Maintenance Services

Background

Over the last 10 years the way Network Rail manage and deliver maintenance on the UK railway has changed significantly. Since in sourcing maintenance in 2004 we have brought together 1,200+ maintenance staff across Britain. This achievement has contributed significantly to the overall improvement in the performance of Network Rail where we have:

- 1 million more trains per year and almost 50 % more passengers
- train punctuality up to 91 % with 500m more customers arriving on time
- 84 % passenger satisfaction rating
- reduced the cost of operating and maintaining its network from £6.47 to £3.62 per train
- reduced average possession times from 54 hours to 8 hours whilst improving quality and safety.

The Challenge

These record levels of performance have raised the expectations of our passengers, stakeholders and the UK government, who expect further improvements in terms of the safety of our workforce, passengers experience and train punctuality. To meet these demands we have committed to developing the range of skills in our workforce to help improve many aspects of our customer service.

There are many ongoing programmes within maintenance services to contribute to achieving the above, these include:

- the use of technology & innovation
- intelligent Infrastructure
- plain Line pattern recognition
- ORBIS
- asset management
- risk based maintenance and policies
- training and apprentice schemes.

How We Can Help

We have experience in delivering change within a unionised environment, whilst at the same time improving the levels of safety, reliability and performance.

We can tailor our support to meet your needs, including provision of:

- auditing and benchmarking of your maintenance organisation
- development of standard maintenance and works delivery
- review of maintenance regimes and identification of opportunities for the risk based maintenance
- identification of opportunities for the use of technology and automation
- development of bespoke training plans for the maintenance workforce
- advice on improving productivity through works planning/possession management.

Intelligent Infrastructure

Since the intelligent infrastructure concept was established in 2009, the programme has already been proven as technically sound through a successful pilot scheme on the Edinburgh to Glasgow route in Scotland.

Network Rail is now at the end of its phase one programme which has seen over 5,000 sets of points across the country fitted with condition monitoring, as well as 750 signalling power supplies.

National Maintenance Change Programmes

Phase 2A (2008) – National re-organisation of the maintenance organisation to reflect the operating routes and functions, this included:

- a new national organisation
- alignment of asset data to new routes
- removal of redundant data and systems.

Phase 2b/c (2011) - This restructure built upon the previous phase and use the experience of the previous 3 years to develop a common structure. This ensured we made better use of our people, that we undertook consistent working practices and helped us better control costs. The main benefits of this phase were:

- a standard maintenance and works delivery (capex) organisational structure
- a correctly sized organisation based on: assets, workload, task frequency and asset performance
- a more effective response organisation
- standard working practices for rostering employees and team size by task
- standard job descriptions and a competency framework for all frontline roles.

Risk Based Maintenance

Network Rail have implemented risk based maintenance programmes both at an asset level and for the whole UK railway system. We have developed bespoke strategies which have delivered planned preventative maintenance at a lower cost, targeted the most important components while increasing the reliability of assets by applying suitable maintenance regimes and targeting known areas of failure. All while increasing safety and enabling resources across multiple maintenance activities.

Plain Line Pattern Recognition (PLPR)

The PLPR system consists of an array of 7 linescan cameras, 4 lasers and 2 thermal cameras. The images from these are combined with track geometry data and processed using pattern recognition algorithms. This processing identifies potential defects. The system also uses the inter track spacing data to provide a report on ballast shoulder condition.