

**Written evidence submitted by National Union of Rail, Maritime and Transport Workers (RMT) (RTC0030)**

The National Union of Rail, Maritime and Transport Workers (RMT) welcome the opportunity to submit our views as part of TRANSCOM's inquiry into Rail Technology, specifically signalling and traffic management.

The RMT is the largest of the rail unions and the only union that represents all grades of rail workers, including those that install and use new track and signalling technology on the national rail network. We organise 80,000 workers who are employed across all sectors of the transport industry, rail, maritime, bus and road transport, with the exception of aviation. We negotiate on behalf of our members with over 150 employers.

**1. RMT participation in research into the impact of the introduction of new technology into the railway sector.**

From 2009 to 2011 the RMT participated in a European Transport Workers Federation research project AIMESC which looked at the introduction of new technology in the European Railway Industry and aimed to provide an anticipation of its impact on Employment and Social Conditions. (AIMESC - **A**nticipating its **I**mpact on **E**mployment and **S**ocial **C**onditions.)

The report looked particularly at the impact change would have on train drivers, traffic controllers and train maintenance staff. It reported that with the introduction of ERTMS/ETCS train drivers would become closer to airline pilots with dramatic increases in the number of skills they would have to develop and an increase in mental workloads. While signalling staff have experienced greater change in their role they would also be more expected to deal with new technology in new ways.

Train maintainers reported the opposite, with them experiencing de-skilling in their work.

The study found that equipping workers to deal with new technology will require extensive training, which will be long and expensive, especially for train drivers and traffic management staff. Workers will need to be informed of the changes and any new impact on employment will have to be negotiated with the trade unions.

RMT believe, in line with the study's findings, that it will be necessary for the employers and the trade unions to develop a national training and development plan for workers which covers interventions on employment, training and health and safety.

Other areas that will need to be looked at will be increases in mental workload and the impact this may have on individual workers health, especially in the transition phase from old technology to new technology. It will also be likely that if workers do develop new skills and contribute to increased productivity this will form part of any future pay negotiations.

The full report is available at: [http://www.etf-europe.org/files/extranet/-75/35029/AIMESC%20Final%20Report%20\(EN\).pdf](http://www.etf-europe.org/files/extranet/-75/35029/AIMESC%20Final%20Report%20(EN).pdf)

It is RMT members, as train drivers, train maintainers, signalling workers and infrastructure maintainers who will be most closely involved with the day to day operation of the new technology coming to the GB rail network.

Within this submission we will make representation on:

- The changing status of the UK's ERTMS/ETCS roll-out programme.
- Missed opportunities to roll-out ERTMS.
- RMT's members' role in working with and operating new technology.

## **2. What is ERTMS/ETCS**

ERTMS is a new train signalling and traffic management system created to gain capacity and speed improvements and to make rail travel safer by using a unique signalling and communication standard throughout Europe. Trackside equipment send (e.g. via balises, radio, etc.) information to the train where it is interpreted by an on-board computer to set a dynamic speed profile to be respected by the train while running. The new technology that has been deployed in the UK and elsewhere in Europe will have a dramatic effect in the way railways are managed, with noticeable impact over employment levels and quality of work. Currently, ERTMS is deployed over a small portion of European railways, most of them new high speed lines.

However, while countries such as Spain are currently operating 2000 km of ERTMS/ETCS railway, in the UK we have only managed to have 215 km of ERTMS/ETCS railway on the Cambrian line. While for example the Madrid Barcelona high speed route in Spain operates around 25 trains a day, operating at speeds of 250 kph in each direction the Cambrian line, on its busiest section can only manage 1 train an hour in each direction from 6 in the morning until 8 at night on a sparsely populated rural route.

## **3. ERTMS/ETCS Roll-out Plan**

The Uff-Cullen inquiry recommended in March 2001 that ERTMS should be provided by 2010 for all trains running at speeds above 100 mph in the UK. By 2005 in an HSC Paper (HSC/05/69) <http://www.hse.gov.uk/aboutus/meetings/hscarchive/2005/260705/c69.pdf> it was noted that Uff-Cullen's timetable had not been achievable, neither had a 2003 proposal that fitment would be put back to 2015. The paper reports that the Trade Unions had called for an enhanced and faster fitment programme. The paper also noted concerns that an opportunity to fit ERTMS/ETCS on the West Coast Main Line

upgrade had been a missed opportunity. Currently it is envisaged that roll-out to the entire GB railway will not be achieved within our life time. Even Network Rail are talking about 2060 and beyond – in other words CP15 when we will still have less than 10% of routes fitted.

Currently the national programme involves roll-out of ERTMS/ETCS on the Great Western Mainline from Paddington to Oxford and Paddington to Bristol by 2018. On the East Coast Mainline from Kings Cross to Doncaster by 2020. The Midland Mainline from St Pancras to Leicester by 2022 and fitment on Thameslink and Crossrail. Even if these plans are stuck to the GB rail network will have less than 1000 km of ERTMS/ETCS deployment by 2022.

An examination of the history of the national roll-out plan is very hard to accomplish mostly due to the haphazard way the railway has been financed and managed by successive governments since privatisation. The fragmentation of the industry, the uncertainty of the franchise system and the short term approach of the railways since privatisation has seen plans come and go, to change and fluctuate almost on an annual basis.

Other missed opportunities where ERTMS/ETCS could have been deployed earlier and better planned include HS1 which was built using the TVM signalling system at a time when ERTMS/ETCS technology was being deployed elsewhere in Europe.

The Crossrail track consists of three sections. The Central Operating Section (COS) runs from a point between Portobello Jcn and Westbourne Park in the west, and Abbey Wood in south- east London, and from Stepney Green Jcn to Pudding Mill Lane Jcn. This is all new railway and signalling for which Communications Based Train Control (CBTC) moving block signalling is to be deployed. At the western end, Crossrail trains join the Great Western main line (GWML) and operate under the supervision of ETCS level 2 as an overlay to existing lineside signalling to Airport Jn and Heathrow terminals. For trains continuing along the GWML to Maidenhead/Reading, conventional signalling with Automatic Warning System (AWS)

/ Train Protection Warning System (TPWS) will be used west of Airport Jn. So train drivers will operate over conventional signalling, ERTMS/ETCS and ATO on the same journey.

RMT do not believe that Crossrail's operators either understand nor have they adequately assessed the impact these transitions will have on the operation of the railway or, more importantly the impact it will have on the staff who will operate the trains on a daily basis.

#### **4. GSM-R**

While on the one hand the rail industry does not seem capable of managing ERTMS/ETCS technology the reverse cannot be said of the industry's rollout for GSM-R which was accomplished in January 2016. GSM-R had to be fitted due to the removal of older radio systems of CSR and NRN. The industry and operators had deadlines to meet before the heritage systems were effectively 'switched off' for the rail industry and fitment had to be completed on time. The RMT participated in the industry working group on GSM-R roll-out for the train communication system.

#### **5. Digital Railway Timetable**

There appears to be no timetable for digital railway expect for glossy brochures with vague proposals. RMT believe there are a number of reasons behind this.

Firstly Network Rail have problems with their own internal management style especially with major change projects that does not allow for a consistent approach to nationally important programmes. Senior managers experience working conditions in which they can arrive for work on Monday morning to be told they are doing a new job, starting immediately with little or no notice least of all consultation with the individual involved. Projects such as the West Coast Main Line and the Thameslink programme are delivered late and over budget.

Or projects are resourced but fail, such as the current Roles and Responsibilities programme – which was designed to improve track worker safety where a budget of £55 million has been spent with no achievement whatsoever to show for the money and the project has had to go back to the drawing board.

Major enhancement programmes such as the Great Western electrification scheme are bedevilled by delays and missed timetable landmarks. To suddenly expect Network Rail to achieve a time bound approach to the fitment of new technology is unrealistic.

## **6. Network Rail EDP and the Hendy Review**

Following the Hendy report, NR published an updated Enhancements Delivery Plan in January. This announced a cut in CP5 expenditure on the ETCS Cab Fitment fund which will push the project into CP6:

*The CP5 fund value has been revised from £194m to £133.5m in 12/13 prices, with the remainder of the original CP5 fund value now planned for CP6.*

The objectives of the Cab Fitment Fund include retro-fitting open access operators for ETCS compliance:

- *to facilitate the inclusion of migration to ETCS operation as a requirement in new franchises through funding and supporting the development of First-in-Class design solutions;*
- *to engage with Freight Operators and Open Access passenger operators to fund and co-ordinate the retro-fitment of ETCS on-board equipment to their fleets and the consequential changes to their business to support operation with ETCS; and*
- *to ensure sufficient ETCS-equipped engineering vehicles and on-track machines are available to assure the continued maintenance of the routes equipped with ETCS.*

The cut to Cab Fitment Fund has implications for Network Rail's ETCS Infrastructure work in CP5 and CP6. We still do not know what those implications are as they are still under review through the existing ETCS Governance arrangements:

The ERTMS Programme Board oversees the ERTMS programme activities including the ETCS cab fitment projects and consists of representatives from DfT, Freight Operating Companies, Train Operating Companies, RSSB, ATOC, Network Rail and ORR (as observers).

The projects affected by ETCS Infrastructure work include:

- preparing the ECML and GWML for introduction of the new IEP fleet, including traction and power supply.
- fitting out and integrating the Western Rail Link between Heathrow Terminals 4 and 5 and Paddington with ETCS compliant systems.
- East Coast Connectivity Fund (cut by £50m and parts of it pushed back into CP6).

Network Rail's obligations under ETCS Infrastructure remain:

*to develop, co-ordinate and synchronise projects in order to commission Level 2 ETCS train control systems on the East Coast Main Line (ECML) and Great Western Main Line (GWML) whilst ensuring the optimum industry efficiency and benefit is achieved.*

*ETCS level 2 systems will:*

- *reduce the cost of signalling renewals (when installed with no lineside signals);*
- *reduce the cost of signalling maintenance (when installed with no lineside signals);*
- *improve safety through continuous automatic train protection (ATP);*

- *provide the opportunity for enhanced operational capability and increased capacity (when installed with no lineside signals); and*
- *afford regulatory compliance to Railway Interoperability Regulations (2011).*

Network Rail's main priority will be for ETCS on IEP routes. Any delays would push back the introduction of the IEP fleet which are currently scheduled for introduction on the GWML in December 2017 and on the ECML in 2018 (no month stated).

The cuts to the East Coast Connectivity project also look like they'll have a detrimental effect on passenger and freight services. The East Coast Programmes Board will prioritise the works undertaken as part of that project and clear communication of those decisions would be useful.

On the GWML electrification work, electrification beyond Cardiff has been kicked into CP6. Electrification from Bristol Parkway to Cardiff, originally scheduled for 2017, is now expected to be completed by December 2018 and the first electric trains introduced in CP6. These dates remain subject to progress on other projects, including signalling renewals and remodelling Bristol East Junction and Oxford. By running over schedule with electrification, the new bi-mode IEP fleet won't be able to use electric capacity on sections of the GWML for at least one year in the case of the line to Cardiff. As stated above, the new IEP fleet is due to enter service on the GWML in December 2017.

## **7. Transfer of signalling responsibilities to Rail Operating Centres**

Although the building of the physical asset of the ROCs has been completed RMT members who work in these buildings are not being supported by management in the transition. RMT and Network Rail reached an agreement of full involvement in the fitting out and in the ergonomics of the ROCs at a national level but this has not been followed at a local level.



Of particular concern to the RMT was the co-location of signallers (who require a quiet distraction free work area) and traffic control (where the environment is noisier). RMT also had concerns that Lord Cullen's recommendations out of the Ladbroke Grove rail crash that signallers should be supervised and should have non-essential tasks removed from their role have not been implemented. At RMT's insistence when we reported our concerns to Network Rail the company undertook an audit which highlighted a number of concerns:

- *It was identified that the two ROCs audited had interpreted the ROC Specification differently; this may be because since the specification was written there may have been business changes, and other material changes that affected compliance. It is necessary to establish a common understanding and application of the specification at the ROCs.*
  - *There was either a lack of communication or misunderstanding of how the Cullen Recommendations needed to be considered and integrated into the design and operation of the ROCs. It is necessary to make sure all Cullen recommendations relating to signallers are understood and included in business as usual.*
  - *There appears to be a lack of consistent application of the ROC Specification into the design of the operational environment for signallers. It is necessary that the ROC specification is interpreted and applied in the same way by all ROC Management.*
  - *During the visit to Manchester ROC the noise from the control area seemed excessive which the signallers on duty complained as distracting.*
  - *During the visit to Manchester ROC the lighting on the operating floor was demonstrated as being either too bright or too dim to provide adequate lighting.*
  - *There was no formal briefing process for Signal Passed At Danger in the operating area at either ROC. It was also unclear whether written information was available for the actions to be taken following a SPAD at Three Bridges ROC.*
  - *There is an apparent lack of consistent approach to the provision of training and simulation. There are further concerns over the lack of refresher training for GSM-R.*

- *There was no means of assessment of essential and non-essential tasks to be carried out by the signaller. The issue is that non-essential tasks can be distracting with the potential for not focusing on the safety of the operation of the work station.*
- *There was no consistent approach on when a Supervisor should be provided.*

All of these problems will need to be resolved before new technology can be brought into the workplace.

## **8. Legislative and other Government Action**

There is no doubt in the RMT's mind that all of these problems are as a result of the privatisation and fragmentation of the rail industry since 1993. We further believe the best way to resolve these problems would be to firstly re-nationalise the railway thereby giving the railway a national unified structure where strategic decision would be better able to be reached. Secondly the introduction of new technology could be designated a national priority and the money provided for it as a major infrastructure project to enhance UK industry and the national good.

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