LOCK GATES — WIRE ROPE OPERATING SYSTEM — SURVEY, INSPECTION & REFURBISHMENT

Ropetech

INDEPENDENT WIRE ROPE TECHNICAL SERVICES **WORLDWIDE SINCE 1981**

spect the wire rope hoist systems which operate a series of three locks gates.

is suspended & lifted by four main Balance Ropes, two on each side of the lock, four Auxiliary Balance Ropes, two on each side of the lock and four Sluice Gate Ropes, again two on each side of the lock, and which open a Sluice Gate which is built into the body of each Lock Gate.





Hoist mechanism on one side of the lock. Main Balance Ropes (A) Aux. Balance Ropes (B) Sluice Gate Ropes (C)

In 2008 we were asked to survey and in- What we observed is shown in the photographs across.

Not only was almost everything affected by The system is complicated in that each gate a significant level of corrosion, including the rope tensioning systems (D), which were seized; but, most serious of all, was the situation at the neck of the wire rope terminating sockets (E).

> In a significant number of cases either the method of terminating the ropes had been totally incorrect or the ropes had pulled through the socket filler material; as evidenced by the parallel wires at the socket neck.

> It was determined that all of the wire ropes should be replaced, and in addition, the rope tensioning system was to be redesigned.

> We were asked to and completed the following works:

- Draw up the specifications for the new ٠ wire ropes; 4 diameters, various lengths; 24 ropes in total.
 - Obtain costs & delivery time from a number of possible wire rope suppliers.
 - Organise a new design for the terminating sockets and associated tensioners. (F) & (G) are the new design.
 - Obtain costs and delivery time from the manufacturer.
 - Organise Proof Loading & Destruction Testing of the new socket design when fitted to a sample of each of the wire ropes to be installed.
 - Because the rope lengths had to be measured on site, we cut and terminated the ropes on site.
 - Supervise the rope installation works.
 - Testing and commissioning after the ropes and associated fittings were installed.
 - Provide continuing condition assessment & supervision of necessary maintenance to date.





D: The ropes passed through the original tensioners hence it was not possible to see the situation at the socket neck, until the ropes were de-tensioned; which was not a simple task. It was also the case that this section of rope could not be protected from corrosion attack.



The gates are suspended from (H) meaning that the 'tensioning screws' are accessible and can be protected. The socket neck is also always visible (I).



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