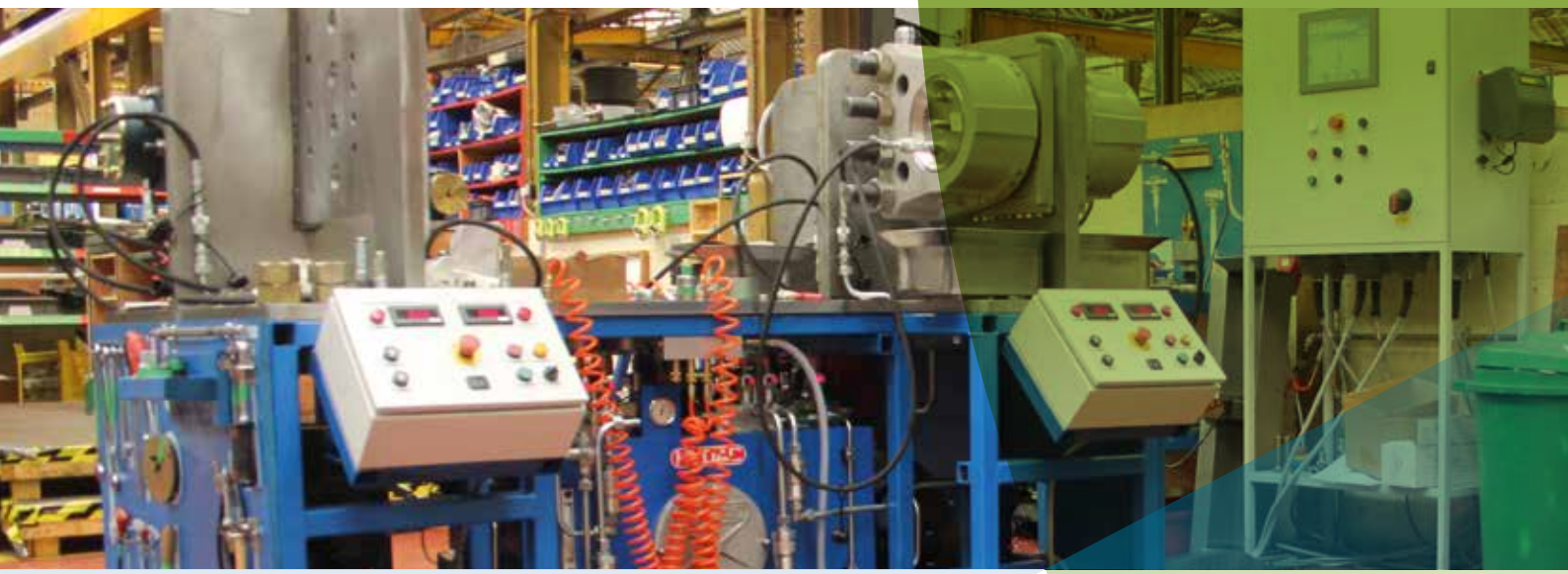
Royal HaskoningDHV
Enhancing Society Together

Service:
Factory Acceptance Testing (FAT)



Innovative solutions

Royal HaskoningDHV is world renowned for its mechanical and electrical (M&E) services in the maritime sector.

Our mechanical, electrical and control engineers have broad experience in the design, specification, testing and commissioning of many types of systems and equipment. As such, one of the many services we offer is the supervising and witnessing of factory acceptance testing (FAT).

The types of equipment for which factory acceptance testing is beneficial include:

- Linkspan bridges
- Passenger walkways
- Crew access gangways
- Dock and lock gate equipment
- Pumps
- Winches
- Brakes
- Drive-trains
- Penstocks
- Electrical panels
- Control desks
- Hydraulic power units

Inspecting and testing of equipment and resolving any defects prior to dispatch to site plays a critical part in the success of any project which involves M&E equipment. We can prepare or review procedures and test schedules in advance of the tests and scrutinise results to ensure that equipment performance is to specification.

The FAT can mitigate the risks of the equipment being found to be not-to-specification, of poor quality, faulty, or at worst unusable once site installation and commissioning is underway. This late discovery of problems can be very detrimental to the project's programme and costs; delays in completion can sometimes incur higher consequential costs than the value of the actual equipment.

As the FAT is usually carried out in the manufacturer's facilities, where suitable specialised testing equipment, tools and resources are available, tests can be carried out in a controlled and safe environment. This environment facilitates the assembly and dis-assembly of equipment allowing detailed inspections and tests to be carried out which often can't be undertaken once on site.

Any issues arising from the FAT can be rectified in the manufacturer's premises under controlled conditions using the appropriate resources.

The tests which we witness on behalf of our clients may include dimensional checks, pre-assembly / disassembly, dry film thickness (DFT) paint tests, pressure testing, performance testing, functional testing, completeness checks and testing of safety devices / functions.

Innovative solutions

The advantages of undertaking comprehensive factory testing are that the likelihood of the successful and timely installation and commission are greatly increased and it can be demonstrated that reasonable precautions have been taken.

Other advantages and reasons for undertaking a FAT are:

- It is sometimes the only practical method to verify the performance or capacity of the equipment.
- Depending on the contract, the equipment guarantee might commence and the client may start carrying the transport risks or even become the owner of the equipment once it leaves the workshop or during its transport. In these cases an independently witnessed FAT may be required to register the state, condition and to check the inventory of the equipment components for legal and insurance reasons.
- Where equipment is of high capital value, contractually binding payment instalments payable to the manufacturer are often required once the equipment is shipped. An independently supervised FAT can be used to verify that the payment conditions have been met.

We can assist our clients by providing these services in locations all over the world for many types of project and equipment; we can also assess the suitability of the technical documentation such as technical (installation, operation and maintenance) manuals which is also required to accompany such equipment.

Other advantages of employing Royal HaskoningDHV's services for FATs are:

- We are independent
- We have in-house experts in most disciplines for supervising FATs including structural, mechanical, electrical and control engineers
- We are very experienced in supervising and witnessing FATs for various types of equipment and clients (end clients, contractors, financers, etc)

Our worldwide presence also means that we may have engineers based locally to the manufacturer's premises; which provides financial benefits when compared to the client's engineers travelling, sometimes many thousands of miles. One such example concerned the factory acceptance testing of a number of large disk brake calipers in the UK which were destined to be installed at a dam in New South Wales, Australia and used for the braking and holding of large radial spillway gates.

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