

INFORMED SOURCES e-Preview October 2015

This was one of those months when the lead story in the column changed almost at the last minute. I was going to open with my impressions of the Vivarail Class 230, but then initial details of what was likely emerge from Sir Peter Hendy's review of Network Rail's enhancements programme became available and, as you can see below, the Class 230 was shunted into second place.

CP5 enhancements programme in ruins
Class 230 confounds cynics
GWML electrification – hunting the frogs
How I didn't get to Newton Aycliffe

Even before the review by its newly appointed Chairman was announced it was obvious that much of Network Rail's enhancements programme for control Period 5 could not be delivered on time or to budget. And that emerged even before CP5 was 18 months old. Sir Peter has a difficult task. Network Rail's income for CP5 is fixed at £38.5bn, but he also has to take the 'reputation of Government' into account in swinging the affordability axe.

According to his terms of reference, in prioritising work he also has to take particular account of 'interfaces with other infrastructure programmes and the need to deliver the required passenger and freight benefits, franchise or rolling stock commitments'.

So that looks like robbing smaller enhancement to feed the Great Western boiling frogs. Other high profile schemes currently ranked as affordable are, obviously, Thameslink and Crossrail, plus East-West Rail phase 1 and the additional work required to support the introduction of IEP on Great Western, aka 'IEP readiness'. More detail in the column

Unaffordable

So which schemes could be consigned to Sir Peter's 'unaffordable in CP5' category? Well obviously the Trans-Pennine and Midland Main Line electrification projects. Other 'probables' are also outlined in the column and a sure sign that things are really desperate is the appearance of IEP readiness on the ECML in this category.

When the bad news breaks, probably in October, expect calls to identify those responsible for creating and accepting the CP5 High Level Output Specifications (HLOS) in the first place. Since Network Rail is now part of DfT the finger could point at the Office of Rail & Road for not stopping government walking off the cliff.

Here's a quote from ORR's final determination for CP5 on the affordability of the HLOS: 'On the basis of our latest analysis, we consider that both the England & Wales and Scotland HLOSs can be delivered for the public funds available'. No dubiety there

Quandary

But what has really put ORR in a quandary is the way it became apparent that NR was struggling to deliver its commitments so soon after the start of CP5. At its March 2015 board meeting ORR decided that it 'would not take precipitate action in response to NR's failure to deliver their ([CP5] business plan on time'. The Board agreed it would be 'inappropriate' (as in embarrassing) for ORR to change its expectations after only the first year of CP5.

Instead ORR has left it up to NR's board and executive to 'find a way to deliver the settlement they had signed up to'. I suspect an unstated political reason, for this hand-washing: NR's board admitting failure and taking flak might divert attention from ORR's complicity in signing up to the impossible dream in the first place.

But DfT can't just cut back to whatever Sir Peter reckons can be delivered for the money. A minister will have to write to ORR explaining that the Government's reasonable requirements for CP5 have changed and please will you reassess NR's revenue requirements: in other words, can we have an interim review?

Meanwhile, note that NR's functional heads have also been told to assess a range of cost-saving scenarios; in the case of track, the more-demanding are considered deeply concerning

Class 230 in the metal

Informed Sources Fourth Law commands 'When in doubt build a demonstrator'. While it is easy to rubbish a concept, something in the metal demands objective criticism.

During August Mr Walmsley and I were among the 195 guests who visited the Quinton Rail Technology Centre to examine Vivarail's first conversion of a D78 Tube Stock vehicle into a Class 230 Diesel Electric Multiple Unit and have a ride on the test track. In 'Pan Up' Ian has covered ambience and the market while I provide the technical description.

Introducing the Vivarail project in the December 2014 column, I admitted to being in a quandary. On the one hand a rival D78 stock conversion seemed a complete non-starter. On the other hand, at Vivarail Adrian Shooter had assembled a team of engineers for whom I have the highest regard.

So I wrote a technical description of Vivarail's proposal, expressed some reservations over the practicality of the underfloor Ford automotive engines and reserved further comment until I could see the D-Train in the metal. Some readers were less charitable and asked why I hadn't said what I really thought of the concept.

For our test run we bimbled around the Quinton track reaching a maximum speed of 30-35 mile/h. The five cylinder engines purring away under the floor were less noticeable than, say, a Cummins in a Meridian. When we started power pick-up was smooth and vibration free and the ride was agreed by my fellow travellers to be better than a Pacer (not difficult). You can find the sound level measurements in Mr Walmsley's column.

Engineering

However, my main interest was in the workshop where conversion of the other two vehicles for the demonstration unit was advanced. With the second powered vehicle up on stands it was possible examine the underfloor equipment layout and the column has an illustrated guide to what goes where and how.

There was one disappointment. It was not possible to look inside one of the engine modules produced by Revolve Technologies. However, Vivarail subsequently provided a photograph, which gives an indication of the packaging.

Early criticism of the Vivarail project focused on the lack of crashworthiness of the cab ends. But from inside the cab the safety cage is massive and has been beefed up following the crash test. Mr Walmsley reckons protection is superior to a Pacer and could even be better than the Class 150 front end.

Spend.
So far Vivarail has spent around £4million on the project and it shows in the quality of the engineering. Based on the capital rental figures provided by Vivarail I estimate the cost of a converted Class 230 vehicle at around £800,000, roughly half the price of a putative new DMU.

Certification of the demonstrator three car Class 230 is scheduled by the end of this year. Testing in passenger service will follow 'in the new year', initially on the Plymouth-Gunnislake branch fulfilling a requirement in the First Great Western Direct Award franchise agreement.

This has exposed some interesting internal DfT politics. Rail Minister Claire Perry, who is clearly not a Vivarail fan, claimed in a recent written answer that the obligation in the FGW franchise agreement covers only an initial feasibility study. According to Claire, the franchise agreement makes clear that any proposals for a trial that might derive from that report would be subject to a separate decision by the Secretary of State and would be subject to initial examination confirming likely viability.

Well, FGW inspected the first vehicle back in July and has begun planning for the trial. So it looks as though 'likely viability' has been confirmed and someone in New Minster House has given the go ahead. As ever, is it Claire or the civil servant who drafted the reply the one out of the loop?

GWML electrification cost increase
As you might expect, there has been no official response to last month's comparison of the current Great Western Main Line Electrification with the 1980s scheme on the East Coast Main Line. However, readers have been forthcoming with information on boiling frog colonies on the GWML as observed from the sharp end.

A classic example, via a civil engineering chum, concerns bridges. For example, it was assumed that bridge substructures and approach embankments would not require major work when decks or arches had to be modified to obtain clearance for the overhead line electrification equipment. But in several cases, re-designing a bridge to current design codes required major strengthening and stabilisation of abutments and longer approach embankments.

But what really caught my eye was the retrospective application of a requirement in the Interoperability Regulations. This specifies that bridge parapets over a railway with 25kV ac OHLE must be 1.8m high instead of the current 1.5m. Apparently Network Rail failed to seek a derogation.

More illuminating, in terms of project management, was the letter sent out in June to trackside households between Maidenhead and Reading warning about forthcoming piling work. According to the letter, 'to achieve piling efficiencies' NR has had to remobilise the piling equipment to several different locations at short notice because 'design delivery has not met our stringent production requirements'. So instead of starting at one end and working along a stretch of track night after night, the HOPS machine has been flitting hither and yon between sites. Not very efficient. Overall, I expect that the near four-fold increase compared with the ECML electrification costs will have a multiplicity of causes.

How I didn't get to Newton Aycliffe
In last month's blog I was looking forward to attending the opening of the new Hitachi facility at Newton Aycliffe. Instead I spent the day at my desk.

It is tempting for people like me, with the privilege of a column in a leading magazine, to have a whinge about the inconvenience caused by a missed connection. But equally, as someone embedded in the industry, finding out why the connection was missed can be illuminating. My journey plan was 07.01 off Welwyn Garden City. Arrive Stevenage 07.12. Connect into the 07.28 Virgin Trains to York. Change at York for Darlington.

But due to signalling problems between Kings Cross and Finsbury Park my train started 10 minutes late and lost a further 4 minutes at Finsbury Park. It stayed 14 min late to Hatfield where it was regulated for another 4 min and finally lost a further minute after I got on.

As a result, as my train pulled in to Stevenage at 07.31 the late running 07.28 was at the adjacent platform with its doors open. By the time I was hurrying across the platform the doors were closed and the right away given.

In the column I discuss with drivers the possibilities of recovering time on today's railway with its emphasis on 'professional driving', give the official narrative to support the realtimetrains log and draw some conclusions.

So hopefully not a self-indulgent whinge, but an overdue look at driving and regulation issues that will become critically important when Thameslink and Crossrail start ejecting 24 trains/h onto already overcrowded railways at both ends of their respective central tunnels.

Roger's Blog
Even with the extra day's writing from not going to the Hitachi do there's been more than enough to keep me busy, to the extent that I had to miss my planned day at the IRSE's ASPECT15 conference. Still, I hope to make up for that with the IMechE conference on ERTMS in mid-October. And, as always, press conferences and visits have a habit of turning up.

It will be interesting to see whether there is a media briefing when Sir Peter Hendy's report on re-planning enhancements is released. The known trouble makers from the trade and technical press may just happen to be overlooked!

Back in the day, DfT practice was to have the main session for national media with the minister, followed by a separate briefing for us techies with the civil servants who might actually understand our questions. This quarantine meant that we got useful information while not providing the national reporters with new ammunition.

Not that a quiet spell is unwelcome as I have to finish my critique of the Rail Supply Group's strategy for a resurgent industry. The research is all done - with some interesting results, some of which surprised me.

Which show that we are all vulnerable to rediscovering what we knew. Unfortunately readers seem to have better memories, resulting in questions along the lines 'Is this the Roger Ford who said (fill in as appropriate contradictory quotation) in 1985'?

Of course, on a corporate scale that is dangerous, as we see with the current tendency to spend millions on research re-inventing the wheel. More on that, space allowing, in next month's column.

Another event I had to miss was the lunch at the National Railway Museum to launch my old friend Murray Hughes' new history of high speed trains 'The second age of rail'. Combining high production values, some stunning photographs and proper maps with Murray's inside knowledge, this global review of the development of high speed railways opens with some vivid reporting from the day in 2007 when French Railways raised the rail speed record to 574.8km/h.

Recommended for your own bookshelf, but the accessible writing style makes it a potential Christmas present for anyone you know who is generally interested in railways.

Meanwhile I have to come up with the headline for my overview in in the 10th edition of our annual publication. Tradition decrees '2016 year of....' 2015 was 'Year of uncertainty' and 2014 'Year of stability?' Lucky I put in that question mark.

Current thinking for 2016 is 'Year of retrenchment' but any better suggestion will be blatantly plagiarised.

Roger