

SEA GATE EMERGENCY

THE BACKGROUND



Whitehaven Marina, known as the maritime gateway to the Lake District, Cumbria, was created in 1998 following the installation of a sea lock system designed to protect the town of Whitehaven from regular flooding. The marina, managed by Gosport-based Marina Projects, has 400 fully-serviced berths, and is regularly used by commercial traffic including fishing vessels and wind farm boats.

The sea lock and its 56-tonne, 12-metre high outer lock gates, combined with 28-tonne, 7.4-metre high inner gates are the main flood defence for the town of Whitehaven and are subject to a regular programme of scheduled maintenance. However, an unexpected mechanical failure on the south outer gate means **EMERGENCY** support was required. The pin on the bottom hinge had worked free, causing the gate to ride along the bottom. The gate was forced shut but could not be operated again until it was repaired – and that prompted the need to pump more than 1.5 million litres out of the lock to allow access for maintenance crews.

THE CHALLENGE



The lock gates at Whitehaven Marina are operated by a hydraulic system which were overloaded due to an underlying mechanical failure, meaning that the once the gate had been forced closed it could no longer be operated. With high tides due and a commercial need to minimise closure times as far as possible, it was important to solve the problem **QUICKLY**. Scheduled maintenance usually requires two months of planning to co-ordinate with all the suppliers involved and to communicate the planned closure to all those affected. In this case, that period needed to be condensed into a day and a half to protect the properties and residents of Whitehaven and minimise disruption to marina users.

THE SOLUTION



After being contacted by the marina, Selwood's pumping solutions specialists rapidly swung into action to prepare for the draining of the lock. Two 21kw electric submersible pumps were prepared, with an inverter for each pump and a distribution board. Selwood's teams wired the pumps into panels before they were delivered to site, reducing the time spent on setting them up at the marina. The marina team installed stop locks to create a dam to hold back the sea, before Selwood's teams installed the pumps and began the task of pumping the lock out.

THE RESULT

Selwood's teams successfully installed the pumps into the lock and were able to drain it completely in less than a day, allowing the maintenance teams to get to the gate mechanism and repair the fault as rapidly as possible. The complex operation was carried out quickly and smoothly, reducing the commercial impact on the marina and, crucially, ensuring the town of Whitehaven remained protected from the flood risk. Tony Taylor, marina supervisor, said: "There is a **COMMERCIAL COST** to the marina being closed, but more important, the high tides could have led to flooding which would have run to millions of pounds of damage to homes and businesses in the town. The pumps are crucial – we couldn't do the job at all without pumps that are reliable and have the correct capacity to get the lock drained down as quickly as possible. The response from Selwood was absolutely brilliant – they were amazingly quick and did exactly what we needed for the job."

