



Stranton to Hall Dene Signalling Renewals

Project

Stranton to Hall Dene
Signalling Renewals

Client

Network Rail, Route Asset
Management – Signalling

Location

York, UK

Start Date

2008

End Date

2010

Duration

18 months

Contract Value

£28m

Services Provided

Programme management,
signalling, train control &
telecoms, feasibility design

Background

This section of route, which runs parallel with the Durham coastline, was life expired. It was incurring increasing levels of maintenance intervention to deliver the expected performance levels.

Route performance and reliability had become very poor. The route is used by both train and freight operating companies. Passenger services run from Sunderland to Hartlepool. Freight is predominantly coal and nuclear waste.

The infrastructure to be renewed was controlled by six mechanical signal boxes. The objective of the project was to undertake a major signalling renewal programme, whilst at the time, enhancing route performance, reliability and capacity.



Scope of Works

This renewal involved:

- ▶ renewal of the lineside signalling infrastructure controlled by a new WESTLOCK® interlocking and WESTCAD® control and display system from the Ryhope Grange signal box
- ▶ closure of six signal boxes – Stranton, Clarence Road, Cemetery North, Dawdon, Seaham and Hall Dene
- ▶ use of different methods of train detection, i.e. medium voltage DC track circuits and Thales FieldTrac Az LM axle counters
- ▶ removal of existing footpath level crossings at Seaham and Dawdon and replacing them with a underpass and footbridge
- ▶ provision of a new buried cable route through the majority of the 30km project limits

- ▶ provision of a new Phoenix hot axle box detector system
- ▶ provision of a new signalling power supply and distribution system
- ▶ full renewal and re-control of Hall Dene level crossing
- ▶ management of multiple project contractors, including Network Rail maintenance teams and telecoms transmission designers.

Key Project Outputs

The project was delivered on time and within budget meeting the success criteria set out by the key stakeholders.

The project embraced the collaborative way of delivering works and was awarded the 'Highly Commended' accolade at the Network Rail Partnership Awards 2011.

The main outputs were:

- ▶ reduce operating costs through the closure of six signal boxes
- ▶ reducing the safety risk at level crossings through the closure of two footpath crossings and the renewal of two MCB CCTV crossings
- ▶ reducing the number of cable theft incidents by using buried cables routes

Network Rail internal resources were utilised in conjunction with the signalling contractor, Invensys.

The new signalling system uses the diverse FTN system for data transmission.