

Case Study - North Tees and Hartlepool NHS Foundation Trust

New Water Treatment System helps meet increased demand for endoscope procedures.

North Tees and Hartlepool **NHS**

NHS Foundation Trust

North Tees and Hartlepool NHS Foundation Trust became a Foundation Trust in 2007 and now provides hospital and community health care to around 365,000 people living in East Durham, Hartlepool, Stockton on Tees and surrounding areas including part of Sedgfield.

As many of the treatments provided by the Trust now involve the use of scoping procedures, the need to increase the endoscope reprocessing capacity became very apparent. The Trust decided to rationalise a number of existing reprocessing facilities around the hospital and provide a central facility within the Sterile Services department (CSSD).

The initial part of the project involved the provision of automatic endoscope reprocessors (AERs) that would meet the need for efficient reprocessing, secure storage and ease of transport across two large hospital sites and into the community. After lengthy evaluation the Trust decided that BES Decon offered the best system to meet their requirements. The key feature of the BES Decon proposal was the cassette system. Once the



Compact RO Plant Room

used scopes are placed in the cassettes they are reprocessed, dried and stored with no additional handling, and remain in a sterile environment until required for use. This considerably reduces the risk of contamination after reprocessing.

The second stage of the project was the provision of the reverse osmosis water supply to the endoscope reprocessing facility, and which systems could meet their increased demand.

Space for the equipment was very limited, as the Trust were adapting a room within CSSD. During this process it was paramount there was no interruption to essential endoscopy and other reprocessing

services.

Key parameters for provision of the RO were:

- The ability to fit into the space provided whilst still being able to service the equipment
- A duplex system based on 100% duty/standby operation
- Fully automatic programmable thermal sanitisation
- The capacity to provide for further expansion of the department

Further design parameters included:

- A supply of 1200 litres/hr RO water at an instantaneous flow of up to 200 litres/min
- To provide a contingency top up supply to an existing purified water storage tank
- In built spare capacity to provide supply for increased reprocessing requirements in the future .

From past experience thermal sanitisation of an ambient temperature water purification system was considered the best option for feeding the AERs. The combination of regular thermal

Case Study - North Tees and Hartlepool NHS Foundation Trust continued

sanitisation plus delivery of the purified water via an orbitally welded stainless steel ring main has been proven to consistently achieve and maintain HTM2030 bacterial levels, particularly in situations where conventional chemically sanitised systems have failed to do so.

“We chose EWS as the preferred supplier for the RO system, as from experience we knew they could deliver the high quality water needed to meet the HTM standards required and were able to work within the limited area we had available.”
Stuart Watkin, *Head of Engineering Compliance and Energy*

EWS have worked closely with the washer supplier BES Decon, and have supplied a system that meets the water demands of the new equipment, fits in the space provided, is serviced as required and has been installed and commissioned in the very short time frame as requested by the Trust.

The equipment includes a duplex RO system with a 20m stainless steel distribution ring main. Each unit provides 1500 litres/hour and is therefore able to supply 100% of the current total requirement, plus each unit has spare capacity to manage future demands outlined in the hospitals current plans. The two units operate on duty / standby mode, automatically alternating in the duty role to ensure regular and equal usage. With automatic-out-of hours thermal sanitisation there is no interruption to essential endoscopy services, and provides the additional water supply as required.

Plus a pre-treatment train of duplex water softener and carbon filter for chlorine removal is designed to prolong the life of the



The Project Team

membranes within the RO system and to ensure a high level of permeate flow.

“We are very pleased with the system EWS have provided and their continued servicing and support of the equipment ensures it continues to run as effectively and efficiently as possible.”
Stuart Watkin
Head of Engineering Compliance and Energy



Thermal Sanitised RO Plant