

Overhead Crane Modernisation at Kent Water Pumping Station

Project Overview

We recently completed a bespoke overhead crane modernisation project at a water pumping station in Kent, helping to improve the safety, efficiency and reliability of their lifting operations.

The project was carried out as part of refurbishment works at the site and is on the back of our customer's awareness of similar crane modernisation projects we've completed.

The overhead crane in question plays an important role in the operation of the pumping station, allowing critical pumps to be lifted out of position for essential maintenance.

The Challenge

The existing crane was manually operated. For operators, this created a number of challenges. Manual operation was causing physical strain, while the crane's slow operating speed meant that removing and replacing pumps could be a lengthy process.

Modernising the crane presented its own engineering challenges, too. With the original crane dating back to the 1960's, there were no engineering drawings available. The projects team therefore had to develop the solution from the ground up while retaining the existing crane structure.

One particular challenge was matching the new long travel drive pinions to the existing wheel spur gears. Access to the pumping station also presented logistical difficulties. The site was located in a remote area with poor access, making the delivery and offloading of equipment, as well as the provision of test weights for commissioning, more complicated. Detailed planning was therefore essential to ensure the installation could be completed efficiently.

A Bespoke Modernisation Solution

Our team of engineers removed the redundant manually operated components, including the existing hoist unit and long travel drive gear, while retaining the existing crane beams, end carriages and wheels.

A new electric lifting and control system was then installed, including:

- New 5-tonne electric chain hoist
- New main control panel, designed and manufactured in Sheffield
- Long travel motors
- C-Track festoon system
- Radio remote control system
- Long travel limit switches
- Enclosed DSL system
- All tested and commissioned

The new main control panel also incorporated a variable speed drive to provide precise control of the crane. Schneider Electric components (sourced via [bxh](#)) were used throughout the control system, including an [ATV320U22N4C](#) variable speed drive and TeSys contactors, alongside Schneider control panel equipment, isolators and accessories.

From Design to Commissioning

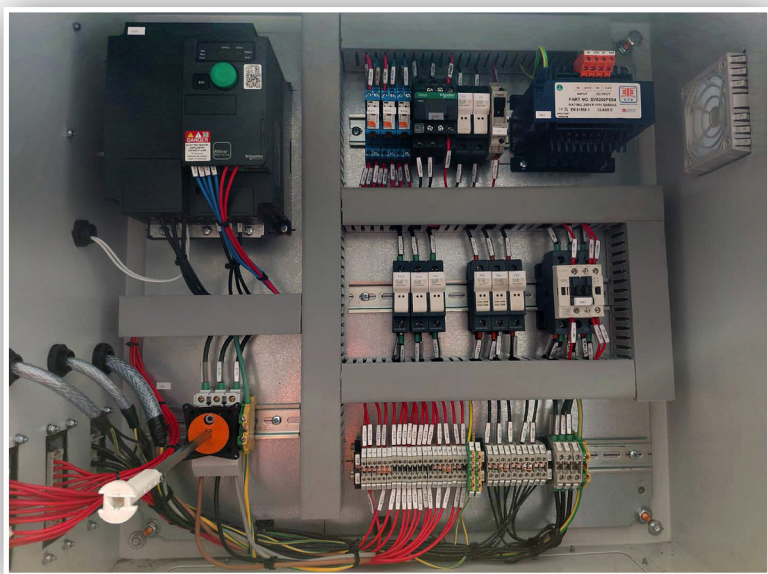
The project was carefully managed from the initial enquiry through to final commissioning.

The process included:

- Initial enquiry and site scoping visit
- Detailed design
- Issue of general arrangement drawings for approval
- Procurement of materials
- Site installation
- Commissioning
- Load testing
- Site clearance

The design and procurement phase took approximately 12 weeks, followed by seven days of installation and commissioning on site.

Given the remote location and logistical challenges involved, careful preparation was particularly important to ensure that all required equipment and testing resources were available when needed.



The Result

The completed modernisation has transformed the way the crane is operated.

Replacing manual operation with an electric system removes the strain placed on the operators. The new controls also provide more precise positioning, allowing operators to carry out lifts with greater control.

The upgraded crane also delivers increased operating speed, helping to reduce the time required to remove and replace pumps during maintenance activities.

Designed, Built and Commissioned by Street Cranexpress

This project is another example of Street Cranexpress' ability to modernise ageing overhead crane equipment while working within the constraints of existing structures.

With limited original information available and an existing crane structure proving challenging to work with, the project required a genuinely bespoke engineering approach.

As Senior Technical Project Manager James Salter explains:

"Another project which demonstrates our versatility and in-house capability to design and commission bespoke overhead crane solutions. With no engineering drawings or OEM information available, we had to start from scratch with this one and build a crane around the existing structure which could not be easily removed and replaced."

From initial site assessment and detailed design through to manufacture, installation, commissioning and load testing, the Street Cranexpress team managed the project through every stage.

The result is a modern, reliable and more efficient overhead crane solution that is better suited to the demands of a critical water infrastructure site.