



OFFICE OF RAIL REGULATION

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Rt Hon Patrick McLoughlin  
Secretary of State  
Department of Transport  
Great Minster House  
LONDON  
SW1P 4DR

*Dear Secretary of State*

In your letter of 10 February 2014 you asked for our views on the potential for £1bn cost savings that would result from DeltaRail's claims regarding an alternative approach to traffic management. As the independent economic regulator, we are well placed to advise you on this as we looked into some of the issues during the periodic review and have access to information not publicly available. In the course of this work we did not need to examine Network Rail's original procurement process, which the company has itself reviewed; the conclusions of which were published by the Transport Select Committee.

In the latest periodic review of Network Rail, we examined the company's wider network operating strategy, which includes the consolidation of staff into new operating centres and re-signalling as well as the introduction of a new traffic management system. Building on the Rail Value for Money study, which did not make specific recommendations for any additional savings over and above Network Rail's operating strategy, we commissioned further evidence from which to draw conclusions. We found that Network Rail's proposed CP5 cost reduction of 17% for signallers was in line with domestic and international benchmarks. We specifically considered whether Network Rail could accelerate the strategy and concluded that Network Rail had struck the right balance between various constraints to come up with an optimal programme for the strategy it had chosen. It is in this context that we reviewed DeltaRail's proposition.



INVESTOR IN PEOPLE

On 9 April 2014, DeltaRail presented to ORR a substantial amount of analysis that explained its claimed cost savings could be made in CP5 if Network Rail adopted its product rather than that of the existing suppliers it has contracted with. This approach would require Network Rail to stop the current procurement process and re-tender for an alternative approach to traffic management. Since then ORR has sought clarification from both Network Rail and DeltaRail to enable us to draw conclusions based on the evidence available.

As you can see from the attached report we examined each of the assumptions contained in DeltaRail's financial model. In order to validate them we have reviewed commercially sensitive data from DeltaRail, Network Rail and Network Rail's suppliers. We have also examined the latest Network Rail programme and spent time visiting DeltaRail, as well as the Network Rail suppliers' model office to see the equipment currently being trialled by Network Rail's suppliers.

Our first key conclusion is that DeltaRail could not start first deployment in May 2014 as it has proposed. A more realistic timescale for Network Rail to commission DeltaRail through a legally compliant procurement process would be March 2015. Assuming a four month rollout (based on DeltaRail's advice) this would mean that it would complete deployment in July 2015. This is only one month earlier than Network Rail's current programme which, following trials, has now been brought forward from 2017 to 2015. DeltaRail's proposed savings were largely based on an assumption that it could roll out its system three years earlier than the other suppliers.

DeltaRail's analysis made assumptions about the length of time it would take for Network Rail's existing suppliers to move to roll-out their systems. We have examined these assumptions and found them to be inconsistent with the timing planned in practice. This, combined with the need to re-tender to award a legally compliant contract to DeltaRail, means that any timing advantage of switching to DeltaRail's product would be of the order of one month, rather than the three years it assumed. This substantially erodes the claim of £1bn potential savings.

Cancelling the existing procurement process from 2010 would expose Network Rail to challenge and claims for financial compensation from both the existing contractors and possibly from other unsuccessful bidders. In addition, such a move could undermine Network Rail's credibility as a reliable client.

Our other main conclusion is that DeltaRail's assumption that its technology can uniquely provide a greater span of control for each workstation is not now accurate. Its assumption was based on an understanding of what was

included in the invitation to tender issued in 2010. However, our inspection of the Network Rail suppliers' model offices demonstrated that the product developed so far can theoretically control as much as (and more than) that proposed by DeltaRail. We also saw that the systems being developed will not lock in proprietary equipment.

In conclusion, we did not find evidence to support DeltaRail's assumptions underpinning the potential cost savings and therefore we cannot support the claim that '£1bn' worth of cost savings could be realised with DeltaRail's alternative product. As we said in the final determination for PR13, based on our international benchmarking, we think that Network Rail will be at a leading position compared to a selection of European comparators when it completes its programme. It is, however, up to the company to decide what suppliers to work with and how best to progress these.

This concludes our review but it would be helpful to have a discussion with you or your officials on next steps. Our normal practice is to make public analysis of this kind.

Yours  
Anna Walker

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cc: Stephen Hammond  
Baroness Kramer  
Philip Rutnam  
Clare Moriarty  
Nick Bisson  
Cavendish Elithorn

## **DeltaRail Traffic Management – Cost Savings Review**

### **A note from the Office of Rail Regulation to the Secretary of State, 19/5/14**

#### **Introduction**

Network Rail (NR) has embarked upon a change programme to alter the way it controls and operates its infrastructure. Part of this programme is the introduction of a new traffic management (TM) system. NR issued an OJEU Notice in June 2009 for a TM framework supplier. DeltaRail (DR) was eliminated at the first of two Pre-Qualification stages in June 2011. We understand that no objection was raised by DR during the formal contract standstill period.

In August 2012 NR announced that Hitachi Rail Europe, Signalling Solutions (a joint venture between Alstom Transport and Balfour Beatty Rail) and Thales UK had been awarded framework contracts to work with NR, to design and develop a traffic management system, which after testing and evaluation would then be rolled out across the railway. NR is currently at the point of announcing first deployment. In parallel DR has developed its own alternative product separately.

On 10 February 2014 the Secretary of State wrote to ORR seeking its views, as the economic regulator, on the potential for significant additional cost savings that would result from Network Rail implementing DR's product rather than the one Network Rail's current suppliers have developed. In order to respond to this request ORR spent a day at DR's offices receiving a detailed briefing on the assumptions behind its savings claim. In order to objectively and independently evaluate the DR claims, ORR has considered each of the assumptions in the DR model in detail, seeking further information and clarification from both DR and NR on a confidential basis.

#### **DeltaRail's financial model**

The DR financial model is based on 5 components:

- 1) Operational Headcount
- 2) Performance Benefits
- 3) Possession Planning Benefits
- 4) Avoidance of Vendor Lock in
- 5) Socio Economic benefits
- 6) Capital Expenditure

#### **1) Operational Headcount**

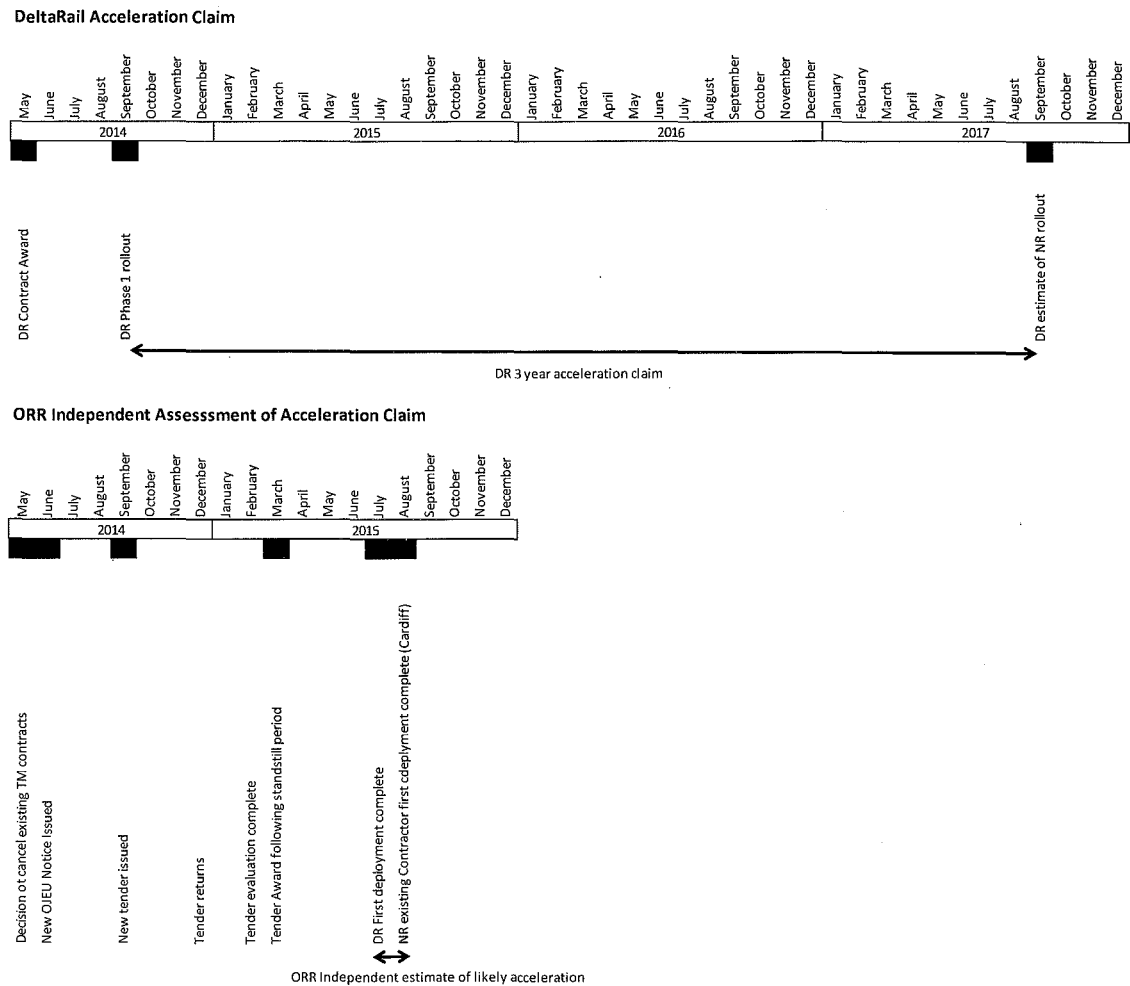
As part of a clarification to an ORR question, DR sent ORR an email on 28 April 2014 which stated that it had assumed "that an instruction could be forthcoming in May, meaning that we could commission in September 2014". DR's model makes an assumption that NR's

Traffic Management supplier would not be in a similar position until September 2017. This three year acceleration (See Figure 1) is fundamental to all of the sections of the claimed savings categories.

ORR does not consider that a May 2014 award is possible, since a more realistic timeline, required to comply with OJEU procurement law, would require: cancellation of existing contracts; writing of a new ITT; going out to tender; evaluating tender responses and finally a standstill period before contract award. Based on similar procurement processes, ORR estimates that this is probably at least a 10 month process, although NR claims that it would be substantially longer. Legal challenge from the existing contractors and / or other unsuccessful bidders could prolong this timescale.

This would move a DR contract award date to March 2015 at the earliest. DR confirmed in correspondence to ORR that it would then need four months for a first deployment rollout giving a date of July 2015 for first deployment. The current detailed programme ORR has obtained from the existing NR TM supplier for first deployment in Cardiff shows that it could complete in August 2015. This means that the acceleration claimed by DR is reduced from three years to a number of weeks.

**Figure 1**



Thereafter DR has assumed other suppliers could match its rate of roll out.

The span of control for a workstation determines the total number of signallers NR needs. DR claims that its solution can deliver a span of control of 500 Signal Equivalent Units (SEU), per workstation, which is a proxy for the amount of infrastructure controlled in terms of points, signals etc. The original NR tender in 2010 required a bidder to have a system that could provide at least 250 SEU per workstation. We understand DR has therefore assumed that this is the maximum any of the existing NR TM framework suppliers could deliver and hence its product would need half the number of signallers, which would represent a significant cost saving, but raises equally important industrial relations and safety issues.

Clearly other suppliers have also developed their product in parallel with DR. In order to validate DR's claim, ORR visited the Thales model office and saw for itself a workstation in development that could control 880 SEUs. Whether such a span of control is desirable either from a trade union, safety or ergonomic point of view is a different matter that Network Rail needs to consider when the technology goes live, especially in complex areas with numerous

CCTV controlled level crossings. However the existence of such capability by the existing NR suppliers disproves the unique benefits stream that DR has claimed.

## **2) Performance Improvement**

NR literature places an estimate of 0.4% PPM saving from the implementation of TM. DR has estimated from Schedule 8 payment data that a 0.4% PPM saving from TM would save £103m for each year of acceleration. In contrast, ORR calculations show that based on the 2012/13 Period 13 MAA which was 90.9% PPM against a target of 92.1% PPM, a 0.4% PPM actually equates to £45m per year. Based on a more realistic acceleration timescale (identified in section 1) this substantially reduced rate of saving only applies to about one month (rather than three years) and hence would be a small proportion of the amount DR claims.

In addition, this is not money that is totally lost to the DfT as the funder of the rail industry. For Train Operating Companies (TOCs) that are in revenue support, any increased Schedule 8 payments received by a TOC from NR count in its subsidy calculation. NR Schedule 8 payments therefore directly affect the amount of subsidy the DfT pays to run un-profitable train service groups, which it chooses to provide for wider social benefit reasons.

## **3) Possession Planning**

DR quoted a case study at Edinburgh and Yoker which has shown that the use of the DR possession planning tool would save £1.5m over 284 possessions in a year. Bringing in TM three years earlier would mean DR could deliver these possessions planning savings earlier. ORR has seen similar tools from the three existing NR TM model offices and hence this is not unique to DR. Shortening the real acceleration from three years to about one month again means this saving is reduced substantially.

## **4) Vendor lock in**

The NR Supply Chain Strategy released in 2013 contains indicative sums for some sub-components of TM. DR claimed that it had developed its own version of these and hence could provide a relatively small one-off saving. NR has demonstrated that it has already spent the money or has committed contracts for the model offices in order to develop the product they need to operate the railway rather than what DR wants to give it and hence this is no longer available to be taken as a saving.

The largest saving claimed by DR under this heading is based on the DR assumption that only their own product is based on Commercially Available off the Shelf (COTS) technology and that other suppliers would lock NR into 1990's technology, significantly increasing the life-cycle costs. NR's suppliers told us that they have used commercially available, off the shelf, non-proprietary hardware. To validate this assumption ORR has visited the existing NR suppliers' model office and removed the front panels of the workstation to be able to

confirm that its servers are in fact also based on non-proprietary COTS hardware, hence this saving assumption is not valid.

## **5) Socio – economic benefits**

In addition to the Schedule 8 benefits described in 2) DR has included in its model an additional cost to the UK for the delay to achieving 0.4% PPM saving from TM. Using the Passenger Demand Forecasting Handbook (PDFH) the lost time cost to passengers of the 0.4% PPM that TM will bring is £150m p.a. However as per section 1) above, the benefits of the DR proposal is not actually an acceleration of three years, so the claimed saving is significantly reduced.

## **6) Capital Expenditure**

DR has provided ORR with its commercial SEU unit rate to deliver full TM functionality. In its model DR has used publicly available numbers to create an equivalent NR unit cost for comparison. We understand this has been derived using a total spend quoted in the NR CP5 Supply Chain document divided by the number of SEUs DR estimates a NR supplier could deliver in CP5. DR further validated their unit cost assumption by estimating the value of the Romford and Cardiff contracts and dividing those by its maximum for a NR supplier of 250 SEU. ORR has been granted confidential access to the NR tender costs and we have confirmed that the NR and DR unit rates are comparable and hence there is no significant saving.

## **Conclusion**

ORR has been in a position to provide independent validation of each of the detailed assumptions in the DR financial savings breakdown, being party to commercially sensitive information from both DR and NR on a confidential basis. The key assumption which affects all parts of the model is the acceleration claim of three years. In further correspondence to ORR on 30 April 2014 DR has included a summary of an independent review carried out for it by Exeter University. A key statement in this report is “In short, the benefits claimed by DeltaRail are dependent upon being able to implement your TM solution earlier than Network Rail’s current plans.” It is our opinion based on the time-lines included in section 1) above that the three year acceleration claim cannot be substantiated and is more realistically a few weeks, meaning that the ORR estimates the potential costs saving in the order of £10m rather than £1billion<sup>1</sup>.

This level of savings would need to be offset by the potential compensation costs to the existing three TM suppliers who have legitimately procured contracts and who have invested in their own products in conjunction with the NR/industry test and evaluation team. It must

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<sup>1</sup> At DR’s presentation on 9/4/14 this was revised to £2.310bn in CP5 and further revised to £2.440bn in CP5 following a subsequent meeting on 24/4/14 to discuss operational headcount.



be noted that, in any new competitive tendering process, there can be no guarantees at this stage that DR would be successful. Cancelling the existing contracts could also expose NR to claims from about 60 unsuccessful bidders who committed resources to their own bids in response to the original OJEU tender notice.

Our conclusion is therefore clear, in that we found DR's assumptions implausible which means that our opinion is that the proposed benefits are substantially reduced compared to those claimed.