

Overspeeds in blanket speed restrictions, south Wales, 27 January 2025

Important safety messages

These incidents demonstrate the importance of:

- having robust and effective processes for delivering safety-critical messages to train drivers about speed restrictions
- using available technology (such as automatically triggered radio broadcasts) to reinforce the delivery of safety-critical messages about speed restrictions to train drivers
- having operational procedures which ensure that safety-critical messages, such as those relating to speed restrictions, reach the signalling and other operational staff who need to act upon them.

Summary of the incidents

On 26 January 2025, Network Rail's Wales and Borders route control identified a requirement for blanket speed restrictions (BSRs) of 50 mph (80 km/h) to be imposed the following day, due to forecast high winds. These BSRs were imposed in two locations:

- between Swansea and Neath, because of a potential risk of overturning between 06:00 and 18:00
- between Newport and Bishton, because of a potential risk from fallen trees between 12:00 and 15:00.



Rail Accident Investigation Branch



Extract from Ordnance Survey map showing the general locations of the two BSRs.

On 27 January 2025, while trialling a new system to monitor the movements of trains, an incident controller at Wales and Borders route control identified eight trains that had exceeded the 50 mph (80 km/h) imposed restriction in either of these two BSRs:

- At 11:33, Transport for Wales Rail Ltd (TfWRL) train 2B56 travelled through the Swansea BSR at 61 mph (98 km/h).
- At 12:00, TfWRL train 2B61 travelled through the Swansea BSR at 69 mph (111 km/h).
- At 12:06, Cross Country train 1M64 travelled through the Newport BSR at 92 mph (148 km/h).
- At 12:58, TfWRL train 1W20 travelled through the Swansea BSR at 71 mph (114 km/h).
- At 13:08, Cross Country train 1Z07 travelled through the Newport BSR at 91 mph (146 km/h).
- At 13:14, the driver of Great Western Railway (GWR) train 1B13 contacted the Severn Tunnel signaller (who controlled the signals on the approach to the Newport BSR from the east) at the Wales Rail Operating Centre (WROC) to ask if the BSR was still in place. After being told that no BSR was in place, the train travelled through the Newport BSR at 88 mph (142 km/h).
- At 14:05, Cross Country train 1M68 travelled through the Newport BSR at 88 mph (142 km/h). This train was driven by the same driver as train 1Z07.
- At 14:08, GWR train 1L21 travelled through the Newport BSR at 90 mph (145 km/h).



Two further train drivers contacted the relevant signaller at the WROC at 12:10 and 13:04 to ask whether the Newport BSR was in place. The signaller responded to the drivers that the BSR was not in place. It is not known whether these trains then exceeded the BSR.

While eight trains travelled faster than the BSR, their recorded speeds were within those normally permitted for the locations. There were no reported consequences from the overspeeds.

Cause of the incidents

The overspeeds occurred because the signallers for the relevant sections of track and the drivers of the trains involved were not aware of, or had forgotten about, the imposed BSRs or, in the case of the driver of train 1B13, was incorrectly advised that the BSR was not in place.

High winds can pose risks to the safe operation of trains, including a risk of trains overturning and trees falling on to the line. One of the ways Network Rail manages the risk of high winds is by imposing BSRs, as a precaution over a wide area. These do not have lineside warning signs. Where necessary, Network Rail control room staff issue notices detailing the BSRs to the relevant railway companies, including the train operating companies (TOCs) running trains in or through the affected areas. These notices detail the specific speed restrictions, along with their geographical limits and the times for which they are to be applied.

Each TOC uses its internal processes to pass this information on to its drivers. These processes vary between companies, with some TOCs posting copies of the Network Rail notices at drivers' signing-on points, while others issue personal copies of the notices to each driver, either electronically or on paper.

Network Rail's Wales and Borders route control (also located in the WROC) produced two notices detailing the proposed BSRs. Shortly after midday on 26 January 2025, these were sent separately by email to a distribution list that, among others, included the defined contacts for the appropriate TOCs and a shared email inbox for the Shift Signalling Managers (SSMs). It is the role of the SSMs to supervise a group of signallers, including all those relevant to this incident at the WROC. The email also went to a shared email inbox for the Severn Tunnel signaller's workstation, but not to the other relevant workstations at the WROC (Newport and Swansea). The process for issuing the notices required that TOCs and other external contacts acknowledge that they had received the notice by replying to the email. There was no such requirement for contacts internal to Network Rail, such as SSMs or signallers. If the emails had been seen by the SSM on duty at the time, the local process was for them to print copies of the BSR notices and to leave them on the relevant workstations so that the signallers were aware.

At around 13:35 on 27 January, a manager from Wales and Borders route control visited the SSM to enquire why the BSRs were not being obeyed. The SSM had no knowledge of the BSRs.

The emails concerning the two BSRs relevant to this incident were delivered to the SSM shared inbox. However, they were not seen by the SSM on duty at the time they were received, or any other SSM between then and the start of the BSRs. While other safety-critical emails are delivered to dedicated email inboxes or specific folders within the email software used by the SSMs, BSR notices were delivered to Rail Accident Investigation Branch Safety digest 03/2025: South Wales overspeeds



the general inbox among other non-critical emails and were not noticed by the SSM. The SSM also reported that they were performing other duties at the time the emails arrived.

Because the SSM had not seen the email, the signallers on the Newport and Swansea workstations were unaware of the BSRs. It is of note that, while the email containing details of the BSR had been sent directly to the Severn Tunnel workstation email inbox, it also had not been seen by any of the signallers on duty there before the overspeeds occurred. Signallers are not expected to check general emails during their shift to allow them to remain focused on the operation of the workstation. Should any critical information be received, such as BSR notices, the signallers stated that they would expect to be briefed by the SSM. This suggests that the emails containing details of the BSRs may not have been read and actioned, even had they been sent directly to the Newport and Swansea workstations.

Had the signallers involved been aware of the BSRs, they could have set up reminder announcements to be automatically sent to trains over the GSM-R (Global System for Mobile Communications – Railway) radio system as they approached the site of the speed restrictions, as is mandated by Network Rail's national operating procedure for speed restrictions. Witness evidence suggests that some of the drivers involved in the overspeeds expected to receive a radio broadcast on the approach to any speed restriction.

However, despite this requirement, the signallers involved stated that using the GSM-R facility to send automatic announcements was rarely done at the WROC. This is further supported by its use not being considered once signalling staff became aware of the BSRs.

The email distribution list used by Wales and Borders route control to send the BSR notices included the three TOCs involved in the overspeeding incidents. All the TOCs replied later that day to confirm that they had received the notices and displayed them in late notice cases for drivers to see. The cases are generally glass-covered notice boards, positioned where staff book on to duty, which drivers are required to check before starting their duties. They contain information about anything that has changed since the publication of that week's operating notices.

The driver of TfWRL train 2B56 was engaged in route learning, under the direction of a driver instructor. The instructor stated that they were focused on imparting their route knowledge and had forgotten about the BSR. The driver of train 2B61 had just taken over driving the train and had not seen the BSR notice when they booked on for duty. The driver of train 1W20 had only just started driving after riding in the passenger saloon to allow route learning to take place. When they took over driving the train, they mistakenly thought the BSR had finished at 12:00.

The driver of Cross Country train 1M64 stated that, while they had checked the late notice case, they did not take in the information on the BSR. The driver who drove both trains 1Z07 and 1M68 stated that they had not noticed the BSR in the late notice case. In both instances, the drivers had signed on many hours before their trains passed through the area of the BSR.



The driver of GWR train 1B13 had read the BSR notice when they signed on and understood its significance. Later in the day, not considering the weather conditions to be too severe, the driver contacted the Severn Tunnel signaller to confirm the speed restriction. As none of the signallers were aware of the BSR, the driver was incorrectly advised that the restriction was not in place, which led them to drive to the normally permitted speed. The driver of train 1L21 had viewed the late notice case, but overlooked the information on the BSR.

Unlike other types of emergency and temporary speed restrictions, there were no warnings, reminders or visual cues available to the train drivers involved relating to these BSRs, other than the information in the late notice case. This meant that drivers' memory was a potential single point of failure for compliance with a safety-related speed restriction. In addition, late notice cases can contain many documents, only some of which may be relevant to a particular driver's planned route for that day. Where drivers are undertaking route learning then they may need to move between trains to learn different sections of the railway network. This can make it more difficult for drivers to capture and remember the restrictions in place using this method.

Previous similar occurrences

RAIB has published reports into several incidents involving overspeeding through blanket speed restrictions.

- RAIB's investigation into six overspeeding incidents between Laurencekirk and Porthlethen, Aberdeenshire (RAIB report 08/2021), found that the use of late notice cases to provide information to drivers goes back many decades, and that there are opportunities to convey information securely and rapidly using more modern methods. RAIB's report included a recommendation intended to trigger a review of the methods used to implement blanket speed restrictions. The Office of Rail and Road reported to RAIB in 2022 that this recommendation was being implemented. The report also included learning points concerning the importance of drivers being aware of information contained in late notice cases, and the need for safety-critical communications to provide clear and unambiguous information.
- RAIB published a safety digest into a number of overspeeds within BSRs on Network Rail's Wales and Western region in July 2022 (<u>RAIB safety digest</u> <u>06/2022</u>). RAIB found that these overspeeding incidents occurred because the drivers of the trains involved did not have a clear understanding of where, or when, the relevant BSRs applied.
- RAIB published a safety digest into trains overspeeding through a BSR between Blackford and Gleneagles, Perth and Kinross, on 15 July 2023 (RAIB safety digest 06/2023). The drivers of the trains involved were unaware of the BSR as they had not been provided with the relevant information when they signed on. Automatically triggered GSM-R messages were not available for the area because of the type of signalling system in use.
- In April 2022, RAIB wrote to the Office of Rail and Road as well as train and freight operating companies in relation to overspeeding incidents that had occurred through BSRs in north-west England and Scotland. This is referred to on our <u>website</u>.