

Balfour Beatty
Plant & Fleet Services

0845 602 7064

Your sustainable partner of choice.
Solving your problems and making it easy.



Engineering & Maintenance Services



A section from our full **Product Catalogue**

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SECTION 9: Engineering & Maintenance Services

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Introduction

Engineering and Maintenance Services consists of a team of highly skilled maintenance engineers and fabricators. Our staff are multi skilled and have many years of experience in the repair and maintenance of construction plant and equipment, and flood defence structures and equipment. Every engineer is mobile with a fully equipped vehicle to carry out on site repairs and maintenance.

We offer an on-site engineering and maintenance service specialising in the management, repair, maintenance and overhaul of customer owned plant, equipment and mechanical structures.

We care for the safety and welfare of our people and are fully committed to our journey to Zero Harm and produce and follow task specific risk assessments and method statements.

Our People

We have dedicated service engineers assigned to each customer to provide continuity of care and to build strong relationships. Our team of mobile service engineers are apprentice trained and have gained City and Guilds or equivalent qualifications. We are Investors In People accredited and provide additional in-work training which includes the use of computer based diagnostic equipment to support increasingly complex modern plant and equipment.

Additional work based training has been completed while in employment with Balfour Beatty to further enhance their skills and to ensure they work to the highest safety standards. All our engineers are monitored through our ongoing competency management programme.

Our Capabilities in Plant and Equipment

We have vast experience in on-site repair, service, preventative maintenance and overhaul of heavy mobile plant. We have a strong understanding of the importance of plant reliability and the need to demonstrate value for money and long-term efficiency. We provide asset management capability utilising an appropriate software package to ensure compliance with legislation and to provide fully detailed machine history.

Our on-site engineering is complemented by a fully equipped workshop centrally based at Derby, where full machine repairs and overhauls are carried out.

We provide an emergency call-out system operated 24 hrs a day, all year round.

Engineering and Preventative Maintenance-benefits of working with us

Engineering and Maintenance Services carry out both on and off site preventative maintenance, repairs and servicing to a wide range of equipment for various customers around the UK. The equipment ranges from large coal moving motor scrapers and bulldozers to small items of more general plant equipment used on site.

We can manage spare parts requirements if required and can set up a stores system if beneficial. With our years of experience with this type of equipment we have built excellent working relationships with preferred suppliers and can assist in sourcing the most cost effective spare parts.



Our Capabilities in Flood Defence

We have an experienced team of mobile engineers undertaking preventative maintenance and reacting to breakdowns on flood defence controls.

Our capabilities in maintaining river and flood defence areas include working in:

- Tidal conditions
- Over water and at height
- Confined spaces
- Treatment works
- Restricted access areas
- Heritage sites
- Sites of specific scientific interest

Sustainability

By the very nature of this team's activity, that is, extending the life of assets, we bring sustainability to your business.

We offer our service, both in isolated rural locations with little or no access and in challenging urban sites, as well as environmentally demanding areas. We are specialists in 'Framework' contracting within partnerships with our key customers including the Environment Agency.

Our Services include:

- Weedscreen and grab maintenance and repair
- Safety inspections and condition reporting
- Design, manufacture and installation of walkways, staircases and handrailing
- Provision and installation of flap valves and penstocks



ZERO HARM

Zero Harm Improvements

Additional to the basic overhaul considerations we investigate possible improvements to high risk areas associated with operating and maintaining large mobile plant.

The photo below shows a large wheeled bulldozer from Ferrybridge Power Station. The original cab access was outdated and located vertically down the side of the machine. We identified that the safest place for the access was over a rear mudguard. When the machine came to Derby for an overhaul we modified the mudguard by fitting steps and hand railing. A hinge was also fitted to allow the mudguard to swing out to allow access for maintenance.

A clever solution to out-dated ladder access - we modified the mudguard allowing for safer access by fitting steps and hand railing.



SECTION 9: Engineering & Maintenance Services



Case Study-Machine Overhaul -Ferrybridge Power Station Southern and Scottish Power

What is the challenge?

Large items of coal moving equipment are heavily used and critical to power station operation. After a number of years general wear and tear is a factor but more importantly these machines become unreliable. Coal moving equipment is essential to provide a steady stream of coal into the power station to sustain continuous provision of electricity to the National Grid.

What do we need to do?

Conduct a thorough inspection of the machine and provide a comprehensive report on the most cost effective way to engineer the solution for our customer in line with their budget.

How did we go about it?

The machine is basically stripped completely to a bare chassis and rebuilt using new/overhauled components.

What was the result?

- The result is a machine with
- Extended life
 - Increased productivity
 - Less downtime
 - Lower ongoing maintenance costs
 - Reduced risk to the station
 - Additional safety features
 - A cost effective solution for our customer

**What were the savings/
value added?**

The machine is supplied with a one year or 2000hr warranty.
The cost to overhaul against purchasing new equipment typically realises around a 50% saving.

**What did the customer
say?**

“We received the overhauled machine back on site by the agreed date, and are happy that the machine overhaul costs were kept within our budget” **Mick Foster - Coal Plant Manager, Ferrybridge.**

Rating



5



5



Engineering and Maintenance Services complete overhauls of machinery for various customers in our Derby workshop facility. Below is a schedule of work we complete on Terex TS40 motor scrapers for our power station customers:

- Completely strip machine
- Shotblast and prime all major chassis and superstructure components
- NDT all stress points on chassis and carry out remedial work if required
- Completely refurbish swan neck and saddle (including line boring if required)
- Remove and completely refurbish cab assembly
- Remedial repairs to panel work
- Completely refurbish apron and ejector
- Overhaul of both front and rear engines
- Overhaul front and rear transmissions
- Radiators and oil coolers refurbished
- Replace all PTO parts
- Replace hydraulic pumps
- Reseal/Repair all hydraulic rams
- Reseal/Replace all hydraulic valves
- Renew all hydraulic hoses

- Inspect all brake parts and renew as required
- Reline all brake shoes
- Propshafts refurbished
- Remove inspect and re-bearing and reseal differentials
- Replace wiring looms
- Replace all lighting and agree with customer any extra requirements for increased visibility and safety
- Reversing alarm and camera system installed
- Renew all air valves and pipework
- New autolube system fitted if requested
- Refurbish fire suppression system
- Replace cutting edges
- Fully paint machine to client specification
- Full 12 month or 2000hr warranty

The machine is stripped completely to a bare chassis and rebuilt using new/overhauled components.

Before



During



After



SECTION 9: Engineering & Maintenance Services



Case Study-Lucy's Mill Sluice Gate-Environment Agency

What is the challenge?

Lucy's Mill Sluice Gate is an automatic flood control structure near Stratford Upon Avon. The gate was reported as inoperative which substantially increases the risk of flooding to the town centre and surrounding areas.

What do we need to do?

We were required to attend site immediately in conjunction with electrical contractors to diagnose the problem. The fault was found to be a failure of the mechanical gearbox mounted on the top of the structure. We were required to install a pull lift system to allow the gate to be lifted manually as heavy rainfall was forecast over the coming weekend.

How did we go about it?

Due to the location of the gearbox scaffolders were immediately contacted to install a working platform around the sluice gate. Once in place we removed the drive shafts and inspected the gearbox which was found to be totally seized. The gearbox was removed and transported back to our Derby workshop facility where it was completely stripped and inspected. All the internal bearings were found to be in a poor condition with one in particular being completely seized. Parts were sourced locally to reduce cost and help in returning the gate into full operation as soon as possible.

What was the result?

The gate was fully operational within a relatively short space of time with the customer very happy to be in control of the water levels on the River Avon.

**What were the savings/
value added?**

On investigation of the fault we were able to identify that the gearbox was installed in the wrong position for its type. Although the position could not be altered we were able to advise a new preventative maintenance procedure to stop the fault re-occurring. Savings were made on the cost of parts sourcing locally rather than from the manufacturer.

Rating



5



5



What did the customer say?

“The Environment Agency personnel responsible for the asset were impressed at your efforts to repair Lucy’s Mill Sluice and have it back up and running so quickly. So, WELL DONE. Thanks from myself as well and that is praise indeed”.

Colin Barker Regional MEICA Engineer - Environment Agency

Engineering and Maintenance Services complete work for the Environment Agency on their flood control assets. The work ranges from minor daily repairs and safety inspections to more substantial project based work.

The scheme of work we carry out for the Environment Agency includes:

- 6 monthly PUWER inspections
- LOLER inspections
- Supply and install of stop logs
- Maintenance of weedcreens and grabs
- Manufacture and installation of walkways, steps and hand railing
- Maintenance and servicing of sluice gates

Before



During



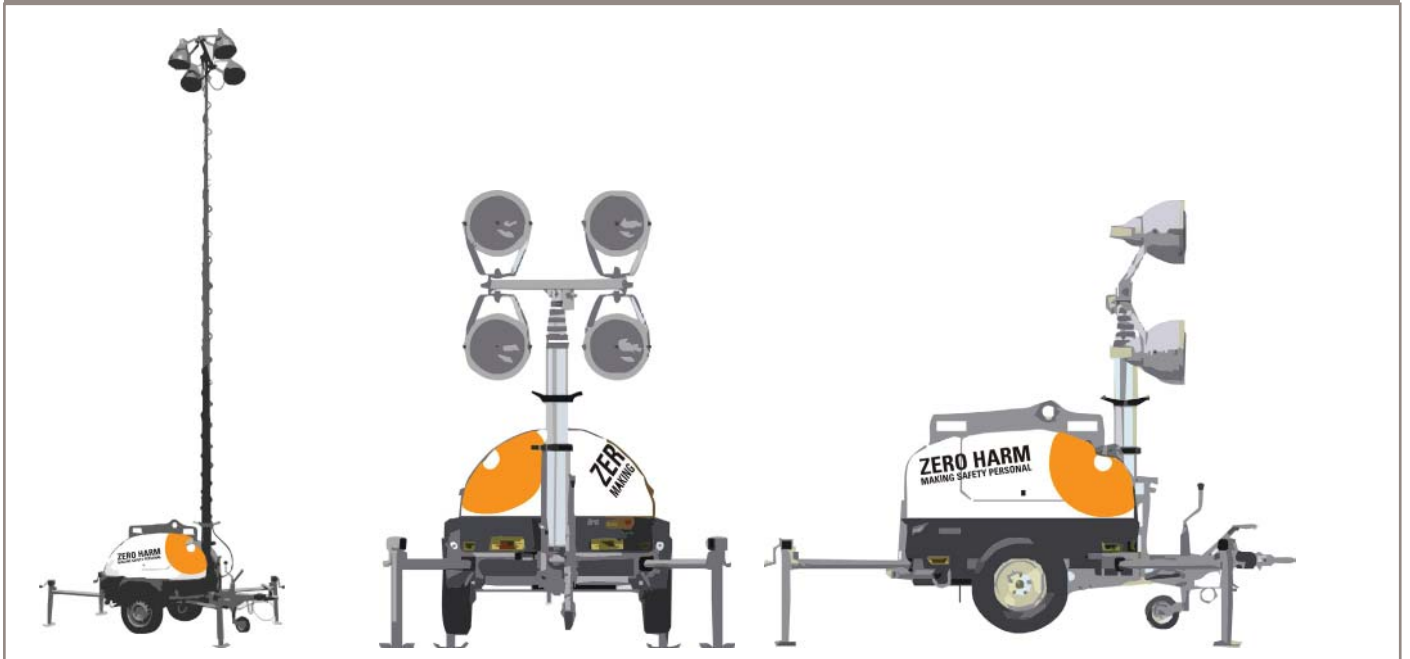
After



Ecolite



Environmentally focused lighting towers reduce carbon footprint and running costs by up to 80%

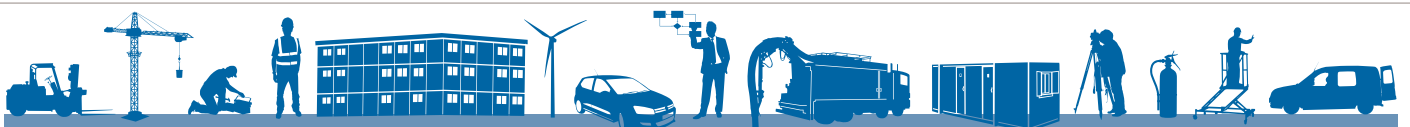


Ecolites are the ultimate energy efficient low carbon footprint lighting towers. Utilising the very latest in lighting technology-Ceramic Discharge Lamps focused through patented prismatic lenses.

Ecolites out performs all other conventional lighting sources. The high efficiency ceramic discharge technology produces high quality, flicker and glare free light and delivers massive saving in fuel costs. **Ecolites use only 0.5 litres of diesel per hour which equates to a saving of up to 80% compared with conventional lighting towers.** In addition this enables Ecolites to run for up to 170 hours continuously on one tank of fuel.

Benefits

- Long run time - up to 170 hours on one tank
- Safe working environment - reduced glare from ceramic discharge lamps and patented lens technology
- Quiet running - ideal for use at outdoor events
- Robust 9.1m hydraulic mast - able to withstand winds of up to 100km per hour
- Fully bunded base - 110% machine fluids containment
- Options include dusk to dawn auto switching and auxiliary power output



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