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## Challenges of a refit

When Royal Navy vessels came in for refit, Babcock must decide whether to fit new pumps or refurbish them in order to extend their service life. Natural wear patterns of pumps dictate a reliable working life of some 15 to 20 years. However, over the past couple of decades, several major pump manufacturers have ceased trading or significantly retracted from certain geographies, and so sourcing spare parts or like-for-like replacement pumps isn't always possible. This left Babcock with the dilemma of whether to replace failing pumps with new ones from another manufacturer.

Replacing a pump with one from a different manufacturer can entail a significant risk in hydraulically matching the new pump to the old one. There is also the possibility of extended downtime as pipework, mountings and fittings are changed to suit the new pump.

Faced with the significant pressure of returning the vessels back into service quickly whilst fully evaluating and refurbishing existing pumps or sourcing and fitting new ones, Babcock turned to Amarith for a solution.

## Full refurbishment service

Amarinth already had significant expertise in manufacturing and re-engineering components for the former Girdlestone pumps and had developed a range of hydraulically and dimensionally plug-and-play replacement pumps for many Girdlestone units, requiring no changes to baseplates, pipework or other fittings.

Drawing on this experience, Amarith proposed a robust strip, report and refurbishment service that could be applied to any pumps on the vessels, regardless of original equipment manufacturer.

The process starts with a detailed mechanical and hydraulic assessment that evaluates the viability of servicing or refurbishing a pump, or determines if it would be more cost-effective to replace it. This assessment looks at the condition, working life and maintenance regime of the pump and the duties and requirements, such as the flow, head, power, NPSH and materials, in addition to the physical pipework, fittings and baseplates that may need alteration.

Offering both the option of refurbishing the pump with new, often improved components, or replacing the pump, sometimes with an Amarith plug-and-play solution, enables Babcock to make an informed decision as to the most cost effective and expedient solution.

## Improving pump performance

If refurbishment is a viable option, Amarith has a standard procedure to make sure that all important components are replaced, and knowledgeable engineers carefully inspect all non-replacement items for wear to ensure they are within tolerance.

In some cases, using modern design and manufacturing tools and the skills of its own pump design engineers, Amarith can re-engineer critical components and sub-assemblies, improving on the original design and increasing the pump's reliability or performance.

All refurbishment work is carried out at Amarith's own factory and following the overhaul, the pumps are tested at its in-house facility to certify them to the same standards as a new pump.

## Contributing to reliable schedules

With its robust evaluation, refurbishment and replacement process and an impeccable on-time delivery, Amarith is making a marked contribution in enabling Babcock to run its schedules reliably and deliver to the Royal Navy systems that will operate for a further 20 years with the added benefit of long-term support from Amarith and a readily available supply of spares.



## Babcock International

Babcock is a leading supplier of infrastructure, equipment support and military training to the British Armed Forces. The company delivers mission critical services and is the largest supplier of support services to the Ministry of Defence (MOD).

The company has been providing decades of support to the Royal Navy for its surface ships and submarines, naval infrastructure, design and technology-led programmes and specialist engineering services and systems, and delivering services including naval base management and, base-porting, refitting, refuelling and decommissioning.

Babcock is also a trusted provider of critical naval in-service support in Canada, Australia and New Zealand.