

# RAIB Bulletin 08/2010

## Serious injury to a loader at Hoo Junction, Kent 14 April 2010

### Description of the accident

- 1 On the morning of 14 April 2010 a team of workers were engaged in loading newly-made track panels onto flat wagons in the yard at Hoo Junction, on the Gravesend to Strood line near Higham in Kent.
- 2 They were working on siding number five, using a tracked mobile crane to lift and swing the panels into position on the wagons. One person stood on each end of the wagon to guide the panel into its final position.
- 3 By about 11:30 hrs, four wagons had been loaded with two panels on each. There was then a short break in the loading work while four additional empty wagons were placed in siding five by a class 08 shunting locomotive, and were coupled to the wagons that had been there all morning (figure 1).

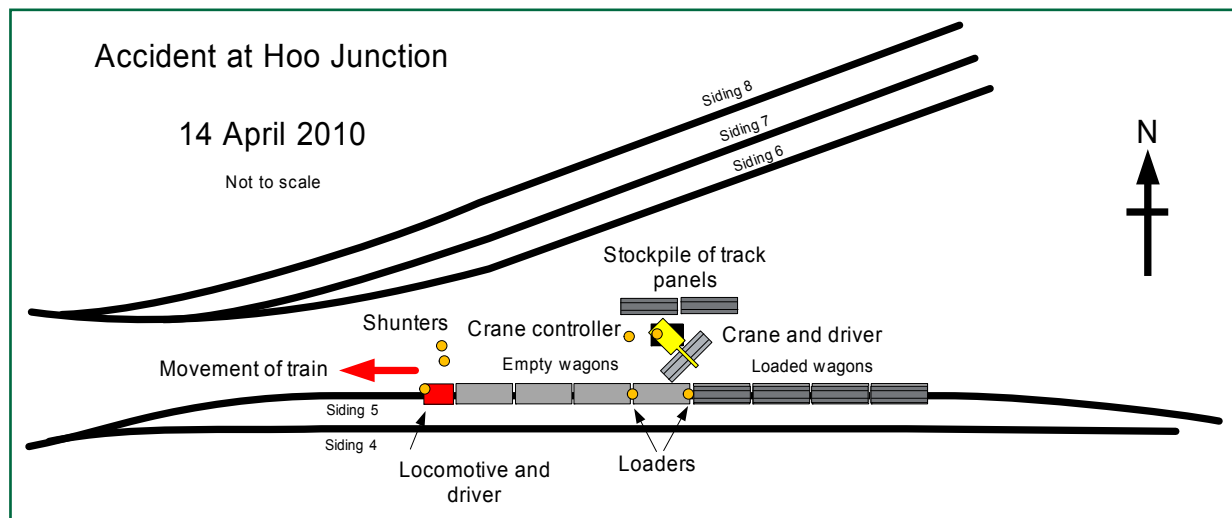


Figure 1: Position of train and people involved

- 4 The work of loading then resumed, but as the first panel was placed on a wagon, the whole train began to move towards the London (west) end of the siding. The loader who was standing on the east end of the wagon was struck by the panel and his legs were trapped under it. The train stopped after moving about three metres.
- 5 The crane driver saw what had happened and lifted and swung the panel away to release the trapped man, who fell from the wagon to the ground. The swinging panel smashed a window in the crane cab.

- 6 The crane controller, who was in charge of the loading work, called the emergency services, and the casualty was given first-aid. He was later taken to hospital by air ambulance. He had suffered two broken legs.
- 7 The accident was notified to the RAIB, who carried out a preliminary examination of the site and interviewed witnesses to the event.

### **Findings of the RAIB**

- 8 Shunting in the yard on the down (north) side of the Gravesend – Strood line that morning was being carried out by a locomotive driver, working with two shunters. This part of the yard is the property of Network Rail, and is leased to Balfour Beatty Rail, who employed the workers who were loading the wagons. The train operations concerned in the accident were being carried out by DB Schenker, who employed the locomotive driver and the two shunters. All three started work about 08:00 hrs. They worked steadily for more than two hours, shunting wagons in the yard. Shunter F went away about 10:30 hrs to get food for all three. On his return, he took over the direction of movements from shunter G.
- 9 The locomotive then picked up two wagons from siding four, and a further two from siding ten. Shunter G then went to examine a wagon in siding six to see if it was fit for traffic, while the locomotive put all four wagons into siding five, where they were wanted for loading. Shunter F controlled these movements using a mixture of hand signals and radio messages.
- 10 Shunter F coupled the wagons that had just been placed in siding five to those that were already there, and then spoke to the crane controller about the next move. The crane controller said that it would take the team at least forty minutes to complete the loading of the train. Shunter F informed shunter G of this by radio, and they both decided that this would be a good time to have a meal break. Shunter G then walked from siding 6 towards siding 5 to meet shunter F near the locomotive. As the two shunters approached the locomotive, walking towards the London end of the yard, they gestured to the driver, intending to indicate to him that he should leave the locomotive and join them for the break. Shunter G made a 'drinking' gesture, while shunter F beckoned with his left arm.
- 11 The driver understood that it was time for the meal break, but he interpreted the gesture of shunter F as meaning that he should drive the locomotive down to the end of the yard before going for the meal break. He assumed, wrongly, that the locomotive had been uncoupled from the train, and applied power.
- 12 The four wagons that had been in siding five all morning had their handbrakes applied, and were loaded with track panels. Because of this, the train moved with a jerk (or snatch) when power was applied. The driver felt the snatch, and looked back down the train. He saw a track panel swinging from the crane, and stopped the locomotive immediately. The shunters had raised their arms in the 'stop' signal when they realised the locomotive was moving, but it was too late to prevent the accident.

## **Conclusions**

- 13 The immediate cause of this accident was a misunderstanding, which arose from the informal communication between the locomotive driver and the shunters. They were all highly experienced, had become accustomed to working together, and switched readily between the use of radio and hand signals. This may have contributed to confusion in the driver's mind about the hand signals. There should be no doubt about which system of communication is being used at any time, and the person in charge should clearly define the change-over from one system to the other.
- 14 The DB Schenker document which describes the systems of work used in the yard requires that when work is being done on vehicles in a siding, 'STOP' boards should be shown, and the points leading to the siding should be clipped and padlocked. This document is not clear about whether this protection should be applied when vehicles are being loaded, and the evidence suggests that the people involved believed that it was not required. The yard is fully equipped with hinged 'STOP' boards at the entrance to each siding, and there is evidence that these are normally used when vehicles are being repaired. There was no specific method of work defined in this document for the loading and unloading of vehicles.
- 15 Normal practice in freight terminals and yards is for shunting locomotives to be uncoupled from wagons which are being loaded or unloaded. However, it is sometimes necessary for locomotives to remain coupled to wagons while this type of work is going on. If this is the case, suitable systems (including reaching a clear understanding about what is to be done) must be used to prevent the train from being moved during the work. The system of work in use at Hoo Junction at the time of the accident did not cover this aspect of the activity.
- 16 The loaders stood on the wagons to guide the track panels into place. The risks involved in this practice have been recognised by Balfour Beatty, and the method of working is being changed so that working on wagons is avoided as far as possible in future.
- 17 This accident has also been investigated by the Office of Rail Regulation (ORR), and following that investigation Balfour Beatty Rail and DB Schenker are working together to prepare and implement revised methods of working for Hoo Junction yard, and are involving the other companies that use the yard in this process.
- 18 The RAIB has conducted a preliminary examination of the circumstances and key evidence associated with this accident. On the basis of this the RAIB has concluded that, in this case, a full investigation by the RAIB would be unlikely to result in significant findings for the improvement of safety. However, the investigation has highlighted a number of learning points.

## Learning points

19 The learning points from this accident are:

- The importance of reaching a clear understanding about **every** proposed action.
- The need to take care with communications, even after work has stopped, and to avoid making gestures that may be misunderstood.
- The need for shunters and drivers to agree whether hand signals or radios are being used, and to stick to one method or the other unless a clearly communicated decision to change is made.
- The importance of ensuring that wagons are protected from train movements before beginning work which requires people to go onto, around or underneath them.
- The need to avoid climbing onto wagons unless it is absolutely necessary.

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