rightTrack

Issue 17 **Autumn 2016**

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Hello, and welcome to the Autumn 2016 issue of Right Track!

In this issue, we're looking at the new rules that have been put in place for times when the GSM-R system fails, and how that will help make the industry safer. We also hear about new guidance created by the industry for train crew to reassure passengers during incidents, reducing the risk of self-evacuation.

Our SPADtalk this issue talks about the importance of good safety communications, in preventing SPADs; and the RAIB report gives us a debrief on the Godmersham incident, when a few cows, who had made their way onto the track, derailed a train.

For the Lowdown, we go to Network Rail's York training centre to learn about the joys and challenges of training signallers.

As ever, we would love to hear your views about Right Track. If you have any comments on this issue's articles, or suggestions for future stories, please get in touch via **righttrack@rssb.co.uk.**

Right Track can be downloaded from Opsweb: www.opsweb.co.uk.
Right Track is produced by RSSB through cross-industry co-operation. It is designed for the people on the operational front line on the national mainline railway, yards, depots and sidings, and London Underground.
Their companies are represented on various cross-industry groups, including the System Safety Risk Group, managed through RSSB, and Right Track is overseen by a cross-industry editorial group.

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Printed by Urban Juice / Willsons Group Services.

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Have you updated your **Rule Book?**

What is the Rule Book?

The Rule Book is a vital safety document. It comprises a set of modules and handbooks which contain direct instructions for railway staff. It sets out the operational rules for application on the GB mainline railway, which are necessary to enable the safe and timely delivery of people and goods to their destination, and to provide the framework to enable safe engineering operations.

Why do I need to update it?

In December 2016, the Rule Book is seeing a number of changes. To make sure you follow all the latest safety instructions, you need to update your own Rule Book.

Is this normal?

Yes. The Rule Book, which is maintained by RSSB on behalf of industry, is updated every six months to include new instructions, or update existing ones. These changes are based on research into new areas of risk (such as new technology), or increased understanding of existing risks and how to deal with them.

Further information

Details of the changes coming into force this December can be found in issue 29 of the Rule Book briefing leaflet – please speak to your line manager, or contact RSSB's enquiry desk via:
enquirydesk@rssb.co.uk

You can find more information about the Rule Book and rail industry standards on the RSSB website:
www.rssb.co.uk/standards-and-the-rail-industry

What are the changes this time?

These are the modules that are changing this December:

- Module M1 Dealing with a train accident or train evacuation
- Module M2 Train stopped by train failure
- Module T3 Possession of a running line for engineering work
- Module T3 (ERTMS) Possession of an ERTMS running line for engineering work
- Module TS1 General signalling regulations
- Module TW1 Preparation and movement of trains
- Module TW5 Preparation and movement of trains. Defective or isolated vehicles and on-train equipment
- RS521 Signals, handsignals, indicators and signs handbook

There is also going to be a new document: RS523 GSM-R handbook

Possession of the line and proceeding at caution

RSSB has recently published a guidance note on *"proceeding at caution"*, which refers specifically to driving in possessions. The Mechanical & Electrical Engineers Networking Group (M&EE NG) has produced a document that supports this guidance note. Alan Smith, Chairman of the M&EE on-track machines (OTM) Operations Group, tells us more.

The M&EE NG meets to discuss the technical and operational safety of plant on the railway. It then produces good practice guides to help operational staff stay safe, such as the siding safety surveys which are available in the depots section of Opsweb. Go to ***www.rssb.co.uk/opsweb*** *for more information.*

For the RSSB guidance note, go to the *"Train Operations"* section of Opsweb.

The M&EE NG wanted to underline the difference between being verbally instructed to proceed at caution, and being required to proceed at caution without being specifically instructed.

Under normal signalling, drivers drive their train according to the meaning of the signal aspects and indications displayed. They can be verbally instructed to proceed at caution by various people, including signallers, PICOPs, or SWLs. This can be for a number of reasons, such as trespassers or animals on the line; infrastructure problems; or a failed train ahead. When this happens, the driver is required to adjust their driving, so that they are able to stop safely if the line ahead is obstructed. This is made clear in Rule Book Module TW1.

Newswire

13 July 2016, Australia: Passenger train derails after crossing collision near Colac

At around 15:45 (local time), a passenger train derailed after it struck a lorry at a level crossing near Colac, Victoria. 19 people on the train were injured, including the driver and guard. The lorry driver was thrown through his windscreen and later airlifted to hospital in a critical condition. The crossing had already been earmarked for upgrading with warning lights and barriers.

14 July 2016, US: Freight collides with lorry on crossing in Chattanooga injuring three

A Norfolk Southern freight struck a lorry on a level crossing in Chattanooga, Tennessee. The lorry driver, train driver and guard were injured. The train's three locomotives and 10 of its wagons were derailed. An investigation has been launched.

13 August 2016, Finland: Freights collide in Oulu, injuring driver

Two freight trains collided in Oulu, leading to the derailment of a locomotive and three wagons. One of the drivers was taken to hospital with minor injuries.

The Rule Book Module TW1 section 25 says:

> *If instructed to proceed at caution, you must, as well as not exceeding any specified speed, proceed at a speed which takes account of conditions (such as the distance you can see to be clear), that will allow you to stop the train short of any train, vehicle or other obstruction, or the end of your movement authority.*

Right Track has covered proceeding at caution recently *(see issue 15, Spring 2016).*

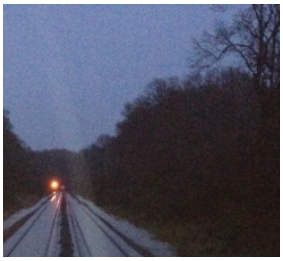
But this is not the only time you're expected to drive at caution. As well as after you've been verbally warned of a danger ahead, you must proceed at caution when you're making a movement within a possession. Rule Book Module T3 section 9.6, which applies to movements within possessions, states that the driver must make all such movements at caution. This means that the requirements to make the movement at caution, as stated in Rule Book Module TW1 section 25, still applies. This is the case even if you haven't specifically been told to drive at caution.

By applying all the Rules and instructions, we can help reduce risk across our network and keep ourselves and the workplace safe.

Images: Network Rail

Remember: the requirement to proceed at caution applies when:

- *instructed by the signalling system*
- *instructed by the signaller*
- *at all times when making a movement within a possession*



13 August 2016, Switzerland: Knifeman sets fire to passenger train near Salez

At around 14:20 (local time), a man armed with a knife set fire to a passenger train in Salez, north-east Switzerland. The man ignited a flammable liquid and began attacking passengers. Six people – including a six-year-old child – were left with stab wounds and burns.

The attacker and one of the victims later died of their injuries. This was the second on-board attack in Europe in as many months: in July an Afghan asylum seeker attacked passengers on a train in the neighbouring German state of Bavaria with an axe, injuring four people.

17 August 2016, France: Passenger train strikes tree near Montpellier, more than 10 injured,

At around 15:45 (local time), a double-decker passenger train struck a tree that had been uprooted during a hailstorm near Montpellier. At least 13 were injured; reports suggest that one passenger was thrown from the train by the impact.

The Lowdown: Signaller Trainers

Signallers play a vital role in the railway. They need to know what's going on in their section of the infrastructure to avoid incidents; and to keep everyone safe and calm if there is an incident. So how are they prepared for all the eventualities that can occur on the operational railway? Network Rail's Claire Volding went to York to meet the people who train signallers.

To become a signaller is a huge investment of time and resource, both from the individual and the company. To train absolute block takes 10 weeks; a signaller from scratch in the rules and regulations of track circuit block it takes nine weeks. (unless you've already trained in absolutely block, in which case you only need one more week).

The purpose-built Network Rail training centre in York is one of the main locations where signallers are trained. Completed in April 2014, it specialises in several railway disciplines, including the new Initial Signaller Training scheme. On average, 40 budding signallers attend classes there each week, with 285 passed out last year. Training is led by a team of Workforce Development Specialists (WDS). There are seven of them based in York, so I caught up with a couple of them to find out a bit more about how Network Rail prepares signallers to face their safety critical duties.

Thomas Ward

Before starting as signaller, I was a teacher. One day I would like to teach again, so becoming a WDS three years ago seemed like a good way to join a few weird dots on my CV.

I signalled for three years, and thought I might be good at explaining it to others. Now that I do, I really enjoy the privilege of being able to make a difference to peoples' careers. I do, however, find it deeply frustrating if trainees aren't working hard enough. Worse than that, though, is if someone is working really hard but they aren't quite right for the job. We are with the trainees for quite a long time so we get to know them, and a lot of the time we get to like them, so it is painful to tell them they have failed. I also hate the feeling of going home knowing that I haven't quite managed to explain something properly and so I have left my group struggling.

We constantly try to change the way we train delegates. Until three years ago, we used a "talk and chalk" approach, with exams as our only means of assessment. Then we shifted to a 'delegate centred' approach, with assessment by simulation work only. However we realised we had over-compensated, however; so we now have an approach which is a bit of both: we assess by exam and by practical assessment. One of the good things about the training team is that we are ready to respond to feedback and change.

We expect a lot from our trainees, but at their best they work well and are very well prepared for their jobs when they leave us. Good signallers need to be unflappable, sharp and conscientious; but making mistakes through human error is always a risk, so they need to be honest also.

Daniel Jones

I wanted to be a WDS ever since my experience of signal school many years ago. I've now been in the role for almost two years, and work alongside the trainer who trained me!

I was a signaller for 11 years and loved the challenge of resolving incidents, even if I did hate the shift work. I also enjoyed training new signallers in the various signal boxes I worked.

The team of WDS I work alongside are very passionate about the training experience, and strive to improve it so we can train up signallers who are able to adapt to changes in situations.

In my two years, I have already seen many changes. For example, we reduced the number of delegates per course, so we have more time for each delegate. We've also removed some topics so they can be taught locally. The new Initial Signaller Training course is continuously being improved to match the needs of the business and make sure we produce the best signallers we can.

The greatest challenge signallers face today is adapting to changes in the industry, mainly the introduction of new technology. Industry could help with this by consistently delivering a high standard of training.

Carl Rowe

I am the product of what was the British Rail youth training scheme, which I joined straight from school. I started as a clerical officer, before moving onto the permanent way and then into signalling in January 1996.

I've been a WDS for 19 months now. I was attracted to the role as I always enjoyed sharing my knowledge and experience with new signallers and watching them develop their competence. It always brought great satisfaction and was often the start of good friendships.

Most delegates know very little about the railway at all, so it is fantastic to spend time with them over the weeks and watch them developing throughout the course. The satisfaction on their faces when they successfully complete the course is wonderful to see and brings me great pleasure. It's always good to hear from them when they start working in their own boxes. They turn up as delegates and hopefully leave as good friends.

This role requires a lot of work that goes on unnoticed away from training rooms that others don't see. You need to be disciplined and balanced about this, or it can easily swallow up recreation and quality time at home with the family, which everyone needs.

I have seen a great deal of changes in the way we train signallers since I started, and we need to continue to change as the railway itself continues to develop. When I started, we didn't have any written assessments at all! The only way of assessing understanding was by multi choice questions and practical observations on the signalling simulators. We now have three written assessments throughout the training course, which we integrate with the practical observations. It's a much better blend of assessment, and makes it far easier to see where development is required!

In my opinion, the biggest challenge for signallers lies in areas where a decision is made purely by the signaller. For example, the risks concerning level crossing user safety. I think the industry is already making positive steps by closing level crossings where possible and providing safer alternatives. When it comes to any decision making, I always stress the need for signallers to stop, step back, check and re-check before making these important decisions. Hopefully that extra thinking time will save someone's life.

Passenger self-evacuation

This issue was covered in **RED 43**, from which all the images in this article are taken. To view the whole programme, go to **www.rssb.co.uk/opsweb** and click on Briefing Materials. You will need to log in.

We always hope it doesn't happen, but so long as there are trains running on tracks there will be problems on the mainline railway which require trains to stop. From cows having a chew at the grass in the cess, to loss of power during a thunderstorm, trains get stuck. Many of these incidents are initially fairly minor, but can quickly escalate to major incidents as passengers decide to self-evacuate from trains. Our passengers often have little awareness of the dangers inherent in this, from breaking a leg when jumping onto the ballast to electrocuting themselves on the third rail or being hit by a train, the outcomes are all grim. And ironically, by self-evacuating, passengers are adding to the delays to other trains as lines are blocked – which may make passengers in other trains self-evacuate…

As well as the safety issue, it is also a costly business for industry. The delays and potential damage to rolling stock need to be paid for, as does dealing with reputational damage from criticism on social and mainstream media.

How can we prevent passengers self-evacuating?

On behalf of the industry, RSSB reviewed a number of these events and concluded that in many of them, passengers were not given adequate information about the delay to their journey (for example, the London Underground train at Holland Park Station; and the failed train between Dock Junction and Kentish Town in 2011). The longer the passengers were stranded on a train, the greater the risk of self-evacuation. So RSSB is helping to develop industry guidance and training material, advising traincrew on how to communicate with passengers during an incident.

All this information is available on the **SPARK** website.
Go to **www.SPARKrail.org** and search for **T1065**.
You will need to log in.

The guidance is written for anyone with responsibility for the effective management of rail incidents, from senior management to operational staff. Its purpose is to increase awareness and understanding of passenger behaviour, and help companies explore the factors impacting effective on-train announcements.

This project's main finding is that passengers need good communications. This means timely, reassuring and accurate announcements. The main points to consider for providing good communication to passengers are:

- **What type of information should be communicated**
  - what are the key facts or items of information that should be communicated in the message?
- **Accuracy and relevance of information**
  - ensuring that the message is useful, believable and fits with the picture the passenger has of unfolding events.
- **Thinking like a passenger**
  - having the right attitude and showing empathy towards the passengers about how the delay or disruption will affect them.
- **Frequency and timing of communication**
  - how often train crew should communicate with passengers and why frequent and predictable communication is important.
- **Message delivery**
  - the vocal style of delivery, e.g. slow, clear and calm.

The research recognises that there are other factors that might impact the effectiveness of on-train announcements, such as the reliability of the communication systems; policies and procedures; staff workload; and operational demands and task prioritisation to name a few.

What can we do when passengers do self-evacuate?

Ultimately, no matter how hard you try, passengers will be a law onto themselves; and sometimes they will self-evacuate. The industry has looked at this issue, and updated Rule Book Module M1, *"Dealing with a train accident or train evacuation"* to include the latest updates. The module was re-published in September 2016; and the effects come into effect on 3 December 2016.

Sections 6.6 and 6.7 give information to train crew, and signallers on the best way to maintain the safety of passengers once they become aware that passengers are self-evacuating. It is still our responsibility to protect passengers with any means available; including blocking lines and switching off electric traction current where possible.

The re-issued Rule Book Module M1, *"Dealing with a train accident or train evacuation"*, is available online at **www.rssb.co.uk** Click on the **"Rule Book"** and search **"M1"**.

Managing failures in on-board communications

It seems pretty instinctive, but if you're driving a train, you need to be able to communicate with the outside world. Whether to let the signaller know you've seen a cow on the track, or so the signaller can contact you because there's a problem with a signal – you need to be able to say these things.

In the very early days of the railways, when signal boxes were first introduced, this was done by the driver stopping outside the signal box so that one of the train crew could ask the signaller for direct instructions. Once telephones were invented, there was a new method for safety critical communications between the driver and signaller.

More recently, GSM-R (Global Systems for Mobile Communication – Railways) has been introduced across the GB rail network. It is now the normal method of communication on the railways of Great Britain and is highly reliable. However, even the best technology sometimes fails. And when that happens what is the safest operational response?

RSSB is where the industry comes to work together on projects that affect the whole industry, in "cross-industry groups". When RSSB looked at operational responses to GSM-R, it invited subject matter experts in this field to give their input. The group included representatives from the ORR, the Association of Train Operating Companies - now the Rail Delivery Group (RDG), Train Operating Companies (TOCs), Network Rail and trade unions.

In November 2014, the Office of Rail and Road (ORR) requested RSSB to lead a comprehensive review of the contingency arrangements for managing failures that occur within the GSM-R system to evaluate the effectiveness of the current arrangements and where necessary recommend amendments that were supported by a suitable and sufficient assessment of risk.

In other words, the ORR asked the industry to consider the possible responses to failures in the GSM-R system. In instances when the GSM-R system does fail, when is it necessary to stop trains; and when are the benefits of stopping trains outweighed by the increased system risk? How do you determine which operational response to follow, and on what criteria do you base that decision?

In response to the ORR's request, RSSB set up a cross-industry group (see box) to look at this problem. This group developed a safety risk model which considered a range of responses to the failure scenarios. The responses range from allowing operations to continue without restriction, to not permitting any further train movements. In each case, the effect on the level of risk was evaluated by comparing it with what the level of risk is when every train has the ability to make or receive a Railway Emergency group Call (REC). The change in risk was calculated in two ways – the direct risk of a train accident occurring; and the 'knock-on' risk to passengers through such events as station crowding caused by train cancellations, or delays caused by running at reduced speed.

Of course, each situation is different: it depends on how many miles of track are affected, how congested the area is, and to a certain extent what time of day it is. In each instance, the best operational response has to consider the specific circumstances. The safety risk model has enabled the operational responses to be defined.

GSM-R training loco

The findings of the risk model were accepted by the working group after testing out the reasoning behind them, and being satisfied that they were realistic. The ORR is now satisfied that, as a result of this work, the industry's operational responses to radio failures are appropriate, and will be the same across the network. The industry has reached a conclusion that matches what it was asked to do, which will reduce overall risk across the network.

The findings have been used to develop and update Railway Group Standards (RSGs), including GERT8000 Rule Book. These new and amended RGSs now need to be embedded within your company's contingency arrangements, and be briefed to staff by 3 December 2016.

If you require more information, the new and amended RGSs can be found in the Standards Catalogue area on RSSB.co.uk.

If you would like further advice, please contact RSSB's Enquiry Desk at:

enquirydesk@rssb.co.uk

The related RGSs are:

GERT8000 RuleBook

- **M2, Iss 5** *Train stopped by train failure.*
- **T3, Iss 7** *Possession of a running line for engineering work.*
- **T3 ERTMS, Iss 4** *Possession of an ERTMS running line for engineering work where lineside signals are not provided.*
- **TS1, Iss 11** *General Signalling Regulations.*
- **TW1, Iss 11** *Preparation and movement of trains.*
- **TW5, Iss 7** *Preparation and movement of trains: Defective or isolated vehicles and on-train equipment.*

RS523, Iss 1 *GSM-R Handbook*

RIS-3780-TOM, Iss 1 *Operational Requirements for GSM-R Radio (New).*

Courtesy of RAIB

RAIB Report Brief: Godmersham

The numbers say it won't happen. Probably won't happen. So it won't. Trouble is, cows don't read stats reports.....And so, at around 21:40 on Sunday 26 July 2015, a passenger train derailed after striking eight cows that had got onto the line at Godmersham in Kent.

This incident was the basis for the dramatisation in RED 44 – most of the images in this article are taken from RED. Watch the whole programme in the "Briefing Resources" section of Opsweb.

There'd been a report of a beast on the railway an hour earlier, but the driver of the next passing train didn't find anything amiss, and there were no further reports from other trains that passed.

Then came the 20:10 Charing Cross–Ramsgate, powering along at 69 mph. The first two cows it struck derailed its leading wheelset. It then struck another six cows, and ploughed into the parapet wall of Trimworth Bridge. It damaged the abutments and destroyed the wall and its railings.

There were no reported injuries among the 67 passengers and three members of staff on board the train. As the train's radio had ceased to work during the accident, the driver ran on foot for about three-quarters of a mile towards an oncoming train, which had been stopped by the signaller, and used its radio to report the accident.

RAIB's analysis of the derailment path suggests that the consequences were far less severe than they might have been. There were two major factors in this. Firstly, the impact with Trimworth Bridge deflected the train back towards the railway. Secondly, the path of the leading carriage was constrained by the right-hand wheels running against the inside face of the left-hand rail. These factors reduced the probability of the train falling further down the embankment.

RAIB's final analysis suggests that Godmersham happened because the fence hadn't been maintained well enough to stop cows from breaching it, and because the response to the earlier report of a cow on the railway side of the fence wasn't enough to prevent the accident. RAIB also notes that the leading unit didn't have an obstacle deflector, which made derailment more likely.

Train driver Daryl Ryan, as well as other SouthEastern employees on duty that night were commended in the SouthEastern internal awards – and so were the residents of Godmersham, who came to the rescue of the 70 train passengers and looked after them in their village hall.

For RAIB, Godmersham:

- *Reminds us of the importance of treating large animals within the boundary fence as an emergency.*
- *Highlights the importance of staff being familiar with the Rule Book requirements for actions to be taken after an accident.*

Newswire

24 August 2016, Germany: Level crossing collision near Osnabrück injures 10

At 08:30 (local time), a freight train struck a rail replacement bus on a level crossing in Osnabrück. Ten people – including the bus driver and train driver – were injured. Reports suggest that the bus had stopped to pick up and set down passengers at a nearby station, but had been parked with its rear still foul of the line.

9 September 2016, Spain: Derailment near O Perrino kills 4

At around 09:30 (local time), a passenger train derailed near O Porrino station, striking a bridge and a lighting tower in the process. The train driver, a ticket inspector and two passengers were killed; 49 people were injured, seven seriously. Reports suggest that the train derailed at 118 km/h on a 30km/h section of line.

13 September 2016, Australia: 2 killed as train strikes car on Melbourne crossing

Just before 16:00 (local time), a train struck a car on a level crossing in the Surrey Hills suburb of Melbourne. The two road vehicle occupants were killed. A witness report suggested that the car tried to beat the barriers as they came down.

What was done?

Network Rail was already in the process of reviewing its boundary management standard. RAIB has seen some draft extracts of the off-track Business Critical Rules, but notes that there is currently no evidence that it fully addresses the factors identified in the investigation. These include competence and consistency amongst fencing inspectors, and the sensitivity of the risk rating system.

In September 2014, Network Rail completed a review of the risks associated with objects obstructing the line. The outcome of this review included a number of actions relevant to mitigating the risks from animals on the line, including research to review the configuration of the railway boundary.

Locally, the off-track section at Ashford DU has replaced around 1300 metres of boundary fence at Godmersham, which includes the site of the cow incursion, with chain link fencing. Fencing inspectors have also been re-briefed to use a condition score 2 (ie poor) only if the fence requires maintenance. Otherwise, the condition score 0 (good) should be used when no work is required. The Ashford off-track section has also instigated a process to review its boundary risk assessments and, where necessary, accelerate the programme for repairs or renewals at high-risk sites.

The operator (SouthEastern), in conjunction with Network Rail and the manufacturer of the GSM-R train radio system (Siemens Rail Automation Ltd), is investigating the problem with the radio unit. Work is ongoing to confirm the failure mode, determine the wider implications for other electric stock types and the impact, if any, of fitting a secondary independent power supply.

SouthEastern has also instigated a programme of work to evaluate the safety case for retrofitting obstacle deflectors to its Class 375 fleet.

RAIB also recommended:

- *Modifying the risk rating methodology for fencing inspections to include guidance on the design of the fence and its appropriateness for the adjacent land use; and condition ratings based on objective and relative (benchmarked) criteria.*
- *Clarifying how signallers may interpret the Rule Book regarding their response to reports of animal incursions, including guidance on how long to continue cautioning trains and what constitutes being 'sure' that the line is again clear, and re-brief as appropriate.*
- *Developing a programme for retrofitting obstacle deflectors to Electrostar units that are not currently fitted, but are equipped with mountings for such deflectors.*
- *Considering the case for a wider retrofitment programme.*
- *Completing work to understand the nature of the problem with the GSM-R in this accident, and implementing measures to ensure that its drivers have the facility to make an emergency call in similar situations in future.*

29 September 2016, US: Buffer stop collision kills 1, injures 114 after possible brakes failure

At 08:45 (local time), a passenger train struck and overrode the buffer stops before coming to rest on the concourse at Hoboken station in New York. One person was killed and 114 were injured. A witness reported that the train *'never slowed down'*. It has also been reported that the line on which the accident occurred is not fitted with Positive Train Control. The National Transportation Safety Board is investigating.

29 September 2016, India: 1 killed, 22 injured as passenger train strikes freight in Cuttack

At least one person was killed and 22 were injured when a passenger train collided with a freight train at Cuttack station. Two carriages were derailed by the impact. According to local officials, the service was unusually overcrowded due to a bus operators' strike.

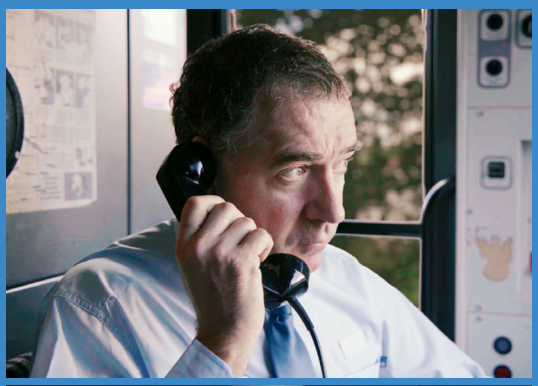
SPADtalk

In the last issue of Right Track (issue 16, summer 2016), SPADtalk explored the 10 areas of human factors which underlie SPAD incidents (see box). RSSB's human factors team, who look at how to make equipment and processes safer and more efficient, reviewed SPAD data from across the industry. Here, we look more closely at the first of these 10 factors: verbal communications.

1. Verbal communications
2. Fitness for task / duty
3. Processes and procedure documents
4. Written information on the day
5. Competence management
6. Infrastructure, equipment and materials
7. The person's task environment
8. The person's workload
9. Teamwork
10. Leadership and risk management

The root causes of many SPADs are errors in drivers identifying and reading signals. However, they can also happen because of errors in communication: it is a cause in 13% of the SPAD incidents reviewed.

Communications failures can be between drivers and other operational staff including signallers, shunters, PICOPs or ESs. Errors in communicating verbal instructions for a driver to pass a signal at danger are one of the most common ways that this happens. But verbal communication failures can also play an important role in SPADs in other ways.



Distraction:

Communications can be a distraction, leading to a SPAD. Mobile phone communications and other in-cab, signal box or yard communications can distract the driver. Even after a communication is ended, a driver can replay the conversation with the signaller or other member of staff in their mind. This is particularly true if the communication was challenging or thought provoking in any way. *(This is the basis of the drama in RED 46.)* Developing non-technical skills can allow you to take a step back and manage these distractions more effectively.

Personal:

Telling your manager about personal, health, wellbeing or fatigue issues can be a difficult conversation to have, no matter what your role is. If the conversation doesn't happen, or if it's not handled sympathetically, it can cause further upset or distress. For drivers, this can contribute to SPADs. They might go on to work when their performance is not optimal due to fatigue, stress or illness; or be upset at how the conversation has gone (or the fact that it hasn't happened) and be distracted by it (see "Distraction").

Basics:

Basic communication protocols are well embedded in the industry, as they help prevent SPADs. However, the review revealed that these basics, such as stating your location and reading back, can lead to SPADs if they're not done well. A signaller giving authority to the wrong driver also increases the likelihood of a SPAD. The industry is aware of how important good communications are, and are working to together to develop improved training materials for Safety Critical Communications.

Containment:

We all hope SPADs won't happen, but when they do good communication is absolutely critical. At this stage, it allows the incident to be dealt with effectively, and stop it spiralling into a bigger event. The data review has revealed that sometimes communications between drivers and signallers just after a SPAD can be 'cagey'. Communications now should be about getting all the relevant information, so that any risks after the SPAD can be managed, which can only be achieved if there is open and considerate communication between the parties involved. Yet sometimes the staff involved don't discuss the circumstances quickly and openly. The industry is doing work on developing a good safety culture and fair reporting process, which should help these communications happen naturally and effectively.

It is important to be aware of each of these issues, and notice when – and how – they affect you. Each of them has a different mitigation, or method of prevention. For more information, read RSSB's report "Industry Human Factors SPAD Review : Workshop feedback report for front line staff and their managers" which can be found on SPARK. Go to **www.sparkrail.org**

In the next issue, we'll be looking at the issues around 'Fitness for duty', including the impact of shift work and how fatigue can affect human performance.

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We have been keeping you up to date about the the changes in thinking, guidance and rules through RED and Right Track. But in the age of fast technological advance and social media, there are now new ways for you to join in the conversation.

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If you want to watch the latest issue of RED, just go to the Opsweb section (you will need a login, but it is worth it!), where we've also got up to date SPAD and TPWS data, information on preventing suicide, posters for the *"Lend a Helping Hand"* campaign and much, much more.

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