identify where PTSG can provide additional support.

"PTSG's team, working under Michael Pender, are innovative thinkers, bringing new methods of working to the business. Of the many examples, the most noticeable is the set-up, commissioning, and operation of an on-site Legionella analysis laboratory, utilising emerging rapid testing methodologies a first for the industry sector.

It is clear Michael wants to make a difference in his role, driving the highest standards for himself and his team and Sellafield."

