The Rail Public Inquiries

HSC report on overall progress as of July 2002

on all recommendations from the Rail Public Inquiries:

The Southall Rail Accident Inquiry Report

The Joint Inquiry into Train Protection Systems

The Ladbroke Grove Rail Inquiry Part 1 Report

The Ladbroke Grove Rail Inquiry Part 2 Report
Foreword

The Southall train crash in September 1997 and the Ladbroke Grove train crash in October 1999 led to four separate Public Inquiry reports; one for each crash, a report on Automatic Train Protection and a report on rail safety generally.

The Public Inquiries led by Lord Cullen and Professor Uff took a fundamental look at the rail industry and examined in detail the generic safety issues facing it. This was a lengthy process, which has demanded commitment of considerable resource from all stakeholders. The Government agreed that the 295 recommendations from the four reports set a convincing, necessary and challenging agenda for change. Further resources will be needed from both industry and Government to deliver this agenda.

The scope of the Inquiry recommendations ranges from specific detailed technical issues to underlying conditions of culture and management practice. Some are fundamental to achieving overall improvements in the state of the industry’s safety management, others are less wide ranging, so in reviewing progress it would be misleading to focus on only a count of recommendations closed. This is why HSC is publishing this overview, which groups the recommendations into broad safety-related themes and provides a commentary on each. This approach also highlights the scale of the challenge for the industry.

A cynical and common reaction to inquiry reports is that their recommendations are quickly forgotten. Such cynicism is not justified in this case. The recommendations are now delivering results – as recommended a new Rail Accident Investigation Branch and a new Rail Industry Safety Body are being developed, an extensive programme of regulatory review is underway and the industry is taking steps to improve its own safety culture and performance. Improvements have been made in reducing and mitigating signals passed at danger (SPADs); in industry audit arrangements; in requirements for signal sighting; and there is visible progress in ensuring the competence of drivers and signallers. As regards train protection, TPWS fitment has proceeded well, while the complex details of ERTMS fitment are being explored and the Commission expects to make a statement on this next spring. A greater degree of shared project work across the industry is also apparent, but the challenge of maintaining a coherent approach to problem solving remains. This will be a key issue for the Railway Industry Safety Body once established.

Additionally the latest railway statistics show a welcome improvement in a number of key safety indicators – eg the lowest figures for fatalities and train incidents for five years, a continuing decline in SPAD numbers and a 23% drop in broken rails (our website www.hse.gov.uk has the full details).

However, the latest published figures do not take account of the derailment at Potters Bar in which seven people died, and, as last month’s SPAD statistics show, this remains an issue of concern. HSE’s safety case and inspection work also continues to find evidence of failures to effectively assess risks and manage day-to-day safety issues, such as trackside working.

A recognition of progress has to be tempered with a recognition of unfinished business and the challenges ahead. The rail industry is in the midst of substantial change. New duty holders are emerging as Railtrack is replaced by Network Rail and London Underground changes its structures. Additionally the EU has been an increasing influence over the last few years and several Directives with implications for railway safety are being brought
forward which will have a significant impact on health and safety priorities, as they impose obligations and deadlines which must be met.

The Commission’s overall conclusion from this review of progress is that there are promising signs: the industry is now tackling issues which have bedeviled it for some time - but it is still too early to say if all the old problems are being dealt with effectively. I am grateful to the industry for the effort it has put into making progress, however we are still short of the step change in safety culture that I believe is necessary.

I am particularly concerned that parts of the industry still appear to find it difficult to make the links between delivery of effective overall performance and good health and safety practice. Many other high hazard industries and other transport sectors see good health and safety, commercial performance and customer satisfaction as inextricably linked. I share that view.

The Commission and Executive will maintain a close dialogue with the industry. Our goal is a shared one – a modern and safe railway.

Bill Callaghan
Chair
Health and Safety Commission
28 November 2002
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Introduction

Background
Seven people lost their lives in the train crash at Southall on 19 September 1997 and many others were injured. Professor John Uff was appointed to chair the Public Inquiry and the Inquiry Report was published in February 2000, with 93 recommendations.

Thirty-one people lost their lives in the train crash at Ladbroke Grove on 5 October 1999 and many others were injured. Lord Cullen was appointed to chair the Public Inquiry, which he held in two parts: the Part 1 report (concerning the train crash) was published in June 2001 with 89 recommendations and the Part 2 report (relating to wider issues of safety management and the current regulatory regime) was published in September 2001 with 74 recommendations.

The Joint Inquiry into Train Protection Systems was established shortly after the Ladbroke Grove crash and during the course of the Southall Inquiry. Professor Uff and Lord Cullen were appointed as joint chairmen. Unusually, this Public Inquiry was not concerned with the facts of either crash but with broader questions relating to train protection and warning systems and measures to prevent signals being passed at danger (‘SPADs’). The Inquiry report was published in March 2001 with 39 recommendations.

These four reports address the specific safety issues arising from the two train crashes. Each Public Inquiry report included a recommendation that the Health and Safety Commission (HSC) should review compliance with the recommendations within 6 months of publication and further reviews put in hand as necessary thereafter. From August 2000, when the first progress report on the Southall Inquiry was published, until July 2002 when the second Joint Inquiry progress report was published, HSC has reviewed compliance with the recommendations in each report and published separate progress reports.

Revised format of published progress reports
HSC has decided that a single progress report covering all the recommendations will be published, and this is the first progress report covering all the 295 Public Inquiry recommendations (Southall, the Joint Inquiry and the two Ladbroke Grove Reports). HSC’s Rail Industry Advisory Committee (RIAC) has been consulted and supports this change.

Although this progress report looks different to those previously published, the industry and HSC/E are continuing to track action on each recommendation to ensure that none are overlooked. This progress report presents the recommendations under eight broad themes. The themes are shown in alphabetical order. This does not imply that HSC regards one issue as necessarily being more important than any other. We believe that presenting the information in this format will help everyone involved to gain a better appreciation of the overall safety benefits being delivered as well as sharpening the focus on key issues. Many of the recommendations cover similar issues and some of the earlier recommendations have been overtaken by later recommendations or new technologies.

This report is based on the information provided by the industry up to end of July 2002. HSE is grateful for the contributions provided. In many cases HSE has clarified the information, so this report gives the most up to date picture as of November 2002.
When considering closure, HSC/E has looked at the wording of each recommendation. We have placed each recommendation into three broad categories:

- action holder reports closure and HSE accepts this; these recommendations will not be covered in future progress reports;
- action holder reports closure which looks reasonable, but HSE is not yet able to endorse this view and will continue to report on progress; or
- all parties agree that work is continuing.

This document refers to Railtrack PLC (or Railtrack) as the owner and operator of the network and infrastructure. Railtrack PLC has now been acquired by Network Rail Holdco Ltd and will be known as Network Rail. All references in this report to what Railtrack is expected to do in the future should be construed as referring to Network Rail.
HSC’S OVERVIEW

Culture, safety leadership, health and safety management
Achievement of an improved safety culture on the railways is at the core of the whole programme of change initiated by Lord Cullen’s Inquiries - if an organisation has the right culture in place it will find the right people and the right technology to deliver safe and effective performance. There are encouraging developments - including broad recognition of the nature of the issues to be tackled and evidence of some very positive initiatives. The situation is likely to be helped along further by establishment of Network Rail, RISB and RAIB. It is also important to recognise the leadership displayed by the SRA in encouraging industry to look at all problems in a joined-up way. However HSE interaction with duty holders continues to reveal some worrying findings. The overall impression is that development of an improved culture is still patchy, with some companies pressing ahead more effectively than others. By its nature, cultural change is a long process and it is perhaps unrealistic to expect more at this stage. The issue will therefore need to be at the forefront of thinking for the industry and the safety regulator for some time to come. Action holders have reported closure of 16 recommendations, which HSE accepts; industry and HSE agree that work is continuing on five recommendations. There are four other recommendations on which industry believes it has done enough to meet the intent of the recommendation, but where HSE is not yet able to endorse this view and will continue to report on progress.

Infrastructure
Linked with the issue of automatic train protection, the Public Inquiries identified the need to address problems around signaling and track layout issues. There is positive progress to report here, with industry generally tackling the issues in a clear and methodical way and it is particularly encouraging to see a fall in SPAD rates (see page 10). Action holders have reported closure of 24 recommendations, which HSE accepts; industry and HSE agree that work is continuing on three recommendations.

Investigations
The Commission has concluded that improvements have been made to the existing industry systems for accident investigation and follow up of identified actions. The foundations of RAIB will be laid by the Department for Transport (DfT) through primary legislation. The establishment of RAIB is taking longer than Lord Cullen envisaged because of the need to find Parliamentary time for the development of the necessary primary legislation. However the ‘bones’ of the RAIB are taking shape. There is still much work for the future on RAIB, particularly in identifying how all the parties with a potential interest in accident investigation and monitoring of recommendations will interact and work together for best effect. There is considerable potential for overlap, if not outright tensions, unless this is put on to a sound and transparent footing at an early stage. Action holders have reported closure of 27 recommendations, which HSE accepts; industry and HSE agree that work is continuing on 16 recommendations.
Organisations and standards
Lord Cullen concluded that part of the difficulties facing the rail industry arose from the disaggregation, which had occurred following privatisation. He suggested that part of the effect of this could be countered by the establishment of new organisations and structures, which demonstrated greater leadership, and a more joined-up approach to problem solving than was evident within the industry. Some related work has been completed on standards setting and systems authorities. However the creation of RISB and its subsequent conduct is at the heart of this strand of work. The mechanics of establishment are progressing swiftly under the guidance of the Rail Regulator. There remains some uncertainty about how this body will operate in some respects. A real challenge remains for the industry and all its regulators to ensure that RISB succeeds in filling the leadership and standards development role that Lord Cullen has set for it. Action holders have reported closure of 42 recommendations, which HSE accepts; industry and HSE agree that work is continuing on 14 recommendations.

Suppliers, contractors, and accreditation
Lord Cullen identified the management of contractors and of the supply chain as areas in need of improvement. This area is crucial for both safety and efficiency. The scale and complexity of the problem, plus complications introduced by general organisational and funding decisions, has slowed down Lord Cullen’s suggested timetable. There have been major advances though, especially at the level of ‘superstructure’ and management systems, eg Railtrack’s high-level maintenance strategy, changes to Railtrack’s safety case arrangements and improvements to the Sentinel system. However, the two major train accidents since Ladbroke Grove both involve aspects of track work and, it must be concluded that ‘lower level’ delivery of the intent of Lord Cullen’s recommendations on contractors still appears uncertain. This remains a key area, which HSC/E will keep under close scrutiny. Action holders have reported closure of seven recommendations, which HSE accepts; industry and HSE agree that work is continuing on three recommendations. There are three other recommendations on which industry believes it has done enough to meet the intent of the recommendations, but where HSE is not yet able to endorse this view and will continue to report on progress.

Training, skills, competence and behaviour
Over the last three years improvements are evident in the way industry as a whole approaches the development and assessment of staff competence. There are numerous initiatives underway but overall the position does not appear as advanced as Lord Cullen suggested it might be by this date - it appears that there is still a considerable way to go before the industry has the types of systems that could reasonably be expected in a major transport industry. There also appears to be considerable variation in the way different companies and organisations are approaching the issue. Opportunities for establishing and spreading best practice may be missed. The question of the need for legislation in this area is still unclear and the possibility of European legislation on driver training further complicates the issue. The key challenge now is to bring the disparate work streams together and take some decisions about the extent to which any national schemes or legislation are needed, and, if they are, how they will operate. In this regard the ‘Framework for Skills’ initiative and SRA’s new ‘Rail Skills Board’, created to lead the industry on skills issues, to identify best practice and share good ideas will make a significant contribution. The SRA’s ‘Rail Academy’ proposals appear promising as focal points for future developments.
The recommended work around ‘human factors’ is developing more slowly than anticipated and reveals the relatively limited levels of knowledge that existed in the industry. However the crucial first steps have been taken. Action holders have reported closure of 30 recommendations, which HSE accepts; industry and HSE agree that work is continuing on 11 recommendations.

**Train protection**

A key feature of any discussion about railway safety since the Clapham rail crash in 1988 has been the need for some form of automatic train protection on the GB network. This issue was at the core of the Joint Inquiry, which concluded that although the existing fitment programme for TPWS should continue, a set timetable, underpinned by legislation, was necessary for fitment of the European Rail Traffic Management System (ERTMS). The TPWS fitment programme is well on the way to completion and there have been several examples of beneficial interventions by TPWS. SPAD numbers have dropped - as a result of this and other initiatives (see the infrastructure theme). However a different picture is now emerging of ERTMS to that anticipated by Professor Uff and Lord Cullen. The issues here are complex and more difficult to resolve than the evidence available to the Joint Inquiry might have suggested. Although it may still be possible to establish a regulatory framework by the date suggested by the Inquiry, the actual Uff/Cullen timetable for fitment to train and track is now generally seen as unrealistic because of the time it will take to develop viable technology. Industry is continuing to analyse the technical issues in detail in order to generate fitment options taking into account both technical availability of technology, cost and overall benefits for safety and performance. HSC has commissioned an independent scrutiny of this work in order to provide public confidence in the industry’s findings. HSC will advise Ministers of its own conclusions in spring 2003. Action holders have reported closure of 22 recommendations, which HSE accepts; industry and HSE agree that work is continuing on 22 recommendations. There is one other recommendation on which industry believes it has done enough to meet the intent of the recommendation, but where HSE is not yet able to endorse this view and will continue to report on progress.

**Vehicle integrity, evacuation and escape**

Work here is about ensuring that rail vehicles are sufficiently crashworthy and that evacuation and emergency arrangements are adequate. Train operators have introduced improved arrangements for emergency evacuation, safety information and signage, training of staff, and provision of equipment. This has been supported by new guidance from HSE. A substantial programme of research and investigation is also underway. This is progressing more slowly than the Inquiries recommended, but this is because industry is taking a broader look at the issue than the strict terms of the recommendations demand, which appears a sensible approach for the longer term. Action holders have reported closure of 26 recommendations, which HSE accepts; industry and HSE agree that work is continuing on 15 recommendations. There are four other recommendations on which industry believes it has done enough to meet the intent of the recommendations, but where HSE is not yet able to endorse this view and will continue to report on progress.
Introduction

1. The twenty-five recommendations included here are aimed at securing improvements in the following areas:
   - safety auditing processes;
   - fault reporting and maintenance;
   - risk assessment;
   - application of the railway safety case regime; and
   - safety leadership and communication in companies.

Overall objective

2. The delivery of these recommendations will make a significant contribution to the improvement of the safety culture in the rail industry. Benefits should be apparent in the specific areas mentioned above but we should also begin to see a more general improvement across the board. However, it should be recognised that a wider programme of work on culture issues will be necessary to achieve a strong safety culture across the rail industry. This matters because of the direct link between a robust culture and a strong health and safety performance on the ground. A robust culture creates an environment where all those involved understand their responsibilities and systems are in place to ensure they deliver. HSC will look to its Railway Industry Advisory Committee (RIAC) for advice, where appropriate.

Safety auditing (LGRI1 20, 21, S 70, LGRI2 23)

3. These four recommendations are aimed at improving the current audit process, in particular to improve communication, access to information and to strengthen the element of direct observation. HSC has accepted that adequate action has been taken to regard three of these recommendations as completed. Action continues on one recommendation.

4. The strengthening of the process should ensure that audits lead directly to safety improvements, through identification of best practice and of areas where improvements are required. In taking forward the recommendations companies have done much to improve and strengthen their audit processes, very largely based on the improvements developed by Railway Safety (RS) for the industry. The audits carried out by RS have also improved, for example through more formalised feedback and de-brief processes and a greater rigour in the follow-up and close out of actions. We particularly welcome the pursuit of an audit protocol by the National Express Group, which should facilitate inter-company benchmarking, and the promotion of good practice. Minor changes to the safety case regulations are planned for autumn 2002. In the longer term, the application of safety auditing processes will need to be reviewed as part of the evaluation of the Safety Case Regulations and in HSE’s assessment of safety cases and subsequent inspection. These recommendations will be taken forward in that context.
Fault reporting and maintenance (S 16, 22, 23, 26, 29)

5. These five recommendations are aimed at developing and improving the environment within the industry to ensure all staff feel comfortable in reporting faults and recognise the importance of using the formal procedures laid down in the Rule Book. As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has taken place to regard these five recommendations as complete. Railtrack has reviewed the central instructions and we particularly welcome the work done by it and by all TOCs in rebriefing all staff on the need to use the correct procedure to report faults.

Risk assessment (S 71, 37, JI 39, LGRI2 16)

6. These four recommendations are aimed at securing continuous safety improvements across many areas. HSC has accepted that adequate action has been taken to regard these four recommendations as completed.

7. The industry has actively addressed the need to extend the use of risk assessment and to improve the application of risk assessment techniques. We particularly welcome industry’s recognition that training and development in risk assessment techniques is an ongoing task, for example the work in hand by Railway Safety to identify industry’s needs, so as to determine the type of training necessary and the most effective means of delivering it.

Application of the safety case regime (LGRI2 18, 19, 22)

8. These three recommendations are aimed at maintaining and further developing the safety case regime, covering both regulations and HSE’s acceptance criteria. HSC has accepted that adequate action has been taken to regard two of these recommendations as completed. Action continues on one recommendation.

9. The main activity to deliver these recommendations will be carried forward as part of HSE’s review and evaluation of the Safety Case Regulations, which is currently underway.

Safety leadership and communication in companies (S 15, 69, LGRI1 44, 17, LGRI2 11, 12, 13, 14, 15)

10. These nine recommendations are aimed at increasing the visibility of senior management so as to establish safety as a business issue of strategic importance, at securing worker participation and at ensuring effective two-way communication. HSC has accepted that adequate action has been taken to regard four of these recommendations as completed. Action continues on one recommendation. There are four recommendations on which industry believes it has done enough to consider completed but HSE is not yet able to endorse this view. HSE will continue to report on progress with these four recommendations.
11. Most parties in the rail industry have reported a variety of activities designed to involve senior management in health and safety issues and to promote their commitment to safety. These include dedicated strategic safety meetings and safety tours by senior staff, for example all First Group Executive Directors, Managing Directors, Rail Division Directors and TOC Directors have received training in carrying out safety tours. We particularly welcome the initiative by EWS where each manager has their own personal tour record book, which is auditable, to note issues raised or observed and to give feedback to staff about concerns. In February 2002 RS launched the software tool to support the good practice guide on ‘competence in strategic safety management’, used by many companies.
Introduction

12. The 27 recommendations included here are aimed at securing improvements in signal sighting and signalling systems. Recommendations relating to train protection, eg Train Protection and Warning System (TPWS), are covered in the train protection theme. However, as both themes are mainly concerned with the prevention of signals passed at danger (SPADs) there are many links.

Overall objective

13. The delivery of these recommendations will make a significant ongoing contribution to the improvement of the railway infrastructure and the signalling systems. It will also contribute to the reduction and mitigation of SPADs by providing clearer and more comprehensive guidance to staff involved in both the design of signalling systems and the investigation of the root causes of SPADs.

Signal sighting (S 34, 35, 41, LGRI1 22, 23, 24, 25, 26, 27, 28, 29, 30 and 32)

14. These 13 recommendations are aimed at securing improvements to the readability of signals, to the time available for drivers to read signals and to the involvement of human factors experts in drawing up revised Standards. HSC has accepted that adequate action has been taken to regard eleven of these recommendations as completed. Action continues on two recommendations.

15. Industry has done much to improve the training, guidance and standards in this area. In particular we welcome the work done by Railtrack to clearly identify how Regions/Zones should implement the recommendations from signal sighting committees. This was done in advance of the revision of the Standard which defining management processes for SPAD-related action.

16. In addition, the industry has carried forward a number of issues beyond the terms of the specific Inquiry recommendations. For example Railway Safety has reviewed and revised all the relevant RGS to define cab sight lines, not just the single RGS mentioned in the Inquiry report (LGRI1 29). Although this means that the timescale for this specific recommendation was not met, we welcome the thorough approach to the work. However, in some areas it will still need time for the improvements to take effect and become part of daily working practices, especially where new instructions and training are concerned. We look to industry to keep these issues under review to ensure that the anticipated improvements are delivered.

Signalling systems (S 42, 87, JI 29, 30, 31, 32 LGRI1 5, 8, 9, 10, 47, 48, 49 and 50)

17. These 14 recommendations are aimed at making general improvements to existing systems, including some specific recommendations concerning the signalling and track at Paddington. HSC has accepted that adequate action has been taken to regard 13 of these recommendations as completed. Action continues on one recommendation.
18. Paddington station reopened after the collision with a significantly modified track layout jointly developed by RT, rail unions, independent signal experts and HSE. In October 2000 HSE commissioned an independent second opinion of that layout which confirmed that all that was reasonably practicable in the short term had been done. HSE has accepted that the current, temporary layout at Paddington as acceptably safe and has now given it formal approval under the Railways and Other Transport Systems (Approval of Works, Plant and Equipment) Regulations 1994. Further changes to the layout will be needed to take forward the major redevelopment of the Paddington area. Railtrack has completed a risk assessment of several options using a risk method developed by consultants, AD Little. Any future changes will have to be agreed by HSE and will also have to take account of the Railway High Speed Interoperability Regulations 2002.

19. Railway Safety’s programme of research looking at signals passed at danger and the wider use of risk analysis in developing revised signalling systems will strengthen the holistic approach to any future changes. In this context we welcome the work done by Railtrack to develop and implement a new process, which should lead to a more consistent and systematic approach to SPAD risk assessment across the infrastructure.

20. There have also been improvements in the understanding and dissemination of information about multiple-SPAD signals and mitigation measures (an area where HSE published its own report in January 2002). This goes beyond the literal wording of the recommendations. In particular, we welcome the annual SPAD conferences, workshops and support the quarterly ‘Red Alert’ publication, which goes to all drivers and signallers.

21. There will be a time lag between improvements being made to the infrastructure and good safety benefits being seen in the form of a reduction of SPADs at identified signals. However, during the last twelve months the number of multiple-SPAD signals (ie signals that have been passed at danger more than once in the previous five years) has reduced from approximately 440 to fewer than 390. HSE’s monthly SPAD reports are available on HSE’s web site, www.hse.gov.uk/railway/spad/index.htm
Introduction

22. The 43 recommendations included here are designed to:
   - establish a Rail Accident Investigation Branch (RAIB);
   - improve arrangements for the investigation of major and other serious incidents on the railways; and
   - improve monitoring and implementation of recommendations made following investigations.

Overall objective

23. The objectives of this group of recommendations include ensuring an independent investigation of major and other serious railway incidents with the objective of determining root causes. The safety recommendations from such investigations should be published, those affected kept informed and recommendations recorded and followed up in a transparent and accountable manner. At the same time, industry will continue to investigate accidents for its own purposes of learning safety lessons. HSE and BTP will also continue to undertake investigations, as appropriate, to consider whether there have been breaches of health and safety legislation or other criminal law.

Establishment of a Rail Accident Investigation Branch (RAIB)
(S 81, LGR2 57, 58, 59, 60, 62, 65, 66, 67, 69, 71, 73)

24. These 12 recommendations relate to the establishment of the independent railway incident investigation body. HSC has accepted that adequate action has been taken to regard one of these recommendations as completed. Action continues on eleven recommendations.

25. Work is underway and the Department for Transport (DfT) has consulted on proposals for establishing RAIB. The consultation ended on 10 October 2002. However, because this will require primary legislation, it will not be possible to meet Lord Cullen’s timetable. A Bill to establish RAIB was announced in the Queen’s speech on 13 November 2002. It is intended that the primary legislation will set out the broad powers and duties of RAIB, with further detail included in regulations and protocols developed during the passage of the Bill through Parliament. There is still much work to be done, particularly in identifying how all the parties with a potential interest in accident investigation and follow-up will interact and work together for best effect. It will be necessary to ensure that the roles of all parties are as clear as possible after the establishment of RAIB. Many of the protocols and procedures put in place for the investigation of major and other serious incidents as recommended in the various Inquiries will also have to be reconsidered once RAIB is established.

Investigation of major and other serious incidents (S 19, 55, 56, 73, 74, 75, 76, 77, 78, 79, 80, 82, 83, 84, 85, 86, 93, LGRI 33, 34, 40, 52, LGR2 61, 63, 64, 68 and 72)

26. These 26 recommendations relate to how the most serious incidents on the network should be investigated. HSC has accepted that adequate action has been taken to
regard 24 of these recommendations as completed. Action continues on two recommendations.

27. Full achievement of the benefits sought by Lord Cullen will have to wait until RAIB is established. In the meantime, current arrangements involving British Transport Police, HSE, Railway Safety and individual companies have been strengthened, as recommended in the Southall and Ladbroke Grove Inquiry reports. This has been done through review and revision of Group Standards (particularly ‘Formal Inquiries, formal investigations and local investigations’) and other protocols and procedures. HSC considers all the Southall and LGRI1 recommendations in this area as completed, although continued delivery of the intent of some of the recommendations may need to be reconsidered once RAIB has been established.

Monitoring and implementation of recommendations from incident investigations (LGRI1 6, 7, 89, LGRI2 70 and 74)

28. These five recommendations relate to arrangements for monitoring recommendations made following incident investigations – an area where Lord Cullen identified considerable weaknesses. HSC has accepted that adequate action has been taken to regard two of these recommendations as completed. Action continues on three recommendations.

29. The industry has modified its Safety Management Information System (SMIS) to accommodate tracking of recommendations, and a new Group Standard has been issued. Railtrack, several train operating companies and infrastructure maintenance companies have modified their company systems in order to track recommendations effectively. HSC accepts that the recommendations aimed at current industry parties are regarded as completed. More work will be needed when RISB and RAIB are established to ensure appropriate tracking arrangements are in place within these organisations, but this will be able to draw on the positive steps already undertaken by Railway Safety and others. HSC will continue to report on public inquiry recommendations until such time as they have all been delivered.
ORGANISATIONS AND STANDARDS –
Summary progress report as of July 2002

Introduction

30. The 56 recommendations included here are aimed at securing improvements in the following areas:

- establishing the new Rail Industry Safety Body (the Rail Accident Investigation Branch, is dealt with under the investigations theme) and reforming or reviewing existing bodies;
- safety related research and development;
- revising standards, such as Railway Group Standards, except where the recommendations fit better under a more specific theme, eg vehicle integrity;
- the work of system authorities;
- emergency planning;
- the operation of safety cases; and
- the role and work of HSE and HSC’s Railway Industry Advisory Committee.

Overall objective

31. The delivery of these recommendations will make a significant contribution to improvement of safety within the railway industry. The necessary organisational structures will help provide a coherent and effective approach to health and safety leadership within the industry. The enhanced capacity to deliver coherent and readily understood standards and rules, overseen by an effective safety regulator (HSE), will do much to further develop and enhance safety.

Rail Industry Safety Body (LGRI2 40, 41, 42, 43, 44, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56)

32. These 16 recommendations are aimed at establishing a new independent rail safety body. Action continues on all 16 recommendations.

33. Lord Cullen recommended that RISB should be supervised by HSE and this is likely to be taken forward through the scrutiny of its work programmes. The Rail Regulator will establish RISB, probably by amending the current licence agreements, and RISB should be formed in Spring 2003. We endorse the consultative approach taken by the Rail Regulator and look forward to developing a close working relationship with this new body to drive up safety standards across all parts of the rail industry.

Research and development (S 57, 59, 62, 64 and LGRI2 3)

34. These five recommendations are aimed at ensuring a coordinated approach to research within the industry. HSC has accepted that adequate action has been taken to regard four of these recommendations as completed. Action continues on one recommendation.

35. We endorse the work done by Railway Safety in its development of a more strategic approach to the management of research. This strong foundation should help to ensure that the necessary areas for research are identified and commissioned in a coherent and timely fashion. RISB, once established, will take responsibility for
leading research, and we will look to it to continue with the comprehensive research programme currently in place.

**Standards** (S 10, 11, 14, 38, 39, 40, 46, 72, LGRI2 17, LGRI2 37, 45)

36. These eleven recommendations are aimed at ensuring that common standards are in force within the industry, in particular taking due note of the emerging European Safety Directive. HSC has accepted that adequate action has been taken to regard eight of these recommendations as completed. Action continues on three recommendations.

37. It is essential that the industry fully implements standards to ensure safe working and we welcome the work done by the industry to ensure that it complies with current standards. The industry currently plans to have implemented all the relevant recommendations by December 2003. RISB, once established, will be responsible for reviewing and producing Group Standards.

**System Authorities** (LGRI2 2)

38. This recommendation deals with the role of System Authorities and we welcome the initiative by the Rail Regulator to review their effectiveness. HSC has accepted that adequate action has been taken to regard this recommendation as completed.

**Emergency planning** (S 88, 89, 90, 91, 92, LGRI1 1, 2, 3, 4)

39. These nine recommendations are aimed at developing and improving the police’s capacity to respond effectively to the needs of the public after a major incident. HSC has accepted that adequate action has been taken to regard eight of these recommendations as completed. Action continues on one recommendation.

40. We welcome the steps taken to ensure that common systems are adopted throughout the country. We acknowledge the work the industry has done to review emergency plans and the revision of the appropriate instructions and guidance.

**Safety Case regime** (LGRI2 20, 22, 27, 28, 29, 30, 31, 32, 33, 34)

41. These ten recommendations are aimed at strengthening the safety case regime operated by the railway industry. HSC has accepted that adequate action has been taken to regard two of these recommendations as completed. Action continues on eight recommendations.

42. We endorse the steps taken by HSE to conduct a major review of the regulations and we look forward to more focused and streamlined regulations that give the industry a clear direction to assist them in managing safety.

**Role of HSC/E** (LGRI2 35, 36, 38, 39)

43. These four recommendations are aimed at maintaining the role of HSE as the independent safety regulator for the railway. HSC has accepted that adequate action has been taken to regard three of these recommendations as completed. Action continues on one recommendation.
44. We welcome the steps taken by HSE to strengthen its work. We particularly welcome the steps taken by the Railway Industry Advisory Committee to develop its role by adopting a more strategic approach. The increased passenger representation on the Committee should help ensure that the work of this committee takes proper account of passenger interests. We look to the new management focus in HMRI to take forward the rail safety agenda with industry partners.
SUPPLIERS, CONTRACTORS, AND ACCREDITATION -
Summary progress report as of July 2002

Introduction

45. The 13 recommendations included here are aimed at securing improvements in:

- management of the supply chain;
- management of contractors; and
- training for contractors and sub-contractors.

Overall objective

46. The delivery of these recommendations will make an important contribution to safety on the railways, including increased safety for trackside workers. There are links to the safety culture theme through the recommendations relating to management systems for selecting contractors, and links to the training theme through the recommendations relating to contractors’ training. There are also links to the organisations and standards theme, as the Railway Industry Safety Body (RISB) may implement some of the recommendations once it is established.

Management of the supply chain (S 36, 58, 60, 61, 63 and LGRI2 24)

47. These six recommendations are aimed at improving the allocation of responsibility for the design, operation and maintenance of equipment at the train / infrastructure interface, and to ensure increased assurance of quality and safety of products and services across the railway industry. HSC has accepted that adequate action has been taken to regard five of these recommendations as completed. Action continues on one recommendation.

48. Building on the earlier work by industry and implementation of Southall recommendation 63, a range of system authorities have been established, and we welcome the intent of the Office of the Rail Regulator to review their effectiveness. RISB, once established, will have responsibilities for issues relating to industry representation on working groups, the operation of system authorities and the streamlining of the industry’s approvals processes.

49. Industry and HSE has done much to streamline the approvals process for new equipment and stock, and the implementation of the Interoperability (High Speed) Regulations will further reduce delays in the approval systems. While faster procedures for accepting or approving new equipment or stock may encourage and allow earlier introduction of new and safer equipment or stock, this benefit needs to be balanced against the need to maintain robust processes. HSE continues to develop proposals for the accreditation of suppliers of safety-critical products and services.

50. Although HSC has accepted that adequate action has been reported by industry to be able to regard the majority of these recommendations as completed, it is essential that industry continue to develop and improve its management of the supply chain. This will be a key theme is HSE’s work with RISB, once established, and the proposed accreditation framework for suppliers of safety-critical products and services should help to ensure this is achieved.
Management of contractors (LGRI2 5, 6, 7 and 8)

51. These four recommendations are aimed at strengthening the level and quality of contractor management. HSC has accepts one of these recommendations as completed. There are three other recommendations on which industry believes it has done enough to meet the intent of the recommendations, but where HSE is not yet able to endorse this view, and will continue to report on progress. The recommendation relating to the reinforcement of the Sentinel system relates to all workers on the railways, but is included here for convenience (LGRI2 recommendation 6).

52. Industry, particularly Railtrack, has done much to introduce arrangements to improve management of contractors, and the quality of their work. This is reflected in Railtrack’s recently accepted safety case. However, the challenge now for Railtrack is to ensure that it fulfils its obligations to operate in accordance with its safety case, so that the systems set out in it become reality at all times. HSE will continue to focus attention on these issues during its assessment of safety cases and subsequent inspection.

53. Contractors and sub-contractors must also to take responsibility for their actions, particularly in relation to staff training. We welcome Railtrack’s continued development of Sentinel Staffzone, a sophisticated internet booking system for on-track personnel, which among other things tracks hours down the supply chain. Such tools facilitate effective implementation of management systems. These issues, and many others, were covered in HSC’s report in May 2002 ‘The use of contractors in the maintenance of the mainline railway infrastructure’.

54. We welcome the steps by Railtrack to take a more direct role in the day-to-day management of safety-critical work, in particular the development of its 10 strategic maintenance principles, which involve directly managing inspection, appraisal and key work decisions. These will take some time to be fully effective: it is vital that Network Rail maintains momentum on implementation.

55. It is essential that industry continue to develop and improve its management of contractors. This is a key area in ensuring the safety of railway operations. HSC/E will continue to monitor developments by means of safety case assessment and inspection, and to report continuing action in subsequent progress reports.

Training for Contractors and Sub Contractors (LGRI2 4, 9 and 10)

56. These three recommendations are aimed at ensuring that only people who have received appropriate training and have recognised competence levels maintain the railway infrastructure. HSC has accepted that adequate action has been taken to regard one of these recommendations as completed. Action continues on two recommendations.

57. We welcome Railtrack’s project to define standards of competence, of which training is a part, for all activities in relation to maintenance and renewal of the infrastructure. For example, track welders are now licensed through the Sentinel systems and from October 2002 have been issued with dedicated track welding competency cards. Other parts of the industry report the introduction of a variety of initiatives to implement this recommendation, for example reviewing the selection
and control of contractors as part of the safety case development plan. The framework for skills strategy, which aims to increase the level of skills and competence of workers across the rail industry, will also play a key part in this vital safety area.

58. Although it is initially disappointing to see that the industry is not proposing to establish a dedicated training school for contractors, an idea endorsed by Lord Cullen, we acknowledge that the issue has been fully considered. However, there are many other training initiatives taking place within the industry and we would expect that any firm plans would include training for contractors. We welcome Carillion’s intention to develop and fund its own training school.
Introduction

59. The 41 recommendations included here are aimed at securing improvements in the following areas:
- driver and signaller competence;
- understanding of human factors and behaviour as they relate to train driving and signalling; and
- staff instructions, eg response to a SPAD and fault reporting.

Overall objective

60. The delivery of these recommendations will make a major contribution to the improvement of safety on the network by improving the quality of training given to drivers and signallers, leading to greater competence. Some of these recommendations have links to other themes, in particular the themes on suppliers and culture.

Improving driver/signaller competence (S 1, 2, 3, 4, 5, 7, 8, 20, 21, 24, 25, JI33, 34, LGRI1 11, 12, 13, 14, 15, 16, 18, 19, 31, 41, 42, LGRI2 1, 25, and 26)

61. These 27 recommendations are aimed at improving the competence of drivers and signallers. HSC has accepted that adequate action has been taken to regard 18 of these recommendations as completed. Action continues on nine recommendations.

62. The four recommendations relating to human factors in relation to improving driver competence are included in this section to give a more comprehensive picture of work in this key area. The industry has made satisfactory progress to date in improving the quality of training for drivers and signallers. A 2002 study by HSE of driver management did not detect any general deficiencies in driver competence and concluded that there appeared to be a good level of competence in the companies inspected. However, it is appears that there is little standardisation of driver training across the industry and there is a risk that ‘best practices’ are not being shared.

63. We welcome the steps taken by the TOCs to evaluate their training programmes for drivers and the changes made to improve effectiveness. These changes have been reflected in safety cases that now include more detailed information on driver training programmes. A number of TOCs have begun to use simulators as a training tool for drivers, and Railtrack is also introducing simulator training for signallers. This work will take some time to develop and future progress reports will provide updates. Over the past year, the RGS on train driving and its supporting Railway Safety Approved Code of Practice have been revised. These will require new ways of working in the rail industry, particularly in driver recruitment, selection, training and monitoring. For example, the Railway Safety ACoP contains recommendations and guidance on identifying drivers who need special monitoring, making the monitoring effective and helping drivers to improve their performance so that special monitoring can be progressively reduced.
64. We particularly welcome the increased level of ‘joined-up’ working taking place in the industry. SRA, with industry support, has created an industry-wide ‘Rails Skills Board’ to provide a high level forum of key players who represent all sectors of the industry. The Board will have three key workstreams:

- establishing a national Rail Academy;
- securing the National Rail Academy as the sector skills council for the rail industry; and
- delivery of the ‘Framework for skills for the rail industry initiative’.

65. This is a very welcome development which should help to ensure a more coherent approach to issues of training and competence in the future.

66. The standards of training required by the Railway Group Standards are different from the National Occupational Standards that underpin the NVQ and SVQ system, however the recent review of RGS for train drivers by Railway Safety has improved alignment with National Occupational Standards. We welcome the steps taken by TOCs to introduce these nationally recognised qualifications for workers in the rail industry. For example, 12 Midland Mainline drivers have NVQs in train driving and Thames Trains are working towards a scheme whereby drivers will gain an NVQ level 2 in railway operations.

67. The ATOC Approved Code of Practice (ACoP) on driver licensing leaves the decisions on licensing to individual TOCs, at this stage. However, it specifies that qualifications of driver trainers and assessors should form part of the criteria for the accreditation of TOCs. The ACoP also makes clear that any licences should only be issued where the TOC is satisfied that the driver is competent to drive particular types of trains and that he/she has the necessary route knowledge. We welcome the work by Connex to issue licences to their drivers.

68. HSE has started to develop proposals for licensing and central recording systems for all train drivers and signallers. HSC will discuss these options in spring 2003. Over the next two years HSE will widely consult a number of key stakeholders including ATOC, Railtrack, LUL and representatives from Heritage, Light Rail, ROSCOs, FOCs, Unions, employee representatives and the Rail Passenger Council. This work will also take into account European initiatives on licensing and the drafting of Technical Specifications for Interoperability.

**Increasing understanding of human factors and behaviour**
(S 9, LGRI1 31, 35, 43, 45 and 46)

69. These five recommendations are aimed at increasing understanding of how human factors and behaviour affect workers within the industry. HSC has accepted that adequate action has been taken to regard three of these recommendations as completed. Action continues on two recommendations.

70. We welcome the significant increase in the number of research projects to explore human factors and behaviour in relation to train driving and signalling. Many of these research projects are included in the Railway Safety Research Programme, which includes work on SPAD mitigation, human factors and fatigue studies.
Staff instructions (S 6, 17, 18, 52, 53, LGRI 36, 37, 38 and 39)

71. These nine recommendations are aimed at revising or creating systems that are designed to improve systems of work, particularly by improving instructions for signallers when responding to a SPAD. HSC has accepted that adequate action has been taken to regard these nine recommendations as completed.

72. We welcome the comprehensive review and revision of instructions to signallers and the collaboration with RITC.
TRAIN PROTECTION -
Summary progress report as of July 2002

Overview

73. The 45 recommendations here are aimed at securing improvements in the following areas:
- effectiveness of existing AWS automatic train protection systems (AWS) and other operating arrangements;
- fitment of an interim system already developed, ie TPWS;
- development of an enhanced version of that system, ie TPWS+; and
- development and fitment of a new train control system, ERTMS and the associated communications system GSM-R.

Overall Objective

74. Delivery of these recommendations has a major bearing on public confidence in the rail industry and its safety performance, following the two catastrophic accidents – Southall and Ladbroke Grove - which could have been prevented by automatic train protection (ATP). The fitment of the train protection and warning system (TPWS), on which good progress is being made towards the December 2003 deadline in the relevant regulations, greatly reduces the risk of collisions as a result of signals passed at danger (SPADs). Enhancements to TPWS have now been successfully trialed, providing the potential for increased protection where linespeeds exceed 75mph, eg on the West Coast Main Line.

75. Ultimately, the development and fitment of the European Rail Traffic Management System (ERTMS\(^1\)) has the potential to bring a new generation of train control, with the benefit of significant improvements in network capacity and performance as well as safety. While detailed ongoing development work is underway in the UK and elsewhere, the technology for the sophisticated levels of ERTMS that can provide enhanced capacity as well as safety benefits remains largely unproven. The timescales for ERTMS envisaged by the Joint Inquiry may not now be achievable, but in line with European interoperability requirements there remains a legal requirement to develop a national fitment plan when upgrades of high speed lines take place.

Effectiveness of existing systems (S 12, 13, 27, 28,30, 31, 32, 33, 65, 66, 67, 68, JI 1, 2, 3, 35, 36, 37, 38)

76. These 19 recommendations are aimed at maintaining the effectiveness of existing train protection systems until ERTMS is fitted. HSC has accepted that adequate action has been taken to regard 15 of these recommendations as completed. Action continues on four recommendations.

77. We welcome the commitment by industry to maintain these existing systems, for example the TPWS Systems Authority includes work on AWS components to enable AWS to be effectively managed. We also welcome the continuing work to

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\(^1\) A European Directive requires the fitting of a compatible train protection system under ERTMS (European Rail Traffic Management System), the system is known as the European Train Control Systems (ETCS).
complete the fitment of BR-ATP to give full coverage between Paddington and Bristol Temple Meads and on GWML and Chiltern lines.

**Fitment of TPWS** (JI 4, 5, 6, 7, 8, 14, 15, 16, 17)

78. These nine recommendations are aimed at ensuring the fitment of TPWS. HSC has accepted that adequate action has been taken to regard three of these recommendations as completed. Action continues on six recommendations.

79. We welcome the substantial progress made by both TOCs and Railtrack towards completion of the fitment programme required by the Railway Safety Regulations 1999. There is already evidence that TPWS is providing real safety benefits by reducing category A and B SPADS. The fitment programme will continue to be monitored by HSE. HSE’s monthly SPAD reports are available on HSE’s web site, [www.hse.gov.uk/railway/spad/index.htm](http://www.hse.gov.uk/railway/spad/index.htm)

**Enhancements to TPWS** (JI 9, 10, 11, 12, 13)

80. These five recommendations are aimed at the development and implementation of TPWS+ in advance of ERTMS fitment. HSC has accepted that adequate action has been taken to regard one of these recommendations as completed. Action continues on four recommendations.

81. Encouraging progress has been made which should enable TPWS+ to be fitted to high-speed lines to provide protection above 75 mph. This is the only option currently available to provide some of the safety benefits of ATP within a reasonable timescale, and should enable newer passenger trains with their enhanced emergency breaking to run at speeds of up to 125mph on high-speed lines. We welcome the work done by Railtrack to test TPWS+ where linespeeds exceed 75mph and its proposed fitment at selected signals.

**Development and fitment of ERTMS and associated communications system GSM-R** (JI 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, LGRI 51)

82. These 12 recommendations are aimed at fitment of the ERTMS system. HSC has accepted that adequate action has been taken to regard three of these recommendations as completed. Action continues on eight recommendations. There is one other recommendation on which industry believes it has done enough to meet the intent of the recommendation, but where HSE is not yet able to endorse this view, and will continue to report on progress.

83. Although HSC welcomed the ERTMS programme team’s report in April 2002, its conclusions represented a significant departure from the Joint Inquiry recommendations on ERTMS, and HSC asked for an independent review of some of the key aspects. This is now underway, and includes review of both technical and economic issues and also public and stakeholder dialogue. Outputs from this review will inform the HSC’s advice to the Government, early in 2003, on regulatory options for ATP. The relevant recommendations of the Joint Inquiry have not been completed, and the timescales are now regarded as possibly over-optimistic. But it would be entirely wrong to say that progress was not being made or that the recommendations had been ignored. The Government has made Regulations implementing the European Directive on High Speed Interoperability, and is preparing to consult on Regulations to implement the Directive on Interoperability
for conventional (main) lines. There remains strong commitment by the Strategic Rail Authority (SRA) to a national plan for delivery of ERTMS.

84. The SRA and Railway Safety continues to sponsor development work by the ERTMS programme team, and has argued in favour of a more sophisticated ERTMS system, level 2, which could provide significant capacity as well as safety benefits, over the level 1 advocated by Uff/Cullen, whose remit was confined to safety considerations. Level 2 does not yet exist as an ‘off-the shelf’ system either in the UK or Europe. The industry believe that at the earliest, a reliable level 2 system might be available by 2008 and, if funded, could be fitted to high-speed lines and trains by 2015. A key technical risk to development of ERTMS beyond level 1 is compatibility with the GSM-R communications system. The ERTMS programme team’s next report is expected in April 2003. The SRA have said that decisions on ERTMS application on WCML await HSC’s review of the industry’s work.
VEHICLE INTEGRITY, ESCAPE AND EVACUATION -
Summary progress report as of July 2002

Overview

85. The forty-five recommendations included here are aimed at securing improvements in the following areas:
- vehicle integrity, including fire prevention and crashworthiness;
- escape and evacuation;
- information to passengers; and
- communication systems on board trains.

86. Industry has decided, as far as possible, to take an integrated approach to the large number of recommendations on crashworthiness, escape and communications. This has meant that there has been some delay in the timetables set for individual recommendations. On the other hand, this approach has reduced the potential for overlaps and duplication of work, for example incorporation of recommendations on communications into more general work on the GSM-R system – a network-wide radio/communications system.

Overall objective

87. The delivery of these recommendations will help to ensure the safety of passengers and traincrew in the event of an accident. Those recommendations which focus on the engineering issues, including the internal fitments and means of escape should enhance the crashworthiness of vehicles and help fire prevention. Additional standardised information to passengers on the means of escape and evacuation will help, as will the adoption of standard on-train communication systems.

Vehicle integrity, fire prevention, crashworthiness (S 43, 49, 50, 51, 54, LGRI1 53, 54, 55, 56, 57, 58, 59, 60 and 61)

88. These 14 recommendations are aimed at improving the engineering standards of all trains on the network. HSC has accepted that adequate action has been taken to regard seven of these recommendations as completed. Action continues on seven recommendations.

89. As required by many of the recommendations, the industry has carried out a large amount of research into specific issues. In some cases the initial work has identified the need for further work and although this means that the original timescales proposed by Lord Cullen will not be met, we believe that industry is sensible to consider all factors before adopting solutions.

90. We particularly welcome the combined work by Railway Safety, Angel Trains and HSBC to fund projects under the Eurostir® pan-European collaboration to assess improved welding techniques with the aim of improving crashworthiness of new vehicles. Another example of industry tackling issues together in a coherent fashion is the start of the ‘ALJOIN’ research programme to consider the crashworthiness of joints in aluminium vehicles. This major project brings together many key players in the UK, Bombardier, Alcan, The Welding Institute and the Advanced Railway Research Centre at the University of Sheffield, along with other European partners.
91. In some cases, the detailed research by industry has concluded that there is little benefit in adopting some of the proposals. For example a feasibility report concluded that there were no safety benefits to be gained from enhancing end pillar welding and strengthening saloons or carriages. HSE is reviewing the basis for the judgement.

**Escape and evacuation** (S 44, 45, 47, LGRI1 63, 66, 74, 75, 76, 77, 79, 81, 82, 83, 84 and 88)

92. These 15 recommendations are aimed at improving the means of escape and evacuation of passengers and staff in the event of an accident. HSC has accepted that adequate action has been taken to regard eight of these recommendations as completed. Action continues on five recommendations. There are three other recommendations on which industry believes it has done enough to meet the intent of the recommendations, but where HSE is not yet able to endorse this view and will continue to report on progress.

93. The regulatory framework, supporting guidance and HSE safety case criteria have been amended to give greater detail to the TOCs on the requirements for escape and evacuation. However, it will take time for all TOCs to revise their RSC to take account of these changes. Again the industry has undertaken, or is in the process of commissioning, research into a variety of aspects that should improve knowledge and understanding of the human factors involved in emergency situations. Examples of other relevant research include the trials that are underway on how best to protect emergency lighting systems on trains and the research into the feasibility of ensuring emergency hammers are released only after activation of an alarm, and work to consider the feasibility of removable windows and roof mounted escape hatches to aid evacuation. We welcome the work done by HSBC to develop a device for breaking bodyside windows, in advance of the research findings.

94. The feasibility and risk assessment report commissioned by the industry to consider fitting escape hatches in carriages has recommended that fitment is not justified. The report concluded that the risk reduction benefit provided by hatches was marginal when it was put against the other factors, such as the weakening of carriage structures, and the potential for misuse, which would result from the provision of hatches. TOCs report that all safety critical staff, ie drivers and conductors have been trained in train evacuation and protection. We welcome in particular the use of central training packages, for example the central scheme adopted by Wales and Borders and the working group set up by National Express Group to provide a group-wide and uniform response to all the recommendations concerned with escape and evacuation.

**Information to passengers** (S 48, LGRI1 62, 64, 65, 67, 68, 69, 70, 71, 72, 73, 78 and 80)

95. These 12 recommendations are aimed at providing relevant information to passengers in advance about what they should do in the event of an incident. HSC has accepted that adequate action has been taken to regard nine of these recommendations as completed. Action continues on one other recommendation. There is one other recommendation on which industry believes it has done enough to meet the intent of the recommendation, but where HSE is not yet able to endorse this view and will continue to report on progress.
96. The regulatory framework, supporting guidance and HSE safety case criteria have been amended to give greater detail to the TOCs on the requirements for instructions and signage for emergency situations. However, it will take time for all TOCs to revise their RSC to take account of these changes. Industry has also reviewed and updated its guidance on emergency signage and information to passengers, for example Thames Trains has reissued its customer information poster and with First Great Western has produced a passenger information video for use on stations.

97. We particularly welcome the early work done by TOCs to introduce safety information leaflets and posters on trains, using currently available designs, which will be revised later in 2002 when the standardised set of designs are made available. Industry’s extensive research has concluded that there is no ready definition of suitable pictograms and a project is underway to deliver a set of generic safety signage with maximum use of pictograms. We welcome the additional work by industry to consider the issue of tactile recognition for the visually impaired.

**Communication (LGRI 85, 86 and 87)**

98. These three recommendations are aimed at improving communication systems for on board staff and passengers. HSC has accepted that adequate action has been taken to regard two of these recommendations as completed. There is one other recommendation on which industry believes it has done enough to meet the intent of the recommendation, but where HSE is not yet able to endorse this view and will continue to report on progress.

99. These recommendations have been subject to much detailed work, and the industry now proposes to incorporate the requirements in the GSM-R\(^2\) communication system. This represents a key difference between Levels 1 and 2 of ERTMS, ie the addition of radio to connect the driver and the on-train computer with the relevant signalling centres. This is a sensible approach, which means that Lord Cullen’s suggested timetable will not be met, but avoids the risk of introducing potential incompatibility inherent in the development of different systems. We welcome the work by industry to incorporate the requirements in a single approach and will wish to keep the situation under review given the current uncertainties in the GSM-R timetable.

\(^2\) As well as computer messages, GSM-R carries voice communications from the driver to signaller/controller.
## GLOSSARY

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<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AAIB</td>
<td>Air Accident Investigation Branch</td>
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<tr>
<td>ACOP</td>
<td>Approved Code of Practice</td>
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<td>ACPO</td>
<td>Association of Chief Police Officers</td>
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<td>ACPOS</td>
<td>Association of Chief Police Officers, Scotland</td>
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<td>AEIF</td>
<td>European Association for Interoperability</td>
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<td>ALARP</td>
<td>As Low as Reasonably Practicable</td>
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<td>ARS</td>
<td>Automatic Route Setting</td>
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<td>ASLEF</td>
<td>Associated Society of Locomotive Engineers and Firemen</td>
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<td>ATOC</td>
<td>Association of Train Operating Companies</td>
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<td>ATP</td>
<td>Automatic Train Protection</td>
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<td>AWS</td>
<td>Automatic Warning System</td>
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<tr>
<td>A-Exam</td>
<td>A schedule of maintenance tasks</td>
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<tr>
<td>BR-ATP</td>
<td>Automatic train protection system installed on Great Western Main Line and Chiltern Line</td>
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<td>BTP</td>
<td>British Transport Police</td>
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<td>CIRAS</td>
<td>Confidential Incident Reporting and Analysis System</td>
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<td>CRUCC</td>
<td>Central Rail User’s Consultative Committee (now Rail Passengers’ Council)</td>
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<td>CSR</td>
<td>Cab Secure Radio</td>
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<tr>
<td>DERA</td>
<td>Defence Evaluation and Research Agency</td>
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<tr>
<td>DETR</td>
<td>Department of the Environment, Transport and the Regions (was Dept of Transport, Local Government and the Regions (DTLR) incorporates the previous Department of Transport DTp)</td>
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<tr>
<td>DfEE</td>
<td>Department for Education and Employment</td>
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<td>DfT</td>
<td>Department for Transport, previously DTLR, DETR, DTp</td>
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<td>DNV</td>
<td>Det Norske Veritas</td>
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<td>DOO</td>
<td>Driver Only Operation</td>
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<td>DRA</td>
<td>Driver Reminder Appliance</td>
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<td>DTI</td>
<td>Department for Trade and Industry</td>
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<td>EC</td>
<td>European Commission</td>
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<td>EEB</td>
<td>Enhanced Emergency Braking</td>
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<td>EPB</td>
<td>ERTMS Programme Board</td>
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<td>EPT</td>
<td>ERTMS Project Team</td>
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<td>ERTMS</td>
<td>European Rail Traffic Management System</td>
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<td>ETCS</td>
<td>European Train Control Systems: functional specification for train protection used in Interoperability Directives; train protection element of ERTMS</td>
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<tr>
<td>Eurobalise</td>
<td>Electronic component of TPWS-E, fitted to the track to transmit a range of signals to different trains</td>
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<tr>
<td>EWS</td>
<td>English Welsh and Scottish (freight operator)</td>
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<td>FGW</td>
<td>First Great Western</td>
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<td>FNW</td>
<td>First North Western</td>
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<tr>
<td>FOC</td>
<td>Freight Operating Company</td>
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<tr>
<td>GNER</td>
<td>Great North Eastern Railway</td>
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<td>GSM-R</td>
<td>Global System for Mobile Communications - Railways</td>
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<td>GWML</td>
<td>Great Western Main Line</td>
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<tr>
<td>GWT</td>
<td>Great Western Train Company</td>
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<tr>
<td>HMRI</td>
<td>Her Majesty’s Railway Inspectorate (part of HSE)</td>
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<tr>
<td>HRA</td>
<td>Heritage Railway Association</td>
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GLOSSARY

HSC  Health and Safety Commission
HSE  Health and Safety Executive
HSL  Health and Safety Laboratory
HST  High Speed Train
HSW  Health and Safety at Work Act 1974
IECC  Integrated Electronic Control Centre
IMC  Infrastructure Maintenance Company
ISO  International Standards Organisation
JI  Joint Inquiry into Train Protection Systems Report
LGRI 1  Ladbroke Grove Rail Inquiry Part 1 Report
LGRI 2  Ladbroke Grove Rail Inquiry Part 2 Report
LRM  Layout Risk Method
LTUC  London Transport Users Committee
LUL  London Underground
MOLA  Master Operating Leasing Agreement (between ROSCOs and TOCs)
NRS  AWS maintenance contractors
NSFG  National SPAD Focus Group
NSTF  National Safety Task Force
NVQ  National Vocational Qualification
OHL  Overhead Line
ORR  Office of the Rail Regulator
OSS  Over Speed Sensors
OTDR  On train data recorders
RACOP  Railtrack Approved Code of Practice
RAIB  Railway Accident Investigation Branch
Railpart  Traction and rolling stock spares company
RAVERS  A computer system to record maintenance defects
RGM  Member of the Railway Group; comprising Railtrack and holders of Railway Safety Cases
RGS  Railway Group Standard
RIA  Railway Industry Association
RIAC  HSC’s Railway Industry Advisory Committee
R&D  Research and Development
RII  Rail Industry Inquiry
RIO  Rail Incident Officer (Railtrack)
RISSC  Railway Industry Standards Strategy Committee
RISB  Rail Industry Safety Body
RITC  Railway Industry Training Council
RMT  National Union of Rail, Maritime and Transport Workers
ROSCO  Rolling Stock Company
RPC  Rail Passengers Council
RS  Railway Safety: a not-for-profit, wholly owned subsidiary of Railtrack Group plc, limited by guarantee; took over many function of Railtrack S&SD but expanded role to focus on safety
RSC  Railway Safety Case (formal statement of competence)
RSCR  Railways (Safety Case) Regulations
RSRP  Railway Safety Research Programme
Reverse STM  Device to enable trains fitted with BR-ATP or other ATP systems to run on lines fitted with ETCS
RT  Railtrack
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THE RAIL PUBLIC INQUIRIES:

HSC PROGRESS REPORT
ON THE DETAILED RECOMMENDATIONS
AS OF JULY 2002

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CULTURE, SAFETYLEADERSHIP, HEALTH AND SAFETY MANAGEMENT –
Progress report as of July 2002

Safety auditing processes

LGRI1 20. The safety audit process should be strengthened and the quality of communication during the process should be improved. (Para 9.44)
Action on: Railway Safety, Railtrack and TOCs.
Target for completion: 20 December 2001

Progress report from action holders July 2002
Railway Safety has developed and improved the audit process within the framework of their ISO quality management system. Specific changes include the introduction of bottom-up audit, refined protocols for verification, more formalised feedback and de-brief processes, and greater rigour in the follow-up and close-out of actions. Standardised formats for closeout meetings with managers have been introduced.

As part of this work, Railtrack has revised its Company Audit Manual, which was issued on a CD ROM in October 2002. Good progress has been made in auditor training; 530 Railtrack staff have gone through a one-day auditor training course and Railtrack has now published a list of 38 approved lead auditors. Many TOCs report reviews of their own processes. Although this is more relevant to internal auditing it links with evidence of their commitment to the improvements being introduced by Railway Safety, for example Thames Trains has reviewed and strengthened its Loss Control Audit; the 2002 RSC audit verified the adequacy of the arrangements. Industry report action completed.

HSC/E comments
HSE believes this recommendation refers to the independent audit carried out by Railway Safety under the safety case regulations, and we acknowledge that much has been done by industry to improve this process. The recommendation will not be covered in future progress reports. The work will be taken forward in the context of the evaluation of the Railway (Safety Case) Regulations (RSCR) and LGRI2 recommendation 20, within the organisations and standards theme. In the longer term, when new RSC Regulations are in place, HSE will need to check the quality of audits and ensure consistency of standards; there may be a need for guidance in support of the new regulations.

LGRI1 21. An organisation the activities of which are being audited should disclose all material and relevant information to the auditor in regard to the area of the activity, which is being audited. (Para 9.46).
Action on: Railtrack, TOCs
Target for completion: 20 December 2001

Progress report from action holders July 2002
Railtrack has revised its company audit manual to include a requirement to disclose information. The revised audit manual was issued in October 2002. All the TOCs have made commitments to disclosure during audits. On 3 September the HSC agreed draft amendments to the RSCR, which will place a duty on each railway operator to procure annual health and safety audits from a competent body. Formal proposals will be submitted to Ministers, and the regulations are expected to come into effect in spring 2003.
Safety auditing processes

All parts of industry recognise that, whilst the recommendation as written has been met, the work continues.

**HSC/E comments**

HSC accepts that adequate work has been done to regard the recommendation as completed. It will not be covered in future progress reports. The further work will be taken forward under the RSCR review as part of LGRI2 recommendation 20, within the organisations and standards theme.

**S 70. Paper-based audits should be backed up by unplanned inspections and other direct observation of the work under review. (para 16.26).**

**Action on:** All  
**Target for completion:** not specified

**HSC/E comments**

As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard this recommendation as completed. It will not be covered in future progress reports. The issue is taken forward by LGRI2 recommendation 23. The issue should form part of the RSCR review under a general look at audit arrangements.

**LGRI2 23. It is essential that companies operate a robust internal audit system, which should be both “top down” and “bottom up” (para 7.37).**

**Action on:** Rail Industry  
**Target for completion:** not specified

**Progress report from action holders July 2002**

Positive steps have been taken by all the TOCs. All the National Express TOCs, ScotRail, Central, WAGN, c2c, Midland Mainline, Silverlink, Wales & Borders, Valley Lines / Cardiff Railway, Wessex and Gatwick Express are using a bespoke internal safety audit protocol developed by DNV for the National Express Group. Railway Safety is continuing to review the quality of TOC audit protocols. The work is continuing.

**HSC/E comments**

The work continues. The next review of HSE’s Safety Case acceptance criteria provides an opportunity to review how internal audit is assessed. The review of the RSCR also presents an opportunity to consider good practice and establish expectations of internal audit arrangements.

**Fault reporting and maintenance**

**S 16. Railtrack and TOCs must impress on drivers and other staff the need to use formal fault reporting procedures where the Rules so provide, and that the duty to report a fault must be performed personally and the report delivered to the person or body identified in the Rules, and not to any other person or body (paras 7.9, 16.11).**

**Action on:** Railtrack, ATOC  
**Target for completion:** not specified
Fault reporting and maintenance

**HSC/E comments**
As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard this recommendation as completed. It will not be covered in future progress reports. HSE will consider if this issue is relevant to the RSC regulations review, if so the work will be taken forward under LGRI2, recommendation 20 within the organisations and standards theme.

S 22. Fault data bases (including RAVERS) should ensure that repeat faults are logged and that a 28-day history of defects is available to managers and maintenance staff (para 16.9).
*Action on: ATOC*
*Target for completion: February 2001*

S 23. Databases should be programmed to determine and highlight statistically significant trends in faults reported and to display such information to managers and maintenance staff (para 16.9).
*Action on: ATOC*
*Target for completion: February 2001*

S 26. A current and detailed list of items required to be inspected for each examination should be prepared for and used by maintenance teams (paras 6.8 and 15.6).
*Action on: ATOC and ROSCOs*
*Target for completion: August 2001*

S 29. Maintenance procedures should require checking of the history of reported defects, including repeat faults, and the taking of appropriate action (paras 6.14, 15.6).
*Action on: ATOC & ROSCOs*
*Target for completion: February 2001*

**HSC/E comments**
As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard these four recommendations as completed. They will not be covered in future progress reports.

Risk assessment

S 71. Steps should be taken to ensure that all risk assessments are rigorous and that those initiating risk assessments are appropriately qualified and informed. Steps include giving attention to HSE Guidance Notes covering risk assessment, which should accordingly be kept under review (paras 15.21 and 16.26).
*Action on: All*
*Target for completion: not specified*

**HSC/E Status**
As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard this recommendation as completed. No further progress will be reported.
Risk assessment

S 37. Railtrack should ensure that any further proposed change of regulation policy is preceded by a risk assessment. (para 4.6, 16.15).
Action on: Railtrack
Target for completion: February 2001

JI 39. No change in regulation policy to avoid presenting red signals to trains not capable of being stopped by TPWS should be considered without a full assessment and analysis of the consequences (para 11.33).
Action on: Railtrack and TOCs
Target for completion: not specified

Progress report from action holders July 2002

No action is required for JI recommendation 39. As regards Southall recommendation 37, no new approach to signal regulation will be made without a full assessment and analysis of the consequences, and any proposed changes will involve full consultation and agreement with all those likely to be affected. Railtrack’s Interface Risk Management Team assesses the TOC’s individual safety cases and carries out auditing, monitoring and ad hoc checking of TOC compliance with the safety case. Clearly were there to be an instance requiring issues to be challenged, eg should a change arise, then due process would apply, Railtrack’s own RSC (Principal Volume) Version 27.3, para 2.10 refers. There is no need for further action until a proposal for change arises, and it would then be picked up in the safety case. Industry regards recommendation as completed.

HSC/E comments

As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard this recommendation as completed. It will not be covered in future progress reports. HSC accepts completion of JI recommendation 39, as there is a system in place to assess any proposed changes. It will not be covered in future progress reports.

LGRI2 16. The greater use of risk assessment in the rail industry is commended (para 5.42)
Action on: Railway industry
Target for completion: not specified

Progress report from action holders July 2002

Railway Safety recognise that the need for risk assessment training and development of such training will be an ongoing task. They are actively addressing the issue in two ways:

- requirements for risk assessment training is being considered in the context of their research programme; identifying industry’s needs, determining the types of courses required, proposing syllabi and considering most effective means of delivering training; and
- they are considering engaging a suitable consultancy or delivering the training themselves in relation to the use of the existing guidance GE/GN8561 – Guidance on the preparation of risk assessments in railway safety cases.

Industry regards the recommendation as completed.
Risk assessment

*HSC/E comments*

This recommendation is expressed as an endorsement, without a deadline or requirement for any specific new action. However HSE considers it important that companies have taken this to heart, are including risk assessment routinely in decision-making and are employing risk assessment effectively through the safety case process. For these reasons, even though it considers the recommendation as expressed to be deemed closed, and it will not be covered in future progress reports, this will be an area of continuing attention in HSE’s safety case assessment and related inspection.

Safety case regime

*LGRI2 18. The application of the safety case to Great Britain’s Railways is endorsed (para 7.9)*

*HSC/E comments*

No action is required. The recommendation endorses the current regulatory approach, which HSC/E intend to retain and develop. It will not be covered in future progress reports.

*LGRI2 19. The definition of responsibilities for the control of risk at specific sites which are shared by different railway operators and at the interfaces between them across the network should be refined and set out in the safety case. However, the details of the arrangements and agreements for these purposes should not be required to be set out in the safety case; it should be sufficient that the safety case provides information as to the means of access to them (para 7.15).*

*Action on: Railtrack and TOCs*

*Target for completion: September 2002*

**Progress report from action holders July 2002**

RT state that a description of the Connections Agreement, a table of TOCs and their principal RT point of contact and a table of connections with other infrastructure controllers have been included in the May 2002 revision of RT’s Safety Case. Some TOCs already consider that this aspect is covered in their safety case and others are waiting for further changes to HSE’s acceptance criteria.

*HSC/E comments*

Action is ongoing. HSE’s assessment manual, setting out issues to be considered during assessment, already covers this aspect. Further changes are being considered to make an explicit reference to compliance with the Management of Health and Safety at Work Regs, which deal with specifically with co-operation. HSE’s safety case team will clarify its acceptance criteria and duty-holder responsibility with ATOC.
**Safety case regime**

LGRI2 22. The process of safety case acceptance should include the check that a system as described in the safety case is actually in place; whereas the audit would concentrate on how that system was working in practice and how it was ensuring and improving safety (para 7.30)

*Action on: HSE, Railtrack*

*Target for completion: Not specified*

**Progress report from action holders July 2002**

HSE’s procedures and criteria for assessing RSC’s, and inspection programmes arising from assessment, now include verifying that systems described in the RSC are working in practice. HSE are reviewing the RSC 2000 Regulations, which will include consultation with stakeholders. The work will be taken forward under LGRI2 recommendation 20 within the organisations and standards theme.

**HSC/E comments**

The recommendation is accepted as completed. It will not be covered in future progress reports. The future review of the Safety Case Regulations 2000 will include an examination of HSE’s existing practices and consider if further improvement is possible.

**Safety leadership and communication in companies**

S 15. All parties must emphasise the need to comply with the rule book and must not condone departures (para 7.9)

*Action on: RT, TOCs*

*Target for completion: August 2000*

**HSC/E comments**

As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard this recommendation as completed. It will not be covered in future progress reports.

LGRI1 44. A supervisor should be employed on a continual basis to ensure that the workstations are operated in the most effective way. (para 12.17)

*Action on: Railtrack*

*Target for completion: June 2002*

**Progress report from action holders July 2002**

This recommendation relates specifically to supervisor positions for Slough IECC. These have now been advertised twice. Unfortunately, to date Great Western Zone has not had any suitable applicants; therefore the posts are being re-evaluated and will be re-advertised. In the interim, Railtrack are reviewing the situation and options were discussed with the Zone Director and Production manager in late October to help resolve the issue. Railtrack will carry out a full risk assessment for the options before deciding on the way forward. More generally, Railtrack has produced and issued a policy for the provision of supervisors in signal boxes. This gives RT a consistent process for deciding when they are required to provide supervision. Supporting criteria have been developed to determine when supervision is required and a first attempt at identifying signal boxes where this
Safety leadership and communication in companies
would apply has been undertaken. Railtrack’s Safety and Operations Group will sign off
the final criteria in due course. The work continues.

HSC/E comments
Action continues. RT is following a site specific, task based risk assessment approach,
and it is unlikely that supervisors will be necessary at every signalling location.

LGRI2 11. Management should ensure that the elected representatives of the employees,
whether they be union members or not, have a significant role in the management of
safety (para 4.99).
Action on: Rail Industry
Target for completion: not specified

Progress report from action holders July 2002
All parts of industry report that this issue is continuing, and forms part of the development
of their Safety Case or other relevant management systems. For example, Virgin Trains
report that elected employees take part in consultations and attend the company safety
plan day to help identify key areas of safety for Virgin to focus on in the coming year.
TOCs in the National Express Group are involved in an initiative with ASLEF, RMT and
TSSA to ensure that the trade union appointed health and safety representatives are
trained and certificated in the development of safety cases. Following the suggestion of an
RMT representative, Serco Rail had a safety amnesty to get track-workers to talk openly
about actually what happens on the track. Nottingham University experts interviewed all
levels of staff within Serco, which led to the identification of around 40 immediate, medium
and long-term factors which influenced safe working. EWS has a partnership agreement
with the trade unions and uses safety representatives extensively throughout the six
regions as part of local health and safety teams liaising with local managers and regional
safety committees. EWS also have an internal IT system where all employees can raise
safety concerns directly with the CEO. Railtrack has bi-monthly Safety Advisory Board
meetings, which involve the three main trade unions, represented at a senior level. All
parts of industry report that they consider this recommendation as completed.

HSC/E comments
HSC acknowledges that industry has addressed this issue and regards the
recommendation as completed. It will not be covered in future progress reports. HSE’s
safety case acceptance criteria already cover employee involvement extensively, and
railway safety cases must satisfy these criteria before HSE accepts them. HSE will be
examining the involvement of workers representatives through inspection work linked to
safety case assessment, HSC’s Railway Advisory Committee (RIAC), which includes
worker representatives, will be asked to reconsider what support might be given to
employee representatives in the management of health and safety. RIAC will advise HSC
as necessary.

LGRI1 17. The development of a culture within the industry in which information is
communicated without fear of recrimination, and blame is attached only where this is
justified, is commended. (para 9.60).
Action on: Railway Group members
Target for completion: Not specified
Safety leadership and communication in companies

Progress report from action holders July 2002

Railway Safety briefed NSTF, Railway Group members, other stakeholders and regulatory stakeholders on the AD Little report “Strengthening safety culture across the UK rail industry”. The key enablers are:

- Leadership that is credible, independent and able to facilitate industry strategy;
- Leadership of organisations that listens, understands and is visible;
- Industry safety body that focuses on “helper” and “co-ordination” roles;
- Regulatory approach better aligned, focus on proactive control and in touch with industry issues; and
- Organisation of the industry that enable better competence, co-operation, control and communication.

NSTF are adopting a progressive approach to safety culture with actions aligned to the AD Little report. Railway Safety also reports a variety of initiatives, for example:

- the 2002/2003 Railway Group Safety Plan has been significantly strengthened, to include an intolerance of unsafe decisions, unsafe conditions and unsafe acts, this is exemplified by widening the workforce safety objectives, now working towards the goal of ‘zero fatalities’;
- the software tool to support the good practice guide on “Competence in strategic safety management” has been available since February 2002. The model is currently being updated to incorporate updated safety performance data and a extended benchmarking capability, due to be issued in December 2002;
- mentoring over 20 Railway Group members and principal supplier organisations to adopt and apply the software;
- good practice guides in “Competence in strategic safety management” and “Reviewing and developing the safety performance of managers” are being updated and publication is due December 2002;
- a workshop to gauge the reaction of other sectors to the strategic safety management model was held in June 2002; and
- funding development and pilot application of safety leadership training module training module as part of NSTF initiative;

Railtrack’s Head of Safety Leadership continues to develop safety culture and leadership within the industry building on much of the work already in place following the DuPont report.

Other examples reported include Virgin Trains Chief Executive heading NSTF’s work to produce cross-industry position on safety culture to assist a consistent and co-operative approach; GNER adopting the ATOC framework on “no blame” safety culture; Thames Trains and Anglia Railways plans to undertake a safety culture survey; London Lines Senior Management carries out safety tours and a review of all serious operating incidents with the aim not to apportion blame, but to maintain the focus on safety, ensure that the investigation is progressing correctly and to help identify trends; and ATOC proposals to hold workshops, through NSTF, where training concentrates on changing personal behaviours by creating individual actions, which delegates could take back to complete in their own organisations. Industry regards the recommendation as completed, but notes that much work will continue in other workstreams.

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3 DuPont Safety Services consultants were commissioned by Railtrack to assess safety management, within Railtrack, S&SD, and other parts of the industry, against DuPont’s principles of good safety management for evaluating safety performance. Report issued January 2000.
Safety leadership and communication in companies

**HSC/E comments**

Industry has adopted a wide range of activities to take forward this recommendation. A number of organisations have expressed their concern regarding what they consider is a conflicting message of taking forward “no blame” whilst legislation on corporate killing is advanced. However, HSE prefers the wording put forward during the Inquiry “justifiable blame”: we believe that there should be no conflict with any future legislation, but will continue to keep the issue under review. There is some relevance to the investigation theme and this has been addressed in RGS ‘Formal inquiries, formal investigations and local investigations’ GO/RT3473 and in proposals to establish RAIB. HSC has accepted that adequate action has been taken to regard this recommendation as completed. It will not be covered in future progress reports, although clearly fostering of a ‘no-blame’ culture is an on-going element of wider cultural development.

**LGRI2 12. The Chairmen and Chief Executives of companies should make continually clear to all their employees and passengers a lasting commitment to improve safety performance (para 5.21)**  
**Action on:** Rail industry  
**Target for completion:** not specified

**S 69. All parties in the industry must ensure that paper-based procedures do not become divorced from reality. This should include senior managers maintaining a direct knowledge of the situation in railway workplaces (para 16.25).**  
**Action on:** All  
**Target for completion:** not specified

**LGRI2 13. Companies in the rail industry should be expected to demonstrate that they have, and implement, a system to ensure that senior management spend an adequate amount of time, devoted to safety issues with front line staff (para 5.23).**  
**Action on:** Rail Industry  
**Target for completion:** March 2002.

**Progress report from action holders July 2002**

Industry considers recommendations LGRI2 12 and 13 completed but accept that work in this area will continue. Examples of action reported so far include:

- Virgin Trains CEO chairing the working group on industry safety culture, feedback from an earlier safety culture survey on the company was very positive and their safety performance and the safety plan are monitored every four weeks;
- London Lines MD and senior managers carry out regular safety tours to discuss and promote safety with front line staff;
- National Express Group reviewed its health and safety policy to ensure their commitment to improving safety performance is adequately reflected and the plan includes challenging safety objectives;
- All First Group Directors have been trained in carrying out safety tours and at each level of the corporate structure managers are required to do so;
- EWS programmes safety tours for senior managers and each manager has their own personal tour record book (auditable) to note issues raised or observed and to give feedback to staff about their concerns and actions being taken; and
- Other companies report that they are using Railway Safety’s strategic safety model and the RS good practice note on safety tours.
Safety leadership and communication in companies

**HSC/E comments**

As reported in the February 2002 Southall progress report, HSC accepts that adequate action has taken place to regard S69 recommendation as completed. It will not be covered in future progress reports. Evidence to the Ladbroke Grove Inquiry suggested that most senior management were barely visible to the workforce and LGRI2 recommendation 13 points to managers spending blocks of time per day or week in the field, in direct contact with those working at the sharp end. TOCs report a range of activities now taking place, but it is difficult to measure success of these initiatives, for example how companies are measuring the impact of their activities. We need a better feel for how this is being managed across the industry, and the extent to which good practice is widespread. Also we need to find out if things changed significantly since the Inquiry or whether industry is simply reporting things it’s always done. Regarding LGRI2 recommendation 12, it is not clear that companies are addressing the issue of their chairman and CEO’s commitment to improving safety performance rather than simply a commitment to safety. Also, responses from industry are not clear how they are getting the message to passengers. We need to probe this activity possibly as part of more general discussion about developing positive safety culture. For the time being, therefore HSC cannot endorse industry’s judgement that these two LGRI2 recommendations are complete. HSE will continue to monitor progress and progress will be reported in future reports.

**LGRI2 14.** Where it is not already in place, a safety management strategic leadership team should be established in each company in the rail industry. Such a team should be led by the Chief Executive and include his or her direct reports, with support from the safety professionals. It should consider the strategic management process for safety by holding regular meetings devoted to health and safety issues. It should be the key group in the organisation for setting goals, monitoring performance and assessing and resourcing the needs of the organisation to ensure that the long-term objectives are met (para 5.24).

*Action on:* Rail industry  
*Target for completion:* March 2002

**LGRI2 15.** Safety meetings should be used as a means of two-way communication between management and the workplace, and should be linked directly to safety management leadership teams referred to in the previous recommendation (para 5.34).

*Action on:* Rail industry  
*Target for completion:* March 2002

**Progress report from action holders July 2002**

All parts of industry report that they have a safety management strategic leadership team, led by the CEO. For example, Midland Mainline’s safety council meets monthly to set safety objectives and safety plans, monitor progress against safety objectives and safety plans, review safety performance, and identify necessary actions and set topics for safety meetings for front line staff.

RS are taking the lead in developing a RACOP or RGS to set out the acceptable minima for the nature and frequency of meetings. Railtrack’s Head of Safety Leadership is carrying out a review of all current safety meetings. All parts of industry report that they use safety meetings as a means of two-way communication, for example Midland Mainline has regular meetings with all members of staff, which are specifically intended to encourage feedback and its safety council reviews the outputs from such meetings. Thames Trains
Safety leadership and communication in companies
senior management group, attended by all senior managers, reviews the minutes of a
range of other company meetings. This ensures a free channel for communicating safety
information. Line managers meet safety representatives and hold joint briefing sessions
where feedback from staff is encouraged. The company’s joint safety council with trade
union representatives and safety representatives also allows communication on safety
issues between the workplace and leadership teams. Industry regards these
recommendations as completed, with continuing work taken forward in established
management systems, eg RSC.

HSC/E comments
All parts of industry have reported a variety of initiatives to address the issues here. The
test will be how effective the initiatives prove to be in helping to change the industry culture
and what steps industry will take to review these initiatives and even develop new ways of
taking the work forward. HSC acknowledge that much has been done by industry to
introduce changes, however, for the time being, HSC cannot endorse industry’s judgement
that these recommendations are complete. HSE will continue to monitor progress and
progress will be reported in future reports.
Signal sighting

S 34. Railtrack should ensure that the alignment and sighting of signals is confirmed at the time of commissioning, both from the signal and from the track, and appropriate records made, including photographs (paras 3.16, 16.14).
Action on: Railtrack
Target for completion: February 2001

S 35. Railtrack should ensure that checks on alignment and sighting of signals are made at least annually, and at a greater frequency to be determined on the basis of errors found (paras 3.16, 16.14).
Action on: Railtrack
Target for completion: August 2001

S 41. Railtrack should review the operation of ARS (automatic route setting signalling) to consider whether more green signals should be booked ahead of higher speed trains, and generally whether the speed and length of trains is adequately taken into account (para 16.16).
Action on: Railtrack
Target for completion: February 2002

HSC/E comments
As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard these three recommendations as completed. They will not be covered in future progress reports.

LGRI1 22. The standard on signal sighting should require that explicit consideration is to be given to the readability of a signal. It should be made clear that the fact that a signal complies with a minimum requirement is not of itself to be taken as meaning that it is adequate. (para 11.13).
Action on: Railway Safety
Target for completion: December 2001

Progress report from action holder July 2002
The RGS ‘Signal positioning and visibility’ (GK/RT0037 issue 4) was issued in October 2001 for compliance by December 2001. This defines the requirements for positioning signals and indicators to ensure adequate viewing and clarity of meaning for drivers. It is supported by the RGS ‘Testing and commissioning of signalling and operational telecommunications systems’ (GK/RT0209), which was issued in December 2000. This sets out the mandatory requirements for the procedures and processes involved in testing, commissioning and entry (or re-entry) into service of signalling and operational telecommunications systems.

LUL report that they now have processes in place to ensure all relevant factors are considered when track and signalling changes are planned. In July 2002, they issued their Signal Sighting Standard as an Appendix to their suite of SPAD Management Standards. Industry regards this recommendation as completed.
Signal sighting

HSC/E comments
HSC accepts that action taken is adequate to regard the recommendation as completed. It will not be covered in future progress reports.

LGRI1 23. The standard on signal sighting should deal explicitly with the additional time required for the reading of certain signals, including (but not necessarily limited to) those mounted on gantries. (para 11.13).
Action on: Railway Safety
Target for completion: December 2001

LGRI1 25. The reference to “very short duration” in the standard on signal sighting should be clarified (para 11.14).
Action on: Railway Safety
Target for completion: December 2001

LGRI1 26. Areas where ambiguity in the meaning of “very short duration” may have caused, or may still cause, problems should be identified. There should be a retrospective review of all locations where this may be the case, so that appropriate action may be taken. (para 11.14).
Action on: Railtrack
Target for completion: June 2002

LGRI1 28. The standard on signal sighting should define acceptable limits to the temporary obscuration of a signal, subject to the overriding right of a signal sighting committee to determine whether the nature and extent of the interruption in the individual case is such that the sighting is unacceptable. (para 11.16).
Action on: Railway Safety
Target for completion: December 2001

Progress report from action holder July 2002 on these four recommendations
RS report that RGS ‘Signal Positioning and Visibility’ (GK/RT0037 issue 4) was issued in October 2001 for compliance by December 2001. Issue 4 moves away from the previous minimum of 7 seconds visibility, of which the last 4 seconds must be uninterrupted. The RGS gives general information on signals that require more time to be read but does not refer to specific signals. The new requirement is more explicit and clarifies ‘very short duration’ by stating that the minimum requirement is seven seconds reading time commencing eight seconds from the signal, and that this is a minimum value that may need to be increased. The RGS notes that the alignment point is a variable that requires individual assessment for each signal and requires the taking of photographs at the time of commissioning and after any subsequent alteration.

The RGS also defines the requirements for positioning signals and indicators to ensure adequate viewing and clarity of meaning for drivers and includes criterion for measuring whether items of infrastructure are sufficiently small and/or short in duration that they would not be considered to constitute an interruption of view. The purpose is to ensure that designers and maintainers take into account all environmental factors and move away from a situation of designing to just comply with the minimum standards. The emphasis is now on enabling the driver to see the signal aspect clearly and at a sufficiently early stage that he can take appropriate action. The RGS also includes information on the role and responsibilities of a signal sighting committee.
This is supported by RGS ‘Testing and commissioning of signalling and operational telecommunications systems’ (GK/RT0209), which was issued in December 2000. This sets out the mandatory requirements for the procedures and processes involved in testing, commissioning and entry (or re-entry) into service of signalling and operational telecommunications systems. The Railtrack Company procedure (RT/D/P/010), which describes the action to be taken following a SPAD, has been extensively revised to provide guidance in implementing the requirements of the RGS ‘Signals passed at danger’ (GO/RT3252). This was issued in August 2002 and includes a requirement for a signal sighting committee to be held after every SPAD – this will become mandatory from June 2003.

Railtrack has not met the original timescale for recommendation 26, as recommendation 28 had to be completed before locations were reviewed. HSE considers this to be reasonable. Recommendation 26 relates to a retrospective review of areas where ambiguity may have caused problems and this work should be picked up by the review of signals under RGS ‘Prevention and mitigation of overruns – risk assessment’ (GI/RT7006), as covered by JI recommendation 32. Recommendation 25 relates to this issue and provides further clarification of the minimum period (was 7secs/4secs uninterrupted) in the standard. This has now been improved.

Railtrack report that the Company standard for signal sighting has been revised. The drafting has taken longer than expected, due to problems in defining ‘obscuration’, for guidance to signal engineers, but should be issued in December 2002. The development of action plans for the checking and sighting of all signals is expected to take longer than previously envisaged and is now expected to take 18-24 months, ie April 2003. Industry regards recommendations 23, 25 and 28 as completed.

**HSC/E comments**

HSC accepts that action taken is adequate to regard recommendations 23, 25 and 28 as completed. They will not be covered in future progress reports. Action continues on recommendation 26.

**LGRI1 24. Human factors experts should be involved in the revision of the standard on signal sighting. (para 11.13).**

*Action on: Railway Safety*

*Target for completion: December 2001*

**Progress report from action holder July 2002**

Advice and guidance was sought by Railway Safety human factors experts during the drafting of RGS ‘Signal positioning and visibility’ (GK/RT0037), issued October 2001 for compliance by December 2001. The consultants, WS Atkins, also made a significant contribution to the requirements of the standard, involving human factors specialists in the process. Industry regards this recommendation as completed.

**HSC/E comments**

HSC accepts that action taken is adequate to regard the recommendation as completed. It will not be covered in future progress reports.
Signal sighting
LGRI1 27. The expression “overhead line equipment” in the Group Standard on signal sighting should be clarified by the statement that it refers only to wires and droppers. (para 11.16).
Action on: Railway Safety
Target for completion: December 2001

Progress report from action holder July 2002
RS report that RGS ‘Signal Positioning and Visibility’ (GK/RT0037 issue 4) was issued in October 2001 for compliance by December 2001. The revised RGS includes specific requirements about reading times, positioning, alignment, close-up viewing and the form of signals. These are far more detailed than before and are based on emerging best practice, produced in conjunction with WS Atkins. The emphasis is now on designing signals that enable drivers to see the signal aspect clearly and at a sufficiently early stage to take appropriate action.

HSC/E comments
HSC accepts that action taken is adequate to regard the recommendation as completed. It will not be covered in future progress reports.

LGRI1 29. The standard on signal sighting should explicitly define the cab sight lines within which signals must be positioned by reference to the envelope governing the position of the driver’s eye which is specified for each particular rolling stock. (para 11.17).
Action on: Railway Safety
Target for completion: December 2001

Progress report from action holder July 2002
Railway Safety reports that putting a nationally applicable set of cab sight lines in the RGS ‘Signal positioning and visibility’ (GK/RT0037), as proposed by recommendation, will not solve the problem. The requirements for cab sight lines are currently defined in another RGS ‘Requirements for driving cabs of railway vehicles’ (GM/RT2161), which will need to be revised. The review of this RGS (originally issued in August 1995) will ensure that the requirements for cab sight lines for new trains are correct and compatible with GK/RT0037. A final report on the review of GM/RT2161 is due later in 2002 and this will decide its future revision and subsequent timescales. The standard prescribes the requirements for external visibility from inside driving cabs to ensure a working environment in which drivers can carry out their operational duties effectively and maintain safety on Railtrack lines. Industry reports that action is continuing.

HSC/E comments
HSC agrees that the action needed is more complex than the recommendation suggests and accepts that the original timescale was not achievable. In view of the time needed to review/consult and then issue a RGS, a longer timescale seems reasonable.

LGRI1 30. The report by W S Atkins “Initial Study of Signal Sighting Practice on Railtrack Infrastructure”, Issue 1, 6 March 2000, is commended. (para 11.19).
Action on: Railway Safety
Target for completion: not specified
Signal sighting

**Progress report from action holder July 2002**
WS Atkins were intensively involved with RS in the revisions to RGS ‘Signal positioning and visibility’ (GK/RT0037 issue 4), RS considered all the issues raised in the Atkins reports and in the vast majority of cases, incorporated them into the RGS. RS reports that WS Atkins are content with the RGS. RGS GK/RT0037 was issued in October 2001 for compliance by December 2001. Industry regards this recommendation as completed.

**HSC/E comments**
HSC accepts that action taken is adequate to regard the recommendation as completed. It will not be covered in future progress reports.

**LGRI1 32.** It should form part of Railtrack’s safety management system that it is the responsibility of senior Zone operating and signal engineering management to decide whether the recommendations of a signal sighting committee under the Group Standard on SPADs are to be implemented and, if not, what alternative measures are to be taken, and, in either event, that the relevant measures are implemented. (para 11.22).
Action on: Railtrack
Target for completion: December 2001

**Progress report from action holder July 2002**
Railtrack incorporated the necessary improvements into its company standard ‘Signals passed at danger’ (RT/D/P/010), in advance of the revision to the RGS. This clearly identifies how Signal Sighting Committee (SSC) recommendations should be dealt with by stating that the respective Region/Zone shall be responsible for implementing any SSC recommendations. It also states that where it is decided not to implement such recommendations, the reasons, together with alternative measures for controlling risks identified should be documented. The revised company arrangements were issued mid August 2002 and full implementation is due by June 2003. Railway Safety reviewed the RGS that defines management process for SPAD related actions, ‘Signals Passed at Danger’ (GO/RT3252), which was issued in September 2002.

**HSC/E comments**
HSC accepts that action taken is adequate to regard the recommendation as closed. It will not be covered in future progress reports.

**Signalling systems**

S 42. Any further review of LRM (layout risk models) should take into account Dr Murphy’s risk analysis (para 16.16).
Action on: Railtrack
Target for completion: February 2002

S 87. Consideration should be given to means of speeding up the process of earthing and isolation of traction current following an accident on an electrified section of line (para 2.15).
Action on: Railtrack
Target for completion: August 2000
Signalling systems

HSC/E comments

As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard these two recommendations as completed. They will not be covered in future progress reports.

JI 29. All SPADRAM measures should be continued unless and until HMRI are satisfied that they are unnecessary (para 11.32). The following measures should be pursued in particular.
Action on: Railtrack, TOCs, HMRI
Target for completion: March 2001

JI 30. Research into multi-SPAD signals and into the cause of multiple SPADs should be continued (para 11.32).
Action on: Railway Safety, TOCs
Target for completion: March 2001

JI 31. Procedures for the dissemination of information and for the design and implementation of mitigation measures following multiple-SPADs should be kept under review (para 11.32).
Action on: Railway Safety, TOCs
Target for completion: February 2000

Progress report from action holders July 2002 on these three recommendations

The National SPAD Focus Group (NSFG) continues to meet and has reviewed its terms of reference. NSFG has moved to a steering group format underpinned by a plenary body. NSFG plans better links with zone-level groups and communication of key messages, which now happens with SPADRAM Group Chairman attending such meetings. NSFG facilitates the progressive improvement of SPAD management through the identification, discussion, development and promotion of justifiable and potentially effective measures. It meets three times a year and works, among other things, to identify and promote the need for research into SPAD issues. ATOC Members continue to support the range of SRADRAM measures developed through the NSFG, with ATOC providing the link to TOCs.

The five key areas developed by the NSFG have been incorporated in the Railway Group Safety Plan for 2002/03. The first edition of “Red”, a video series that aims to encourage a greater engagement of front line and back office staff in SPAD reduction and mitigation, was distributed in January 2002. Railway Safety’s monthly SPAD report continues to include details of key initiatives, as does the industry sponsored “Red Alert”, distributed to all drivers and signallers. The SPAD Handbook has been updated and made available to subscribers. Industry regards the recommendation as completed.

Research is being carried out under “Common failures of SPADed signals” as part of the SPAD Reduction and Mitigation Theme within Railway Safety’s Research Programme, and there is a specific focus on multiple SPADs (signals that have been passed twice or more times in the last five years). As part of the process of informing TOCs and drivers of multiple SPAD signals Railway Safety publish a weekly list of multiple-SPAD signals; an analysis of multiple-SPAD signals is included in their monthly SPAD reports. Railtrack also publish, on a quarterly basis, a CD-ROM containing the details of all multiple-SPAD signals, this includes data on the past history of the signal and details of the mitigation
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measures taken. In addition, in mid-2002 Railtrack carried out a review of the 115 multiple-SPAD signals that have been SPADed three or more times in the last five years. Multiple-SPADs are a standing item on the agenda for the bi-monthly meetings between HMRI and Railtrack. Industry considers that the recommendation is completed.

A new Railtrack national SPAD strategy was formally launched at the end of May 2002. It has nine key components and is intended to ensure an integrated company management system and a more proactive approach to the management of SPADs. It includes improving the professionalism and competence of staff involved in SPAD mitigation by, among other things, further enhancing the SPAD investigator training and providing refresher training. As part of this work Railtrack has published a new “information pack for investigators”. Backing up the strategy is a company SPAD Action Plan, which currently contains over 500 actions.

Since 1999 the industry has implemented many new initiatives to disseminate information about SPADs and identify the most appropriate mitigation measures. HSE’s monthly SPAD reports record details of many of the initiatives and the outcomes. There has also been a wealth of information and guidance produced which is shared throughout the industry, for example during 2001 both Railtrack and Railway Safety issued new and revised standards and guidance, which incorporate current best practice, for managing and mitigating SPADs. Since 1999, Halcrow has organised and run annual SPAD conferences for senior managers, to communicate the essential messages at a senior level. They also run annual SPAD workshops and produce a quarterly publication ‘Red Alert’, which, as of June 2002, goes to all drivers and signallers and gives the latest information on key initiatives and other SPAD issues. A compendium of all the documents from these activities was issued on a CD-ROM in July 2002. Industry regards these three recommendations as completed.

HSC/E comments
HSC accepts that action taken is adequate to regard these three recommendations as completed. They will not be covered in future progress reports. However, industry needs to continue action to ensure that progress is maintained. HSE will continue to monitor activity in relation to SPAD reduction and mitigation.

JI 32. Analytical methods (including that of Dr Ian Murphy) aimed at identifying signals which pose the greatest risks should be pursued with urgency (para 11.32
Action on: Railway Safety
Target for completion: February 2002

Progress report from action holder July 2002
Railway Safety has reported that any future developments to Layout Risk Model (LRM) will take account of Dr Murphy’s methodology. Improvements to LRM (including upgrades to address TPWS and ATP, as well as a better consequence model) have already been implemented and are now approved. Dr Murphy’s ideas and approach have been input to the development by Railtrack of tools and techniques to support the RGS ‘Overrun risk assessment’ (GI/RT7006). The process builds on existing tools and techniques and consists of a preliminary assessment, a junction-screening tool, a signal assessment tool and a detailed assessment. Together, these provide Railtrack with company-wide systematic processes and tools to assess SPAD risk and potential mitigations. The new Company Standard for ‘Signal sighting overrun risk assessment’ (RT/E/P/14201) will be
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issued in December 2002. This will be applied to all new layouts/signalling schemes before implementation and retrospectively applied to all steady state signals by October 2005. Industry considers that the recommendation is completed.

HSC/E comments
HSC accepts that action taken is adequate to regard the recommendation as completed. It will not be covered in future progress reports.

LGRI1 5. Where a material change to track or signalling or both is proposed, there should be an express consideration of all relevant safety issues by an analysis of the material factors, if necessary by means of a risk assessment. This should be done on a holistic basis at the design concept stage and repeated at defined stages up to and including full implementation. (para 7.17).
Action on: Railtrack
Target for completion: December 2001

Progress report from action holder July 2002
Railtrack have developed and adopted a new Over-run Risk Assessment Methodology (ORAM) for use in the design of new signalling layouts. It is being applied on schemes generated by the WCML Programme, and any future schemes. It will be included in the issue of a new standard.

The RGS ‘Signalling control and display systems’ (GK/RT0025) is being reviewed and the necessary wording will be incorporated to ensure that the workload on signallers should be considered when designing control centres (eg issues of how much infrastructure a signaller can be responsible for, under normal and exceptional conditions). The consultation started in February 2002 and the RGS should be issued in April 2003 with compliance by July 2003. The revised RGS ‘Train driving’ (GO/RT3251), which sets out the safety requirements for train drivers, now covers the training and briefing of drivers for new routes and was issued in October 2002.

LUL report that they now have processes in place to ensure all relevant factors are considered when track and signalling changes are planned. In July 2002, they issued their Signal Sighting Standard as an Appendix to their suite of SPAD Management Standards. Industry considers that the recommendation is completed.

HSC/E comments
HSC accepts that action taken is adequate to regard the recommendation as completed. It will not be covered in future progress reports.

LGRI1 8. Railtrack should ensure that the risk assessments and any consequent actions required under Group Standard GK/RT 0078 in respect of the signals in the Paddington area are carried out as soon as possible. (para 7.125).
Action on: Railtrack
Target for completion: December 2001
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LGRI1 9. Railtrack should conduct a safety examination of the layout over 0-2 miles from Paddington Station so as to satisfy the HMRI, if necessary by a risk assessment and additional measures, that it is safe for operation at current speeds and to current traffic arrangements. Such a safety examination should be repeated before the implementation of any change which is or may constitute, in the opinion of the HMRI, a material change of circumstances. (para 7.126).
Action on: Railtrack
Target for completion: December 2001

LGRI1 10. No change should be made in the direction of running on line 3 or in the current speed limits on any of the lines out to two miles six chains from Paddington Station unless and until the following have been done to the satisfaction of the HMRI, namely: a risk assessment has demonstrated that the change can be implemented in safety, and, if this can be achieved only if certain measures are taken, what these measures are; and such measures have been implemented and shown to be effective. The risk assessment should take account of the following possible measures, inter alia: the conversion of four-aspect to three-aspect signals; the addition of flank protection at SN109 and elsewhere if appropriate; the installation of standard, simple, non-distracting and consistent means of line identification; the alteration of the height, configuration and mounting of signals; and the installation of an additional gantry to the east of Portobello Bridge for carrying Down signals previously carried on gantry 8. The risk assessment should be carried out by persons independent of Railtrack and in accordance with usual standards and the best available methods. It should take account of human factors which may affect the actions of drivers and signallers, and any risks which the carrying out of any of these measures might create. (para 7.127 and 7.128).
Action on: Railtrack
Target for completion: not specified

Progress report from action holder July 2002 on these three recommendations
The RGS (GK/RT0078), which required the risk assessment of platform starting signals, has been replaced by the RGS covering overrun risk assessment and mitigation (GI/RT7006). Following the collision Paddington station was reopened, with a temporary and significantly modified layout, jointly developed by Railtrack, unions, AD Little and HSE. In October 2000 HSE commissioned an independent second opinion of the layout, including a risk assessment, which confirmed that all work, which was reasonably practicable in the short term, had been done. HSE has accepted that the current, temporary layout as acceptably safe and has now given it formal approval under the Railways and Other Transport Systems (Approval of Works, Plant and Equipment) Regulations 1994.

Further changes to the layout will be needed to take forward the major redevelopment of the Paddington area. RT is in discussion with HSE on the safety aspects of this. RT has argued, and HSE has accepted, that it is not reasonably practicable to move the gantry supporting SN109 east of the Portobello Road. A different solution is being adopted instead (fibre optics signals that can be mounted lower down improving their visibility to drivers). RT has also told HSE that it is likely to argue that flank protection after SN109 is unnecessary, given that TPWS is installed. Any future changes will have to be agreed by HSE and will also have to take account of the Railway High Speed Interoperability Regulations 2002. RT plans to commission the final layout in April 2003 (work is currently taking place in stages) subject to HSE agreement. Railtrack considers these three recommendations as completed.
Signalling systems

**HSC/E comments**
HSC accepts that action taken is adequate to regard these three recommendations as completed. They will not be covered in future progress reports.

**LGRI1 47. There should be a unique alarm for SPADs, which should sound until it is turned off. (para 12.21).**
*Action on: Railtrack*
*Target for completion: December 2001*

**Progress report from action holder July 2002**
Railtrack reports that the SPAD alarms have now been installed at all integrated electronic control centres (IECC) locations and signaller operating instructions have been issued. Railtrack regard the recommendation as completed.

**HSC/E comments**
HSC accepts that adequate work has been done to consider this recommendation as completed. It will not be covered in future progress reports.

**LGRI1 48. The speed with which signallers can take action to move points in an emergency should be improved. (para 12.22).**
*Action on: Railtrack*
*Target for completion: June 2002*

**Progress report from action holder July 2002**
This recommendation involves issues relating to the display of signalling system operation, the design of IECCs and human factors, such as reaction times. Railway Safety has included requirements relating to the speed with which signalling system information can be accessed/displayed in an emergency in the RGS ‘Signalling control and display systems’ (GK/RT0025), which is scheduled to be issued in April 2003. Such a requirement is already in RGS ‘Safety requirements for cab signalling systems’ (GE/RT8026).

Railtrack report that work is progressing to plan, and the changes to IECCs are being developed. A pilot scheme will be implemented at Marylebone IECC by spring 2003. Railtrack will start to implement the design changes to all IECCs and the planned completion date is scheduled for October 2003. Work has included a human factors study, which recognises that the speed of reaction of the signaller is key, and this ultimately depends upon what he/she is actually doing at the moment an incident occurs, and the time he/she takes to mentally disconnect from it to focus on the incident. Thus there have been a number of actions from the study, about training and signallers’ workload that require development. Implementation work still in progress.

**HSC/E comments**
Work is continuing, expected completion date of October 2003. Given the measures that have already been taken, this timescale seems reasonable.
LGRI1 49. There should be a study of the possibility of the automatic replacement of a signal to Danger where a SPAD has occurred and the layout is such that there is a significant danger of collision. (para 12.27).
Action on: Railtrack
Target for completion: June 2003

Progress report from action holder July 2002
Railtrack report that the intent of the recommendation is covered in the RGS "Provision of overlaps, flank protection, and trapping" Standard (GK/RT/0064). Railtrack is developing a set of design guidelines to allow all signals, where there could be conflicting movements following a SPAD, to be set to red. Once agreed, the requirements will be included in a Corporate Standard. All new infrastructure layouts are to be reviewed under Overrun Risk Assessment Methodology (ORAM), as detailed in JI recommendation 32 earlier. Railtrack considers this recommendation completed.

HSC/E comments
HSC accepts that action taken is adequate to regard this recommendation as completed. It will not be covered in future progress reports.

LGRI1 50. Subject to satisfactory risk assessment, an arrangement should be made whereby, when a train which is fitted with the CSR passes a signal at Danger, an audible warning automatically sounds in the cab. (para 12.28).
Action on: Railtrack
Target for completion: June 2003

Progress report from action holder July 2002
Railtrack note that the feasibility report of producing SPAD information in the cab (the BR1810 Train Describer (TD)) concluded that it was not technically feasible to use the cab secure radio (CSR) to ‘announce’ a SPAD. Railtrack will therefore not take any further action on this issue. Railtrack note that CSR coverage is not national and it is only fitted to some cabs, and is to be replaced with GSM-R, see LGRI1 recommendation 51 in the train protection theme. Industry regards this recommendation as completed.

HSC/E comments
HSC accepts that action taken is adequate to regard this recommendation as completed. No further progress will be reported.
Establishment of a Rail Accident Investigation Branch

S 81. Consideration should be given to whether an additional independent accident investigation body should be created, to take over the accident investigation functions of HMRI under Recommendation 7 (para 15.23).
Action on: HSC
Target for completion: February 2002

HSC/E comments
HSC has accepted that adequate action has taken place to consider this recommendation as completed. It will not be covered in future progress reports. The issue is taken forward by LGRI2 recommendation 57.

LGRI2 57. The responsibility of the HSE for the investigation of rail accidents should be transferred to an independent body, here referred to for convenience as the RAIB (para 9.29).
Action on: HSC
Target for completion: June 2002

LGRI2 58. The investigation of rail accidents and incidents of whatever nature should be brought under the overall control of the RAIB (para 11.8).
Action on: HSC
Target for completion: June 2003

LGRI2 59. The more serious cases should be the subject of inquiry by the RAIB. The categories of case which would fall to the RAIB to inquire into should be the subject of further study (paras 11.8 and 11.10).
Action on: HSC
Target for completion: June 2003

LGRI2 60. The less serious cases should be delegated to the industry to be dealt with by formal inquiry or formal investigation. However, the RAIB should have the ability to call in any case for inquiry by itself where that appears to be appropriate (para 11.8).
Action on: HSC
Target for completion: September 2004

LGRI2 62. The sole objective of the investigation of accidents or incidents should be the prevention of accidents and incidents. It should not be the purpose of such investigations to apportion blame or liability (para 11.11).
Action on: HSC
Target for completion: September 2004

LGRI2 65. Representatives of those who have been affected by an accident should be allowed to attend as observers at an RAIB inquiry into that accident (para 11.14).
Action on: RAIB
Target for completion: not specified
Establishment of a Rail Accident Investigation Branch

LGRI2 66. Procedures, such as those followed by the AAIB, for keeping those who have been bereaved or injured fully informed of what is happening during the investigation process, are commended (para 11.15).
Action on: RAIB
Target for completion: not specified

LGRI2 67. The RAIB should exercise a supervisory function in regard to the working of formal inquiries and formal investigations (para 11.16).
Action on: HSC
Target for completion: September 2004

LGRI2 69. The reports of RAIB inquiries and formal inquiries should be published, subject to the protection of the identity of persons involved (para 11.17).
Action on: Railway Safety and RAIB
Target for completion: not specified

LGRI2 71. The RAIB should regularly examine the reports of formal investigations in order to determine whether there are matters of importance which should be brought to the attention of the industry (para 11.22).
Action on: RAIB
Target for completion: not specified

LGRI2 73. The statements made by witnesses in connection with RAIB inquiries and industry inquiries and investigations should not be disclosed to the police, save by order of a judge (para 11.32).
Action on: HSC
Target for completion: not specified

HSC/E comments
Lord Cullen made it clear when he launched his second report that he did not see the creation of RAIB taking away the legal responsibility of BTP and HSE to investigate accidents for potential breaches of criminal law. DfT has taken the lead on action relating to these eleven recommendations. They have not been implemented by the date set by Lord Cullen because they require primary legislation. A Bill to establish RAIB was announced in the Queen’s speech on 13 November 2002. It is intended that the primary legislation will set out the broad powers and duties of RAIB, with further detail included in regulations and protocols developed during the passage of the Bill through Parliament. DfT’s consultation on proposals to establish a Rail Accident Investigation Branch (RAIB) ended on 10 October 2002.

Establishment of RAIB will implement LGRI2 recommendations 57, 58, 59, 60, 62, 65, 67, 69, 71 and 73. Once established, RAIB will be in a position to take forward LGRI 2 recommendations 61, 66 and 68. It will also then be advisable to review all the completed/superseded Southall recommendations on accident investigation to ensure no safety benefits have been lost with the set up of RAIB.

With respect to recommendation LGRI2 69, the RGS on ‘Formal Inquiries, formal investigations and local investigations’ (GO/RT3473) was issued in December 2001 and includes a requirement for a summary of formal inquiries to be placed on Railway Safety’s
Establishment of a Rail Accident Investigation Branch

website. With respect to LGRI2 73, the industry sees links to LGRI2 recommendation 62, 'no blame' investigations. RS report that the RGS, ‘Formal Inquiries, formal investigations and local investigations’ (GO/RT3473), prohibits the attendance of police at formal inquiries and investigations: the RGS is designed to protect those who cooperate with the investigation process. RS resists any efforts to obtain access to information submitted in the formal inquiry process.

These recommendations also have links to Southall recommendations 76, 77, 78, 79, 80, 83, 93 and LGRI1 recommendations 6 and 7.

Investigation of major and other serious incidents

S 19. Appropriate procedures for receiving and making an automatic record of verbal reports should exist in all control centres, similar to the facilities installed by GWT in 1998 (para 9.14).
Action on: Railtrack and ATOC.
Target for completion: February 2001

S 55. All trains should be fitted with data recorders. All data recorders should record speed, time/location, brake application and AWS cancellation, and should be simple and speedy to download (para 14.23).
Action on: Railtrack and ATOC
Target for completion: February 2002

S 56. Consideration should be given to developing a cheaper form of data recorder for retrospective fitment where this will allow earlier fitting (para 14.24).
Action on: ATOC, Railtrack
Target for completion: August 2000

S 73. The technical investigation of serious rail accidents should be controlled by HMRI save in exceptional cases of suspected crime which is unconnected with the running of the railway (para 15.23).
Action on: HSC
Target for completion: February 2002

S 74. HMRI should ensure that a single, thorough and definitive technical investigation is carried out, to include the recording of all appropriate factual data, the collection of physical evidence from the scene of the accident and decisions as to handing the site back to the rail companies (paras 2.19, 7.3, 15.24).
Action on: HSC
Target for completion: February 2002
Investigation of major and other serious incidents

S 75. Standing contracts for the provision of consulting services by recognised railway experts should be amended to make provision for HMRI to require any appropriate individual to provide expert services for the immediate accident investigation, including the services of any appropriate laboratory or testing house (para 15.23).
Action on: HSC
Target for completion: February 2002.

S 76. HMRI should decide, irrespective of any ongoing criminal investigation, what data or information is to be passed on to rail companies for rapid action (para 15.24).
Action on: HSC
Target for completion: February 2002.

S 77. The primary forum for deciding upon appropriate recommendations following an accident should be the Rail Industry Inquiry (RII). Procedures for holding such an inquiry at the earliest possible date should be strengthened, and should include the presentation by HMRI of their investigation (para 15.26).
Action on: Railtrack, ATOC and HMRI
Target for completion: February 2002.

S 78. Procedure for conducting a RII should be reviewed. This should include ensuring that the RII panel is independent of all parties having an interest in the accident (paras 9.33, 15.25, 16.26).
Action on: Railtrack
Target for completion: February 2002.

S 79. Consideration should be given to whether procedures can be adapted to make any RII accessible to the public, save where the needs of confidentiality otherwise require (para 15.28).
Action on: Railtrack
Target for completion: February 2002.

S 80. Nothing should be permitted to delay the opening of a RII nor the completion of their Report and Recommendations (para 15.28).
Action on: Railtrack
Target for completion: February 2002.

S 82. Existing protocols between Railtrack, BTP and HMRI should be reviewed in the light of the above Recommendations (para 15.24).
Action on: Railtrack, BTP and HMRI
Target for completion: February 2002.

S 83. Any subsequent Inquiry directed under the Health and Safety at Work Act, 1974 should involve all parties in the rail industry who may have an interest in Recommendations to be made, through the involvement of representative groups including ATOC (para 15.27).
Action on: HSC
Target for completion: February 2002.
Investigation of major and other serious incidents
S 84. Passenger representation at such inquiries should not be limited to those involved in the immediate accident. Consideration should be given to enlarging the role of CRUCC and the provision of appropriate funding for their full participation in Inquiries (para 15.27).
Action on: DfT (previously DETR)
Target for completion: February 2002

S 85. Responses to the S&SD paper “The Future of Accident Investigation in the Railway Industry” should be taken into consideration in applying the foregoing Recommendations (para 15.29).
Action on: Railtrack
Target for completion: February 2001

S 86. Steps should be taken to upgrade the role of Rail Incident Officer and to ensure that the person so designated has sufficient authority and standing for the task in hand, bearing in mind the tensions that can develop in the early stages of an accident response (para 2.15).
Action on: Railtrack
Target for completion: August 2000

S 93. Post-accident debriefing procedures should be reviewed to ensure that combined debriefings are held between all involved Railway Industry and Emergency Services groups (paras 2.25, 16.28).
Action on: All
Target for completion: August 2000

HSC/E comments
As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard all of the above 17 recommendations as completed. They will not be covered in future progress reports. Current investigation procedures will be changed when RAIB is established and new working arrangements will need to be agreed as LGRI2 recommendations 58, 59, 60, 61, 67 and 71 are implemented.

Recommendation 83 of the Southall report relates to formal inquiries directed by the HSC under the HSW Act: it was not feasible to review this recommendation before completion of Lord Cullen’s report, but it should be noted that ATOC was represented at the Cullen inquiries, as were two passenger groups and the RPC. Cross-Government proposals for reviewing the regulations governing the procedures for public inquiries are being developed and will take account of Professor Uff’s and Lord Cullen’s comments on the process. The procedure for any future public inquiries into rail accidents is likely to be influenced by implementation of the LGRI2 recommendations for the establishment of an independent rail accident investigation body.
Investigation of major and other serious incidents

LGRI1 33. The Group Standard on SPADs and its associated documentation should be reviewed to ensure that there is no presumption that driver error is the sole or principal cause, or that any part played by the infrastructure is only a contributory factor. (para 11.27).

Action on: Railway Safety
Target for completion: December 2001

Progress report from action holder July 2002
RGS ‘Signals passed at danger’ (GO/RT3252), which defines requirements for managing SPAD incidents and reducing the risk of recurrence was issued in September 2002. The RGS sets out requirements to ensure that each SPAD is investigated in a consistent and structured way in order to prevent, or reduce the probability of, recurrence, without apportioning blame or liability. In addition, a good practice guide on SPAD investigation was sent to all RGMs in July 2002. LUL report that they have introduced a new standard that aims to ensure that SPAD management does not lead to increased or new risks following SPAD incidents and will apply a consistent approach to incident investigation. Industry reports action completed.

HSC/E comments
HSC accepts that enough work has been done to accept completion of this recommendation. It will not be covered in future progress reports.

LGRI1 34. The use of the word “disregard” in the Group Standard on SPADs and its associated documentation should be reconsidered. (para 11.29).

Action on: Railway Safety
Target for completion: December 2001

Progress report from action holder July 2002
The Safety Advisory Board and National SPAD Focus Group (NSFG) support the abolition of the term ‘disregard’, to be replaced by the use of other terms, for example miscommunication, misread or misjudge, which is already Railway Safety practice. All RGMs are aware of the changes. Industry regards the recommendation as completed.

HSC/E comments
HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

LGRI1 40. Railtrack should ensure that the reports which are made to the Zone about a SPAD should include a report by the signaller as to the actions taken by him or her and the reasons for such actions. (para 12.13).

Action on: Railtrack
Target for completion: December 2001

Progress report from action holder July 2002
Railtrack has incorporated this requirement into the Company Standard on SPAD management ‘Signals passed at danger (RT/D/P/010) which was issued in October 2002. LUL report that as part of the competence assurance work for signallers, a series of
Investigation of major and other serious incidents
Standards to cover training, qualification, assessment and reassessment have been developed, together with a Standard on additional monitoring, support and coaching: this is all underpinned by the requirements of LUL’s Safety Critical Licensing system. The programme for the monitoring and assessment of all signal operators is underway. Industry report action completed.

HSC/E comments
HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

LGRI1 52. Signallers, managers and maintenance staff working at IECCs should be instructed as to the need to preserve CSR data disks in the event of a SPAD taking place. (para 12.30).
Action on: Railtrack
Target for completion: December 2001

Progress report from action holder July 2002
Railtrack has built on the initial instructions issued to Operations Managers in October 2001, and the requirements for the preservation of information have been included in the Company Standard on SPAD management (RT/D/P/010), which was implemented in October 2002. Industry regards the recommendation as completed.

HSC/E comments
HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

LGRI2 61. Consideration should be given, in the longer term, to reducing the investigation of accidents or incidents at industry level to a single method (para 11.9).
Action on: RAIB
Target for completion: Not specified

Progress report from action holder July 2002
This recommendation cannot be implemented until RAIB is established. DfT’s consultation on proposals to establish RAIB ended on 10 October 2002. This will require primary legislation and will implement LGRI2 recommendations 57, 58, 59, 60, 62, 65, 67, 69, 71 and 73. Once established, RAIB will be in a position to take forward LGRI2 recommendations 61, 66 and 68.

HSC/E comments
Action continues. This links to Southall recommendations 77, 78, 79, 80, 85 and 86 and LGRI1 recommendations 6 and 7.

LGRI2 63. The appointment of an independent chairman and, where appropriate, independent members for the panel of a formal inquiry, is endorsed (para 11.13).
Action on: Railway Safety and RAIB
Target for completion: not specified
Investigation of major and other serious incidents

Progress report from action holder July 2002
Railway Safety reports that the RGS ‘Formal Inquiries, formal investigations and local investigations’ (GO/RT3473) incorporates this provision and was published in December 2001.

DfT’s consultation on proposals to establish RAIB ended on 10 October 2002. This will require primary legislation and will implement LGRI2 57, 58, 59, 60, 62, 65, 67, 69, 71, 73 and 83. Once established, RAIB will be in a position to take forward LGRI2 recommendations 61, 66 and 68.

HSC/E comments
HSC accepts that adequate work has been done to consider the recommendation as completed, so far as is possible before the establishment of RAIB. It will not be covered in future progress reports. This work links to Southall recommendations 77 and 78. The issue will need to be reviewed by RAIB in the future.

LGRI2 64. Save and to the extent that there is good reason to the contrary, representatives of persons who have been affected by an accident should be allowed to attend, as observers, formal inquiries into more serious accidents. There should be a criterion for the purpose of determining for which inquiries this would be suitable (para 11.14).

Action on: Railway Safety
Target for completion: March 2002

Progress report from action holder July 2002
In December 2001 Railway Safety re-issued the RGS ‘Formal Inquiries, formal investigations and local investigations’ (GO/RT3473). The RGS gives the criteria for those who may attend industry investigations, for example the Chair of a formal inquiry involving a passenger fatality should consider inviting an observer on behalf of affected parties not otherwise represented. ATOC members remain of the view that this recommendation is in conflict with the aim of recommendations 62 and 69, and argue that this view is strengthened with the experience of the Hatfield Rail Inquiry where some people called as witnesses were not prepared to give evidence. However, Railway Safety and ATOC see this recommendation as completed.

HSC/E comments
HSC accepts that enough work has been done by industry to consider this recommendation completed. This recommendation links to Southall recommendations 77, 78, 79 and 84 and LGRI1 recommendations 65 and 66. It will not be covered in future progress reports. However, further work will need to be considered when RAIB is established.

LGRI2 68. The proposal of an appeal against a finding of a formal inquiry should be the subject of further study (para 11.16).

Action on: Railway Safety
Target for completion: March 2002
Investigation of major and other serious incidents

**Progress report from action holder July 2002**

This is incorporated in the revised RGS ‘Formal Inquiries, formal investigations and local investigations’ (GO/RT3473) which gives the right of appeal.

**HSC/E comments**

HSC considers that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports, although the issue is one that RAIB, once established, will need to address.

**LGRI2 72. There is a need for a protocol dealing with the release of technical information and access to technical experts in investigations involving the police (para 11.29).**

**Action on:** BTP, Railtrack and HSE

**Target for completion:** June 2002

**Progress report from action holder July 2002**

Protocols covering relations between BTP, HSE and Railtrack relating to the investigation of incidents are kept regularly under review and reflect lessons learned from Southall, Ladbroke Grove, Hatfield and Selby. In particular, there is a Protocol on Work Related Deaths, which sets out the principles for effective liaison between HSE, police forces and the CPS in relation to work related deaths. Railway Safety reports that the requirement to establish an adequate protocol is incorporated in RGS ‘Incident response planning’ (GO/RT3471) and ‘Incident management and evidence gathering’ (GO/RT3472), both published in April 2002. Railtrack are consulting on the draft protocol and will evaluate the responses to determine if any amendments are necessary.

**HSC/E comments**

Action continues. This is an ongoing issue and relates to LGRI2 recommendation 72. Revised protocols will be necessary once RAIB is established. This recommendation links to Southall recommendations 73, 74 and 75.
Monitoring and implementation of recommendations from investigations

LGRI1 6 Railtrack procedures, and the actions of management to enforce them, should be directed to ensuring that:

(i) A recommendation which is accepted is implemented according to a defined timescale;
(ii) The person to whom a recommendation is allocated for implementation is required to report periodically the action which has been taken, the state of progress and the reasons for any delay;
(iii) The monitoring of the implementation of a recommendation is assigned to an identified individual whose duties are clearly defined, whether by job description, formal instruction, or training or a combination of these methods;
(iv) The person to whom monitoring is assigned is required to ensure that the recommendation is implemented according to a defined timescale;
(v) A recommendation should not be abandoned unless, exceptionally, this is shown to be fully justified to the person to whom monitoring is assigned;
(vi) Any management system to which the recommendation relates is altered to align it with the recommendation;
(vii) The effectiveness of a recommendation is audited after its implementation;
(viii) Full records are kept of all recommendations and their state of progress; and
(ix) There is a system for the central tracking of recommendations which are directed at Railtrack Line, and those which, either immediately or thereafter, are directed to one or more of the Zones. (para 7.106).

Action on: Railtrack
Target for completion: December 2001

Progress report from action holder July 2002
This recommendation applies to ‘Formal Inquiry’ recommendations only. As a result of this recommendation the industry established an IT based tracking working group. This developed an industry-wide system, which incorporates the requirements of this recommendation and came into use in March 2002. Railtrack have introduced a safety management system to ensure inquiry recommendations are actioned across all zones and if not actioned, justification provided. Railtrack have established their Recommendations Management team and tracking systems to align with the industry-wide tracking system. Industry and company systems are underpinned by Group and company Standards. LUL have recently developed and implemented a Safety Action Tracking System (LUSATS) safety action tracking system across LUL and the Infracos, which meets the criteria listed. The tracking database underpinning this system has been made available to HSE. Industry considers this recommendation completed.

HSC/E comments
HSC considers action taken as adequate to regard this recommendation as completed. It will not be covered in future progress reports. This recommendation links to LGRI2 recommendations 61, 67, 70, 71 and 74.
Monitoring and implementation of recommendations from investigations

LGRI1 7. Consideration should be given to extending sub-para (ix) of Recommendation 6 to recommendations which are directed to one or more of the TOCs and others (para 7.106).

Action on: Railtrack
Target for completion: June 2002

Progress report from action holder July 2002

Railway Safety’s recommendation tracking working group proposed a cross-industry Safety Management Information System (SMIS) upgrade to accommodate the requirements necessary for recommendation and action tracking. The upgrade went ‘live’ on 25 March 2002. Some TOCs report that they have additional company systems in place. Industry considers this recommendation as completed.

HSC/E comments
HSC accepts that enough has been done to regard this recommendation as completed. It will not be covered in future progress reports. The recommendation has links to LGRI2 recommendations 61, 67, 70, 71 and 74.

LGRI2 70. The rail industry safety body should maintain a current record of:
- the recommendations of RAIB inquiries and formal inquiries;
- the responses of all the organisations to which the respective recommendations are directed; and
- the state of progress towards implementation in relation to stated timescales (paras 11.19-11.21).

Action on: RISB
Target for completion: not specified

Progress report from action holder July 2002

This recommendation will need to be addressed as part of the establishment of a new rail industry safety body (RISB) and the responsibilities and working methods that the new body will undertake. ORR is in the lead on establishing RISB and hopes that RISB will be set up by April 2003 (see ‘organisations’ theme). In the interim Railway Safety revised RGS ‘Formal Inquiries, formal investigations and local investigations’ (GO/RT3473) in December 2001 for compliance by 2 February 2002 (This RGS also addressed the issues in LGRI1 recommendations 6 and 7). Railway Safety has also led the development of an industry-tracking database. These developments should help RISB tackle this recommendation effectively and swiftly.

HSC/E comments
Action continues. This recommendation links to LGRI1 recommendations 6 and 7.

LGRI1 89. A review of compliance with the above recommendations should be conducted on behalf of the HSC within six months of publication of this report, and further reviews should be put in hand as necessary thereafter. The HSC should publish the outcome of such reviews. (para 15.7).

Action on: HSC
Target for completion: not specified
Monitoring and implementation of recommendations from investigations

LGRI2 74 As in the case of the report on Part 1 of the Inquiry, a review of compliance with the above recommendations should be conducted on behalf of the HSC within six months of publication of this report, and further reviews should be put in hand as necessary thereafter. The HSC should publish the outcome of such reviews.

Action on: HSC
Target completion date: not specified

HSC/E comments on these two recommendations
HSC will continue to publish progress reports until such time as all recommendations are completed.
The Rail Industry Safety Body

LGRI2 40. The function of the setting of Railway Group Standards should be assumed by a new rail industry body which is independent of both Railtrack Group plc and their subsidiaries and of the safety regulator (paras 8.38, 9.46 and 10.1).
Action on: Rail Regulator
Target for completion: September 2004

LGRI2 41. The body should be responsible for setting not only Railway Group Standards but also standards of the type which have ceased to be Group Standards in respect that they are concerned only with the interiors of rail vehicles (para 10.7).
Action on: Rail Regulator
Target for completion: September 2004

LGRI2 42. It should be considered whether in due course:
(i) the separate existence of the SAB is unnecessary; and
(ii) the RISSC should become a strategy committee of the body (para 10.8).
Action on: RISB
Target for completion: Not specified

LGRI2 43. The body should also be responsible for the preparation of any proposed changes to the Railway Group Standards Code (para 10.8).
Action on: Rail Regulator
Target for completion: September 2004

LGRI2 44. The body should have explicit duties to set and review standards. In the performance of its duties it should be subject to the supervision of the HSE through auditing and other actions (para 10.9).
Action on: Rail Regulator
Target for completion: September 2004

LGRI2 46. The body should have the benefit of feedback from the auditing carried out by Railtrack and the HSE (para 10.14).
Action on: Railtrack, HSE
Target for completion: Not specified

LGRI2 47. The body should also be responsible for the accrediting of the suppliers of products and services and the licensing of individuals, subject to the supervisory activity of the safety regulator (para 10.15).
Action on: Rail Regulator
Target for completion: September 2004

LGRI2 48. The body should take an active role in steps to streamline the processes for the approval of new rail vehicles (para 10.17).
Action on: RISB
Target for completion: Not specified
LGRI2 49. The body should be set up as a new legal entity, independent of any company in the rail industry and of any part of that industry. It should have the power and the duty to take binding decisions (para 10.21).

Action on: Rail Regulator
Target for completion: September 2004

LGRI2 50. The arrangement of the governance of the body should include provision for the representation of railway operators and of any other company to which the requirement to comply with Railway Group Standards or the additional standards referred to in Recommendation 41 applies, whether by virtue of a licence condition or a contractual term. There should also be representation of the manufacturers and suppliers of infrastructure equipment and rolling stock, and the three main rail trade unions (para 10.22).

Action on: Rail Regulator
Target for completion: September 2004

LGRI2 51. The body should have an independent chairman and a number of independent members with suitable practical experience (para 10.23).

Action on: Rail Regulator
Target for completion: September 2004

LGRI2 52. There should be a clear and easily accessible means of resolving any matter which is in dispute (para 10.23).

Action on: Rail Regulator
Target for completion: September 2004

LGRI2 53 Consideration should be given to the constitution of the body by modification of Railtrack’s network licence and the licences of the other railway operators (para 10.26).

Action on: Rail Regulator
Target for completion: September 2004

LGRI2 54. The body should be funded by means of a levy on the companies covered by the requirements referred to in Recommendation 50 (para 10.27).

Action on: Rail Regulator
Target for completion: September 2004

LGRI 55. The body should also exercise a number of functions to assist the members of the rail industry to collaborate in the promotion of safety, including:

(i) establishing and managing system authorities;
(ii) funding and sponsoring research and development;
(iii) monitoring and reporting on the industry’s safety performance;
(iv) developing the annual Railway Group Safety Plan;
(v) disseminating good practice; and
(vi) providing safety leadership (para 10.29).

Action on: Rail Regulator
Target for completion: September 2004
The Rail Industry Safety Body
LGRI2 56. Even if the European Directive on Railway Safety in its final form requires that responsibility for setting standards such as Railway Group Standards are to be taken over by the safety regulator, a rail industry safety body should be set up and assume the functions referred to in Recommendations 47, 48, 55 and 70 (para 10.30).
Action on: not specified
Target for completion: not specified

Progress report from action holders July 2002 for these 16 recommendations
These 16 recommendations dealing with establishing RISB fall to the Rail Regulator, whose office has led the process of consulting stakeholders. ORR issued a consultative document in December 2001, and consultative conferences were held in January and May 2002. A further consultative document was issued in October 2002.

Representatives of key stakeholders (HSE, SRA, Railway Safety, Railtrack, ATOC, RIA, freight train operators, infrastructure maintenance contractors and ROSCOs) meet regularly in a development group chaired by the ORR, to discuss the structure, responsibilities, governance and working methods of the RISB. Currently there appears to be broad agreement that the RISB should be established through amendments to the ORR licences of the infrastructure controller and the operating companies. ORR hopes that RISB will be established by April 2003. HSE has been closely involved with this work, and expects to work closely with the RISB, as with all other industry bodies, when it is established. The recommendations, dealing as they do with a body that will be key to providing effective health and safety leadership in the industry, link with a number of other themes, including suppliers (recommendation LGRI 2 24, for example) and safety culture. Many of the recommendations deal with action required of RISB once in existence; action on these will be reported once RISB is created.

ORR has formally handed back the RGS Code to Railway Safety for ownership. Railway Safety has since revised and submitted the Code to the ORR. Further action is dependent on ORR agreement with RS, which is expected once RISB has been established.

HSC/E comments
Action continues

Research and development

S 57. Steps should be taken to put in place means to resolve inter-company issues relating to research and development at all levels. Specifically, the following issues must be addressed (paras 15.13, 16.21).
Action on: ATOC, ROSCOs
Target for completion: February 2001

S 59. The above recommendation to include a review of Safety Cases and franchising arrangements and consideration of action by the Rail Regulator (para 16.22)
Action on: ATOC, Railtrack, SRA, ORR
Target for completion: February 2001
Research and development

Action on: ATOC, Railtrack
Target for completion: February 2001

S 64. Future R&D must be the subject of rigorous programming, cost-projections and funding arrangements, including reliable contingencies. R&D funding must be on a cross-industry basis, irrespective of whether individual TOCs decide to fit new technology (para 16.22).
Action on: Railtrack, ATOC
Target for completion: February 2001

HSC/E comments
As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard these four recommendations as completed. They will not be covered in future progress reports.

LGRI2 3. Subject to Recommendation 55, research and development should, as matters stand, be led by Railway Safety but with the support of the SRA and the Rail Regulator. Further funding should be based on a levy on the participating bodies in proportion to their railway-based income (para 4.54).
Action on: Railway Safety, SRA, Rail Regulator
Target for completion: not specified

Progress report from action holders July 2002
Railway Safety receives research and development industry proposals for review. All industry bodies are involved in delivery and there are many other research projects underway throughout the industry not covered by the Railway Safety Research Programme, which naturally focuses on safety-related research. Railway Safety has developed a strategic approach to the management of research. In particular, it has divided the spectrum of research into 24 “themes”, supported by strategies for the research to be carried out in each theme. The SRA has confirmed funding to 2006 for safety related research and development. The five-year research and development budget now in place should stand until future funding issues are resolved under RISB. The precise arrangements for funding under the RISB are being determined as part of the transition to RISB. Action continues.

HSC/E comments
Action continues

Standards

S 11. The use of more than one document (whether Rules, Group Standards or otherwise) to cover a single operational issue should be avoided, save where proper reasons exist for use of multiple sources (para 15.9).
Action on: Railtrack
Target for completion: February 2001
Standards

S 14. Clear procedures for steps to be taken on failure of any train-borne safety equipment should apply nationally; subject only to such company variation as is fully justified (para 15.11).
Action on: Railtrack
Target for completion: August 2000

S 38. There should be a review of Condition H11 of the Track Access Conditions which should make clear that no regulating decision is to be made on the basis of protecting commercial interests. Safety and security must be paramount considerations (paras 4.13, 7.6, 16.16).
Action on: Railtrack, Rail Regulator
Target for completion: February 2002

Action on: Railtrack
Target for completion: February 2002

S 40. More Level 2 and 3 Policy Statements should be introduced having due regard to any relevant risk analysis (para 6.16).
Action on: Railtrack
Target for completion: February 2002

S 46. A single body should be empowered to specify common standards for safety features in the interior of passenger vehicles and to identify and approve types of vehicles and/or operators to which particular standards are to apply (paras 11.6, 16.18).
Action on: ATOC
Target for completion: February 2002

S 72. Consultation procedures and times involved in revision of Group Standards or the introduction of new Group Standards should be reviewed by the Inquiry to be held into safety procedures (para 16.8).
Action on: Ladbroke Grove Inquiry
Target for completion: not specified

HSC/E comments

As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard these seven recommendations as completed. RISB, once established, may wish to further consider these issues. They will not be covered in future progress reports.

S 10. Railtrack must ensure that Rules and Group Standards applicable to operators, including drivers, are clear and unambiguous. In particular, Railtrack should urgently complete the review of operating Rules to ensure they are workable in the privatised, fragmented industry (para 16.6).
Action holder: Railtrack
Target for completion: August 2000
Standards

Progress report from action holder July 2002
Railway Safety has taken the lead for this work. Railway Safety’s project to completely review the Rule Book is still on schedule to be completed by December 2003.

HSC/E comments
HSE has accepted the revised timescale, for completion by December 2003.

LGRI2 17. There should be a systematic review of the standard setting process to assess whether it is effective in achieving its overall aim of safe interworking (para 6.18).
Action on: Railway Safety, RISB
Target for completion: not specified

Progress report from action holders July 2002
Railway Safety published the Railway Group Standards Strategy, following a review of the existing process, in September 2001. Future reviews should involve the TOCs. Industry regards this recommendation as completed.

HSC/E comments
HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports. The underlying issue is one to which RISB may wish to return.

LGRI2 37. The Government should use all reasonable endeavours to ensure that standards such as Railway Group Standards are not required by the European Directive on Railway Safety in its final form to be set by the safety regulator, and that the draft Directive is modified to such extent as is necessary for that purpose (para 9.74).
Action on: HM Government
Target for completion: not specified

Progress report from action holders July 2002
This continues to be a policy objective for negotiations on the directive, which are now underway. Adoption of the Directive is expected to be towards the end of 2003 or early in 2004.

HSC/E comments
Action continues.

LGRI2 45. The standards should be binding not only on members of the Railway Group but also on any company to which the requirement to comply currently applies, whether by virtue of a licence condition or a contractual term (para 10.10).
Action on: Rail Regulator
Target for completion: September 2004

Progress report from action holders July 2002
The role of the RISB in reviewing and producing Group Standards has formed part of the discussions on establishing RISB - see above. Action continues.

HSC/E comments
Action continues.
System Authorities

LGRI2 2. The arrangements for the establishment of system authorities should ensure that they are properly empowered, provide clear leadership and command the commitment of all parties to their work and decisions. System authorities require the means of enforcing their decisions. They should have adequate finances, through proper and equitable contributions from participating bodies (para 4.48).

Action on: Railtrack, ATOC
Target for completion: not specified

Progress report from action holders July 2002

This recommendation deals with the role of Systems Authorities. The Southall Inquiry recommended establishing such Authorities (recommendations 58, 59, 63 and 65), and Railway Safety has developed a Railway Group Standard (GE/RT8049) requiring the establishment of system authorities for specific equipment and systems. Railway Safety believes that the RGS covers the empowerment, leadership, commitment, enforcement and finance issues referred to in the recommendation. Railway Safety is the Administrator in respect of the first two System Authorities. In the longer term System Authorities will be administered by RISB and this needs to be recognised in the arrangements established in the meantime.

ATOC members report that they fully support the aim of the recommendation but are not satisfied the Railway Group Standard would deliver the aim. ATOC will continue to discuss revisions to the GE/RT 8049 with Railway Safety with the objective of reaching a solution. If this does not prove possible they will follow the industry resolution dispute procedure.

The ORR has instituted a review of the effectiveness of system authorities, based on the experience of their use within the rail industry to date.

HSC/E comments

Action continues.

Emergency Planning

S 88. Routes for evacuation away from an accident should take into account the need to avoid distressing scenes (para 2.11).

Action on: Emergencies
Target for completion: Ongoing

S 89. Further consideration should be given to the sensitive handling of persons rescued from accidents including whether they should be sent onward by train (para 2.14).

Action on: ATOC
Target for completion: Ongoing

S 90. More effective means of liaising with hospital and casualty-gathering areas should be considered (para 2.14).

Action on: ATOC
Target for completion: Ongoing
Emergency Planning

S 91. Identification of victims should be speeded up and information released to relatives at the earliest possible time (para 2.24).
Action on: Police Forces
Target for completion: February 2001

S 92. Casualty bureaux procedures should be reviewed in order to ensure that they remain open for as long as required and that adequate telephone facilities are available (para 2.24).
Action on: Police Forces
Target for completion: August 2000

HSC/E comments
As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard these five recommendations as completed. They will not be covered in future progress reports.

LGRI1 1. The system for the reception of information about missing persons, casualties and survivors should be computerised. It should be possible for information which has been received to be entered directly into the computer and for information from it to be provided, to the extent appropriate, to callers. There should be a set procedure for the returning of a call. (para 4.119).
Action on: ACPO, ACPOS
Target for completion: not specified

LGRI1 2. Computerisation should be extended to all police forces, so that the information collated by each is readily available to all others. Paragraph 4.120 refers.
Action on: ACPO, ACPOS
Target for completion: not specified

LGRI1 3. The police service, in co-operation with the emergency services, should use their best endeavours to ensure that common telephone numbers are issued for the use of members of the public who are seeking to give or obtain information about persons who have, or may have, been involved in a major incident. Paragraph 4.121 refers.
Action on: ACPO, ACPOS
Target for completion: March 2002

Progress reports from action holders July 2002 on these three recommendations
The Association of Chief Police Officers (Scotland) (ACPOS) and the Association of Chief Police Officers (ACPO) have reported that the HOLMES 2 Computerised Casualty Bureau ‘roll out’ programme has progressed according to plan. Action is complete in Scotland and is due for completion in England, Wales and Northern Ireland by March 2003.

The ACPOS/ACPO HOLMES 2 User Group has established Regional Casualty Bureau Groups based on the ACPO Regions. Through these, forces are moving towards training and implementing HOLMES 2 Casualty Bureau and agreeing ‘Mutual Aid’ arrangements. A number of exercises have taken place this year to facilitate this process.

ACPO reports that the HOLMES 2 User Group has established a Working Group on Business Process to examine Casualty Bureau issues. This group has responsibility for
Emergency Planning
establishing a single telephone number and a national mutual aid telephone system. A requirement is being prepared and procurement issues explored. ACPOS reports that linked telephone continues to be used by all Scottish forces and is regularly tested.

HSC/E comments
HSC accepts that adequate action has been taken to regard LGRI1 recommendations 1 and 2 as completed. They will not be covered in future progress reports. However, as the system for England is some way off, HSE cannot endorse industry’s view that action LGRI1 recommendation 3 is complete, and progress will continue to be reported.

LGRI1 4. The Railway Group should review emergency planning, including liaison with the emergency services, arrangements for the aftercare of survivors and the provision of support and facilities for the bereaved and injured. (para 4.122).
Action on: Railway Group Members
Target for completion: December 2001

Progress reports from action holders July 2002
In the light of this recommendation ATOC reviewed their ACoP ‘Joint industry provision of customer care following a major passenger rail accident’ and passed it to Railway Safety and ATOC members in September 2001.

Railway Safety reports that the after-care of survivors and the provision of support and facilities for the bereaved and injured is out of scope for inclusion in the RGS, although they are dealt with in ‘Guidance Note: Incident management and evidence gathering’ (GO/GN3672) which was issued in April 2002 for compliance by June 2002. Liaison with the emergency services was reviewed within RGS ‘Guidance Note: incident response planning’ (GO/RT3471) which has replaced GO/RT3434/1, and was issued in April 2002 for compliance by 1 June 2002.

All TOCs report that they either have completed, or are on course to complete, reviews of their emergency plans, and that the plans have been tested by means of both “table-top” or live exercises.

HSC/E comments
HSC regards that adequate action has been done to regard this recommendation as completed. It will not be covered in future progress reports.

The Safety Case Regime

LGRI2 20. A duty holder should be required to show by means of its safety case that it has reduced the risks associated with its operation as low as reasonably practicable, but it should be sufficient if the safety case points to the methods which have been used and to where the details can be found (para 7.20).
Action on: HSC, duty holders
Target for completion: September 2003
The Safety Case Regime

Progress reports from action holders July 2002
Reducing risks so far as is reasonably practicable (that is, until there is gross disproportion between the residual risk and the further effort necessary to reduce the risk still further) is the duty imposed on all employers by the Health and Safety at Work etc Act 1974.

Duty holders report that their individual Safety Cases already include commitments to reduce operational risks to as low as reasonably practicable and details of the risk management processes used. Railway Safety reports that additional information on risk assessment is provided in ‘Guidance on the preparation of risk assessments within Railway Safety Cases’ (RGS GE/GN 8561), issued in June 2002.

HSC/E comments
HSE’s safety case assessment criteria refer to the need for safety cases to demonstrate that risks will be reduced as low as reasonably practicable. The question of an explicit requirement in the regulations themselves will be considered as part of the review of the Railway Safety Case 2000 regulations. Action continues.

LGRI2 21. Duty holders should be under a statutory duty to comply with Railway Group Standards in so far as they relate to matters of health and safety (para 7.22).
Action on: HSC
Target for completion: not specified

Progress report from action holder July 2002
HSE will consider this recommendation as part of the current review of the Railway Safety Case 2000 regulations.

HSC/E comments
Action continues.

LGRI2 27. The transfer from Railtrack to the safety regulator of the function of acceptance of the safety cases of train operators and station operators (and their material revisions), and the removal from the S&SD of their function in regard to safety cases and Group Standards, are endorsed (para 8.28).
Action on: not specified
Target for completion: not specified

HSC/E comments
This recommendation endorses the position established by the Railway (Safety Case) Regulations 2000, no further action is necessary. It will not be covered in future progress reports.
LGRI2 28. The safety regulator should cease to be dependent on Railtrack for a recommendation as to whether or not the safety case of a train operator or a station operator (or its material revisions) should be accepted. Instead the safety regulator should give Railtrack the opportunity to make any representation as to whether or not the safety case or revision should be accepted, and the grounds on which such a representation is based. The safety regulator should likewise give the opportunity to any other train operator or station operator who may be affected by matters referred to in the safety case to make a similar representation, and for this purpose select whichever operators it considers to be appropriate in the circumstances (para 8.33).

Action on: HSC
Target for completion: September 2003

HSC/E comments
Action continues. HSE will consider this recommendation as part of the current review of the Railway Safety Case 2000 regulations.

LGRI2 29. If the safety regulator refuses to accept a safety case or its revision it should give the reasons for that decision (para 8.33).

Action on: HSC
Target for completion: September 2003

Progress report form action holder July 2002
This recommendation endorses the position established by the Railway (Safety Case) Regulations 2000, no further action necessary.

HSC/E comments
This recommendation will not be covered in future progress reports.

LGRI2 30. In regard to the safety case for Railtrack or any material revision, the safety regulator should give any train operator, selecting whichever it considers to be appropriate in the circumstances, the opportunity to make representations as to whether or not the safety case or revision should be accepted, and the ground on which the representation is based (para 8.34).

Action on: HSC
Target for completion: September 2003

Progress report form action holder July 2002
HSE will consider this recommendation as part of the current review of the Railway Safety Case 2000 regulations.

HSC/E comments
Action continues.
The Safety Case Regime

LGRI2 31. Railway Safety should cease to discharge the function of assessment for the purposes of the Safety Case Regulations. It should be for the safety regulator to decide to what extent, if at all, it should commission assessment from an independent body (para 8.36).

Action on: HSC
Target for completion: September 2004

LGRI2 32. A provision should be made in the Safety Case Regulations imposing a duty on Railtrack to carry out, or procure the carrying out by a suitably qualified body of, audits for the purposes presently set out in Regulation 9 of the 2000 Regulations (para 8.37).

Action on: HSC
Target for completion: September 2004

Progress report form action holder July 2002 on these two recommendations

These two recommendations will be actioned by amendments to the Railway (Safety Case) Regulations 2000. In September 2002, following wide consultation, the HSC agreed proposals for the relevant limited amendments to the RSC2000, which will be submitted to Ministers for approval. The amendments remove existing references to “assessment body” (which is in practice Railway Safety), and are intended to pave the way for the new RISB. The duty on infrastructure controllers, such as Railtrack, to obtain an independent assessment of safety cases is also removed, simplifying the statutory assessment procedure (HSE may still obtain an independent assessment of aspects of particular safety cases if it wishes). The duty on annual audit is also amended to require each railway operator to procure audits from a “competent body” with the skills, knowledge, experience and resources to conduct the audit.

HSC/E comments
Action continues on both these recommendations.

LGRI2 33. The safety regulator should review the adequacy of Railtrack’s auditing, carrying out its own audits to the extent that it considers appropriate, and dealing with instances of non-compliance whenever they arise (para 8.37).

Action on: HSE
Target for completion: September 2004

Progress report form action holder July 2002

HSE has identified the need for additional criteria and guidance and is currently consulting industry over the proposed changes. HSE will revise and reissue the safety case criteria guidance, scheduled for early in 2003. HSE will consider this issue as part of the current review of the Railway Safety Case 2000 regulations.

HSC/E comments
Action continues.

LGRI2 34. Regulations 12 and 13 of the 2000 Regulations should remain in effect (para 8.37).

Action on: not specified
Target for completion: not specified
The Safety Case Regime

Progress report form action holder July 2002

These regulations remain in effect. However, HSE has initiated a full review of the Railway (Safety Case) Regulations 2000 (RSC 2000) the findings of which may be relevant to the recommendation. A Discussion Document is planned for 2003.

HSC/E comments
Action continues.

HSE

LGRI2 35. The HSE, through the HMRI, should continue to fulfil the function of safety regulator for the railways. However, it is imperative that the HSE are provided with adequate resources in order to fulfil their role (para 9.66).
Action on: HM Government
Target for completion: not specified

HSC/E comments
HSE received an additional £3.8 million for railways work for 2002/03 only. The level of resources HSC will need for future years is still under consideration. The amount of resource needed for railway safety work is expected to rise in 2004/05 and HSC has proposed to Ministers changing the current charging scheme (which is based on hourly fees) to a levy system. This follows on from the Evaluation of the Impact of Charging in the railway industry by Deloitte and Touche, which reported widespread support for a shift to a levy system in the industry. Several parts of industry have observed that if the resources were not forthcoming, there would be a delay in HSE’s acceptance of safety cases. Action continues.

LGRI2 36. The HMRI should be placed under the direction of a new post, to be filled by a person of outstanding managerial ability, not necessarily with a railway background. This post should be regarded as commanding a special salary level for the purpose (para 9.66).
Action on: HSC
Target for completion: September 2003

Progress report form action holder July 2002
Alan Osborne has been appointed as HSE’s Director of Railway Safety and took up post on 1 November 2002.

HSC/E comments
Action completed. It will not be covered in future progress reports.

LGRI2 38. The extent of passenger representation on the RIAC should be re-considered (para 9.80).
Action on: HSC
Target for completion: March 2002
Progress report form action holder July 2002
Following the HSC’s decision to increase passenger representation, applications were sought for the two additional members by public advertising. Candidates have been interviewed, and the two successful applicants notified, Cynthia Hay and John Balmforth. They will be formally appointed in November 2002, in time to attend the RIAC meeting in November 2002.

HSC/E comments
Action completed. It will not be covered in future progress reports.

LGRI2 39. The RIAC should be concerned with questions of safety strategy at a high level (para 9.80).
Action on: HSC
Target for completion: not specified

HSC/E comments
RIAC’s terms of reference were revised in November 2001 to reflect this approach. Action completed. It will not be covered in future progress reports.
SUPPLY CHAIN, CONTRACTORS AND ACCREDITATION – progress report as at July 2002

Management of the supply chain

S 36. Railtrack should review all maintenance contracts to ensure that all parties are aware of what checks are included and which excluded (paras 3.16, 16.14).
Action on: Railtrack
Target for completion: February 2002

HSC/E comments
As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard this recommendation as completed. It will not be covered in future progress reports. Further progress on the issue of maintenance contracts will be reported under LGRI2 recommendation 5.

S 58. Rights (including ownership) and obligations in all equipment added to vehicles, together with lineside equipment upon which its operation depends, must be defined in legally enforceable terms (paras 15.7, 15.13, 16.21).
Action on: ATOC, ROSCOs
Target for completion: February 2001

S 60. Consideration should also be given, for the purpose of the above recommendations, to enlarging or reorganising existing intercompany groups, including considering whether the Railway Group should include ROSCOs and component suppliers (para 16.20).
Action on: Railtrack
Target for completion: February 2001

S 61. S&SD together with HMRI and other bodies having responsibility for accepting or approving new equipment or stock should review their procedures with a view to reducing delay and introducing fast-track procedures where possible (para 15.7).
Action on: Railtrack, HMRI
Target for completion: February 2002

S 63. One or more System Authorities should be created to oversee the specific development of any new project on the railways and to oversee continuation of work on existing projects, including AWS and ATP (paras 15.13, 16.13, 16.18).
Action on: ATOC, Railtrack
Target for completion: February 2001

HSC/E comments
As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard these four recommendations as completed. They will not be covered in future progress reports.

The issue of rights and obligations is taken forward by LGRI2 recommendation 2, within the organisations and standards theme, as this work will be part of the remit of RISB once established. Where relevant, any further work on enlarging the membership of the Railway Group will be taken forward by LGRI2 recommendation 55, within the organisations and standards theme, as the underlying issue may need to be considered once RISB is established. Where relevant, any further work on accepting or approving new equipment or
Management of the supply chain

stock will be taken forward by LGRI2 recommendation 48, within the organisations and standards theme, as the underlying issue may need to be considered once RISB is established and as the interoperability framework is put in place. Once established, RISB may wish to involve itself in the issue of system authorities.

LGRI2 24. Suppliers of products or services of a safety-critical kind for use on, or in regard to, the railways in Great Britain should be required to hold an accreditation as a condition of being able to engage in that activity. But the features of such a system require further study (para 7.73).
Action on: HSC
Target for completion: September 2004

Progress report from action holder July 2002
Work continues on developing options for a proposed accreditation scheme. HSE will also consider the links between accreditation and other aspects of the rail safety agenda, including the review of the Railways (Safety Critical Work) Regulations and Railways (Safety Case) Regulations, driver and signaller licensing and the impending regime under the EC Interoperability Directives. HSE is currently working with industry stakeholders to develop options in more detail. Railway Safety has produced the strategic requirements for a research project and consultants have produced detailed requirements for a study. Some parts of industry report they already deal with accredited suppliers, which include regular audits of the suppliers and HSBC is carrying out a review of existing work on the identification of safety-critical components. The work continues.

HSC/E comments
Work continues.

Management of contractors

LGRI2 5. Steps should be taken to ensure that the quality of work carried out by contractors and sub-contractors entirely meets the required standards, and that any deficiencies are addressed in a timely manner (para 4.75).
Action on: Railtrack, IMCs, TRCs
Target for completion: March 2002

Progress report from action holders July 2002
RT considers the recommendation to be completed on the basis that it has incorporated measures in its safety case to achieve the objectives of the recommendation, and put in place 10 strategic maintenance principles and a programme for their delivery. Other parts of industry are content that the issue is being addressed. Carillion Rail have implemented a procedure where sub-contractors may not work without a Carillion Rail representative present on-site, unless the individual in charge of sub-contract staff has been authorised by Carillion Rail to its own standards. Balfour Beatty has an established a supplier approval process, including audit and site checks, to provide assurance of competence. The same competence standards are applied to sub-contractors as those for their own staff.

JacksonEve’s existing company quality management systems include processes for site monitoring of quality non-conformance. Amey reports that it operates in line with
Management of contractors
arrangements set out in its Contractor Assurance Case, as well as operating a programme
of audit and surveillance of sub-contractors, and commissions external audits of its safety
management systems. Jarvis Rail is reviewing its quality review process for the
management of sub-contractors and approved suppliers. Initiatives to improve audit of
contractor performance include support of the Railtrack Proof Audit Scheme, a risk-based
approach to its contractor audits, enhancement of supplier audit protocols, involvement in
the development of Railtrack’s ‘Staff Zone’ system, revision to the intranet-based supplier
database to refine product groups, and the elimination of suppliers’ ‘Grandfather Rights’
status. Industry regard the recommendation as completed, but accepts that the issue
continues to require attention under established management systems.

HSC/E comments
HSC acknowledges that industry has taken steps to address the issues here. However,
the incomplete complementary work to define and implement competency standards for
safety critical work (under LGRI2 recommendation 4) and concern about RT’s
management of contractors arising from the Hatfield and Potters Bar incidents leads HSE
to conclude that the action taken by the industry has not demonstrated that the quality of
work carried out by contractors and sub-contractors entirely meets the required standards.
Railtrack will need to complete its asset register to enable effective monitoring of the
quality of work by contractors and to implement its ten strategic maintenance principles.

For the time being, therefore HSC cannot endorse industry’s judgement that this
recommendation is complete; further progress will be reported in future reports including
details of how industry ensures that contractors are clear about what checks are included
in maintenance contracts (Southall recommendation 1). HSC recognises, however, that
industry is addressing many aspects of the issue and accepts that the work continues
beyond Lord Cullen’s target date. Further progress will be linked to work under the theme
of safety culture, as this will have a significant influence on the practical implementation of
the recommendation.

in May 2002, highlighted seven key areas for improvement, including improving
arrangements for managing contractors. HSE has designed an inspections programme to
further test Railtrack’s safety case and contractor arrangements.

LGRI2 6. The Sentinel system should be reinforced with specific reference to the need to
record the total hours that any individual works on the railways, and to ensure that the
Sentinel card is clearly “tied” to an individual (para 4.80).
Action on: Railtrack, IMCs, TRCs
Target for completion: March 2002

Progress report from action holders July 2002
Sentinel cards are issued to individuals and carry the holder’s identification number and
photograph. The most recently published sampling of Sentinel cards (May 2002) showed
that 99.6% of cards checked were valid. An internet-based system, ‘Sentinel Staffzone’
increases the visibility, efficiency and control of the booking process for on-track
personnel, including tracking hours booked by each worker contracted from the labour
supply chain. Sentinel Staffzone records the hours worked on RT’s infrastructure by
contractors engaged from the labour agencies. Sentinel Staffzone will be implemented in
Management of contractors

four phases. Roll out of Phase 1 started in July 2002, covering IMCs, TRCs and their agency staff suppliers and will take approximately 6 months. Phase 2 will cover signalling contractors and their agencies, phase 3 will cover construction contractors and their agencies and phase 4 will cover the remainder. To date 200 staff from 12 different companies, including Carillion, Amey, Jarvis and three labour suppliers have attended training sessions on the system. Completion for the whole programme is likely to be around April 2003, because of the numbers involved and the continuing development, in partnership with Panasonic, to record working hours as opposed to hours booked. LUL has its own system for booking contract on-track personnel and it may not be easy to link it with ‘Sentinel Staffzone’.

One of the IMCs, Jackson Eve, reports that its existing procedure is fully compliant with the working hours requirement, but that it will be carrying out a review across the company to ensure full implementation. Industry acknowledges that there is a general need to link this issue to the wider issue of licensing of safety-critical workers; RS report research is underway into development of this system to enable this, although such work would be beyond the intent of this recommendation. Industry regards this recommendation as completed.

**HSC/E comments**

HSC/E considers that the link between Sentinel cards and individuals has been strengthened in line with the recommendation. However, implementation of the recording of hours of work is not complete and therefore HSC does not consider the recommendation fully discharged. Progress will continue to be reported in future progress reports.

**LGRI2 7. The steps taken to reduce the number of sub-contractors are endorsed (para 4.82)**.

*Action on: not specified*

*Target for completion: not specified*

**Progress report from action holders July 2002**

Industry reports that it has made progress in reducing the number of sub-contractors and to limit the use of sub-contactors overall, this includes audit and reviews of supplier lists and sub-contractor registers. Industry regards this recommendation as completed.

**HSC/E comments**

HSC acknowledges that industry has addressed this issue, although there is no baseline information to show the number of contractors in use at any one point in time. As this is a general endorsement of action already being taken and not a recommendation, it will not be covered in future progress reports. Instead HSC/E’s focus will be on the underlying issue of contractor and sub-contractor management and competence.

**LGRI2 8. The taking by Railtrack of a direct and active role in the close day-to-day management of safety-critical work is endorsed (para 4.83)**.

*Action on: Railtrack*

*Target for completion: not specified*
Management of contractors

*Progress report from action holders July 2002*

Railtrack has confirmed that its review of its organisational structure for managing contractors led to the development of 10 strategic maintenance principles. In implementing these Railtrack will become more directly involved in managing inspection and appraisal work and will be taking more key work decisions.

The 10 maintenance principles are to:

- take responsibility for material asset stewardship decisions;
- deliver clear asset engineering policies, standards, and specifications;
- continue to contract out maintenance and renewals in this control period;
- own asset information;
- be able to demonstrate cost effectiveness of maintenance and renewals;
- lead industry research and development;
- own examination of its network;
- own work prioritisation decisions and the resulting work plans;
- own all engineering access to the network and manage possessions; and
- be accountable for developing the long-term view of the people and capability required.

Work has started to implement the 10 key principles in engineering and asset delivery in zones and regions. Railtrack aims to measure, monitor and verify the condition of the infrastructure through improved inspection and examination in a consistent manner across the network using best-proven technology. RT considers this recommendation completed.

**HSC/E comments**

HSC acknowledges the work Railtrack has done to take greater control and recognises that these steps will play a key part in enabling health and safety risks associated with safety-critical work to be adequately managed and controlled. We look to Network Rail to continue implementation of the strategic maintenance principles and HSE will be monitoring this in continuing inspection of the company. We will also maintain the focus on the underlying issue of contractor management and competence. HSC accepts that this recommendation is in the form of a general endorsement rather than something more specific. However, HSC does not yet feel in a position to consider the recommendation as completed. It will continue to be covered in future progress reports.

**Training for contractors and sub-contractors**

*LGRI2 4. Steps should be put in place to ensure that contractors and sub-contractors are selected by a process which gives due regard to their state of training. They should be given appropriate time further to develop their training and planning as necessary before embarking on work (para 4.72)*

*Action on: Railtrack, IMCs, TRCs*

*Target for completion: March 2002*

*Progress report from action holders July 2002*

Although progress has been made in a number of respects, Railtrack and other parts of the industry report that the completion date suggested is unrealistic if the work is to be taken forward thoroughly and in the context of LGRI2 recommendation 1 to consider the workforce training needs. RT also reports that in the light of the events at Potters Bar, the
Training for contractors and sub-contractors

action plans and target end date of September 2002 are currently subject to detailed review.

RT has started a project to define standards of competence and means of assessment for all activities involved in the maintenance, renewal and enhancement of the infrastructure. All track welders are shortly to be licensed through the Sentinel system and will be issued with dedicated track welding competency cards. The same project will later include the licensing of welding training centres and the development of standardised training assessment material.

RT has issued a strategic management safety model for contractors, which covers training and which has been adopted by some of its contractors. It has put a mentoring scheme in place to support wider adoption of the model. Railtrack’s basic questionnaire for prospective contractors was revised in February 2002 and it now includes information on training by prospective contractors. Railtrack’s contractor assurance system has also been strengthened in several ways. For example, through increased guidance, taking account of the AD Little study on ‘competence requirements’; an on-going study of competence requirements in the Contractor Assurance Case (CAC) acceptance process; increased sharing of information, and the standardisation of audit process and standards. There is also a programme to introduce cohesion and coordination to the disparate elements of the supplier accreditation framework: agreement has been reached with Railway Safety and the principal contractors that the Proof Audit regime will become the primary supplier qualification for the industry.

Other parts of industry report a variety of initiatives, including setting rules for the appropriate training and competency for each level of staff; reviewing the selection and control of contractors as part of the safety case development plan and reviewing internal selection processes to ensure it is rigorous and fit for purpose.

In February 2002 Railway Safety issued the IT supporting software for the competence in strategic safety management model. RS has commissioned research which started in October 2002 to consider the problems with the current recruitment of trackside workers as a precursor to further work on an accreditation system for all products and services of a safety critical nature, including licensing of safety critical workers. The results of this research will be fed into the research mentioned under LGRI2 recommendation 24. Action continues.

HSC/E comments

Action continues. HSE had earlier agreed a deferred timescale of September 2002 with RT for the revised selection process. As indicated above, RT has started a project to define standards of competence and means of assessment for all activities involved in maintenance, renewal and enhancing the infrastructure. This work will result in a revised selection process for contractors to ensure they meet the amended competence standards and methods of assessment. Following the Potters Bar incident, RT is reviewing its action plans and timescales. HSE will consider any proposals that emerge. It makes sense for the industry to incorporate issues relating to contractor training in other work on workforce competence. HSE will also continue to look at the training of contractors in the wider context of its own work on competence of rail workers across the industry.
Training for contractors and sub-contractors

LGRI2 9. Employers of contractors and sub-contractors should ensure that they work to exactly the same safety standards as those who are directly employed (para 4.87).
Action on: Railtrack, IMCs, TRCs
Target for completion: March 2002

Progress report from action holders July 2002
Much of industry reports that this is already company policy. Some companies have started a process to achieve continuing improvement in this area, for example Jarvis has started a review of the safety standards used when drawing up contracts with sub-contractors and AMEC has a programme of checking individual assessment of sub-contractor work. RT report that their earlier action plans and timescales are subject to detailed review in the light of the Potters Bar accident. Action continues.

HSC/E comments
Although industry has taken some steps to address the issue we accept that it is sensible to review current initiatives and action plans, in particular in the light of issues which may arise from the Potters Bar investigation. Action continues.

LGRI2 10. The proposal of a training school for contractor staff is endorsed (para 4.87).
Action on: not specified
Target for completion: not specified

Progress report from action holders July 2002
RT has reviewed the proposal and does not intend to pursue a national training school for its contractors. However, there is support for a common approach to training, rather than an actual training school. RT is introducing a greater requirement for technical training and the use of more consistent training delivery and content. Very few parts of industry have commented. However, Carillion (an IMC) has decided to establish its own new technical training school and Jarvis are exploring how its own training business could be directly involved in any proposals that are developed and implemented. Industry regards this recommendation as completed.

HSC/E comments
HSC accepts that this recommendation takes the form of a generalised endorsement rather than something more specific. As such it will not be covered in future progress reports. Any further developments in the training and competence of contractors will be taken forward in the context of LGRI2 recommendation 9, as part of work on the Framework for Skills project, SRA’s work on a national Rail Academy and a Rail Skills Board and RITC’s National Occupational Standards, all of which cover contractors, and via recommendations in the training theme.
TRAINING, SKILLS, COMPETENCE AND BEHAVIOUR – progress report as of July 2002

Improving driver and signaller competence

S 1. All parties in the rail industry should co-operate in the collection of evidence to support reliable research into human behaviour studies relating to driver performance. Railtrack should co-ordinate this work and TOCs incorporate the results into training programmes (paras 1.25, 7.16, 16.2).
Action on: Railtrack, ATOC
Target for completion: February 2001

S 2. Evidence should include that to be provided by CIRAS and from On-Train Data Recorders used to monitor driver behaviour. ASLEF in particular should give their full support to such an initiative (paras 14.23, 14.25, 15.15, 16.3).
Action on: Railtrack, ASLEF
Target for completion: February 2001

HSC/E comments
As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard these two recommendations as completed. They will not be covered in future progress reports.

S 3. Simulators should be introduced for driver training and for the observance of driver behaviour (para 16.3).
Action on: ATOC
Target for completion: February 2001

S 4. Driver training should include driving in abnormal situations permitted by the Rules and specifically driving with AWS isolated to the extent so permitted, including the use of simulators (para 16.4).
Action on: Railtrack, ATOC
Target for completion: February 2001

Progress report from action holders July 2002 for these two recommendations
ATOC have now completed a training and assessment needs analysis, which has confirmed the potential benefit in the use of simulators for driver training, eg to help drivers (and signallers) experience the effects of distractions, poor visibility, adverse weather conditions and unusual operating conditions such as running with AWS isolated. Some TOCs are already making use of simulators; others plan to do so. Connex, working with Railtrack, has recently opened a training simulator centre in Ashford. FGW have identified an appropriate simulator and hope to take delivery of the first one by June 2003. The National Express Group intends to co-ordinate its approach to the use of simulators for driver training by purchasing simulator equipment to be managed by Central Trains, delivered in October 2002. The Group intends to establish the benefits of simulators through the use of this equipment before extending simulator use to other TOCs in the group. However, National Express Group have not yet finalised the purchase timetable for this equipment. Virgin has introduced simulation as a method of improving and assessing driver competence.
Improving driver and signaller competence

EWS already make use of simulators and report that scenarios include simulations of driving in abnormal situations. Thames Trains are developing a part-task simulator, which enables infrequent or unusual circumstances, such as low adhesion, to be simulated at any time. Balfour Beatty has successfully completed trials of a laptop-based package and is actively seeking joint development of the package with other infrastructure contractors. Laptop-based route learning is to be embedded as a tool within its business by the end of December 2002. Work continues.

**HSC/E comments**

Work continues on both these recommendations. Significant progress has been made on introducing simulators. However, their use is not yet sufficiently embedded in driver training to consider the recommendation completed. This work also links to LGRI1 recommendations 11 to 19.

S 5. Testing of driver competence and knowledge of Rules should be extended to cover application of the Rules to practical situations, including all abnormal driving situations permitted by the Rules (para 16.4).
Action on: ATOC.
Target for completion: Ongoing

S 7. Railtrack together with ATOC should establish a national qualification and accreditation system for drivers including centrally held records to be available to the current employer (paras 5.5, 16.5).
Action on: Railtrack, ATOC
Target for completion: February 2002

S 8. Railtrack and ATOC should monitor the transfer of drivers between operators and the numbers of drivers trained by each TOC and consider whether there are any safety implications involved (paras 5.5, 16.5).
Action on: Railtrack, ATOC
Target for completion: February 2002

S 20. Level and quality of training for information controllers should be reviewed (para 9.15).
Action on: Railtrack, ATOC
Target for completion: February 2001

S 21. Controllers’ posts in Railtrack and TOCs should be designated as “safety-critical” as defined in the Railways (Safety Critical Work) Regulations 1994 (para 9.15).
Action on: Railtrack, ATOC
Target for completion: February 2001

S 24. Great Western Trains (GWT) should maintain full records of competencies for all maintenance staff as required by job descriptions and safety responsibility statements (paras 6.8, 15.6).
Action on: GWT
Target for completion: February 2002:
Improving driver and signaller competence

S 25. Great Western Trains (GWT) should regularly monitor the workload of all maintenance staff (para 15.6).
Action on: GWT
Target for completion: ongoing

HSC/E comments
As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard these seven recommendations as completed. They will not be covered in future progress reports. Further consequential action will be reported under LGRI1 recommendation 18 and LGRI2 recommendation 25. LGRI2 recommendation 24 also applies, within the ‘contractors’ theme.

LGRI1 11. Signallers and drivers should jointly attend away days and other training processes to develop their mutual understanding (para9.8)
Action on: Railtrack, TOCs
Target for completion: June 2002

LGRI1 42. Railtrack and the TOCs should take steps to ensure that signallers and drivers obtain a full appreciation of the nature and demands of each other’s work. Paragraph 12.16 refers.
Action on: Railtrack, TOCs
Target for completion: June 2002

Progress report from action holders July 2002 on these two recommendations
Railtrack has reported that all joint signaller and driver forums are progressing as planned. A review based on the feedback from the forums and the results were considered at the Safety and Operations Group meeting in July 2002. A formal review of the effectiveness of the signallers and drivers forums was held in November 2002. Around the country TOCs are working with the relevant Railtrack Zones in a variety of different ways. For example, joint sessions held with signallers and WAGN drivers were regarded as a positive step by the staff concerned. London Lines considers that this recommendation is best taken forward by forums for professional drivers and signallers for each TOC, meeting regularly to discuss pertinent issues; and by allowing signallers and drivers to develop mutual understanding through a programme of drivers visiting signal boxes and signallers making cab rides. EWS has hosted a number of sessions attended by key Railtrack Zone Managers where the impact of signaller working practices on train driving has been cascaded to their signallers. Arrangements have been put in place for Chiltern signallers to attend the next driver’s seminar. Arriva Merseyside (ATM) has held joint driver/signaller sessions since February 2002. ATM has responded positively to an ATOC proposal for provision of a briefing video, which covers sharing of information between driver/signaller staff.

HSC/E comments
HSC accepts that adequate work has been done to regard these two recommendations as completed. They will not be covered in future progress reports.
Improving driver and signaller competence

LGRI1 12. Thames Trains should increase the frequency of the briefing of drivers with a view to ensuring that each driver has a face to face meeting with his or her driver standards manager at least monthly, if not more often, and safety should be the first item on the agenda of these meetings. Paragraph 9.29 refers.

Action on: Thames Trains
Target for completion: December 2001

Progress report from action holder July 2002
Thames Trains have continued their system of monthly briefings where drivers meet their driver standards manager. In May 2002, they copied the independent assessments of their impact, done after 6 and 12 months, to ATOC for review. Industry regards this recommendation as completed.

HSC/E comments
HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

LGRI1 13. The adoption by TOCs of the teaching and practice of defensive driving is endorsed. (para 9.39).
Action on: TOCs
Target for completion: not specified

Progress report from action holders July 2002
The majority of TOCs report that this is already company policy and defensive driving is now a ‘subset’ of a professional driving initiative led by Railway Safety. ATOC members will continue to train their staff in defensive driving and encourage them to practice the techniques. Individual TOCs will demonstrate commitment to defensive driving through their safety cases. Industry regards this recommendation as completed.

HSC/E comments
HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

LGRI1 14. TOCs should review the effectiveness of the systems in place to deliver the required level of driver competence at least once every three years, and should retest the driver against the revised systems at the same frequency. Paragraph 9.49 refers.

Action on: TOCs
Target for completion: December 2001

Progress report from action holders July 2002
TOCs have confirmed that they have reviewed their arrangements for assessing driver competence. Some TOCs, eg EWS and Virgin have introduced simulation as a method of improving and assessing driver competence. In addition, EWS report it has started to introduce event monitoring as another means of measuring competence. It has found this a particularly useful tool, because it permits unobtrusive monitoring and enables the focus to rest on train handling skills. EWS drivers also have a rules review at 11 and 24 months. FNW report that it is reviewing the effectiveness of driver basic training and competence assessment procedures every three years in terms of initial competence assessment, post qualifying assessment of competence and periodic assessment of competence. Each
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driver receives a complete assessment of competence over a 2-4 year period. Virgin’s
driver assessment programme has also been reviewed and enhanced to enable NVQ
accreditation. LUL report that it has implemented a revised standard covering selection
procedures, tests and auditing of selection centres. It has also completed a review of
current competence assurance practice; developed both competency standards, and
systems for recording competence; and put in place accredited assessors. Industry
regards the recommendation as completed.

HSC/E comments
A report by HSE in 2001 on Driver Management in Train Operating Companies has shown
that the training programmes devised by the TOCs to deliver the competencies that train
drivers need appeared to follow acceptable lines eg induction, personal track safety,
introduction to railway operations, rules and regulations, traction, practical handling and
route learning. Courses were well documented and delivered by competent and well-
motivated people.

All the companies inspected had a process in place for the managing of the competence
and fitness of drivers. Drivers were assessed against the competencies specified in RT’s
RACoP ‘Train driving manual’ (GO/RC3551) with each company devising its own system
of assessment which has resulted in a wide diversity of methods and scope The report
concluded that despite the degree of diversity in methods of assessment, HSE could not
detect any general deficiency in driver competence and there appeared to be a good level
of competence in companies.

Areas for improvement that were highlighted included:

- The training included only limited practical application of emergency instructions.
  TOCs often did not have the facilities to enable practical experience of handling
  emergencies and simulation was not widely available.
- Not all companies provided handling training in poor railhead conditions and no
  specific effort was made to give trainees experience where possible of single line
  working and wrong direction working over bi-directional signalled lines.
- Route learning was often considered to be separate from practical handling training
  although they are closely related.

HSE will monitor how TOCs follow up these concerns. As observed under Southall
recommendation 4 above, use of simulators is now beginning to spread.

HSC accepts that adequate work has been done to regard this recommendation as
completed. It will not be covered in future progress reports. However, HSE will follow-up
the areas for improvement identified in its 2002 report and we look to the industry and the
DfES/SRA ‘Framework for skills’ initiative to ensure that this issue continues to be fully
addressed.

LGRI1 15. The ATOC study on the central licensing of drivers should be progressed
expeditiously. Paragraph 9.50 refers,
Action on: ATOC
Target for completion: June 2002
Improving driver and signaller competence

**Progress report from action holder July 2002**

ATOC passed the conclusions of its study to Railway Safety in December 2001. ATOC has issued a Code of Practice on driver licensing. Industry now considers this recommendation closed.

**HSC/E comments**

HSC considers that adequate action has been taken to regard this recommendation as completed. It will not be covered in future progress reports. Further progress on driver licencing, training etc will be reported under LGRI2 recommendation 25.

**LGRI1 16. ATOC should consider the application of NVQs to the driver licensing scheme presently under their consideration.** (para 9.52).

*Action on:* ATOC  
*Target for completion:* June 2002

**Progress report from action holder July 2002**

ATOC Operations Council has considered this issue and its conclusions are reflected in its subsequent Code of Practice on driver licensing. This concludes that part of the criteria for the accreditation for TOCs to issue driver licences should include the possession by the driver trainers and assessors of relevant NVQs and SVQs. It does not advocate NVQs for all drivers but some TOCs are choosing to employ NVQs/SVQs within their own schemes.

Midland Mainline is currently introducing the NVQ process for its drivers as part of a National Express initiative. Twelve drivers have obtained NVQs in train driving. Thames Trains is actively working towards a scheme whereby drivers will gain an NVQ Level 2 in railway operations. HRA report it supports the use of NVQs, and one heritage railway has fully adopted NVQs and is advising others on the system. The Rail Industry Training Council (RITC) reports that it is revising the National Occupational Standards for drivers as part of the Framework for Skills project.

**HSC/E comments**

HSE acknowledges that the specific recommendation is complete. It will not be covered in future progress reports. Work on driver licensing continues and will be reported under LGRI2 recommendation 25. It will take some time before most drivers in the industry obtain NVQs. An important barrier to the take up of NVQs to date has been the differences between the standards of training required for compliance with regulatory frameworks, which are laid down in Railway Group Standards, and the National Occupational Standards that underpin the NVQ. The recent review of the Railway Group Standard for train driving by Railway Safety has improved alignment with National Occupational Standards. As part of its work on the Framework for Skills, RITC will be working with companies to identify further opportunities for the uptake of NVQs and with awarding bodies to improve monitoring data. RITC have also been carrying out research and piloting the NVQ and the next phase in their work will be to draw up an implementation strategy and action plan for increasing the uptake of NVQ and SVQs in the rail industry.
Improving driver and signaller competence

LGRI1 18 Thames Trains and other TOCs should ensure that their driver training and testing programmes adequately reflect the need for specific, relevant and validated criteria. Drivers should be tested against these criteria, and a definite pass standard should be established. Consideration should be given as to how often drivers should repeat key steps in their training before submitting themselves for testing. (para 9.6).

Action on: Thames Trains, TOCs
Target for completion: June 2002.

Progress report from action holders July 2002

Thames Trains has circulated details of its driver training and testing programme to other TOCs. In addition, central initiatives have been taken forward by Railway Safety and ATOC. Railway Safety report that RGS ‘Train driving’ (GO/RT3251) and the associated industry ACoP, ‘Train driving manual’ (GO/RC3551) were issued in October 2002 for compliance by December 2002, except for some of the training requirements in GO/RT3251, which must be complied with by December 2003. The extended timescale was due to the need for further drafting work and time for workshops to be undertaken before the standard was issued. RITC report that the RGS is linked to the National Occupational Standards. The RGS and ACoP cover all the points made in the recommendation, eg on pass standards.

All TOCs have reported that they are reviewing their driver training packages and some TOCs, eg Virgin Trains, have revised their Safety Cases to incorporate greater detail about driver training and testing procedures. Other TOCs, eg South West Trains, report that they will use external validation of their procedures. Work continues.

HSC/E comments

Work continues.

LGRI2 25. There should be a system for the licensing and central recording of those who are qualified for the driving of trains in respect of their knowledge of the rules and regulations and the traction for which they have been assessed as competent. Training providers or train operators should be accredited and common standards laid down for the purpose. Driver’s licences should require to be revalidated every three years. (para 7.74).

Action on: RISB
Target for completion: September 2004

Progress report from action holder July 2002

ATOC has issued a Code of Practice on the licensing of train drivers. TOCs are developing their own licence systems within the guidelines in the Code, for example Thames Trains reported that by August 2002 all their drivers had a licence issued by the company, which is valid until their next assessment. Thames Trains is also developing a system to document licensing arrangements. Railtrack is developing licenses for drivers of contractors who hold Railway Safety Cases to drive on Railtrack controlled infrastructure. This licensing scheme is scheduled to be introduced by March 2003.

The situation remains fluid in that the European Commission intends to produce a European Directive on driver licensing in the near future. HSE and Railway Safety are also examining the broader issues. Railway Safety is studying the value of licensing all safety critical employees. HSE is considering the links with other aspects of the rail safety agenda, particularly the review of the Railways (Safety Critical Works) Regulations 1994
Improving driver and signaller competence
and the work being undertaken on the accreditation of suppliers (see LGRI2 recommendation 24 in the suppliers theme). HSE is now in the process of formulating and discussing options with stakeholders with a view to presenting options to the HSC in Spring 2003.

HSC/E comments
Action continues. Although this action is directed at RISB, much work has already been undertaken by ATOC, Railway Safety and HSE. It is too early to say what the final outcome will be, given that the work by HSE is still progressing and that the intentions of the European Commission are not yet definite.

LGRI1 31. Railtrack, in consultation with the TOCs, should examine the availability of signal sighters to meet the expected workload and take all necessary steps to ensure that there is an adequate supply of trained signal sighters and an adequate range of skills. (para 11.20).
Action on: Railtrack, TOCs
Target for completion: June 2002

Progress report from action holders July 2002
There has been an increase in the number of signal sighters. Railtrack is developing the Signal Sighting Competence Standard along with a training pack but the project has been delayed and the signal sighting competence standard will now be issued for stakeholder review in October 2002. Once the standard is issued Railtrack intends to design and run a training/competence development programme. RITC report that the RGS will be included in the National Occupational Standard and linked with the training package when produced.

TOCs have reported that they are waiting for the Railway Signal Sighting Competence Standard, although some TOCs have already introduced some changes. For example, EWS has appointed a full time Signal Sighting Manager to co-ordinate all the issues associated with signal visibility; Virgin has trained a number of operational managers in signal sighting and Scotrail reports that it has reviewed and trained additional signal sighters where necessary. The work continues.

HSC/E comments
The work continues.

JI 33. Research into human factors should continue with particular emphasis on its application to driver selection, training and management and signals sighting issues (para 11.32).
Action on: Railway Safety and TOCs
Target for completion: March 2001

LGRI1 19 Further research should be carried out to develop the understanding of human factors as they relate to train driving. (para 9.66).
Action on: Railway Safety, TOCs
Target for completion: Not specified.
Improving driver and signaller competence

Progress report from action holders July 2002 on these two recommendations
Railway Safety’s research programme now includes a wide range of human factors research projects. Examples include work on SPAD mitigation, the impact of fatigue, driver inattention in the approach to signals, the impact of shift working. The work is proving valuable. For example, the conclusions of a report on the types of drivers likely to need special monitoring, and the findings of a study on how to help drivers remain vigilant, have both been incorporated into the Railway Approved Code of Practice on train driving. Industry regards the recommendation as complete, but accepts that research will continue in these areas.

HSC/E comments
HSC accepts that adequate action has been taken to consider JI recommendation 33 as completed. It will not be covered in future progress reports. Action continues on LGRI1 recommendation 19 until such time as the information from the various strands of research have been evaluated and fed into driver training initiatives.

JI 34. HMRI should implement the proposal for research into the possibility of conflict between defensive driving and punctuality (para 10.13).
Action on: HMRI
Target for completion: March 2001

Progress report from action holder July 2002
HSE will jointly sponsor research with the University of East Anglia and HSL. The project, ‘Investigating influences on safety climate in train operating companies’ is scheduled to start in 2002 and a draft report is expected to be available by June 2004. It has been challenging to develop the appropriate criteria for the research. The research will concentrate on investigating issues of safety climate and culture amongst TOCs. In particular the research will seek to derive a detailed insight into the potential for tensions to develop within TOCs between realising operational performance objectives and the maintenance of high standards of safety. The final report will include practical recommendations on safety management of direct relevance to TOCs and the rail sector as a whole. The project is intended to provide a sound foundation for the development of a safety culture performance measurement / benchmarking tool, tailored to the needs of the railway sector. The work continues.

HSC/E comments
The work continues. However, the project will also need to include consideration of the performance of Railtrack and Infracos, and not only focus on the performance of TOCs, to fully address the complete picture of the delivery of punctuality and reliability targets.

LGRI1 41. The use of simulators in providing fully effective training of signallers in dealing with emergencies is endorsed. (para 12.15).
Action on: Railtrack
Target for completion: June 2003

Progress report from action holder July 2002
Railtrack reports that this is a major piece of work, which will take some time to complete. Railtrack has developed a simulation strategy, which builds on earlier work. The Railtrack
Improving driver and signaller competence
Operations Board considered the strategy in September 2002 and implementation began in October 2002 and will continue for some years. Action continues.

HSC/E comments
Action is continuing.

LGRI2 1. Railtrack and ATOC should work jointly with the RITC to set up a task force for ensuring that the need for a skilled and properly trained workforce at all levels of the industry is met (para 4.35).  
Action on: Railtrack, ATOC, RITC  
Target for completion: March 2002

Progress report from action holders July 2002
In March 2002 Railtrack formed a central training and development team, they have also finalised a competence management strategy.

Railtrack formally joined the working group on the Framework for Skills for the Rail Industry in July 2002. This group also includes representatives from ATOC and RITC. The Working Group recently published the second progress report on delivering the Framework which identified several key strategic themes including improving training for people in the industry; increasing the number gaining nationally recognised qualifications; using regulatory and franchising arrangements to improve skills levels; external validation of competence and priority occupations. The Working Group recommends action that needs to be taken by the industry to raise the level of skills in the industry. RITC are looking at a broad spectrum of roles with shortages, although the main focus is on drivers and signallers.

In August 2002 the SRA established, with strong industry support, a Rail Skills Board to lead the industry on skills issues, to identify best practice and share good ideas. The Board will have three key workstreams:
- establishing a national Rail Academy;
- securing the Academy as the Sector Skills Council for the rail industry; and
- delivering the ‘Framework for Skills’ initiative.

Industry regards this recommendation as completed.

HSC/E comments
HSC accepts that adequate work has been done to regard this specific recommendation as completed. It will not be covered in future progress reports. HSC/E recognise that major work on the skills shortage and competence levels is underway and will continue for some time, and looks to the industry to continue with its efforts here.

It is worth noting here that there has also been general work by HSE and Railway Safety to help assure safety competence in the industry. In 2002 HSE published guidance called ‘Developing and maintaining staff competence’. This formed part of the new extended series on railway safety principles and guidance dealing with staff competence, management and organisation, railway operations and human factors. The guidance is primarily aimed at those who are responsible for managing the competence of individuals and teams in the railway industry, eg railway infrastructure controllers, all train and tram operating companies, maintenance and renewal companies and their contractors and
Improving driver and signaller competence

subcontractors. Railway Safety has produced its own guidance notes and in addition is to commission further research to consider current compliance with industry standards for competence management and possible improvements to competence management and assurance systems.

Work to take forward improvements in competence in the industry will continue to be reported under other relevant recommendations.

LGRI2 26. There should be a similar system for licensing the central recording of qualified signalmen, based on an assessment of their knowledge of the rules and regulations. Re-validation every three years should be required. (para 7.75).
Action on: RISB
Target for completion: September 2004

Progress report from action holder July 2002

Railtrack reported in March 2002 that it has a formal national competence regime for signallers already in place. This includes national recruitment and selection process, licensed training schools and a single continuous assessment system. Railtrack also reported that they have recruited 500 additional signallers to enable the rostered day release of every signaller once every 13 weeks to attend a safety briefing and training day. Work on identifying signallers on the NCCA database, which is a 24-hour enquiry database for signallers, has been temporarily delayed by problems with obtaining the relevant information – Railtrack is currently working with their human resource experts to gather the full information necessary. This work is likely to take until November 2002 to complete. Work on identification and licensing of signaller assessors is also due to commence shortly – these will need to be added to the NCCA database. Railtrack report that their system goes beyond Lord Cullen’s recommendation, and that it will be looking to have it externally accredited.

Railway Safety is investigating various options on signaller licensing as part of its broader work on the licencing of safety critical employees, and is in discussion with industry representatives and other interested/expert groups. Similarly HSE is considering the issue as part of its review of the Railways (Safety Critical Works) Regulations and the work being undertaken on the accreditation of suppliers. Action continues.

HSC/E comments
Action continues. Action placed on RISB, but the initial work has been undertaken by ATOC, Railway Safety and HSE.

Human factors and behaviour relating to driving and signalling

S 9. Current rules governing drivers’ permitted daily and weekly working hours should be reviewed in the light of current research into human behaviour (para 5.9).
Action on: Railtrack
Target for completion: February 2001

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Human factors and behaviour relating to driving and signalling

HSC/E comments
As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard this recommendation as completed. It will not be covered in future progress reports. See also LGRI1 recommendation 19 and JI recommendation 33.

LGRI1 35. Persons who investigate and make recommendations as a consequence of SPADs should be trained in the identification of human factors and in root cause analysis. Their competence in these areas should be formally recorded, and renewed by refresher courses. The analysis of SPAD data should be specifically directed to eliciting the part played by human factors and assessing the significance of the hazards against which the signals which have been passed at danger were intended to afford protection. (para 11.31).

Action on: Railtrack, TOCs
Target for completion: June 2002

Progress report from action holders July 2002
Railtrack is continuing to develop a human factors syllabus for all Railtrack and TOC staff who investigate SPADs. Experience so far has shown that the level of understanding about human factors of the staff who have attended the training courses is significantly lower than originally thought. Railtrack is now strengthening the syllabus and has employed an external trainer to help. A full programme was in place by September 2002 to deliver advanced training requirements on human factors. Railway Safety has reviewed, and issued in September 2002, the RGS ‘Signals passed at danger’ (GO/RT3252). It includes information on human factors issues to be considered when analysing SPAD data.

TOCs report that they are currently training staff involved in the SPAD review procedure in Root Cause Analysis, which includes the identification of human factors. Most TOCs will be reviewing procedures now that the new RGS is available and staff will be re-trained and re-assessed as necessary. Work continues

HSC/E comments
Work continues.

LGRI1 43. Railtrack should review the work done by signallers to identify all non-essential tasks and eliminate them from the work which is performed by them while they are in charge of a workstation. (para 12.17).

Action on: Railtrack
Target for completion: December 2001

Progress report from action holder July 2002
Railtrack report that the task analysis for signallers has been completed but needs to be validated. A database will be available which identifies all the activities undertaken by the signaller. This will subsequently be used to identify non-essential tasks, which can then be eliminated from duties. Identifying non-essential tasks involves conducting ergonomic surveys and workload assessments. The ergonomic surveys were completed by October 2002. Work continues.
Human factors and behaviour relating to driving and signalling

**HSC/E comments**
Work continues.

LGRI1 45. Signallers should take the opportunity from time to time to practise the controlling of train movements. (para 12.18).
Action on: Railtrack
Target for completion: June 2002

**Progress report from action holder July 2002**
Railtrack has developed performance criteria to implement this requirement and added them to the signallers’ competence assessment. Railtrack has issued briefing notes to all Zone managers and Zones are now implementing the performance criteria where necessary. Industry regards this recommendation as completed.

**HSC/E comments**
HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

LGRI1 46. Railtrack management should set out the criteria for allowing signallers, in exceptional circumstances, to exceed the maximum of 72 hours of work per week, and ensure that these criteria are, and continue to be correctly applied. (para 12.19).
Action on: Railtrack
Target for completion: December 2001

**Progress report from action holder July 2002**
The Railtrack standard on management of excessive working hours was implemented from August 2002 onwards. It contains additional criteria for allowing signallers, in exceptional circumstances, to exceed 72 hours of work. Additional work on reducing the incidence of exceeding 72 hours of work in a week is also being undertaken and new guidelines for the design of working patterns are being developed. It is hoped this work will be completed in 2003. Work continues on issues outside the recommendation.

**HSC/E comments**
HSE accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

**Staff instructions**

**S 6. Drivers should be encouraged to report all actual or suspected faults, whether through formal fault reporting procedures or through CIRAS** (paras 14.26, 16.4).
Action on: ATOC
Target for completion: August 2000
Staff instructions
S 17. Fault reporting procedures should be reviewed and made as simple and convenient to use as practically possible. They should include provision for an acknowledgement and an explanation if relevant (para 16.11).
Action on: Railtrack, ATOC
Target for completion: August 2000.

S 18. Failure to provide forms, defect repair books or other means of reporting faults should be regarded as a disciplinary offence (para 16.11).
Action on: Railtrack, ATOC
Target for completion: August 2000

S 52. Train crews should be given improved training and briefing on emergency actions, including a practical evacuation para 11.11)
Action on: ATOC, TOCs, Railway Safety
Target for completion: February 2001

S 53. Standards for evacuation of passengers should be proved by practical exercises using typical groups of passengers and train crew, and repeated on a regular basis to be approved by HMRI (para 11.11)
Action on: ATOC, Railtrack, TOCs, HMRI
Target for completion: February 2001

HSC/E comments
As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard these five recommendations as completed. They will not be covered in future progress reports. Any further consequential work on these issues will be reported under LGRI1 recommendations 11, 12, 13 and 14.

LGRI1 36. The instructions for signallers as to their response to a SPAD should be: (a) clarified; and (b) set out in a single set of instructions, while if there are matters which are specific to a particular area they should be covered by separate local instructions.
(para12.9).
Action on: Railtrack
Target for completion: December 2001

Progress report from action holder July 2002
Railtrack reports that the revised rules and instructions for signallers (SGI 47 and Regulation 6) were comprehensively reviewed by the industry and were implemented in December 2001. Industry regards this recommendation as completed.

HSC/E comments
HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

LGRI1 37. The instructions for signallers should state explicitly that the signaller is expected, in the event of a SPAD, to make an assessment and to take action immediately.
*para 12.10).
Action on: Railtrack
Target for completion: December 2001
**Progress report from action holder July 2002**

Railtrack reports that the instructions were comprehensively reviewed by the industry and were implemented on 1 December 2001. Industry regards this recommendation as completed.

**HSC/E comments**

HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

LGRI1 38. *Instructions for signallers should provide a set of options, including the use of the CSR (where it is available) either to send an emergency stop message to a particular train or a general stop message. This range of options should be supported by full and regularly repeated briefing as to the type of circumstances in which each option is, or may be appropriate.* (para 12.11).

**Action on:** Railtrack

**Target for completion:** December 2001

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**Progress report from action holder July 2002**

Railtrack reports that the revised rules and instructions for signallers (SGI 47 and Regulation 6) were comprehensively reviewed by the industry and were implemented in December 2001. Industry regards this recommendation as completed.

**HSC/E comments**

HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

LGRI1 39. *Railtrack should institute a system whereby all signallers in the signal box (or centre) are briefed by their line manager following a SPAD in their area, and there is appropriate dissemination of information which may be of assistance to signallers elsewhere.* (para 12.13).

**Action on:** Railtrack

**Target for completion:** December 2001.

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**Progress report from action holder July 2002**

Railtrack reports that the original process for briefing signallers, which was put in place, was less robust than required. The process is now covered by a new company standard, which was issued August 2002. Arrangements have also been put into place to strengthen existing process. The interim arrangements were tested following a number of SPADs, and appropriate advice from the Head of Operational Safety has been issued. Industry regards this recommendation as completed.

**HSC/E comments**

HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.
Effectiveness of existing systems

S 12. All train-borne safety equipment should be clearly designated as to whether or not it is vital to the continued running of the train (para 15.11).
Action on: Railtrack
Target for completion: August 2000

S 13. AWS is to be regarded as vital to the continued running of the train (para 15.11).
Action on: Railtrack
Target for completion: August 2000

S 27. Documentation for the A-Exam should require ATP reset and self-test (para 6.8).
Action on: ATOC, ROSCOs
Target for completion: August 2000

S 28. Maintenance staff should be provided with a flowchart to show the derivation of all sources of repair work, to include RAVERS (with check on repeat items) and appropriate structure for Request, Repair Book and Maintenance Control items (para 15.6).
Action on: ATOC, ROSCOs
Target for completion: February 2001

S 30. An improved AWS test box, capable of detecting faults not revealed by the magnet test, should be provided as standard issue at all maintenance depots (paras 6.11, 9.22, 15.6)
Action on: ATOC, ROSCOs
Target for completion: August 2000

S 31. Efforts should be concentrated on ensuring that AWS and other train-borne safety equipment does not fail in service through preventable causes. This should include regular replacements of equipment, maintenance of full service records and provision for full tractability of repairable parts and components (para 15.8).
Action on: ATOC, Railpart, NRS
Target for completion: August 2000

S 32. Contractual ownership and other rights in AWS equipment must be clarified and defined (paras 15.7, 16.21).
Action on: ATOC, ROSCOs
Target for completion: February 2002

S 33. ATOC and Railtrack should monitor the supply of new AWS parts and components to ensure continued availability on an indefinite basis, including the introduction of improved components (para 15.7).
Action on: ATOC, ROSCO, RAILPART
Target for completion: Ongoing
Effectiveness of existing systems

S 65. Development of ATP should be managed and funded in future through a System Authority having broad industry representation and support (para 15.13).
Action on: ATOC, Railtrack
Target for completion: February 2001

S 66. ATP should be maintained in a fully operational state on Great Western lines currently fitted, until replaced by an equally effective train protection system (para 15.14).
Action on: GWTC
Target for completion: ongoing

S 67. GWT and Railtrack should consider extensions to the present coverage of ATP (para 15.14).
Action on: GWTC and Railtrack
Target for completion: February 2001

S 68. GWT, Railtrack and HMRI should consider whether trains with AWS isolated can run normal services where ATP is fitted and operational (para 15.10).
Action on: GWTC, Railtrack, HMRI
Target for completion: August 2000

HSC/E comments
As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard these 12 recommendations as completed. They will not be covered in future progress reports. Any further consequential work will be taken forward in JI recommendations 1 and 17 within this theme, and LGRI2 recommendation 2, which takes forward the generality of system authorities, within the organisations and standards theme.

JI 1. Gaps which were left on original fitment of BR-ATP track equipment should be infilled to provide full continuous coverage between Paddington and Bristol Temple Meads and Marylebone and Aynho Junction (para 11.6)
Action on: Railtrack
Target for completion: January 2003

Progress report from action holder July 2002
Railtrack is reviewing current signalling schemes. Railtrack will develop and implement the Bath to Bristol GW-ATP infill by June 2003. The Paddington to Bristol Temple Meads scheme has been specified and is planned for implementation by June 2003.

HSC/E comments
The work continues.

JI 2. No recommendation is made for fitment of BR-ATP to other lines on Great Western or Midland Zones or to relief lines (para 11.7)
Action on: Not specified
Target for completion: Not specified
Effectiveness of existing systems

*Progress report from action holders July 2002*

Industry has concluded that there is no general case for extending the coverage of BR-ATP. Industry regards the recommendation as completed.

**HSC/E comments**

HSC accepts that adequate action has been taken to regard the recommendation as completed. It will not be covered in future progress reports.

Jl 3. *No recommendation is made for fitment of BR-ATP to trains run by any other operating company (para 11.8).*

*Action on:* Not specified

*Target for completion:* Not specified

*Progress report from action holder July 2002*

Industry has concluded that there is no general case for extending the coverage of BR-ATP. However, Virgin has made a commitment to fit BR-ATP to trains using Paddington by 2008. Industry regards the recommendation as completed.

**HSC/E comments**

HSC accepts that adequate action has been taken to regard as completed. It will not be covered in future progress reports.

Jl 35. *Use of the Drivers’ Reminder Appliance should be standardised and work on the automatic version pursued (para 11.32).*

*Action on:* HMRI, ATOC

*Target for completion:* February 2002

*Progress report from action holders July 2002*

A common standard has been established by the Rule Book amendment; the task remains to achieve common operation by all drivers. Railway Safety has commissioned research on the effectiveness of DRA. ATOC Codes of Practice 1-7 and 10 have been reviewed and incorporated into GO/RT 3251 ‘Train driving’ and GO/RC 3551 ‘RACOP Train driving manual’ are both now to be issued in October 2002 with a supporting good practice guide. In September 2002 the national SPAD focus group (NSFG) endorsed a paper from RS, which proposed that based on the risk rated premise that drivers should not use DRA ‘on the move’. NSFG has proposed actions to achieve the most effective use of DRA in the future. RS will carry out a communication and education campaign for drivers, including a briefing note to clarify the use of DRA.

Railway Safety will review the data from Chiltern and Central automatic DRA fitments and discuss the way forward with ATOC Members, who will take this forward through the ATOC Engineering Council. The results of the research (DRA use, means of obtaining maximum benefit from the existing DRA arrangements and alternative strategies to controlling the incidence of start away SPADs) were discussed at the October 2002 NSFG meeting.
**Effectiveness of existing systems**

**HSC/E comments**
HSC accepts that adequate action has been taken to regard the recommendation as completed. It will not be covered in future progress reports.

**JI 36. The programme for the development and retro-fitting of Enhanced Emergency Braking (EEB) should be continued with urgency, including the identification of any further classes, which it is not appropriate to exempt (para 11.34).**

*Action on:* ROSCOs  
*Target for completion:* February 2000

**Progress report from action holders July 2002**

The original programme for fitting enhanced emergency brake on the Angel fleets has been completed. However, Railway Safety later withdrew the exemption in the RGS for the class 158 and 442 fleets, and so fitment schemes are being drawn up for these fleets. Porterbrook are leading on the class 158 and Angel is developing the scheme for the class 442. Older stock, eg class 442 fleet was designed with a hybrid brake system, and other options had to be considered. A revised proposal is now being considered with the TOCs but will need careful evaluation of the additional stresses on the bogies and brake gear components. Fitment should be complete by the end of 2003, in line with the RGS timescale.

Porterbrook have a contract with Interfleet to develop and cost design proposals for introducing EEB to the Class 158 fleet. The programme of work is currently due for completion in March 2003. Angel Trains programme for the design evaluation for the fitment of EEB to the class 158/159 and class 442 fleets is due to be completed in March 2003. Preliminary proposals have been discussed with the TOCs. The work continues.

**HSC/E comments**
The work continues. The original programme has been completed, and the timescale extended to allow for the work to be carried out on other classes of trains, expected completion date March 2003.

**JI 37. Improvement of braking on HSTs and other rolling stock running at speeds in excess of 100mph should be regarded as a priority (para 11.34).**

*Action on:* HMRI, ROSCOs  
*Target for completion:* March 2001

**Progress report from action holders July 2002**

Evaluation of the enhancement of the emergency brake on the HST vehicles raised concerns over the ability of the brake discs and fixings to withstand the higher braking forces involved. Advice was sought from the original equipment manufacturers, which indicated that some improvement was necessary. Angel Trains has commissioned the Engineering Link to develop fully costed designs and this work is expected to be completed by the end of 2002.

Railway Safety is offering to fund the ROSCOs work to investigate the improvements to HST braking performance. The EPT would like to extend its remit to monitor progress of this work. The work continues.
Effectiveness of existing systems  

_HSC/E comments_

The work continues.

JI 38. The use of sanders to maintain and enhance adhesion should be pursued and a programme of trial fitment drawn up (para 11.34).

*Action on:* HMRI, ROSCOs  
*Target for completion:* February 2000

**Progress report from action holders July 2002**  
The ROSCOs and TOCs are continuing with the current fitment programmes. The RGS ‘Low adhesion between the wheel and the rail – managing the risk’ (GE/RT8040) was issued in August 2002 for compliance by October 2002. HSE’s guidance on sanders has also been amended. The EPT have commissioned research to explore the challenges and opportunities that ERTMS brings to adhesion management. The results from the project will be fed into RS’s low adhesion-working group. The work continues.

*HSC/E comments*  
The work continues.

Fitment of TPWS

JI 4. The current mandated fitment of TPWS-A to trains and track should not be reversed (para 11.15)  

*Action on:* Railtrack and TOCs  
*Target for completion:* not specified

**Progress reported by action holders July 2002**  
The fitment of TPWS to designated signals and trains is on schedule, and round 70% complete. The programme is managed by Railtrack to plans agreed with HSE. ATOC members are taking TPWS- A fitment forward through the TPWS Industry Liaison Group and the TPWS System Authority. Some TOCs, eg Thames Trains and Mersey Rail have confirmed that they will meet the required fitment for TPWS, before the programme’s completion date of 2003. Meetings between EPT and Railtrack are continuing to ensure that there is an effective dialogue and mutual benefit. The work continues.

*HSC/E comments*  
The work continues to schedule and HSE continues to review the quarterly reports from industry.

JI 5. Track fitment should include all multi-SPAD signals unless they present no risk (para 11.16)  

*Action on:* Railtrack  
*Target for completion:* not specified
Fitment of TPWS

JI 6. Risk assessments should be carried out on plain line signals, initially on those considered by TOCs to pose significant risk (para 11.16)
Action on: Railtrack, TOCs
Target for completion: January 2003

JI 7. Track fitment should include plain line signals where the risk from SPADS is established to be significant (para 11.6)
Action on: Railtrack
Target for completion: January 2004

Progress report from action holders July 2002 on these three recommendations
The TOCs have identified a number of signals they consider at risk and RT has worked with the TOCs and identified those signals that need assessment. Track fitment will include all multi-SPAD signals, unless they present no risk. Railtrack report that fitment of plain line signals, with an established SPAD history, are considered on an on-going basis through the SPADRAM groups. SPADRAM groups are Zonal/regional based and involve all the relevant TOCs. RT's Safety Risk Advisor participates in them all to provide the necessary consistency. Should a TOC identify a signal for upgrade and RT disagrees with assessment, then the SPADRAM Groups have the final say in agreeing what signals are upgraded and RT decides the fitment timetable. The fitment of plain line signals will be carried out after the fitment of those identified for mandatory fitment under the 1999 Railway Safety Regulations, from 2004 onwards. Action continues.

HSC/E comments
The work continues for these three recommendations.

JI 8. Risk assessments should be carried out to identify junction signals where the risk from SPADs is insignificant. Consideration should be given to obtaining exemptions for such signals from track fitment (para 11.16)
Action on: Railtrack and TOCS
Target for completion: January 2002

Progress report from action holders July 2002
Railtrack has identified 4,500 signals and risk-assessed around 1,500 using the SAT risk assessment tool in order to establish a risk ranking. At the time of reporting, Railtrack indicated further requests to HSE for exemptions were unlikely. The work continues.

HSC/E comments
This continuing work forms part of compliance with the 1999 Regulations, which require completion of the TPWS fitment programme by the end of 2003. The Joint Inquiry’s target date has not been met, but the industry is on course to meet the legal requirement. Work is continuing.

JI 14. All parties should co-operate in the production and updating of a resource allocation programme directed towards the matching of track and rolling stock fitment, in order to maximise the early attainment of TPWS protection. (para 11.17).
Action on: Railtrack, TOCs, HMRI,
Target for completion: January 2002
Fitment of TPWS

**Progress report from action holders July 2002**

Railtrack is prioritising all regulated signals for fitment in 2002. ATOC members co-operate with other parties through the TPWS System Authority. Railtrack issues a CD-ROM every quarter as part of the Network Change. This provides details of the infrastructure fitments on 400 sub-routes. HSE has confirmed to ATOC that any revisions to track or train fitment plans due to “matching” must not be at the expense of meeting respective approved plans.

**HSC/E comments**

As both track and train fitment is now between 60-70%, safety benefits are now being achieved without closer matching of fitment programme. HSC regards this recommendation as completed, and co-operation is effective. It will not be covered in future progress reports.

**JI 15.** The accelerated programme should be reviewed and updated to ensure that it is compatible with the early attainment of TPWS protection and that any adverse consequences do not outweigh the benefit of accelerated fitment (para 11.17).

*Action on:* Railtrack, TOCs, HMRI

*Target for completion:* January 2002

**Progress report from action holders July 2002**

The accelerated programme applies only to Railtrack and a review has shown that the prioritisation of signals for fitment during 2002 will contribute to the early achievement of safety benefits. Work is taken forward by JI recommendation 13. Industry considers recommendation as completed.

**HSC/E comments**

HSC regards this recommendation as completed. It will not be covered in future progress reports. Work is taken forward by JI recommendation 13.

**JI 16.** Steps should be taken to ensure that TPWS fitment is completed in such time and manner as not to delay fitment of ETCS (see Recommendation 27 below) (para 11.11).

*Action on:* Railtrack, TOCS and HMRI

*Target for completion:* January 2002

**Progress report from action holders July 2002**

This recommendation does not align with the way the issue has developed since the publication of the Joint Inquiry report. Although ERTMS fitment is not currently taking place to the timescale envisaged by Uff/Cullen, this is not because of TPWS fitment impeding progress.

**HSC/E comments**

HSC accepts that as this work has been overtaken by events. It will not be covered in future progress reports.
Fitment of TPWS

JI 17. For the fitment of train-borne TPWS, AWS components should be replaced to the maximum extent practicable. For this purpose the ATOC TPWS Executive should draw up a standard for the replacement of AWS in train-borne TPWS equipment (para 6.18).
Action on: ATOC, ROSCOs
Target for completion: June 2001

Progress report from action holders July 2002
ATO has drafted the ACoP, however, the ROSCOs have not yet approved it. Therefore, further discussions between the ROSCOs and ATOC on the commercial implications are needed to agree an appropriate implementation strategy for the ACoP during the TPWS programme. Railtrack report that fitment of a combined AWS and TPWS module is progressing, in accordance with the programme in the Railway Safety Regulations 1999. Work continues.

HSC/E comments
Work continues. There has been slippage against the recommended timetable because the technology for this safety critical kit has taken time to develop and is being developed on a piecemeal basis. AWS is only being replaced on a retrofit basis.

Enhancements to TPWS

JI 9. Trials should be carried out on TPWS+ using single and multiple additional Over Speed Sensors (OSS) with the aim of drawing up a design standard and measuring the effect of additional OSS on different types of train and on driving techniques (para 11.20).
Action on: Railtrack, TOCs
Target for completion: January 2003

JI 10. If proved to be feasible, a full appraisal of the effect of one or more additional OSS on all traffic passing a signal should be carried out before fitment of additional OSS (para 11.20).
Action on: Railtrack, TOCs
Target for completion: January 2004

JI 11. Fitment of TPWS+ should be concentrated on lines carrying High Speed Trains and on lines carrying other passenger trains which cannot be stopped within the normal overlap by TPWS-A (para 11.20).
Action on: Railtrack
Target for completion: from 2004

Progress report from action holders July 2002 on these three recommendations
Railtrack are proposing a fitment of TPWS+ to some 700 signals across the network, based on a risk assessment basis: they are now considering the final evaluation report. The trials did not identify any issues relating to the effect of extra OSSs on trains passing signals at danger. A further 21 TPWS+ pilot installations will be fitted as part of the current phase of the development programme, and they will be used to validate the design standards. The TPWS Systems Authority will agree the final design Standard. Action continues.
Enhancements to TPWS

**HSC/E comments**
Railtrack’s risk assessment methodology for selecting signals for fitment of TPWS+ is acceptable to HSE. Work continues on these three recommendations.

JI 12. No recommendation is made for continued testing or fitment of TPWS-E (para 11.19).
Action on: Not specified
Target for completion: not specified

**Progress report from action holders July 2002**
Industry considered that the trials of TPWS-E were successful, but concluded there was no benefit to be gained by fitment. The ERTMS programme board has not recommended fitment, preferring to focus on level 2 ERTMS development. Industry regards the recommendation as completed.

**HSC/E comments**
This recommendation will not be covered in future progress reports.

JI 13. Fitment of TPWS-A should continue in accordance with the currently accelerated programme (para 11.17).
Action on: Railtrack and TOCs
Target for completion: not specified

**Progress report from action holders July 2002**
Railtrack agreed to accelerate fitment of trackside equipment; 70% is now completed. ATOC Members will continue to take this forward through the TPWS System Authority Sub-group and ATOC Engineering Council (TPWS Executive). Work continues.

**HSC/E comments**
Work continues.

Development and fitment of ERTMS and GSM-R

JI 18. Fitment of ETCS to lines covered by Directive 96/48/EC (TEN lines) and the draft Directive on Conventional lines should be supported by Regulations (para 11.24).
Action on: HMRI, DETR
Target for completion: not specified

JI 19. Regulations should be in absolute terms and not dependent on reasonable practicability (para 11.24).
Action on: HMRI, DETR
Target for completion: not specified

JI 20. HSE should establish a programme for consultation and drawing up of Regulations for the fitment of ETCS with the objective of Regulations being in force within three years (para 11.24).
Action on: HMRI, DETR
Target for completion: January 2004
Development and fitment of ERTMS and GSM-R

Jl 21. The requirements and objectives to be achieved by Regulations in relation to major lines should be those set out in an Annex 10 of this report (para 11.24).
Action on: HMRI, DETR
Target for completion: not specified

Progress report from action holders July 2002 on these four recommendations

The Railways (Interoperability) (High Speed) Regulations came fully into effect in May 2002. Regulations to implement the conventional Directive are being prepared for consultation by DfT (previously DETR) and are expected to come into effect during 2003. Whether more specific, prescriptive regulations are also proposed will be considered following HSC’s independent review of the industry EPT report. HSC advice to Ministers on regulatory options, timing and level of ERTMS fitment will follow early in 2003. It is still possible that, if the case for further Regulations is agreed, the timescale for recommendation 20 can be achieved. There is a broad consensus of industry support for the EPT report and its ongoing work. SRA considers that fitment to the Uff/Cullen timetable may compromise the economic viability of significant upgrade projects, but is firmly committed to delivery of ERTMS. Early in 2002, before the publication of the EPT report, HSE carried out an informal consultation with stakeholders on the form regulations might take. This dialogue continues as part of the independent review of the EPT report. The work continues.

HSC/E comments
Work continues.

Jl 22. Pilot schemes using ETCS or ETCS elements should be carried out. These should include the following three Recommendations to the extent they are feasible (para 11.27).
Action on: RT, TOCs, ROSCOs
Target for completion: January 2003

Jl 23. Fitment of ETCS Levels 1 or 2 should be considered between Aynho Junction and Birmingham Snow Hill (para 11.27).
Action on: RT, TOCs, ROSCOs
Target for completion: January 2003

Jl 24. Fitment of ETCS train-borne equipment should be considered on Thames Trains using Great Western Lines, together with an STM to allow use to be made of BR-ATP track equipment (para 11.8, 11.27).
Action on: RT, TOCs, ROSCOs
Target for completion: January 2003

Progress report from action holders July 2002 on these three recommendations

These three recommendations have been taken forward as part of the EPT’s work. A number of potential sites for pilots were identified, including that suggested for fitment in recommendation 23. The preferred option of the EPB/EPT is the north Wales coast line and branches, including a disused line in Ynys Mon/Anglesey. This is being put forward for

4 European Train Control Systems is a functional specification for train protection used in Interoperability Directives; the train protection element of ERTMS (European Rail Traffic Management System)
Development and fitment of ERTMS and GSM-R
SRA funding. If this is forthcoming the pilot would operate from 2005-08. Industry considers action on these three recommendations as compete.

HSC/E comments
Industry was only recommended to consider the action in 23 and 24 and through the work of the EPT has now done so. Other options have been selected. These recommendations can now be regarded as completed. They will not be covered in future progress reports. Recommendation 22 remains open pending the outcome of an SRA funding application for the early deployment pilot on the chosen site.

JI 25. The selective fitment of GSM-R radio in advance of ETCS fitment to trains should be considered. For this purpose lines should be identified for the early fitment of ground and track equipment, to be followed by train-borne equipment (para 11.27).
Action on: RT, TOCs, ROSCOs
Target for completion: January 2004

LGRI1 51. There should be a national system of direct radio communication between trains and signallers. (para 12.29).
Action on: Railtrack, TOCs
Target for completion: June 2003

Progress report from action holders July 2002 on these two recommendations
Railtrack continues to take forward the GSM-R project for estimated completion by 2006. The EPT is engaged in ensuring compatibility with ERTMS level 2.

HSC/E comments
This issue is currently the subject of much attention by the industry at senior level to ensure the system is capable of providing the voice and data communications necessary for the level 2 ERTMS system now proposed. The ERTMS programme team regard this as a key technical risk. Work continues on both these recommendations.

JI 26. A System Authority should be established to oversee and direct the timely fitment of ETCS, including the current programme for the Old Dalby test track (see Annex 10(m)). (para 11.22)
Action on: RT, TOCs and ROSCOs
Target for completion: January 2002

Progress report from action holders July 2002
There are no firm plans to establish a system authority. The action holders are all represented on the ERTMS programme board, co-chaired by SRA and Railway Safety. The board oversees the work of the ERTMS programme team, which has been funded for 2002-03. The programme of formal testing at Old Dalby continues.

HSC/E comments
The recommendation and date both anticipated fitment of level 1 ERTMS to the timescale recommended by the Joint Inquiry. The key drivers have in fact been the SRA and Railway Safety as co-chairs and sponsors of the ERTMS programme. The work is being taken forward to a different timescale and in a different way.
Development and fitment of ERTMS and GSM-R

JI 27. For the purpose of avoiding delays, fitment of ETCS should be independently monitored with reports being submitted at intervals of not more than 6 months, stating whether fitment of ETCS has been delayed or impeded by work on TPWS fitment (para 11.11).
Action on: RT, HMRI, TOCs, ROSCOs
Target for completion: not specified

Progress report from action holders July 2002
This recommendation has been overtaken by events because while TPWS fitment is well underway, fitment of level 1 ERTMS is not. This is not because TPWS has impeded the work, rather the EPT report in April 2002 explained the industry and SRA’s preference for development and fitment of level 2 ERTMS to a longer timescale, which will not overlap with the current TPWS programme. This approach is being considered as part of the HSC review of the EPT report. When the regulatory approach and fitment programme for ERTMS is decided, arrangements for monitoring can be considered. Work continues.

HSC/E comments
HSE will consider its regulatory oversight of fitment in the light of the outcome of the HSC review of the EPT report.

JI 28. All new rolling stock should be compatible with ETCS and GSM-R fitment.
Action on: TOCs, ROSCOs (Davies Recommendation 11).
Target for completion: February 2000

Progress report from action holders July 2002
All parts of industry are working together to ensure that new rolling stock is compatible with ETCS and GSM-R fitment. The ERTMS Programme Board is also involved. HSE’s Railway Inspectorate is neither approving (under ROTS) nor authorising (under the new interoperability regime) any stock incompatible with ERTMS or GSM-R. Industry regards this recommendation as completed.

HSC/E comments
HSC accepts that adequate work has been done to regard the recommendation as completed. It will not be covered in future progress reports.
Vehicle integrity and crashworthiness

S 43. HMRI should keep under long term-review the effect of speed on numbers of casualties in rail accidents. (para 11.7).
Action on: HMRI
Target for completion: ongoing

S 49. A design study and risk assessment should be carried out to determine whether freight wagons could be designed with less aggressive features without detriment to their primary function. (para 11.14).

S 50. Consideration should be given to the most appropriate form of coupling for freight trains, to minimise damage in the event of collision, including a risk assessment. (para 11.15).

S 51. No recommendation is made concerning crumple zones in passenger carriages, save that the matter should be given attention by the Ladbroke Grove Inquiry. (para 11.4).

S 54. Consideration should be given to modification to the design of overhead line structures to improve their response to accidents, if achievable without detriment to their primary role. (para 11.16).
Action on: Railtrack
Target for completion: February 2002

HSC/E comments
As reported in the February 2002 Southall progress report, HSC has accepted that adequate action has been taken to regard these five recommendations as completed. They will not be covered in future progress reports. The issue of crumple zones in passenger carriages is taken forward under LGRI recommendation 54.

LGRI1 53. The enhancement of the cabs on HSTs to improve driver protection along with energy absorption and compatibility with other vehicles, and the enhancement of measures for the retention of bogies on the coaches of HSTs, should be considered, subject to an assessment of feasibility, costs and benefits, with a view to possible retro-fitting. (para 13.4).
Action on: TOCs, ROSCOs
Target for completion: June 2002

Progress report from action holders July 2002
On behalf of Porterbrook, the consultants, Transys completed a cost benefit analysis and a feasibility report in June 2002, which considered HST cab enhancements. This technical investigation confirmed that the HSTs were constructed before some current railway group standards came into operation. The report proposed design options for improving driver protection, energy absorption, and compatibility with other vehicles. For example, improvements to cab interiors, which could reduce the risk of injuries to the driver in the event of a collision, include windscreen coatings, greater cab desk resilience and fitting airbags in the cab interior. Additional energy absorption elements and options were also
Vehicle integrity and crashworthiness

considered that would involve fitting energy absorption devices and anti-climbers to the front end of the vehicle together with strengthening of the cab moulding. The report also outlined the related costs and benefits. The cost of these enhancements across the fleet would be high. The industry believe that fitting energy absorption devices, anticlimbers and strengthening cab mouldings may be difficult to justify on cost grounds with the reduced risk of collision as a direct result of the implementation of the TPWS fitment programme by the end of 2003. Industry do not intend to retrofit the underframe modifications. The three ROSCOs plan a further seminar in January 2003 to update the TOCs on all the ROSCO actions on the Inquiry recommendations.

Whilst not part of the recommendation, the work done by Transys in reviewing the options did identify a number of minor improvements to the cab desk layout, an arrangement which could reduce the risk of injuries to drivers in the event of a collision. These do not improve crashworthiness of the vehicle but could reduce the risk of injury in certain circumstances. It is now for individual TOCs to consider such improvements as part of any future cab enhancements.

Angel Trains are leading on the bogie retention aspect of this recommendation. They have investigated the feasibility of improving the lateral and vertical bogie retention. They have established that the vehicles comply with the current railway group standard for lateral retention but have no means for vertical retention. Angel Trains have developed a modification scheme to provide vertical bogie retention, but the industry has concerns over whether bogie retention is really desirable, particularly following the Great Heck incident. RS is carrying out research to establish whether bogie retention is fact desirable. This work, part of a wider research into accident survivability, is due to end in late 2003. A proper understanding of the related issues from this work is required before any retrofit decisions are made on these bogies. If the research confirms that the proposed modifications are a sensible way forward, retro fitting of the 400 or so vehicles would take approximately two years.

HSC/E comments

HSC acknowledges the work done by both Porterbrook and Angel Trains to consider theses enhancements. However, HSE does not yet feel in a position to consider the recommendation as completed, until such time as Railway Safety has completed its review. Industry will also need to satisfy HSE that any modifications made do not introduce further risk through the implementation process.

LGRI1 54. The current standard for crashworthiness in respect of new vehicles should be reviewed in the light of the crash at Ladbroke Grove with respect to the objectives referred to in Recommendation 53. (para 13.4).
Action on: Railway Safety
Target for completion: June 2002

LGRI1 56. The current standard for crashworthiness should be reviewed, in the light of the crash at Ladbroke Grove, in order to ensure that there are adequate measures for safeguarding survival space. Paragraph 13.5 refers.
Action on: Railway Safety
Target for completion: June 2002
Vehicle integrity and crashworthiness
LGRI1 57. In the case of new vehicles constructed of aluminium, consideration should be given to: the use of alternatives to fusion welding; the use of improved grades of aluminium which are less susceptible to fusion weld weakening; and the further development of analytical techniques. Paragraph 13.9 refers.
Action on: ROSCOs, Manufacturers
Target for completion: June 2003

LGRI1 58. The revision of the Group Standard for crashworthiness should be pursued with particular reference to: the design requirements for more realistic scenarios; high-speed accidents; and dynamic verification testing. (para 13.17).
Action on: Railway Safety
Target for completion: June 2002

Progress report from action holders July 2002 on these four recommendations
The RGS ‘Structural requirements for railway vehicles’ (GM/RT2100) was issued in October 2000, with some parts coming into effect on 7 October 2002. However, Railway Safety may carry out another review of the RGS place depending on the outcome of the research currently underway. Measures for safeguarding survival space, design requirements for more realistic scenarios, high-speed accidents, and dynamic verification testing are not currently covered by the RGS GM/RT2100. Where reasonably practicable, these issues are addressed within the planned medium speed collision work. This work will start early in 2003 and last 2-3 years, although there will be interim reports.
RS has produced a strategy for ‘Accident survivability’, including vehicle integrity and fire. RS experts have reviewed the strategy, together with other ideas for research, and have defined a package of research work on structural crashworthiness. The project is dependent on completion of other research, ie accident scenario development and whole train dynamics, and the work associated with recommendation 53, which is expected to report in June 2005.

In conjunction with the industry-wide group that is addressing recommendation 57, additional requirements for research are being explored that may include research into improved grades of aluminium that are less susceptible to weld weakening, further developments of analytical techniques to increase the confidence in vehicle structure and the development of computer models to evaluate benefits on trains. This is a long-term research stream that should start to deliver results from summer 2003 onwards.

A major project, the ALJOIN research programme (Crashworthiness of Joints in Aluminium Rail Vehicles), brings together the resources of Bombardier, Alcan, The Welding Institute (TWI) and Advanced Railway Research Centre - University of Sheffield (ARRC), along with other European partners and has EEC funding. The focus of this three-year project addresses the three key issues raised recommendation 57.

Improvements in simulation software and increased computing power have already resulted in major advances in analytical crash modelling. It is now possible to model whole train rakes with sufficient detail to include the effects of weld weakening and material fracture. The output from these simulations is already being used to improve the crashworthiness of new vehicle designs. The area of analysis needing further development is the representation of material fracture.

Railway Safety, Angel Trains and HSBC are funding research by TWI. This work is part of the Eurostir® (European Industrialisation of Friction Stir Welding) programme and is
Vehicle integrity and crashworthiness

directed towards comparing the fracture behaviour of friction stir welds to that of fusion welds in 6000 series aluminium. Completion is planned for mid 2003. ALJOIN will investigate the fracture behaviour of Friction Stir Welds, and examine the behaviour of fusion welds, adhesives and mechanical joining (bolting and riveting). It provides the opportunity to evaluate improvements in material properties (improved ductility, fracture toughness and reduced weld weakening) with particular respect to improving rail vehicle crashworthiness. 

Friction stir welding offers the opportunity to join alloys not previously considered suited to welding, such as the 7000 series alloys, and there is evidence that weld weakening is reduced by this combination of process and material. This work is due for completion by mid 2004.

ALJOIN will initially investigate the fracture behaviour of aluminium and this should provide an improved understanding of the ‘unzipping’ process. This will be followed by joint modelling development and validation testing. The outcome will be confidence in whole vehicle analysis through the inclusion of a validated representation of the fracture mechanism. This work will be complete by mid 2005. Specific research ‘Obstacle deflector and medium speed collision’ and ‘High speed collision’ will start in September 2003 for 1-2 years. Industry regards the work as continuing.

HSC/E comments

The work continues. HSE has agreed to an extended timescale, with the early results expected in 2003 and others thereafter. This reflects the fact that much of the work in hand goes further than the recommendation. HSE will be looking to see how the looked-for improvements will be tested and the outcome feeds into a subsequent review of RGS – ‘Structural requirement for railway vehicles’, (GM/RT2100).

LGRI1 55. In the case of Turbos, the enhancement of end pillar weld connections, the possible enhancement of crashworthiness by weakening the ends and strengthening the saloon of the cars, and the fitting of shear-out couplers and anti-overriding devices should be considered, subject to an assessment of feasibility, costs and benefits, with a view to possible retro-fitting. (para 13.5).

Action on: TOCs, ROSCOs
Target date for completion: June 2002

Progress report from action holders July 2000

The ROSCOs have carried out a feasibility study, and sought advice from WS Atkins. The study concluded that there were no benefits to be gained from enhancement of the end pillar welding, and that although there were a few benefits to be gained from weakening the ends of the vehicle and strengthening the saloons, these would involve a very high cost of modification. The fitment of shear-out couplers and anti-override devices was feasible. However, the risk of collision has been considerably reduced by fitment of TPWS, due for completion by the end 2003. It is unlikely that modification could be justified. Industry proposes not to carry out any further action and regard the recommendation as completed.

HSC/E comments

HSC accepts that adequate action has been done to regard this recommendation as completed. It will not be covered in future progress reports.
Vehicle integrity and crashworthiness

LGRI1 59. The enhancement of the security of seating in Turbos and of tables in HSTs should be considered, subject to an assessment of feasibility, costs and benefits, with a view to possible retro-fitting. (para 13.19).

Action on: TOCs, ROSCOs
Target date for completion: December 2001

Progress report from action holders July 2002

ATOC has completed the industry-wide consultation and issued its Vehicle Interior Crashworthiness standard. Angel Trains led the study on seats and reviewed the design and options, including testing, were considered by independent parties, ie Motor Industry Research Association (MIRA) and Interfleet Technology. Angel Trains believe that any further work is not appropriate. Further strengthening of the seat shell is likely to increase the potential for occupant injury. As a result, Angel Trains is not taking this work forward. Porterbrook led the study on tables and the design for the enhancement of table security has been completed. This has already incorporated in the refurbishment on the Midland Mainline fleet and enhancement to the table security on other vehicles will be incorporated as part of any future refurbishment work on these fleets. Industry regards this recommendation as completed.

HSC/E comments

HSC accepts that action taken is adequate to regard the recommendation as completed. It will not be covered in future progress reports.

LGRI1 60. Comprehensive market research in regard to safety related measures should be carried out in order to take account of the views of informed passenger. (para 13.20).

Action on: TOCs
Target for completion: June 2002

Progress report from action holders July 2002

ATOC have made a proposal for market research to Railway Safety. ATOC and the Rail Passenger Council met to ensure that the RPC’s views were understood and that they will be kept informed of the progress. This work is part of the RSRP accident survivability project. The specification, taking account ATOC’s views, has been completed and once the scope has been agreed, stakeholders will be consulted. Dependent on the stakeholder feedback, the project should start in late 2002 and should be completed by June 2003.

All TOCs have reported, with most waiting for the results of the Railway Safety study. In the meantime, First Group TOCs have set up Passenger Focus Groups to consult on proposed train safety signage. The groups met with users of Reading Station (regular, infrequent and non-users) of First Group services. The Group considered proposed emergency cards and other passenger information methods. First Group report that the exercise was useful and many constructive comments were received which will allow further development of the plans. Work continues.

HSC/E comments

Work continues.
Vehicle integrity and crashworthiness

LGRI 61. The following measures should be considered with a view to enhancing protection against fire: a review of Group Standards in respect of improved crash resistance of fuel tanks; consideration of the feasibility of reducing fuel inventories and of utilising smaller fuel tanks; in respect of frontal impacts, consideration of the repositioning of fuel tanks away from the leading ends of trains from behind bogies wherever this is practicable; avoidance of placing fuel tanks in exposed and vulnerable locations; examination of the use of additives to reduce the propensity of a fuel to atomise; the employment within fuel tanks of internal flexible linings or a honeycomb construction; consideration of the most appropriate material for fuel tanks; and recognition of the need for supporting theoretical and experimental work in respect of the foregoing. (para 13.27).

Action on: TOCs, ROSCO, Railway Safety
Target date for completion: June 2002

Progress report from action holders July 2002
The programme of research has been agreed by ATOC/ROSCOs/Railway Safety and is due for completion in March 2003. The RGS ‘Internal combustion engines in railway vehicles’ (GM/RT2462) will be reviewed following the completion of the research programme. Crash tests have taken place with some helpful results and work continues to assess the effects on fuel tank mounts etc. TOCs are awaiting the outcome of research and the review of RGS before considering how the recommendation may apply to their trains, although some TOCs are separately reviewing if repositioning of fuel tanks is feasible on their trains. For example, FGW have completed a review and consider that the repositioning of fuel tanks for existing trains is not practical but will consider the issue in new trains. The work continues.

Industry is expecting a second report outlining the conclusions and recommendations from research commissioned by HSE. HSL’s report, done on behalf of HSE, has been passed to RS. The report has been referred to as ‘seed corn’ research for others to take forward and includes some work on evaluating internal structure, ie bladders and honeycomb, in fuel tanks as a Joint Industry Project, involving some TOCS.

HSC/E comments
This work is complex and interconnected. Some research needs to assist the conclusions from other studies before it begins. HSE has agreed to an extended timescale of December 2003.

Escape and evacuation

S 44. A review should be carried out by ATOC, with input from all interested bodies, on the ways in which internal safety features may be modified and standardised to provide the best practicable means of emergency exit under accident conditions, including vehicles lying on their side, to include the provision of emergency lighting and standardised public announcements. (paras 11.11, 11.12, 11.13).
Action on: ATOC
Target for completion: February 2002

S 45. The review (recommendation 44) should consider dates and means for the introduction of identified improvements to existing stock. Paragraphs 11.2, 15.16
Action on: ATOC
Target for completion: February 2002
Escape and evacuation

S 47. The design of coaches should be such that internal doors can be easily opened in a crash situation, in darkness and irrespective of the attitude of the vehicle; and that hammers intended for breaking windows can be easily located in the same conditions.
Paragraphs 11.11, 11.12
Action on: ATOC
Target for completion: February 2002

HSC/E comments
As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard these three recommendations as completed. They will not be covered in future progress reports. Further consequential progress on these issues is taken forward under LGRI 1 recommendations 65, 76, 80 and 82.

LGRI I 63. The provisions in the schedule as to evacuation and escape should be supported by adequate guidance from the HSE. Paragraph 14.3 refers.
Action on: HSE
Target for completion: June 2002

Progress report from action holder July 2002
The Railway Safety (Miscellaneous Amendments) Regulations 2001 came into force on 24 October 2001, making certain amendments to the Railway (Safety Case) Regulations 2000, including amendments to the schedule relating to evacuation and escape. HSE has revised its Safety Case Assessment Criteria accordingly (available on the HSE website). In support of these changes in July 2002, HSE published a booklet on evacuation and escape from trains, ‘Guidance on the provision of equipment and arrangements for evacuation and escape from trains in an emergency’ (INDG 358) based on its existing guidance but also including new information.

HSE is also updating the Railways Safety Principles and Guidance Part 2F, ‘Guidance on trains’ and the revised document should be published by the end of 2002. A new volume of RSPG, to be titled “Safe Movement of Trains”, is currently being developed, and is scheduled for publication in 2003. This will include advice on the operational aspects of the train. It focuses on planning, staff training requirements and the procedures that the duty holder should have in place in order to minimise risk to the passengers and staff onboard the train, including during evacuation and escape.

HSC/E comments
HSC accepts that adequate work has been done to consider the recommendation as completed. It will not be covered in future progress reports.

LGRI I 66. A system should be established for the collection of human factors information pertinent to issues of passenger safety following rail accident. (para 14.8).
Action on: ATOC
Target for completion: None given

Progress report from action holder July 2002
This is part of RSRP accident survivability project ‘Accident data/post accident interviews’. Work has started to identify the data needed and how this should be done and by whom. The specification will be complete by mid 2003. ATOC will receive the national reports
Escape and evacuation

from CIRAS (confidential incident reporting and analysis system) and quarterly reports from RS on significant rail accidents identifying any human factors information relevant to passenger safety following rail accidents. The work continues.

HSC/E comments
Work is continuing with completion expected by mid 2003.

LGRI1 74. Research should be carried out into the means of safeguarding emergency lighting systems from disablement by the forces involved in sudden deceleration. (para 14.21).
Action on: ROSCOs
Target for completion: June 2003

Progress report from action holders July 2002
HSBC is leading on this work and reports that prototype designs of self-contained emergency light power supplies are now complete. A rolling stock trial fitment programme started in July 2002 (a system test is underway on a Class 315 from First Great Eastern fleet). Findings of the trial will be shared with the industry. Industry regards work on this recommendation as completed.

HSC/E comments
HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

LGRI1 75. The provision of “snap wands” should be considered as a supplementary means of providing lighting in an emergency. (para 14.22).
Action on: TOCs
Target for completion: December 2001

Progress report from action holders July 2002
ATOC completed its initial investigation in March 2002 and has also completed performance testing to determine the levels of illumination and decay of the available types of light sticks. Research into the human factors issues associated with the use of these devices in incidents has been completed and it will be used to determine the policy for their provision and use. The overall conclusion was that “snap wands” may offer benefits under some circumstances, but that decisions as to where and how they should be used should be made by individual TOCs.

To date the TOCs have adopted a variety of different forms of emergency lighting, for example Wessex has opted for portable hand lamps; Wales and Borders have fitted emergency torches in the emergency equipment cupboards and will monitor experience with torches, and snap wands as used by other TOCs; Thames Trains, FGW, Central Trains, ScotRail, London Lines, FGE provide snap-wands; EUKL trialed this equipment but rejected use of snap wands as impractical and does not intend to pursue. Other TOCs, for example SouthCentral, Midland Mainline, FNW, ATM are reviewing their policy and evaluating feasibility.

Railway Safety’s research programme includes research into additional lighting in emergencies, which covers use of snap wands and the other wayfinding systems. An
**Escape and evacuation**

interim report ‘Previous usage and research relating to snap wands’ was completed in May 2002. Further investigations have been completed and the final report was completed in October 2002. On way finding systems, an initial report ‘Low location marking system’ was completed in May 2002. An interim report, completed in October 2002, was followed by a risk assessment on passenger and crew use and the final report was completed in early November 2002. Industry considers the recommendation as completed.

**HSC/E comments**

HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

LGRI1 76. In the case of every coach (on any train) which has internal doors which slide in the same direction one of the following should be carried out by 31 December 2003: the coach should be fitted instead with opposite- handed internal doors; the coach should be fitted instead with double leaf internal doors; or a panel in the door should be rendered removable so as to enable passengers to pass through. The above is subject to the provision that if the HMRI are satisfied, on application by the TOC concerned, that it is not practicable for that change to be achieved within this period, they may grant a deferment for an appropriate period in which the work is to be done. (para 14.28).

**Action on:** TOCs, ROSCOs

**Target for completion:** December 2003

**Progress report from action holders July 2002**

Angel Trains are leading for industry on this. Two prototypes for emergency egress through internal doors were demonstrated at Bristol in April 2002, both are based on the removable panel option. The door designs were fitted to a HST carriage from the FGW fleet and will now be tested in traffic. Further work is being undertaken to finalise the design to enable a fitment programme to be developed. TOC and ROSCO fitment plans are still being developed but a fitment date cannot be specified until the trails have been completed.

ROSCOs and ATOC Engineering Council are reviewing the ATOC Vehicle Standards schedule to ensure that it incorporates the lessons of Ladbroke Grove and Hatfield. In particular the review will consider, “Emergency Egress – Provision of Equipment and Escape Route” (AV/ST9002), which supplements RGS “Structural Requirements for Doors and Gangways on Railway Vehicles” (GM/RT2457), specifically to deal with egress in an emergency. Railway Safety has completed the investigatory work of current best practice and the final report on emergency door release is expected to be issued later in 2002. Action continues.

**HSC/E comments**

Action continues, expected completion date December 2003.

LGRI1 77. The staff-only doors on all trains should have an override device to enable them to be used by passengers in an emergency. (para 14.29).

**Action on:** TOCs, ROSCOs

**Target for completion:** December 2001
**Escape and evacuation**

**Progress report from action holders July 2002**

ATOC Operations Council reviewed the scope of its standard ‘Vehicle interiors: design for evacuation and safety’ (AV/ST9002) and carefully considered the practicalities and residual risk of fitting an override device. ATOC consulted RS, as the recommendation had links to RGS ‘Requirements for driving cabs of railway vehicles’ (GM/RT2161). TRANSEC advised that the use by passengers of staff-only doors, which allowed access to a driving cab, should be avoided to prevent threats to security and integrity of driving cabs and advised that the current arrangements should not be changed. In light of TRANSEC advice post 11 September 2001 ATOC does not propose to change this arrangement. Industry regards this recommendation as completed.

**HSC/E comments**

HSC accepts that adequate work has been done to consider this recommendation as completed. It will not be covered in future progress reports. Where staff-only doors provide access to train exits via drivers’ cabs it may not be appropriate to fit override devices, since threats to train crew and possible interference with train controls could result.

LGRI1 79. *The daily routine check of every train should include confirming that all ladders can readily be used. A mechanism to enable ladders to be released quickly should be devised and fitted.* (para 14.35).

**Action on:** TOCs  
**Target for completion:** December 2001

**Progress report from action holders July 2002**

Checking of emergency equipment is part of TOCs’ preparation before trains enter service. TOCs have reviewed accessibility and quick release of ladders and actioned as necessary, for example more TOCs are now using Velcro to aid quick release. Industry regards this recommendation as completed.

ATOC Engineering Council has chosen to go beyond the recommendation, and will review the current inspection and maintenance practices for emergency equipment, including ladders to review if the current ladder security arrangements can be changed to improve accessibility / ease of release in an emergency without increasing the risk of improper use.

**HSC/E comments**

HSC accepts that adequate work has been done by the TOCs to regard this recommendation as completed. However, HSE will wish to review the additional work being carried out by ATOC before recommending completion.

LGRI1 80. *There should be a thorough review of the adequacy of the number of, and signage relating to, emergency hammers. This should include the provision of means of illuminating the location of hammers in an emergency, with a back-up power supply in case of emergency.* (para 14.46).

**Action on:** TOCs, ROSCOs  
**Target for completion:** June 2002

**Progress report from action holders July 2002**

ATOC and Railway Safety completed an initial investigation to facilitate the review in March 2002. A subsequent Railway Safety research project has determined international
Escape and evacuation
best practice and considered new signage, illumination, nature, design and location of hammers to improve the passenger response time. This work also addressed relevant human factors. The work started in March 2002 and was completed in August 2002. In mid September 2002 RS copied the report to ATOC and members of the Joint Industry Progress Group, which discusses vehicle recommendations. The report was also copied to the RSRP conference in October 2002. The benefits and risks of using a link to the passenger alarm and alternative means to discourage or limit misuse has also been considered (see LGRI1 recommendation 82).

Thames Trains commissioned AEA Technology to undertake a ‘Quantitative risk assessment of emergency hammers on trains’, which was published in December 2001. The ATOC Operations Council decided in April 2002 that, in the light of the inconclusive QRA done for Thames Trains, a case for restoration of hammers had not been made. Emergency hammers are not currently fitted to vehicles operated by FGE, as they feel they could be liable to abuse and vandalism, however, FGE will consider any proposals for alternative devices intended to allow safe breaking of windows in an emergency; and ATM’s initial view is that installing hammers in the passenger saloon would not be advisable due to the scope for their misuse against ATM employees, property and other passengers. Although some TOCs are reviewing their current provision, most waited for the outcome and recommendations from the Railway Safety research before deciding what further action to take. However, Wessex and Wales and Borders have fitted window hammers to all vehicles not already fitted. EUKL provide hammers in a retro-reflective backed mounting in each passenger vehicle and Eurostar use bars to break windows.

HSC/E comments
Although the TOCs have been given the results of the RS research, HSE believes that it is not appropriate to recommend completion of this recommendation until such time as the TOCs have reported how they are taking this work forward.

LGRI1 81. There should be research into the feasibility of, and risks associated with, removable windows, the adequacy of windows as a means of emergency egress, the number of dedicated windows which are necessary and the provision as to the maximum distance between each passenger and a bodyside door or emergency exit. (para 14.46). Action on: TOCs, ROSCOs
Target for completion: June 2002

Progress report by action holders July 2002
The industry, with ATOC, has formed the ATOC Vehicle Steering Group, which is actively supported by the ROSCOs. This group has produced four ATOC standards: Vehicle Interior Crashworthiness (AV/ST9001), Emergency Egress (AV/ST9002), Fire Safety Equipment (AV/ST9004) and Labels & Signage (AV/ST9005). ATOC’s Engineering Council and the ROSCOs have worked with Railway Safety to initiate research to review the current assumptions concerning emergency egress from vehicles in line with the recommendation. This project, by Interfleet, was part of the work mentioned in relation to LGRI1 recommendation 83.

RS has completed an initial review of removable windows to establish the position with existing systems. The investigatory work has been completed and the final report was completed in mid October 2002. The delay was to allow inclusion of a risk assessment and stakeholder feasibility study. After review by technical experts, the report is expected to be
Escape and evacuation

issued later in 2002. However, the research will not address all the elements of the recommendation, in particular those relating to the number of dedicated windows and the provision of a maximum distance between a passenger and a bodyside door or emergency exit. RS anticipate that these issues will be considered in a future package of research. Any additional research will then be scoped.

The TOCs are waiting for the findings of the research to determine appropriate action to take. In the meantime some TOCs and ROSCOs are actively addressing the issue, for example HSBC has developed a device for breaking bodyside windows; FGW has completed a feasibility study for the fitment of mechanisms to more swiftly and completely remove windows; a risk assessment of options is now underway, and FNW will consider fitment of mechanisms to more swiftly and completely remove windows. This will follow a feasibility study and risk assessment. ATM’s initial view is that the exterior door spacing on their vehicles (which are all 20m in length) is such that provision of dedicated emergency windows is not necessary. Action continues.

**HSC/E comments**

Action continuing.

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**LGRI1 82. Tests should be carried out into the practicability of building emergency hammers into the passenger alarm system so that they could be released only after an alarm has been activated. Paragraph 14.50 refers.**

*Action on: TOCs, ROSCOs*

*Target for completion: June 2002*

**Progress report from action holders July 2002**

The ATOC Engineering Council and the ROSCOs commissioned Railway Safety to carry out research into the practicality of linking the release of emergency hammers with the passenger alarm system. The work started in March 2002 and was completed in August 2002. The final report includes:

- guidelines for the provision of emergency hammers;
- their location;
- signage and illumination;
- recommendations on how to limit the misuse of the hammers in normal operation, including consideration of incorporation into the passenger alarm system.

The decision to incorporate into alarm systems (or not) will be determined by each TOC based on a risk assessment of the fleet type and will form part of individual TOC’s RSC. TOCs are waiting for the results of the research to determine course of action required. Action continues.

**HSC/E comments**

Action continues, completion expected late in 2002. HSE accepts the timescale beyond Lord Cullen’s target date on the basis that the work will cover a wider range of issues than the recommendation requires.
Escape and evacuation
LGRI1 83. The incorporation of escape hatches in existing carriages should be the subject of feasibility and risk assessment and the provision of escape hatches in new carriages should likewise be considered. (para 14.54).
Action on: TOCs, ROSCOs
Target for completion: December 2001

**Progress report from action holders July 2002**
The ATOC Engineering Council, ROSCOs and the vehicle manufacturers asked Railway Safety to initiate a feasibility study and risk assessment on the provision of roof hatches in passenger vehicles. Railway Safety contracted Interfleet to do the work. They concluded in July 2002 that fitment of escape hatches was not justified. The Safety Risk Model (SRM) developed by RS formed the basis for quantifying the degree of benefit offered by escape hatches, and considered reasonable scenarios where an escape hatch would be of use. The analysis on the basis of the SRM indicated that the risk-reduction was marginal. Incorporating escape hatches would introduce new risks by weakening the carriage structure, and introduce the possibility of misuse. The analysis in this report indicates that any such risk reduction would be only small. Given the risks associated with the fitment of hatches, it seems extremely unlikely that there would be a net benefit from fitting hatches. Escape hatches are not used for emergency passenger egress on any rail system internationally. In light of these points, the introduction of escape hatches was not recommended. Industry regards this recommendation as completed.

**HSC/E comments**
HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

LGRI1 84. All members of the on-board train staff (including persons working under contract) should be persons who have been trained in train evacuation and protection. (para 14.62).
Action on: TOCs
Target for completion: June 2002

**Progress reported by action holders July 2002**
The ATOC guidance note ‘The training of on train staff in on train emergency procedures’ (GN003) has been reviewed and reissued. It makes a clear distinction between the two issues covered in the recommendation – train evacuation and train protection. Safety critical on-train staff, ie drivers and guards, are trained and assessed as competent to deal with not only evacuation but also the personal risks associated with train protection, which include leaving the train to attach safety devices to the running line. Non-safety critical on-train staff, ie catering and cleaning staff are trained to work under the direction of safety critical staff on duties including assisting passenger evacuation from trains. Other on-train staff, ie market research and survey staff are not trained in any emergency duties.

TOCs report that they have either already trained drivers and conductors or are in the process of completing the training. For example Wales and Borders have trained all staff in line with GN003, and the National Express Group is taking this forward through a working group to provide a group-wide and uniform response to those recommendations associated with emergency egress; and ATM is currently reviewing the status of all current on-board staff (ticket inspectors, fare collectors etc) and will undertake appropriate
Escape and evacuation training. ATM has also completed emergency evacuation training for additional non-safety critical. Industry regards this recommendation as completed.

**HSC/E comments**
HSC accepts that adequate work has been done to regard the preparation of guidance as complete, but as delivery of training is still underway, HSC does not consider this recommendation as completed.

LGRI1 88. *The availability on trains carrying passengers of the items of emergency equipment mentioned in the standard on emergency and safety equipment should be unrestricted.* (para 14.74).

**Action on:** TOCs
**Target for completion:** December 2001

**Progress report from action holders July 2002**
ATOC Operations Council reviewed the RGS ‘Emergency and safety equipment and signs on rail vehicles’ (GM/RT2177) and concluded that the level of passenger access to this equipment was a matter of risk assessment in the context of the operational environment for individual TOCs. GM/RT2177 is a relatively old Standard, dated January 1995, and was not changed when subject to the routine 5 yearly periodic review by Railway Safety. However, ATOC Operations Council has asked Railway Safety to review the RGS in the light of this recommendation. In the meantime several TOCs already make safety equipment freely available, for example EUKL report that fire extinguishers are available on all passenger trains and train managers carry first aid kits; Thames Trains and Wessex Trains report that there is unrestricted access to all emergency equipment. Action continues.

**HSC/E comments**
HSE accepts that action should continue until such time as the RGS has been revised and reissued.

**Information to passengers**

*S 48. Safety briefings or other appropriate means of communicating safety information to passengers should be adopted, including pointing out safety notices to passengers. ATOC should monitor the methods adopted by TOCs and issue guidance documents after a suitable trial period, including recommendations for different types of journey.* (para 11.13).

**Action on:** ATOC
**Target for completion:** February 2002

**HSC/E comments**
As reported in the February 2002 HSC Southall progress report, HSC has accepted that adequate action has been taken to regard this recommendation as completed. It will not be covered in future progress reports. Further consequential action on this issue will be taken forward under LGRI1 recommendations 67, 68, 69, and 70.
Information to passengers
LGRI1 62. The scope of Schedule 1 to the Railway (Safety Case) Regulations 2000 should be extended so as to include explicitly the arrangements which the duty holder has established in regard to facilities, instructions and signs for the escape of persons in an emergency. (para 14.3).
Action on: HSE
Target for completion: December 2001

Progress report from action holder July 2002
HSE has revised the Schedule 1 to the Railway (Safety Case) Regulations 2000 and the accompanying guidance booklet, L52. The Railway Safety (Miscellaneous Amendments) Regulations 2001 came into force on 24th October 2001, making certain amendments to the Railway (Safety Case) Regulations 2000. HSE’s Safety Case Assessment Criteria have also been revised to reflect the changes and are available on the HSE website. HSE has also updated the Railways Safety Principles and Guidance Part 2F, Guidance on trains and will publish the revised document by the end of 2002.

HSC/E comments
HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

LGRI1 64. The code of practice on public information on train safety and emergencies should be kept up to date. (para 14.6).
Action on: ATOC
Target for completion: Not specified

Progress report from action holder July 2002
The ATOC guidance ‘Communication of safety related information to passengers’ (GN005) has been reviewed with RPC, HSE and other consultees and revised and reissued. Action completed.

HSC/E comments
HSC accepts adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

LGRI1 65. So far as is feasible, the safety information issued to passengers and the means by which they can be evacuated or escape from a train should be standardised. (para 14.8).
Action on: ATOC
Target for completion: June 2002

Progress report from action holder July 2002
ATOC report that following completion of the joint review with RPC, the guidance note ‘Communication of safety related information to passengers’ (GN005) has been revised and reissued. Until such time as the standardised set of safety information is available, TOCs are providing the information to passengers using currently available designs. The delay is partly due to the need for industry to verify the proposals and time taken to feed in the research results. ATOC documents ‘vehicle interiors – design for egress and fire safety’ (AV/ST9002) and ‘vehicle interiors – labels and signage’ (AV/ST9002) are both due
Information to passengers

to be issued in December 2002 for TOCs to implement. Industry considers action completed.

HSC/E comments
HSE has passed to ATOC comments from some bereaved families concerning the size of the print on some safety leaflets that does not make for easy reading. ATOC has confirmed that the issue will be considered in developing the standard set of leaflets etc. HSC is not able to accept completion until such time as the standardised set is available. HSC does not regard this recommendation as completed.

LGRI1 67. Passengers should be given general safety advice both before and after they have boarded their train. Paragraph 14.14 refers.
Action on: TOCs
Target for completion: December 2001

LGRI1 68. Expert assistance should be obtained on the advice which should be given to passengers as to what to do in the event of there being a known threat of serious danger to them in remaining on board. (para 14.14).
Action on: ATOC
Target for completion: December 2001

LGRI1 69. The provision on board of explanatory information about the emergency facilities of individual trains is endorsed. (para 14.14).
Action on: TOCs
Target for completion: December 2001

LGRI1 70. The use of on-board announcements to draw attention to safety information is endorsed. (para 14.16).
Action on: TOCs
Target for completion: December 2001

Progress report from action holders July 2002 on these four recommendations
A joint review on behalf of ATOC’s Operations and Engineering Councils, which involved human factors consultants (Davis Associates), considered the ATOC Guidance Note GN005 ‘Communication of Safety Related Information to Passengers’ and supporting material. The review was to determine if the four key ATOC supporting guidance documents fully encompassed the issues covered by GN005. These included: ‘Emergency egress – provision of equipment and escape route’ (AV/ST900), ‘Emergency egress – provision of training’ (AV/ST9003); ‘Fire safety equipment’ (AV/ST9004) and ‘Labels and signage’ (AV/ST9005). This work was to ensure that the guidance incorporated best practice contained in GN005, as well as any subsequent initiatives to standardise the provision of safety information and evacuation and escape procedures. Following completion of the review, GN005 has been has been discussed with RPC and reissued. GN005 now identifies the need for:
- signs on trains to give safety information, including what to do in the event of a fire, accident or other emergency;
- announcements on trains to give safety information;
- information on stations and on tickets, tickets and documentation regarding on train safety/emergencies, eg pocket timetables, on-train magazines, TOC literature, and TOC internet sites.
Information to passengers
GN005 states that provision of safety information should be risk based and contains a lengthy (but not exclusive) list of characteristics to be considered. It also refers to the Health & Safety (Safety Signs and Signals) Regulations 1996, BS 5378 and BS5499. In addition they must follow the requirements of RGS ‘Emergency and safety equipment and signs on rail vehicles’ (GM/RT2177). It directs users to a catalogue of signs (these will be updated as a result of research commissioned to meet LGRI1 recommendations 71-73, 78 and 80). It provides example schematics of passenger carriages with the appropriate positioning of signage; examples of customer safety instructions, seat back emergency cards, on train announcements and station safety notices. Industry regards this recommendation as completed.

Guidance notes GN005 and GN003 ‘Training of on train staff on train emergency procedures’ have been fully implemented by some TOCs: other TOCs are still implementing the procedures. TOCs have provided safety advice in a variety of methods, for example Wessex has developed on-train announcements in co-ordination with Wales and Borders; Thames Trains reissued its customer information poster which is displayed in carriage vestibules; uses a joint passenger information video by Thames Trains/FGW on stations; has updated recorded announcements; provides labels by seats drawing attention to safety information; and issues safety reminder cards to season ticket holders. Wales and Borders are running trials of on-train automatic announcements.

A number of TOCs have reviewed their internal safety signage and instruction for evacuation in line with ATOC/GN005. This has involved design and installation of passenger information posters/cards on trains and in stations, which continues. From May 2003 the information will be included in all timetable booklets. This will be supported by scripted on-train announcements to advise passengers of its availability. Industry regards this recommendation as completed. ATOC Engineering Council will consider if further research is needed after it has reviewed the conclusions of the RS research programme. Industry regards this recommendation as completed.

HSC/E comments
HSC accepts that adequate work has been done to consider these four recommendations as completed. They will not be covered in future progress reports.

LGRI1 71. The requirement for emergency signs to be luminous should be made retrospective. (para 14.18).
Action on: TOCs, ROSCOs
Target for completion: June 2002

Progress report from action holders July 2002
A joint review by ATOC’s Operations and Engineering Councils was conducted to consider ATOC Guidance Note ‘Communication of safety related information to passengers’ (GN005). Following completion of the joint review, GN005 has been has been discussed with RPC and reissued. ATOC Engineering Council has issued the revised standard to TOCs and ROSCOs, which does requires retrofitting of luminous signs. In addition a change to RGS ‘Emergency and safety equipment and signs on rail vehicles’ (GM/RT 2177) has been requested. This will require retrospective fitment of luminous safety signs to the specifications emerging from LGRI1 recommendations 72 and 73 where non-luminous signs are currently fitted. The Standard is due to be published in April 2003.
Information to passengers

In advance of the RGS, many TOCs and ROSCOs have already fitted luminous signs or are soon to complete fitment. For example, Anglia and Hull Trains, FGE, HSBC are due to complete the fitment before the end of 2002, whilst signs on Thames Trains and Wessex Trains are already luminous. Industry regards this recommendation as completed.

**HSC/E comments**

HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

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**LGRI1 72. So far as is feasible, emergency signs on all trains should be capable of being understood by passengers without the necessity to read text.** (para 14.19).

Action on: TOCs, ROSCOs

**Target for completion:** June 2002

**Progress report by action holders July 2002**

ATOC’s Operations and Engineering Councils jointly reviewed its Guidance Note ‘Communication of safety information to passengers’ (GN005). Following completion of the joint review, GN005 has been discussed with RPC and reissued. ATOC’s Engineering Council review of its ‘Labels and signage’ (AV/ST9005) identified that it does not fully cover the issues covered by GN005 and further work is necessary. This will be done in parallel with the work by RS to revise the RGS.

A review and research by Railway Safety concluded that there is no readily available definition of suitable pictograms for significant areas of railway vehicle safety equipment. Railway Safety has started a project, to deliver a set of generic safety signage with maximum use of pictograms. An interim report “Defining best practice and safety signage” was completed in July 2002 and a further interim report “Guidelines for signage development” including some examples was completed in early November 2002, but the content will require validation by human factors testing. Part of the symbol set will be drafted and validated and documented in an interim report to be completed in February 2003. The final report and a validated full symbol set will be completed by early April 2003. This work will recommend changes to the current label catalogue to introduce consistent pictogram based labels, as far as is feasible, on a national basis. A standard catalogue of these designs will be produced for individual TOCs, ROSCOs and manufacturers to use. The issue of tactile recognition for the visually impaired is also being considered.

**HSC/E comments**

Action continues. HSE accepts that Lord Cullen’s original target date will not be met because the work on this recommendation is being carried forward as part of a wider project to meet the requirements of LGRI1 recommendation 75.

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**LGRI1 73. There should be research with the aim of arriving at a system of signage, which is common to all trains in Great Britain.** (para 14.20).

Action on: ATOC

**Target for completion:** June 2003

**Progress report by action holder July 2002**

A Railway Safety research project is underway which will deliver a set of generic safety signage with maximum use of pictograms. The project is proposing designs and validating
Information to passengers
these signs by human factors testing and it is on schedule to recommend changes to the current label catalogue to introduce consistent pictogram based labels (as far as is feasible) on a national basis, due April 2003. This signage will replace the current variety of designs fitted to trains. However due consideration will have to be given to differing operational and vehicle configurations, eg Inter City, Regional and suburban services. A standard catalogue will be produced for individual TOCs, ROSCOs and Manufacturers. The methodology for validation of future additions or changes to this catalogue is also being defined. This project is scheduled for completion in April 2003. The issue of tactile recognition for the visually impaired is also being considered.

HSC/E comments
Action continues.

LGRI1 78. Signage primarily in the form of pictograms similar to those used on aircraft, and depicting the correct operation of emergency door mechanisms, should be developed. The signage should conform to current human factors standards on signage and be displayed prominently adjacent to each door and beside the door release mechanisms, as well as within the carriage. The mechanisms should be provided with artificial illumination to highlight their location at all times, with a back-up power supply in case of an emergency. (para 14.34).
Action on: ATOC, ROSCOs
Target for completion: June 2002

Progress report by action holders July 2002
The initial investigation of the artificial illumination for the door release mechanism was completed in February 2002. Railway Safety is carrying out research to determine international best practice and to propose new signage and other methods to improve passenger response times for use of emergency door release in an incident. Human factors trials have been completed and the project was completed in October 2002. The final report is now completed and awaiting final sign-off by technical experts. Implementation of this signage will be a significant task for the TOCs and ROSCOs, but fitment schedules have been drawn up and the installation work started in August 2002. Industry regards action as completed.

HSC/E comments
HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

Communication

LGRI1 85. The possibility of installing on driver-only trains a telephone by which passengers can communicate with the signaller in the event of the driver being killed or incapacitated should be studied. (para 14.65).
Action on: Railtrack, TOCs, ROSCOs
Target for completion: June 2002
Communication

Progress report by action holders July 2002
ATOC carried out a study, which established that the recommendation was technically achievable. It also identified that further research was needed to identify the benefits of such arrangements. Ideally, as the facility would not be used on all vehicle configurations, it could be combined with GSM-R as a supplementary package. The GSM-R implementation team is reviewing this approach. International practice and experience along with human factors implications are also being reviewed. Railtrack, ROSCOs and TOCs operating driver-only trains will review recommendations from the research report before determining the course of action to take.

The RS research project to consider escape and communications reported in September 2002. The report is now awaiting final sign-off by technical experts. Industry regards the recommendation as completed.

HSC/E comments
HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.

LGRI1 86. The feasibility of a “roaming” communication system for train staff should be examined. (para 14.68).
Action on: TOCs, ROSCOs
Target for completion: June 2002

Progress report by action holders July 2002
ATOC and the ROSCOs commissioned RS to carry out research into communications technology and this was completed in September 2002. The report is awaiting final sign-off by technical experts. It is important that any such system should not interfere with existing train control and communication systems – in the longer term GSM-R will provide this facility; see LGRI1 recommendation 51. Industry reports completion of this recommendation.

HSC/E comments
HSE is not yet able to accept completion of the recommendation, and will consider the report. HSE will continue to report on progress.

LGRI1 87. The possibility of remote broadcasting from outside the train, where it is not already available, should be investigated. (para 14.68).
Action on: Railtrack, TOCs, ROSCOs
Target for completion: June 2002

Progress reported by action holders July 2002
ATOC reports that the possibility of remote broadcasting from outside the train has been investigated and the report issued in October 2002. Railtrack has confirmed that the GSM-R specification includes the facility for remote broadcasting from outside the train; see LGRI1 recommendation 51 within the train protection theme.

HSC/E comments
HSC accepts that adequate work has been done to regard this recommendation as completed. It will not be covered in future progress reports.