POWERING A FULL PLANT CONVERSION

Converting coal power into a fully compliant, optimised biomass plant.

CHALLENGE

To improve plant performance at Lynemouth Power Station, by supporting ongoing projects with technical advice and a wide range of products.

EFFICIENCY-DRIVEN SOLUTION

- High-performance solutions specified to increase plant uptime
- Pressure, temperature, level and flow solutions alongside the upgrade of positioners and valves
- Full technical and hands-on support to assist with implementation

PARTNERSHIP OUTCOME

- A bespoke flow solution to monitor overall plant efficiency
- Fully optimised, future-proof solution
- An integral partnership resulting in an optimum solution

TECHNOLOGY AND BRANDS

- Emerson Fisher-Rosemount
- Emerson Fisher Valves
- GE Panametrics

EFFICIENCY ENGINEERED | VALUE ENGINEERED | SAFETY ENGINEERED | PARTNERSHIP ENGINEERED | CONSISTENCY ENGINEERED

THE CUSTOMER AND BACKGROUND

Located on the Northumberland coast, Lynemouth Power Station was commissioned in 1972 to supply energy to an adjacent aluminium smelter. When this smelter was closed in 2012, Lynemouth began plans for a conversion from coal to biomass power generation. MJ Wilson has been closely involved in this conversion, especially in terms of instrumentation, and today the site's engineering team trust us to help them achieve optimised and consistent plant performance.

THE CONTEXT AND CHALLENGE

The site's engineers were tasked with ensuring the plant is always performing at peak operational efficiency. Their strategy was to undertake a gradual and selective replacement of instrumentation and valves, and we were invited to support them, providing product and engineering advice that gave the Lynemouth team certainty and peace of mind throughout the process.

OUR APPROACH AND SOLUTION

Our approach was to engineer a solution that would improve performance at every level of the plant – processes, equipment and people. Delivering this began with gaining an in-depth understanding of the customer's exact needs through regular team visits, during which we offered advice, guidance and hands-on support in growing the plant's capabilities. As our involvement grew, in tandem with these capabilities, we then initiated a substantial upgrade programme throughout the plant's systems.

This upgrade programme was performed collaboratively at every step: working with the site's own technical teams, we engineered the ideal suite of solutions to impact pressure, temperature, level and flow, alongside advising on optimal upgrades to positioners and valves. We also delivered specialist weights and measure specification solutions for oil flow, to positively impact operations and ensure full compliance – and to help Lynemouth's team get more out of their plant's performance in both the short and long term.

We were asked to aid with the development of a specification for a high-accuracy mass-flow solution for boiler main feed. Measuring how well the main boiler feeds are working, the flow performance equipment is directly linked to the overall efficiency and performance of the power station. While off-the-shelf products are generally available, none were able to meet the specific pressure and temperature demands of Lynemouth, nor its physical size. The only viable approach, therefore, was to create a bespoke solution using components from two of our key principles – Emerson and GE – along with a number of additional and specially designed components, including precision spools. We also arranged for bespoke UKAS calibrations to be undertaken to prove the accuracy of the solution.

> "MJ Wilson has shown total commitment to us right from the beginning, and their support – especially their willingness to be on site and help with implementation – has been every bit as valuable as the quality of their advice and solutions. Helping us minimise risk, they have been a big part of our success."
>
> David Broady
> Senior Systems Engineer at Lynemouth

MJ WILSON TRUSTED ADVISOR

Our engineers offered Lynemouth certainty and peace of mind that flowed through the whole process. Today we continue to engineer value and certainty as a key supplier of instrumentation and valves to the power station, supporting their on-going conversion to low carbon generation. We remain as dedicated as ever to delivering added value, advice and hands-on support to the plant's engineers.
Value Engineered. Efficiency Engineered. Partnership Engineered.

VALUE ENGINEERED

85% REDUCTION OF INSTRUMENTATION INVENTORY

EFFICIENCY ENGINEERED

90% IMPROVEMENT IN MAIN BOILER FLOW ACCURACY READING

PARTNERSHIP ENGINEERED

100% FULFILMENT OF TECHNICAL SOLUTION REQUESTS