

CASE STUDY

BROOMFIELD HOSPITAL BUILDING 10 RING MAIN BOOSTER SET UPGRADE

In conjunction with SES Mechanical Services Limited (Colchester), PumpSmart Limited attended site on a number of occasions with a view to formulating an upgrade proposal for the Ring Main Booster Set at Broomfield Hospital.

Reason for Upgrade

The existing 5 pump booster set was approaching end of life with a number of ongoing maintenance issues, not least obsolete components for the booster set control panel.

The set was originally supplied with header pipework allowing for 6-Off pumps but only 5-off fitted. The purpose of this was to allow for future expansion however, over the years it was agreed that in fact, the set only ever needed to run on a maximum of two pumps to satisfy demand.

As this unit is critical to the water supply for the majority of the hospital it was originally designed with extra 'fail safe' devices, such as Duty/Standby pressure transducers and so, when looking at options, we needed to be mindful of just how vital the set is.



Proposal

The existing 5 pump booster set was approaching end of life with a number of ongoing maintenance issues, not least obsolete components for the booster set control panel. It was therefore proposed to:-

- 1 Remove the 'old' pumps from the set and replace with 6 new pumps
 - 2 Remove the 'old' Non-Return Valves and replace with new
 - 3 Remove the 'old' Pressure Transducers and replace with new
 - 4 Remove the 'old' Booster Control Panel and replace with a bespoke Twin System Variable Speed Control Panel
- and most importantly.....**



Bespoke Solution

With the critical nature of this booster set at the forefront of everybody's minds, it was necessary to design into the system 'back up' in the event of failure.

The bespoke Aqualectra Control Panel was designed to essentially be 2 x 3 pump control panels in one. This gave us two identical booster sets, swapping over on a 7-day time clock and on failure, in the unlikely event of catastrophic break down of one of the sets/panels.



Advantages



The advantages of this scheme are:-

- 1 Reduced/no down time during upgrade works as we were able to keep pumps running whilst the 'first' panel was installed
- 2 Reduced costs as major pipework changes were avoided as the booster header pipework and baseplate remained in situ
- 3 Fail safe designed in with Duty/Standby Booster sets and, within each set, Duty/Assist/Standby pumps
- 4 All pumps now inverter controlled providing smoother distribution of water and crucially, energy savings
- 5 Current range pumps and control panel with easily sourced spare parts

Installation

PumpSmart Limited, in conjunction with SES Mechanical and of course the client, devised a scope of works which allowed a smooth transition from the old arrangement to new with minimal down time. The new pumps and valves we delivered ahead of the control panel and installed by SES following extensive enabling works by them.

PumpSmart Limited then attended site with the new control panel. The old panel was disabled and decommissioned, yet one pump was kept running at all times to ensure supply was maintained through the site. Once the new control panel was in place and secured, the first set of three pumps were wired up and brought online. This meant that the site had one Three Pump Booster Set fully functioning and service was restored to full supply. The second panel could then be connected.

Our dedicated service engineers completed all works in a single day and commissioned the new booster set/s and left in full working order.

But it doesn't end there, as part of the package we have providing ongoing technical back up and have delivered product training on the new equipment to the hospital maintenance team.

