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29 March 2019



Mr Andrew Hall
Deputy Chief Inspector of Rail Accidents
Cullen House
Berkshire Copse Rd
Aldershot
Hampshire GU11 2HP

Dear Andrew,

Freight train collision near Logan, East Ayrshire, 1 August 2015

I write to report¹ on the consideration given and action taken in respect of the recommendation addressed to ORR in the above report, published on 13 July 2016.

The annex to this letter provides details in respect of the recommendation. The status of recommendations 1&2 is '**implemented**'; recommendation 3 is '**implementation on-going**' and recommendation 4 is '**progressing**'.

We will publish this response on the ORR website on 29 March 2019.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Oliver Stewart', written in a cursive style.

Oliver Stewart

¹ In accordance with Regulation 12(2)(b) of the Railways (Accident Investigation and Reporting) Regulations 2005

Initial consideration by ORR

1. All 4 recommendations were addressed to ORR when the report was published on 13 July 2016.
2. After considering the recommendations ORR passed all four recommendations to Freight Operating Companies and yellow plant operators asking them to consider and where appropriate act upon them and advise ORR of its conclusions. The recommendations were passed to the following FOCs and yellow plant operators:
 - Amey
 - Babcock Rail
 - Balfour Beatty
 - Colas Rail
 - DB Cargo
 - Devon & Cornwall Railways
 - Direct Rail Services Ltd
 - Freightliner
 - GB Railfreight
 - Harsco
 - Volker Rail
3. Recommendations 3 and 4 were also passed to Network Rail. The consideration given to each recommendation is included below.

Recommendation 1

The intent of this recommendation is to reduce the risk of trains colliding in possessions or work sites due to excessive speed. By reducing train speed through compliance with the rules, trains will take longer to transit through possessions and work sites, which may in turn promote shortening the length of possessions and work sites.

Each freight operating company should have a driver competency management system that includes monitoring of its drivers when driving trains within both possessions and work sites to:

- identify and address any non-compliances with the rules for driving in possessions and work sites; and

- assess how well its drivers are able to proceed at caution when travelling in a possession or work site and address any observed deficiencies.

This recommendation may also apply to other organisations who operate on-track machines in possessions and work sites.

ORR decision

4. Each of the FOC/yellow plant operators has provided details of how their existing procedures meet the requirement of the recommendation. The FOCs and yellow plant operators have worked together through the Mechanical & Electrical Engineering (M&EE) group, in collaboration with RSSB to consider the term 'proceeding at caution'. This work culminated in the publication of the document *Code of Practice for Management of OTM Speeds within T3 Engineering Possessions*.

5. This Code of Practice contains guidance and generic good practice for the management of OTM speeds within T3 Engineering Possessions. It sets out the minimum requirement for these arrangements to minimise the risk associated with working into, within and leaving T3 engineering possessions and provides individual companies with a framework that they can tailor according to local circumstances.

6. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, FOCs and yellow plant operators in collaboration through the M&EE have:

- taken the recommendation into consideration; and
- has taken action to implement it

Status: Implemented

Information in support of ORR decision

7. On 26 October 2016 Amey provided the following initial response:

Amey in agreement with our OTM partners within the M&EE group – response.

The Competency Management System (CMS) relating to train operations activities undertaken by Amey and others in the M&EE group are in accordance with the Railway and Other Guided Transport System (Safety) Regulation 2006 (ROGS) requirements.

These are designed to deliver safe working through the effective control of risk.

The M&EE group members have a number of internal Policies, Procedures and Standards in place to manage this risk.

For example

Training

- *T3 underpinning knowledge written assessment*
- *T3 simulation sessions as part of Driver Rules Training*
- *T3 practical assessment/feedback sessions during Driver Training*

Continuing monitoring

- *OTMR monitoring*
- *Practical Mandated T3 assessment as part of Driver assessment cycles.*

The core activity undertaken by Amey in association with the M&EE is working within engineering possessions and worksites.

When carrying out works within engineering possessions and worksites the additional proactive monitoring (OTMR review) has been undertaken following the recent events.

This additional monitoring has not identified any adverse trends to date with Amey train drivers.

However, further work has been undertaken in collaboration with the RSSB on the term 'proceeding at caution' and with particular regard when a possession of the line is undertaken. To supplement this, the M&EE group via TORG membership, had an action to produce a brief that would support "proceeding at caution" within an Engineers possession of the line, T3. This was produced with assistance from the RSSB and accepted at the September 2016 TORG meeting.

It was discussed by the M&EE Group the difference in factors that may make it more difficult for FOCs in such situations, differences such as the weight and length of the trains and the effect that the track gradient could have with the braking capabilities of loaded freight trains. This can differ considerably from the braking capabilities of OTM's.

It was raised by the ORR at the TOMSC on the 12th July that reference to the length of possessions and the need for Network Rail to consider shortening the length of possessions should be considered. Amey and the other OTM operators in the group supported this.

It was felt by the group that should "change" proposals be identified then such proposals should be assessed, approved, consulted and communicated in advance of any implementation. This must be in a structured and organised manner.

8. On 19 October 2016 Babcock provided the following initial response:

The Competency Management System (CMS) relating to train operations activities undertaken by Babcock and others in the M&EE group, are in accordance with the Railway and Other

Guided Transport System (Safety) Regulation 2006 (as amended). These are designed to deliver safe working through the effective control of risk.

Babcock has a number of internal policies, procedures and standards in place to manage this risk.

For example

Training

- *T3 simulation sessions as part of driver rules training*
- *T3 practical assessment/feedback sessions during driver training*

Ongoing

- *OTMR monitoring*
- *Practical mandated T3 assessment as part of driver's assessment cycles.*

The core activity undertaken by Babcock is travelling and working within engineering possessions and worksites.

When carrying out works within engineering possessions and worksites, the additional proactive monitoring (OTMR review) has been undertaken following Logan.

This additional monitoring has not identified any adverse trends to date.

*However, further work has been undertaken in collaboration with the RSSB on the term 'proceeding at caution' and with particular regard when a possession of the line is undertaken. To supplement this, the M&EE group via TORG membership, had an action to produce a brief that would support "proceeding at caution" within an Engineers **possession of the line, T3**. This was produced with assistance from the RSSB and accepted at the September 2016 TORG meeting.*

It was discussed by the M&EE Group the difference in factors that may make it more difficult for FOCs in such situations, differences such as the weight and length of the trains and the effect that the track gradient could have with the braking capabilities of loaded freight trains. This can differ considerably from the braking capabilities of OTM's.

It was raised by the ORR at the TOMSC on 12 July 2016 that reference to the length of possessions and the need for Network Rail to consider shortening the length of possessions should be considered. Babcock and the other OTM operators in the group supported this.

It was felt by the group that should "change" proposals be identified, then such proposals should be assessed, approved, consulted and communicated

in advance of any implementation. This must be in a structured and organised manner.

9. On 17 October 2016 Balfour Beatty Rail provided the following initial response:

The Balfour Beatty Competency Management System (CMS) relating to train operations activities (in common with other members of the M&EE group) do currently address this recommendation and in accordance with the Railway and Other Guided Transport System (Safety) Regulation 2006 (ROGS) requirements were designed and implemented on the risks identified via the operations undertaken.

The M&EE group members have a number of internal Policies, Procedures and Standards in place to manage this risk during training and on-going monitoring such as:

- T3 simulation sessions as part of Driver Rules Training;*
- T3 practical assessment/feedback sessions during Driver Training;*
- On-going OTMR monitoring;*
- Practical Mandated T3 assessments as part of the Driver's on-going assessment cycles.*

These CMS elements address the core activity undertaken by Balfour Beatty and other members of the M&EE of working within engineering possessions and worksites with On Track machines and Plant. This additional monitoring has not identified any adverse trends to date.

In addition to this standard practice for M&EE members, further work has been undertaken in collaboration with the RSSB on the term 'proceeding at caution' with particular regard to when working within possessions.

To supplement this, the M&EE group via TORG membership, had an action to produce a brief that would support "proceeding at caution" within an Engineers possession of the line, T3. This was produced with assistance from the RSSB and accepted at the September 2016 TORG meeting.

10. On 25 October 2016 Colas Rail provided the following initial response:

Colas Rail undertakes its train operations in engineering possessions in accordance with the relevant Rule Book module requirements in particular Module T3 "Possession of a running line for engineering work". Colas Rail Services operates a suite of competency management system (CMS) procedures including a train operations section dedicated to safe train operations including working within engineering possessions for the purposes of maintenance activities including repair and alteration to the infrastructure and ballast train activities.

Colas Rail Services operates in compliance with the company's TO2 suite of train operating procedures and risk assessments. Colas Rail Services train drivers undertake train driving activities in accordance with Railway Group

Standards and company CMS. Train Operations procedure T02-208 “Driver Basic Training and Competence Assessment” includes a section concerning engineering possession driving where drivers have to pass a competence assessment on knowledge gained, recruited staff who hold train driver competence have to demonstrate their knowledge and understanding of engineering possession working. Drivers are subject to periodic assessment and monitoring as detailed in procedure T02-301.

Drivers have a personal copy of procedure T02-208 “Professional Driving Handbook” which includes a section on roles and responsibilities of persons working within possessions. In addition, drivers have access to procedure T02-402 “Personal Track Safety for Accessing & Egressing Network Rail infrastructure”, this procedure details the roles and responsibilities of persons within possessions and that drivers/operators must not start work until such time as a safety brief has been provided, Monitoring and assessment of drivers is undertaken by the following:

- *Train Operations Manual procedure T02-9052 “T3 Possession Driving Assessment”*
- *assessment of driver knowledge of T3 arrangements through discussion and driver participation during the stated assessment cycle as per CMS requirements;*
- *unannounced site visit by line managers;*
- *on-going training and competency assessment;*
- *downloading of information from data acquisition systems; and*
- *radar speed checks.*

11. On 8 November 2016 DB cargo provided the following initial response to all recommendations:

DB Cargo have in place within its Supplementary Operating Instructions (SOI's) the 5/15 rule, which confirms our company stance on the matter and mitigation of the risk of a collision in a worksite / possession.

Our SOI's have been briefed to all DB Cargo drivers and records are retained in our CMS.

DB Cargo has issued a revised company standard to mandate checks of worksites and possessions, which includes operational safety issues such as monitoring the speed of train via a OTMR download. These reports are then shared with the Professional Head of Operations to monitor compliance. Our standard mandates a minimum of 48 checks per annum, based on our current ratio of Safety Assurance Managers who undertake the safety checks.

The DB Cargo Professional Head of Operations (Operations Standards Manager) is also the chairman of RFOG and therefore we have been sharing

our actions taken with the wider industry, including NR.

12. On 28 October 2016 Devon & Cornwall Railways provided the following initial response to all recommendations:

DC Rail has been part of industry consultation group set up by RFOG who have undertaken to produce a ACOP (RFOG 002 Movements within T3 Possessions) to provide guidance on prevention of further collisions such as that occurred at Logan (and other recent possession collisions). DC Rail will adopt the ACOP and make any necessary changes to its SMS in due course.

The ACOP is now at draft 2 stage and due to go to NFSG for endorsement next week on the 1st November and if endorsed DC Rail will implement the guidance by 30th November. Additionally, DC Rail will re-brief all relevant staff of the existing rules regarding the definition of driving at caution, driving at a speed which is cognisant with the vision of the railway ahead and capable of being able to stop clear of any obstruction viewed.

13. On 11 October 2016 DRS Ltd provided the following initial response:

*DRS have reviewed their Competency Management System and made suitable amendment to particular performance criteria which is aligned to monitoring train driver performance in engineering worksites and possessions. The amendments to the CMS are in relation to the DRS rule book change implemented on the 15th July 2016 giving instruction on the maximum permitted speeds **possession maximum speed 15MPH, worksites maximum speed 5MPH.***

The DRS rule change will permit more in-depth driver monitoring and will assist in the identification of any non-compliance during operational activities in possessions and worksites, including assessment of driver ability to proceed at caution for prolonged periods.

14. On 27 October 2016 Freightliner provided the following initial response:

Immediately after the initial findings of the investigation Freightliner introduced random data recorder downloads of trains working in possessions and worksites to show compliance with driving at caution. Also additional rides and site visits from local managers were stepped on services working in possessions and worksites. These records are kept on a database managed by Operations management. Freightliner has also shared these data recordings with Network Rail for their impact risk assessment analysis for the introduction of 5/15 rule and what affect that would have on productivity of the possessions work.

15. On 3 October 2016 GB Railfreight provided the following initial response:

GB Railfreight professional driving handbook (part of the GB Railfreight General Operating Appendix and issued, trained and briefed on a regular basis to all Drivers) already covers movements within possessions, including a 20 mph in possession and 5 mph in worksite rule. This has been changed from the 1st September 2016 to a 15 mph / 5 mph in accordance with the Network Rail safety instruction.

The latest safety brief currently being delivered to all traincrew also covers these changes and has a full section on Proceeding at Caution.

GB Railfreight assesses our drivers working in possession in accordance with our CMS. These include downloads of the OTDR equipment, both for routine assessment and random compliance downloads. In addition, the GB Railfreight Regional Management Teams carry out monthly T3 possession checks to ensure that the sites are being operated in the safest manner to protect our workforce. The GB Railfreight commercial team hold regular review meetings with Network Rail and safety issues highlighted by these safety inspections are escalated accordingly.

16. On 21 October 2016 Harsco Rail Limited provided the following initial response to all recommendations:

Harsco Rail has discussed the RAIB Logan report and recommendations (regarding OTM movements in possessions and worksites) with the other OTM operating companies represented at the M&EE OTM Operations sub-group and the conclusions and responses are contained in the attached document.

Harsco Rail is in agreement with the contents of the document except for the proposed speed limits (25mph in possession and 15mph in worksite).

Harsco Rail has concerns that the combination of (a) lower brake performance and (b) older style headlights fitted to the older stoneblowers require a maximum speed of 15mph to enable the driver/operator to stop the machine in the distance illuminated by the headlights.

Harsco Rail will therefore continue to apply the 15mph possession and 5mph worksite speed limits until further research into forward illumination has been undertaken.

We recognise the fatigue caused by long periods of driving at very low speed and consider that the correct solution is to shorten the possessions and the worksites. In the interim guidance is being provided to driver/operators regarding management of fatigue in this situation, for example, stopping every 15 minutes and taking mild exercise in the cab, or exchanging duties with another competent staff member if one is available in the cab.

17. On 21 October 2016 VolkerRail Ltd provided the following initial response:

The VolkerRail Competency Management System (CMS) relating to train operations activities (in common with other members of the M&EE group) does currently address this recommendation and in accordance with the Railway and Other Guided Transport System (Safety) Regulation 2006 (ROGS) requirements were designed and implemented on the risks identified via the operations undertaken.

VolkerRail and the wider M&EE group members have a number of internal Policies, Procedures and Standards in place to manage this risk during training, delivery and ongoing monitoring such as:

- T3 simulation sessions as part of Driver Rules Training;*
- T3 practical assessment/feedback sessions during Driver Training;*
- On-going OTMR monitoring;*

- *Practical Mandated T3 assessments as part of the Driver's on-going assessment cycles.*

These CMS elements address the core activity undertaken by VolkerRail and other members of the M&EE of working within engineering possessions and worksites.

This additional monitoring has not identified any adverse trends to date.

It was discussed by the M&EE Group the difference in factors that may make it more difficult for FOCs in such situations, differences such as the weight and length of the trains and the effect that the track gradient could have with the braking capabilities of loaded freight trains. This can differ considerably from the braking capabilities of OTM's.

It was raised by the ORR at the TOMSC on the 12th July that reference to the length of possessions and the need for Network Rail to consider shortening the length of possessions should be considered.

In addition to this standard practice for M&EE members further work has been undertaken in collaboration with the RSSB on the term 'proceeding at caution', with particular regard to when working within possessions. To supplement this, the M&EE group via TORG membership, had an action to produce a brief that would support "proceeding at caution" within an Engineers possession of the line (T3). This was produced with assistance from the RSSB and accepted at the September 2016 TORG meeting.

Recommendation 2

The intent of this recommendation is to take action in the short term to reduce the risk of a misunderstanding (missing or incorrect information) when drivers are given instructions for making a movement from a signal protecting a possession, within a possession or within a work site.

The freight operating companies should collaborate to produce a common form which will then be issued to all freight train drivers to record the instructions briefed to them when making:

- any movement into, within or out of a possession;
- movements into, within or out of a work site (other than short distance shunting movements and movements made during the work activity)

This recommendation may also apply to other organisations who operate on-track machines in possessions and work sites.

ORR decision

18. The FOCs and yellow plant operators worked together through the M&EE group have adopted a common form for drivers to record their conversations with the PICOP and ES/SWL.

19. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, FOCs and yellow plant operators in collaboration through the M&EE have:

- taken the recommendation into consideration; and

- has taken action to implement it.

Status: Implemented.

Information in support of ORR decision

20. On 26 October 2016 Amey provided the following initial response:

Amey in collaboration with other members of the M&EE group have discussed the importance of this recommendation with Network Rail via the Suppliers Safety Working Group (SSWG) chaired by the Supply Chain Operations function of Network Rail. It has been agreed that up to date information and accurate information should be communicated between all possession staff, particularly train operations and possession management staff.

OTM suppliers currently use work orders (roster), WONs, Phires forms (work sheets) and during real time operations within worksites have a NR representative on board the OTM.

Various forms options have been discussed, such as the form that has been introduced by one FOC's, but agreements has not yet been reached on its final design and process due to the complexities of the movements undertaken by OTMs. However, the M&EE would support an industry review of the form to establish if it is fit for purpose or could be adopted accordingly.

When reviewing incidents, it is apparent that communications between possession management staff is often a contributory factor and due to this being a difficult area to monitor, it is suggested that a review is undertaken to improve communications in this area. The M&EE group would support this action.

21. On 19 October 2016 Babcock provided the following initial response:

Babcock has discussed the importance of this recommendation with Network Rail via the Suppliers Safety Working Group (SSWG) chaired by the Supply Chain Operations function of Network Rail.

It has been agreed that up to date information and accurate information should be communicated between all possession staff, particularly train operations and possession management staff.

OTM suppliers currently use work orders (roster), WONs and Phires forms and during real time operations within worksites have a COSS representative on board the OTM. Various forms options have been discussed, such as the form that has been introduced by one FOC, but agreements has not yet been reached on its final design and process due to the complexities of the movements undertaken by OTMs. However, the M&EE would support an industry review of the form to establish if it is fit for purpose or could be adopted accordingly.

22. On 17 October 2016 Balfour Beatty Rail provided the following initial response:

Balfour Beatty Rail in collaboration with other members of the M&EE group have discussed the importance of this recommendation with Network Rail via the Suppliers Safety Working Group (SSWG) chaired by the Supply Chain Operations function of Network Rail. It has been agreed that up to date information and accurate information should be communicated between all possession staff, particularly train operations and possession management staff.

OTM suppliers currently use work orders (roster), WON's, Phires forms (work sheets) and whilst in the worksite have a NR representative on board the OTM. Various form options have been discussed, such as the form that has been introduced by some FOC's, but agreement has not yet been reached on its final design and process due to the complexities of the movements undertaken by OTMs. The detail of this form and an agreed way forward will now sit with the M&EE group to establish what is required and ensure a fit for purpose process can be adopted accordingly.

When reviewing incidents, it is apparent that communications between possession management staff is often a contributory factor and due to this being a difficult area to monitor and it therefore is suggested that a review is undertaken to improve communications in this area. The M&EE group would support this action.

23. On 25 October 2016 Colas Rail provided the following initial response:

Train movements into possessions and worksites are exiting worksites and possessions form part of train drivers training and assessment for both OTMs and freight trains. Drivers are rostered by the relevant planning section to ensure that drivers are supplied with as much information as possible before commencement of a shift including WONs, and nature of work to be carried and location. It is recognised that the safety critical information passed between drivers and those persons within possessions who hold authority to issue such information must be of a high standard to avoid miscommunication between the various parties, Colas Rail Services is aware of this issue and places an emphasis on communication during assessments of drivers. The introduction of the 5/15 mph rule is seen as a positive industry move in the reduction of collisions within T3 possessions.

Colas Rail Services will work within the industry to help establish a common briefing form for drivers to enable the recording of instructions provided within possessions to be recorded and see this proposal as being a positive step.

The Colas Rail Services Rail Operations Standards Manager along with Rail Services colleagues attend both the M&EE operations group and RFOG group and are therefore aware of current initiatives on the reduction of the risk of collisions within possessions. Colas Rail Services understands that collisions within possessions is a shared responsibility between all interested parties and will work towards the creation of a suitable form with industry colleagues.

24. On 11 October 2016 DRS Ltd provided the following initial response:

DRS immediately following the accident at Logan introduced as mandatory to their Traincrew an T3 engineering record of train movement form. DRS have also shared these forms with all other Freight Operating Companies during the industry workshops held, which aims are to reduce collisions in engineering possessions and worksites. The DRS form captures all operational movements and communications associated with entering, movements within and exiting engineering T3 possessions.

25. On 27 October 2016 Freightliner provided the following initial response:

Freightliner has attended all the meetings of the Reducing the risk of a collision in T3 working group and has adopted the agreed form produced by that group.

Freightliner has briefed all Train drivers on this form and completed copies are kept on a train drivers operational file. The form is titled FOI 12A.

26. On 3 October 2016 GB Railfreight provided the following initial response:

GB Railfreight has introduced an electronic version of the DRS form. This is credited in the RAIB report.

27. On 21 October 2016 VolkerRail Ltd provided the following initial response:

VolkerRail in collaboration with other members of the M&EE group have discussed the importance of this recommendation with Network Rail via the Suppliers Safety Working Group (SSWG) chaired by the Supply Chain Operations function of Network Rail. It has been agreed that up to date information and accurate information should be communicated between all possession staff, particularly train operations and possession management staff.

OTM suppliers currently use work orders (roster), WONs, Phires forms (work sheets) and during real time operations with in worksites have a NR representative on board the OTM.

Various form options have been discussed, such as the form that has been introduced by one FOC, but agreements has not yet been reached on its final design and process due to the complexities of the movements undertaken by OTMs.

However, the M&EE would support an industry review of the form to establish if it is fit for purpose or could be adopted accordingly.

When reviewing incidents, it is apparent that communications between possession management staff is often a contributory factor and due to this being a difficult area to monitor, it is suggested that a review is undertaken to improve communications in this area. VolkerRail along with the M&EE group would support this action.

Recommendation 3

The intent of this recommendation is to implement longer term measures to reduce the risk of a misunderstanding (missing or incorrect information) when drivers are given instructions for making a movement from a signal protecting a possession, within a possession or within a work site.

The freight operating companies, in conjunction with Network Rail, should implement a method of working such that the content of briefings given to freight train drivers for making movements in accordance with Rule Book module GE/RT8000/T3 (Possession of a running line for engineering work) is recorded. The method adopted should include consideration of:

- the minimum amount of information within these briefings that must be recorded for the safe movement of the train;
- the person who must record this information;
- how this information must be recorded; and
- where the requirement on relevant staff to record this information should be mandated.

This recommendation may also apply to other organisations who operate on-track machines in possessions and work sites.

ORR decision

28. The FOCs and yellow plant operators worked together through the M&EE group have adopted a common form for drivers to record their conversations with the PICOP and ES/SWL. As a longer term measure, Network Rail are publishing a new company standard which will cover the recording of safety critical conversations involving PICOPs. The standard was planned to be live by December 2018. We have asked Network Rail for confirmation of this.

29. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Network Rail, FOCs and yellow plant operators have:

- taken the recommendation into consideration; and
- has taken action to implement it, subject to confirmation of the revised standard.

***Status: Implementation ongoing.* ORR will advise RAIB when actions to address this recommendation have been completed.**

Information in support of ORR decision

30. On 26 October 2016 Amey provided the following initial response:

Amey in agreement with our OTM partners within the M&EE group – response.

Currently all possession related movements that require the signallers involvement are recorded.

While reviewing a selection of such communications at CRG, protocol is usually found to be acceptable with the minimum amount of information being passed.

The industry should consider implementation of GSM-R in possessions / worksites for monitoring all communications.

The current meeting (CRG) between NR and TOC's to listen to communication between drivers and signallers, has shown a vast improvement over the years but also assist when investigating operational incidents.

Amey had two related incidents 2016 with train movements over level crossings in possessions and during the investigation it was found that all the calls made between the PICOP and other staff had not been recorded. NR should consider introducing this at all locations, CRG has demonstrated that staff who know they are being recorded usually stick to protocol, and is also a useful learning tool to enhance communication skills.

Is current WON fit for purpose in respect of the information for drivers and possession management staff? for example:

- *should signal numbers that are more identifiable to a driver be used instead of point numbers.*

31. On 19 October 2016 Babcock provided the following initial response:

Currently all communications relating to possession movements that require the signallers involvement are recorded.

While reviewing a selection of such communications at Communication Review Group (CRG), protocol is usually found to be acceptable with the minimum amount of information being passed. This being the case the industry should consider implementation of GSM-R in possessions / worksites for monitoring all communications.

The CRG between NR and TOC's to listen to communication between drivers and signallers, has shown a vast improvement over the years but also assist when investigating operational incidents.

Babcock had two possession related SPADs in 2015/16 and during the investigation it was found that all the calls made between the PI COP and other staff had been recorded.

32. On 17 October 2016 Balfour Beatty Rail provided the following initial response:

Balfour Beatty Rail along with other members of the M&EE group understands that currently all possession related movements that require the signaller's involvement are recorded. Balfour Beatty Rail as with all other members of the M&EE group work collaboratively with Network Rail in reviewing communications between signallers and train operations staff at Communications Review Groups (CRG), where the communications protocol is usually found to be acceptable with the minimum amount of information being passed.

The M&EE group therefore suggests that the industry considers implementation of GSM-R in possessions / worksites to allow further detailed monitoring communications.

33. On 25 October 2016 Colas Rail provided the following initial response:

A degree of information cascaded within possessions is currently recorded, for example communications with signallers within the possession but it is recognised that much of the information flow between the separate parties involved in the possession works is not recorded.

Colas Rail Services supports all initiatives where safety can be improved and will work with Network Rail and other OTM and freight operations towards a common goal.

Colas Rail Services are members of the M&EE train operations group and Rail Freight Operating Group and other various industry groups including Rail Safety Steering Groups where the reduction and elimination of risk is a shared priority of attending members.

34. On 11 October 2016 DRS Ltd provided the following initial response:

DRS have and continue to work in collaboration with the industry in the introduction of a suitable method of recording briefings between train drivers and all relevant persons involved in the authorisation of movements under possession. DRS have provided their Traincrew with Good Communications Protocol briefing which includes how instructions to proceed at caution should be communicated and understood.

35. On 27 October 2016 Freightliner provided the following initial response:

The form adopted in Rec No2 records all the relevant information required for Rec No3. Any Freightliner train driver not receiving this information has been instructed not to make any movements and contact their relevant operational control.

36. On 3 October 2016 GB Railfreight provided the following initial response:

GB Railfreight is working with Network Rail and the Rail Industry to define and improve the standard of communications within possessions and for all other communications between driver and signaller.

37. On 24 October 2017 Network Rail provided the following initial response:

1) *Cross Industry review of recommendation:*

All recommendations, including this one were reviewed and considered by a cross industry working group (XIWG) that was formulated specifically to tackle collision risk within possessions.

The scope of the group was extended not only to include freight operators, but OTM operators, ASLEF, RMT, RSSB & the ORR.

This XIWG group also engaged with numerous industry bodies including Train Accident Risk Group, National Freight Safety Group, Rail Freight Operations Group

(RFOG), Industry Safety Leadership Group, M&EE Networking Group (M&EENG), Train Operation and Management Standards Committee, Track Worker Safety Group and Sentinel Operations Managers.

The XIWG tackled all the Logan T3 collision risk recommendations as a whole as identified mitigation measures for one recommendation had the potential to impact on other recommendations.

As a result of the work from the Cross Industry Working Group the following areas have been reviewed/undertaken:

2) Rule Book (minimum information and how this is instructed):

A Cross Industry Working Group reviewed whether or not the train driver should also record the ES/PICOP instructions. A form was developed by the train operator DRS and offered as good practice for all other operators to also adopt if they found this beneficial. Network Rail Directly Operated OTM fleet decided that recording information provided by either the ES/PICOP was already noted down and signed for following a briefing to the driver – and therefore already recorded by the ES/PICOP.

The PICOP (HB11 clause 8.1) and ES/SWL (HB12 clause 6.1) are already mandated by the Rule Book to record the instructions given to a driver; this includes all of Technical Services Directly Operated Fleet drivers (in Supply Chain Operations) who drive OTM's.

An ES/SWL or PICOP is not competent to specify a maximum safe speed to travel at; they simply don't know what the braking capabilities or safe stopping distances are for an engineering train or OTM. The Rule Book has been amended as have training materials so that the instructions given to a driver are to "proceed at caution." Therefore, the message will be consistent, avoiding target speeds, to travel at caution.

3) Recorded conversations on mobile phones:

The following amendment has also been made to our Possession Management Contract to mandate that all Possession support staff/SPICOPS and PICOPs are required to have mobile phones that have the ability to record safety critical conversations, these will include any phone conversations made by them to Network Rail OTM operators:

Contract clause:

'7. Recordable Mobile Phone Systems Required

The Supplier shall provide suitable mobile phone systems to all of their SPICOPS, PICOPS, Possession Support Staff and other resource staff required under this Contract. The mobile phones should be fitted with a system capable of remotely listening to and recording conversations, viewing text messages and viewing photos

for the purposes of monitoring safety conversations and assisting with investigations and which can be audited by Network Rail at any time for these purposes. These costs shall be included in the rates. ‘

To address the inclusion of recording mobile phone safety critical conversation for Network Rail PICOP staff, a Level 3 Network Rail Company standard is in the process of being written. The standard is planned to be live by December 2018.

The Cross Industry Working Group concluded after a comprehensive review, including the agreed changes to how instructions are given, that no additional action was required for this recommendation.

38. On 21 October 2016 VolkerRail Ltd provided the following initial response:

VolkerRail along with other members of the M&EE group understands that currently all possession related movements that require the signallers involvement are recorded. VolkerRail Rail as with all other members of the M&EE group work collaboratively with Network Rail in reviewing communications between signallers and train operations staff at Communications Review Groups (CRG), where the communications protocol is usually found to be acceptable with the minimum amount of information being passed. VolkerRail along with the M&EE group suggest the industry considers implementation of GSM-R in possessions / worksites to allow further detailed monitoring communications.

Recommendation 4

The intent of this recommendation is to reduce the risk of trains colliding in long possessions or long work sites due to the practicalities of drivers complying with the rules for driving in possessions and work sites.

The freight operating companies should collaborate to:

- a) Investigate the practicalities of driving freight trains in possessions and work sites for long distances at a speed of 5 mph (8 km/h) or at other slow speeds when proceeding ‘at caution’ as defined in Rule Book module TW1 section 25. This should include consideration of the human factors issues that may influence the behaviour of drivers and their ability to drive trains at an appropriate speed.
- b) Assess the skills a driver needs to drive in such circumstances, the effect of freight train braking performance, and the level of geographical knowledge that a driver needs.
- c) Develop and implement a programme of work, in conjunction with Network Rail, to address any issues identified by parts (a) and (b) (paragraph 116a.ii).

This recommendation may also apply to other organisations who operate on-track machines in possessions and work sites.

ORR decision

39. The Rulebook has been revised to show 25mph as the maximum speed in a possession. Above and beyond that, RFOG have agreed to 15 mph possession/5mph worksite as a 'rule' and this has been issued as an ACOP. This requirement has been adopted across industry, although not formally published in the Rulebook (which says 25 mph max and at caution for all rather than differentiating between FOCs and OTP). Network Rail, the FOCs and yellow plant operators are discussing longer term solutions to address this recommendation. Options under consideration include changes to the rule book to a maximum speed of 25 mph in a possession.

40. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, FOCs, yellow plant operators and Network Rail have:

- taken the recommendation into consideration; and
- is taking action to implement it, but ORR has yet to be provided with some agreed actions and a time-bound plan for their implementation.

Status: Progressing. ORR will advise RAIB when further information is available regarding actions being taken to address this recommendation.

Information in support of ORR decision

41. On 26 October 2016 Amey provided the following initial response:

Amey in agreement with our OTM partners within the M&EE group – response

- a) Reduction of possession length will reduce the travel time for drivers and in turn their fatigue rating. This is an identified NR issue and the M&EE group see this as a major issue. This has been raised from time to time with NR via various networking groups including TOMSC.*
- b) The M&EE produced a brief to support the RSSB guidance note on "proceeding at caution". This was produced jointly with the RSSB and has been published on Opsweb and briefed to Amey drivers.*
- c) OTM's have different characteristics than that of loaded freight trains - weight, braking capability etc. These activities are viewed by the M&EE Group as being core activities; these are managed for compliance via the 'normal' assessment processes.*

On review of the OTMR data, the highest speed recorded by M&EE operations group was 27 mph and that the vast majority was below 25 mph, when discussing with train drivers it appeared that the key was understanding the term 'proceeding at caution' and ensuring the instructions are clearly communicated and understood.

Amey in association with the M&EE, currently complies with the interim measures delivered through the NR meetings with Reducing Risks of Collision within T3 possession. However, as this is an interim measure and with no Rule Book change accepted as yet by the TOMSC, Amey has agreed with the M&EE group that a code of practise (COP) should be produced along the same lines as the RFOG, identifying what is required as good practice for the safe working of OTMs when travelling / working within a T3 possession.

This will of course be supported by a jointly produced risk assessment.

The worksite speed as it sits currently within the rules has been recognised as being fit for purpose, however, when producing the COP the M&EE group support that a maximum speed of 15 mph within the worksite will be introduced and for the possession we recognise and agree that the speed should be reduced to a maximum of 25 mph. These speeds have been selected based on the downloads taken from the OTM data recorders.

Amey along with the M&EE will be sharing this with industry partners as to whether the rule book should state a max 25 mph within a possession, in order that all Railway Undertakings have a reference document as the FOC's could stipulate a more restrictive speed in order to comply with the term cautionary.

Until the industry is ready and in the position to implement any agreed changes, Amey along with the M&EE group will be looking to introduce the following instruction to commence on Saturday 3rd Dec 2016. This will be supported by the COP and RA including Amey train driver briefing and input.

Drivers must

- *Make the movement at caution*
- *Not exceed 25 mph (40 km/h) at any point in the journey when entering , making a movement within, or leaving the possession unless you are given specific instructions to travel at a lower speed*
- *Make any movement in a work site at no greater than 5mph (10km/h) unless you are given specific instructions by the ES or SWL on the maximum speed to be applied but must be no greater than 15 mph (25km/h)*

42. On 19 October 2016 Babcock provided the following initial response:

a) Reduction of possession length will reduce the travel time for drivers and in turn their fatigue levels.

The M&EE group produced a brief to support the RSSB guidance note on "proceeding at caution". This was produced jointly with the RSSB published on Opsweb and briefed and issued to all Babcock drivers.

b) OTM's have different braking performance than that of loaded freight trains - weight, braking capability etc. These activities are viewed by the M&EE Group as being core activities; these are managed for compliance via the 'normal' assessment processes.

c) Babcock currently complies with the interim measures delivered through the NR meetings with reducing Risks of Collision within T3 possession. However, as this is an interim measure and with no Rule Book change accepted as yet by the Train Operations and Management Committee, Babcock has agreed with the M&EE group that a Code of Practice (COP) should be produced along the same lines as the Rail Freight Operating Group (RFOG), identifying what is required as good practice for the safe working of OTMs when travelling / working within a T3 possession.

This will be supported by a jointly produced risk assessment.

*The worksite speed currently within the rules has been recognised as being fit for purpose, however, when producing the COP the M&EE group support that a **maximum speed** of 15 mph within the worksite will be introduced and for the possession we recognise and agree that the speed should be **reduced to a maximum of 25 mph**. These speeds have been selected based on the downloads taken from the OTM data recorders prior to the introduction of the 5/15.*

Babcock, along with the M&EE, will be sharing this with industry partners as to whether the rule book should state a max 25 mph within a possession, in order that all Railway Undertakings have a reference document as the FOC's could stipulate a more restrictive speed in order to comply with the term cautionary.

Until the industry is ready and in a position to implement any agreed changes, Babcock along with the M&EE group, will be looking to introduce the following instruction to commence on Saturday 3rd Dec 2016. This will be supported by the COP and RA.

You must

- *Make the movement at caution*
- *Not exceed 25 mph (40 km/h) at any point in the journey when entering, making a movement within, or leaving the possession unless you are given specific instructions to travel at a lower speed*
- *Make any movement in a work site at no greater than 5mph (10km/h) unless you are given specific instructions by the ES or SWL on the maximum speed to be applied but must be no greater than 15 mph (25km/h)*

43. On 17 October 2016 Balfour Beatty Rail provided the following initial response:

Balfour Beatty Rail along with other members of the M&EE group believes that this recommendation presents a way forward and supports it. However the M&EE group

suggests that a detailed review of the planning and management of possessions is undertaken by Network Rail to shorten Possessions and Work Sites lengths to control the risk imported by fatigue introduced by the drivers driving over extended distances at low speeds. This is due to the following risks imported to OTM operations from low speeds:

a) Reduction of speeds within possessions and worksite with no reduction in length will increase the travel time for drivers and in turn their fatigue rating. This is identified as an NR issue and the M&EE group believes this to be as a major issue. This is constantly raised with NR via various networking groups.

The M&EE in collaboration with the RSSB has produced a brief to support the RSSB guidance note on “proceeding at caution”, which has been published on Opsweb.

b) OTM’s have different characteristics than that of loaded freight trains due to weight and braking capability etc. These activities are viewed by the M&EE Group as being core activities; these are managed for compliance via the ‘normal’ assessment processes. On review of the OTMR data, the highest speed recorded was 27 mph and that the vast majority was below 25 mph. When discussing with train drivers it appeared that the key was fully understanding the term ‘proceeding at caution’ and ensuring the instructions are clearly communicated and understood.

c) The M&EE Group members via their train operations currently comply with the interim measures introduced through the Network Rail led meetings ‘Reducing Risks of Collision within T3 possession’. However, as this is an interim measure and with no Rule Book change accepted as yet by the TOMSC, Balfour Beatty Rail has agreed with the M&EE group that a code of practice (COP) should be produced along the same lines as the RFOG, identifying what is required as good practice for the safe working of OTMs when travelling / working within a T3 possession.

This will of course be supported by a jointly produced risk assessment in accordance with the Common Safety Method; however the M&EE group believes that the wording currently contained within the Rule Book is fit for purpose.

44. On 25 October 2016 Colas Rail provided the following initial response:

The M&EE Group in discussion with OTM train operators concur that a reduction in the length of possessions will reduce the likelihood of a driver travelling at a speed that is faster than what is considered to be a safe speed and additionally reduce the fatigue rating of the drivers.

Where Colas Rail Services operates both OTMs and freight trains, these rail vehicles have completely different characteristics in terms of length of vehicle, weight where the braking characteristics are vastly different and travelling on gradients. Colas Rail will continue with its planned training and assessment of drivers including reminders to drivers of T3 possession arrangements. All drivers are provided with suitable and sufficient training to understand the braking characteristics of the particular rail

vehicle they will be driving including loaded/unloaded freight trains. Train drivers were issued with the 2016 Colas Autumn/Winter brief

in September 2016 that includes information on poor railhead conditions, the employment of defensive driving techniques during winter months and the need to remain especially vigilant and alert.

All Colas Rail Services drivers have been instructed that they must comply with the 5/15 mph rule with effect from the new rule implementation date. Any deviation from the 5/15 mph rule will only be made under those circumstances where compliance with the rule is not appropriate, for example when using rail grinding machines; where this is the case the drivers involved will be briefed accordingly on their duties.

To summarise, Colas Rail Services will work with other rail industry freight operation and OTM colleagues including Network Rail to formulate a common policy on possession driving and relevant assessment of risks to reduce the likelihood of rail vehicle collision.

45. On 11 October 2016 DRS Ltd provided the following initial response:

DRS continue to work collaboratively with industry to address fully this recommendation. Additionally DRS have issued educational briefing material to advise their train drivers the defined meaning of "Driving at Caution" and the skills and situational awareness required to perform safely under such conditions, the amended CMS also captures such Non – Technical skills.

46. On 27 October 2016 Freightliner provided the following initial response:

Many conversations have taken place in the Reducing the risk of a collision in T3 working group and a proposed change to the rule book has been submitted to TOMSC for a 5mph/15mph rule to be implemented. As we stand today Network Rail has not accepted this nationwide and have only introduced in the North West region. Freightliner will continue to support this proposed rule change.

47. On 3 October 2016 GB Railfreight provided the following initial response:

GB Railfreight is working with Network Rail and the Rail Industry to define and improve the standard of possessions including planning and lack of adherence to the content and spirit of the Rule Book. GB Railfreight believes that long worksites must be avoided and cause considerable Human Factors issues for staff which Network Rail has failed to recognised during its planning process. These have been cause of regular safety escalations in the commercial meetings. GB Railfreight do not believe Network Rail learnt the lessons of our RAIB possession collision at Leigh on Sea in 2008.

48. On 24 October 2017 Network Rail provided the following initial response:

1) Cross Industry review of recommendation:

All recommendations, including this one were reviewed and considered by a cross industry working group (XIWG) that was formulated specifically to tackle collision risk within possessions.

The scope of the group was extended not only to include freight operators, but OTM operators, ASLEF, RMT, RSSB & the ORR.

This XIWG group also engaged with numerous industry bodies including Train Accident Risk Group, National Freight Safety Group, Rail Freight Operations Group (RFOG), Industry Safety Leadership Group, M&EE Networking Group (M&EENG), Train Operation and Management Standards Committee, Track Worker Safety Group and Sentinel Operations Managers.

The XIWG tackled all the T3 collision risk recommendations as a whole as identified mitigation measures for one recommendation had the potential to impact on other recommendations.

2) TS Directly Operated fleet - OTM Operator speeds

Technical Services (in Supply Chain Operations Network Rail) Directly Operated Fleet operate OTMs that have historically worked in possessions at the default 5 mph and will continue to do so. The fleet adopted the 5/15 mph working agreement. Working at these speeds was already an existing requirement for OTMs, so the introduction of this agreement has had no effect on OTM Operator driving practices, as demonstrated by research, predominantly by the analysis of OTMR.

Over time drivers have not highlighted fatigue as an issue, or any ergonomic issues affecting driver performance at the speeds of 5/15 mph. The driver skills identified to operate an OTM in a possession/worksites have been developed through a rigorous training process for the OTM Operator over a long period of time.

Driver assessments are undertaken in the workplace via observation at prescribed intervals, with an intermediate assessment carried out via reviewing OTMR downloads every 6 months for each driver. These downloads have not identified any speeding events. The reviews of these are designed to identify good driving technique and areas for potential improvement with corrective action plans developed for each OTM Operator as required.

3) Worksite lengths – short as possible – standards changes

Further work by Network Rail has been undertaken to reduce risks with driving in a worksite which has come out of the Cross Industry Working Group, this involved amending planning processes for worksites by amending Network Rail company standards:

Network Rail company standard NR/L2/OPS/202 'Principles, Timescales and Functional Responsibilities for Engineering Work, Access and Heavy Resource Planning' has comprehensively been reviewed and updated in conjunction with

Network Rail level 3 company standard NR/L3/OPS/303, 'Possession of the Line for Engineering Work Delivery Requirements'.

The requirement for the length of possessions to be kept as short as possible has been added to these business processes. Along with requirement to plan movements based on a maximum speed of 5mph in worksites and 15mph in PICOP controlled areas.

4) Further process/Rule Book changes:

By the combination of the following the risk for driver fatigue events have been reduced further by:

1) Network Rail has implemented a Flexible Train Arrival Point process. This system not only allows the possession to be taken around a train, it actually allows the possession to be taken with the train at the site of work, removing transit movements.

2) Rule Book T3 was altered in December 2016 to allow possessions to be given up around multiple trains. Previously, possessions could only be given up around a single train. This procedure is limited to TCB areas controlled by track circuits. However, the adoption of this procedure, dramatically reduces the distances multiple trains would otherwise have travelled to exit the possession without full signal protection.

3) Rule Book module TW1 section 40 – Train requiring to stop in section already permitted engineering trains to work on a running line which is not under possession. Rule Book Module TW7 issue 7 dated September 2017, clause 1.1 lists the 11 occasions (10 occasions in issue 6) when a signaller may authorise the driver to make wrong direction movement for which a signal is not provided. An eleventh occasion was added in issue 7, which states “An on-track machine working in section is to return to or towards the published start mileage of the site of work.” This additional occasion now permits an OTM work on a running line which is not under possession. The clause was required to allow an OTM to return to the start of the site of work after a measuring run. The benefit being that an OTM can now work on a line not under possession with full signal protection.

Therefore representing the Directly Operated Fleet in Network Rail (OTMs) it is felt that this risk is well managed and addressed as described above.

49. On 21 October 2016 VolkerRail Ltd provided the following initial response:

VolkerRail along with other members of the M&EE group believes that this recommendation presents a way forward and supports it. However the M&EE group

suggests that a detailed review of the planning and management of possessions is undertaken by Network Rail to shorten Possession s and Work Sites lengths to control the risk imported by fatigue introduced by the drivers driving over extended distances at low speeds. This is due to the following risks imported to OTM operations from low speeds:

a) Reduction of speeds with in possessions and worksite with no reduction in length will increase the travel time for drivers and in turn their fatigue rating. This is identified as an NR issue and the M&EE group see this as a major issue. This is constantly raised with NR via various networking groups.

The M&EE in collaboration with the RSSB has produced a brief to support the RSSB guidance note on "proceeding at caution", which has been published on Opsweb.

b) The M&EE Group members via their train operations currently comply with the interim measures introduced through the Network Rail led meetings ' Reducing Risks of Collision with in T3 possession '. However, as this is an interim measure and with no Rule Book change accepted as yet by the TOMSC, VolkerRail has agreed with the M&EE group that a code of practice (COP), identifying what is required as good practice for the safe working of OTMs when travelling I working within an engineering possession T3.