

Repair?

or Replace?

WHEN EQUIPMENT FAILS, IT MEANS DOWNTIME. AND UNPLANNED DOWNTIME, MOST WOULD AGREE, IS BAD NEWS. BUT WHAT'S THE BEST WAY TO MINIMISE IT – REPAIR OR REPLACE? WE LOOK AT SOME OF THE MAIN FACTORS THAT CAN INFLUENCE THE DECISION.

The best way to avoid downtime, of course, is to avoid it altogether. Prevention, in other words, is better than cure. And, when it comes to prevention, knowledge is power. That's why one of the most effective strategies for minimising unplanned downtime is to use techniques such as plant surveys and condition monitoring. Together, these approaches can drastically reduce unanticipated breakdowns by predicting failures and laying the foundation stone of a planned maintenance schedule.

But, as Robert Burns pointed out, the best laid plans of mice and men...there will be times, no matter how prepared you are, that plant equipment will fail unexpectedly. And when it does, you need to respond in the most cost-

effective way over the long term. Should you, in other words, repair or replace?

This, of course, is not a new debate. The 'repair or replace' issue has been alive for some while, and continues to rage, with a full spectrum of different views. Many manufacturers, perhaps predictably, tend to favour the case for replacement, while the workshop and maintenance community – equally predictably – tend to lean in the opposite direction. Yet the truth is that they're both right: both repair and replace have their merits – it depends on the specifics of the case in question.

Arriving at a decision which represents the lowest cost over the long term is rarely simple. It requires a range of skills and experience which goes

The industry debate over the relative merits of repair or replace is more active than ever. One way of ensuring you make the right decision is to work with a specialist partner able to provide independent advice for both.

beyond a simple calculation of capital and labour costs. It requires, among other things, an assessment of the effects of downtime on productivity, an evaluation of the real cause of the failure (it may not be with the failed equipment itself), and an analysis of trends – if the failure is a regular problem, is repair an economical option? But there are wider questions too – could, for example, a programme of preventative maintenance, using tools such as condition monitoring, reduce or eliminate incidents of equipment failure in the first place? To make a decision which makes the minimum impact on your operation in terms of overall cost (that is, total cost of ownership), it is important to work with a partner with the experience and expertise to offer genuinely independent advice.

Having said all this, there are some repair or replace rules of thumb which can be borne in mind. Take one of the most common causes of system

“When failures occur, you need to respond in the most cost-effective way over the long term”

downtime, for example – the drive system. This includes everything from motors and gearboxes to belts and inverters. If it is a commodity item, usually held in stock, it is generally more economical to replace it. This, by and large, applies to standard motors of 11kW or less. Larger motors, though, are often worth repairing. If it is, remember that the repair also provides an excellent opportunity for the failure to be analysed. Other examples where repair may be preferable to replacement include servomotors, Eff1, ATEX and specialist power transmission motors.

With gearboxes under 3kW, or with an output torque of up to 800 Nm, decisions are usually easy as these units are a commodity. At the other end of the scale, large gearboxes are normally best repaired. Occupying the middle ground,

though – up to around 20,000 Nm – the decision is not clear. This is about 60% of helical and worm gearboxes in use! The first step, of course, is to find out what's gone wrong. This is important because it may be a simple problem to rectify and may only need a good clean and a set of replacement seals and bearings. In this case, repair will almost definitely cost less than a replacement!

The next step – working with an external partner

While good on-site repair/replace decision making can boost efficiency dramatically, it can be even more economical to work closely with a specialist partner. South West Water is one of many companies that has seen real repair versus replace benefits from



working with ERIKS.

Working with Siemens in a three-way partnering agreement, Siemens provides consignment stock of motors to South West Water. This is managed by ERIKS in terms of repair or replace. Offering specialist services such as generator maintenance, mechanical work, gearbox repair, air blower repair and condition monitoring, ERIKS has the experience and expertise to make repair/replace decisions which look at whole-life costs, and take into account aspects such as availability, energy efficiency and payback time.

Did you know that the motor efficiency grade will change soon? Find out more and have your say at www.eriks-knowhow.co.uk

Fenner®
THE MARK OF ENGINEERING EXCELLENCE

TaperLock™ Pulleys.

Don't get stressed-out at 40 metres per second belt speed.



For Fenner® Call ERIKS

T : 0845 006 6000
www.eriks.co.uk

ERIKS

Fenner is a registered trade mark of J H Fenner & Co. Limited