RAILWEIGHT

advanced train weighing systems

Fast fit weighing system from Railweight keeps the coal wagons rolling at Ferrybridge Power Station

The fast fit installation of an in-motion rail weighing system from Railweight meant that Ferrybridge power station suffered no delays to its coal deliveries. Requiring no civil work, the company installed the Weighline system during the station's planned three-week closedown period so there was no loss of power generation.

A total of four Weighline systems were installed, which will monitor both inbound coal wagons delivering fuel for the station and empty outbound wagons.

The installation involved removing a section of track before welding in the section of transducer rail. There was no need for special civil foundations, so its installation caused minimal disruption.

Once installed, the system is extremely reliable and durable. It has an IP67 rating so the harsh environment caused by coal dust at Ferrybridge does not affect it. The system also has no moving parts, so it requires little or no maintenance.

Using the trade-approved system, the power station can accurately record and pay for the amount of coal delivered to the site. Three to four freight trains deliver a total of up to 5,000 tonnes of coal every day. Monitoring the amount of fuel delivered is a vital part of the power station's operation, to both control its costs and to monitor its ongoing operational efficiency.

Inbound trains typically have between 19 to 23 wagons. As it approaches the site on one of two rail lines, it stops at a signal and then proceeds towards the discharge hoppers at 1/2mp/h. As the train approaches the discharge hoppers, each wagon passes over a pair of Weighline transducers before emptying its contents. The empty wagons will then pass over a second pair of outbound Weighline transducers and leave the site.

Unlike a static weighbridge system there is no need to uncouple and weigh each wagon individually, so the Weighline system does not affect the delivery process. It uses wheel-weighing techniques that do not restrict the type or size of cars that can be weighed. It can also detect when a train stops and rolls backwards to avoid multiple weighing.

Continued...

View of Ferrybridge Power Station

Previous pit type rail weighbridges

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The Weighline system is linked to a PLC system at the power system, which sums up the weight of coal delivered by each freight train. This can be interfaced with a PC and other systems at the power station for further reporting – a possibility for the future.

Says Michael Foster, assistant fuel and by-product engineer at the station: "We needed a durable and reliable system that can record and check the amount of coal delivered to the site. Weighline meets this need and does not slow down the delivery of coal. It was also installed during a planned close down period for the station, so it did not affect the ongoing running of Ferrybridge."

Weighline benefits:

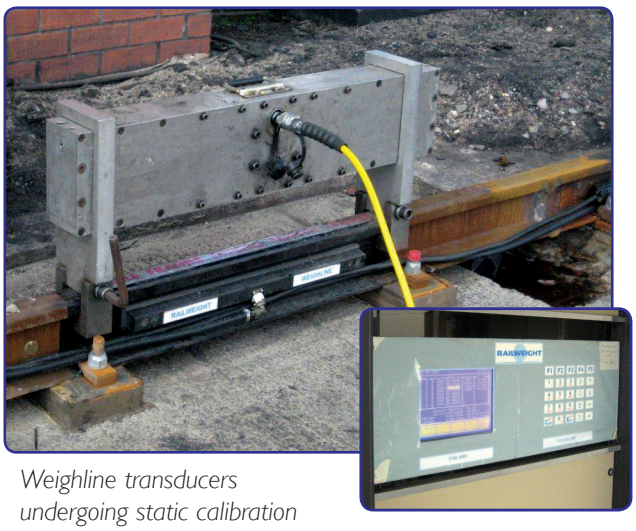
- Fast installation with no expensive civil and rail costs
- Provides precision data on train and wagon weights that can be interfaced with business systems via a PC
- Meets OIML R60 and R106 requirements for trade weighing applications
- Low ongoing maintenance costs

TECHNICAL

Weighline transducers

- Designed for train weighing applications, the Weighline transducers are manufactured from standard rail sections.
- These high performance transducers minimise the effects of lateral (side) loading and temperature.
- They produce highly accurate and repeatable results and can tolerate high dynamic overloads.
- With an IP67 rating, they are suitable for use in harsh environments.

Weighline transducer rails being installed



Weighline transducers undergoing static calibration
Inset: *TSR4000 dynamic weighing instrumentation*

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