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31 March 2022

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

Dear Andrew,

RAIB Report: Collision at London Waterloo, 15 August 2017

I write to provide an update[1] on the action taken in respect of recommendations 1, 2 & 3 addressed to ORR in the above report, published on 19 November 2018.

The annex to this letter provides details of actions taken in response to the recommendations and the status decided by ORR. The status of recommendations 1, 2 & 3 is **'Implemented'.**

We do not propose to take any further action in respect of the recommendations, unless we become aware that any of the information provided has become inaccurate, in which case I will write to you again.

We will publish this response on the ORR website on 5 April 2022.

Yours sincerely,

Oliver Stewart

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

Recommendation 1

The intent of this recommendation is to ensure that the competence of signalling staff includes the attitudes and depth of understanding that is needed to properly appreciate the importance of applying all the relevant design, installation and testing processes. It is expected that effective implementation by Network Rail will necessitate input from the Institution of Railway Signal Engineers, signalling contractors and other infrastructure managers.

Network Rail should take steps to reinforce the attitudes and depth of understanding needed for signal designers, installers and testers to safely apply their technical skills and knowledge. These steps should include:
- the education of existing staff and their managers, and future recruits, to promote a better understanding of industry processes, and an improved understanding of how the lessons learnt from previous accidents have shaped today's good practice;
- the enhancement of processes for the assessment, development and ongoing monitoring of the non-technical skills of signal designers, installers and testers; and
- measures to monitor and encourage compliance with process, and safe behaviours on projects

ORR decision

1.   Network Rail has delivered a diverse programme of work aimed at ensuring that the competence of signalling staff includes the attitudes and depth of understanding that is needed to properly appreciate the importance of applying all the relevant design, installation and testing processes.

2.   Network Rail has summarised the key elements of the programme as follows:

- Developed a 9-point SMART action plan with tangible outcomes
- Modified 3 standards, issued 1 new NB and 1 new competence module
- Engaged with 24 Tier 1 suppliers MDs and TDs
- Established points of contacts in all those companies
- Shared our issues 'with pain'; they had similar concerns
- Gained enthusiastic support from IRSE and RIA
- Published 7 eLearning modules introducing NTS concepts
- Prompted a culture change where people reflect on their actions and the limits of their competence and capability
- Published an article in IRSE News December 2021 regarding NTS
- Presented an NTS article to RIA Technical Interest Forum January 2022
- IRSE President for 2022/3 will focus on competence and behaviours
- Influencing revised behavioural assessments for IRSE licenses

3.   Network Rail has reported positive engagement with the programme from staff and a reduction in incidents attributed to poor behaviour, such as ignoring processes or standards.

4.   After reviewing the information provided 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.

Previously reported to RAIB

5.   On 15 October 2019 ORR reported the following:

Network Rail have put together a time bound plan covering a number of work streams being undertaken to address this recommendation. We particularly welcome the review of the IRSE license application requirements.

Network Rail have not referred to arrangements for monitoring and reviewing the outcome of the work, nor how they will go about encouraging compliance. We will address these points with Network Rail through our usual liaison meetings.

Update

6.   On 7 January 2022 Network Rail provided the following closure statement:

📄 [N195-05] Waterloo Incident Rec 1.pdf

7.   Following a meeting on 24 February 2022 between ORR and Network Rail to review the Rec 1 closure, Network Rail provided the following documents:

📄 Waterloo Rec 1 ORR closure Feb 202   📄 NR_L2_SIG_50035_40.docx   📄 NTS comms and guide v1.3.pptx   📄 NB 187.pdf   📄 NR_L2_CSG_STP001.pdf

📄 NR_L2_SIG_10160.pdf

The Waterloo Rec 1 ORR closure presentation sets out the following actions:

Action 1
Cascade an interactive briefing, endorsed by NR Exec, to senior leadership and leaders of signal engineering teams which included the impact of leadership

interventions, appropriate escalation practices, levels of self-awareness and personal responsibility, and a reminder of established good practice.

The Technical Director or Chief Engineer and Managing Director of the 24 tier 1 suppliers, who are regarded as the industry leaders, were briefed on the Waterloo incident recommendations and actions, by Network Rail's Chief Engineer and technical experts.

The Signalling Technical Engineers Forum was also similarly briefed, and the Waterloo recommendation actions were included in the discussion topics, particularly for embedding non-technical skills and positive safety behaviours into the industry practices.

A briefing of technical staff was developed as a culture change action, delivering the brief through direct engagement and conversation by a signalling technical leader within Network Rail.

To deliver this action Network Rail delivered facilitation training to the identified leaders to deliver a consistent culture change. This has equipped these senior leaders with the ability to continue to drive tailored briefings to their areas on this and future topics.

Action 2
Cascade a cross discipline briefing on the process and responsibilities for securing of points for infrastructure change projects.

Notice Board 187 was issued in June 2020 and a documented brief on the duties and responsibilities to fit point securing measures was cascaded to the industry.

NOTICE BOARD	NB 187 Issue 1 05/06/2020 Expires: 04/06/2021 Page 1 of 3
NetworkRail	NETWORK RAIL - SIGNAL ENGINEERING **Fitment of Point Securing Measures**

Purpose
This Notice Board (NB) is to highlight the steps to be taken by those responsible for fitment of point securing measures (point clips, scotches and padlocks).

Scope
This Notice Board applies to all Network Rail managed infrastructure, specifically those who operate or implement change to the infrastructure.

Background
The incidents at Waterloo (15-8-2017 pictured below) and Cardiff (26-12-2016) have prompted revision to the NR standard NR/L2/SIG/11704 to improve the control of operational risks for points which are not in an operational state.

Action 3
Creation of industry-wide E-learning site describing the origins of process that support a safety culture for current staff, and also use it for staff induction material.
The seven elements identified by RSSB for Non-Technical Skills have been developed as six e-learning packages to raise awareness in staff in the importance in the use of NTS when undertaking technical tasks.
Each module focuses on one or two of the non-technical skills using interactive content and contain a filmed scenario depicting a real recent Signal Engineering incident.
The eLearning platform has been configured to be accessible to anyone in the industry and many of Network Rail's Tier 1 suppliers have contributed to the content of the filmed scenarios and engaged with the published eLearning modules.
A link to this eLearning will be provided by the Institution of Railway Signal Engineers imminently.
A 'How to' guide has been produced and distributed as a cascade pack to DEAMs and RSEs

Action 4

Review the effectiveness of industry forums used to improve industry awareness of the consequences of actions, including sharing of incidents and near misses, sharing of disciplinary outcomes (consequence of not following established practice), sharing of video media used to develop positive safety culture impact.

A review of the forums that existed for both safety and technical discussions was undertaken to identify where gaps existed.

The Signalling Technical Engineers Forum (STEF) was noted to omit some key players, and terms of reference were revised to be more inclusive.

The technical forum for system validation (Signalling Works and Maintenance Testing) similarly identified gaps where key players we added and included in the discussion.

The incident reports have been revised to include consequence on individuals and the mechanisms for sharing have been improved, such as revised distribution lists for targeted safety messages and signposting on Safety Central as repository of reference information.

A targeted report of human-error-incurred signalling failures is cascaded, promulgating opportunities for transferrable learning.

Action 5

Review the process for cascade brief of material from industry forums.

Network Rail has revised the application of cascade briefings, incurring revised company standard NR/L2/CSG/STP001 in June 2020.

This focussed on the development and assurance of standards implementation plans to improve quality of distributed information and retention of technical briefs, published on standards portal for later reference.

Ref:	**NR/L2/CSG/STP001**
Issue:	8
Date:	06 June 2020
Compliance date:	05 December 2020

Level 2

Manual

Standards and controls management

8	June 2020	Modules 1 and 4 updated to specify the process to manage RISs and variations against them. Module 1 updated to confirm the process to carry out a review of standards. Module 2 updated to include guidance on emergency changes.

Action 6

Review of competence requirements for non-technical skills for signal engineering staff, and the creation or improvement of performance criteria and training to change behaviours.

The competence requirements for non-technical skills have been developed and prepared for publication. A trial of the new Competence Standard Module NR/L2/SIG/50035/40 for the evaluation of non-technical skills commenced in May 2021 and is being rolled out to all roles involved in Signal Engineering in Network Rail. It was accepted by the Asset Leadership Group (ALG) on 23/2/22 and is due to be published in March 2022.

The Competence Module is intentionally agnostic so it can be adopted by any discipline.

Guidance on how to conduct effective evaluations to support Line Managers, Trainers and Competence Assessors is in the early stages of production.

Action 7

Review of the IRSE licence application requirements, particularly whether the complaints process is being used effectively, the management of staff under mentorship and the appropriate level of mentorship for safety tasks and review of mentorship capability.

A review into the effectiveness of the IRSE complaints process showed that it was unclear who had the responsibility to raise a complaint.

It was agreed with Senior Signal Engineering Leaders that NR Signalling Asset Managers were to become accountable for ensuring a complaint had been considered and raised if necessary.

Guidance on who should raise a complaint, and the arrangements for mentorship under IRSE has been clarified in NR/L2/SIG/10160 which was published in December 2020.

This has since proven to be successful, most notably in the Wilton Junction design irregularity in late 2021 where the responsible person self-nominated a complaint.

Action 8

Review of the surveillance aimed to improve assurance of safe delivery of signalling engineering tasks

A review of the technical and competence assurance processes highlighted that whilst interventions and reviews are conducted throughout the lifecycle of a project, not all of them are fully effective nor consistently applied.

An observation that giving projects to the supplier companies that have the appropriate level of competence and experience have greater success, and that reviews should also consider this throughout the project lifecycle, from contract award through to commissioning.

Network Rail has revised the governance of investment project by the application of PACE and SPEED tools. These processes are replacing the GRIP toolset progressively, and the principles of more effective surveillance, especially during the design phase, is a key component of its success.

NR/L2/INI/02009 Engineering Management for Projects has been updated recently to reflect this change in delivery assurance style.

Action 9

Review of the management of records availability for project work and the contracts and processes that impacts the timeliness of records returns by projects and suppliers.

This action was included because late return of as-built records could be a sign of poor behaviour by suppliers, and the opportunity was taken to raise this at supplier meetings and technical forums.

A review of the issues affecting signalling records availability highlighted the performance of some suppliers was unacceptable (e.g. Atkins EKR2 – 33 months, Siemens Victoria station scheme – 5+ years).

NR chose a means of incentivising suppliers effectively with regard to Health and Safety file completeness being a legal requirement of the HASAW act and was raised with supplier Technical Directors through late 2020.

Many were not aware that as-built records were an intrinsic component of the H&S File, that it was 'just a Word document'.

RAIB Waterloo report

Network Rail believes that the actions taken go beyond the intent of Recommendation 1, and prompts a culture change in Network Rail and its suppliers to reinforce competency requirements, professional behaviours, and particularly raising the awareness and measurement of non-technical skills.

Whilst the recommendation focussed on Signal Engineers, all contributory and front-line roles were in mind when developing the outputs, and are agnostic where appropriate.

These actions have been delivered through challenging times for the industry and were impacted by the COVID-19 restrictions.

Recommendation 2

The intent of this recommendation is for OSL to implement actions already started (paragraphs 197 and 198) in respect of non-technical skills relevant to its staff in advance of any relevant actions triggered by implementation of Recommendation 1.

OSL Rail Ltd should enhance its existing processes for the assessment, development and ongoing monitoring of those staff who undertake signalling works so as to ensure that they have the depth of understanding, attitudes and non-technical skills that are needed to deliver work safely. Areas of enhancement should include the skills needed for effective communication and safe decision making in complex project environments.

ORR decision

8.   OSL Rail Ltd has undertaken a programme of work aimed at improving the non-technical skills of its staff through training, briefing and assessment. OSL has also introduced a system for reporting close calls anonymously.

9.   We welcome the engagement OSL is having with the wider signalling industry through chairing the Signal & Telecoms Engineers Forum (STEF), a point also identified by Network Rail.

10.   After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, OSL Rail Ltd has:

- taken the recommendation into consideration; and

- has taken action to implement it

Status: Implemented.

Previously reported to RAIB

11.   On 15 October 2019 ORR reported the following:

We support the approach OSL Rail Ltd are taking to address the recommendation and have arranged to meet them in October to discuss in greater detail the action taken and progress to date.

Update

12.   OSL Rail Ltd provided the following update dated 1 March 2022:

Completed Actions:

<u>*Briefings*</u>

Using our in-house employees' monthly newsletter and team meetings, briefings were delivered to all staff on NTS skills. This was repeated over a period of 6 months to ensure everyone was covered and fully conversant with the requirements. Following this a series of Directors roadshows were held, coupled with a safety stand downs. These roadshows included a review of Waterloo incident, NTS and the lessons that the company had learned. These roadshows also allowed for staff to feedback questions to the directors to ensure clarity was achieved.
To ensure that new starters are also briefed, the HR process has been updated and a new system has been implemented called "Appogee". This tool manages the onboarding process for all staff and ensures that a NTS brief is given to all. The system logs the briefing his has taken place in an auditable manner.

<u>*Staff Feedback*</u>

To identify any issues related to working practices, a new system was introduced utilising a phone-based application to allow any staff to raise Close calls, Observations and Suggest improvements. The system allows for reports to be made fully anonymously, however rewards were offered for the best report of the period. The issues are logged and reviewed by the Senior management team with actions taken as needed.

Staff Assessment

To ensure that critical staff are assessed on a regular basis, the IRSE's assessment scheme has been utilised to maintain that all assessments not only review the technical requirements but the "Soft Functions" or Non-technical skills. This assessment method ensures good consistency across the licensed staff. To back this up NTS was also added into the yearly staff appraisals conducted by the managers on a yearly basis. Combined with the briefings these provide good continual monitoring and regular assessment.

The HSQE team produced a company tracker to record the status of the briefings and prevent anyone from slipping through the net.

Ongoing Works:

Through the previous feedback and the confirmation above we hope that we have been able to demonstrate that we have met our obligations, allowing the outstanding actions to be closed for the Waterloo investigation. This is however only the start of OSL's involvement in NTS.

The whole industry has finally recognized the importance of implementing non-technical skills into their working practices in a reliable and consistent manner. Unfortunately, the implementation thus far has been anything but consistent with the Teir 1 suppliers, NR, OSL and others all looking at slightly different skills. Even the quantity of areas under assessment has varied with NR choosing 7 key skill sets and everyone else limiting themselves to 5. With the lessons we have learnt through Waterloo we are keen to resolve this issue and share our experience with others in the industry to keep the process going.

An Industry wide approach

At OSL we strongly believe that developing Non-Technical skills in isolation is not the best methodology. The approach, subjects and even means of assessment should be consistent across the whole industry. To that end OSL have appointed our Professional Head of Signalling as the companies "NTS Champion". Tasked with keeping the briefings going and attempting to help the industry resolve its differences and bring about a consistent approach.

This year OSL are Chairing the "Signal & Telecoms Engineers Forum" (STEF). This forum brings together all the key players in the industry. OSL are using this platform to attempt to achieve our lofty goals. In the first meeting of the season, we arranged for Network Rail to provide a presentation of their viewpoint on Non-Technical skills and explain the series of supporting training videos that are being released. We also asked for the NTS steering group to be setup to allow discussion between all parties.

Once released the NR on-line training briefings will be delivered to all staff. These are being divided into a set of videos that describe each skill clearly.

Through the Steering meetings and Forum we will work towards agreeing a consistent set of skills to be assessed and a common method of assessment. We have also set discussions in motion to bring about a standardised "Authority to Work" form. This will be used by the whole industry to capture not only technical but non-technical skills. This move was welcomed by NR whose DPE's see a wide range of documentation that range in quality.

Recommendation 3

The intent of this recommendation is for Mott MacDonald Ltd to take action in respect of non-technical skills relevant to its staff in advance of any relevant actions triggered by implementation of Recommendation 1. It differs from Recommendation 2 by omitting explicit reference to communication because the RAIB Waterloo investigation did not link MML to communication issues. However, the recommendation covers all aspects of non-technical skills and implementation is expected to include consideration of communication issues.

Mott MacDonald Ltd should enhance its existing processes for the assessment, development and ongoing monitoring of those staff who undertake signalling works so as to ensure that they have the depth of understanding, attitudes and non-technical skills needed to deliver work safely. Areas of enhancement should include the skills needed for safe decision making in complex project environments.

ORR decision

13.   Mott MacDonald Ltd has introduced new procedures for developing and assessing the non-technical skills of its signalling staff. All signalling staff have now been assessed using the new programme.

14.   After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Mott MacDonald Ltd has:

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

Status: Implemented.

Previously reported to RAIB

15.   On 15 October 2019 ORR reported the following:

We support the approach Mott MacDonald Ltd are taking to address the recommendation and have arranged to meet them in October to discuss in greater detail the action taken and progress to date.

Update

16. Mott MacDonald provided the following update dated 3 March 2022:

This is an update on progress with actions being taken by Mott MacDonald to address recommendation 3 from the RAIB report as set out in our letter to ORR on 15 April 2019.

1. As previously reported, the 1st stage (being identification of non-technical competences (NTS), designing and piloting a process) was carried out on 10 CREs/CEMs in July 2019.
2. The 2nd stage involved assessment of the remaining 9 signaling team members which was completed in October 2019.
3. Process requirements were documented and included in our UK Rail Competence Management System.
4. The requirement for annual determination of NTS was later amended to every two years or as and when new staff are appointed. The reason for this amendment was that the psychometric reports are valid for up to two years.
5. The 3rd stage of the project took place between October 2021 and January 2022, when all 29 members of the Signaling team were reassessed.
6. The process is subject to continuous improvement, and we continue to incorporate new learning based on feedback from participants and experience.
7. We will review our approach to check that it is aligned to Network Rail's new mandatory competence standard when it becomes available later this year.
8. In our view we have met the requirements of the recommendations from the RAIB report and request that it be formally closed.

Previously reported to RAIB

Recommendation 1

The intent of this recommendation is to ensure that the competence of signalling staff includes the attitudes and depth of understanding that is needed to properly appreciate the importance of applying all the relevant design, installation and testing processes. It is expected that effective implementation by Network Rail will necessitate input from the Institution of Railway Signal Engineers, signalling contractors and other infrastructure managers.

Network Rail should take steps to reinforce the attitudes and depth of understanding needed for signal designers, installers and testers to safely apply their technical skills and knowledge. These steps should include:
- the education of existing staff and their managers, and future recruits, to promote a better understanding of industry processes, and an improved understanding of how the lessons learnt from previous accidents have shaped today's good practice;
- the enhancement of processes for the assessment, development and ongoing monitoring of the non-technical skills of signal designers, installers and testers; and
- measures to monitor and encourage compliance with process, and safe behaviours on projects

ORR decision

1.	Network Rail have put together a time bound plan covering a number of work streams being undertaken to address this recommendation. We particularly welcome the review of the IRSE license application requirements.

2.	Network Rail have not referred to arrangements for monitoring and reviewing the outcome of the work, nor how they will go about encouraging compliance. We will address these points with Network Rail through our usual liaison meetings.

3.	After reviewing the information provided 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 implement it by 31 December 2021.

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

Information in support of ORR decision

4.	On 7 May 2019 Network Rail provided the following initial response:

Action Plan

Network Rail plans to reinforce attitudes and understanding of signalling designers, installers and testers by: -

1. *Cascading a tailored interactive briefing to leaders of signal engineering teams and staff, which includes leadership interventions and their impact, appropriate escalation practices, levels of self-awareness, levels of personal responsibility and a reminder of established good practice. A commitment of behaviour change will be included.*

2. *Cascade of a cross discipline briefing on the process and responsibilities for securing of points for infrastructure change projects. Particularly identifying transfer of responsibility through demonstration by scenario.*

3. *Creation of E-learning describing the origins of process that support a safety culture and consider inclusion in the staff induction material.*

4. *Review the effectiveness of industry forums used to improve industry awareness of the consequences of actions, including sharing of incidents and near misses, sharing of disciplinary outcomes (consequence of not following established practice), sharing of video media used to develop positive safety culture impact.*

5. *Review the process for cascade brief of material from industry forums.*

6. *Review of competence requirements for non-technical skills for signal engineering staff, and the creation or improvement of performance criteria and training to change behaviours.*

7. *Review of the IRSE licence application requirements, particularly whether the complaints process is being used effectively, the management of staff under mentorship and the appropriate level of mentorship for safety tasks and review of mentorship capability.*

8. *Review of the surveillance, aimed to improve assurance of safe delivery of signalling engineering tasks.*

9. *Review of the management of records availability for project work and the contracts and processes that impacts the timeliness of records returns by projects and suppliers.*

   Review actions are stage 1 activities, change actions are stage 2 activities.

Timescales: Stage 1 – March 2020, Stage 2 – Dec 2021

5.   At the Infrastructure Projects liaison meeting on 13 August 2019 Network Rail provided the following update:

Actions completed to date

Prior to the RAIB Waterloo being published in November 2018 several initiatives were started:

- *A review into maintenance testing activities focussing on why technicians errors occur*
- *An ongoing review of signalling works testing processes and standards*
- *An industry-wide stand-down aimed at project and design engineers to re-enforce the importance of project and requirement stability in preventing design errors*
- *A programme of automated checking for latent errors in digital interlockings*
- *The issue of notices raising awareness of technical/behavioural issues and lessons learned*
- *An emphasis on the importance of licensing and management effort to increase license compliance*
- *Re-introduced maintenance testing practical assessment for technicians*
- *An industry-wide education and awareness programme in December 2018 to mark the 30th anniversary of the Clapham disaster, emphasizing the importance of engineering processes developed since that time and the need to follow those processes to maintain safety.*
- *Standards updates to emphasize and strengthen the requirements for the securing of points not in operational use (relating directly to Cardiff and Waterloo incidents).*

Plan to address the recommendation industry-wide
ELT have been asked for their support so it 'comes from the top', they accepted,

1. *Cascading a tailored interactive briefing to leaders of signal engineering teams and staff, which includes leadership interventions and their impact, appropriate escalation practices, levels of self-awareness, levels of personal responsibility and a reminder of established good practice. A commitment of behaviour change will be included. Start September 19 – duration 12 months*
2. *Cascade of a cross-discipline briefing on the process and responsibilities for securing of points for infrastructure change projects. Particularly identifying transfer of responsibility through demonstration by scenario. Started - completion March 2020*
3. *Creation of E-learning describing the origins of process that support a safety culture and consider inclusion in the staff induction material. From Jan 2020 - duration 12 months*
4. *Review the effectiveness of industry forums used to improve industry awareness of the consequences of actions, including sharing of incidents and near misses, sharing of disciplinary outcomes (consequence of not following established practice), sharing of video media used to develop positive safety culture impact. Started - review completion March 2020.*
5. *Review the process for cascade brief of material from industry forums. Started - review completion March 2020.*
6. *Review of competence requirements for non-technical skills for signal engineering staff, and the creation or improvement of performance criteria and training to change behaviours. Started – review completion March 2020.*
7. *Review of the IRSE licence application requirements, particularly whether the complaints process is being used effectively, the management of staff under mentorship and the appropriate level of mentorship for safety tasks and review of mentorship capability. Started – review completion March 2020.*

8. *Review of the surveillance aimed to improve assurance of safe delivery of signalling engineering tasks. Started – review completion March 2020*
9. *Review of the management of records availability for project work and the contracts and processes that impacts the timeliness of records returns by projects and suppliers. Started – review completion December 2019.*
10. *Feedback and major review of findings and continuation/development of action items. April 2020.*

Recommendation 2

The intent of this recommendation is for OSL to implement actions already started (paragraphs 197 and 198) in respect of non-technical skills relevant to its staff in advance of any relevant actions triggered by implementation of Recommendation 1.

OSL Rail Ltd should enhance its existing processes for the assessment, development and ongoing monitoring of those staff who undertake signalling works so as to ensure that they have the depth of understanding, attitudes and non-technical skills that are needed to deliver work safely. Areas of enhancement should include the skills needed for effective communication and safe decision making in complex project environments.

ORR decision

6. We support the approach OSL Rail Ltd are taking to address the recommendation and have arranged to meet them in October to discuss in greater detail the action taken and progress to date.

7. After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, OSL Rail Ltd has:

- taken the recommendation into consideration; and

- is taking action to implement it

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

8. On 30 March 2019 OSL Rail Ltd provided the following initial response:

To enhance the immediate actions taken (as stated in paragraphs 197 and 198 of published report) OSL Rail conducted a full review of the business operating model. This review, along with a desire to develop the business into a tier 1 supplier, lead to a change to the management structure recruiting key people in the senior management team. Those recruited were hand picked from within the industry for their knowledge, experience and drive to take the business forward.

These appointments have enhanced Health and Safety, Competency, Training and Human Resources along with various discipline specific roles.

Actions taken:

OSL Rail has established quarterly staff business briefing days to share with all employees the business aspirations, performance and areas of concerns to drive an ethos of continuous improvement. These days are supported by other significant improvements with regards to internal communications with all industry alerts and updates cascade and managed via a single source, with further improvements including the recent introduction of an in-house employees' monthly newsletter.

Clearer, visual reporting dashboards with a focus on leading indicators rather than the traditional lagging indictors are being developed and a re-emphasis on the use of the companies "Employees Feedback" process which encourages employees and suppliers to raise any concerns, close calls or improvement ideas to the senior team.

Improvements on-going:

Although successfully passing various external audits from NQA, RISQS and Tier 1 suppliers, due to the significant enhancements and changes within discipline teams, all processes within the companies Integrated Management System are going through a complete review to ensure they are current, accurate and robust.

OSL Rail are investing to develop training capabilities including rail safety critical and IRSE technical training, mentorship and assessment in-house to ensure a consistent high-level quality for its staff of which more than 90% are directly fulltime employed. This ambitious plan will be implemented during 2019/20.

The recruitment process is one of the key procedures currently under review with an aim to ensure new employees are not just technically competent to fulfil their roles but also in respect to functional skills and non-technical skills to ensure those recruited exhibits the behaviours the business expects. The RSSB model for competence will be used for this purpose. This will be supported through mentorship, assessments, monitoring and personal development reviews.

Finally, a concerted focus has been maintained across the business, but specifically in relation to Signal Install and Test, to encourage open and honest dialogue between disciplines where teams and individuals are not afraid to challenge, and project leads are empowered and supported to make safe decisions. This is monitored through the establishment of a robust weekly, daily, hourly reporting mechanism as deemed appropriate for the work following internal weekly management reviews.

Recommendation 3

The intent of this recommendation is for Mott MacDonald Ltd to take action in respect of non-technical skills relevant to its staff in advance of any relevant actions triggered by implementation of Recommendation 1. It differs from Recommendation 2 by omitting explicit reference to communication because the RAIB Waterloo investigation did not link MML to communication issues. However, the recommendation covers all aspects of non-technical skills and implementation is expected to include consideration of communication issues.

Mott MacDonald Ltd should enhance its existing processes for the assessment, development and ongoing monitoring of those staff who undertake signalling works so as to ensure that they have the depth of understanding, attitudes and non-technical skills needed to deliver work safely. Areas of enhancement should include the skills needed for safe decision making in complex project environments.

ORR decision

9.   We support the approach Mott MacDonald Ltd are taking to address the recommendation and have arranged to meet them in October to discuss in greater detail the action taken and progress to date.

10.   After reviewing the information provided ORR has concluded that, in accordance with the Railways (Accident Investigation and Reporting) Regulations 2005, Mott MacDonald has:

- taken the recommendation into consideration; and

- is taking action to implement it

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

11.   On 15 April 2019 Mott MacDonald provided the following initial response:

1) Mott MacDonald has reviewed the RAIB report recommendations and set up an internal working group comprising the Professional Head of Railways, the Professional Head of Signalling and the Training and Development Manager.

2) The WG has reviewed the current Mott MacDonald signalling competence process in the context of the RAIB recommendations.

3) The WG has reviewed the RSSB guidance on Non-Technical Skills (NTS).

4) Mott MacDonald engaged RSSB to provide guidance and training on Non-Technical Skills. This was attended by the Professional Head of Signalling, the Training and Development Manager and the Head of Discipline – Signalling (who is the line manager for all signalling staff)

5) Mott MacDonald has determined that Non-Technical Skills will be incorporated in the competency management system and the level of NTS displayed by an individual will be determined by a mix of:

a. Psychometric profiling (16PF behavioural assessment maps well to RSSB NTS)

b. Self-assessment

c. Line manager assessment (observation and feedback)

6) This is being trialled on a cohort of CRE/CEM staff and will commence in April or May 2019. Feedback and experience will be used to shape the second cohort which is planned for May/June 2019.

7) The enhanced competency management process will be embedded in the Mott MacDonald UK Railway Instruction UKRI02 – Competence Management. This requires that there will be an annual determination of NTS and also will allow for determination of NTS when staff are appointed in the role of CEM/CRE.

In addition to the above, Mott MacDonald has engaged with IRSE and Network Rail to determine their proposed response to the RAIB recommendations to ensure that there is no duplication or omission in the planned implementation. Progress on this is slower than desired, hence Mott MacDonald is continuing with the above plans rather than wait for full alignment with IRSE and Network Rail.