

INFORMED SOURCES e-Preview March 2015

This month's column includes a Special Report on the state of the signalling industry. Various concerns have been emerging over the last six months or so and I thought it was time to pull them all together.

Signalling in crisis

New traction for Central Line fleet

Harbury - all Brunel's fault?

I start with the main domestic contractors - Atkins, SSL and Siemens. These firms are currently negotiating claims for Variation Orders to sundry schemes which have subsequently left them out of pocket. According to Informed Sources, the total at issue is around £120 million.

These three companies were awarded 'framework contracts' by NR back in 2013, under which eight geographic regions each have primary and secondary contractors. But the contractors are struggling to cope with the resulting volume of work being let in the current Control Period. This is showing up in various ways including deferred commissioning and overruns.

At the Golden Spanner Awards last November I was introduced to Xavier Champaud SSL's General Manager. When I commented on his company's situation, with Gallic directness he attributed the problems to NR handing out too much work at once.

But that is not the whole story. Somewhere around the collapse of Railtrack in 2001, the major signalling contractors stopped recruiting trainees. Given the parlous state of the post-Hatfield industry, and coming after claims by Railtrack that signalling replacement was 'unaffordable', it was logical, if short sighted, not to train people the customer said you wouldn't need.

Uncertainty in the UK signalling market also affected job prospects. Senior signalling engineers were seeing vacancies in countries where railways still use British signalling principles and voting with their feet. As a result, by this time last year, the IRSE Newsletter was commenting that 'there never seems to be enough testing staff available at the right time with the right competencies to go around the various planned signalling schemes.'

In summary, record volumes of work have been funded for the next five years with a shortage of experienced people to carry it out.

And it's not just testers. At Ipswich last year design faults in a new signalling layout emerged during commissioning. According to Informed Sources, the problem was the absence of flank protection at one set of points.

Then there is the continuing slippage of commissioning dates. According to one industry data-base, over the last five years, 20 schemes have had commissioning dates 'slide to the right'. Sometimes this is due to re-scoping, which ties up skilled staff taking the scheme through the GRIP process all over again.

One

example of such dynamic rescheduling is the Cardiff Area Signalling Renewal (CASR) project - where I have a depressing Table of progress, or lack of, to date. Originally estimated to cost £212 million, this has now risen to £252 million. The increase is attributed to 'slippages in the delivery of critical path works in summer 2014'.

Western

Then there's the slow bicycle race between signalling and electrification on the Great Western Route Modernisation.

Last year Bristol area resignalling was due to be commissioned this year and Oxford-Didcot in 'Early 2016'. Six months on Bristol is now a year late while Siemens tell me that they are waiting on the Invitation to Tender for Oxford-Didcot which is currently being re-worked because of changes in scope.

Commissioning is now expected in early 2017.

Digital railway

Yet on this over-heating sector, short of experienced signal engineers on both sides of the contract, NR's Board is planning to leap over the limitations of existing signalling technology through the wonders of the Digital Railway.

There are two elements to the Digital Railway - Traffic Management (TM) and the European Train Control system (ETCS).

TM has been under development since 2008. The OJEU Notice, issued in June 2009, saw implementation within three years of contract award.

So after various twists and turns, detailed in this column, where are we now?

Well, NR is ready to place production orders and in September 2014, briefed the three potential suppliers, SSL, Thales and Hitachi, before issuing the Invitation to Tender (ITT).

It's all too complex to explain in this preview, but rather than buying the all-singing/all-dancing TM systems described in the column, NR is focusing on just what it terms Plan/Re-plan. This gives the ability to change timetables in real time.

National rollout will be through three tender packages. Each bidder was expected to submit a tender for all three packages.

According to NR a minimum of two packages will be awarded to two separate suppliers and a maximum of a package for each bidder. And we shouldn't have long to wait because a decision was expected by the end of March. Watch this space.

ETCS

Finally, there is the parallel on-going saga of the European Train Control System (ETCS). Currently, all eyes are on the bidding for Phase 1 of the ECML between London and Peterborough. This is going straight to ETCS Level 2 - well sort of.

Two contracts are being bid. Phase 1a, between Kings Cross and Wood Green, will overlay ETCS on the existing signals except for the Moorgate section which will be Level 2 without signals. This is due for commissioning in December 2018.

Phase 1b is Wood Green to Royston and Peterborough This will be full-on Level 2 with no lineside signals and is due for commissioning in February 2020. After that will come Phase 2 – Peterborough-Doncaster which is due to be commissioned in December 2020. But watch this space.

Meanwhile the Digital Railway programme is aiming to signal the network with ETCS Level 3 (moving block) in 15 years. But Level 3 is still only at the conceptual stage – although it will be possible to upgrade from Level 2 when it becomes available.

Does that remind you of anything? Railtrack and the West Coast Route Modernisation and moving block perhaps?

AC traction for the Vic Line

It all began back in 2009 when Hitachi won a contract to replace the traction inverters in South Eastern's fleet of Class 465/0 and 465/1 Networker EMUs. The primary aim of the exercise was to improve reliability, but it also allowed regenerative braking to be reinstated.

Having seen the conversion work underway, and been mightily impressed, I wrote in the March 2010 Informed Sources, 'So thanks to Hitachi, I may have seen the future – and it certainly works. And while not as sexy as new trains, repowering, say, both the Class 319 and 321 fleets would be an £80 million business.

Well, I was sort of right. Currently South West Trains is replacing the DC traction equipment on the Class 455 EMU fleet with Vossloh Kiepe AC drives. And, unlike the Class 465, each Class 455 is getting a complete power transplant with new inverters and motors.

And while nothing has happened on the Class 319s, Eversholt has awarded a contract to Vossloh Kiepe to fit a three phase traction package to the company's Class 321 demonstration unit later this year.

But the big news is that Transport for London has issued an OJEU Notice seeking expressions of interest in supplying replacement traction packages for the 85 eight-car Central Line 1992 Tube Stock (92TS) trains. These were built by BREL at Derby, with DC traction equipment supplied by a consortium of Brush Traction and ABB.

Each 92TS train is formed from four self-contained pairs with all axles motored. That equates to replacing 340 traction packages and nearly 2800 traction motors. Reading across from the Class 455 prices I reckon the contract will be worth at least £150 million and that does not include conversion costs.

350,000 tonnes of earth to shift at Harbury

e-Preview means I can update the report in the column on the Harbury cutting land slip. On 17 February, Network Rail said that the line between Leamington Spa and Banbury, will reopen by Easter. By the time you read this, well over 100,000 tonnes out of an estimated 350,000 tonnes to be removed, will have been shifted.

Source of the original failure was an unknown vertical geological fault at the top of the embankment. Remedial work, which had been underway for some four months before the slide, was based on known horizontal faults in the terrain.

This vertical fault resulted in a wedge-shaped section at the top of the embankment dropping around 13 ft, forcing the lower slope towards the tracks. This upper section is now being removed, creating a cavity at the top of the slope, with tracks for dump trucks connecting the platforms from which excavators are working. Excavated material is being dumped in a nearby field.

As you may imagine the passenger and freight operators, while welcoming the opening date with fixed smiles, are not that happy with the commercial impact of the closure on their businesses. Winning back Chiltern's London-Birmingham traffic from London Midland and Virgin is going to be the biggest challenge.

Roger's Blog

First of all, thanks to the readers who answered my plea for Railtrack's Track Access Charges in what we would now call CP1. Your paper archives are much better than mine! Greatly appreciated.

After last month's Blog was completed I was invited to the launch of the Rail Supply Group. This is a joint effort by the railway equipment suppliers and government to replicate the success of similar initiatives in the aviation and automotive industries to boost the competitiveness of British manufacturing industry.

It's a worthy aim, and is attracting serious government funding and support, but I have reservations about some of the aspirations. I have a feature article at the mental planning stage on the subject of how the UK rail industry, which could build and equip the Hong Kong Mass Transit Railway, got into its current diminished state.

Co-Chairman of the RSG is my old chum Terence Watson, UK President of Alstom. At the beginning of February I went to the IMechE to hear him present the George Ramshaw Curry memorial lecture.

George was the long serving Director of the Railway industry Association who took me under his wing when I returned to the industry in 1976. For once, the topic and scope of the lecture was worthy of the man being celebrated. Terence ranged widely over many factors affecting the rail market, nationally and globally, before introducing the RSG. George would have loved it.

Last week I had another classic ECML trip – belting along at 125 mile/h, enjoying an East Coast 'full English' while the sun rose over frosty East Anglian fields. I was on my way to York for an interview with NR Route Managing Director Phil Verster and a briefing on how the management of his business has been transformed. I think you'll enjoy the resulting article in a few months' time.

Next week, on Thursday 5 March, I am giving the Sir Nigel Gresley Lecture at the IMechE headquarters in London. The title is 'East coast traction – the Gresley heritage' and will centre on the three great locomotive engineers whose creations followed Sir Nigel's A4s. Full details on the society website <http://gresley.org/meetings>.

Incidentally, on the subject of Sir Nigel, I was disappointed to see that the IMechE has removed, or blanked over, the portraits of some of its famous past presidents in the lecture theatre. I've always enjoyed Sir Nigel keeping an eye on me as I scribbled away during countless lectures and seminars over the years. If the great man is not on show when I take the podium harsh words will be said,

On 18 March there is a conference on 'The future of rail signalling: the transition to ERTMS'. This also covers Traffic Management and could

be lively - especially after my 'Signalling in crisis' analysis, where I am not alone in my views on TM and ETCS.

So, now to finish my lecture and get on with some analysis of vehicles weights and Variable Track Access charges.

Roger