

# Veolia Water Technologies appointed as Principal Contractor for Renal Project, UK

## Healthcare | Case Study

### The Project

To meet growing patient demands, the Royal Infirmary of Edinburgh needed to increase its renal dialysis capacity. Veolia Water Technologies was appointed to refurbish the 10 year-old renal water system which supplied the 26 station maintenance unit on the first floor, six acute renal in-patient beds in the high dependency unit (HDU) on the third floor and two dialysis stations in the Transplant Unit.

The new system would also supply a further eight dialysis stations in a purpose-built extension on the ground floor. In addition to this, a new automated central dialysis concentrate storage and distribution system was to be installed.

### Key Figures

- Renal department runs 3 shifts per day, 6 days a week
- £880K Investment - plant upgrade and extension
- No patient treatment downtime
- ELGA appointed Principal Contractor

### The Contract

In close cooperation with the hospital's Renal Technicians, Veolia Water Technologies's project team developed a technical solution to meet the renal unit's specific needs.



Veolia Water Technologies was then awarded a £880k contract to carry out the system upgrade and was appointed as Principal Contractor under the CDM Regulations.

This meant working closely with the hospital's facilities management contractor to ensure that there should be no patient treatment downtime during the project. To achieve this, most of the work was completed out of hours with no interruption to the critical renal water supply.

### The Project Management

- Water treatment system design and installation
- Dedicated Site Manager to ensure project ran smoothly
- Successful completion:
  - ✓ On time and to budget
  - ✓ In line with Health & Safety plan
  - ✓ Reduce carbon footprint
  - ✓ No disruption to patient treatment

## The Solution

Veolia Water Technologies supplied two new water treatment systems: one located in the existing third floor plant room and a second in the new basement plant room supplying the ward extension. Each system includes a range of technologies, such as softening, carbon filtration, Reverse Osmosis and Ultrafiltration..



Key items are duplexed to ensure security of supply during cleaning and maintenance. To maximise the use of existing equipment, parts from the old system on the third floor were used to refurbish a water system located on the ground floor, to increase capacity and reliability.

A new ring main distribution system was installed using cross linked polyethylene (PEX) pipework to eliminate welded joints and dead legs. Hot water sanitisation of the distribution system and NephroSAFE ultrafilters at 80°C is carried out fully automatically each night.

An automated central dialysis concentrate storage and distribution system was also installed, and replaces the previous manual delivery to streamline the delivery and eliminate the need to store and handle plastic carboys.

Carrying out installation in a “live” hospital environment meant that breaking in to the existing system had to be carried out strictly within time windows, during which the hospital water and electricity supplies could be cut to the wards. As Principal Contractor, Veolia Water Technologies’s Site Manager worked closely with the CDM Co-ordinator and renal technicians to ensure that every aspect of the work was carried out in accordance with the agreed method statements and the Health & Safety plan.

## Results

The new systems with duplex configuration provide secure, consistent water supply and the central concentrate facility has improved health and safety, by reducing manual handling. And with the elimination of plastic carboys, the hospital’s carbon footprint has also been reduced.

The Project ran smoothly with the result that the work was completed on schedule, within budget and with no interruption to the normal operation of the hospital’s renal dialysis wards, allowing the Royal Infirmary of Edinburgh to focus on patient treatment delivery.

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