

Borders Hospital

Chemicals | Case Study

The Client

The Borders General Hospital in Melrose is the main hospital in the Scottish Borders and serves Selkirkshire, Roxburghshire, Peeblesshire and western Berwickshire. The hospital opened in 1988 to provide general inpatient services and A&E. In 2011, a new Planned Surgical Admissions Unit was added and the renal dialysis was upgraded. In 2013 the palliative care Margaret Kerr Unit opened and the stroke unit was refurbished.

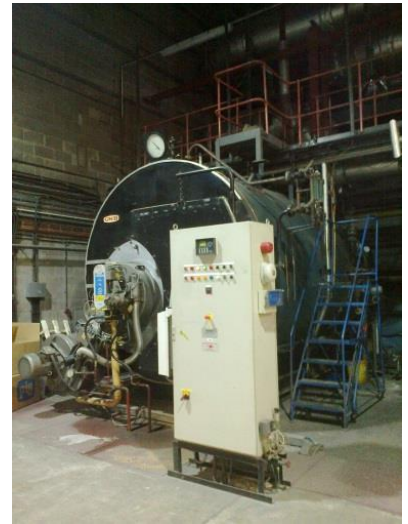


Key Figures

- Blowdown reduced by 20%
- Boiler operating cost savings £5,000 per annum
- Chemical handling costs reduced by 25%

The Client's Needs

The hospital's boiler system consists of three dual fuel (gas/oil) boilers and a waste heat boiler linked to the incinerator. It is critical to the hospital's operation, supplying steam for space heating, sterile services, laundry and kitchens. The boiler conditions must meet the requirements of BS2486.



Direct steam injection into autoclaves, laundry and steam ovens in the kitchen limits the condensate return. Softened make-up water mixes with returned condensate in the hotwell where a blended alkaline tannin chemical was added to provide oxygen scavenging. Corrosion inhibitor and sludge conditioner were dosed to each boiler feed. The chemical added high levels of alkalinity. This resulted in very high levels of blowdown, making it difficult to control the Total Dissolved Solids (TDS) and alkalinity in the boiler water in accordance with the standard.

The Solution

Following a system evaluation by one of their highly qualified chemical specialists, Veolia Water Technologies changed the treatment regime to a neutralised sulphite programme that allowed the alkalinity levels to be reduced. The boilers already had individual feed lines which Veolia recommended to be upgraded from copper to chemical resistant plastic.

This allowed individual chemical dosing to each boiler so that the chemical regime could be tailored to that boiler's operating conditions. The new chemical regime has allowed the improvement of the existing automatic, conductivity controlled blowdown system for each boiler. This ensures consistent boiler water quality rather than the variability inherent with manual blowdown. Ian Gentleman, Estates Manager for Borders General Hospital, confirms the results: "Veolia's revised chemical regime, together with their technical support and service visits, has given us a substantial saving in blowdown and is helping us to meet our sustainability targets. Our last boiler inspection showed a reduction in scale which will improve heat transfer and fuel efficiency."

To further support the customer, Veolia installed bulk chemical storage tanks to allow chemicals to be delivered to site by pumping over from a lorry mounted intermediate bulk container. This has improved Health & Safety by reducing the need for on-site storage and manual handling of both full and empty drums, decanting chemicals and empty drum waste.

Process Description

The daily tests carried out by in-house boilerhouse staff are supported by regular visits from Veolia's dedicated chemical specialist who carries out water analyses and checks dosing rates.



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