Responsibility for the regulation of health and safety on the railways was transferred from the Health and Safety Commission (HSC) and Health and Safety Executive (HSE) to the Office of Rail Regulation (ORR) on 1 April 2006.

This document was originally produced by HSC/E but responsibility for the subject/work area in the document has now moved to ORR.

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Report into the railway accident at Watford South Junction on 8 August 1996

The report by HSE's HM Railway Inspectorate into the railway accident at Watford South Junction on 8 August 1996 was published 29 April 1998. This provides a brief summary. Copies of the full report can be obtained from HSE Books.

Introduction

This was the first fatal train collision involving a death of a passenger since 15 October 1994, when two passengers were killed in a collision at Cowden, Kent and a special report has been prepared at the request of the Health and Safety Commission (HSC), under Section 14(2)(a) of the Health and Safety at Work etc Act 1974.

The accident occurred in the early evening of Thursday 8 August 1996, when a passenger train passed a signal at danger and collided with an empty coaching stock train. One passenger was killed, and a further 69 passengers required hospital treatment. Four members of the train crews involved also sustained injuries. Since producing the report North London Railways (NLR), the train operating company involved, has changed its name to Silverlink.

The publication of this report has been delayed for legal reasons, because on 10 January 1997, the driver of the passenger train was charged with manslaughter by the Crown Prosecution Service, following an investigation by the British Transport Police. On 11 March 1998 at Luton Crown Court, the driver was found not guilty of the charge. It was not possible to publish this report while proceedings against the driver were outstanding.

Causes

HSE found that the primary cause of the accident was that the driver of the North London Railways (NLR) passenger train, now owned by Silverlink, did not react correctly to two signals set at caution - he should have slowed down and prepared to stop. When he saw the following signal, which was red, and applied the brakes the train was travelling at about 110kph (68mph). The train eventually stopped 203m (222 yards) past the signal and across the junction with another line. An empty NLR coaching stock train, approaching at 80kph (50mph) on this line, was unable to avoid colliding with the stationary passenger train.

HSE has also concluded that there were a number of mitigating and contributory factors, including:

the collision would have been avoided if Automatic Train Protection (ATP) - a system aimed at preventing accidents from trains overspeeding and passing signals at danger - had been fitted to the train and track and had been in operation;

the wording of a Railway Signalling Standard was imprecise. This led to a speed restriction sign being placed in an inappropriate position, which gave confusing information to the train driver;

the signal that was passed at danger had a shorter than normal safety margin. This is known as 'an overlap' and is intended to reduce risks from minor misjudgements by drivers or increased braking distances caused by things like wet leaves on the line.

Summary of Recommendations

The report makes twenty one separate recommendations. These are not solely targeted at Railtrack and NLR, but also at all those who build, own, operate or maintain railway vehicles and who have duties under their Safety Cases. However, most of the recommendations require Railtrack, as the Infrastructure Controller to take on a pro-active and co-ordinating role so that they can be satisfied that risk is being properly controlled on their infrastructure by the train operators and others. The recommendations are set out in full in the report but are summarised below:

1. Railtrack to consider providing information in sectional appendices and traffic notices to identify reasons for permanent speed restrictions.

2. Railtrack to review their procedures to ensure compliance with their own Group Standard in respect to the convening of Signal Sighting Committees (SSCs) and that the Standard itself be reviewed so that following multiple Signal Passed at Danger (SPAD) incidents at a given signal, an assessment of ALL risk factors that could contribute to a SPAD incident be considered by the SSC.

3. Railtrack, following discussion with HMRI, to amend the wording of Standard Signalling Principle 20 in order to eliminate any ambiguity and to ensure that all persons implement the standard in the same manner.

4. Railtrack to identify all locations with reduced overlaps, carry out a risk assessment at each one and take appropriate action to mitigate any hazards that may be present.

5. Railtrack to adopt a track layout risk assessment method in order to identify the risk of a collision at specific locations of a collision resulting from a signal being passed at danger, taking into account the pattern of the train service

and passenger loading. Railtrack should then identify and prioritise those junctions that may require redesign or the adoption of additional safety measures.

6. Railtrack to carry out a full audit of speed restrictions shown in sectional appendices to identify locations where conflicting information is provided to drivers. A work programme to remove anomalies should be implemented as soon as possible and a record of the reason why each permanent speed restriction has been applied should be made and used as in Recommendation 1.

7. NLR to provide a programme of action to reduce substantially the number of incident prone drivers.

8. Railtrack to complete its current round of audits of all Train Operating Company (TOC) safety cases to ensure compliance with Railtrack's requirements and, with particular reference to driver assessments, introduce measures to ensure that there is a degree of consistency between TOCs. Railtrack should provide guidance where assessments are not considered sufficiently robust.

9. NLR to extend the use of the information obtained from the on board train data recorders to carry out random checks of driving technique compared with a master profile of correct speed and brake application obtained under closely controlled conditions.

10. TOCs to audit their own SPAD Management systems to ensure that driver briefings are effective and that signalling issues that concern drivers are pursued vigorously with Railtrack in order to provide satisfactory solutions.

11. Railtrack to take pro-active ownership of, and develop the SPAD Management Programme formerly undertaken by the BRB Safety Directorate and to instigate studies into the human and other factors that result in driver attributable SPAD incidents.

12. Railtrack to amend the wording of Group Standard GO/RT 3252 to eliminate ambiguity and to ensure that all TOCs using a railway route are informed of a SPAD incident on that route.

13. Railtrack to review all current re-signalling works inherited from BRB to ensure that the designs are safe and comply with appropriate Group and Signalling Standards.

14. Whatever the form of new signalling provided in conjunction with the modernisation and upgrading of the West Coast Main Line, Railtrack should reaffirm its existing commitment for ATP to be incorporated in the scheme for both track and trains using this route.

15. Railtrack to carry out an assessment of Watford South junction as a priority to determine whether the fitment of Train Protection Warning Systems can be justified as an interim measure pending full re-signalling of the line along with the incorporation of ATP.

16. Railtrack to evaluate the full cost of this accident and other recent accidents that could have been prevented by ATP and review whether this affects the cost benefit assessment that determined its train protection strategy.

17. Owners of rolling stock to carry out an assessment of the methods of retention and of the integrity of interior fittings under crash conditions and take measures as far as is reasonably practicable to ensure that they are retained in a secure manner.

18. Owners of rolling stock to study the Health and Safety Laboratory report on Bogie Retention when published and, where reasonable, carry out a modification programme in accordance with any recommendations made in that report.

19. Owners of rolling stock to evaluate the possibility of linking both recorders on four car units to provide identical information.

20. NLR to explore means whereby the conversion of class 321 units to 12% braking can be completed in the shortest possible timescale.

21. Railtrack to modify Group Standard GO/OT 0004 to reflect the necessity of protecting evidence provided by data recorders following a fatal or major accident or collision.

Action has already been taken to resolve some of the contributory factors. Had the speed restriction been appropriately placed or a normal overlap been provided, it is unlikely in the key specific circumstances concerned that a collision would have occurred, even though the passenger train would have overrun the signal at Danger.

It should be noted that the absence of a normal overlap was inherited by Railtrack from BR and is not, in itself, unacceptable on safety grounds. However, HSE has recommended that Railtrack must identify all locations with reduced overlaps, carry out risk assessments and take action to mitigate any hazards that may be present: They must also identify and prioritise any junctions which may need redesign or extra safety measures.

Further action

HSE considers that there was insufficient evidence of breaches of health and safety legislation to justify legal proceedings against any of the other parties (Railtrack and Silverlink) involved.

In February Ministers invited HSC/E to prepare proposals to tackle the issues of both train protection and Mark 1 rolling stock for formal consultation. HSE officials are currently drafting a Consultative Document containing the proposals. It is anticipated that this will be published next month.

Further information

Copies of the full report *"Railway Accident at Watford"*, ISBN 0-7176-1510-3, price £19.50, are available from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 6FS, : 01787 881165 or fax: 01787 313995. Priced publications are also available from good booksellers.
Other enquiries should be addressed to HSE Infoline: 0845 345 0055 or write to the HSE Information Centre, Broad Lane, Sheffield S3 7HQ
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