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

Dear Andrew,

Serious irregularity at Cardiff East Junction, 29 December 2016

I write to report¹ on the consideration given and action taken in respect of the three recommendations addressed to ORR in the above report, published on 30 October 2017.

The annex to this letter provides details in respect of each recommendation. The status of recommendation 1 is '**progressing**'; recommendation 2 is '**implemented**'; and recommendation 3 is '**progressing**'.

We will publish this response on the ORR website on 30 October 2018.

Yours sincerely,

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 3 recommendations were addressed to ORR when the report was published on 31 October 2017.
2. After considering the recommendations ORR passed recommendations 1, 2 and 3 to Network Rail asking them to consider and where appropriate act upon them and advise ORR of its conclusions. The consideration given to each recommendation is included below.
3. This annex identifies the correspondence with end implementers on which ORR's decision has been based.

Recommendation 1

The intent of this recommendation is to ensure that projects, particularly those with a long duration, are appropriately held to account by the assurance process external to the project, and continue to follow good practice throughout so reducing the risk of safety critical errors and omissions, ensuring that a safe railway is handed back for operational service.

Network Rail should review its project assurance process as applied to the CASR scheme, and identify the deficiencies which resulted in the management shortcomings described in this report. Network Rail should then use the findings of this review to establish suitable and sufficient management processes to assure itself that major projects deliver a safe railway on each occasion that it is handed over for service. These should cover as a minimum, all aspects of project governance, including quality assurance throughout all stages of the project lifecycle, organisational structure, record keeping and administrative systems

ORR decision

4. Network Rail has reviewed its project assurance procedures and have revised a number of standards and procedures, including the standard for entry into operational service of railway infrastructure. ORR is considering options for carrying out a more detailed review of Network Rail's project assurance procedures following the Cardiff East and Waterloo incidents.
5. ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Network Rail has:
 - taken the recommendation into consideration; and
 - is taking action to improve its project assurance, but ORR is not yet assured that processes are suitably robust.

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

6. On 12 September 2018 Network Rail provided the following initial response:
- A. *Complete review of project assurance process and issues pertinent to Cardiff Resignalling project. Produce record of meeting(s) and actions. **May 2018 (Complete)***
- B. *Update NR/L2/INI/CP0075 "Procedure for the Entry into Operational Service of Railway Infrastructure" to be updated to include a check that the commissioning scheme plan correctly reflects the layout being commissioned **Dec 2018***
- C. *Emergency update to NR/L2/SIG/11704 (Signalling Requirements for the Application Design and Management of Points) to widen the scope for risk assessment of all instances of all unworked and undetected points on operational lines. Previously this was only required when this situation was expected to last for more than 2 months. Now it will be required in all instances. **Jan 2018 (Complete)***
- D. *Develop IP Signalling Southern West local instruction, which sets out the process for the management of undetected points, which explicitly requires checked and controlled documents plus independent verification into national note of best practice. **Sept 2018 (Complete)***

Recommendation 2

The intent of this recommendation is to improve the quality and functionality of Network Rail document management systems so that documents are easily identified, retrieved, traced and updated as necessary.

Network Rail should review the document management system used for the CASR project and ensure that any identified areas for improvement are incorporated into systems currently and planned to be in use by other projects.

ORR decision

7. Network Rail has an improved document management system in place for future projects, although following a review it was decided to continue using the existing system for the CASR project as it was considered to be too far advanced to make migration worthwhile.
8. ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Network Rail has:
- taken the recommendation into consideration; and
 - has taken action to implement it

Status: Implemented

Information in support of ORR decision

9. On 12 September 2018 Network Rail provided the following initial response:

A review was conducted by IP's Lead IT Business Partner with the CASR Project Director, Signal Engineer and Programme Manager.

They confirmed that CCMS2 was used throughout the project which was in GRIP 5-8 in 2011. They were of the opinion that the linkage of the document control system to the points being left unsecured was tenuous. It appears that when the RAIB inspectors came to collect information from the document controller, the inspector was frustrated as CCMS2 was slow as the file structures had changed, so his view was that the system was inefficient. IP Signalling carried out an internal review and had a migration plan to move its projects to HDMS. It was decided that the Cardiff project had gone so far so not worth migrating.

From an action plan perspective the DM toolset now available to projects is HDMS which has a consistent file structure and does not have the CSMS2 issues such as slow performance. This is backed up by the document management decision tree and is the agreed tactical solution in IP.

Since our original response, CCMS2 is now being actively decommissioned with projects either migrating to the Hub or to HDMS, subject to agreement. The decision tree and advice re DM and collaboration systems has also been updated – reference attached.

Regarding the incident much of the communication would have been verbal, rather than direct from the DM systems. But HDMS does address the frustrations of CCMS2 that the RAIB inspector identified.

Recommendation 3

The intent of this recommendation is to establish effective implementation of fatigue risk management in the project environment, particularly in relation to major projects.

Network Rail, in conjunction with its contractors, should review how it implements its standards and processes relating to the management of fatigue risk during major projects. The results of this review should be used to identify measures to provide assurance that all project staff, whether direct employees or contractors, work within appropriate standards and good practice guidelines, and to minimise the risk that staff fatigue may contribute to an error or omission during the commissioning of safety critical equipment and systems.

ORR decision

10. Network Rail have a programme in place to review relevant standards and procedures and how this will inform fatigue management plans for major projects. We have asked Network Rail for a meeting to review the work plan and provide us with an update, as well as how communication with suppliers is being handled.

11. ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Network Rail has:

- taken the recommendation into consideration; and
- is taking action to improve its project assurance, but ORR is not yet assured that processes are suitably robust.

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

12. On 15 October 2018 Network Rail provided the following initial response:

The Workforce Safety Team have undertaken a review of the progress being made by the IP Signalling department in requirements that they have placed on their contractors, and project teams in how they will manage and assure compliance with fatigue management plans.

Following this, the Head of Corporate Workforce Safety will share this learning to the wider IP Major Projects teams to see if their plans match or are better than that being developed and rolled out within IP Signalling Projects.

This will then inform the Fatigue Programme team in their building of the IP Module for managing fatigue referenced below and timeline attached.

NR Signalling Projects held a lesson learnt meeting with its suppliers and has produced more stringent guidelines attached, with project example & summarized below. This explains what Signalling projects are now doing to minimise the risk that staff fatigue, could contribute to an error or emission during commissioning phase of projects.

The overall IP Signalling Health and Wellbeing Plan that requires that each programme develops a specific plan to manage Health and Wellbeing; this includes a 'Fatigue Management Plan' for reach project commissioning / blockade to ensure that fatigue is either eliminated or reduced to an acceptable level;

Fatigue Management Plans are written in compliance with the IP Signalling Work Instruction 'Working Time and Fatigue Management, attached.

Fatigue has been planned on each project to incorporate the Health and Safety Executive (HSE) Fatigue Risk Index calculator (FRI) where defaults are set and working time for each shift is added.

Fatigue management plans are specific to that project and the ultimate aim is to:

Identify responsibilities for managing fatigue risk, recognising legal responsibilities and our strategic objectives

Identify both the safety and wellbeing risks associated with fatigue;

- *The plan(s) embraces all employees but recognises the increased risk for those working in:*

- *Safety critical and key safety roles;*
- *Employees who work shifts (i.e. Commissioning's / blockades over 48 hours);*
- *Particular risk groups, for example those working on call and those who drive as part of their daily duties;*
- *And those employees who have not 'opted out' of the working time regulations 48 hour working rule*

As well as the Sentinel Scheme rule requirement for Swipe in/Out and to avoid back log at signing in/out stations, major projects employ companies like MacRail to serve as Site Access Controllers (SAC) for signing in/out; the system continually monitors for any potential exceedances and would give an alert 1 hour before the exceedance occurs; they could contact the individual.

All exceedances, non-signing out events, are raised as incidents so the projects can investigate where the issue is and mitigate reoccurrences.

Network Rail has produced & published the Revised Fatigue Risk Management Standard (FRM) NR/L2/OHS/003 (formally NR/L2/ERG/003) in June 2018, and the core Fatigue Risk Modules (FRM) & Fatigue risk Index (FRI)

Publication of the future modules shall be completed by Dec 2019.

The attached Fatigue Risk Management Standard Approach sets out the key delivery dates for the remaining Modules.

Roster Design & Working Pattern Module Dec 2018

Exceedance Management Module March 2019

Fatigue Risk Assessment Module Dec 2019

Working time & On-call Module Dec 2019

Compliance by Oct 2022

Suppliers will continue to work within the guidance set out in NR/L2/CPR/302, until a module is completed for the supply chain, and can utilise the information provided by IP Signalling to improve NR/L3/INF/02226 is available for recording and assistance in monitoring fatigue risk index currently.

The Standard for Management of Fatigue is currently being revised as part of the Fatigue Improvement Programme. This standard revision is being developed and published over the next 18 months, with a final publication date of December 2019.

The standard is being presented in modular format that will show more clearly and define the measures required for compliance. As the timescales of implementation for the standard take us through 2019 the requirements of this recommendation

cannot be met until then, although the benefits of the modular implementation of the standard issue 01 and supporting modular pieces will.