

Vahterus are key to project success at GSK

GlaxoSmithKline's condenser Replacement Project involved the replacement of 12-year-old glass condensers tightly housed in nine chemistry pilot plant (CPP) modules at their R&D centre in Stevenage, England. The modules are located in an R&D facility that provides more than half of the worldwide plant capacity used to supply drug substance for clinical trial.

A failure of the aging glass coils in any of the condensers would have caused heat transfer fluid, a flammable irritant, to spill into the CPP's containment system, forcing the plant to shut down for up to two weeks. This, in turn, would have slowed processing at the plant, delayed chemistry projects, and disrupted production schedules, resulting in significant financial loss.

GlaxoSmithKline's concern was, with increased activity at the site, the risk of accidental damage to the glass condensers had increased significantly. Therefore, PROJEN Plc, a multi-disciplined project management company, based in Northwich, England were appointed as main contractors on the project.

PROJEN's assignment was to replace the condensers with units that were safer, more robust in design, and fabricated from corrosion resistant Hastelloy®. The new condensers would enable the company to achieve the required safety, environmental, and business protection needed to ensure the continued production of New Chemical Entities.

The piping and layout arrangement in the modules is complex, space is at a premium, and a lot of equipment and piping had to be temporarily moved. In addition, the majority of the piping is made of glass and had been produced by a specialized manufacturer.

Key to the success of the project was the supply of 27 replacement condensers, supplied by Vahterus Oy, Finland. Vahterus are the inventors and manufacturers of Plate & Shell Heat Exchanger (PSHE) technology, which combines high performance heat transfer capability contained within a shell pressure vessel. The heat transfer plates within the exchanger are welded together to give a high integrity unit which made it impossible for cross contamination between the heat transfer fluid and the solvent to occur. In addition, the units are extremely compact and lightweight (only 20 % of the size of an equivalent Shell & Tube Exchanger) making them ideal for installation within the complex piping system already present in the Stevenage plant.

Dave Berry, PROjEN's Project Manager, was impressed with both the size and the weight of the units - "they were so easy to install", he commented, "and they have met all performance criteria, since installation".

Tony Janes, GSK Project Manager, agreed - "the first units were installed over 15 months ago and are performing extremely well", he said.

The PSHE's were designed to meet ASME VIII pressure vessel standard, and are capable of condensing a wide range of VOC's operating at different temperatures and pressures to suit the multi-purpose nature of the plant. Chris Trevatt, Vahterus UK MD said "the development of Vahterus Plate & Shell technology has moved transfer to a new level, particularly where high integrity and space saving are critical - no more so than in Pharmaceutical and Fine Chemical plants. GlaxoSmithKline recognized the potential of our products in the early 90's and today most of their sites utilize PSHE's in a variety of applications."

As a result of PROjEN's innovative approach to solving the complex installation issues on the GSK site, they won the prestigious BE Award for "New Technology Adoption"



Vahterus Oy is the pioneer and inventor of -Plate&Shell-® Heat Exchangers (PSHE) technology. PSHE combines the high heat transfer capabilities and compact nature of plate exchangers, with the temperature and pressure capabilities of Shell & Tube. Since 1990, Vahterus have been working to design, manufacture and deliver the most compact and cost effective solutions to our clients in many sectors, in many applications.

More information and contact details for all countries can be found at www.vahterus.com